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**AN EVALUATION OF HYDROLOGICAL FLOOD
ESTIMATION TECHNIQUES: PHASE I. THE
ESTABLISHMENT OF A SMALL CATCHMENT
DATA BANK (Part 2: Appendices)**

Report to the
WATER RESEARCH COMMISSION
by
STEFFEN ROBERTSON AND KIRSTEN (CIVIL) INC

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WATER RESEARCH COMMISSION

RESEARCH PROJECT - EVALUATION OF FLOOD ESTIMATION TECHNIQUES

**PHASE 1 : THE ESTABLISHMENT OF A
SMALL CATCHMENT HYDROLOGICAL DATA BANK**

PART 2 : APPENDICES

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WATER RESEARCH COMMISSION

RESEARCH PROJECT - EVALUATION OF FLOOD ESTIMATION TECHNIQUES

PHASE I : THE ESTABLISHMENT OF A
SMALL CATCHMENT HYDROLOGICAL DATA BANK

C O N T E N T S - P A R T 2

- 1 QUESTIONNAIRE
- 2 DATA ACQUISITION SHEET
- 3 SELECTED SMALL CATCHMENT INFORMATION SHEETS
- 4 REFERENCES RELATED TO DATA MONITORING PROGRAMMES

1 QUESTIONNAIRE

CODE SHEET

(TO BE USED IN ANSWERING THE QUESTIONNAIRE, SECTIONS B, C and D.)

A PURPOSE OF DATA 1-Research 2-Design of structure 3-Feasibility studies 4-Environmental Impact 5-Government/Intitutional 6-Other (specify)	B LAND-USE 1-Urban 2-Agricultural 3-Veld 4-Afforested 5-Mining 6-Varies during record 7-Other (specify)
C CATCHMENT SIZE 1-0 to 1 km2 2-1 to 10 km2 3-10 to 100 km2 4- 100 km2	D CATCHMENT INFORMATION 1-Topographical 2-Soil type 3-Geology 4-Vegetation 5-Groundwater conditions 6-Other (specify)
E TYPE OF DATA RECORDED 1-Rainfall 2-Evaporation 3-Climatic 4-Soil conditions 5-Runoff 6-Sediment 7-Water quality 8-Other (specify)	F DATA STORAGE STATUS 1-Data sheets 2-Paper strip 3-Data logger cassette 4-Computer tape 5-Break point digitized 6-Other (specify)
G AVAILABILITY 1-Published 2-Available 3-Classified 4-Other (specify)	H REGION 1-Overseas 2-South Africa 3-Cape province 4-Natal 5-O.F.S 6-Transvaal 7-Homelands/Ind. states 8-Local
I DATA SOURCE 1-Weather Bureau 2-Dept. of Water Affairs 3-HRU (Wits) 4-HRU (Rhodes) 5-ACRU (Natal) 6-Other (specify)	J DATA ADEQUACY 1-Poor 2-Adequate 3-Good
K DATA INADEQUACY 1-Lack of data 2-Records too short 3-Access of data is difficult 4-Poor documentation 5-Data not site specific 6-Other (specify)	L USE OF TECHNIQUE 1-Easy to use 2-High risk of flood damage 3-Limited funds available for flood estimation 4-Not familiar with other techniques 5-Technique used is sufficiently accurate 6-Other (specify)
M PURPOSE OF ANALYSIS 1-Determination of peak flow 2-Determination of runoff volume 3-Determination of storm hydrograph 4-Other (specify)	N PROBLEMS WITH TECHNIQUE 1-Insufficient data available 2-Difficult to use 3-Costly 4-Lack of computing facilities 5-Not familiar with technique 6-Other (specify)

QUESTIONNAIRE

SECTION A : PRELIMINARY QUESTIONS

A.1 PLEASE COMPLETE THE FOLLOWING INFORMATION

- A.1.1 Name.....
A.1.2 Organization.....
A.1.2 Department
A.1.3 Address.....
.....
.....
A.1.4 Contact Person
A.1.5 Telephone

A.2 PLEASE ANSWER THE FOLLOWING QUESTIONS AND COMPLETE THE RELEVANT FORMS

(Note: Tick the applicable box and proceed to the next instruction)

- A.2.1 Do you collect small catchment hydrological data?

YES ☐ NO ☐

If yes, please complete section B.

- A.2.2 Do you need storm rainfall/run-off data for small catchments?

YES ☐ NO ☐

If yes, please complete section C.

- A.2.3 Do you make use of flood estimation techniques?

YES ☐ NO ☐

If yes, please complete section D.

- A.2.4 If you have any queries regarding the completion of the questionnaire
please contact : Dr A D Ward (011) 832-1201

Even if you have answered NO to all the above questions,
Please return your completed forms A, B, C, D to:

Dr A D Ward
Steffen Robertson & Kirsten Inc
P O Box 8856
JOHANNESBURG, 2000

SECTION B HYDROLOGICAL DATA COLLECTION

B.1 HOW MANY CATCHMENTS DO YOU MONITOR?

IF MORE THAN 3, COMPLETE B2 FOR TYPICAL CATCHMENTS IN EACH CLIMATIC OR GEOGRAPHIC REGION.

B.2 CONSULT THE CODED GROUPS SHEET AND ENTER THE CODES WHICH APPLY TO YOUR CATCHMENT
(Where relevant, enter more than one code per block)

CATCHMENT NAME AND LOCATION	ENTER THE PURPOSE OF YOUR DATA COLLECTION	ENTER THE APPLICABLE CATCHMENT INFORMATION				ENTER THE APPLICABLE DATA INFORMATION	
		Land-use	Approx size	Available catchment information	Type of data recorded	Data storage status	Availability of your data
	A	B	C	D	E	F	G
1							
2							
3							

EXAMPLE The table below shows an example of how to complete B2 for the catchment described.

CATCHMENT NAME AND LOCATION	ENTER THE PURPOSE OF YOUR DATA COLLECTION	ENTER THE APPLICABLE CATCHMENT INFORMATION				ENTER THE APPLICABLE DATA INFORMATION	
		Land-use	Approx size	Available catchment information	Type of Data recorded	Data storage status	Availability of your data
	A	B	C	D	E	F	G
1 WEMMER. (JHB SOUTH)	1	1,3,5	2	1,3,4	1,5,7	2,3	3

The catchment being monitored lies south of Johannesburg and comprises urban, veld and mining land-use. The catchment is being monitored for purposes of research on mine tailings dam water pollution. The catchment is approximately 10 km² in extent. Topographical, geological and vegetation map data are available for the catchment. Rainfall, runoff and water quality are being monitored. The monitoring stations have some equipment which record on paper strips and some which record on data logger cassette. The research data is classified.

B.3 ENTER ANY REMARKS OR COMMENTS YOU MAY HAVE REGARDING THE HYDROLOGICAL DATA YOU COLLECT
(INCLUDE A DESCRIPTION OF ANY CATCHMENT MONITORING YOU PROPOSE IMPLEMENTING IN THE FUTURE)

SECTION C HYDROLOGICAL DATA REQUIREMENTS

C.1 CONSULT THE CODE SHEET AND ENTER THE CODES WHICH APPLY TO YOUR CATCHMENT TYPE REQUIREMENTS

REGION Enter each region where you have different requirements		PURPOSE Indicate the purpose of your hydrological data requirements	CATCHMENT DATA Indicate the type of catchment for which you require data	
			LAND-USE	CATCHMENT SIZE
CODE GROUPS H		A	B	C
1.1				
1.2				
1.3				
1.4				

C.2 CONSULT THE CODE SHEET AND ENTER THE CODES WHICH APPLY TO YOUR DATA TYPE REQUIREMENTS

DATA TYPES	MARK WHICH OF THE DATA TYPES YOU REQUIRE	WHERE DO YOU PRESENTLY OBTAIN YOUR DATA?	HOW WELL DOES THIS DATA MEET YOUR REQUIREMENTS	LIST THE CAUSES OF DATA INADEQUACY
CODE GROUPS	-	I	J	K
2.1 RAINFALL				
2.1.1 Storm Hyetographs				
2.1.2 Daily rainfall				
2.1.3 > Daily interval				
2.1.4 Regional Statistical Relationships				
2.2 CLIMATIC CONDITIONS				
2.2.1 Evaporation				
2.2.2 Temperature				
2.2.3 Wind				
2.2.4 Rel. Humidity				
2.2.5 Evapotranspiration				
2.3 SOIL CONDITIONS				
2.3.1 Soil type				
2.3.2 Soil moisture				
2.3.3 Soil suction				
2.4 RUNOFF				
2.4.1 Peak flow				
2.4.2 Hydrographs				
2.4.3 Storm volumes				
2.4.4 Daily flows				
2.4.5 > Daily interval				
2.4.6 Flow statistics				
2.5 WATER QUALITY				
2.5.1 Single event data				
2.5.2 Average water quality				
2.5.3 Type : chemical				
T D S				
Sediment				

C.3 INCLUDE ANY REMARKS OR COMMENTS BELOW

SECTION D FLOOD ESTIMATION TECHNIQUES

D.1 CONSULT THE CODE SHEET AND ENTER THE CODES WHICH BEST ANSWER THE QUESTIONS IN THE TABLE BELOW

FLOOD ESTIMATION TECHNIQUE	MARK THE TECHNIQUES YOU USE	LIST THE REASONS WHY YOU USE THIS TECHNIQUE	WHERE WOULD YOU APPLY THIS TECHNIQUE			WHAT PROBLEMS HAVE YOU EXPERIENCED WITH THE APPLICATION OF THE TECHNIQUE
			Land-use	Catchment size	Purpose of analysis	
	CODE GROUP	L	B	C	M	N
Rational						
Time-area						
SCS						
Kinematic						
Other						

D.2 IDENTIFY THE COMPUTER MODELS YOU USE

COMPUTER MODELS	IDENTIFY THE COMPUTER MODELS YOU USE	COMMENTS
ILLUDAS		
ACRU (SCS)		
WASHYO (SCS)		
SWM		
KINEMATIC MODEL		
PITMAN MODEL		
OTHER (specify)		

D.3 GIVE DETAILS OF THE TYPE OF COMPUTER YOU USE

COMPUTER TYPE	
MODEL	
WHAT COMPUTER LANGUAGE DOES YOUR SYSTEM USE	
FORTRAN	
BASIC	
OTHER	

E YOU
THE
E

2 DATA ACQUISITION SHEET

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SMALL CATCHMENT DATA BANK

DATA ACQUISITION SHEET - CODE LIST

CODE A : Soil Types

- | | |
|---|------------------------|
| 1 | Arenosols |
| 2 | Ferrallitic clays |
| 3 | Fersiallitic clays |
| 4 | Montmorillonitic clays |
| 5 | Solonchic soils |
| 6 | Alluvial soils |
| 7 | Lithosols |

CODE B : Breakdown Information

- | | |
|---|----------------------|
| 1 | 0 to 25% |
| 2 | 25 to 50% |
| 3 | 50 to 75% |
| 4 | 75 to 100% |
| 5 | No details available |

CODE C : Measuring Frequency

- | | |
|---|------------|
| 1 | Continuous |
| 2 | Hourly |
| 3 | Daily |
| 4 | > Daily |

CODE D : Storage Status

- | | |
|---|----------------------|
| 0 | Unprocessed |
| 1 | Data sheet |
| 2 | Paper strip |
| 3 | Data logger cassette |
| 4 | Computer tape |

CODE E : Gauge Ownership

- | | |
|----|--|
| 1 | Department of Water Affairs |
| 2 | Water Research Commission |
| 3 | Department of Forestry |
| 4 | Department of Agriculture |
| 5 | Johannesburg City Council |
| 6 | Cape Town City Council |
| 7 | University of the Witwatersrand |
| 8 | University of Zululand |
| 9 | S A Sugar Association Experiment Station |
| 10 | Council for Scientific and Industrial Research |
| 11 | Department of Water Affairs Qwa Qwa |
| 12 | Department of Water Affairs S W A |
| 13 | Department of Water Affairs Lesotho |
| 14 | Department of Water Affairs Swaziland |
| 15 | S A Weather Bureau |
| 16 | Other |

CODE F : Availability of Data

- | | |
|---|-------------------|
| 1 | Available |
| 2 | Classified |
| 3 | Partly classified |
| 4 | No data |

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SMALL CATCHMENT DATA BANK
DATA ACQUISITION SHEET

Catchment Details		Catchment Identification			
Catchment Area (km ²)		Gauge Reference No			
Average Catchment slope (%)		Catchment Name			
Mean Altitude* (m)		Location	L A T (S)	D E G	M I N
M.A. Precipitation (mm)			L O N G (F)	D E G	M I N
No of Dams in Catchment		River			
Stage Factor		Nearest Town			
Drainage Density		Magisterial District			
Soils (Code A)**		Province/Country			
Vegetation (acres)					
Land-use					
Binomial Soil Type					
Geology					

*The average of the altitude at the weir and that of the highest point in the catchment

**Dual code permitted eg 1,2

Do you collect the following data? Indicate those collected					
Rainfall		Sediment		Relative Humidity	
Runoff		Evaporation		Net Radiation	
Chemical		Temperature		Soil Moisture	
TDS		Wind		Infiltration	

Streamflow Recording Details	
Control	
Measuring Limit	CUMECs AT METRES
Rating Curve	1 = CALIBRATED 2 = CALCULATED
Storage Capacity behind weir	Percentage storage silted

Background Information	
Organization	
Department	
Contact Person	
Address	
Telephone Number and Exchange Code	

Details of Monitoring Programme		Year Started
Purpose		
Future Extensions		
Name of Reference File	(For office use only)	

Physical Catchment Information						
Period (years)		Land-use (% of Total Area) Note: Integral numbers only - no decimal values				
From	To	Veld	Agriculture	Afforestation	Mining	Urban

In the stream: 1 = Perennial 2 = Seasonal Well-defined Yes/No

*If the gauge owner does not appear on code list E, numbers 1-15, then fill in each new owner in the table below and indicate "Gauge Owned by" using 16 (other owner) superscripted in accordance with the table eg 16¹, 16², etc.

Superscript	New Owner
1	
2	
3	
4	
5	

Availability (Code F) : Rainfall		Runoff		Climatic
----------------------------------	--	--------	--	----------

Maps, Reports and Papers : Please attach a list of all references

3 SELECTED SMALL CATCHMENT DETAILS

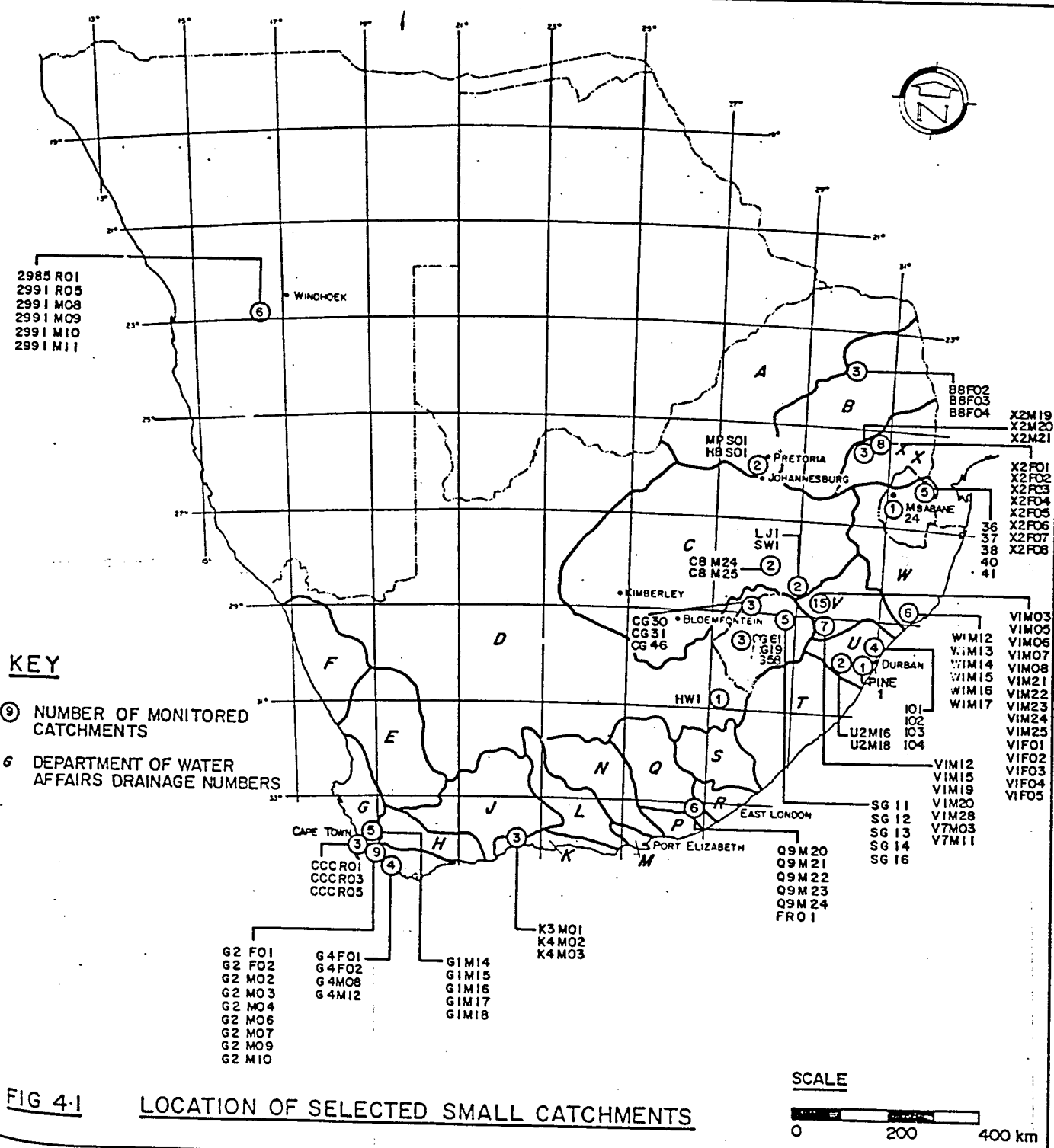


FIG 4-1 LOCATION OF SELECTED SMALL CATCHMENTS

TABLE B.1 : SELECTED SMALL CATCHMENTS

Drainage Region	Catchment Ref No	Area (km ²)	Predominant Land-use	Recordings Start Date		Organization
				Rainfall	Runoff	
A	MPS01	10,36	veld/urban	1982	1982	Witwatersrand University
A	MPS01	1,00	urban	1983	1983	
B	B8M23	0,36	forest	1974	1973	Directorate of Forestry
B	B8M22	0,35	veld	1972	1974	
B	B8M21	0,22	veld	1972	1973	
C	C8M24	9,00	agriculture/veld	1980	1980	Environmental Affairs
C	C8M25	84,00	agriculture/veld	1980	1980	De Wet Shand
C	LJ1	25,00	veld	1980	1980	
C	SW1	14,50	veld	1976	1976	
D	HOLLYWOOD		veld	1982	1976	Department of Agriculture Ministry of Water, Lesotho
D	SG11	57,00	veld	1957	1958	
D	SG12	82,00	veld	1957	1958	
D	SG13	83,40	veld	1957	1958	
D	SG14	67,14	veld	1957	1962	
D	SG16	100,00	veld	1962	1961	
D	SG58	6,00	veld	1937	1981	
D	CG30	27,00	veld/agriculture	1967	1969	
D	CG31	108,00	agriculture/veld	1967	1971	
D	CG46	26,00	agriculture/veld	1950	1973	
D	CG61	16,00	veld/agriculture	1953	1983	
D	MG19	96,00	veld	1963	1964	
G	CONRADIE	61,00	urban/veld	1924	1979	Cape Town Municipality
G	DURBAN	20,90	veld/urban	1958	1961	
G	LITTLE P	20,00	urban/veld	1958	1961	Directorate of Forestry
G	G1M14	2,87	veld	1968	1968	
G	G1M15	1,80	veld	1968	1968	
G	G1M16	3,24	veld	1968	1968	
G	G1M17	1,76	veld	1968	1968	
G	G1M18	3,56	veld	1968	1968	
G	G2M02	2,01	forest/veld	1938	1938	
G	G2M03	0,27	forest	1945	1940	
G	G2M04	1,57	forest/veld	1937	1940	
G	G2M06	0,12	veld		1940	
G	G2M07	2,46	veld.	1936	1942	
G	G2M09	0,31	veld	1940	1947	
G	G2M10	0,66	forest/veld		1947	
G	G2M22	0,46	veld	1944	1961	
G	G2M23	1,14	veld	1936	1966	
G	G4M08	1,64	veld	1967	1968	
G	G4M12	0,73	veld	1967	1968	
G	G2M15	0,24	veld	1967	1970	
G	G4M16	0,26	veld	1967	1970	
K	K3M01	48,00	veld	1981	1961	Rhodes University
K	K4M02	22,00	veld/agriculture	1981	1961	
K	K4M03	71,00	veld/agriculture	1983	1961	
Q	Q9M20	73,00	veld	1975	1976	Rhodes University
Q	Q9M21	9,10	veld	1975	1976	
Q	Q9M22	2,00	veld	1975	1976	
Q	Q9M23	1,00	veld	1975	1976	
Q	Q9M24	24,00	veld	1975	1975	
Q	FR01	0,04	veld	1983	1982	

TABLE B.1 : SELECTED SMALL CATCHMENTS (cont)

Drainage Region	Catchment Ref No	Area (km ²)	Predominant Land-use	Recordings Start Date		Organization
				Rainfall	Runoff	
U	U2M16	5,00	forest	1977	1977	Natal University
U	U2M18	1,31	forest	1977	1977	
U	101	0,04	agriculture	1977	1977	S A Sugar Association
U	102	0,04	agriculture	1977	1977	
U	103	0,04	agriculture	1977	1977	CSIR Natal
U	104	0,05	agriculture	1977	1977	
U	Pine 1	0,12	urban	1978	1978	
V	V1M12	0,50	veld	1965	1965	Natal University
V	V1M13	1,03	veld	1977	1977	
V	V1M19	14,64	veld	1964	1964	Directorate of Forestry
V	V1M20	1,32	veld	1964	1964	
V	V1M28	0,41	veld	1977	1977	
V	V7M03	0,45	veld	1977	1977	
V	V7M11	34,00	veld	1964	1964	
V	V1M03	1,95	veld/forest	1948	1948	
V	V1M05	0,95	veld	1949	1949	
V	V1M06	0,49	veld	1950	1951	
V	V1M07	1,39	veld	1950	1951	
V	V1M08	0,26	veld	1950	1950	
V	V1M21	0,45	veld	1953	1953	
V	V1M22	0,68	veld	1953	1954	
V	V1M23	0,64	veld	1954	1954	
V	V1M24	0,73	veld	1954	1954	
V	V1M25	0,63	veld	1963	1963	
V	V1M42	0,26	veld	1974	1975	
V	V1M43	0,14	veld	1974	1975	
V	V1M44	0,29	veld	1974	1975	
V	V1M45	1,30	veld	1974	1975	
V	V1M46	1,06	veld	1974	1975	
W	W1M12	82,90	veld/forest	1975	1977	Zululand University
W	W1M13	32,45	veld/forest	1975	1977	
W	W1M14	1,20	forest/veld	1975	1980	Department of Water Affairs, Swaziland
W	W1M15	12,65	veld	1975	1977	
W	W1M16	3,22	veld	1975	1977	
W	W1M17	0,67	veld	1975	1977	
W	24	124,00	veld	1894	1976	
W	36	73,00	agriculture/veld	1945	1977	
W	37	8,00	agriculture/veld	1945	1975	
W	38	26,00	veld/agriculture	1945	1976	
W	40	16,00	agriculture/veld	1945	1975	
W	41	98,00	veld	1945	1975	
X	X2M19	0,26	forest	1956	1956	Directorate of Forestry
X	X2M20	0,35	forest	1956	1956	
X	X2M21	0,37	veld	1956	1956	
X	X2M38	1,08	forest/veld	1974	1975	
X	X2M39	1,65	forest/veld	1976	1975	
X	X2X43	0,51	forest/veld	1975	1975	
X	X2X41	1,98	veld/forest	1973	1975	
X	X2X44	1,36	veld/forest	1973	1976	
X	X2X42	1,59	veld/forest	1973	1975	
X	X2X37	1,00	forest/veld	1973	1975	
X	X2M40	0,69	veld/forest	1975	1975	
-	2991M08	38,40	veld	1977	1978	Department of Water Affairs, South West Africa
-	2991M09	17,30	veld	1977	1978	
-	2991M10	81,60	veld	1977	1978	
-	2991M11	20,10	veld	1977	1978	
-	2991R05	38,00	veld	1982	1983	
-	2985R01	32,40	veld	1983	1977	

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Hillbrow	GAUGE REFERENCE NO	HBS01
LOCATION LAT.	26 deg. 11.00 min. S.	NEAREST TOWN	Johannesburg
LONG.	28 deg. 2.50 min. E.	MAGISTERIAL DISTRICT	Johannesburg
RIVER	Main trib Braamfontein Sprui	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	.67 sq.km.	VEGETATION	Not Applicable
AVERAGE CATCHMENT SLOPE	Flat (4.5%)	LAND USE	Urban
MEAN ALTITUDE	1770 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	710 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Shales & quartzites of the West Rand Group (Witwatersrand Sequence) with diabase intrusions
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Sharp-crested V-notch Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	< 1
PERCENTAGE OF STORAGE SILTED	0

BACKGROUND INFORMATION

ORGANIZATION	University of the Witwatersrand
DEPARTMENT	Department of Civil Engineering
CONTACT PERSON	Mr I Green/Mr J Lambourne
ADDRESS	Water Systems Research Programme Department of Civil Engineering 1 Jan Smuts Avenue JOHANNESBURG 2001
TELEPHONE	(011) 7163831/7163816/7163906

THE MONITORING PROGRAMME	- started : 1983
	- purpose : To evaluate kinematic methods to derive peak flow hydrographs for urban catchments
	- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	HBS01	(Last update : January 1985)
CATCHMENT MAP	HBS01.MAP	
LIST OF REFERENCES	WITS.REF	
RAINFALL DATA	HBS01.RAIN	
RUNOFF DATA	HBS01.FLOW	

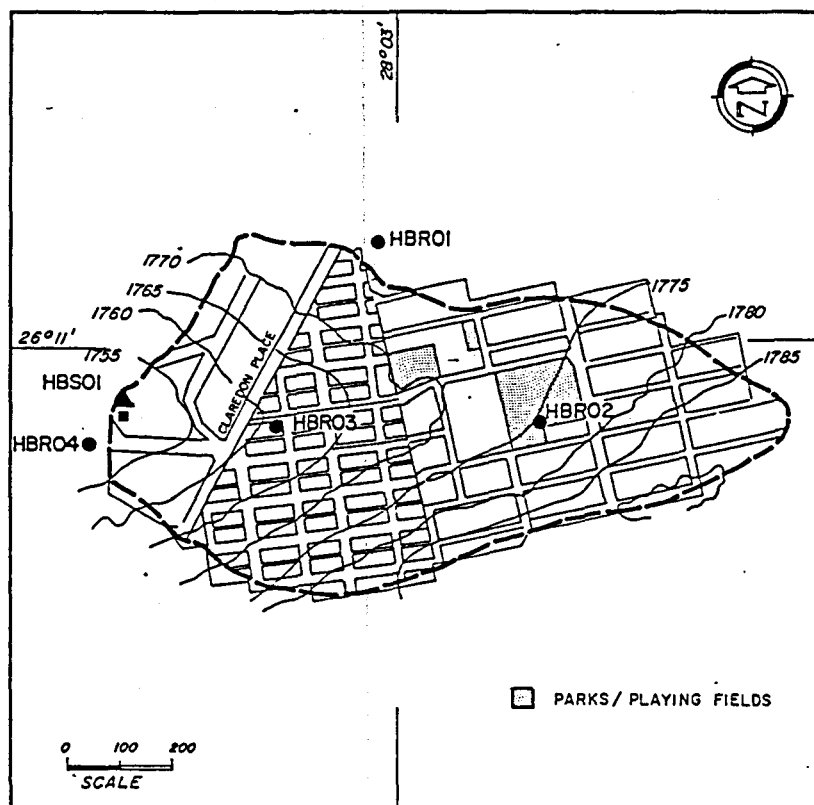
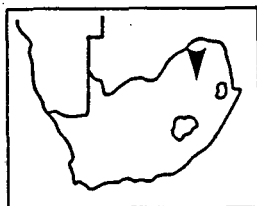
PHYSICAL CATCHMENT INFORMATION

LAND USE	1983 to 1984	5 % veld 95 % urban
----------	--------------	------------------------

DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	HBRO1	Tipping Bucket	1983-1984	0-25 %	Continuous	Paper strip	
	HBRO2	Casella Siphon	1983-1984	0-25 %	Continuous	Paper strip	
	HBRO3	Tipping Bucket	1983-1984	0-25 %	Continuous	Paper strip	
	HBRO4	Tipping Bucket	1983-1984	0-25 %	Continuous	Paper strip	
RUNOFF	HBSO1	Ott	1983-1984	0-25 %	Continuous	Paper strip	
CHEMICAL							
TSS	HBSO1	TBI System	1984-1984	0-25 %	Continuous	Paper strip	
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

*Majority of gauges are owned by University of the Witwatersrand

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Montgomery Park	GAUGE REFERENCE NO	MPS01
LOCATION LAT.	26 deg. 9.50 min. S.	NEAREST TOWN	Johannesburg
LONG.	27 deg. 59.00 min. E.	MAGISTERIAL DISTRICT	Johannesburg
RIVER	Montgomery Park Spruit	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	10.36 sq.km.	VEGETATION	Bankenveld
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld & Urban
MEAN ALTITUDE	1695 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	710 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Quartzite shales (Wits), metamorphic rocks (Swazi Formation) and Archaean granite with diabase intrusions
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Crump Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	< 1
PERCENTAGE OF STORAGE SILTED	0

BACKGROUND INFORMATION

ORGANIZATION	University of the Witwatersrand
DEPARTMENT	Department of Civil Engineering
CONTACT PERSON	Mr I Green/Mr J Lambourne
ADDRESS	Water Systems Research Programme Department of Civil Engineering 1 Jan Smuts Avenue JOHANNESBURG 2001
TELEPHONE	(011) 7163831/7163816/7163906

THE MONITORING PROGRAMME	- started : 1982
	- purpose : To evaluate kinematic methods to derive peak flow hydrographs for urban catchments
	- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	MPS01	(Last update : January 1985)
CATCHMENT MAP	MPS01.MAP	
LIST OF REFERENCES	WITS.REF	
RAINFALL DATA	MPS01.RAIN	
RUNOFF DATA	MPS01.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1982 to 1984	82 % veld 18 % urban
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall

Runoff

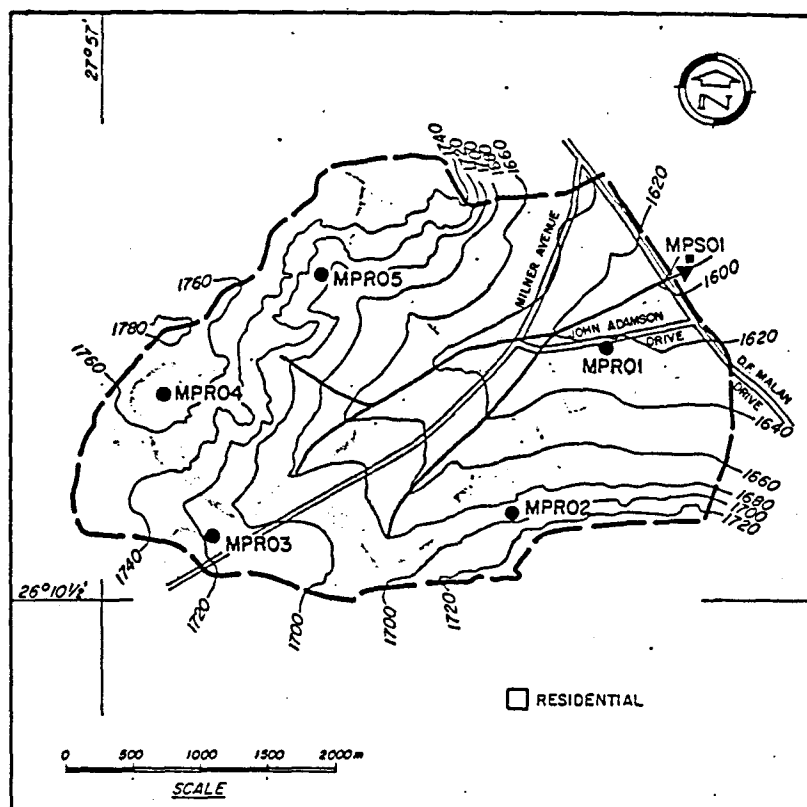
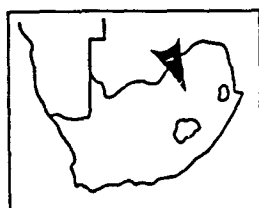
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	MPS01	1	1982-1984	0-25 %	Continuous	Paper strip	Computer tape
	MPS02						
	MPS03						
	MPS04						
	MPS05						
RUNOFF CHEMICAL TDS SEDIMENT	MPS01	1	1982-1984	0-25 %	Continuous	Paper strip	Computer tape
	MPS01						
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by University of the Witwatersrand
Other gauge owners indicated are : 1 = Johannesburg City Council

CATCHMENT IDENTIFICATION

CATCHMENT NAME	A2 Westfalia	GAUGE REFERENCE NO	B8M21
LOCATION LAT.	23 deg. 44.00 min. S.	NEAREST TOWN	Tzaneen
LONG.	30 deg. 4.00 min. E.	MAGISTERIAL DISTRICT	Letaba
RIVER	Research 2	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	.22 sq.km.	VEGETATION	N-E Mntn Sourveld/Lowveld Sour Bushveld
AVERAGE CATCHMENT SLOPE	Steep (25%)	LAND USE	Afforestation
MEAN ALTITUDE	1148 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1600 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean Granite - migmatite, gneiss, ultrametamorphic rocks
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	.49 cumec at .61 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1972
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

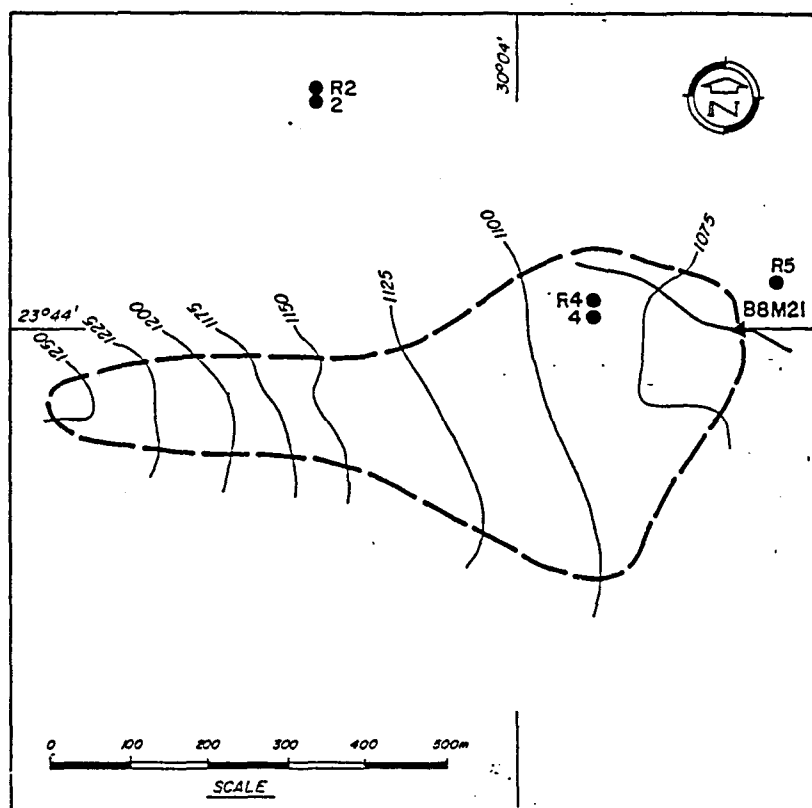
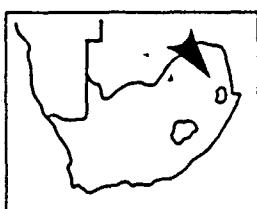
CATCHMENT INFORMATION FILE	B8M21	(Last update : January 1985)
CATCHMENT MAP	B8M21.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	B8M21.RAIN	
RUNOFF DATA	B8M21.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1972 to 1984	100 % afforestation
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R2	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Data sheet
	R4	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Data sheet
	R5	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Data sheet
	2	Standard	1972-1984	No details	> Daily	Data sheet	
	4	Standard	1972-1984	No details	> Daily	Data sheet	
RUNOFF CHEMICAL TDS SEDIMENT	B8M21	Selfort	1973-1984	No details	Continuous	Paper strip	Computer tape
EVAPORATION TEMPERATURE WIND REL. HUMIDITY NET RADIATION							
SOIL MOISTURE INFILTRATION							

*Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	B3 Westfalia	GAUGE REFERENCE NO	B8M22
LOCATION LAT.	23 deg. 43.75 min. S.	NEAREST TOWN	Tzaneen
LONG.	30 deg. 3.75 min. E.	MAGISTERIAL DISTRICT	Letaba
RIVER	Klein Letaba	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	.35 sq.km.	VEGETATION	N-E Mntn Sourveld/Lowveld Sour Bushveld
AVERAGE CATCHMENT SLOPE	Steep (31%)	LAND USE	Veld
MEAN ALTITUDE	1270 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1600 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean Granite - migmatite, gneiss, ultrametamorphic rocks
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	.48 cumec at .61 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1974
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

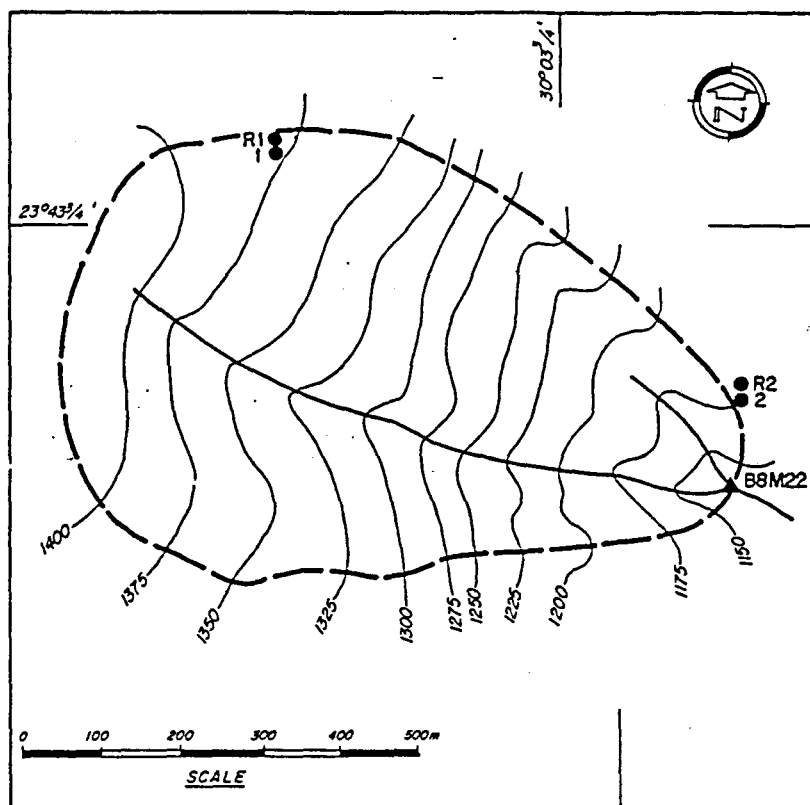
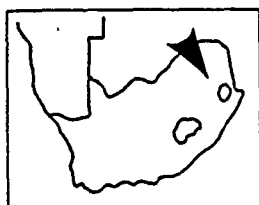
CATCHMENT INFORMATION FILE	B8M22	(Last update : January 1985)
CATCHMENT MAP	B8M22.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	B8M22.RAIN	
RUNOFF DATA	B8M22.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1974 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



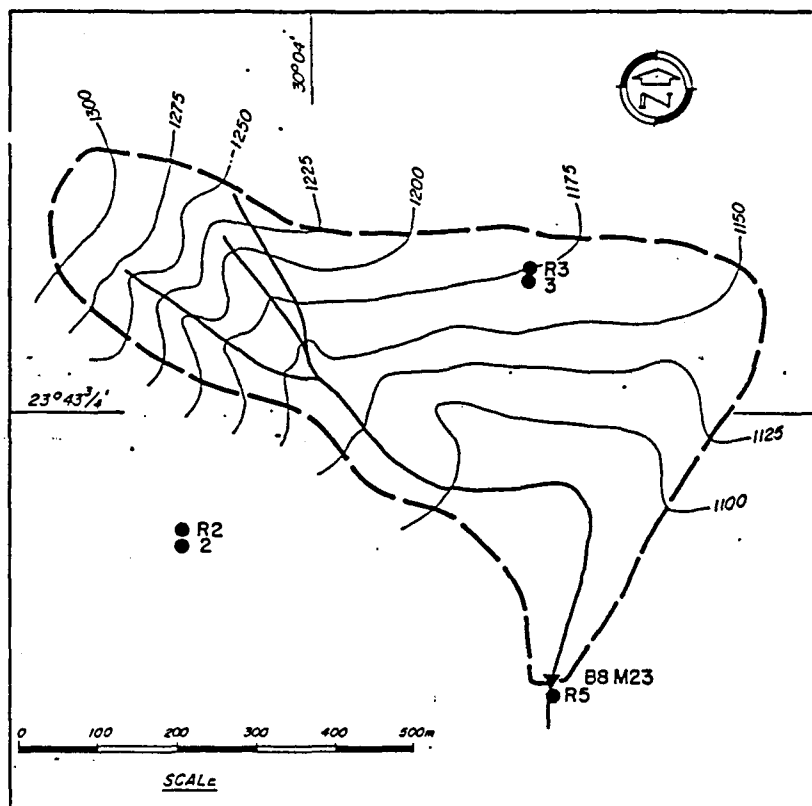
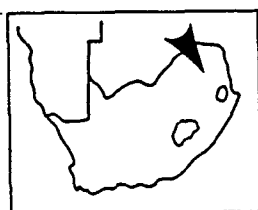
RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R1	Casella Siphon	1972-1984	No details	Continuous	Paper strip	Computer tape
	R2	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	1	Standard	1972-1984	No details	> Daily	Data sheet	
	2	Standard	1972-1984	No details	> Daily	Data sheet	
RUNOFF	B8M22	Belfort	1974-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	B8M22	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
TOX	B8M22	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	B8M22	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R2	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	R3	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	R5	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	2	Standard	1972-1984	No details	> Daily	Data sheet	
	3	Standard	1972-1984	No details	> Daily	Data sheet	
RUNOFF	B8M23	Belfort	1973-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	B8M23	Auto Sampler	1981-1984	No details	> Daily	Data sheet	
TDS	B8M23	Auto Sampler	1981-1984	No details	> Daily	Data sheet	
SEDIMENT	B8M23	Auto Sampler	1981-1984	No details	> Daily	Data sheet	
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	BRAR 1	GAUGE REFERENCE NO	C8M24
LOCATION LAT.	28 deg. 4.00 min. S.	NEAREST TOWN	Bethlehem
LONG.	28 deg. 42.00 min. E.	MAGISTERIAL DISTRICT	Harrismith
RIVER	Tributary of Wilge	PROVINCE OR COUNTRY	Orange Free State

CATCHMENT DETAILS

CATCHMENT AREA	9.00 sq.km.	VEGETATION	Eastern Free State Highveld
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld & Agriculture
MEAN ALTITUDE	1684 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	700 mm	BINOMIAL SOIL TYPE	Bleeksand series
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Mudstone & sandstone of upper and middle Beaufort Group, intruded by dolerite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Crump Weir
MEASURING LIMIT	6.90 cumec at .80 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Department of Environment Affairs
DEPARTMENT	Hydrological Research Institute
CONTACT PERSON	Mr H Maaren
ADDRESS	Director Hydrological Research Institute Department of Environment Affairs Private Bag X313 PRETORIA 0001
TELEPHONE	(012) 821415

THE MONITORING PROGRAMME	- started : 1980
	- purpose : To investigate cloud-seeding & the resultant changes in runoff, & to study relationship between land use & runoff
	- future extensions : None

INFORMATION FILES

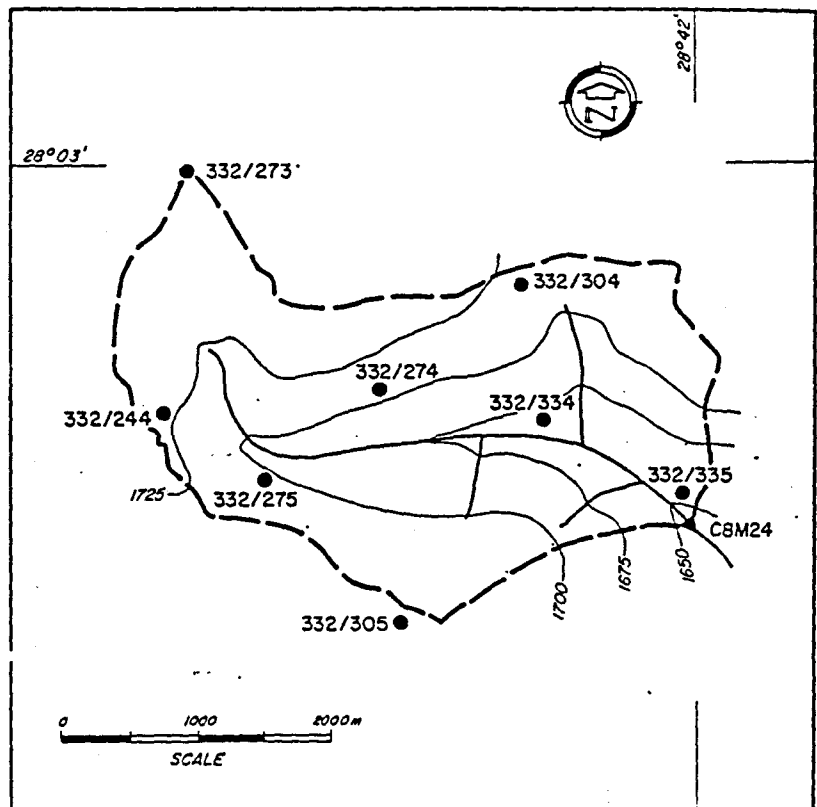
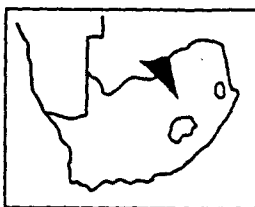
CATCHMENT INFORMATION FILE	C8M24	(Last update : January 1985)
CATCHMENT MAP	C8M24.MAP	
LIST OF REFERENCES	ENV.REF	
RAINFALL DATA	C8M24.RAIN	
RUNOFF DATA	C8M24.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1979 to 1984	50 % veld 50 % agriculture
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	332/244	Tipping Bucket	1982-1984	75-100%	Continuous	Paper strip	Computer tape
	332/273	Tipping Bucket	1982-1984	50-75 %	Continuous	Paper strip	Computer tape
	332/274	Tipping Bucket	1984-1984	0-25 %	Continuous	Paper strip	Computer tape
	332/275	Tipping Bucket	1982-1984	75-100%	Continuous	Paper strip	Computer tape
	332/304	Tipping Bucket	1980-1984	50-75 %	Continuous	Paper strip	Computer tape
	332/305	Tipping Bucket	1982-1984	75-100%	Continuous	Paper strip	Computer tape
	332/334	Tipping Bucket	1982-1984	75-100%	Continuous	Paper strip	Computer tape
	332/335	Tipping Bucket	1983-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF CHEMICAL SEDIMENT	C8M24	Ott	1980-1984	0-25 %	Continuous	Paper strip	Computer tape
EVAPORATION							
TEMPERATURE							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	BRAR 11	GAUGE REFERENCE NO	C8M25
LOCATION LAT.	28 deg. 9.00 min. S.	NEAREST TOWN	Bethlehem
LONG.	28 deg. 42.00 min. E.	MAGISTERIAL DISTRICT	Harrismith
RIVER	Tributary of Wilge	PROVINCE OR COUNTRY	Orange Free State

CATCHMENT DETAILS

CATCHMENT AREA	83.00 sq.km.	VEGETATION	Eastern Free State Highveld
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld & Agriculture
MEAN ALTITUDE	1708 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	700 mm	BINOMIAL SOIL TYPE	Bleeksand series
NO OF DAMS IN CATCHMENT	20	GEOLOGY	Mudstone & sandstone of upper & middle Beaufort Group, intruded by dolerite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Crump Weir
MEASURING LIMIT	29.10 cumec at 1.40 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Department of Environment Affairs
DEPARTMENT	Hydrological Research Institute
CONTACT PERSON	Mr H Maaren
ADDRESS	Director Hydrological Research Institute Department of Environment Affairs Private Bag X313 PRETORIA 0001
TELEPHONE	(012) 821415

THE MONITORING PROGRAMME	- started : 1980
	- purpose : To investigate cloud-seeding & the resultant changes in runoff, & to study relationship between land use & runoff
	- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	C8M25	(Last update : January 1985)
CATCHMENT MAP	C8M25.MAP	
LIST OF REFERENCES	ENV.REF	
RAINFALL DATA	C8M25.RAIN	
RUNOFF DATA	C8M25.FLOW	

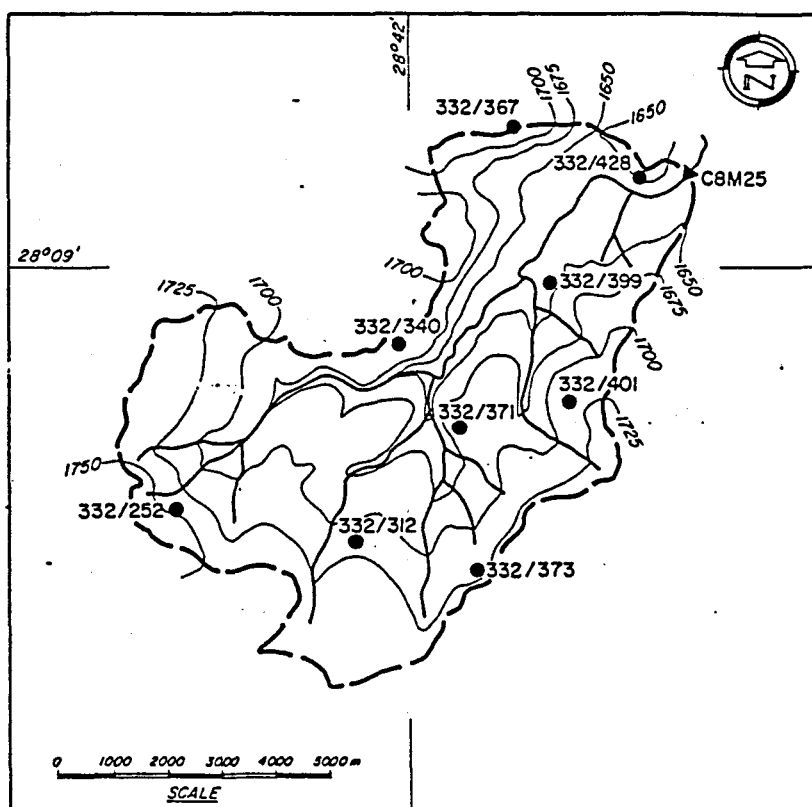
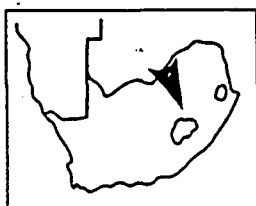
PHYSICAL CATCHMENT INFORMATION

LAND USE	1979 to 1984	50 % veld 50 % agriculture
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	332/252	Tipping Bucket	1980-1984	25-50 %	Continuous	Paper strip	Computer tape
	332/312	Tipping Bucket	1977-1984	25-50 %	Continuous	Paper strip	Computer tape
	332/340	Tipping Bucket	1980-1984	50-75 %	Continuous	Paper strip	Computer tape
	332/367	Tipping Bucket	1980-1984	50-75 %	Continuous	Paper strip	Computer tape
	332/371	Tipping Bucket	1980-1984	75-100 %	Continuous	Paper strip	Computer tape
	332/373	Tipping Bucket	1980-1984	50-75 %	Continuous	Paper strip	Computer tape
	332/399	Tipping Bucket	1980-1984	0-25 %	Continuous	Paper strip	Computer tape
	332/401	Tipping Bucket	1980-1984	50-75 %	Continuous	Paper strip	Computer tape
	332/428	Tipping Bucket	1980-1984	25-50 %	Continuous	Paper strip	Computer tape
RUNOFF	C8M25	Ott	1980-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TOSS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs
 Other gauge owners indicated are : 1 = Water Research Commission

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Swartwater Dam	GAUGE REFERENCE NO	SW1
LOCATION LAT.	28 deg. 35.00 min. S.	NEAREST TOWN	Witsieshoek
LONG.	28 deg. 56.00 min. E.	MAGISTERIAL DISTRICT	Witsieshoek
RIVER	Metsi-matsho	PROVINCE OR COUNTRY	Qwa Qwa

CATCHMENT DETAILS

CATCHMENT AREA	14.50 sq.km.	VEGETATION	Highland Sourveld
AVERAGE CATCHMENT SLOPE	Moderate (8%)	LAND USE	Veld
MEAN ALTITUDE	1868 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	950 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	1	GEOLOGY	Clarens, Elliot & Molteno Formations
SHAPE FACTOR	No details		sandstone, shale, mudstone, marl
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	20m OGEE Spillway
MEASURING LIMIT	200.00 cumec at .00 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	De Wet Shand Inc
DEPARTMENT	Hydro Division
CONTACT PERSON	Mr H A Claassen
ADDRESS	Chief Hydrologist De Wet Shand Inc P O Box 1738 PRETORIA 0001
TELEPHONE	(012) 465231

THE MONITORING PROGRAMME	- started : 1976
	- purpose : To estimate catchment runoff yield
	- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	SW1	(Last update : January 1985)
CATCHMENT MAP	SW1.MAP	
LIST OF REFERENCES	QUAQUA.REF	
RAINFALL DATA	SW1.RAIN	
RUNOFF DATA	SW1.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1976 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall



Runoff



Water Quality



Evaporation



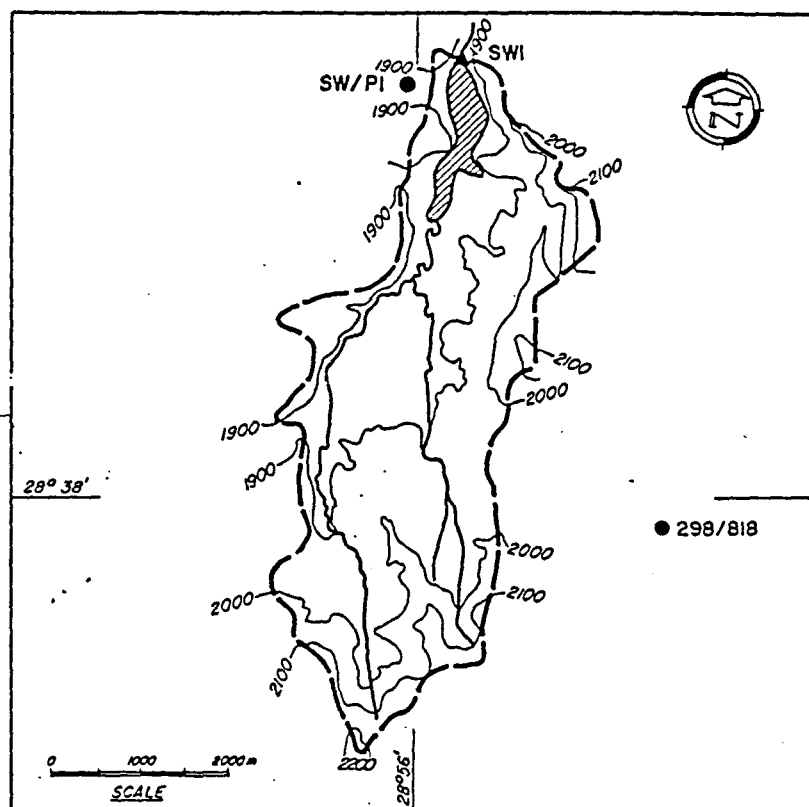
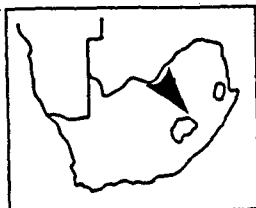
Temperature



Wind



Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	SW/PI 298/818	Casella Storage Gauge	1976-1984 1976-1984	0-25 % 0-25 %	Continuous Daily	Paper strip Data sheet	Computer tape
RUNOFF	SWI SWI	Gauge Plates Ott	1976-1981 1981-1984	0-25 % 0-25 %	Daily Continuous	Data sheet Paper strip	
CHEMICAL TDS SILTMENT							
EVAPORATION TEMPERATURE WIND REL. HUMIDITY NET RADIATION							
SOIL MOISTURE INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Qwa Qwa
Other gauge owners indicated are : 1 = S A Weather Bureau

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Lejwaneng	GAUGE REFERENCE NO	LJ1
LOCATION LAT.	28 deg. 38.00 min. S.	NEAREST TOWN	Witsieshoek
LONG.	28 deg. 50.00 min. E.	MAGISTERIAL DISTRICT	Witsieshoek
RIVER	Mamahadi	PROVINCE OR COUNTRY	Qwa Qwa

CATCHMENT DETAILS

CATCHMENT AREA	25.00 sq.km.	VEGETATION	Highland Sourveld
AVERAGE CATCHMENT SLOPE	Steep (16%)	LAND USE	Veld
MEAN ALTITUDE	2390 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1200 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Clarens, Elliot & Molteno Formations
SHAPE FACTOR	No details		sandstone, shale, mudstone, marl
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Sm Crump Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	De Wet Shand Inc
DEPARTMENT	Hydro Division
CONTACT PERSON	Mr H A Claassen
ADDRESS	Chief Hydrologist De Wet Shand Inc P O Box 1738 PRETORIA 0001
TELEPHONE	(012) 465231

THE MONITORING PROGRAMME

- started : 1980
- purpose : To estimate catchment runoff yield
- future extensions : None

INFORMATION FILES

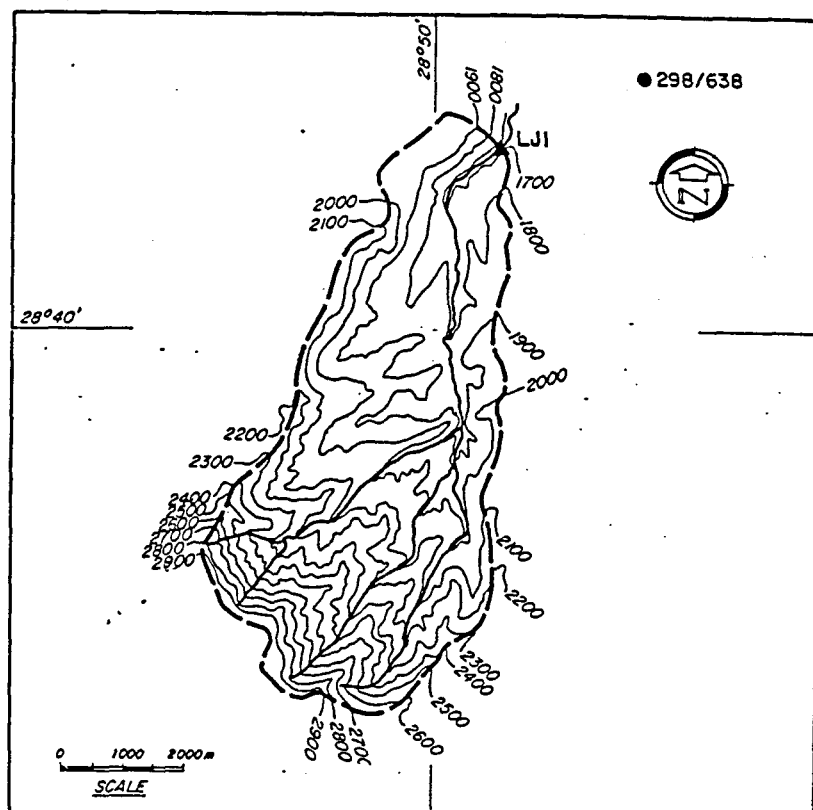
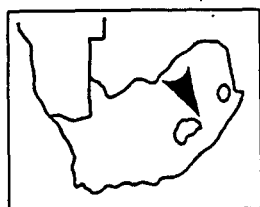
CATCHMENT INFORMATION FILE	LJ1	(Last update : January 1985 .)
CATCHMENT MAP	LJ1.MAP	
LIST OF REFERENCES	QWAGWA.REF	
RAINFALL DATA	LJ1.RAIN	
RUNOFF DATA	LJ1.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1980 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	298/638 1	Standard	1980-1984	0-25 %	Daily	Data sheet	Computer tape
RUNOFF	LJ1	Ott	1980-1984	0-25 %	Continuous	Paper strip	
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Qwa Qwa.
Other gauge owners indicated are : 1 = S A Weather Bureau

Department of Agriculture - HW1 - Lady Grey, Eastern Cape

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Hollywood	GAUGE REFERENCE NO	HW1
LOCATION LAT.	30 deg. 45.00 min. S.	NEAREST TOWN	Lady Grey
LONG.	27 deg. 10.00 min. E.	MAGISTERIAL DISTRICT	Lady Grey
RIVER	Hollywood	PROVINCE OR COUNTRY	Eastern Cape

CATCHMENT DETAILS

CATCHMENT AREA	18.47 sq.km.	VEGETATION	Themeda-Festuca Highveld Grassland
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld
MEAN ALTITUDE	1850 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	800 mm	MINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	1	GEOLOGY	Clarens, Moltene Formation - sandstone, mudstone & shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Broad-crested Arch Dam 20m dia
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Department of Agriculture
DEPARTMENT	Agricultural Engineering
CONTACT PERSON	Mr P Strumpher
ADDRESS	Chief Engineer Private Bag X1006 ALIWAAL NORTH 5530

TELEPHONE (0551) 2455

THE MONITORING PROGRAMME

- started : 1976
- purpose : To determine catchment sediment yield
- future extensions : None

INFORMATION FILES

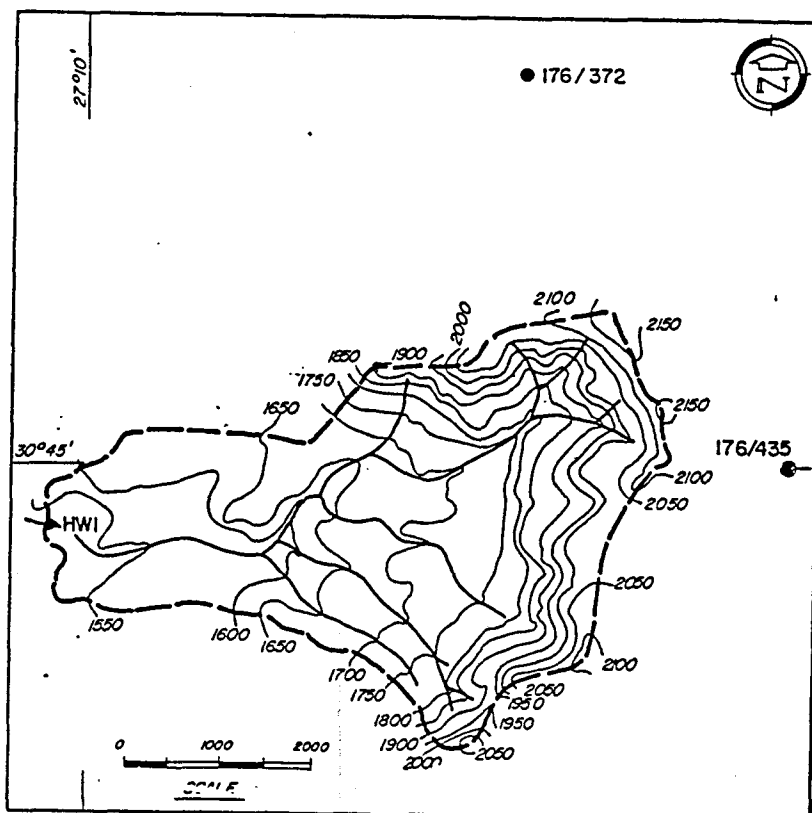
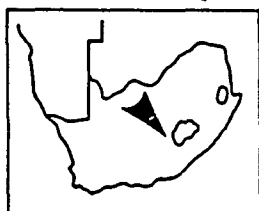
CATCHMENT INFORMATION FILE	HW1	(Last update : January 1985)
CATCHMENT MAP	HW1.MAP	
LIST OF REFERENCES	AGRIC.ref	
RAINFALL DATA	HW1.RAIN	
RUNOFF DATA	HW1.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1976 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is perennial and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	176/372	Standard	1898-1984	No details	Daily	Data sheet	Computer tape
	176/435	Standard	1982-1984	No details	Daily	Data sheet	Computer tape
RUNOFF	HWI	1: Ott	1976-1984	No details	Continuous	Paper strip	
CHEMICAL							
SEDIMENT	HWI	1: Annual Surveys	1976-1984	0-25 %	> Daily	Data sheet	
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
FILTRATION							

Majority of gauges are owned by S A Weather Bureau
 Other gauge owners indicated are : 1 = Department of Agriculture

Lesotho Ministry of Water Energy, Mining - CG30 - Leribe, Lesotho

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Thaba Phatsoa	GAUGE REFERENCE NO	CG30
LOCATION LAT.	29 deg. .00 min. S.	NEAREST TOWN	Hlotse
LONG.	29 deg. 9.00 min. E.	MAGISTERIAL DISTRICT	Leribe
RIVER	Fenyane	PROVINCE OR COUNTRY	Lesotho

CATCHMENT DETAILS

CATCHMENT AREA	27.00 sq.km.	VEGETATION	Highland Sourveld
AVERAGE CATCHMENT SLOPE	Steep	LAND USE	Vald, Agriculture & Afforestation
MEAN ALTITUDE	2000 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	980 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Drakensberg basalt, Clarens & Elliot & Molteno Formations sandstone, mudstone & shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Dam spillway
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Lesotho Ministry of Water Energy, Mining
DEPARTMENT	Water Affairs
CONTACT PERSON	Mr S. Makhoalibe
ADDRESS	Senior Hydrologist P O Box 772 MASERU Lesotho

TELEPHONE (050) 323947

THE MONITORING PROGRAMME

- started : 1969
- purpose : To determine catchment runoff yield
- future extensions : None.

INFORMATION FILES

CATCHMENT INFORMATION FILE	CG30	(Last update : January 1985)
CATCHMENT MAP	CG30.MAP	
LIST OF REFERENCES	LESO.REF	
RAINFALL DATA	CG30.RAIN	
RUNOFF DATA	CG30.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1969 to 1984	60 % veld
		39 % agriculture
		1 % afforestation

DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall

Runoff

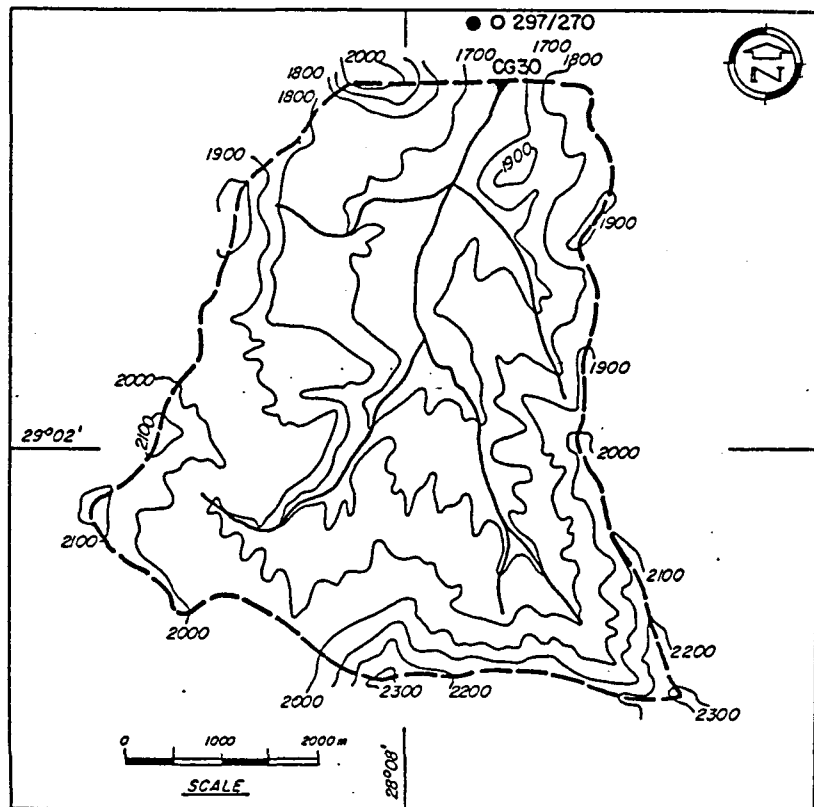
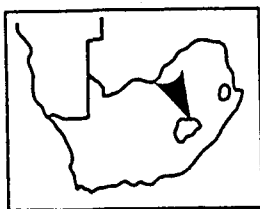
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	297/270	Standard	1967-1980	0-25 %	Daily	Data sheet	Data sheet
RUNOFF	CG30	Staff Gauge	1969-1984	0-25 %	> Daily	Data sheet	
CHEMICAL TDS SEDIMENT	CG30	Stevens	1969-1984	0-25 %	Continuous	Paper strip	
EVAPORATION	297/270	Class A Pan	1967-1971	0-25 %	Daily	Data sheet	
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Lesotho

Lesotho Ministry of Water Energy, Mining - CG31 - Leribe, Lesotho

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Tsoinyane	GAUGE REFERENCE NO	CG31
LOCATION LAT.	28 deg. 57.75 min. S.	NEAREST TOWN	Leribe
LONG.	28 deg. 8.75 min. E.	MAGISTERIAL DISTRICT	Leribe
RIVER	Tsoinyane	PROVINCE OR COUNTRY	Lesotho

CATCHMENT DETAILS

CATCHMENT AREA	108.00 sq.km.	VEGETATION	Highland Sourveld
AVERAGE CATCHMENT SLOPE	Steep	LAND USE	Veld & Agriculture
AVERAGE ALTITUDE	2400 m AMSL	SOILS	Lithosols
AVERAGE ANNUAL PRECIPITATION	950 mm	BIOLOGICAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	1	GEOLOGY	Drakensberg basalt, Clarens & Elliot & Molteno Formations sandstone, mudstone & shales
SHAPE FACTOR	No details		
RAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
WINDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Natural river
MEASURING LIMIT	No details
ROUTING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Lesotho Ministry of Water Energy, Mining
DEPARTMENT	Water Affairs
CONTACT PERSON	Mr S Makhoaliba
ADDRESS	Senior Hydrologist P O Box 772 MASERU Lesotho

TELEPHONE (050) 323947

WATER MONITORING PROGRAMME

- started : 1971
- purpose : To determine catchment runoff yield.
- future extensions : None

REFERENCE FILES

CATCHMENT INFORMATION FILE	CG31	(Last update : January 1985)
CATCHMENT MAP	CG31.MAP	
LIST OF REFERENCES	LES0.REF	
RAINFALL DATA	CG31.RAIN	
RUNOFF DATA	CG31.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1971 to 1984	40 % veld 60 % agriculture
RAINAGE CHARACTERISTICS	Stream is perennial and well defined	

KEY : Measuring site for

Rainfall

Runoff

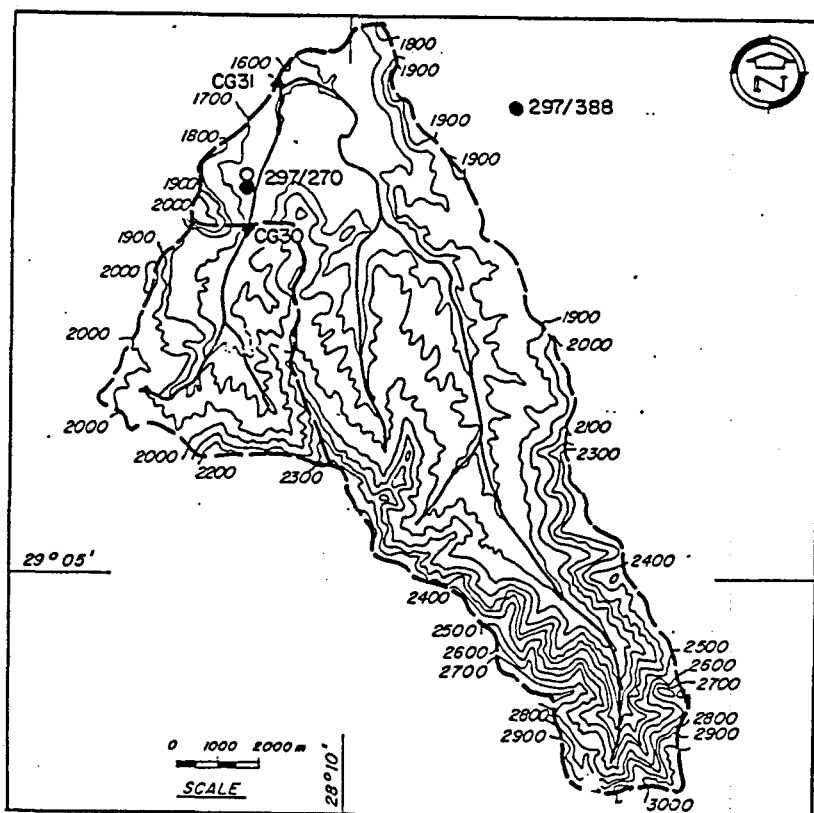
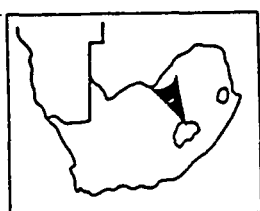
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	297/270	Standard	1967-1980	0-25 %	Daily	Data sheet	Data sheet
	297/388	Standard	1972-1984	0-25 %	Daily	Data sheet	Data sheet
RUNOFF	CG31	Ott	1971-1984	0-25 %	1 Daily	Data sheet	Data sheet
	CG31	Stevens	1971-1984	0-25 %	Continuous	Paper strip	Data sheet
	CG30	Stevens	1969-1984	0-25 %	Continuous	Paper strip	Data sheet
CHEMICAL TDS SEDIMENT							
EVAPORATION	297/270	Class A Pan	1967-1971	0-25 %	Daily	Data sheet	Data sheet
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Lesotho

Lesotho Ministry of Water Energy, Mining - CG46 - Butha-Buthe, Lesotho

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Moroeroe	GAUGE REFERENCE NO	CG46
LOCATION LAT.	28 deg. 45.00 min. S.	NEAREST TOWN	Butha-Buthe
LONG.	28 deg. 16.00 min. E.	MAGISTERIAL DISTRICT	Butha-Buthe
RIVER	Moroeroe	PROVINCE OR COUNTRY	Lesotho

CATCHMENT DETAILS

CATCHMENT AREA	26.00 sq.km.	VEGETATION	Highland Sourveld
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld & Agriculture
MEAN ALTITUDE	2100 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	800 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	To determine catchment runoff yield
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	V-notch Weir
MEASURING LIMIT	30.00 cumec at 2.00 metres
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Lesotho Ministry of Water Energy, Mining
DEPARTMENT	Water Affairs
CONTACT PERSON	Mr S Nakhoalibe
ADDRESS	Senior Hydrologist P O Box 772 MASERU Lesotho

TELEPHONE (050) 323947

THE MONITORING PROGRAMME

- started : 1973
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	CG46	(Last update : January 1985)
CATCHMENT MAP	CG46.MAP	
LIST OF REFERENCES	LES0.REF	
RAINFALL DATA	CG46.RAIN	
RUNOFF DATA	CG46.FLOW	

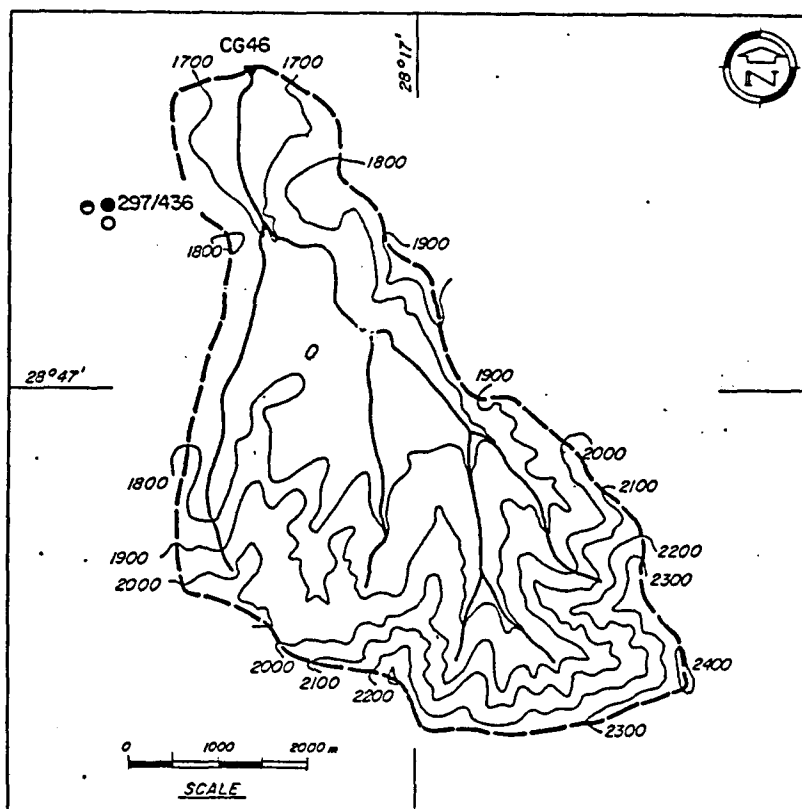
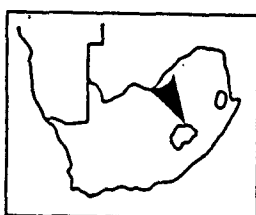
PHYSICAL CATCHMENT INFORMATION

LAND USE	1973 to 1984	40 % veld 60 % agriculture
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ●
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	297/436	Casella Siphon	1950-1984	0-25 %	Continuous	Paper strip	Data sheet
	297/436	Standard	1917-1984	0-25 %	Daily	Data sheet	Data sheet
RUNOFF	CG46	Ott	1973-1984	0-25 %	> Daily	Data sheet	Data sheet
	CG46	Stevens	1973-1984	0-25 %	Continuous	Paper strip	Data sheet
CHEMICAL TDS SEDIMENT							
EVAPORATION	297/436	Class A Pan	1922-1984	0-25 %	Daily	Data sheet	Data sheet
TEMPERATURE	297/436	Thermometer	1969-1984	0-25 %	Daily	Data sheet	Data sheet
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Lesotho

Lesotho Ministry of Water Energy, Mining - CG61 - Maseru, Lesotho

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Mohlakaoatuka	GAUGE REFERENCE NO	CG61
LOCATION LAT.	29 deg. 24.00 min. S.	NEAREST TOWN	Ntsi
LONG.	27 deg. 46.00 min. E.	MAGISTERIAL DISTRICT	Maseru
RIVER	Mohlakaoatuka	PROVINCE OR COUNTRY	Lesotho

CATCHMENT DETAILS

CATCHMENT AREA	16.00 sq.km.	VEGETATION	Highland Sourveld
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld & Agriculture
MEAN ALTITUDE	2100 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	850 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Drakensberg basalt, Clarens & Elliot & Molteno Formations sandstone & mudstone
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Broad-crested Weir with central cutout
MEASURING LIMIT	No details
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Lesotho Ministry of Water Energy, Mining
DEPARTMENT	Water Affairs
CONTACT PERSON	Mr S Makhoalibe
ADDRESS	Senior Hydrologist P O Box 772 MASERU Lesotho

TELEPHONE (050) 323947

THE MONITORING PROGRAMME

- started : 1983
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	CG61	(Last update : January 1985)
CATCHMENT MAP	CG61.MAP	
LIST OF REFERENCES	LES0.REF	
RAINFALL DATA	CG61.RAIN	
RUNOFF DATA	CG61.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1983 to 1984	60 % veld 40 % agriculture
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall

Runoff

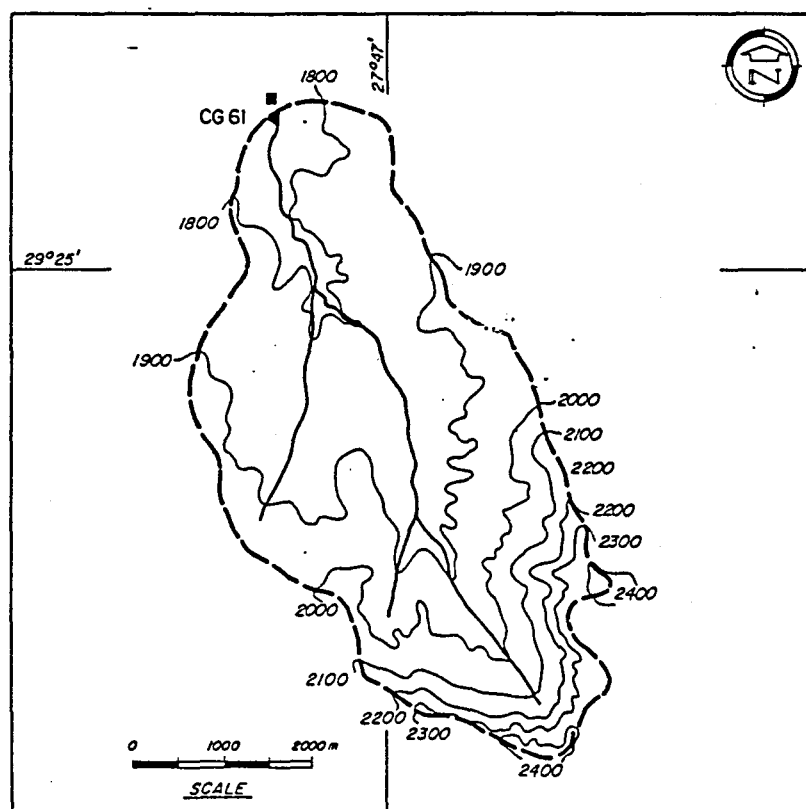
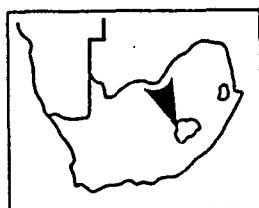
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	264/503	Standard	1974-1984	0-25 %	Daily	Data sheet	Data sheet
	264/564	Standard	1953-1978	0-25 %	Daily	Data sheet	Data sheet
RUNOFF	CG 61	Ott	1983-1984	0-25 %	> Daily	Data sheet	Data sheet
	CG 61	Stevens	1983-1984	0-25 %	Continuous	Paper strip	Data sheet
CHEMICAL	CG 61	Bucket	1983-1984	0-25 %	> Daily	Data sheet	Data sheet
	CG 61	Bucket	1983-1984	0-25 %	> Daily	Data sheet	Data sheet
SEDIMENT							
EVAPORATION	264/564	Class a Pan	1980-1984	0-25 %	Daily	Data sheet	Data sheet
TEMPERATURE	264/564	Thermometer	1980-1984	0-25 %	Daily	Data sheet	Data sheet
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Lesotho

Lesotho Ministry of Water Energy, Mining - MG19 - Maseru, Lesotho

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Makhaleng	GAUGE REFERENCE NO	MG19
LOCATION LAT.	29 deg. 26.00 min. S.	NEAREST TOWN	Molimo Nthuse
LONG.	27 deg. 54.00 min. E.	MAGISTERIAL DISTRICT	Maseru
RIVER	Makhaleng	PROVINCE OR COUNTRY	Lesotho

CATCHMENT DETAILS

CATCHMENT AREA	86.00 sq.km.	VEGETATION	Themeda-Festuca Grassland
AVERAGE CATCHMENT SLOPE	Steep	LAND USE	Veld & Agriculture
MEAN ALTITUDE	2400 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1100 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Drakensberg basalt, limburgite, pyroclast, Clarens Formation sandstone
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	Yes
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Natural river
MEASURING LIMIT	65.00 cumec at 2.60 metres
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Lesotho Ministry of Water Energy, Mining
DEPARTMENT	Water Affairs
CONTACT PERSON	Mr S Makhoalibe
ADDRESS	Senior Hydrologist P O Box 772 MASERU Lesotho

TELEPHONE (050) 323947

THE MONITORING PROGRAMME

- started : 1964
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	MG19	(Last update : January 1985)
CATCHMENT MAP	MG19.MAP	
LIST OF REFERENCES	LES0.REF	
RAINFALL DATA	MG19.RAIN	
RUNOFF DATA	MG19.FLOW	

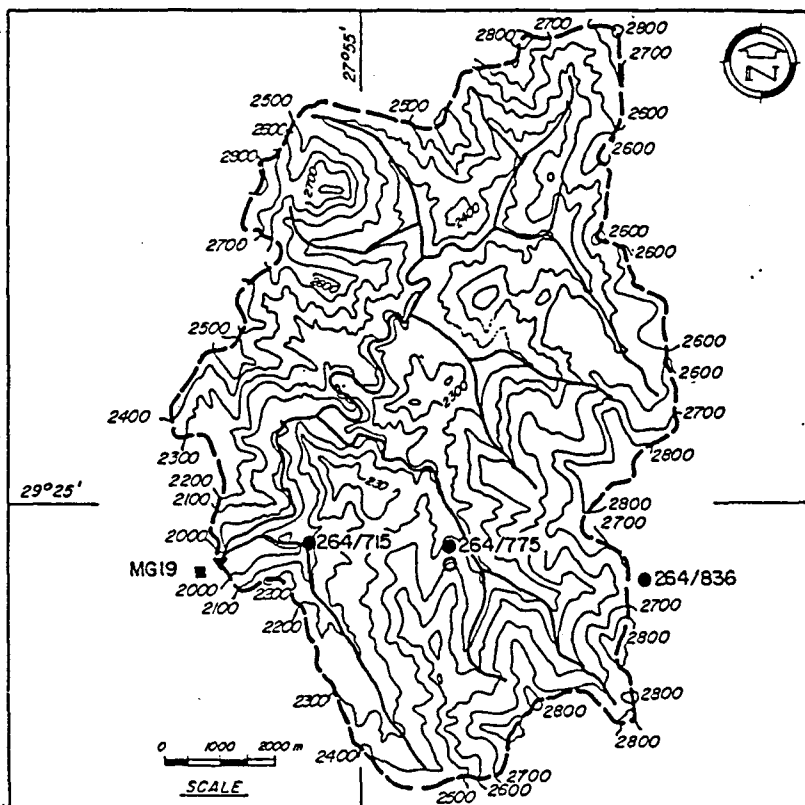
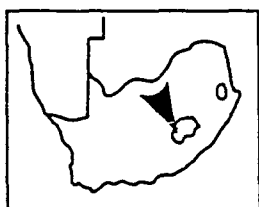
PHYSICAL CATCHMENT INFORMATION

LAND USE	1964 to 1984	90 % veld 10 % agriculture
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DRAINAGE CHARACTERISTICS Stream is perennial and well defined

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	264/715	Standard	1963-1984	0-25 %	Daily	Data sheet	Data sheet
	264/775	Standard	1969-1984	0-25 %	Daily	Data sheet	Data sheet
	264/836	Standard	1963-1984	0-25 %	Daily	Data sheet	Data sheet
RUNOFF	MG19	Ott	1964-1984	0-25 %	> Daily	Data sheet	Data sheet
	MG19	Stevens	1964-1984	0-25 %	Continuous	Paper strip	Data sheet
CHEMICAL SOLIDS SEDIMENT	MG19	Bucket	1978-1984	0-25 %	> Daily	Data sheet	Data sheet
	MG19	Bucket	1978-1984	0-25 %	Daily	Data sheet	Data sheet
EVAPORATION	264/775	Thermometer	1968-1984	0-25 %	Daily	Data sheet	Data sheet
TEMPERATURE WIND REL. HUMIDITY NET RADIATION	264/775		1968-1984	0-25 %	Daily	Data sheet	Data sheet
SOIL MOISTURE INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Lesotho

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Tsehlanyane	GAUGE REFERENCE NO	SG11
LOCATION LAT.	28 deg. 43.00 min. S.	NEAREST TOWN	Butha-Buthe
LONG.	28 deg. 31.00 min. E.	MAGISTERIAL DISTRICT	Butha-Buthe
RIVER	Tsehlanyane	PROVINCE OR COUNTRY	Lesotho

CATCHMENT DETAILS

CATCHMENT AREA	57.00 sq.km.	VEGETATION	Themeda-Festuca Grassland
AVERAGE CATCHMENT SLOPE	Steep	LAND USE	Veld
MEAN ALTITUDE	2950 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1350 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	To determine catchment runoff yield
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	No	RELATIVE HUMIDITY	Yes
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Broad-crested Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Lesotho Ministry of Water Energy, Mining
DEPARTMENT	Water Affairs
CONTACT PERSON	Mr S Makhoalibe
ADDRESS	Senior Hydrologist P O Box 772 MASERU Lesotho

TELEPHONE (05) 323947

THE MONITORING PROGRAMME	- started : 1958
	- purpose : To determine catchment runoff yield
	- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	SG11	(Last update : January 1985)
CATCHMENT MAP	SG11.MAP	
LIST OF REFERENCES	LES0.REF	
RAINFALL DATA	SG11.RAIN	
RUNOFF DATA	SG11.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1958 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is perennial and well defined	

Measuring site for

Rainfall

Runoff

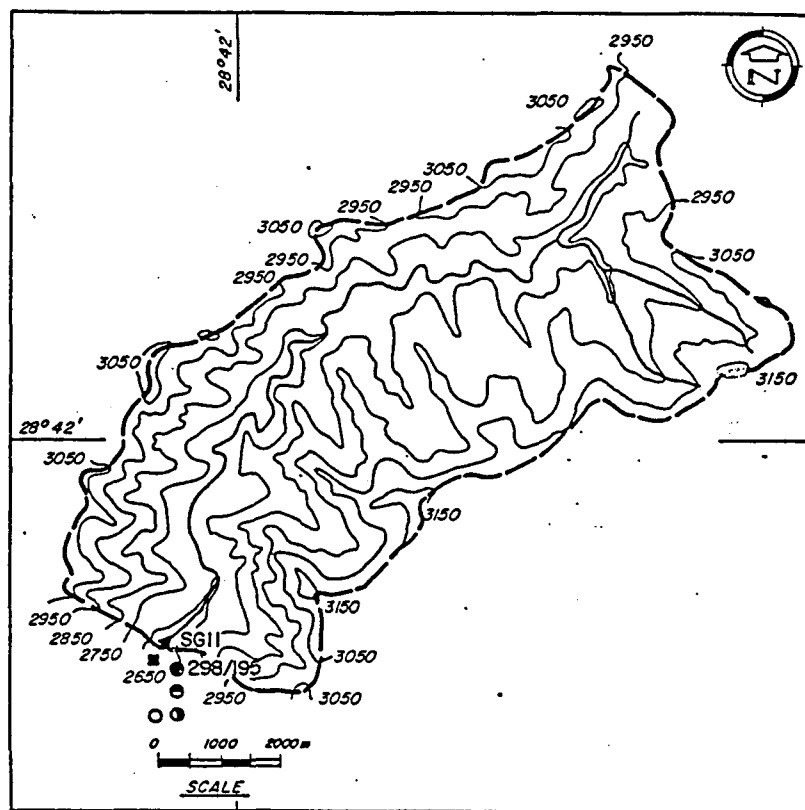
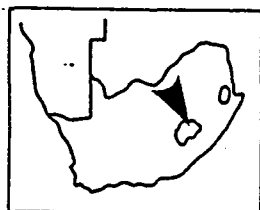
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	298/193	Casella Siphon	1957-1984	0-25 %	Continuous	Paper strip	Data sheet
	298/193	Standard	1957-1984	0-25 %	Daily	Data sheet	Data sheet
RUNOFF	SG11	Staff Gauge	1958-1984	0-25 %	Daily	Data sheet	Data sheet
	SG11	Stevens	1958-1984	0-25 %	Continuous	Paper strip	Data sheet
CHEMICAL	SG11	Grab Sampler	1978-1984	0-25 %	> Daily	Data sheet	Data sheet
SEDIMENT	SG11	Grab Sampler	1978-1984	0-25 %	> Daily	Data sheet	Data sheet
EVAPORATION	298/193	Class A Pan	1957-1984	0-25 %	Daily	Data sheet	Data sheet
TEMPERATURE	298/193	Thermograph	1957-1984	0-25 %	Daily	Data sheet	Data sheet
WIND	298/193	Wind Totalizer	1957-1984	0-25 %	Daily	Data sheet	Data sheet
REL. HUMIDITY	298/193	Hydrograph	1957-1984	0-25 %	Daily	Data sheet	Data sheet
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Lesotho

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Tloloahatse	GAUGE REFERENCE NO	SG12
LOCATION LAT.	28 deg. 44.50 min. S.	NEAREST TOWN	Butha-Buthe
LONG.	28 deg. 40.00 min. E.	MAGISTERIAL DISTRICT	Butha-Buthe
RIVER	Tloloahatse	PROVINCE OR COUNTRY	Lesotho

CATCHMENT DETAILS

CATCHMENT AREA	82.00 sq.km.	VEGETATION	Themeda-Festuca Grassland
AVERAGE CATCHMENT SLOPE	Steep	LAND USE	Veld
MEAN ALTITUDE	2900 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1350 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Drakensberg basalt, limburgite, pyroclast
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	No	RELATIVE HUMIDITY	Yes
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Broad-crested Weir
MEASURING LIMIT	No details
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Lesotho Ministry of Water Energy, Mining
DEPARTMENT	Water Affairs
CONTACT PERSON	Mr S Makhoalibe
ADDRESS	Senior Hydrologist P O Box 772 MASERU Lesotho

TELEPHONE (050) 323947

THE MONITORING PROGRAMME

- started : 1956
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

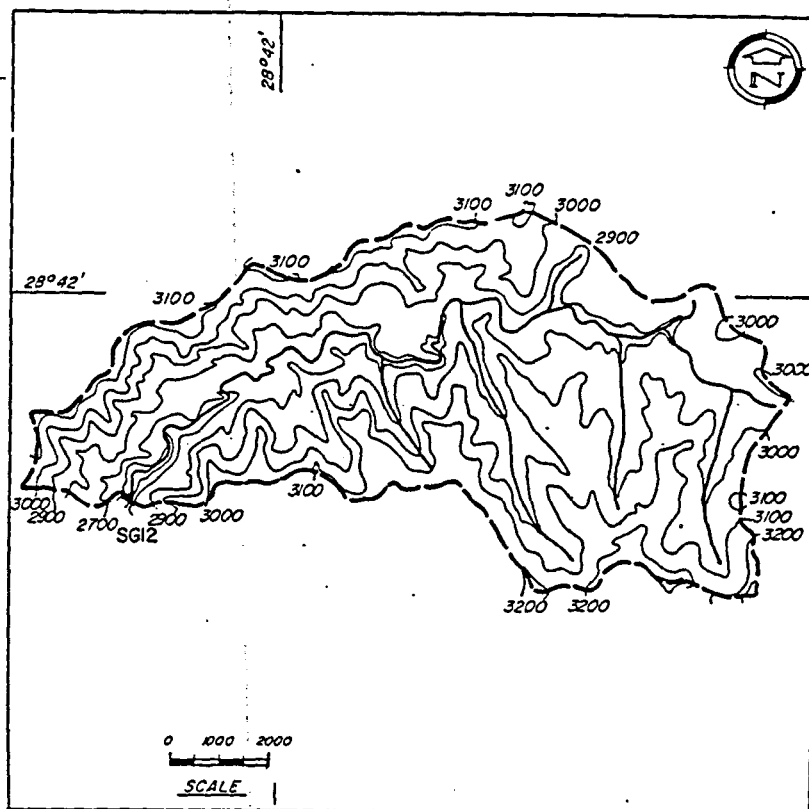
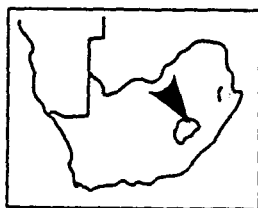
CATCHMENT INFORMATION FILE	SG12	(Last update : January 1985)
CATCHMENT MAP	SG12.MAP	
LIST OF REFERENCES	LES0.REF	
RAINFALL DATA	SG12.RAIN	
RUNOFF DATA	SG12.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1956 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is perennial and well defined	

Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	298/193	Casella Siphon	1957-1984	0-25 %	Continuous	Data sheet Paper strip	Paper strip Cassette
	298/193	Standard	1957-1984	0-25 %	Daily	Data sheet Paper strip	Data sheet Cassette
RUNOFF	SG12	Ott	1956-1984	0-25 %	Daily	Data sheet	Data sheet
	SG12	Stevens	1956-1984	0-25 %	Continuous	Data sheet Paper strip	Paper strip Cassette
CHEMICAL TDS SEDIMENT							
EVAPORATION	298/193	Class A Pan	1957-1984	0-25 %	Daily	Data sheet Paper strip	Data sheet
TEMPERATURE	298/193	Thermograph	1957-1984	0-25 %	Continuous	Paper strip	Data sheet Cassette
WIND	298/193	Anemometer	1957-1984	0-25 %	Daily	Data sheet	Data sheet
REL. HUMIDITY	298/193	Hydrograph	1957-1984	0-25 %	Daily	Data sheet	
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Lesotho

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Matseng	GAUGE REFERENCE NO	SG13
LOCATION LAT.	28 deg. 45.75 min. S.	NEAREST TOWN	Butha-Buthe
LONG.	28 deg. 40.00 min. E.	MAGISTERIAL DISTRICT	Butha-Buthe
RIVER	Matseng	PROVINCE OR COUNTRY	Lesotho

CATCHMENT DETAILS

CATCHMENT AREA	83.40 sq.km.	VEGETATION	Themeda-Festuca Grassland
AVERAGE CATCHMENT SLOPE	Steep	LAND USE	Veld
MEAN ALTITUDE	2900 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1350 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Drakensberg basalt, limburgite, pyroplast
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	No	RELATIVE HUMIDITY	Yes
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Natural river
MEASURING LIMIT	No details
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Lesotho Ministry of Water Energy, Mining
DEPARTMENT	Water Affairs
CONTACT PERSON	Mr S Makhoalibe
ADDRESS	Senior Hydrologist P O Box 772 MASERU Lesotho

TELEPHONE (050) 323947

THE MONITORING PROGRAMME

- started : 1958
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

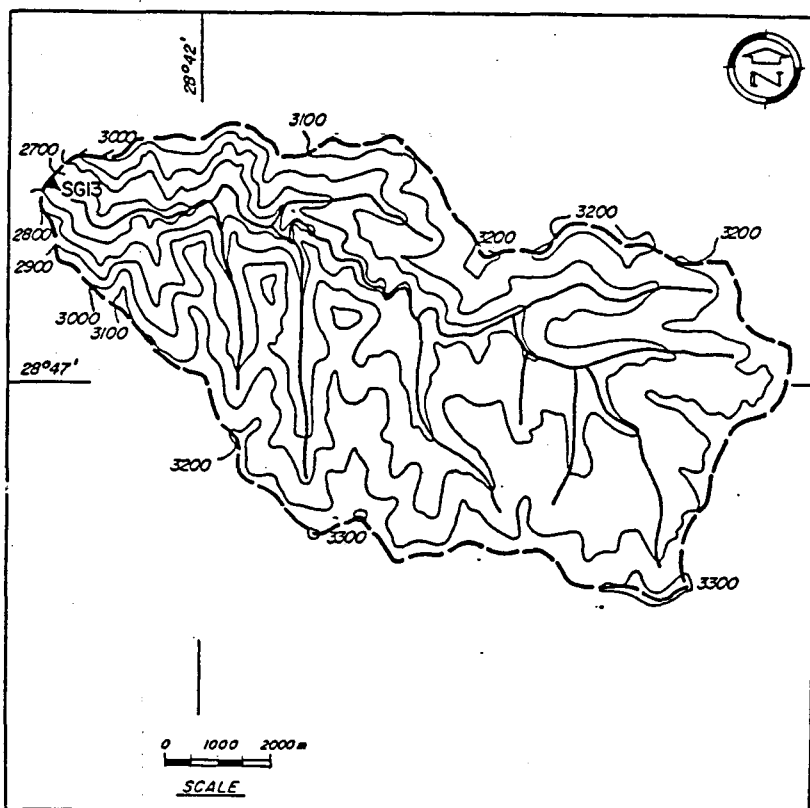
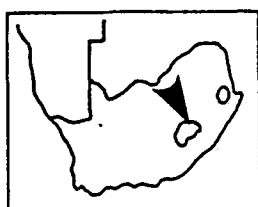
CATCHMENT INFORMATION FILE	SG13	(Last update : January 1985)
CATCHMENT MAP	SG13.MAP	
LIST OF REFERENCES	LES0.REF	
RAINFALL DATA	SG13.RAIN	
RUNOFF DATA	SG13.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1958 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is perennial and well defined	

Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	298/193	Casella Siphon	1957-1984	0-25 %	Continuous	Paper strip	Data sheet
	298/193	Standard	1957-1984	0-25 %	Daily	Data sheet	Data sheet
RUNOFF	SG13	Ott	1958-1974	0-25 %	Daily	Data sheet	Data sheet
	SG13	Stevens	1958-1974	0-25 %	Continuous	Paper strip	Data sheet
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION	298/193	Class A Pan	1957-1984	0-25 %	Daily	Data sheet	Data sheet
TEMPERATURE	298/193	Thermometer	1957-1984	0-25 %	Daily	Data sheet	Data sheet
WIND	298/193	Anemometer	1957-1984	0-25 %	Daily	Data sheet	Data sheet
REL. HUMIDITY	298/193	Hydrograph	1957-1984	0-25 %	Daily	Data sheet	Data sheet
SOL. RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Lesotho

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Notete	GAUGE REFERENCE NO	SG14
LOCATION LAT.	28 deg. 50.00 min. S.	NEAREST TOWN	Butha-Buthe
LONG.	28 deg. 42.25 min. E.	MAGISTERIAL DISTRICT	Butha-Buthe
RIVER	Notete	PROVINCE OR COUNTRY	Lesotho

CATCHMENT DETAILS

CATCHMENT AREA	67.00 sq.km.	VEGETATION	Themeda-Festuca Grassland
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld
MEAN ALTITUDE	3100 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1100 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Drakensberg basalt, limburgite, pyroclast
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Broad-crested Weir
MEASURING LIMIT	No details
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Lesotho Ministry of Water Energy, Mining
DEPARTMENT	Water Affairs
CONTACT PERSON	Mr S Makhoalibe
ADDRESS	Senior Hydrologist P O Box 772 MASERU Lesotho

ELEPHONE (050) 323947

THE MONITORING PROGRAMME

- started : 1962
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

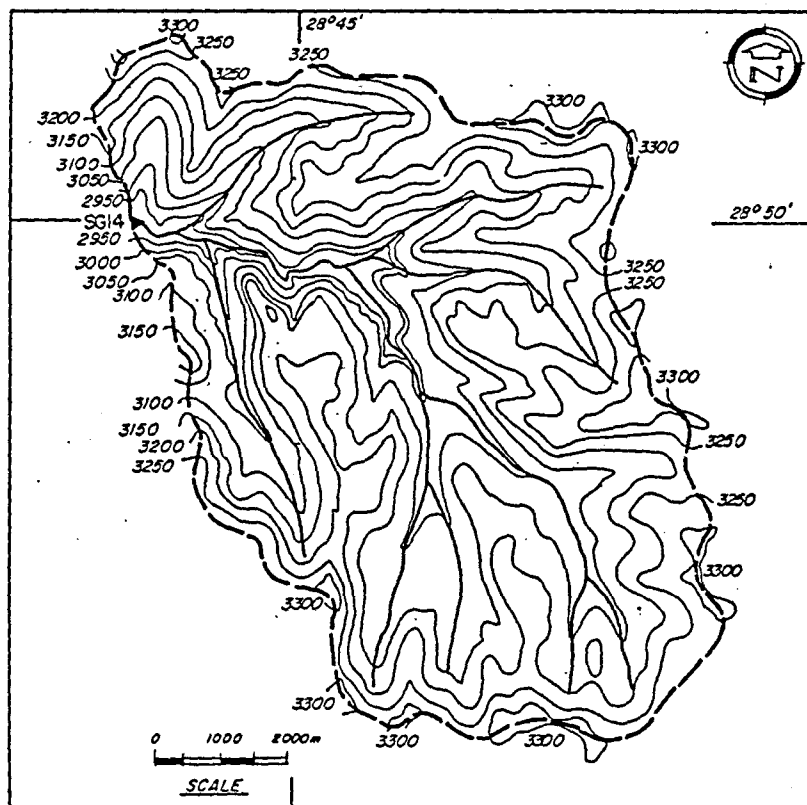
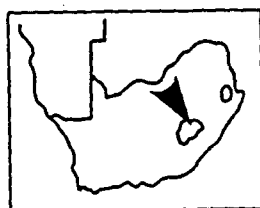
CATCHMENT INFORMATION FILE	SG14	(Last update : January 1985)
CATCHMENT MAP	SG14.MAP	
LIST OF REFERENCES	LESO.REF	
RAINFALL DATA	SG14.RAIN	
RUNOFF DATA	SG14.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1962 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is perennial and well defined	

Key : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	298/193	Casella Siphon	1957-1984	0-25 %	Continuous	Paper strip	Data sheet
	298/568	Casella Siphon	1962-1982	0-25 %	Continuous	Paper strip	Data sheet
	298/193	Standard	1957-1984	0-25 %	Daily	Data sheet	Data sheet
RUNOFF	SG14	Ott	1962-1984	0-25 %	> Daily	Data sheet	Data sheet
	SG14	Stevens	1962-1984	0-25 %	Continuous	Paper strip	Data sheet
CHEMICAL DOSS SEDIMENT							
EVAPORATION TEMPERATURE WIND REL. HUMIDITY NET RADIATION	298/568	Thermometer	1962-1982	0-25 %	Daily	Data sheet	Data sheet
SOIL MOISTURE INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Lesotho

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Matsoku	GAUGE REFERENCE NO	SG16
LOCATION LAT.	28 deg. 59.75 min. S.	NEAREST TOWN	Buthe-Buthe
LONG.	28 deg. 45.75 min. E.	MAGISTERIAL DISTRICT	Mokhotlang
RIVER	Matsoku	PROVINCE OR COUNTRY	Lesotho

CATCHMENT DETAILS

CATCHMENT AREA	100.00 sq.km.	VEGETATION	Themeda-Festuca Grassland
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld
MEAN ALTITUDE	2950 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1050 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Drakensberg basalt, limburgite, pyroclast
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details.		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Natural River
MEASURING LIMIT	No details
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Lesotho Ministry of Water Energy, Mining
DEPARTMENT	Water Affairs
CONTACT PERSON	Mr S Makhoalibe
ADDRESS	Senior Hydrologist P O Box 772 MASERU Lesotho

TELEPHONE (050) 323947

THE MONITORING PROGRAMME

- started : 1961
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	SG16	(Last update : January 1985)
CATCHMENT MAP	SG16.MAP	
LIST OF REFERENCES	LES0.REF	
RAINFALL DATA	SG16.RAIN	
RUNOFF DATA	SG16.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1961 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is perennial and well defined	

Measuring site for

Rainfall

Runoff

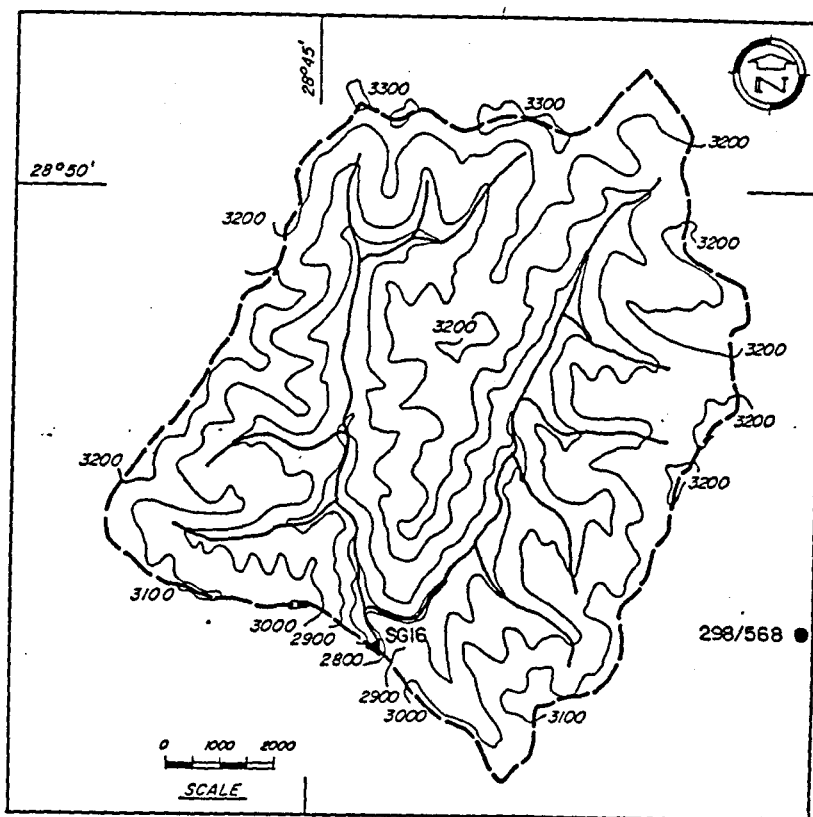
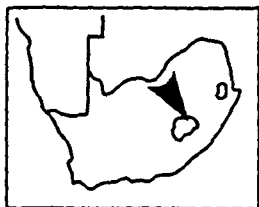
Water Quality

Evaporation

Temperature

Wind

Soil Condition



USED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	298/568	Casella Siphon	1962-1982	0-25 %	Continuous	Paper strip	Data sheet
	298/568	Standard	1962-1982	0-25 %	Daily	Data sheet	Data sheet
RIVER	SG16	Ott	1961-1980	0-25 %	Daily	Data sheet	Data sheet
	SG16	Stevens	1961-1980	0-25 %	Continuous	Paper strip	Data sheet
TEMPERATURE	298/568	Class A Pan	1963-1982	0-25 %	Daily	Data sheet	Data sheet
	298/568	Thermometer	1963-1982	0-25 %	Daily	Data sheet	Data sheet
	298/568	Anemometer	1974-1982	0-25 %	Daily	Data sheet	Data sheet
HUMIDITY							
RADIATION							
MOISTURE							
IRRIGATION							

Most of gauges are owned by Department of Water Affairs Lesotho

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Molikaliko	GAUGE REFERENCE NO	SG58
LOCATION LAT.	28 deg. 36.00 min. S.	NEAREST TOWN	Thaba-Tseka
LONG.	29 deg. 30.00 min. E.	MAGISTERIAL DISTRICT	Maseru
RIVER	Molikaliko	PROVINCE OR COUNTRY	Lesotho

CATCHMENT DETAILS

CATCHMENT AREA	45.00 sq.km.	VEGETATION	Themeda-Festuca Grassland
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld & Agriculture
MEAN ALTITUDE	26 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	2600 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Drakensberg basalt, limburgite, pyroclast, sandstone
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Natural river
MEASURING LIMIT	No details
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Lesotho Ministry of Water Energy, Mining
DEPARTMENT	Water Affairs
CONTACT PERSON	Mr S Makhoalibe
ADDRESS	Senior Hydrologist P O Box 772 MASERU Lesotho

TELEPHONE (050) 323947

THE MONITORING PROGRAMME

- started : 1981
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	SG58	(Last update : January 1985)
CATCHMENT MAP	SG58.MAP	
LIST OF REFERENCES	LES0.REF	
RAINFALL DATA	SG58.RAIN	
RUNOFF DATA	SG58.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1981 to 1984	95 % veld 5 % agriculture
DRAINAGE CHARACTERISTICS	Stream is perennial and well defined	

Measuring site for

Rainfall

Runoff

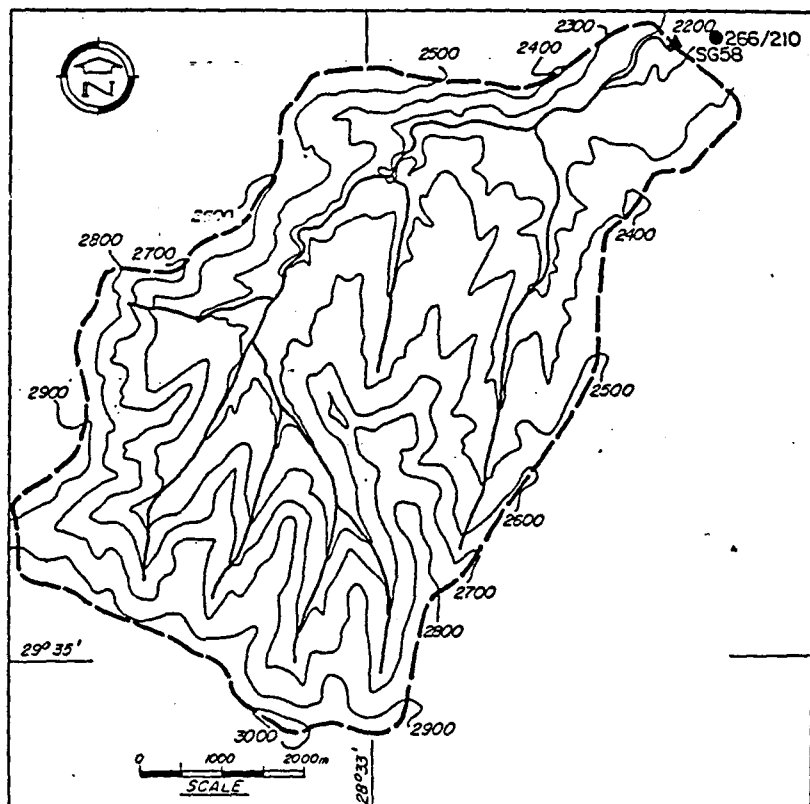
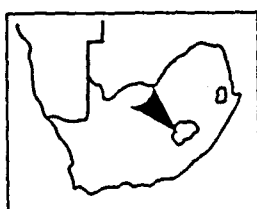
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	236/210A	Standard	1972-1984	0-25 %	Daily	Data sheet	Data sheet
	236/210	Standard	1937-1984	0-25 %	Daily	Data sheet	Data sheet
RUNOFF	SG58	Staff Gauges	1981-1984	0-25 %	Daily	Data sheet	Data sheet
	SG58	Ott	1981-1984	0-25 %	> Daily	Paper strip	
CHEMICAL							
SOLIDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
SOL. RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Lesotho

Cape Town City Council - CCCR01 - Wynberg, Western Cape

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Liesbeeck	GAUGE REFERENCE NO	CCCR01
LOCATION LAT.	33 deg. 57.00 min. S.	NEAREST TOWN	Cape Town
LONG.	18 deg. 28.50 min. E.	MAGISTERIAL DISTRICT	Wynberg
RIVER	Liesbeeck	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	20.90 sq.km.	VEGETATION	Coastal Macchia
AVERAGE CATCHMENT SLOPE	Steep	LAND USE	Veld, Afforestation & Urban
MEAN ALTITUDE	552 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1400 mm	BIOHIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Tertiary to recent unconsolidated sands
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Calibrated Canal
MEASURING LIMIT	No details
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Cape Town City Council
DEPARTMENT	City Engineers Department
CONTACT PERSON	Mr M B Lief/Mr G J Pike (Sewerage Brnch)
ADDRESS	City Engineer P O Box 1694 CAPE TOWN 800

TELEPHONE (021) 2102091

THE MONITORING PROGRAMME

- started : 1961
- purpose : To collect basic hydrological data & to establish the catchment response
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	CCCR01	(Last update : January 1985)
CATCHMENT MAP	CCCR01.MAP	
LIST OF REFERENCES	CCC.REF	
RAINFALL DATA	CCCR01.RAIN	
RUNOFF DATA	CCCR01.FLOW	

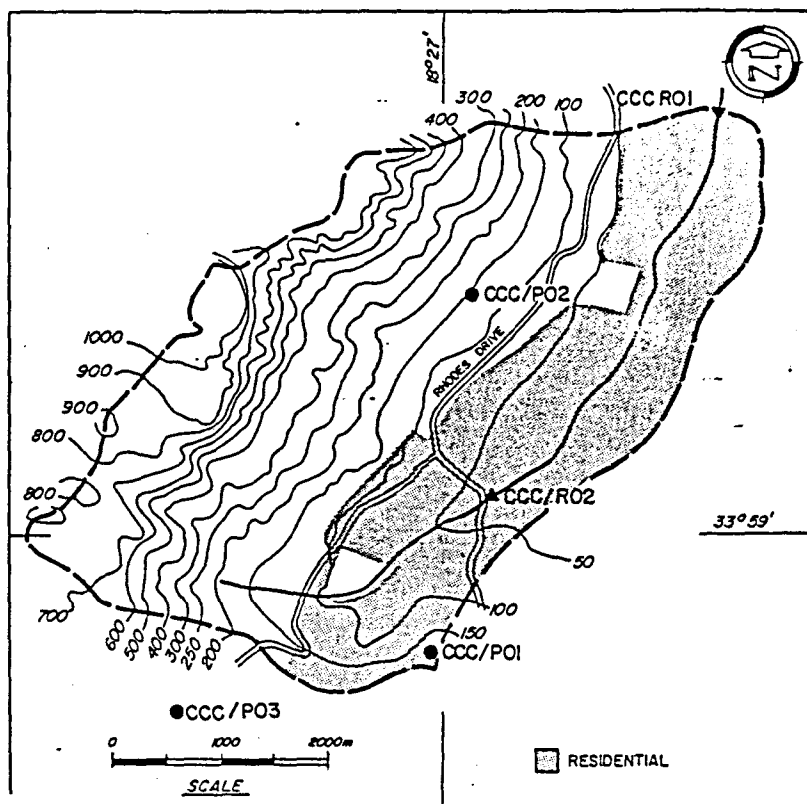
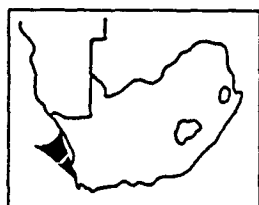
PHYSICAL CATCHMENT INFORMATION

LAND USE	1961 to 1984	50 % veld
		20 % afforestation
		30 % urban

DRAINAGE CHARACTERISTICS Stream is perennial and well defined

Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	CCC/P01	Casella Siphon	1958-1984	0-25 %	Continuous	Paper strip	
	CCC/P02	Casella Siphon	1959-1984	0-25 %	Continuous	Paper strip	
	CCC/P03	Casella Siphon	1978-1984	0-25 %	Continuous	Paper strip	
	20/719 1	Standard	1881-1984	0-25 %	Daily	Data sheet	Computer tape
	20/778 1	Standard	1908-1984	0-25 %	Daily	Data sheet	Computer tape
RUNOFF	CCCR01	Kent	1961-1984	No details	Continuous	Paper strip	
	CCCR02	Kent	1961-1984	No details	Continuous	Paper strip	
CHEMICAL	Stn12	Grab Sampler	1974-1984	0-25 %	> Daily	Computer tape	
TOSS	Stn12	Grab Sampler	1974-1984	0-25 %	> Daily	Data sheet	
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Cape Town City Council
Other gauge owners indicated are : 1 = S A Weather Bureau

Cape Town City Council - CCCR03 - Wynberg, Western Cape

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Little Princess Vlei (Diep R	GAUGE REFERENCE NO	CCCR03
LOCATION LAT.	34 deg. 3.00 min. S.	NEAREST TOWN	Cape Town
LONG.	18 deg. 28.00 min. E.	MAGISTERIAL DISTRICT	Wynberg
RIVER	Diep River	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	20.00 sq.km.	VEGETATION	Coastal Macchia
AVERAGE CATCHMENT SLOPE	Flat (1.4%)	LAND USE	Veld, Agriculture, Afforestation & Urban
MEAN ALTITUDE	355 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	560 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	1	GEOLOGY	Tertiary to recent unconsolidated sands
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	OGEE Spillway
MEASURING LIMIT	15.80 cumec at .60 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Cape Town City Council
DEPARTMENT	City Engineers Department
CONTACT PERSON	Mr M B Lief/Mr G J Pike (Sewerage Branch)
ADDRESS	City Engineer P O Box 1694 CAPE TOWN 800

TELEPHONE (021) 2102091

THE MONITORING PROGRAMME

- started : 1961
- purpose : To collect basic hydrological data and to establish catchment response
- future extensions : To increase rated capacity of Little Princess gauge

INFORMATION FILES

CATCHMENT INFORMATION FILE	CCCR03	(Last update : January 1985)
CATCHMENT MAP	CCCR03.MAP	
LIST OF REFERENCES	CCC.REF	
RAINFALL DATA	CCCR03.RAIN	
RUNOFF DATA	CCCR03.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1961 to 1974	20 % veld 20 % agriculture 8 % afforestation 52 % urban
	1974 to 1984	7 % veld 8 % agriculture 5 % afforestation 80 % urban

DRAINAGE CHARACTERISTICS Stream is perennial and well defined

Key : Measuring site for

Rainfall

Runoff

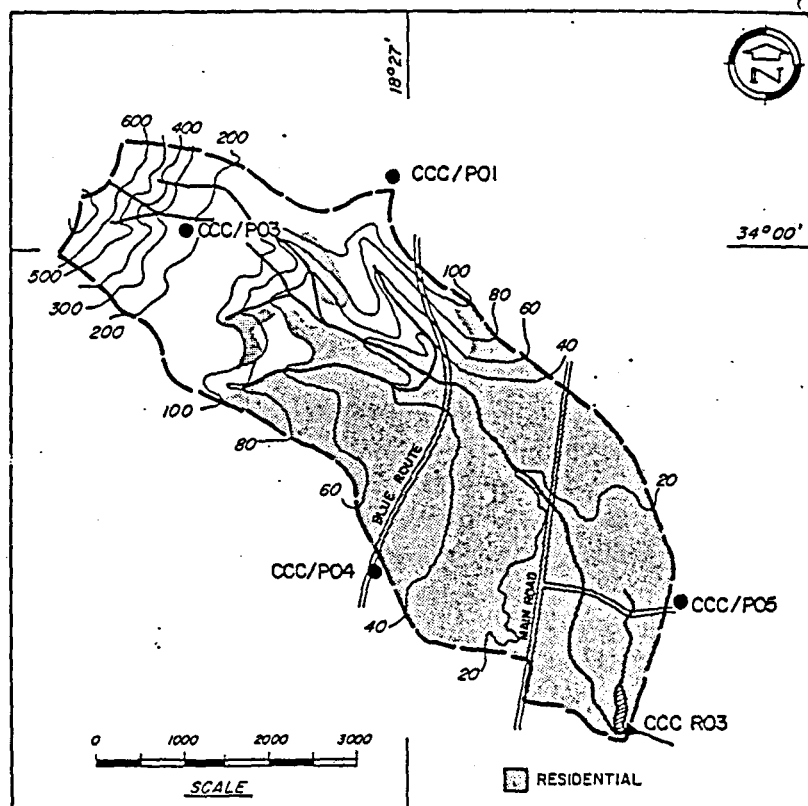
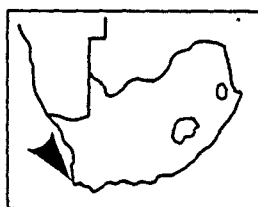
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	CCC/P01	Casella Siphon	1958-1984	0-25 %	Continuous	Paper strip	
	CCC/P03	Casella Siphon	1978-1984	0-25 %	Continuous	Paper strip	
	CCC/P04	Casella Siphon	1958-1984	0-25 %	Continuous	Paper strip	
	CCC/P05	Casella Siphon	1979-1984	0-25 %	Continuous	Paper strip	
RUNOFF	CCCR03	Kent	1961-1984	0-25 %	Continuous	Paper strip	
	CCCR04	Kent	1961-1984	0-25 %	Continuous	Paper strip	
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Cape Town City Council

Cape Town City Council - CCCR05 - Bellville, Western Cape

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Elsieskraal	GAUGE REFERENCE NO	CCCR05
LOCATION LAT.	33 deg. 55.50 min. S.	NEAREST TOWN	Bellville
LONG.	18 deg. 31.50 min. E.	MAGISTERIAL DISTRICT	Bellville
RIVER	Elsieskraal River	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	85.00 sq.km.	VEGETATION	Coastal Macchia
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Vald, Agriculture & Urban
MEAN ALTITUDE	220 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	650 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	15	GEOLOGY	Tertiary to recent unconsolidated sands
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Broad-crested Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Cape Town City Council
DEPARTMENT	City Engineers Department
CONTACT PERSON	Mr M B Lief/Mr G J Pike (Sewerage Brnch)
ADDRESS	City Engineer P O Box 1694 CAPE TOWN 800

TELEPHONE (021) 2102091

THE MONITORING PROGRAMME	- started : 1979
	- purpose : To collect basic hydrological data and to establish catchment response
	- future extensions : Flow & rainfall gauge network to be significantly extended

INFORMATION FILES

CATCHMENT INFORMATION FILE	CCCR05	(Last update : January 1985)
CATCHMENT MAP	CCCR05.MAP	
LIST OF REFERENCES	CCC.REF	
RAINFALL DATA	CCCR05.RAIN	
RUNOFF DATA	CCCR05.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1979 to 1984	5 % vald
		30 % agriculture
		65 % urban

DRAINAGE CHARACTERISTICS Stream is perennial and well defined

Measuring site for

Rainfall

Runoff

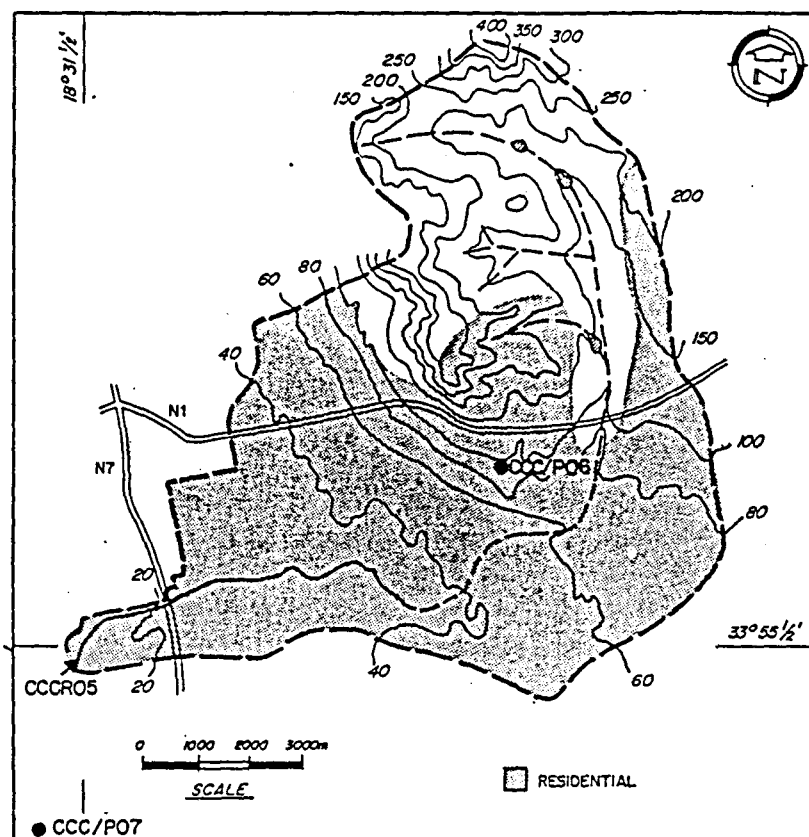
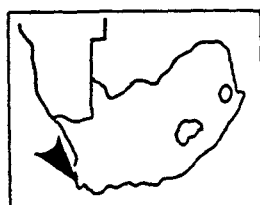
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	CCC/P06	Casella Siphon	1968-1984	0-25 %	Continuous	Paper strip	
	CCC/P07	Casella Siphon	1924-1984	0-25 %	Continuous	Paper strip	
ROFF	CCCR05	Kent	1979-1984	0-25 %	Continuous	Paper strip	
PHICAL							
EMENT							
EVAPORATION							
TEMPERATURE							
WIND							
HUMIDITY							
RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Cape Town City Council

CATCHMENT IDENTIFICATION

CATCHMENT NAME	10 Zachariashoek-Onder	GAUGE REFERENCE NO.	G1M14
LOCATION LAT.	33 deg. 49.00 min. S.	NEAREST TOWN	Franschhoek
LONG.	19 deg. 2.00 min. E.	MAGISTERIAL DISTRICT	Paarl
RIVER	Zachariashoek Onder	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	2.87 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (33%)	LAND USE	Veld
MEAN ALTITUDE	545 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	825 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Tertiary to recent unconsolidated superficial deposits/Table Mountain Group - quartzite, shale, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.91 cumec at .76 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1968
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G1M14	(Last update : January 1985)
CATCHMENT MAP	G1M14.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G1M14.RAIN	
RUNOFF DATA	G1M14.FLOW	

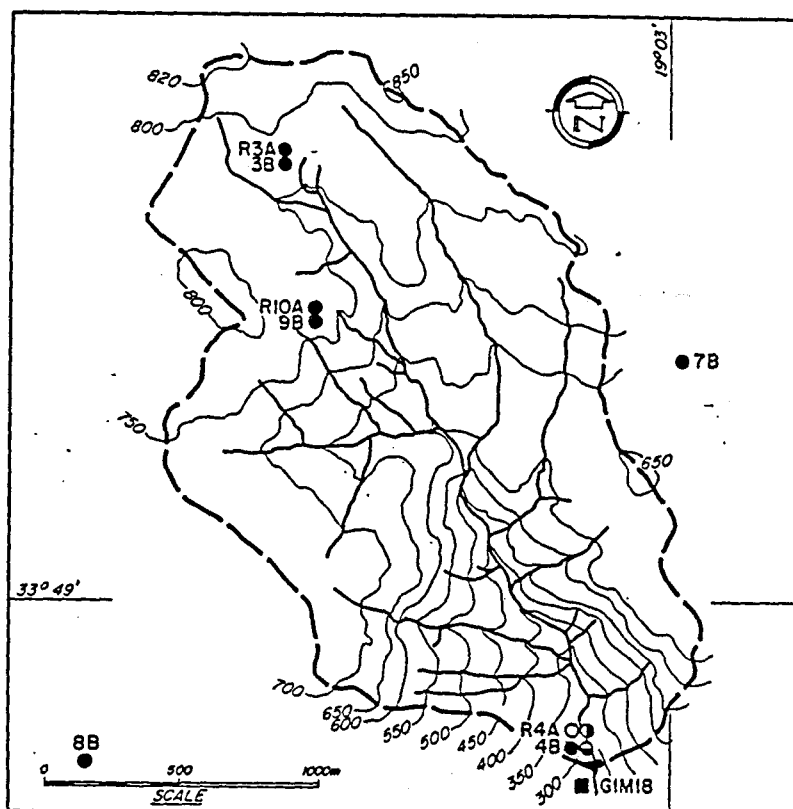
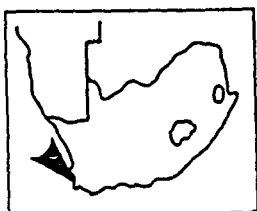
PHYSICAL CATCHMENT INFORMATION

LAND USE	1968 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ●
- Wind ●
- Soil Condition □

ted super-group -



TABLED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R3A	Casella Siphon	1968-1984	No details	Continuous	Paper strip	
	R4A	Casella Siphon	1968-1984	No details	Continuous	Paper strip	
	R10A	Casella Siphon	1968-1984	No details	Continuous	Paper strip	
	38	Standard	1979-1984	No details	) Daily	Data sheet	Computer tape
	48	Standard	1979-1984	No details	) Daily	Data sheet	Computer tape
	78	Standard	1968-1984	No details	) Daily	Data sheet	Computer tape
	88	Standard	1968-1984	No details	) Daily	Data sheet	Computer tape
RUNOFF	GIM18	Belfort	1968-1984	No details	Continuous	Paper strip	Computer tape
	GIM18	Auto Sampler	1973-1984	No details	) Daily	Data sheet	Data sheet
	GIM18	Auto Sampler	1973-1984	No details	) Daily	Data sheet	Data sheet
	GIM18	Auto Sampler	1982-1984	No details	) Daily	Data sheet	Data sheet
EVAPORATION	R10A	Class A Pan	1976-1984	No details	Continuous	Paper strip	
TEMPERATURE	R10A	Thermograph	1976-1984	No details	Continuous	Paper strip	
WIND	R10A	Lambrecht 1482	1976-1984	No details	Continuous	Paper strip	Computer tape
REL. HUMIDITY	R10A	Hydrograph	1976-1984	No details	Continuous	Paper strip	
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	1 Bosboukloof	GAUGE REFERENCE NO	G2M02
LOCATION LAT.	33 deg. 57.75 min. S.	NEAREST TOWN	Stellenbosch
LONG.	18 deg. 56.00 min. E.	MAGISTERIAL DISTRICT	Stellenbosch
RIVER	Bosboukloof	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	2.01 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (26%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	543 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1275 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Cape Granite, quartz porphyry/Malmesbury Group - quartzite, arkose, limestone, shale, phyllite, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	Yes
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	2.50 cumec at 1.22 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1938
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G2M02	(Last update : January 1985)
CATCHMENT MAP	G2M02.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G2M02.RAIN	
RUNOFF DATA	G2M02.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1938 to 1940	100 % veld
	1940 to 1981	17 % veld 83 % afforestation
	1981 to 1982	100 % veld
	1982 to 1984	30 % veld 70 % afforestation

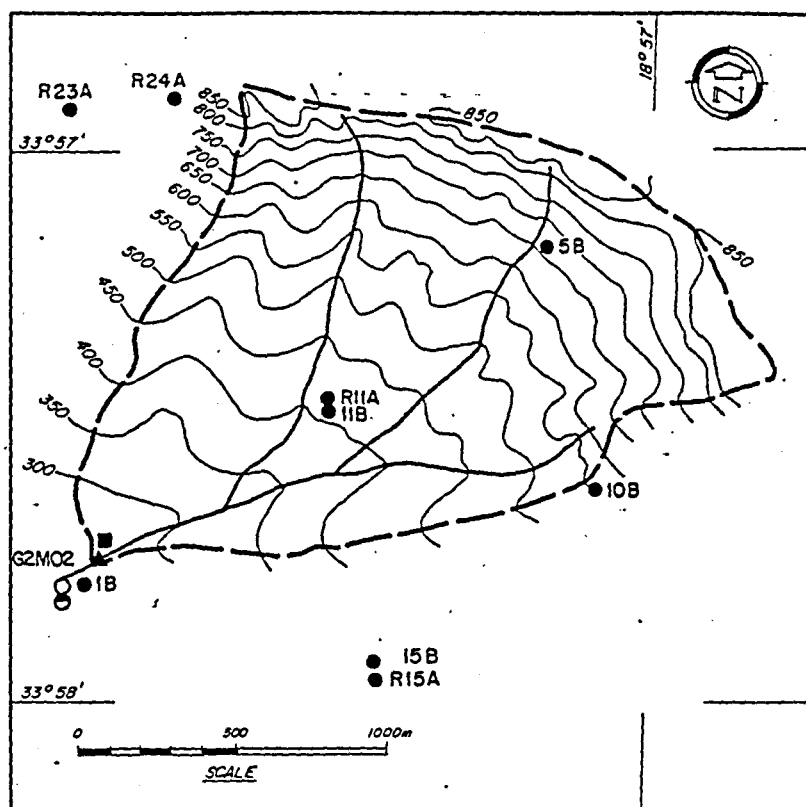
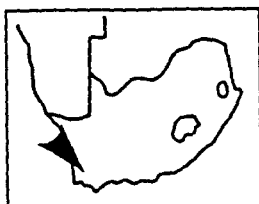
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined
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ECC
F
M
AA

RUNC
CHEM
TDS
SEDI
EVAP
TEMP
WIND
REL. H
NET F
SOIL
INFIL
Major

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R11A	Casella Siphon	1938-1984	No details	Continuous	Paper strip	Computer tape
	R15A	Casella Siphon	1940-1984	No details	Continuous	Paper strip	Computer tape
	R23A	Casella Siphon	1938-1984	No details	Continuous	Paper strip	Computer tape
	R24A	Casella Siphon	1938-1984	No details	Continuous	Paper strip	Computer tape
	1B	Standard	1938-1984	No details	Daily	Data sheet	Computer tape
	5B	Standard	1944-1984	No details	Daily	Data sheet	Computer tape
	10B	Standard	1944-1984	No details	Daily	Data sheet	Computer tape
	11B	Standard	1938-1984	No details	Daily	Data sheet	Computer tape
RUNOFF	G2M02	Kent	1938-1961	No details	Continuous	Paper strip	Computer tape
	G2M02	Belfort	1961-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	G2M02	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
TDS	G2M02	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	G2M02	Auto Sampler	1978-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION	1B	Symons Tank	1938-1984	No details	Daily	Data sheet	Computer tape
TEMPERATURE	1B	Thermograph	1938-1984	No details	Continuous	Paper strip	
WIND							
REL. HUMIDITY	1B	Hydrograph	1938-1984	No details	Continuous	Paper strip	
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	5 Biesievlei	GAUGE REFERENCE NO	G2M03
LOCATION LAT.	33 deg. 58.50 min. S.	NEAREST TOWN	Stellenbosch
LONG.	18 deg. 57.00 min. E.	MAGISTERIAL DISTRICT	Stellenbosch
RIVER	Biesievlei	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	.27 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (23%)	LAND USE	Afforestation
MEAN ALTITUDE	396 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1425 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Cape Granite, quartz porphyry/Malmesbury-Group - quartzite, arkose, limestone, shale, phyllite, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	.65 cumec at .69 metres
R TING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1940
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

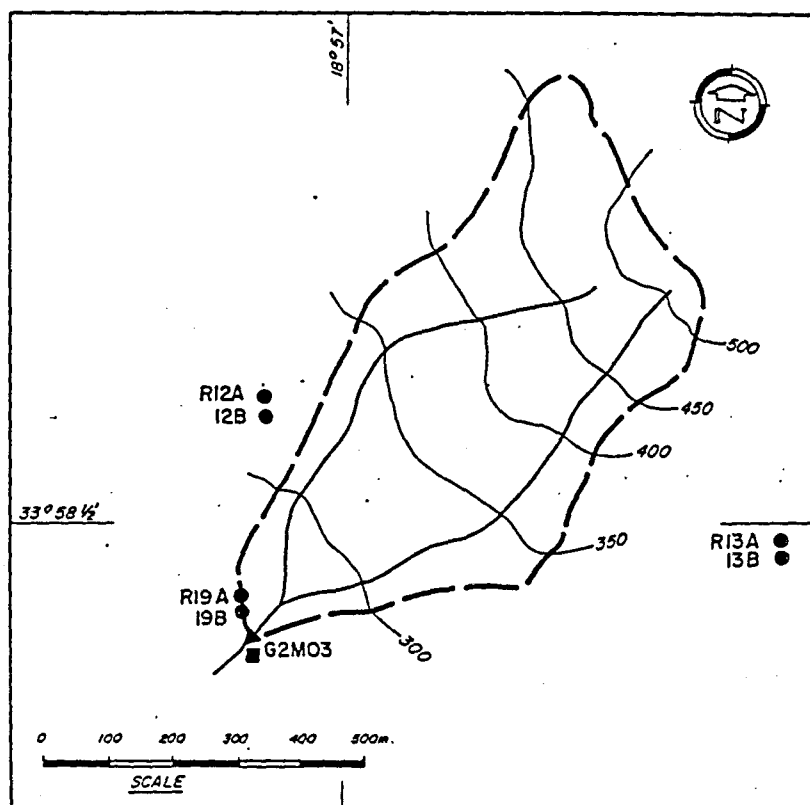
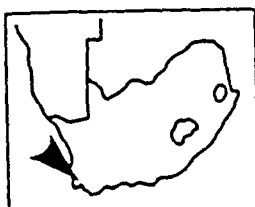
CATCHMENT INFORMATION FILE	G2M03	(Last update : January 1985)
CATCHMENT MAP	G2M03.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G2M03.RAIN	
RUNOFF DATA	G2M03.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1940 to 1948	100 % veld
	1948 to 1984	100 % afforestation
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R13A	Casella Siphon	1937-1984	No details	Continuous	Paper strip	Computer tape
	R19A	Casella Siphon	1945-1984	No details	Continuous	Paper strip	Computer tape
	13B	Standard	1944-1984	No details	Daily	Data sheet	Computer tape
	19B	Standard	1945-1984	No details	Daily	Data sheet	Computer tape
RUNOFF	G2M03	Kent	1940-1961	No details	Continuous	Paper strip	Computer tape
	G2M03	Belfort	1961-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	G2M03	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
TDS	G2M03	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	G2M03	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	6 Tierkloof	GAUGE REFERENCE NO	G2M04
LOCATION LAT.	33 deg. 58.50 min. S.	NEAREST TOWN	Stellenbosch
LONG.	18 deg. 57.50 min. E.	MAGISTERIAL DISTRICT	Stellenbosch
RIVER	Tierkloof	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	1.57 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (49%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	900 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1640 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Cape Granite, quartz porphyry/Malmesbury Group - quartzite, arkose, limestone, shale, phyllite, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	2.50 cumec at 1.22 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started	: 1940
	- purpose	: To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions	: None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G2M04	(Last update : January 1985)
CATCHMENT MAP	G2M04.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G2M04.RAIN	
RUNOFF DATA	G2M04.FLOW	

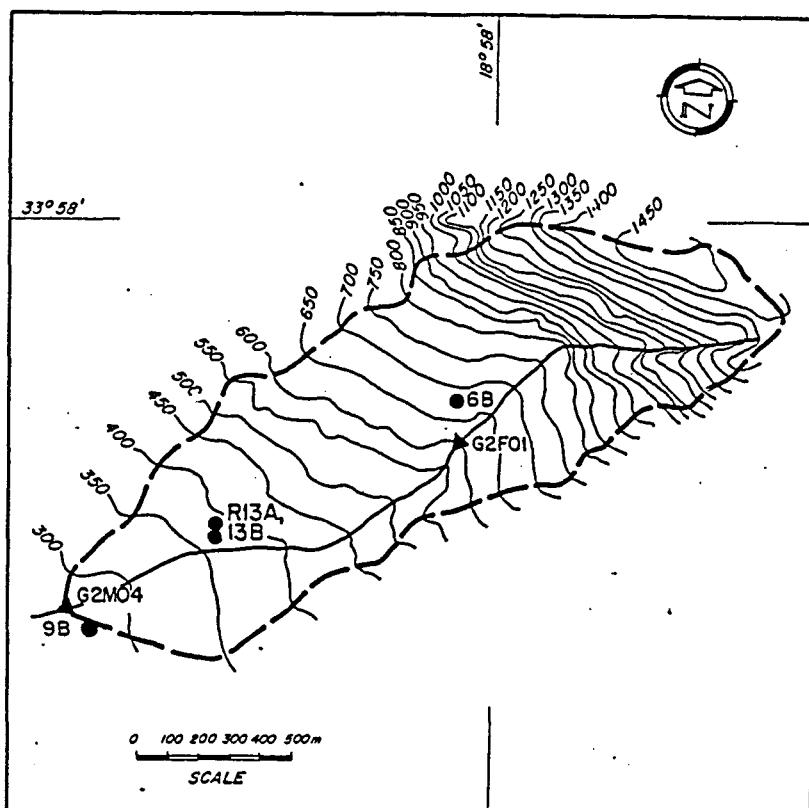
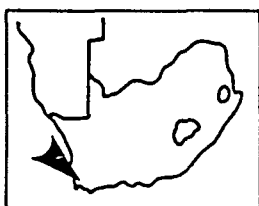
PHYSICAL CATCHMENT INFORMATION

LAND USE	1940 to 1956	100 % veld
	1956 to 1984	36 % veld
		64 % afforestation

DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R13A	Casella Siphon	1937-1984	No details	Continuous	Paper strip	Computer tape
	6B	Standard	1944-1984	No details	Daily	Data sheet	Computer tape
	9B	Standard	1944-1984	No details	Daily	Data sheet	Computer tape
	13B	Standard	1944-1984	No details	Daily	Data sheet	Computer tape
RUNOFF	G2M04	Kent	1940-1961	No details	Continuous	Paper strip	Computer tape
	G2M04	Belfort	1961-1984	No details	Continuous	Paper strip	Computer tape
	G2M22	Belfort	1961-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	G2M04	Grab Sampler	1975-1984	No details	> Daily	Data sheet	
TDS	G2M04	Grab Sampler	1975-1984	No details	> Daily	Data sheet	
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	2 Abdolskloof	GAUGE REFERENCE NO	G2M06
LOCATION LAT.	33 deg. 57.75 min. S.	NEAREST TOWN	Stellenbosch
LONG.	18 deg. 56.00 min. E.	MAGISTERIAL DISTRICT	Stellenbosch
RIVER	Abdolskloof	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	.12 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (25%)	LAND USE	Veld
MEAN ALTITUDE	347 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1275 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Cape Granite, quartz porphyry/Malmesbury Group - quartzite, arkose, limestone, shale, phyllite, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	.19 cumec at .46 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1940
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G2M06	(Last update : January 1985)
CATCHMENT MAP	G2M06.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G2M06.RAIN	
RUNOFF DATA	G2M06.FLOW	

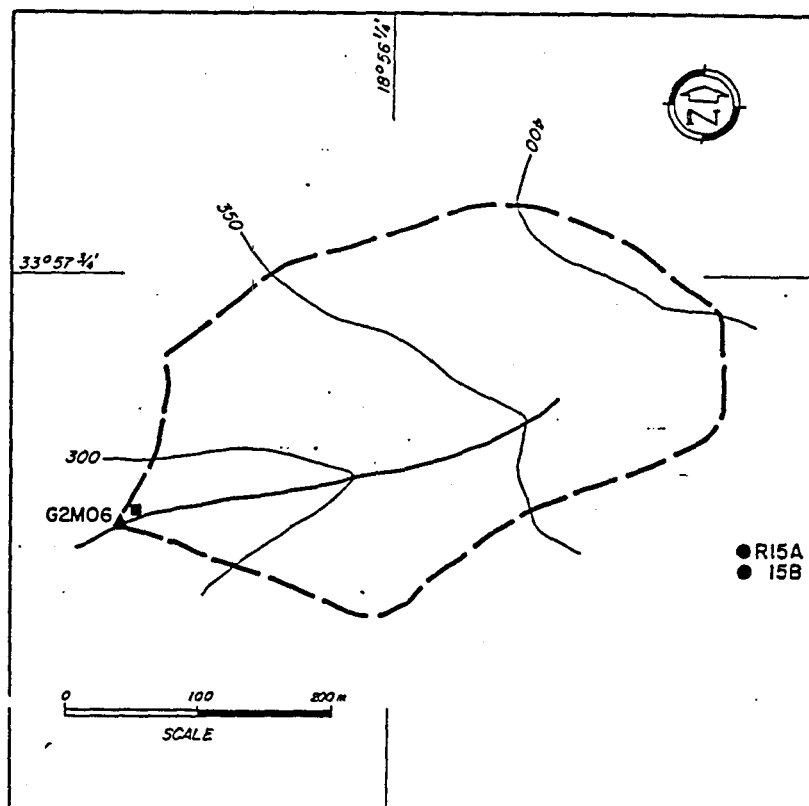
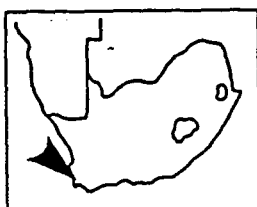
PHYSICAL CATCHMENT INFORMATION

LAND USE	1940 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

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Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R15A	Casella Siphon	1940-1984	No details	Continuous	Paper strip	
	15B	Standard	1944-1984	No details	> Daily	Data sheet	Computer tape
RUNOFF	G2M06	Kent	1940-1961	No details	Continuous	Paper strip	
	G2M06	Belfort	1961-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	G2M06	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
	G2M06	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	G2M06	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
SOLAR RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	8 Langrivier	GAUGE REFERENCE NO	G2M07
LOCATION LAT.	33 deg. 59.00 min. S.	NEAREST TOWN	Stellenbosch
LONG.	18 deg. 59.00 min. E.	MAGISTERIAL DISTRICT	Stellenbosch
RIVER	Langrivier	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	2.46 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (40%)	LAND USE	Veld
MEAN ALTITUDE	950 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	2260 mm	BIOHIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Cape Granite, quartz porphyry
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	8.30 cumec at 1.52 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started	: 1942
	- purpose	: To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions	: None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G2M07	(Last update : January 1985)
CATCHMENT MAP	G2M07.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G2M07.RAIN	
RUNOFF DATA	G2M07.FLOW	

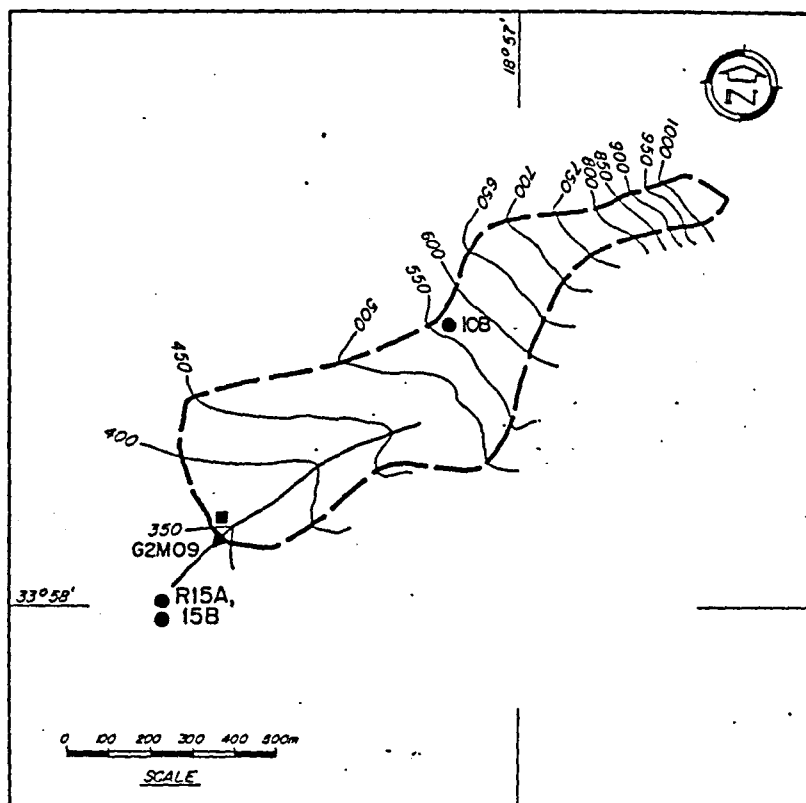
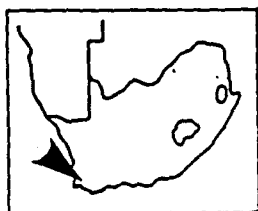
PHYSICAL CATCHMENT INFORMATION

LAND USE	1942 to 1984	100 % veld
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DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined
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KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R14A	Casella Siphon	1938-1984	No details	Continuous	Paper strip	Computer tape
	4A	Standard	1936-1984	No details	> Daily	Data sheet	Computer tape
	4B	Standard	1936-1984	No details	> Daily	Data sheet	Computer tape
	8B	Standard	1936-1984	No details	> Daily	Data sheet	Computer tape
	14B	Standard	1938-1984	No details	> Daily	Data sheet	Computer tape
RUNOFF	G2M07	Kent	1942-1961	No details	Continuous	Paper strip	Computer tape
	G2M07	Belfort	1961-1984	No details	Continuous	Paper strip	Computer tape
	G2F02	Belfort	1966-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	G2M07	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
TDS	G2M07	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	G2M07	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	3 Lambrechtbos A	GAUGE REFERENCE NO	G2M09
LOCATION LAT.	33 deg. 58.00 min. S.	NEAREST TOWN	Stellenbosch
LONG.	18 deg. 57.00 min. E.	MAGISTERIAL DISTRICT	Stellenbosch
RIVER	Lambrechtbos A	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	.31 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (45%)	LAND USE	Vald
MEAN ALTITUDE	690 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1415 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Cape Granite, quartz porphyry/Malmesbury group - quartzite, arkose, limestone, shale, phyllite, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	.67 cumec at .69 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started	: 1947
	- purpose	: To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions	: None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G2M09	(Last update : January 1985)
CATCHMENT MAP	G2M09.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G2M09.RAIN	
RUNOFF DATA	G2M09.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1947 to 1984	100 % vald
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

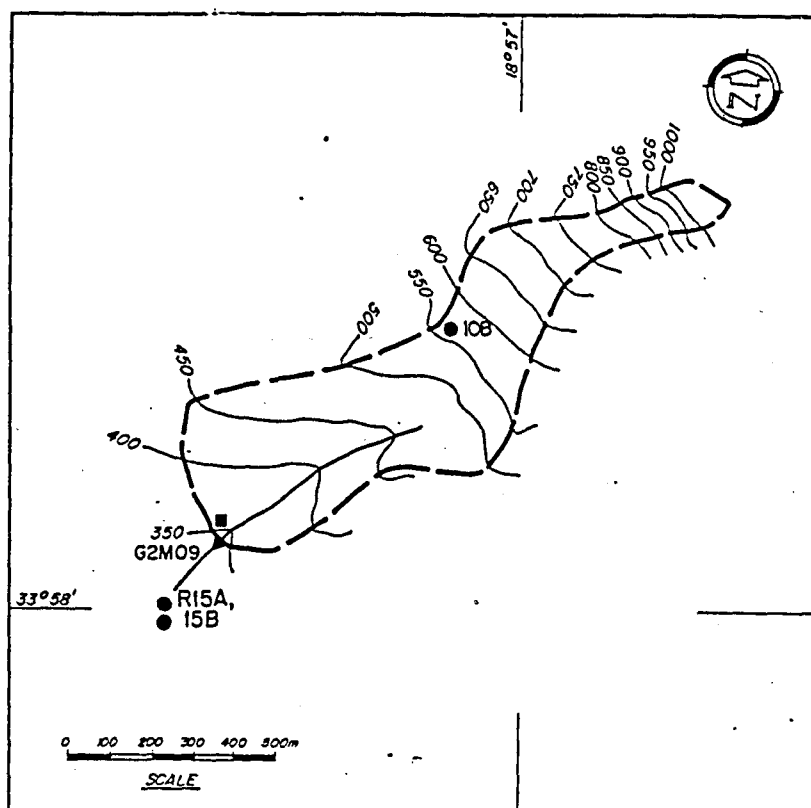
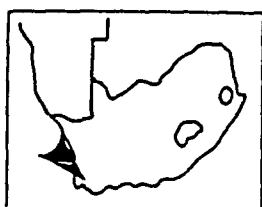
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R15A	Casella Siphon	1940-1984	No details	Continuous	Paper strip	Computer tape
	10B	Standard	1944-1984	No details	> Daily	Data sheet	Computer tape
	15B	Standard	1944-1984	No details	> Daily	Data sheet	Computer tape
RUNOFF	G2M09	Kent	1947-1981	No details	Continuous	Paper strip	Computer tape
	G2M09	Belfort	1961-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	G2M09	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
TDS	G2M09	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	G2M09	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	4 Lambrechtbos B	GAUGE REFERENCE NO	G2M10
LOCATION LAT.	33 deg. 58.00 min. S.	NEAREST TOWN	Stellenbosch
LONG.	18 deg. 57.00 min. E.	MAGISTERIAL DISTRICT	Stellenbosch
RIVER	Lambrechtbos B	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	.66 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (46%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	660 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1425 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Cape Granite, quartz porphyry/Malmesbury Group - quartzite, arkose, limestone, shale, phyllite, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	.67 cumec at .69 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1947
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G2M10	(Last update : January 1985)
CATCHMENT MAP	G2M10.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G2M10.RAIN	
RUNOFF DATA	G2M10.FLOW	

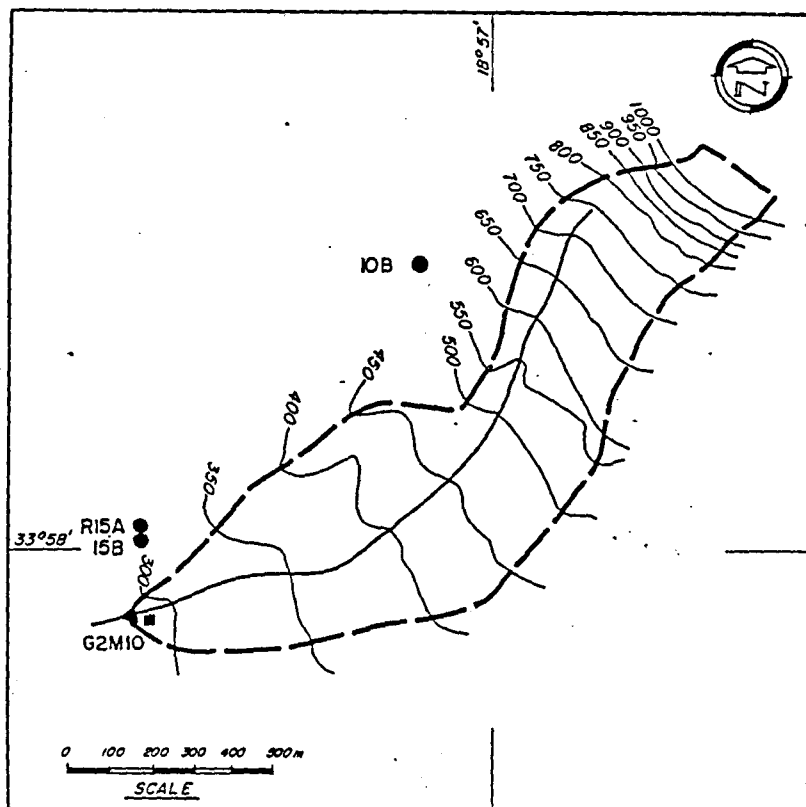
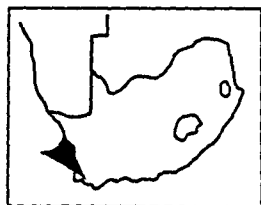
PHYSICAL CATCHMENT INFORMATION

LAND USE	1947 to 1964	100 % veld
	1964 to 1984	35 % veld
		65 % afforestation

DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined
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KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R15A	Casella Siphon	1940-1984	No details	Continuous	Paper strip	Computer tape
	10B	Standard	1944-1984	No details	> Daily	Data sheet	Computer tape
	15B	Standard	1944-1984	No details	> Daily	Data sheet	Computer tape
RUNOFF	G2M10	Kent	1947-1961	No details	Continuous	Paper strip	Computer tape
	G2M10	Belfort	1961-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	G2M10	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
TDS	G2M10	Auto Sampler	1975-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	G2M10	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	7 Waterval	GAUGE REFERENCE NO	G2M22
LOCATION LAT.	33 deg. 58.50 min. S.	NEAREST TOWN	Stellenbosch
LONG.	18 deg. 58.00 min. E.	MAGISTERIAL DISTRICT	Stellenbosch
RIVER	Waterval	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	.59 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (83%)	LAND USE	Veld
MEAN ALTITUDE	1052 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1630 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Cape Granite, quartz porphyry/Table Mountain Group - quartzite, shale, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	2.50 cumec at 1.22 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1961
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G2M22	(Last update : January 1985)
CATCHMENT MAP	G2M22.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G2M22.RAIN	
RUNOFF DATA	G2M22.FLOW	

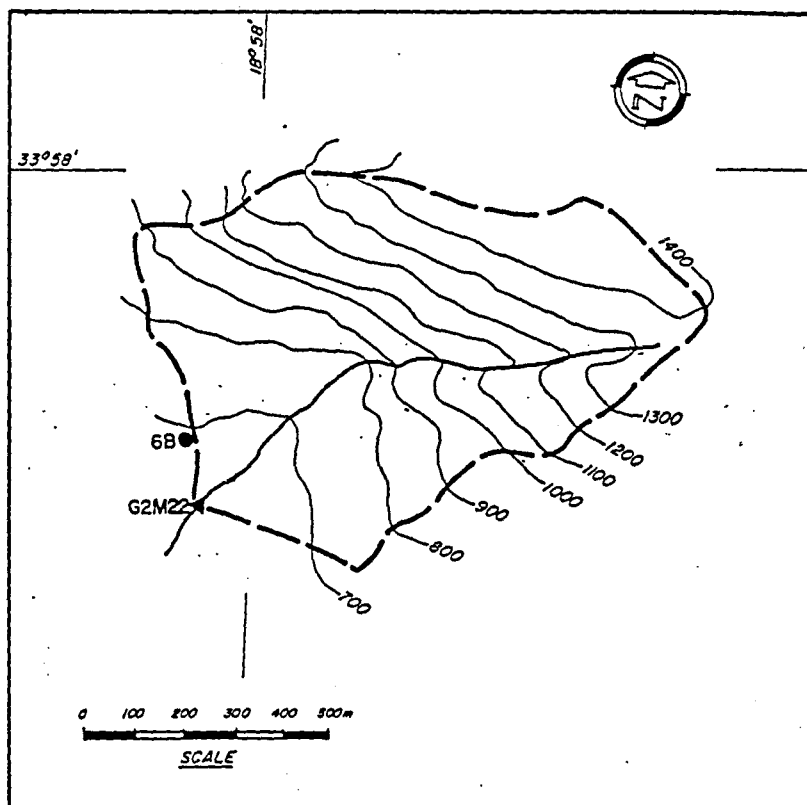
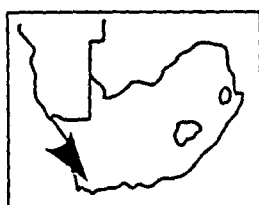
PHYSICAL CATCHMENT INFORMATION

LAND USE	1961 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

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KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ●
- Wind ●
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	6B	Standard	1944-1984	No details	> Daily	Data sheet	Computer tape
RUNOFF	G2F01	Selfort	1961-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL							
TOX							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	9 Nerine	GAUGE REFERENCE NO	G2M23
LOCATION LAT.	33 deg. 58.00 min. S.	NEAREST TOWN	Stellenbosch
LONG.	18 deg. 59.00 min. E.	MAGISTERIAL DISTRICT	Stellenbosch
RIVER	Nerine	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	1.14 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep	LAND USE	Veld
MEAN ALTITUDE	999 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	2230 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Table Mountain Group - quartzite, shale, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	2.50 cumec at 1.22 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1966
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G2M23	(Last update : January 1985)
CATCHMENT MAP	G2M23.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G2M23.RAIN	
RUNOFF DATA	G2M23.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1966 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

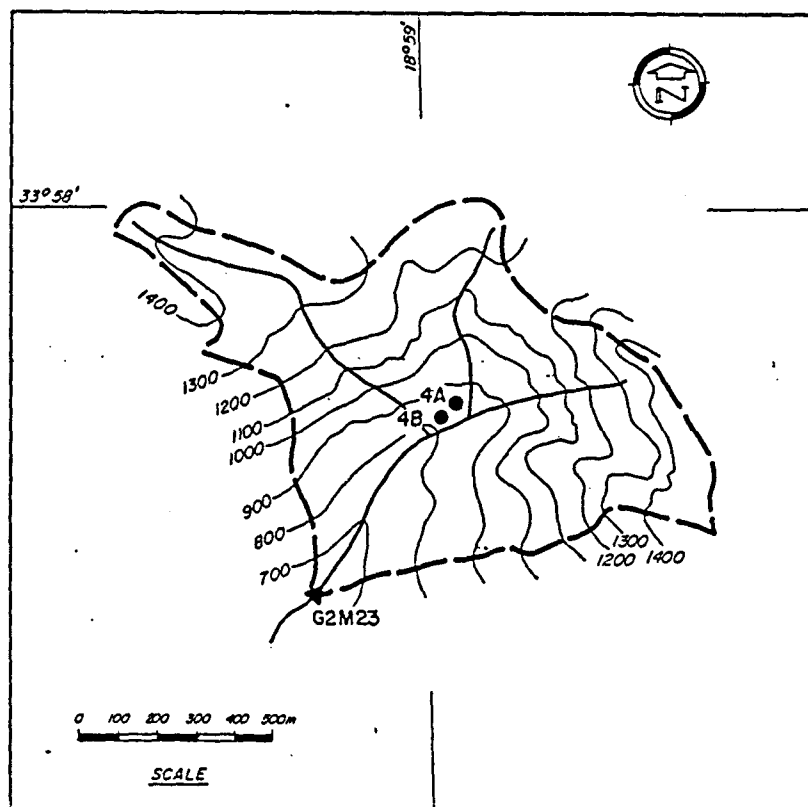
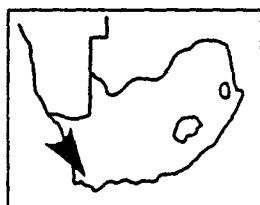
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	4A	Standard	1936-1984	No details	> Daily	Data sheet	Computer tape
	4B	Standard	1936-1984	No details	> Daily	Data sheet	Computer tape
RUNOFF	G2F02	Belfort	1966-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	16 Jakkalsrivier	GAUGE REFERENCE NO	G4M08
LOCATION LAT.	34 deg. 9.75 min. S.	NEAREST TOWN	Grabouw
LONG.	19 deg. 8.25 min. E.	MAGISTERIAL DISTRICT	Caledon
RIVER	Jakkalsrivier	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	1.64 sq.km.	VEGETATION	Coastal Renosterbosveld
AVERAGE CATCHMENT SLOPE	Steep (40%)	LAND USE	Veld
MEAN ALTITUDE	874 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	905 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Table Mountain Group - quartzite, shale, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	Yes	RELATIVE HUMIDITY	Yes
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.10 cumec at .61 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J H Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1968
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

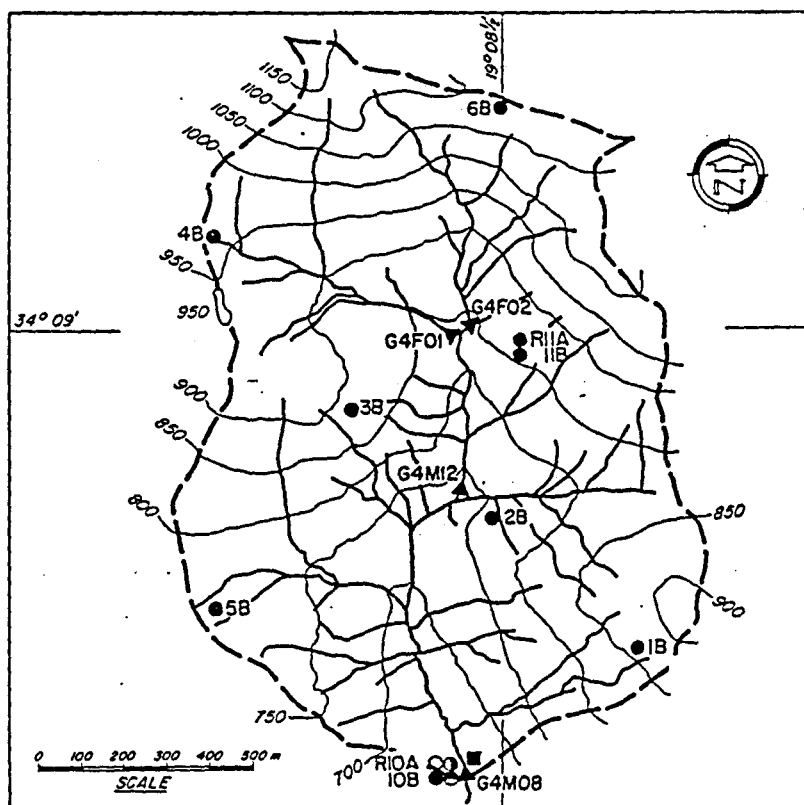
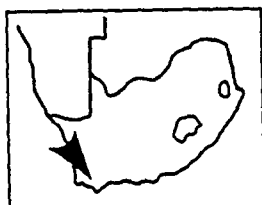
CATCHMENT INFORMATION FILE	G4M08	(Last update : January 1985)
CATCHMENT MAP	G4M08.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G4M08.RAIN	
RUNOFF DATA	G4M08.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1968 to 1984	100 % valid
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R10A	Casella Siphon	1967-1984	No details	Continuous	Paper strip	
	R11A	Casella Siphon	1967-1984	No details	Continuous	Paper strip	
	1B	Standard	1967-1984	No details	> Daily	Data sheet	Computer tape
	2B	Standard	1967-1984	No details	> Daily	Data sheet	Computer tape
	7B	Standard	1967-1984	No details	> Daily	Data sheet	Computer tape
	4B	Standard	1967-1984	No details	> Daily	Data sheet	Computer tape
	3B	Standard	1967-1984	No details	> Daily	Data sheet	Computer tape
	6B	Standard	1967-1984	No details	> Daily	Data sheet	Computer tape
	10B	Standard	1967-1984	No details	> Daily	Data sheet	Computer tape
RUNOFF	G4M08	Belfort	1968-1984	No details	Continuous	Paper strip	Computer tape
	G4M12	Belfort	1968-1984	No details	Continuous	Paper strip	Computer tape
	G4F01	Belfort	1970-1984	No details	Continuous	Paper strip	Computer tape
	G4F02	Belfort	1970-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL IDS SEDIMENT	G4M08	Grab Sampler	1980-1984	No details	> Daily	Data sheet	Data sheet
	G4M08	Grab Sampler	1980-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION	R10A	Class A Pan	1974-1984	No details	Continuous	Paper strip	Computer tape
TEMPERATURE	R10A	Thermograph	1968-1984	No details	Continuous	Paper strip	
WIND	R10A	Lambrecht 1482	1967-1984	No details	Continuous	Paper strip	Computer tape
REL. HUMIDITY	R10A	Hydrograph	1972-1984	No details	Continuous	Paper strip	
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	15 Jakkalsrivier	GAUGE REFERENCE NO	G4M12
LOCATION LAT.	34 deg. 9.00 min. S.	NEAREST TOWN	Grabouw
LONG.	19 deg. 8.50 min. E.	MAGISTERIAL DISTRICT	Caledon
RIVER	Jakkalsrivier	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	.73 sq.km.	VEGETATION	Coastal Renosterbosveld
AVERAGE CATCHMENT SLOPE	Steep (45%)	LAND USE	Veld
MEAN ALTITUDE	949 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	905 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Table Mountain Group - quartzite, shale, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.08 cumec at .61 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELL.MBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1968
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

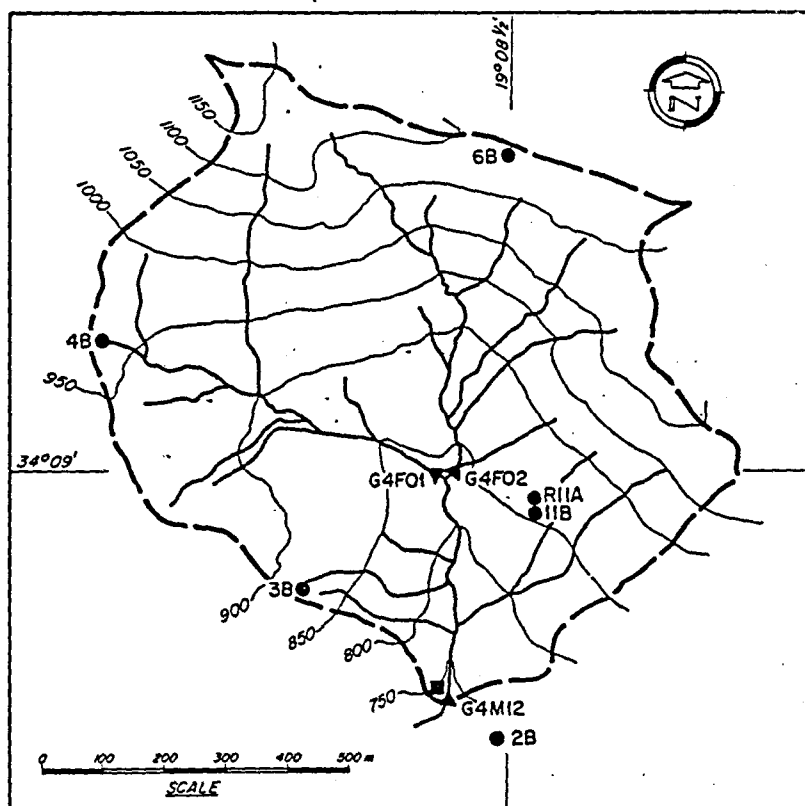
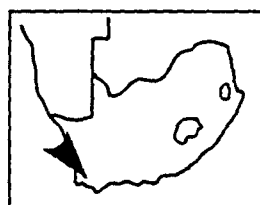
CATCHMENT INFORMATION FILE	G4M12	(Last update : January 1985)
CATCHMENT-MAP	G4M12.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G4M12.RAIN	
RUNOFF DATA	G4M12.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1968 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R11A	Casella Siphon	1967-1984	No details	Continuous	Paper strip	
	2B	Standard	1967-1984	No details	Daily	Data sheet	Computer tape
	3B	Standard	1967-1984	No details	Daily	Data sheet	Computer tape
	4B	Standard	1967-1984	No details	Daily	Data sheet	Computer tape
	6B	Standard	1967-1984	No details	Daily	Data sheet	Computer tape
RUNOFF	G4M12	Belfort	1968-1984	No details	Continuous	Paper strip	Computer tape
	G4F01	Belfort	1970-1984	No details	Continuous	Paper strip	Computer tape
	G2F02	Belfort	1970-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS	G4M12	Grab Sampler	1980-1984	No details	Daily	Data sheet	Data sheet
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	26 Jakkalsrivier	GAUGE REFERENCE NO	G4M15
LOCATION LAT.	34 deg. 9.00 min. S.	NEAREST TOWN	Grabouw
LONG.	19 deg. 8.50 min. E.	MAGISTERIAL DISTRICT	Caledon
RIVER	Jakkalsrivier 1A	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	.24 sq.km.	VEGETATION	Coastal Renosterbosveld
AVERAGE CATCHMENT SLOPE	Steep (41%)	LAND USE	Veld
MEAN ALTITUDE	963 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	905 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Table Mountain Group - quartzite, shale, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	.17 cumec at .61 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1970
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

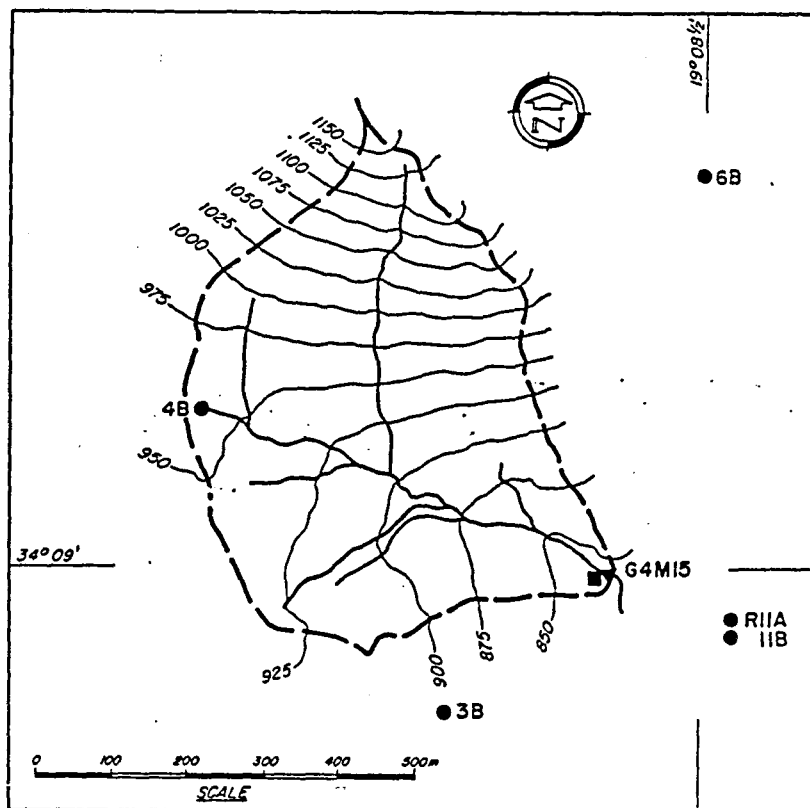
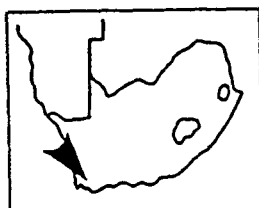
CATCHMENT INFORMATION FILE	G4M15	(Last update : January 1985)
CATCHMENT MAP	G4M15.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G4M15.RAIN	
RUNOFF DATA	G4M15.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1970 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R11A	Casella Siphon	1967-1984	No details	Continuous	Paper strip	
	3B	Standard	1967-1984	No details	Daily	Data sheet	Computer tape
	4B	Standard	1967-1984	No details	Daily	Data sheet	Computer tape
	6B	Standard	1966-1984	No details	Daily	Data sheet	Computer tape
	11B	Standard	1967-1984	No details	Daily	Data sheet	Computer tape
RUNOFF	G4M15	Belfort	1970-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	G4M15	Grab Sampler	1980-1984	No details	Daily	Data sheet	Data sheet
TDS	G4M15	Grab Sampler	1980-1984	No details	Daily	Data sheet	Data sheet
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	27 Jakkalsrivier	GAUGE REFERENCE NO	G4M16
LOCATION LAT.	34 deg. 9.00 min. S.	NEAREST TOWN	Grabouw
LONG.	19 deg. 8.50 min. E.	MAGISTERIAL DISTRICT	Caledon
RIVER	Jakkalsrivier 1B	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	.26 sq.km.	VEGETATION	Coastal Renosterbosveld
AVERAGE CATCHMENT SLOPE	Steep (50%)	LAND USE	Veld
MEAN ALTITUDE	981 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	905 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Table Mountain Group - quartzite, shale, tillite
SHAPE FACTOR	No-details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	.17 cumec at .61 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1970
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G4M16	(Last update : January 1985)
CATCHMENT MAP	G4M16.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G4M16.RAIN	
RUNOFF DATA	G4M16.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1970 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

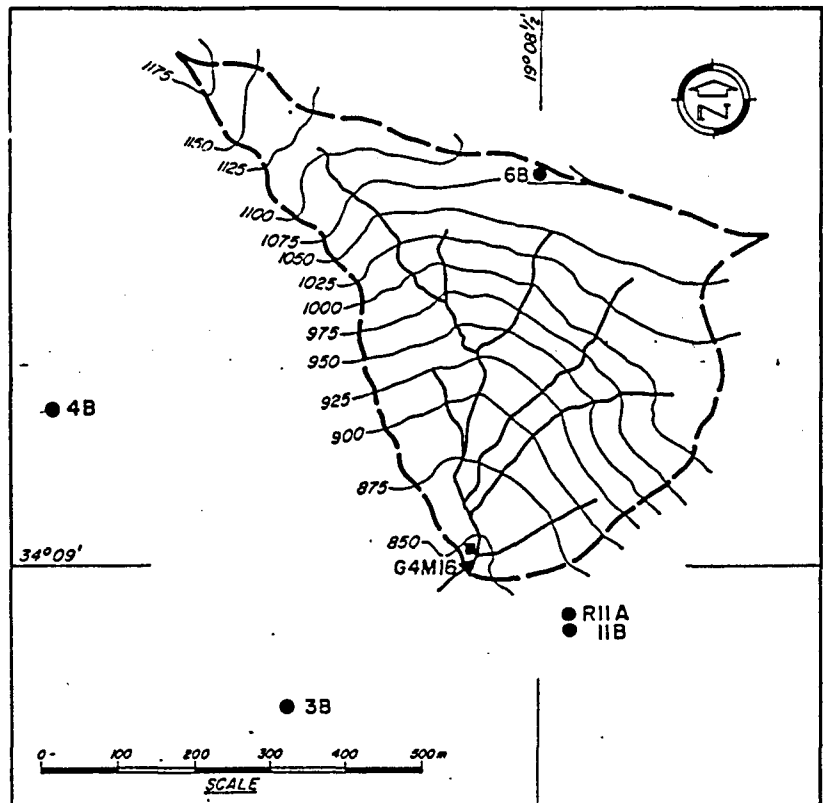
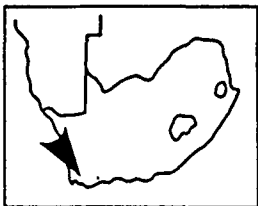
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R11A	Casella Siphon	1967-1984	No details	Continuous	Paper strip	
	3B	Standard	1967-1984	No details	1 Daily	Data sheet	Computer tape
	4B	Standard	1967-1984	No details	1 Daily	Data sheet	Computer tape
	6B	Standard	1967-1984	No details	1 Daily	Data sheet	Computer tape
	11B	Standard	1967-1984	No details	1 Daily	Data sheet	Computer tape
RUNOFF	G4F02	Belfort	1970-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS	G4F02	Grab Sampler	1980-1984	No details	1 Daily	Data sheet	Data sheet
SEDIMENT	G4F02	Grab Sampler	1980-1984	No details	1 Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Kaaimans	GAUGE REFERENCE NO	K3M01
LOCATION LAT.	33 deg. 53.00 min. S.	NEAREST TOWN	George
LONG.	22 deg. 31.00 min. E.	MAGISTERIAL DISTRICT	George
RIVER	Kaaimans River	PROVINCE OR COUNTRY	Eastern Cape

CATCHMENT DETAILS

CATCHMENT AREA	48.00 sq.km.	VEGETATION	Knysna Forest/Coastal Renosterbosveld
AVERAGE CATCHMENT SLOPE	Steep	LAND USE	Veld, Agriculture & Afforestation
MEAN ALTITUDE	800 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	950 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Quartzite, schists & phyllite of the Kaaimans Formation
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Broad-crested Weir
MEASURING LIMIT	46.05 cumec at 1.48 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Rhodes University
DEPARTMENT	Hydrological Res Unit, Geography Dept
CONTACT PERSON	Dr D A Hughes
ADDRESS	Hydrological Research Unit P O Box 94 GRAHAMSTOWN 6140

TELEPHONE (0461) 4014

THE MONITORING PROGRAMME	- started : 1961
	- purpose : To develop & test lumped parameter conceptual rainfall/runoff models in semi-arid sub-humid catchments
	- future extensions : Raingauge network to be expanded

INFORMATION FILES

CATCHMENT INFORMATION FILE	K3M01	(Last update : January 1985)
CATCHMENT MAP	K3M01.MAP	
LIST OF REFERENCES	RHODES.REF	
RAINFALL DATA	K3M01.RAIN	
RUNOFF DATA	K3M01.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1961 to 1984	73 % veld 27 % afforestation
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DRAINAGE CHARACTERISTICS Stream is perennial and well defined

KEY : Measuring site for

Rainfall



Runoff



Water Quality



Evaporation



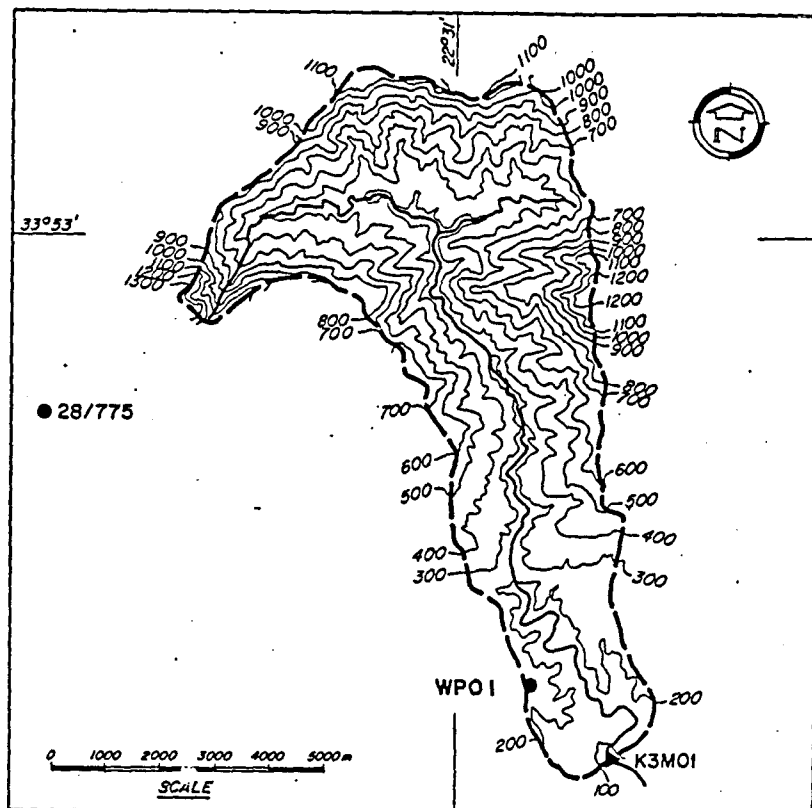
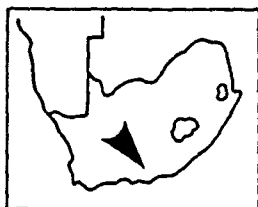
Temperature



Wind



Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	WPO1	Casella Siphon	1981-1984	0-25 %	Continuous	Paper strip	Computer tape
	28/775	Standard	1954-1984	0-25 %	Daily	Data sheet	Computer tape
RUNOFF	K3M01	Ott	1961-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission
Other gauge owners indicated are : 1 = S A Weather Bureau

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Karatara	GAUGE REFERENCE NO	K4M02
LOCATION LAT.	33 deg. 52.00 min. S.	NEAREST TOWN	WILDERNESS
LONG.	22 deg. 49.00 min. E.	MAGISTERIAL DISTRICT	Knysna
RIVER	Karatara River	PROVINCE OR COUNTRY	Eastern Cape

CATCHMENT DETAILS

CATCHMENT AREA	22.00 sq.km.	VEGETATION	Knysna Forest
AVERAGE CATCHMENT SLOPE	Steep (43%)	LAND USE	Veld & Agriculture
MEAN ALTITUDE	800 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1130 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone & shale of the Table Mountain Group
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Broad-crested Weir
MEASURING LIMIT	14.22 cumec at 1.94 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Rhodes University
DEPARTMENT	Hydrological Res Unit, Geography Dept
CONTACT PERSON	Dr D A Hughes
ADDRESS	Hydrological Research Unit P O Box 94 GRAHAMSTOWN 6140

TELEPHONE (0461) 4014

THE MONITORING PROGRAMME	- started : 1961
	- purpose : To develop & test lumped parameter conceptual rainfall/runoff models in semi-arid sub-humid catchments
	- future extensions : Rain gauge network to be expanded

INFORMATION FILES

CATCHMENT INFORMATION FILE	K4M02	(Last update : January 1985)
CATCHMENT MAP	K4M02.MAP	
LIST OF REFERENCES	RHODES.REF	
RAINFALL DATA	K4M02.RAIN	
RUNOFF DATA	K4M02.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1961 to 1984	91 % veld 19 % afforestation
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DRAINAGE CHARACTERISTICS Stream is perennial and well defined

KEY : Measuring site for

Rainfall

Runoff

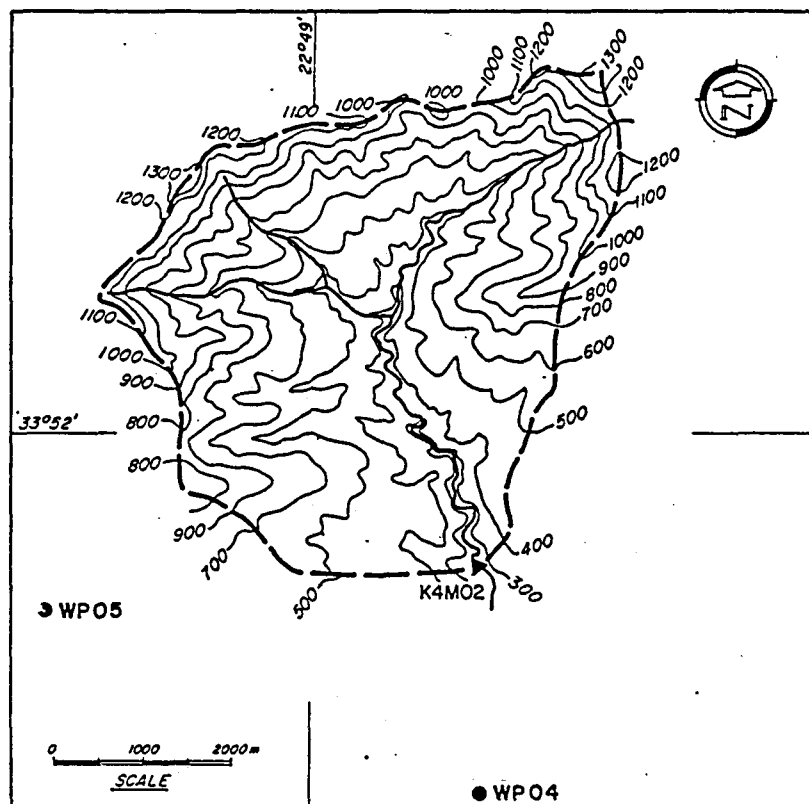
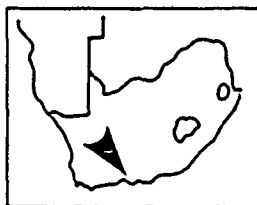
Water Quality

Evaporation

Temperature

Wind

Soil Condition



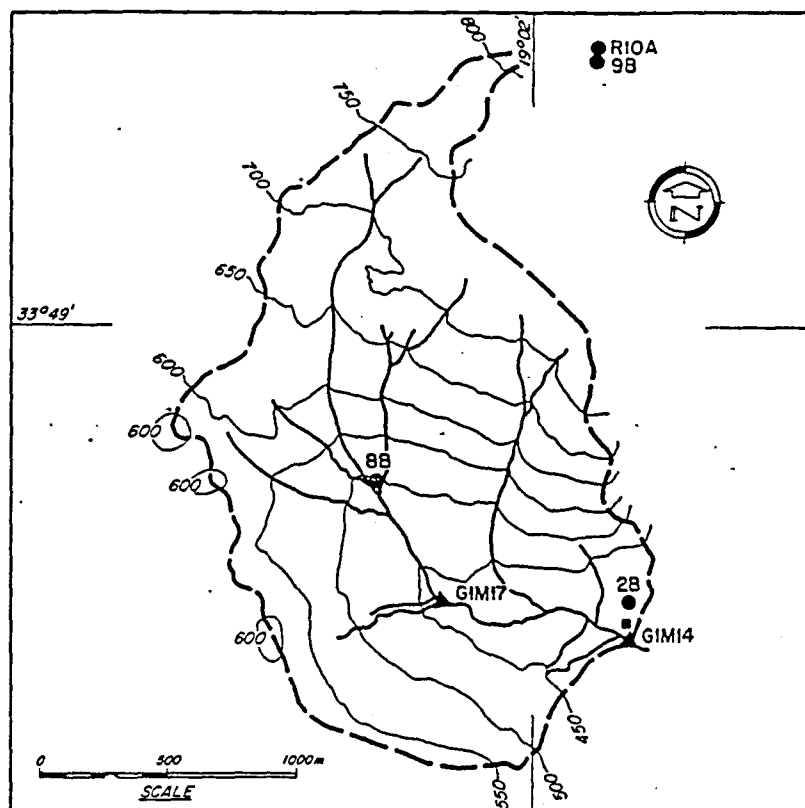
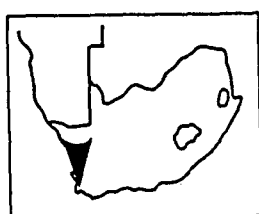
RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	WP04	Casella Siphon	1981-1984	0-25 %	Continuous	Computer tape	
	WP05	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	
RUNOFF	K4M02	Ott	1961-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ●
- Wind ●
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R10A	Casella Siphon	1968-1984	No details	Continuous	Paper strip	Computer tape
	28	Standard	1968-1984	No details	> Daily	Data sheet	Computer tape
	88	Standard	1968-1984	No details	> Daily	Data sheet	Computer tape
	98	Standard	1979-1984	No details	> Daily	Data sheet	Computer tape
RUNOFF	GIM14	Belfort	1968-1984	No details	Continuous	Paper strip	Computer tape
	GIM17	Belfort	1968-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	GIM14	Auto Sampler	1973-1984	No details	> Daily	Data sheet	Data sheet
TCS	GIM14	Auto Sampler	1973-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	GIM14	Auto Sampler	1982-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept. Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	13 Kasteelkloof Bo	GAUGE REFERENCE NO	G1M15
LOCATION LAT.	33 deg. 48.50 min. S.	NEAREST TOWN	Franschhoek
LONG.	19 deg. 3.50 min. E.	MAGISTERIAL DISTRICT	Paarl
RIVER	Kasteelkloof Bo	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	1.80 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (39%)	LAND USE	Veld
MEAN ALTITUDE	568 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1095 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Table Mountain Group - quartzite, shale, tillite/Cape Granite, quartz porphyry
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	7.03 cumec at 1.08 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1968
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G1M15	(Last update : January 1985)
CATCHMENT MAP	G1M15.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G1M15.RAIN	
RUNOFF DATA	G1M15.FLOW	

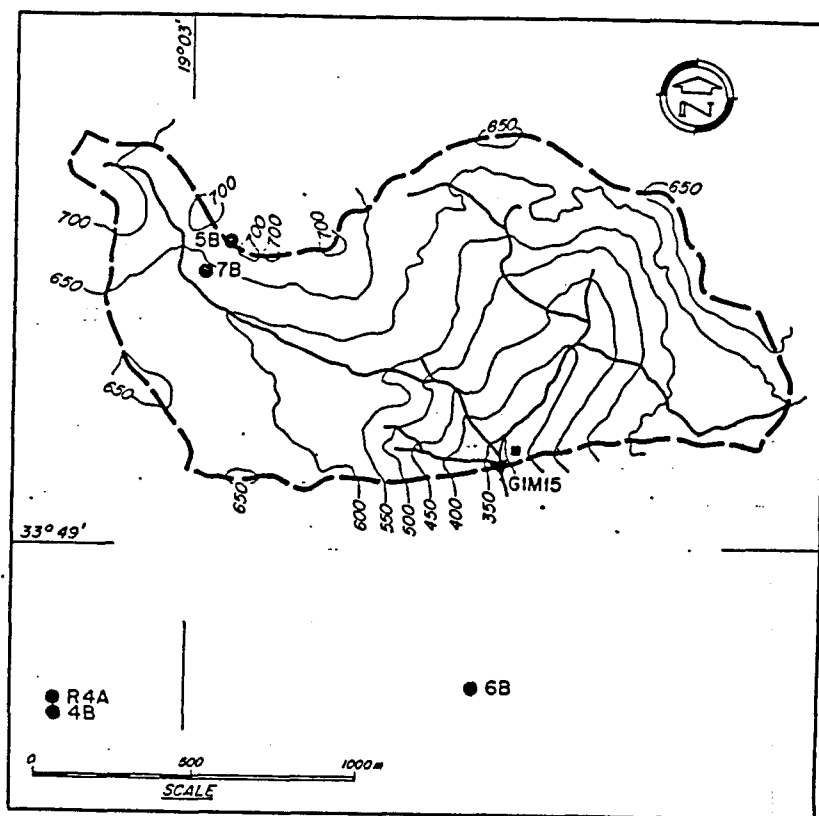
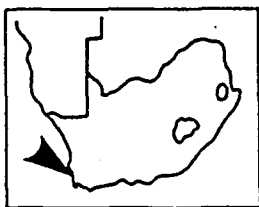
PHYSICAL CATCHMENT INFORMATION

LAND USE	1968 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

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Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ●
- Wind ●
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R4A	Casella Siphon	1968-1984	No details	Continuous	Paper strip	
	4B	Standard	1979-1984	No details	> Daily	Data sheet	Computer tape
	5B	Standard	1968-1984	No details	> Daily	Data sheet	Computer tape
	6B	Standard	1968-1984	No details	> Daily	Data sheet	Computer tape
	7B	Standard	1968-1984	No details	> Daily	Data sheet	Computer tape
RUNOFF	G1M15	Belfort	1968-1984	No details	Continuous	Paper strip	Computer tape
	G1M15	Grab Sampler	1973-1984	No details	> Daily	Data sheet	
	G1M15	Grab Sampler	1973-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	12 Kasteelkloof Onder	GAUGE REFERENCE NO	G1M16
LOCATION LAT.	33 deg. 49.00 min. S.	NEAREST TOWN	Franschhoek
LONG.	19 deg. 3.50 min. E.	MAGISTERIAL DISTRICT	Paarl
RIVER	Kasteelkloof Onder	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	3.24 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (45%)	LAND USE	Veld
MEAN ALTITUDE	483 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1410 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Tertiary to recent unconsolidated superficial deposits/Table Mountain Group - quartzite, shale, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.04 cumec at .60 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1968
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

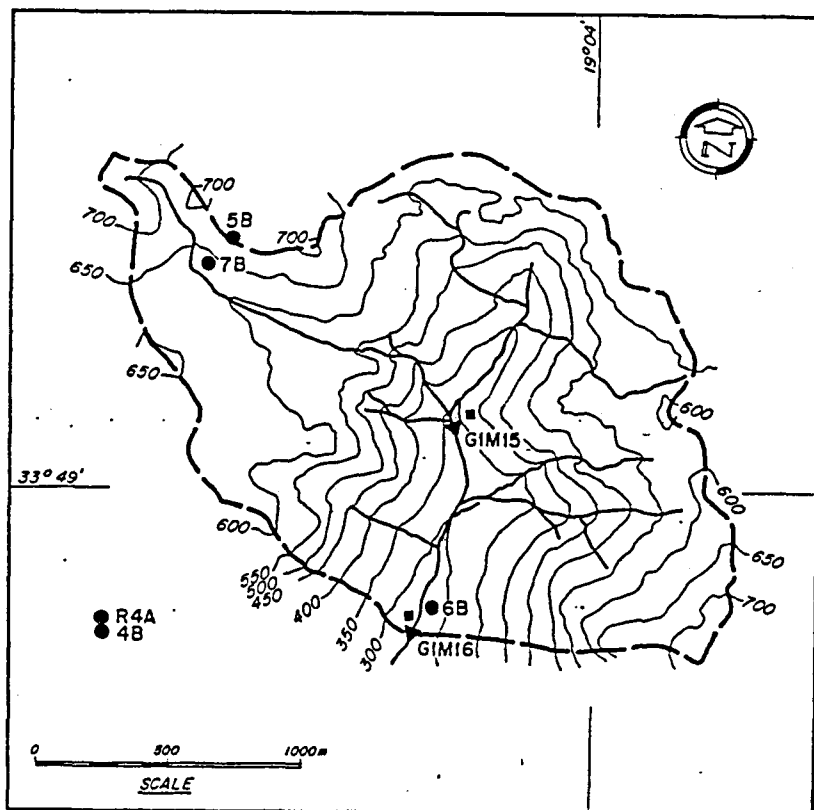
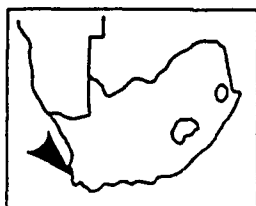
CATCHMENT INFORMATION FILE	G1M16	(Last update : January 1985 .)
CATCHMENT MAP	G1M16.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G1M16.RAIN	
RUNOFF DATA	G1M16.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1968 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ●
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R4A	Casella Siphon	1968-1984	No details	Continuous	Paper strip	
	4B	Standard	1979-1984	No details	> Daily	Data sheet	Computer tape
	5B	Standard	1968-1984	No details	> Daily	Data sheet	Computer tape
	6B	Standard	1968-1984	No details	> Daily	Data sheet	Computer tape
	7B	Standard	1968-1984	No details	> Daily	Data sheet	Computer tape
RUNOFF	GIM16	Belfort	1968-1984	No details	Continuous	Paper strip	Computer tape
	GIM15	Belfort	1968-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	GIM16	Auto Sampler	1973-1984	No details	> Daily	Data sheet	Data sheet
TDS	GIM16	Auto Sampler	1973-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	GIM16	Auto Sampler	1982-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	11 Zachariashoek Bo	GAUGE REFERENCE NO	G1M17
LOCATION LAT.	33 deg. 49.00 min. S.	NEAREST TOWN	Franschhoek
LONG.	19 deg. 1.50 min. E.	MAGISTERIAL DISTRICT	Paarl
RIVER	Zachariashoek Bo	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	1.75 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (22%)	LAND USE	Veld
MEAN ALTITUDE	605 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	870 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Tertiary to recent unconsolidated super- ficial deposits/Table Mountain Group - quartzite, shale, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.10 cumec at .62 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1968
	- purpose : To determine the influence of manage- ment regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G1M17	(Last update : January 1985)
CATCHMENT MAP	G1M17.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G1M17.RAIN	
RUNOFF DATA	G1M17.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1968 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

Measuring site for

Rainfall

Runoff

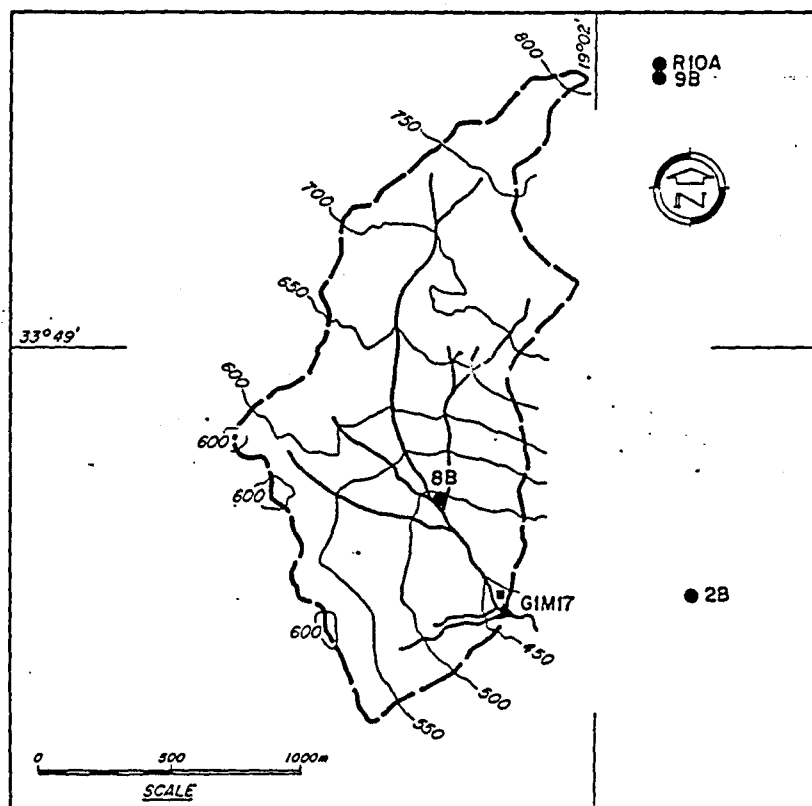
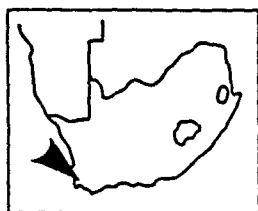
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R10A	Casella Siphon	1968-1984	No details	Continuous	Paper strip	
	2B	Standard	1968-1984	No details	1 Daily	Data sheet	Computer tape
	8B	Standard	1968-1984	No details	1 Daily	Data sheet	Computer tape
	9B	Standard	1979-1984	No details	1 Daily	Data sheet	Computer tape
RUNOFF	GIM17	Belfort	1968-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	GIM17	Grab Sampler	1973-1984	No details	1 Daily	Data sheet	Data sheet
TDS	GIM17	Grab Sampler	1973-1984	No details	1 Daily	Data sheet	Data sheet
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	14 Bakkerskloof	GAUGE REFERENCE NO	G1M18
LOCATION LAT.	33 deg. 48.00 min. S.	NEAREST TOWN	Franschhoek
LONG.	19 deg. 2.00 min. E.	MAGISTERIAL DISTRICT	Paarl
RIVER	Bakkerskloof	PROVINCE OR COUNTRY	Western Cape

CATCHMENT DETAILS

CATCHMENT AREA	3.56 sq.km.	VEGETATION	Fynbos (Macchia)
AVERAGE CATCHMENT SLOPE	Steep (31%)	LAND USE	Veld
MEAN ALTITUDE	669 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1165 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Tertiary to recent unconsolidated superficial deposits/Table Mountain group - quartzite, shale, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	Yes	RELATIVE HUMIDITY	Yes
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.08 cumec at .61 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231)

THE MONITORING PROGRAMME	- started : 1968
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	G1M18	(Last update : January 1985)
CATCHMENT MAP	G1M18.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	G1M18.RAIN	
RUNOFF DATA	G1M18.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1968 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Diep	GAUGE REFERENCE NO	K4M03
LOCATION LAT.	33 deg. 52.00 min. S.	NEAREST TOWN	Wilderness
LONG.	22 deg. 41.00 min. E.	MAGISTERIAL DISTRICT	George
RIVER	Diep River	PROVINCE OR COUNTRY	Eastern Cape

CATCHMENT DETAILS

CATCHMENT AREA	71.00 sq.km.	VEGETATION	Knysna Forest
AVERAGE CATCHMENT SLOPE	Steep (28%)	LAND USE	Veld, Agriculture & Afforestation
MEAN ALTITUDE	625 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	750 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Cape granites
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Broad-crested Weir
MEASURING LIMIT	66.70 cumec at 1.36 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Rhodes University
DEPARTMENT	Hydrological Res Unit, Geography Dept
CONTACT PERSON	Dr D A Hughes
ADDRESS	Hydrological Research Unit P O Box 94 GRAHAMSTOWN 6140

TELEPHONE (0461) 4014

THE MONITORING PROGRAMME

- started : 1961
- purpose : To develop & test lumped parameter conceptual rainfall/runoff models in semi-arid sub-humid catchments
- future extensions : Raingauge network to be expanded

INFORMATION FILES

CATCHMENT INFORMATION FILE	K4M03	(Last update : January 1985)
CATCHMENT MAP	K4M03.MAP	
LIST OF REFERENCES	RHODES.REF	
RAINFALL DATA	K4M03.RAIN	
RUNOFF DATA	K4M03.FLOW	

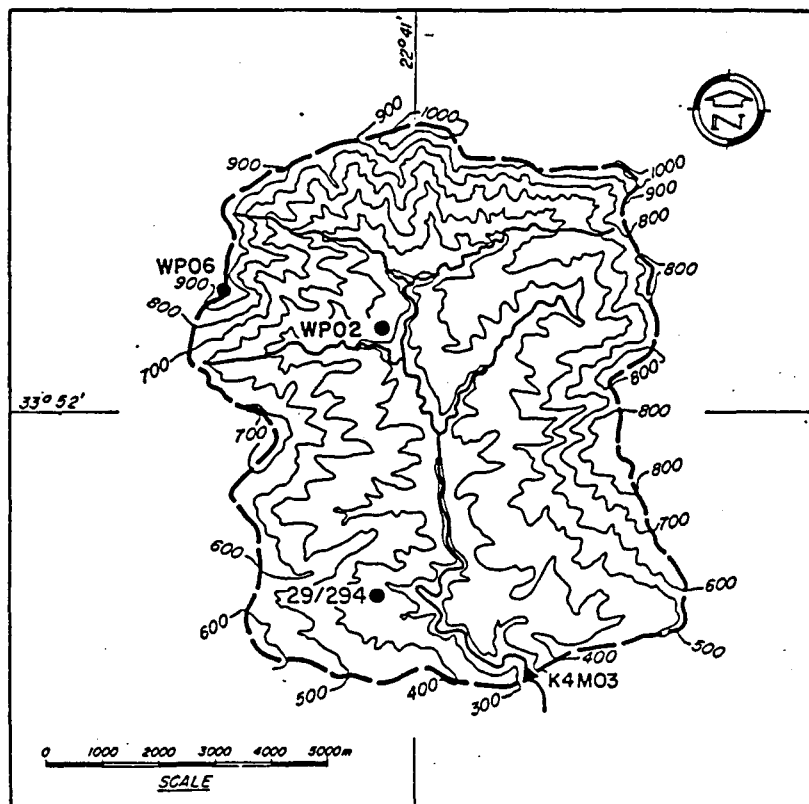
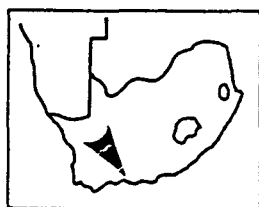
PHYSICAL CATCHMENT INFORMATION

LAND USE	1961 to 1984	42 % veld 58 % afforestation
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DRAINAGE CHARACTERISTICS Stream is perennial and well defined

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	WP02	Casella Siphon	1983-1984	0-25 %	Continuous	Paper strip	Computer tape
	WP06	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	29/294	Standard	1924-1984	25-50 %	Daily	Data sheet	Computer tape
RUNOFF	K4M03	Ott	1961-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

Rhodes University - Q9M20 - Albany, Eastern Cape

CATCHMENT IDENTIFICATION

CATCHMENT NAME	ECCA A	GAUGE REFERENCE NO	Q9M20
LOCATION	LAT. 33 deg. 12.00 min. S. LONG. 26 deg. 41.50 min. E.	NEAREST TOWN	Grahamstown
RIVER	Brak	MAGISTERIAL DISTRICT	Albany
		PROVINCE OR COUNTRY	Eastern Cape

CATCHMENT DETAILS

CATCHMENT AREA	73.00 sq.km.	VEGETATION	Valley Bushveld
AVERAGE CATCHMENT SLOPE	Flat (1.6%)	LAND USE	Veld
MEAN ALTITUDE	440 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	420 mm	BIOGEOGRAPHICAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	20	GEOLOGY	Sandstone, mudstone & shales of the Ecca Group (Karoo Sequence) and Dwyka tillite (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	Yes	RELATIVE HUMIDITY	Yes
TDS	Yes	NET RADIATION	Yes
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Broad-crested Weir
MEASURING LIMIT	235.16 cumec at 2.78 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Rhodes University
DEPARTMENT	Hydrological Res Unit, Geography Dept
CONTACT PERSON	Dr D A Hughes
ADDRESS	Hydrological Research Unit P O Box 94 GRAHAMSTOWN 6140

TELEPHONE (0461) 4014

THE MONITORING PROGRAMME

- started : 1976
- purpose : To develop & test lumped parameter conceptual rainfall/runoff models in semi-arid sub-humid catchments
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	Q9M20	(Last update : January 1985)
CATCHMENT MAP	Q9M20.MAP	
LIST OF REFERENCES	RHODES.REF	
RAINFALL DATA	Q9M20.RAIN	
RUNOFF DATA	Q9M20.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1976 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

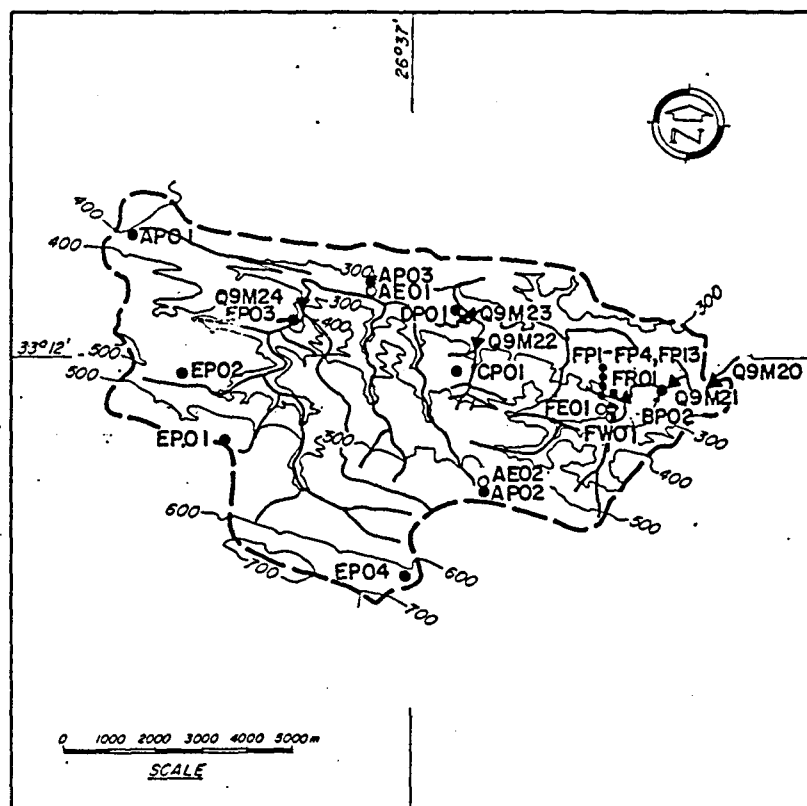
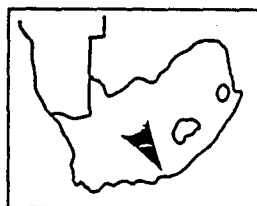
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	AP01	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	AP02	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	AP03	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	EP01	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	EP02	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	EP03	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	EP04	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	DP01	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	CP01	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	BP02	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP1	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP2	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP3	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP4	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP13	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
RUNOFF	Q9M40	Ott	1976-1984	0-25 %	Continuous	Computer tape	Computer tape
	Q9M21	Ott	1976-1984	0-25 %	Continuous	Computer tape	Computer tape
	Q9M22	Ott	1976-1984	0-25 %	Continuous	Computer tape	Computer tape
	Q9M23	Ott	1976-1984	0-25 %	Continuous	Computer tape	Computer tape
	Q9M24	Ott	1976-1984	0-25 %	Continuous	Computer tape	Computer tape
	FR01	Ott	1982-1984	0-25 %	Continuous	Computer tape	Computer tape
CHEMICAL	Q9M23	Pump Sampler	1983-1984	0-25 %	> Daily	Data sheet	
	FR01	Pump Sampler	1983-1984	0-25 %	> Daily	Data sheet	
TDS	Q9M23	Cond Meter	1981-1984	75-100%	Continuous	Paper strip	
	FR01	Cond Meter	1981-1984	75-100%	Continuous	Paper strip	
SEDIMENT	Q9M23	Surveys	1979-1984	0-25 %	> Daily	Data sheet	Data sheet
	FR01	Surveys	1982-1984	0-25 %	> Daily	Data sheet	
	Q9M24	Surveys	1979-1984	0-25 %	> Daily	Data sheet	Data sheet
EVAPORATION	AE01	Class A Pan	1975-1984	0-25 %	> Daily	Data sheet	
	FE01	Class A Pan	1983-1984	0-25 %	> Daily	Data sheet	
WIND	FW01	Thermograph	1983-1984	0-25 %	Hourly	Computer tape	
	FW01	Thermograph	1983-1984	0-25 %	Hourly	Cassette	
REL. HUMIDITY	FW01	Anemometer	1983-1984	0-25 %	Hourly	Data sheet	
	FW01	Anemometer	1983-1984	0-25 %	Hourly	Cassette	
NET RADIATION	FW01	Hygrograph	1983-1984	0-25 %	Hourly	Data sheet	
	FW01	Hygrograph	1983-1984	0-25 %	Hourly	Cassette	
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

CATCHMENT IDENTIFICATION

CATCHMENT NAME	ECCA B	GAUGE REFERENCE NO	Q9M21
LOCATION LAT.	33 deg. 13.00 min. S.	NEAREST TOWN	Grahamstown
LONG.	26 deg. 39.00 min. E.	MAGISTERIAL DISTRICT	Albany
RIVER	Tributary of Brak	PROVINCE OR COUNTRY	Eastern Cape

CATCHMENT DETAILS

CATCHMENT AREA	9.10 sq.km.	VEGETATION	Valley Bushveld
AVERAGE CATCHMENT SLOPE	Flat (3.7%)	LAND USE	Veld
MEAN ALTITUDE	370 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	420 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone, mudstone & shales of the Ecce Group (Karoo Sequence) and Dwyka tillite (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	Yes	RELATIVE HUMIDITY	Yes
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Broad-crested Weir
MEASURING LIMIT	75.90 cumec at 3.04 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Rhodes University
DEPARTMENT	Hydrological Res Unit, Geography Dept
CONTACT PERSON	Dr D A Hughes
ADDRESS	Hydrological Research Unit P O Box 94 GRAHAMSTOWN 6140

TELEPHONE (0461) 4014

THE MONITORING PROGRAMME

- started : 1976
- purpose : To develop & test lumped parameter conceptual rainfall/runoff models in semi-arid sub-humid catchments
- future extensions : None

INFORMATION FILES

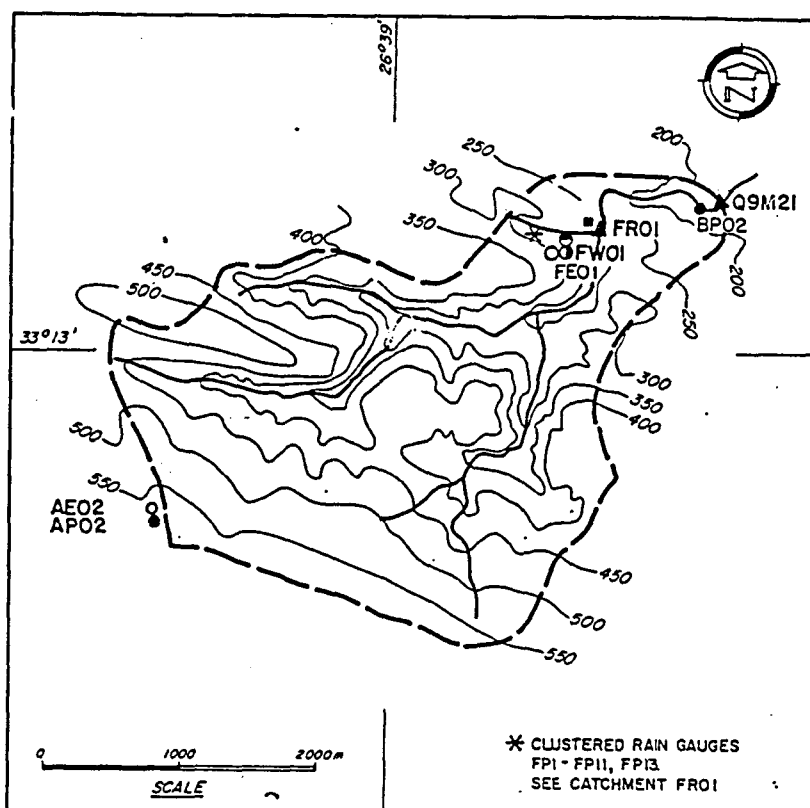
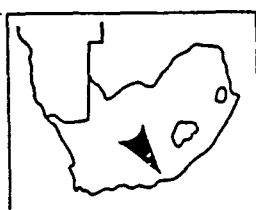
CATCHMENT INFORMATION FILE	Q9M21	(Last update : January 1985)
CATCHMENT MAP	Q9M21.MAP	
LIST OF REFERENCES	RHODES.REF	
RAINFALL DATA	Q9M21.RAIN	
RUNOFF DATA	Q9M21.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1976 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	AP02	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	BP02	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP1	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP2	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP3	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP4	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP13	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP4	Storage Gauge	1983-1984	0-25 %	> Daily	Data sheet	
	FP5	Storage Gauge	1983-1984	0-25 %	> Daily	Data sheet	
	FP6	Storage Gauge	1983-1984	0-25 %	> Daily	Data sheet	
RUNOFF	Q9M21	Ott	1976-1984	0-25 %	Continuous	Paper strip	Computer tape
	FR01	Ott	1982-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL	FR01	Pump Sampler	1983-1984	0-25 %	> Daily	Data sheet	
TDS	FR01	Cond meter	1981-1984	75-100%	Continuous	Paper strip	
SEDIMENT	FR01	Surveys	1982-1984	0-25 %	> Daily	Data sheet	
EVAPORATION	AE02	Class A Pan	1983-1984	0-25 %	> Daily	Data sheet	
	FE01	Class A Pan	1983-1984	0-25 %	> Daily	Data sheet	
TEMPERATURE	FW01	Thermograph	1983-1984	0-25 %	Daily	Paper strip	
WIND	FW01	Anemometer	1983-1984	0-25 %	Daily	Paper strip	
REL. HUMIDITY	FW01	Hydrograph	1983-1984	0-25 %	Daily	Paper strip	
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

Rhodes University - Q9M22 - Albany, Eastern Cape

CATCHMENT IDENTIFICATION

CATCHMENT NAME	ECCA C	GAUGE REFERENCE NO	Q9M22
LOCATION	LAT. 33 deg. 11.75 min. S.	NEAREST TOWN	Grahamstown
	LONG. 26 deg. 38.00 min. E.	MAGISTERIAL DISTRICT	Albany
RIVER	Tributary of Brak	PROVINCE OR COUNTRY	Eastern Cape

CATCHMENT DETAILS

CATCHMENT AREA	2.00 sq.km.	VEGETATION	Valley Bushveld
AVERAGE CATCHMENT SLOPE	Flat	LAND USE	Veld
MEAN ALTITUDE	385 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	420 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone, mudstone and shales of the
SHAPE FACTOR	No details		Ecca Group (Karoo Sequence)
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Flume (1976), Modified Crump Weir (1980)
MEASURING LIMIT	6.5l cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Rhodes University
DEPARTMENT	Hydrological Res Unit, Geography Dept
CONTACT PERSON	Dr D A Hughes
ADDRESS	Hydrological Research Unit P O Box 94 GRAHAMSTOWN 6140

TELEPHONE (0461) 4014

THE MONITORING PROGRAMME	- started : 1976
	- purpose : To develop & test lumped parameter conceptual rainfall/runoff models in semi-arid sub-humid catchments
	- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	Q9M22	(Last update : January 1985)
CATCHMENT MAP	Q9M22.MAP	
LIST OF REFERENCES	RHODES.REF	
RAINFALL DATA	Q9M22.RAIN	
RUNOFF DATA	Q9M22.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1976 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

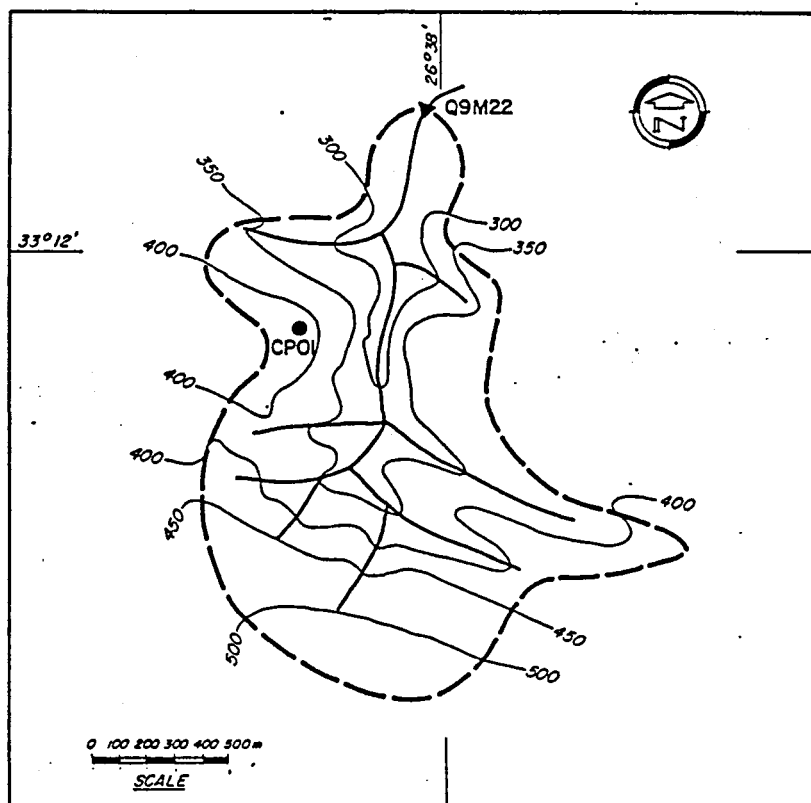
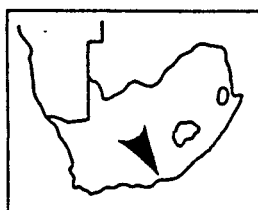
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	CP01	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
RUNOFF	Q9M22	Ott	1976-1984	0-25 %	Continuous	Computer tape	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

CATCHMENT IDENTIFICATION

CATCHMENT NAME	ECCA D	GAUGE REFERENCE NO	Q9M23
LOCATION LAT.	33 deg. 11.50 min. S.	NEAREST TOWN	Grahamstown
LONG.	26 deg. 37.75 min. E.	MAGISTERIAL DISTRICT	Albany
RIVER	Tributary of Brak	PROVINCE OR COUNTRY	Eastern Cape

CATCHMENT DETAILS

CATCHMENT AREA	1.00 sq.km.	VEGETATION	Valley Bushveld
AVERAGE CATCHMENT SLOPE	Flat	LAND USE	Veld
MEAN ALTITUDE	295 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	420 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Dwyka tillite (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Flume (1976), Modified Crump Weir (1980)
MEASURING LIMIT	6.40 cumec at .87 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Rhodes University
DEPARTMENT	Hydrological Res Unit, Geography Dept
CONTACT PERSON	Dr D A Hughes
ADDRESS	Hydrological Research Unit
	P O Box 94
	GRAHAMSTOWN
	6140

TELEPHONE (0461) 4014

THE MONITORING PROGRAMME

- started : 1976
- purpose : To develop & test lumped parameter conceptual rainfall/runoff models in semi-arid sub-humid catchments
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	Q9M23	(Last update : January 1985)
CATCHMENT MAP	Q9M23.MAP	
LIST OF REFERENCES	RHODES.REF	
RAINFALL DATA	Q9M23.RAIN	
RUNOFF DATA	Q9M23.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1976 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

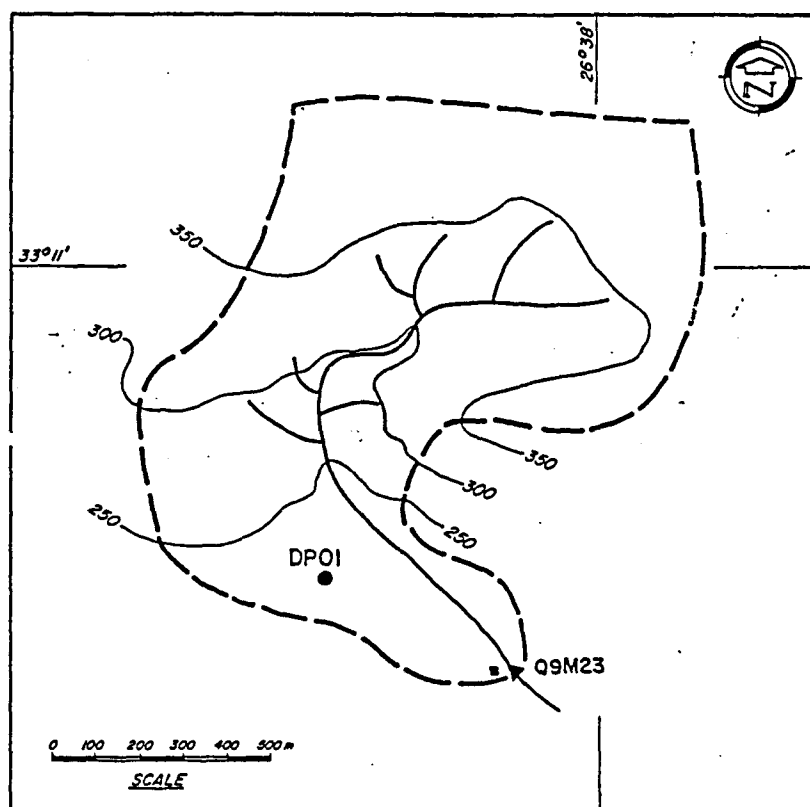
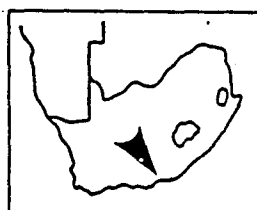
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	DPO1	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
RUNOFF	Q9M23	Ott	1976-1984	0-25 %	Continuous	Computer tape	Computer tape
CHEMICAL	Q9M23	Pump Sampler	1983-1984	0-25 %	> Daily	Data sheet	
TDS	Q9M23	Surveys	1979-1984	0-25 %	> Daily	Data sheet	Data sheet
SEDIMENT	Q9M23	Cond Meter	1979-1984	0-25 %	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

CATCHMENT IDENTIFICATION

CATCHMENT NAME	ECCA E	GAUGE REFERENCE NO	Q9M24
LOCATION LAT.	33 deg. 13.00 min. S.	NEAREST TOWN	Grahamstown
LONG.	26 deg. 35.00 min. E.	MAGISTERIAL DISTRICT	Albany
RIVER	Tributary of Brak	PROVINCE OR COUNTRY	Eastern Cape

CATCHMENT DETAILS

CATCHMENT AREA	24.00 sq.km.	VEGETATION	Valley Bushveld
AVERAGE CATCHMENT SLOPE	Flat (3%)	LAND USE	Veld
MEAN ALTITUDE	500 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	420 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	5	GEOLOGY	Sandstone, mudstone and shales of the Ecca Group (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	126.40 cumec at 2.82 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Rhodes University
DEPARTMENT	Hydrological Res Unit, Geography Dept
CONTACT PERSON	Dr D A Hughes
ADDRESS	Hydrological Research Unit P O Box 94 GRAHAMSTOWN 6140

TELEPHONE (0461) 4014

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To develop & test lumped parameter conceptual rainfall/runoff models in semi-arid sub-humid catchments
	- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	Q9M24	(Last update : January 1985)
CATCHMENT MAP	Q9M24.MAP	
LIST OF REFERENCES	RHODES.REF	
RAINFALL DATA	Q9M24.RAIN	
RUNOFF DATA	Q9M24.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

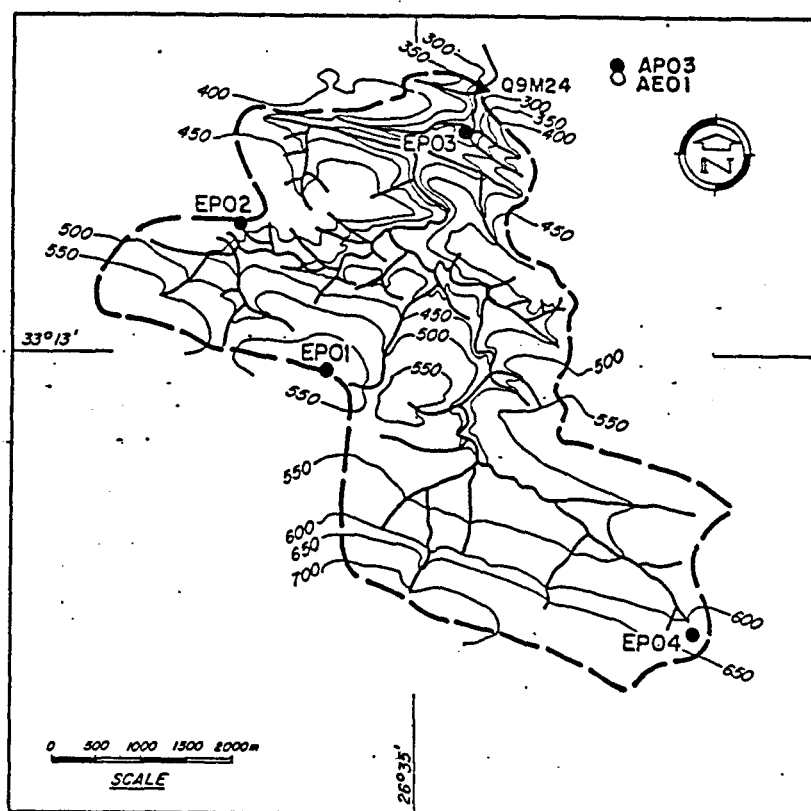
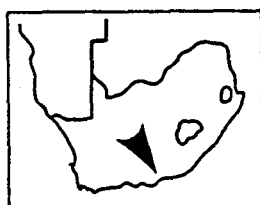
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	EP01	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	EP02	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	EP03	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	EP04	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
	AP03	Casella Siphon	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
RUNOFF	Q9M24	Ott	1975-1984	0-25 %	Continuous	Computer tape	Computer tape
CHEMICAL TDS	Q9M24	Surveys	1979-1984	0-25 %	> Daily	Data sheet	Data sheet
SEDIMENT	Q9M24	Surveys	1979-1984	0-25 %	> Daily	Data sheet	Data sheet
EVAPORATION	AE01	Class A Pan	1975-1984	0-25 %	> Daily	Data sheet Computer tape	
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
FILTRATION							

Majority of gauges are owned by Water Research Commission

CATCHMENT IDENTIFICATION

CATCHMENT NAME	ECCA F	GAUGE REFERENCE NO	FR01
LOCATION LAT.	33 deg. 12.25 min. S.	NEAREST TOWN	Grahamstown
LONG.	26 deg. 40.00 min. E.	MAGISTERIAL DISTRICT	Albany
RIVER	Tributary of Brak	PROVINCE OR COUNTRY	Eastern Cape

CATCHMENT DETAILS

CATCHMENT AREA	.28 sq.km.	VEGETATION	Valley Bushveld
AVERAGE CATCHMENT SLOPE	Flat	LAND USE	Veld
MEAN ALTITUDE	300 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	420 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone, mudstone and shale of the Ecce Group (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	Yes	RELATIVE HUMIDITY	Yes
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Crump Weir
MEASURING LIMIT	2.66 cumec at 1.08 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Rhodes University
DEPARTMENT	Hydrological Res Unit, Geography Dept
CONTACT PERSON	Dr D A Hughes
ADDRESS	Hydrological Research Unit P O Box 94 GRAHAMSTOWN 6140

TELEPHONE (0461) 4014

THE MONITORING PROGRAMME	- started : 1982
	- purpose : To develop & test lumped parameter conceptual rainfall/runoff models in semi-arid sub-humid catchments
	- future extensions : None

INFORMATION FILES

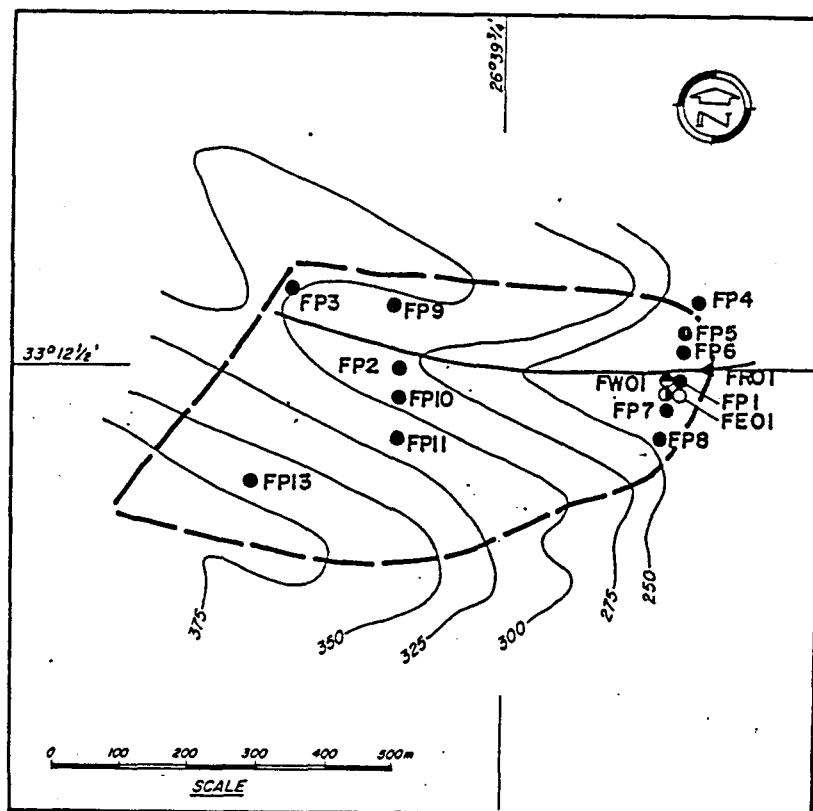
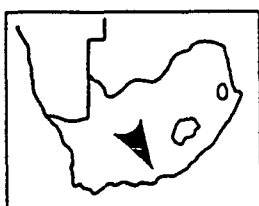
CATCHMENT INFORMATION FILE	FR01	(Last update : January 1985)
CATCHMENT MAP	FR01.MAP	
LIST OF REFERENCES	RHODES.REF	
RAINFALL DATA	FR01.RAIN	
RUNOFF DATA	FR01.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1976 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall
- Runoff
- Water Quality
- Evaporation
- Temperature
- Wind
- Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	FP1	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP2	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP3	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP4	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP13	Tipping Bucket	1983-1984	0-25 %	Continuous	Computer tape	Computer tape
	FP4	Storage Gauge	1983-1984	0-25 %	> Daily	Data sheet	
	FP5	Storage Gauge	1983-1984	0-25 %	> Daily	Data sheet	
	FP6	Storage Gauge	1983-1984	0-25 %	> Daily	Data sheet	
	FP7	Storage Gauge	1983-1984	0-25 %	> Daily	Data sheet	
	FP8	Storage Gauge	1983-1984	0-25 %	> Daily	Data sheet	
	FP9	Storage Gauge	1983-1984	0-25 %	> Daily	Data sheet	
	FP10	Storage Gauge	1983-1984	0-25 %	> Daily	Data sheet	
	FP11	Storage Gauge	1983-1984	0-25 %	> Daily	Data sheet	
RUNOFF	FR01	Ott	1982-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL	FR01	Pump Sampler	1982-1984	0-25 %	> Daily	Data sheet	
TDS	FR01	Cond Meter	1981-1984	75-100%	Continuous	Paper strip	
SEDIMENT	FR01	Surveys	1982-1984	0-25 %	> Daily	Data sheet	
EVAPORATION	FE01	Class A Pan	1983-1984	0-25 %	> Daily	Data sheet Computer tape	
TEMPERATURE	FW01	Thermograph	1983-1984	0-25 %	Hourly	Data sheet Cassette	
WIND	FW01	Anemometer	1983-1984	0-25 %	Hourly	Data sheet Cassette	
REL. HUMIDITY	FW01	Hydrograph	1983-1984	0-25 %	Hourly	Data sheet Cassette	
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

SA Sugar Assoc Experiment Station - 101 - Inanda, Natal

CATCHMENT IDENTIFICATION

CATCHMENT NAME	La Mercy 101	GAUGE REFERENCE NO	101
LOCATION LAT.	29 deg. 38.00 min. S.	NEAREST TOWN	Durban
LONG.	31 deg. 7.00 min. E.	MAGISTERIAL DISTRICT	Inanda
RIVER	Umhloti	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	1.04 sq.km.	VEGETATION	Coastal Forest & Thornveld
AVERAGE CATCHMENT SLOPE	Steep (25%)	LAND USE	Agriculture
MEAN ALTITUDE	80 m AHSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1030 mm	BINOMIAL SOIL TYPE	Arcadia & Swartland Forms
NO. OF DAMS IN CATCHMENT	0	GEOLOGY	Unconsolidated sand & conglomerate
SHAPE FACTOR	No details		(Berea Red Sands)
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	Yes
EVAPORATION	No	INFILTRATION	Yes

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	1.4m H-type Flume
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	SA Sugar Assoc Experiment Station
DEPARTMENT	
CONTACT PERSON	Mr G G Platford
ADDRESS	The Director SA Sugar Assoc Experiment Station P O MOUNT EDGECOMBE 4300

TELEPHONE (031) 593205

THE MONITORING PROGRAMME	- started : 1977
	- purpose : To study the effects of different cane management practices on runoff and soil erosion
	- future extensions : Will use adjacent land for rainfall simulation & modelling techniques

INFORMATION FILES

CATCHMENT INFORMATION FILE	101	(Last update : January 1985)
CATCHMENT MAP	101.MAP	
LIST OF REFERENCES	SASA.REF	
RAINFALL DATA	101.RAIN	
RUNOFF DATA	101.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1977 to 1984	100 % agriculture
DRAINAGE CHARACTERISTICS	Stream is seasonal but not well defined	

KEY : Measuring site for

Rainfall

Runoff

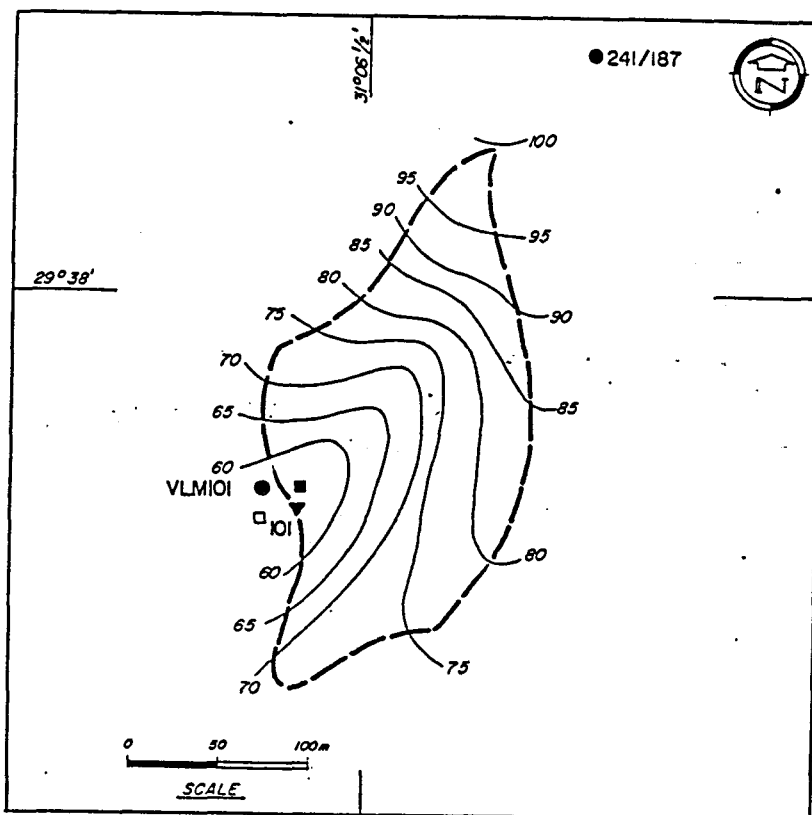
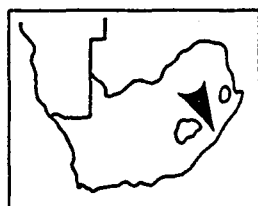
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	241/187 VLM101	SASA Breakpnt Volume Gauge	1977-1984 1977-1984	0-25 % 0-25 %	Continuous Daily	Paper strip Data sheet	
RUNOFF	101	Pressure Bulb	1977-1984	0-25 %	Continuous	Paper strip	
CHEMICAL TDS SEDIMENT	101	Splitters/tank	1977-1984	25-50 %	> Daily	Data sheet	
EVAPORATION TEMPERATURE WIND REL. HUMIDITY NET RADIATION							
SOIL MOISTURE INFILTRATION	101	Gravimeter	1977-1984	0-25 %	> Daily	Data sheet	

Majority of gauges are owned by S A Sugar Assoc Experiment Station

SA Sugar Assoc Experiment Station - 102 - Inanda, Natal

CATCHMENT IDENTIFICATION

CATCHMENT NAME	La Mercy 102	GAUGE REFERENCE NO	102
LOCATION LAT.	29 deg. 38.00 min. S.	NEAREST TOWN	Durban
LONG.	31 deg. 7.00 min. E.	MAGISTERIAL DISTRICT	Inanda
RIVER	Umhloti	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.04 sq.km.	VEGETATION	Coastal Forest & Thornveld
AVERAGE CATCHMENT SLOPE	Steep (18%)	LAND USE	Agriculture
MEAN ALTITUDE	80 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1030 mm	BINOMIAL SOIL TYPE	Arcadia & Swartland Forms
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Unconsolidated sand & conglomerate (Berea Red Sands)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	1.4m H-type Flume
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	SA Sugar Assoc Experiment Station
DEPARTMENT	
CONTACT PERSON	Mr G G Platford
ADDRESS	The Director SA Sugar Assoc Experiment Station P O MOUNT EDGECOMBE 4300

TELEPHONE (031) 593205

THE MONITORING PROGRAMME

- started : 1977
- purpose : To study the effects of different cane management practices on runoff
- future extensions : Will use adjacent land for rainfall simulation and modelling techniques

INFORMATION FILES

CATCHMENT INFORMATION FILE	102	(Last update : January 1985)
CATCHMENT MAP	102.MAP	
LIST OF REFERENCES	SASA.REF	
RAINFALL DATA	102.RAIN	
RUNOFF DATA	102.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1977 to 1984	100 % agriculture
DRAINAGE CHARACTERISTICS	Stream is seasonal but not well defined	

KEY : Measuring site for

Rainfall

Runoff

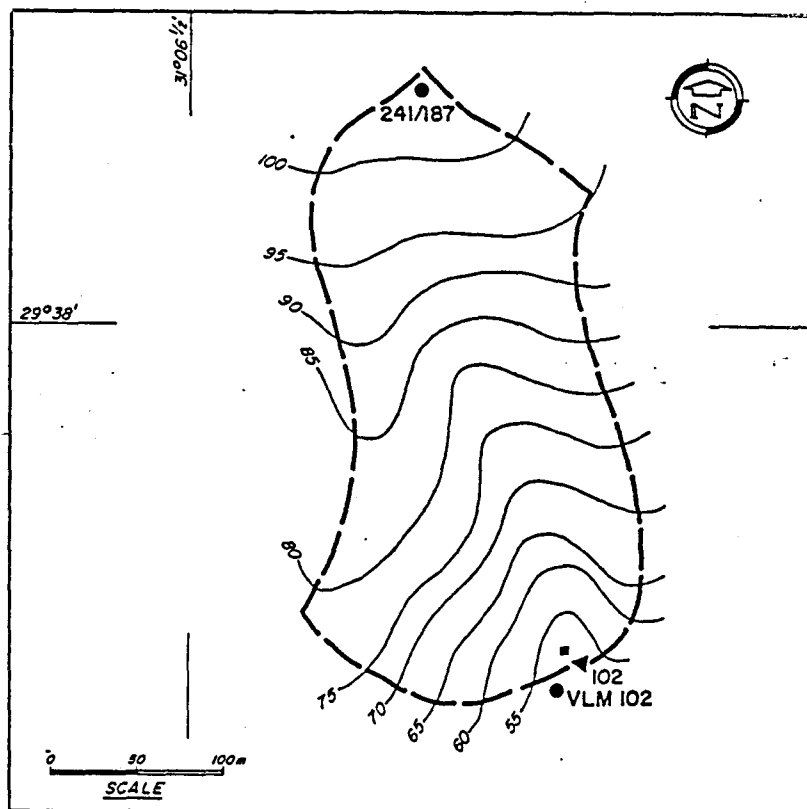
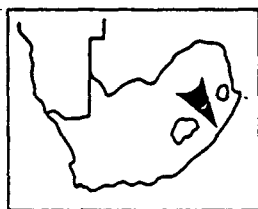
Water Quality

Evaporation

Temperature

Wind

Soil Condition.



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	241/187	SASA Breakpnt	1977-1984	0-25 %	Continuous	Paper strip	
	VLM102	Volume Gauge	1977-1984	0-25 %	Daily	Data sheet	
RUNOFF	102	Pressure Bulb	1977-1984	0-25 %	Continuous	Paper strip	
CHEMICAL							
TDS							
SEDIMENT	102	Splitters/tank	1977-1984	25-50 %	> Daily	Data sheet	
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by S A Sugar Assoc Experiment Station

SA Sugar Assoc Experiment Station - 103 - Inanda, Natal

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Lz Mercy 103	GAUGE REFERENCE NO	103
LOCATION	LAT. 29 deg. 38.00 min. S.	NEAREST TOWN	Durban
	LONG. 31 deg. 7.00 min. E.	MAGISTERIAL DISTRICT	Inanda
RIVER	Umkhloti	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.04 sq.km.	VEGETATION	Coastal Forest & Thornveld
AVERAGE CATCHMENT SLOPE	Steep (17%)	LAND USE	Agriculture
MEAN ALTITUDE	90 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1030 mm	BINOMIAL SOIL TYPE	Arcadia, Swartland & Clansthal Forms
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Unconsolidated sand & conglomerate
SHAPE FACTOR	No details		(Berea Red Sands)
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
WDS	No	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	1.4m H-type Flume
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	SA Sugar Assoc Experiment Station
DEPARTMENT	
CONTACT PERSON	Mr G G Platford
ADDRESS	The Director
	SA Sugar Assoc Experiment Station
	P O EDGEcombe
	4300
TELEPHONE	(031) 593205

THE MONITORING PROGRAMME

- started : 1977
- purpose : To study the effects of different cane management practices on runoff
- future extensions : Will use adjacent land for rainfall simulation and modelling techniques

INFORMATION FILES

CATCHMENT INFORMATION FILE	103	(Last update : January 1985)
CATCHMENT MAP	103.MAP	
LIST OF REFERENCES	SASA.REF	
RAINFALL DATA	103.RAIN	
RUNOFF DATA	103.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1977 to 1984	100 % agriculture
DRAINAGE CHARACTERISTICS	Stream is seasonal but not well defined	

KEY : Measuring site for

Rainfall

Runoff

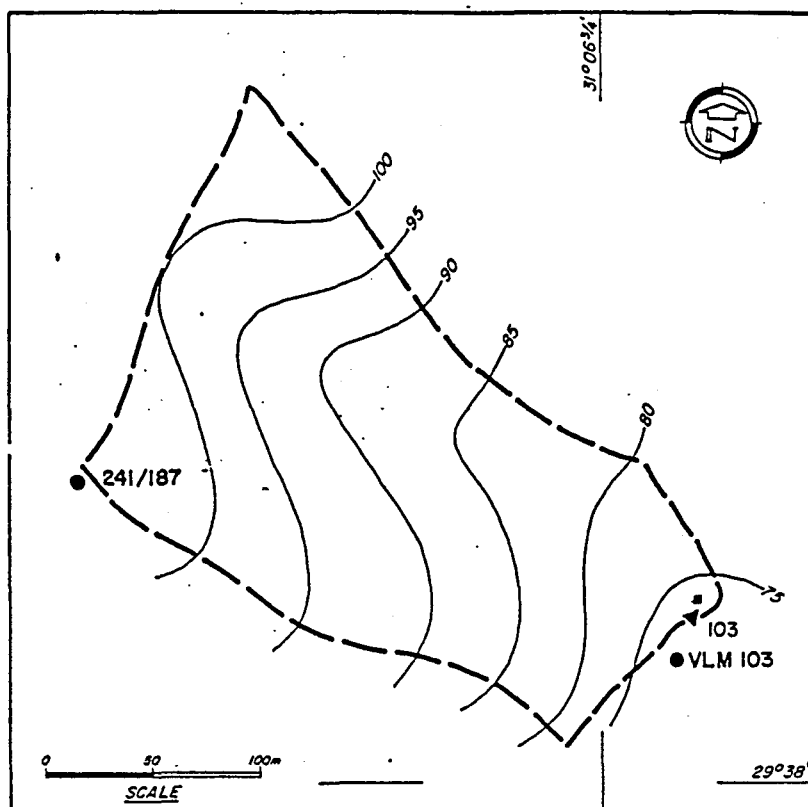
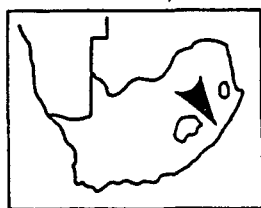
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	241/187	SASA Breakpnt	1977-1984	0-25 %	Continuous	Paper strip	
	VLM103	Volume Gauge	1977-1984	0-25 %	Daily	Data sheet	
RUNOFF	103	Pressure Bulb	1977-1984	0-25 %	Continuous	Paper strip	
CHEMICAL							
TDS							
SEDIMENT	103	Splitters/tank	1977-1984	25-50 %	> Daily	Data sheet	
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by S A Sugar Assoc Experiment Station

SA Sugar Assoc Experiment Station - 104 - Inanda, Natal

CATCHMENT IDENTIFICATION

CATCHMENT NAME	La Mercy 104	GAUGE REFERENCE NO	104
LOCATION LAT.	29 deg. 38.00 min. S.	NEAREST TOWN	Durban
LONG.	31 deg. 7.00 min. E.	MAGISTERIAL DISTRICT	Inanda
RIVER	Umkhloti	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.05 sq.km.	VEGETATION	Coastal Forest & Thornveld
AVERAGE CATCHMENT SLOPE	Steep (17%)	LAND USE	Agriculture
MEAN ALTITUDE	85 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1030 mm	BINOMIAL SOIL TYPE	Arcadia & Swartland Forms
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Unconsolidated sand & conglomerate (Berea Red Sands)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	1.4m H-type Flume
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	SA Sugar Assoc Experiment Station
DEPARTMENT	
CONTACT PERSON	Mr G G Platford
ADDRESS	The Director SA Sugar Assoc Experiment Station P O MOUNT EDGECOMBE 4300

TELEPHONE (031) 593205

THE MONITORING PROGRAMME	- started : 1977
	- purpose : To study the effects of different cane management practices on runoff
	- future extensions : Will use adjacent land for rainfall simulation and modelling techniques

INFORMATION FILES

CATCHMENT INFORMATION FILE	104	(Last update : January 1985)
CATCHMENT MAP	104.MAP	
LIST OF REFERENCES	SASA.REF	
RAINFALL DATA	104.RAIN	
RUNOFF DATA	104.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1977 to 1984	100 % agriculture
DRAINAGE CHARACTERISTICS	Stream is seasonal but not well defined	

KEY : Measuring site for

Rainfall

Runoff

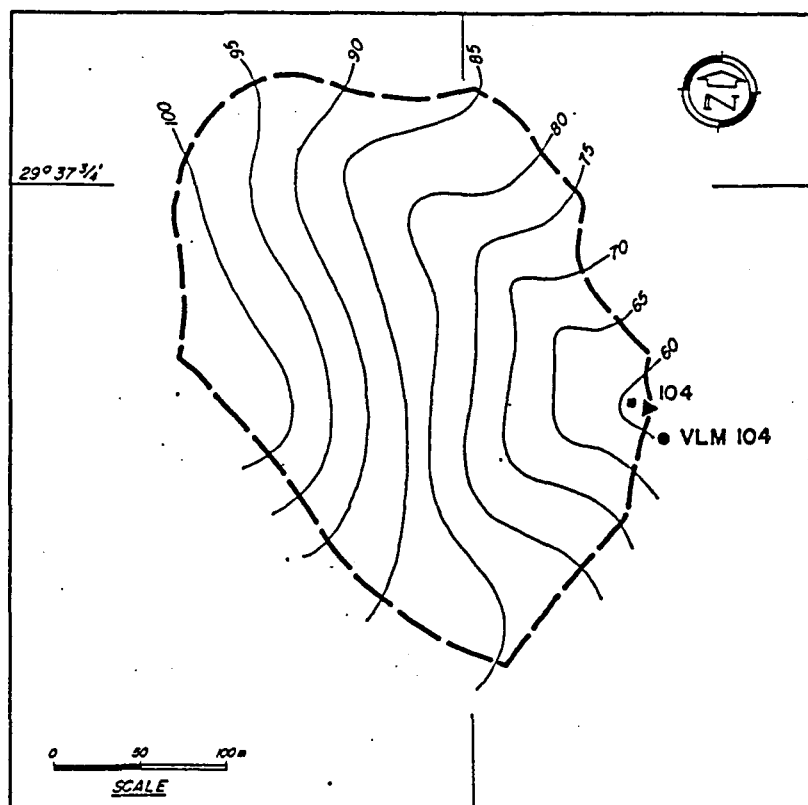
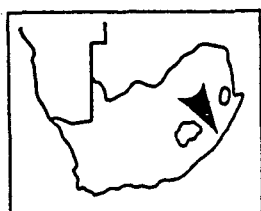
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	VLM104	Volume Gauge	1977-1984	0-25 %	Daily	Data sheet	
RUNOFF	104	Pressure Bulb	1977-1984	0-25 %	Continuous	Paper strip	
CHEMICAL							
TDS							
SEDIMENT	104	Splitters/tank	1977-1984	25-50 %	> Daily	Data sheet	
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by S A Sugar Assoc Experiment Station

Council for Scientific & Indus Research - PINE1 - Pinetown, Natal

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Pinetown 1	GAUGE REFERENCE NO	PINE1
LOCATION LAT.	29 deg. 49.00 min. S.	NEAREST TOWN	Pinetown
LONG.	30 deg. 52.00 min. E.	MAGISTERIAL DISTRICT	Pinetown
RIVER	Palmiet	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.12 sq.km.	VEGETATION	
AVERAGE CATCHMENT SLOPE	Flat (2%)	LAND USE	Urban
MEAN ALTITUDE	347 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1000 mm	BIOLOGICAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Table Mountain Group - Quartzite, shale, tillite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Pipe section 762mm diameter
MEASURING LIMIT	.50 cumec at .61 metres
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Council for Scientific & Indus Research
DEPARTMENT	National Institute for Water Research
CONTACT PERSON	Mr D E Simpson
ADDRESS	National Institute for Water Research Council for Scientific & Indus Research P O Box 17001 CONGELLA 4013
TELEPHONE	(031) 255531

THE MONITORING PROGRAMME	- started : 1978
	- purpose : To estimate the import of pollutants to an urban catchment by atmospheric fallout & their export by storm runoff
	- future extensions : None

INFORMATION FILES

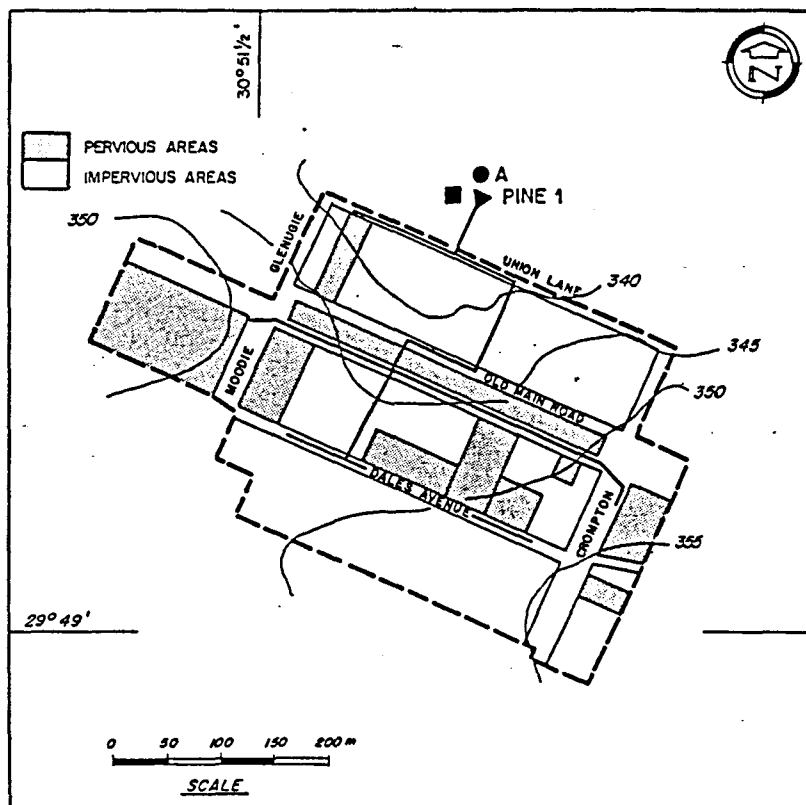
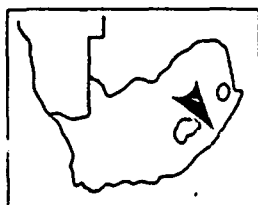
CATCHMENT INFORMATION FILE	PINE1	(Last update : January 1985)
CATCHMENT MAP	PINE1.MAP	
LIST OF REFERENCES	CSIR.REF	
RAINFALL DATA	PINE1.RAIN	
RUNOFF DATA	PINE1.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1978 to 1981	100 % urban
DRAINAGE CHARACTERISTICS	Stream is seasonal but not well defined	

KEY : Measuring site for

- Rainfall
- ▲ Runoff
- Water Quality
- Evaporation
- Temperature
- Wind
- Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	A	Casella Siphon	1978-1981	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	PT1	Ultrasonic	1978-1981	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL	PT1	Auto Sampler	1978-1981	0-25 %	Continuous	Data sheet	Computer tape
TDS	PT1	Auto Sampler	1978-1981	0-25 %	Continuous	Data sheet	Computer tape
SEDIMENT	PT1	Auto Sampler	1978-1981	0-25 %	Continuous	Data sheet	Computer tape
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Council for Scientific & Indust Research

CATCHMENT IDENTIFICATION

CATCHMENT NAME	U2M16	GAUGE REFERENCE NO	U2M16
LOCATION LAT.	29 deg. 33.50 min. S.	NEAREST TOWN	Pietermaritzburg
LONG.	30 deg. 15.00 min. E.	MAGISTERIAL DISTRICT	Pietermaritzburg
RIVER	Rietspruit	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	5.25 sq.km.	VEGETATION	Highland & Dohne Sourveld
AVERAGE CATCHMENT SLOPE	Steep (16.4)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	1250 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	925 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	1	GEOLOGY	Sandstone, shale & mudstone of the Beaufort Group (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch (90 deg) Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Natal
DEPARTMENT	Agricultural Engineering
CONTACT PERSON	Dr R E Schulze
ADDRESS	Senior Hydrologist Department of Agricultural Engineering P O Box 375 PIETERMARITZBURG 3200
TELEPHONE	(0331) 63320

THE MONITORING PROGRAMME	- started : 1977
	- purpose : To develop rainfall/runoff models for small catchments in different physiographic and soil conditions
	- future extensions : Silt & sediment surveys to start. Two new c/ments to be monitored from 1985

INFORMATION FILES

CATCHMENT INFORMATION FILE	U2M16	(Last update : January 1985)
CATCHMENT MAP	U2M16.MAP	
LIST OF REFERENCES	NATAL.REF	
RAINFALL DATA	U2M16.RAIN	
RUNOFF DATA	U2M16.FLOW	

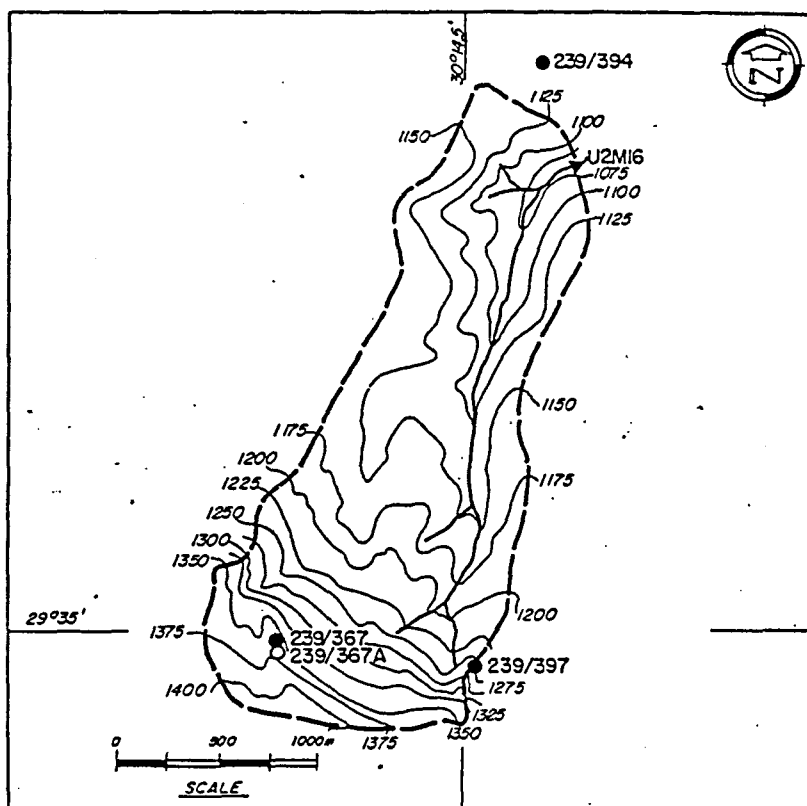
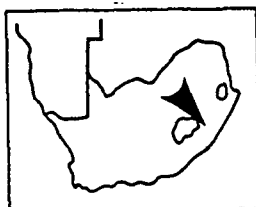
PHYSICAL CATCHMENT INFORMATION

LAND USE	1977 to 1985	45 % veld 55 % afforestation
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	239/367	Casella	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	239/367	Theiss	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	239/394	Casella	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	239/397	Casella	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	U2M16	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Natal University

CATCHMENT IDENTIFICATION

CATCHMENT NAME	U2M18	GAUGE REFERENCE NO	U2M18
LOCATION LAT.	29 deg. 35.00 min. S.	NEAREST TOWN	Pietermaritzburg
LONG.	30 deg. 15.00 min. E.	MAGISTERIAL DISTRICT	Pietermaritzburg
RIVER	Rietspruit	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	1.31 sq.km.	VEGETATION	Highland & Dohne Sourveld
AVERAGE CATCHMENT SLOPE	Steep (29.2%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	1310 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	975 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone, mudstone & shale of the Ecca Group (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch (90 deg) Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Natal
DEPARTMENT	Agricultural Engineering
CONTACT PERSON	Dr R E Schulze
ADDRESS	Senior Hydrologist Department of Agricultural Engineering P O Box 375 PIETERMARITZBURG 3200
TELEPHONE	(0331) 63320

THE MONITORING PROGRAMME	- started : 1977
	- purpose : To develop rainfall/runoff models for small catchments in different physiographic and soil conditions
	- future extensions : Silt & sediment surveys to start. Two new c/ments to be monitored from 1985

INFORMATION FILES

CATCHMENT INFORMATION FILE	U2M18	(Last update : January 1985)
CATCHMENT MAP	U2M18.MAP	
LIST OF REFERENCES	NATAL.REF	
RAINFALL DATA	U2M18.RAIN	
RUNOFF DATA	U2M18.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1977 to 1984	15 % veld 85 % afforestation
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

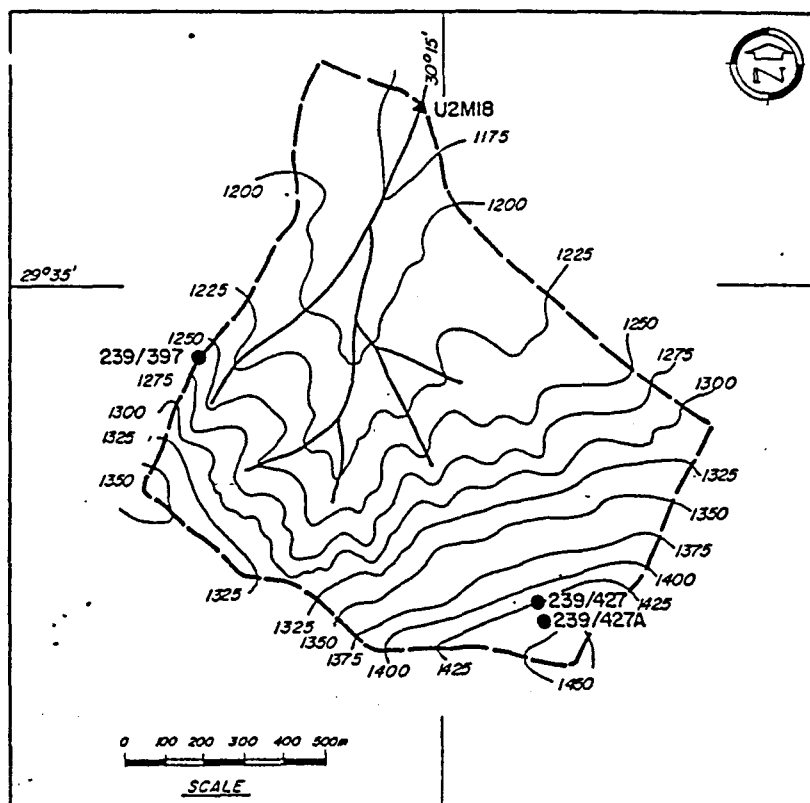
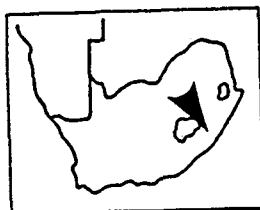
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	239/397	Casella	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	239/427	Theiss	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	239/427	Casella	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	U2M18	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Natal University

CATCHMENT IDENTIFICATION

CATCHMENT NAME	2 Cathedral Peak	GAUGE REFERENCE NO	VIM03
LOCATION LAT.	28 deg. 59.50 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 13.00 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Ndumani 2	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	1.95 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (45%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	2150 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1590 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	2.50 cumec at 1.22 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1948
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	VIM03	(Last update : January 1985)
CATCHMENT MAP	VIM03.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	VIM03.RAIN	
RUNOFF DATA	VIM03.FLOW	

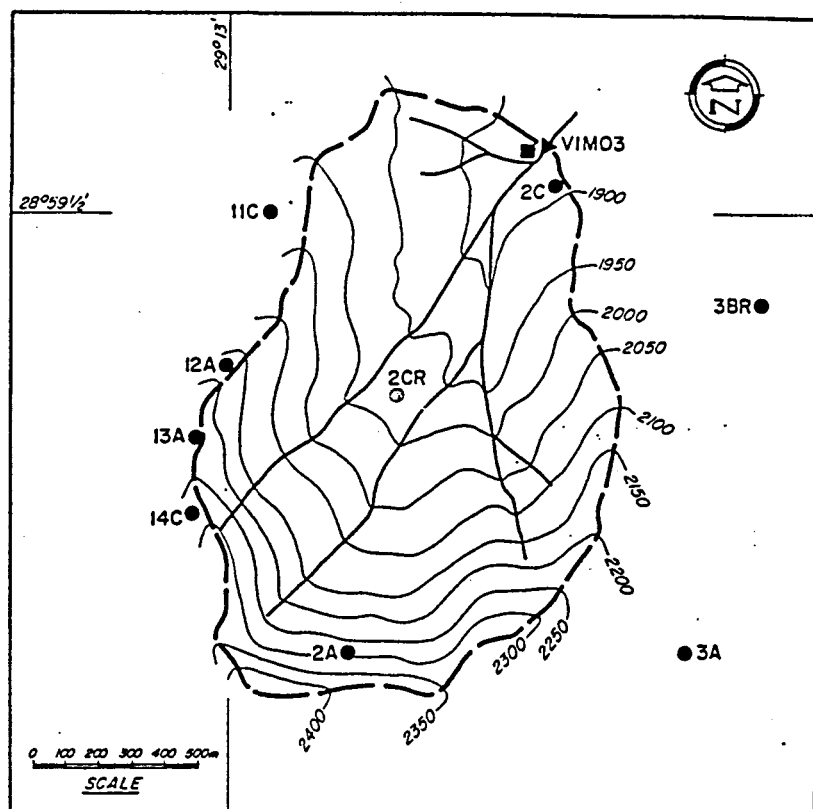
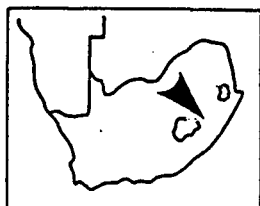
PHYSICAL CATCHMENT INFORMATION

LAND USE	1948 to 1950	100 % veld
	1950 to 1954	48 % veld
		52 % afforestation
	1954 to 1963	41 % veld
		59 % afforestation
	1963 to 1983	28 % veld
		72 % afforestation
	1983 to 1984	39 % veld
		61 % afforestation

DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	2CR	Casella Siphon	1948-1984	No details	Continuous	Paper strip	Computer tape
	3BR	Casella Siphon	1950-1984	No details	Continuous	Paper strip	Computer tape
	2A	Standard	1948-1984	No details	> Daily	Data sheet	
	2C	Standard	1948-1984	No details	> Daily	Data sheet	
	3A	Standard	1950-1984	No details	> Daily	Data sheet	
	11C	Standard	1974-1984	No details	> Daily	Data sheet	
	12A	Standard	1974-1984	No details	> Daily	Data sheet	
	13A	Standard	1974-1984	No details	> Daily	Data sheet	
	14C	Standard	1974-1984	No details	> Daily	Data sheet	
RUNOFF	VIM03	Belfort	1948-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	VIM03	Auto Sampler	1984-1984	No details	> Daily	Data sheet	Data sheet
TDS	VIM03	Grab Sampler	1982-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	VIM03	Grab Sampler	1982-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	4 Cathedral Peak	GAUGE REFERENCE NO	VIM05
LOCATION LAT.	29 deg. .00 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 14.50 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Masongwane 4	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.95 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (36%)	LAND USE	Veld
MEAN ALTITUDE	2007 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1400 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J H Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1949
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	VIM05	(Last update : January 1985)
CATCHMENT MAP	VIM05.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	VIM05.RAIN	
RUNOFF DATA	VIM05.FLOW	

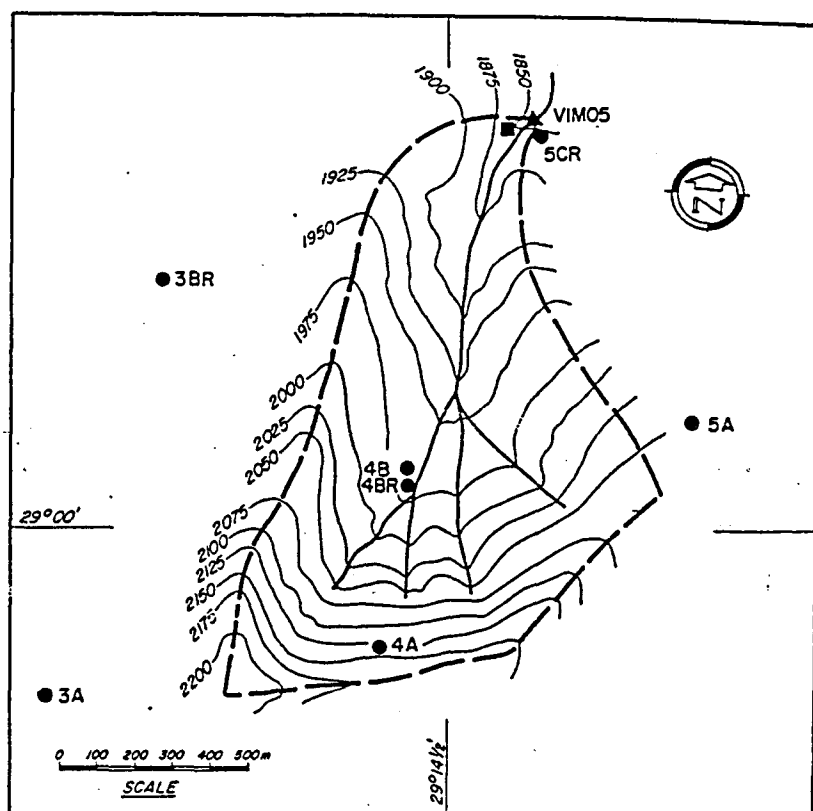
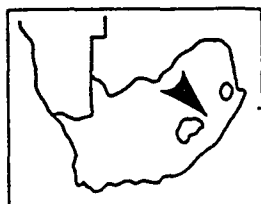
PHYSICAL CATCHMENT INFORMATION

LAND USE	1949 to 1984	100 % veld
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DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined
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KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	3BR	Casella Siphon	1950-1984	No details	Continuous	Paper strip	
	4BR	Casella Siphon	1949-1984	No details	Continuous	Paper strip	
	5CR	Casella Siphon	1950-1984	No details	Continuous	Paper strip	
	3A	Standard	1950-1984	No details	> Daily	Data sheet	
	4A	Standard	1949-1984	No details	> Daily	Data sheet	
	4B	Standard	1949-1984	No details	> Daily	Data sheet	
	5A	Standard	1950-1984	No details	> Daily	Data sheet	
RUNOFF	VIM05	Belfort	1949-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	VIM05	Auto Sampler	1981-1984	No details	> Daily	Data sheet	
TDS	VIM05	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	VIM05	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	1 Cathedral Peak	GAUGE REFERENCE NO	VIM06
LOCATION LAT.	28 deg. 59.00 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 14.00 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Masongwane 1	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.49 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (19%)	LAND USE	Veld
MEAN ALTITUDE	1896 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1455 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1951
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

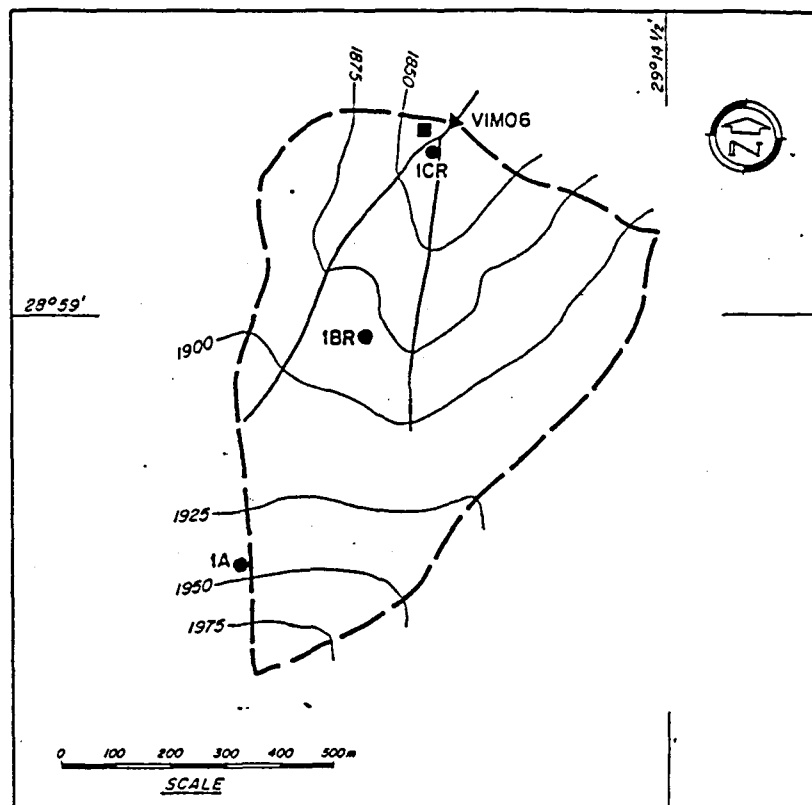
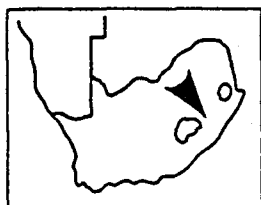
CATCHMENT INFORMATION FILE	VIM06	(Last update : January 1985)
CATCHMENT MAP	VIM06.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	VIM06.RAIN	
RUNOFF DATA	VIM06.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1951 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
 Runoff
 Water Quality
 Evaporation
 Temperature
 Wind
 Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	1BR	Casella Siphon	1950-1984	No details	Continuous	Paper strip	
	1CR	Casella Siphon	1950-1984	No details	Continuous	Paper strip	
	1A	Standard	1950-1984	No details	> Daily	Data sheet	
RUNOFF	VIM06	Belfort	1951-1984	No details	Continuous	Paper strip	
CHEMICAL							
TDS	VIM06	Grab Sampler	1982-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	3 Cathedral Peak	GAUGE REFERENCE NO	V1M07
LOCATION LAT.	29 deg. 00 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 14.00 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Masongwane 3	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	1.39 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (39%)	LAND USE	Veld
MEAN ALTITUDE	2019 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1515 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	2.50 cumec at 1.22 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1951
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	V1M07	(Last update : January 1985)
CATCHMENT MAP	V1M07.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	V1M07.RAIN	
RUNOFF DATA	V1M07.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1951 to 1958	100 % veld
	1958 to 1982	17 % veld
		83 % afforestation
	1982 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

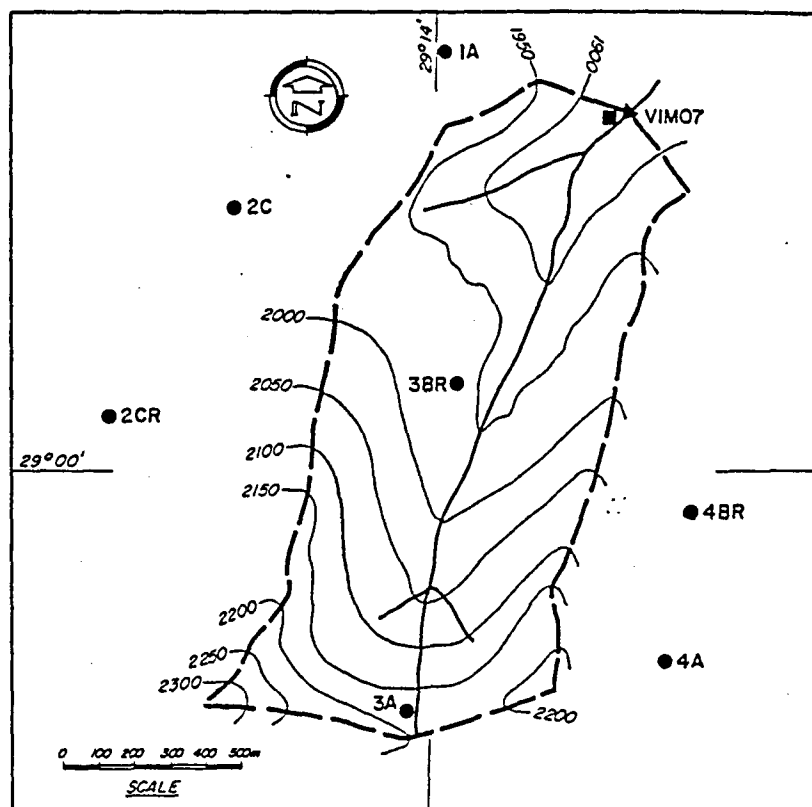
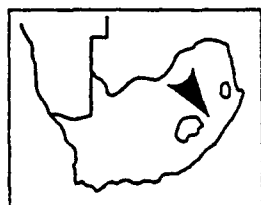
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	2CR	Casella Siphon	1948-1984	No details	Continuous	Paper strip	
	3BR	Casella Siphon	1950-1984	No details	Continuous	Paper strip	
	4BR	Casella Siphon	1949-1984	No details	Continuous	Paper strip	
	1A	Standard	1950-1984	No details	> Daily	Data sheet	
	2C	Standard	1948-1984	No details	> Daily	Data sheet	
	3A	Standard	1950-1984	No details	> Daily	Data sheet	
	4A	Standard	1949-1984	No details	> Daily	Data sheet	
RUNOFF	VIM07	Belfort	1951-1984	No details	Continuous	Paper strip	
CHEMICAL	VIM07	Auto Sampler	1980-1982	No details	> Daily	Data sheet	Data sheet
TDS	VIM07	Auto Sampler	1980-1982	No details	> Daily	Data sheet	Data sheet
SEDIMENT	VIM07	Auto Sampler	1980-1982	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	5 Cathedral Peak	GAUGE REFERENCE NO	VIM08
LOCATION LAT.	28 deg. 59.50 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 15.00 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Masongwane 5	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.26 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (29X)	LAND USE	Veld
MEAN ALTITUDE	1954 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1400 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.12 cumec at .84 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1952
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

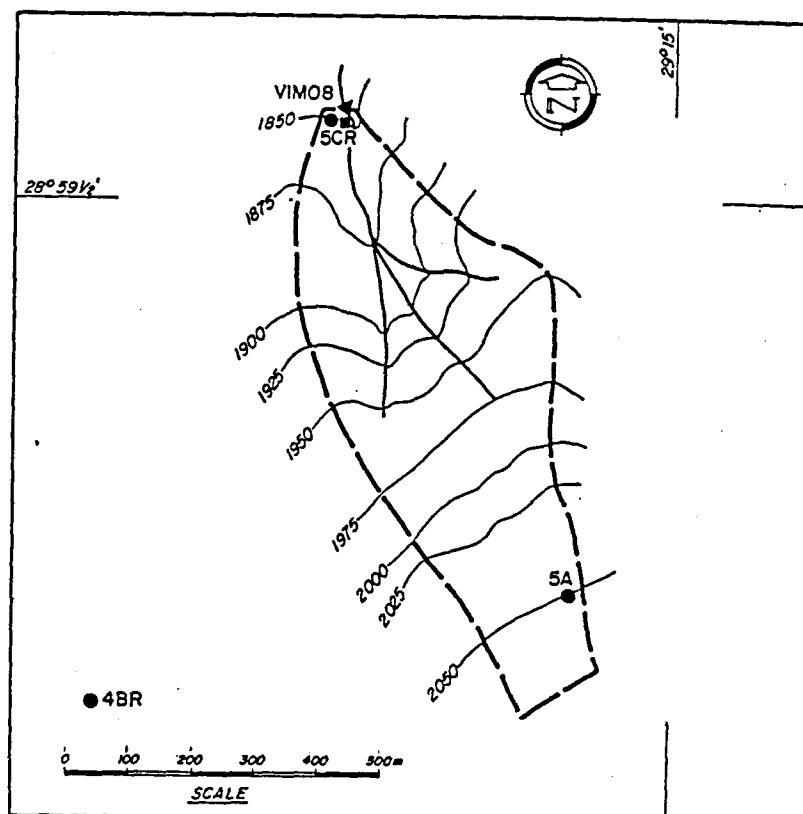
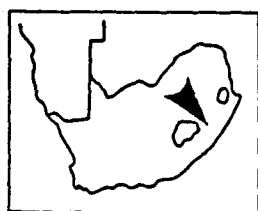
CATCHMENT INFORMATION FILE	VIM08	(Last update : January 1985)
CATCHMENT MAP	VIM08.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	VIM08.RAIN	
RUNOFF DATA	VIM08.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1952 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	4BR	Casella Siphon	1949-1984	No details	Continuous	Paper strip	
	5CR	Casella Siphon	1950-1984	No details	Continuous	Paper strip	
	5A	Standard	1950-1984	No details	> Daily	Data sheet	
RUNOFF	VIM08	Belfort	1952-1984	No details	Continuous	Paper strip	
CHEMICAL							
TDS	VIM08	Grab Sampler	1982-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Weir 12	GAUGE REFERENCE NO	VIM12
LOCATION LAT.	29 deg. 17.5 min. S.	NEAREST TOWN	Estcourt
LONG.	29 deg. 37.50 min. E.	MAGISTERIAL DISTRICT	Estcourt
RIVER	Tributary of Kleinbloukrans	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.50 sq.km.	VEGETATION	Sn Tall Grassvld/Highland, Dohne Sourvld
AVERAGE CATCHMENT SLOPE	Steep (18%)	LAND USE	Veld
MEAN ALTITUDE	1550 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1140 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone, mudstone & shale of the
SHAPE FACTOR	No details		Beaufort Group (Karoo Sequence)
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch (90 deg) Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Natal
DEPARTMENT	Agricultural Engineering
CONTACT PERSON	Dr R E Schulze
ADDRESS	Senior Hydrologist Department of Agricultural Engineering P O Box 375 PIETERMARITZBURG 3200
TELEPHONE	(0331) 63320

THE MONITORING PROGRAMME	- started : 1965
	- purpose : To develop rainfall/runoff models for small catchments in different physiographic and soil conditions
	- future extensions : Automatic sed sampler to operate & 2 new c/wents to be monitored from 1985

INFORMATION FILES

CATCHMENT INFORMATION FILE	VIM12	(Last update : January 1985)
CATCHMENT MAP	VIM12.MAP	
LIST OF REFERENCES	NATAL.REF	
RAINFALL DATA	VIM12.RAIN	
RUNOFF DATA	VIM12.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1965 to 1973	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

Measuring site for

Rainfall

Runoff

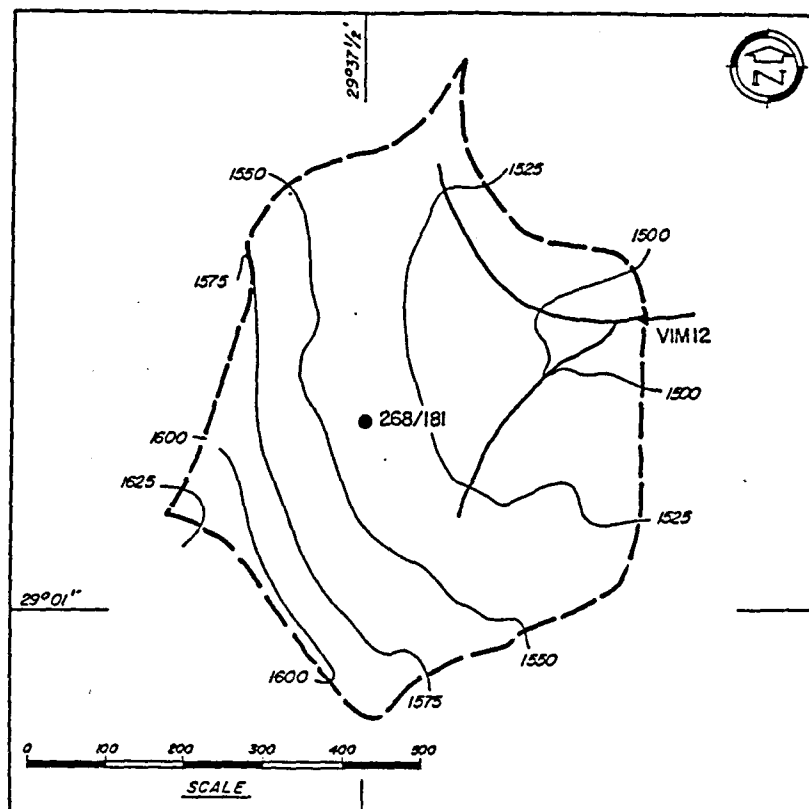
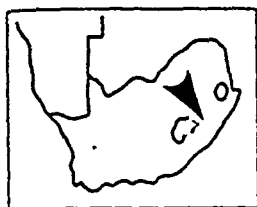
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	268/181	Theiss	1965-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	VIM12	Ott	1965-1973	0-25 %	Continuous	Paper strip	Computer tape
WATER QUALITY							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
SOLAR RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Natal University

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Weir 9	GAUGE REFERENCE NO	VIM15
LOCATION LAT.	29 deg. 50 min. S.	NEAREST TOWN	Estcourt
LONG.	29 deg. 38.00 min. E.	MAGISTERIAL DISTRICT	Estcourt
RIVER	Tributary of Kleinbloukrans	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	1.03 sq.km.	VEGETATION	Sn Tall Grassveld/Highland, Dohne Sourveld
AVERAGE CATCHMENT SLOPE	Steep (18%)	LAND USE	Veld
MEAN ALTITUDE	1500 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1140 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone, mudstone & shale of the Beaufort Group (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch (90 deg) Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Natal
DEPARTMENT	Agricultural Engineering
CONTACT PERSON	Dr R E Schulze
ADDRESS	Senior Hydrologist Department of Agricultural Engineering P O Box 375 PIETERMARITZBURG 3200
TELEPHONE	(0331) 63320

THE MONITORING PROGRAMME	- started	: 1964
	- purpose	: To develop rainfall/runoff models for small catchments in different physiographic and soil conditions
	- future extensions	: Automatic sed sampler to operate & 2 new c/mnts to be monitored from 1985

INFORMATION FILES

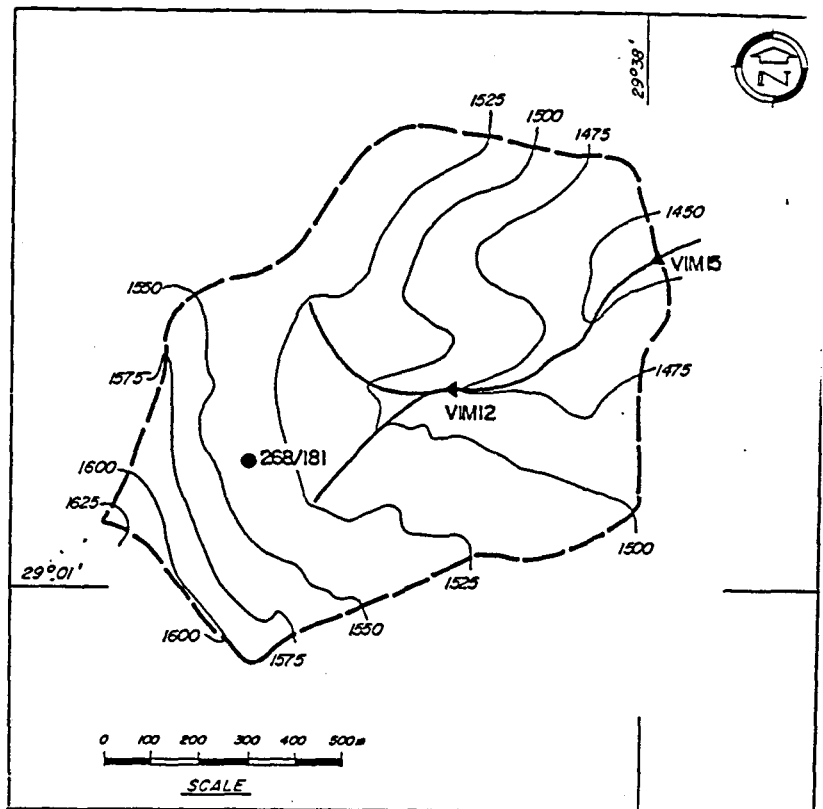
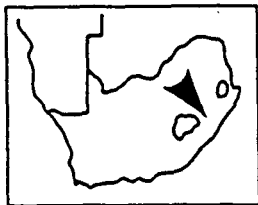
CATCHMENT INFORMATION FILE	VIM15	(Last update : January 1985)
CATCHMENT MAP	VIM15.MAP	
LIST OF REFERENCES	NATAL.REF	
RAINFALL DATA	VIM15.RAIN	
RUNOFF DATA	VIM15.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1964 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	268/181	Theiss	1964-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	VIM15	Ott	1964-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL	VIM12	Ott	1964-1973	0-25 %	Continuous	Paper strip	Computer tape
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Natal University

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Weir 4	Gauge Reference No	VIM19
LOCATION LAT.	29 deg. .00 min. S.	NEAREST TOWN	Estcourt
LONG.	29 deg. 40.00 min. E.	MAGISTERIAL DISTRICT	Estcourt
RIVER	Kleinbloukrans River	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	14.64 sq.km.	VEGETATION	Sn Tall Grassvld/Highland, Dohne Sourvld
AVERAGE CATCHMENT SLOPE	Steep (18%)	LAND USE	Veld
MEAN ALTITUDE	1360 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	900 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone, mudstone & shale of the Beaufort Group (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch (90 deg) Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Natal
DEPARTMENT	Agricultural Engineering
CONTACT PERSON	Dr R E Schulze
ADDRESS	Senior Hydrologist Department of Agricultural Engineering P O Box 375 PIETERMARITZBURG 3200
TELEPHONE	(0331) 63320

THE MONITORING PROGRAMME	- started	: 1964
	- purpose	: To develop rainfall/runoff models for small catchments in different physiographic and soil conditions
	- future extensions	: Automatic sed sampler to operate & 2 new c/ments to be monitored from 1985

INFORMATION FILES

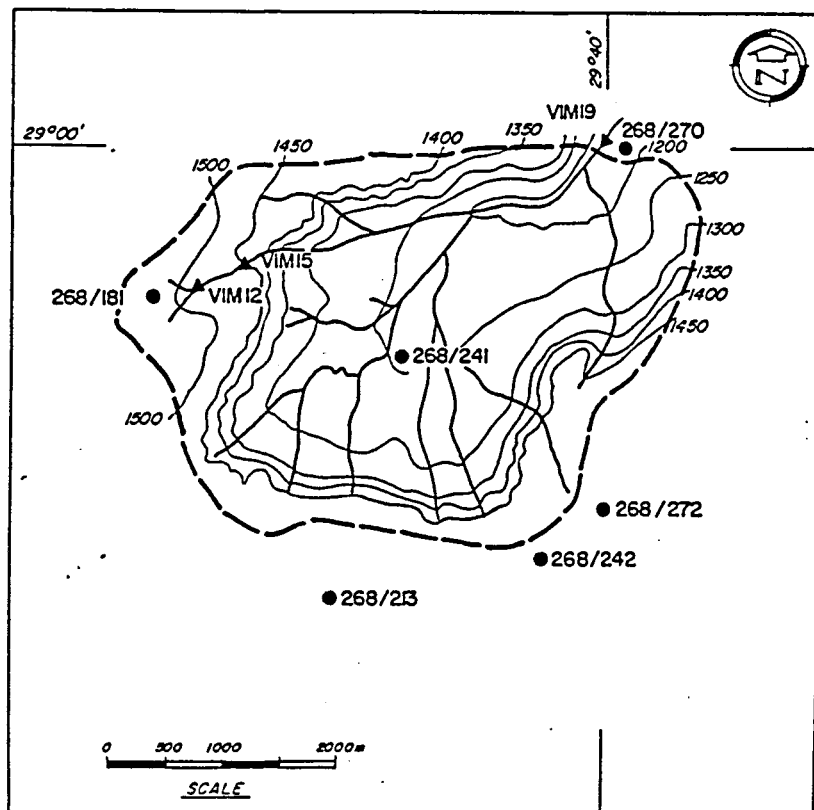
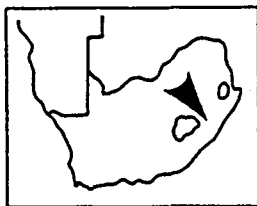
CATCHMENT INFORMATION FILE	VIM19	(Last update : January 1985)
CATCHMENT MAP	VIM19.MAP	
LIST OF REFERENCES	NATAL.REF	
RAINFALL DATA	VIM19.RAIN	
RUNOFF DATA	VIM19.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1964 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ●
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	268/181	Theiss	1965-1984	0-25 %	Continuous	Paper strip	Computer tape
	268/241	Theiss	1964-1972	0-25 %	Continuous	Paper strip	Computer tape
	268/242	Theiss	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	268/270	Theiss	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	268/272	Theiss	1964-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	VIM19	Ott	1964-1972	0-25 %	Continuous	Paper strip	Computer tape
	VIM19	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	VIM15	Ott	1964-1984	0-25 %	Continuous	Paper strip	Computer tape
	VIM12	Ott	1965-1973	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL TDS SEDIMENT							
EVAPORATION	268/213	Class A Pan	1973-1984	0-25 %	Daily	Data sheet	Data sheet
TEMPERATURE	268/213	Max & Min Ths	1973-1984	0-25 %	Daily	Data sheet	Data sheet
WIND	268/213	Lampracht	1975-1984	0-25 %	Daily	Data sheet	Data sheet
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Natal University

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Weir 14	GAUGE REFERENCE NO	V1M20
LOCATION LAT.	29 deg. 1.00 min. S.	NEAREST TOWN	Estcourt
LONG.	29 deg. 40.50 min. E.	MAGISTERIAL DISTRICT	Estcourt
RIVER	Tributary of Kleinbloukrans	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	1.32 sq.km.	VEGETATION	Highland & Dohne Sourveld
AVERAGE CATCHMENT SLOPE	Moderate (9%)	LAND USE	Veld
MEAN ALTITUDE	1490 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1140 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone, mudstone & shale of the Beaufort Group (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch (90 deg) Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Natal
DEPARTMENT	Agricultural Engineering
CONTACT PERSON	Dr R E Schulze
ADDRESS	Senior Hydrologist Department of Agricultural Engineering P O Box 375 PIETERMARITZBURG 3200
TELEPHONE	(0331) 63320

THE MONITORING PROGRAMME	- started : 1964
	- purpose : To develop rainfall/runoff models for small catchments in different physiographic & soil conditions
	- future extensions : Automatic sed sampler to operate & 2 new c/ments to be monitored from 1985

INFORMATION FILES

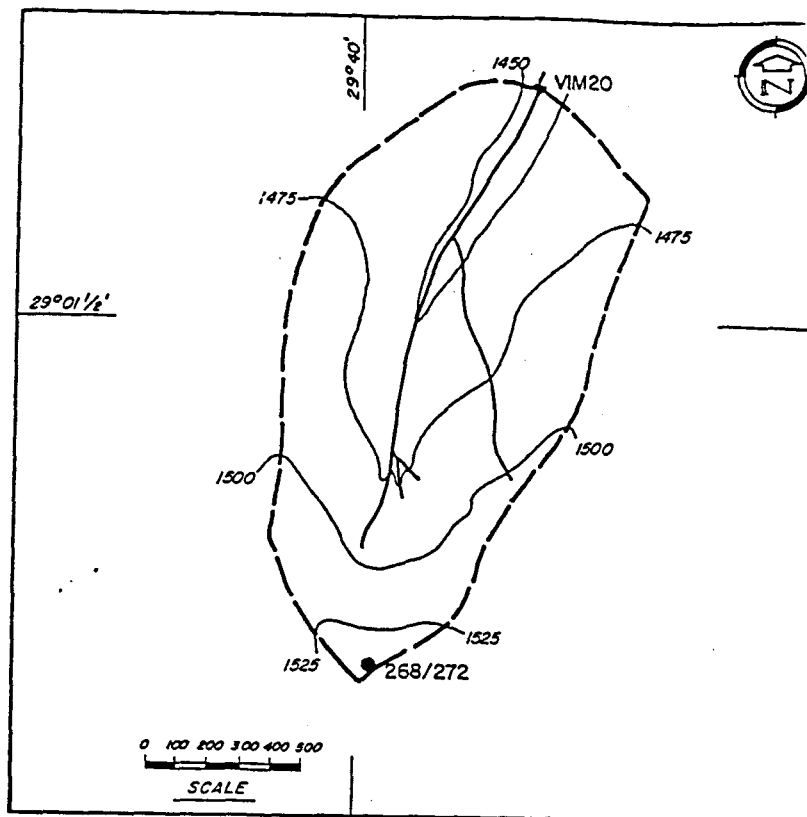
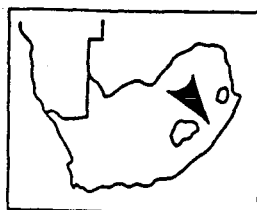
CATCHMENT INFORMATION FILE	V1M20	(Last update : January 1985)
CATCHMENT MAP	V1M20.MAP	
LIST OF REFERENCES	NATAL.REF	
RAINFALL DATA	V1M20.RAIN	
RUNOFF DATA	V1M20.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1964 to 1973	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	268/272	Theiss	1964-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	VIM20	Ott	1964-1973	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL TDS SEDIMENT	VIM28	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Natal University

CATCHMENT IDENTIFICATION

CATCHMENT NAME	7 Cathedral Peak	GAUGE REFERENCE NO	VIM21
LOCATION LAT.	28 deg. 59.50 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 15.50 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Masongwane 7	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	1.45 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (25%)	LAND USE	Veld
MEAN ALTITUDE	1925 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1305 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
RAPE FACTOR	No details		
RAINAGE DENSITY	No details		

DATA COLLECTED

INFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
WIND	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

INFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
ROUTING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

WATER MONITORING PROGRAMME	- started : 1953
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	VIM21	(Last update : January 1985)
CATCHMENT MAP	VIM21.MAP	
LIST OF REFERENCES	FOR.REF	
INFALL DATA	VIM21.RAIN	
RUNOFF DATA	VIM21.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1953 to 1964	100 % veld
	1964 to 1972	10 % veld
		90 % afforestation
	1972 to 1976	80 % veld
		20 % afforestation
	1976 to 1984	100 % veld

RAINAGE CHARACTERISTICS	Stream is seasonal and well defined
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KEY : Measuring site for

Rainfall

Runoff

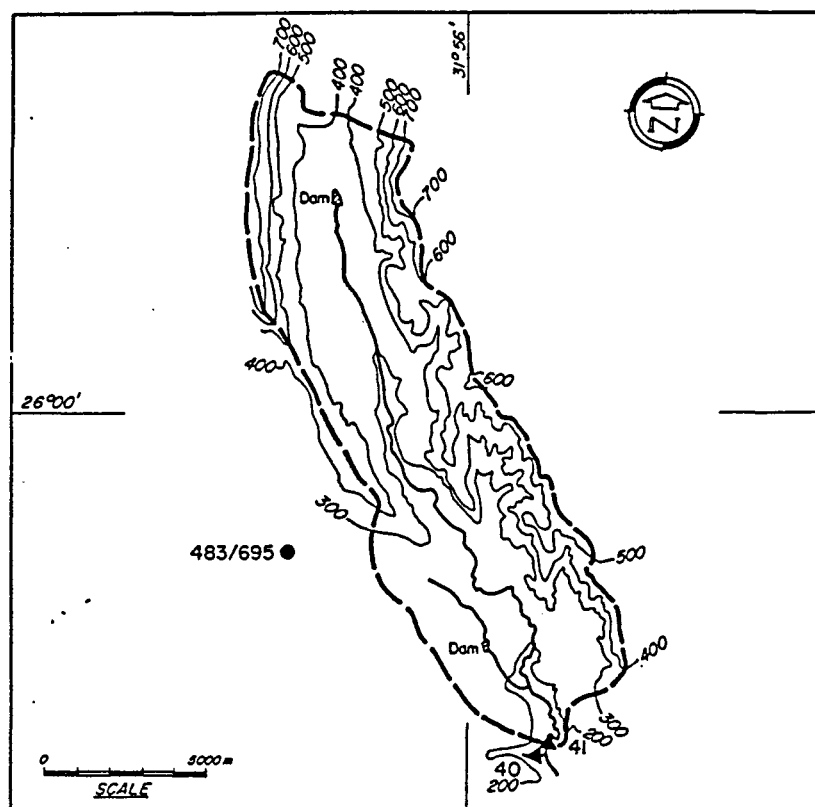
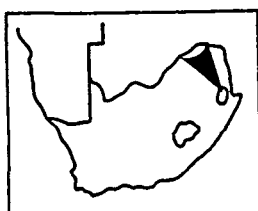
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	483/695	Standard	1945-1984	No details	Daily	Data sheet	Data sheet
RUNOFF	41	Stevens	1975-1984	No details	Continuous	Paper strip Computer tape	Data sheet Computer tape
CHEMICAL TDS SEDIMENT							
EVAPORATION TEMPERATURE WIND REL. HUMIDITY NET RADIATION							
SOIL MOISTURE INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Swaziland

CATCHMENT IDENTIFICATION

CATCHMENT NAME	A Mokobulaan	GAUGE REFERENCE NO	X2M19
LOCATION LAT.	25 deg. 16.25 min. S.	NEAREST TOWN	White River
LONG.	30 deg. 34.00 min. E.	MAGISTERIAL DISTRICT	Lydenburg
RIVER	Research 1	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	.26 sq.km.	VEGETATION	North-Eastern Mountain Sourveld
AVERAGE CATCHMENT SLOPE	Steep (23%)	LAND USE	Afforestation
MEAN ALTITUDE	1354 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1155 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Pretoria Group - quartzite, shale, tillite, andesite, chert, jaspilite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1956
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

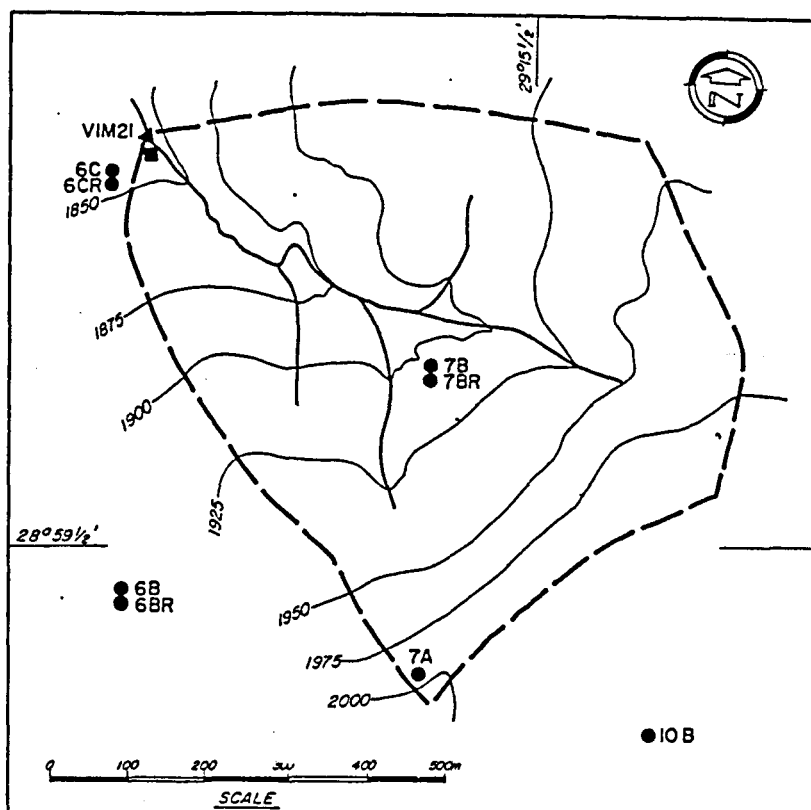
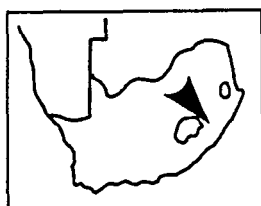
CATCHMENT INFORMATION FILE	X2M19	(Last update : January 1985)
CATCHMENT MAP	X2M19.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	X2M19.RAIN	
RUNOFF DATA	X2M19.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1956 to 1969	100 % veld
	1969 to 1984	100 % afforestation
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	6BR	Casella Siphon	1953-1984	No details	Continuous	Paper strip	Computer tape
	6CR	Casella Siphon	1953-1984	No details	Continuous	Paper strip	
	7BR	Casella Siphon	1953-1984	No details	Continuous	Paper strip	
	6B	Standard	1980-1984	No details	> Daily	Data sheet	
	6C	Standard	1980-1984	No details	> Daily	Data sheet	
	7A	Standard	1953-1984	No details	> Daily	Data sheet	
	7B	Standard	1953-1984	No details	> Daily	Data sheet	
	10B	Standard	1954-1984	No details	> Daily	Data sheet	
RUNOFF	VIM21	Belfort	1953-1984	No details	Continuous	Paper strip	
CHEMICAL	VIM21	Auto Sampler	1980-1984	No details	> Daily	Data sheet	Data sheet
TDS	VIM21	Auto Sampler	1980-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	VIM21	Auto Sampler	1980-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	6 Cathedral Peak	GAUGE REFERENCE NO	VIM22
LOCATION LAT.	28 deg. 59.50 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 15.00 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Masongwane 6	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.68 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (26%)	LAND USE	Veld
MEAN ALTITUDE	1949 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1350 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr. J. M. Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1954
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

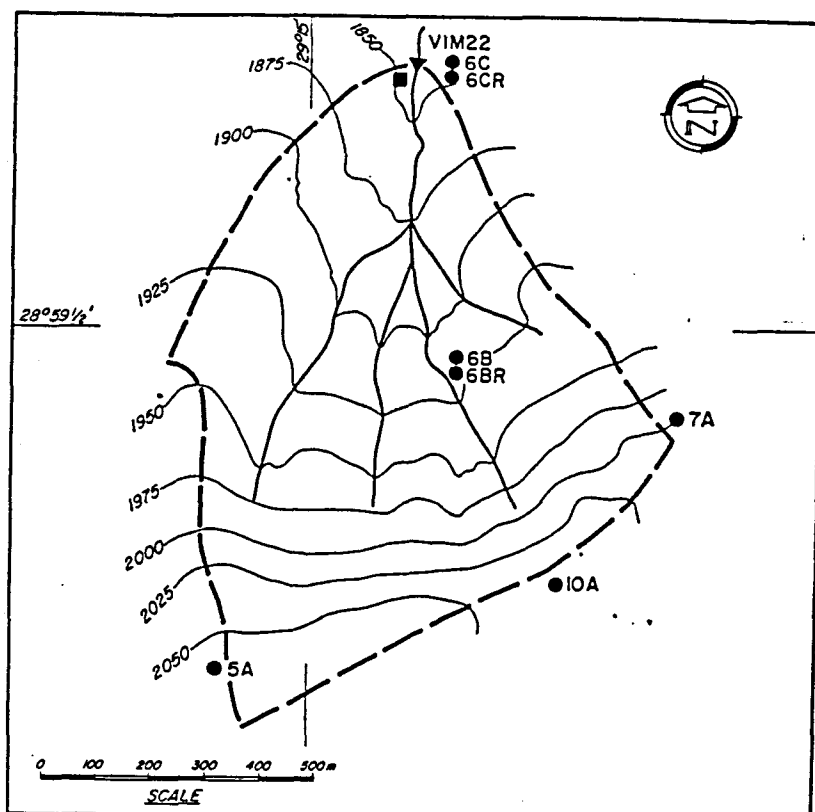
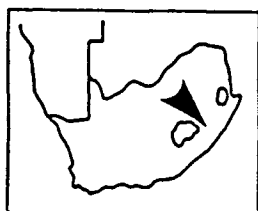
CATCHMENT INFORMATION FILE	VIM22	(Last update : January 1985)
CATCHMENT MAP	VIM22.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	VIM22.RAIN	
RUNOFF DATA	VIM22.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1954 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ●
- Wind ●
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	6BR	Casella Siphon	1953-1984	No details	Continuous	Paper strip	
	6CR	Casella Siphon	1953-1984	No details	Continuous	Paper strip	
	5A	Standard	1950-1984	No details	> Daily	Data sheet	
	6B	Standard	1980-1984	No details	> Daily	Data sheet	
	6C	Standard	1980-1984	No details	> Daily	Data sheet	
	7A	Standard	1953-1984	No details	> Daily	Data sheet	
	10A	Standard	1954-1984	No details	> Daily	Data sheet	
RUNOFF	VIM22	Belfort	1954-1984	No details	Continuous	Paper strip	
CHEMICAL	VIM22	Auto Sampler	1980-1984	No details	> Daily	Data sheet	Data sheet
IDS	VIM22	Auto Sampler	1980-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	VIM22	Auto Sampler	1980-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	9 Cathedral Peak	GAUGE REFERENCE NO	V1M23
LOCATION LAT.	28 deg. 59.50 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 16.00 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Mhlwazini ?	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.64 sq.km.	VEGETATION	T-F Alpine/Highland & Dohne Sourveld
AVERAGE CATCHMENT SLOPE	Steep (23%)	LAND USE	Veld
MEAN ALTITUDE	1904 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1245 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1954
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

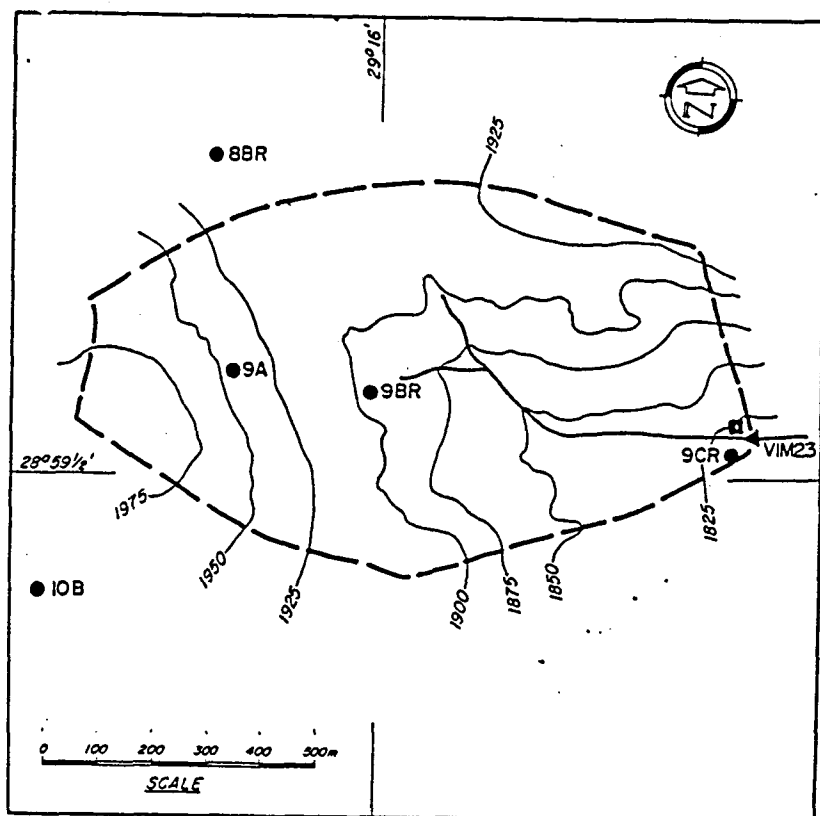
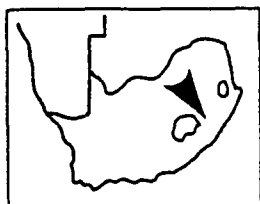
CATCHMENT INFORMATION FILE	V1M23	(Last update : January 1985)
CATCHMENT MAP	V1M23.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	V1M23.RAIN	
RUNOFF DATA	V1M23.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1954 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

Key : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	8BR	Casella Siphon	1963-1984	No details	Continuous	Paper strip	
	9BR	Casella Siphon	1954-1984	No details	Continuous	Paper strip	Computer tape
	9CR	Casella Siphon	1954-1984	No details	Continuous	Paper strip	
	9A	Standard	1954-1984	No details	> Daily	Data sheet	
	10B	Standard	1954-1984	No details	> Daily	Data sheet	
RUNOFF	VIM23	Belfort	1954-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	VIM23	Auto Sampler	1982-1984	No details	> Daily	Data sheet	Data sheet
SOIL	VIM23	Auto Sampler	1982-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	VIM23	Auto Sampler	1982-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
HUMIDITY							
RADIATION							
SOIL MOISTURE							
FILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	10 Cathedral Peak	GAUGE REFERENCE NO	V1M24
LOCATION LAT.	29 deg. .00 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 15.50 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Mhlwazini 10	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.73 sq.km.	VEGETATION	T-F Alpine/Highland & Dohne Sourveld
AVERAGE CATCHMENT SLOPE	Steep (27%)	LAND USE	Veld
MEAN ALTITUDE	1946 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1280 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1956
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	V1M24	(Last update : January 1985)
CATCHMENT MAP	V1M24.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	V1M24.RAIN	
RUNOFF DATA	V1M24.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1956 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

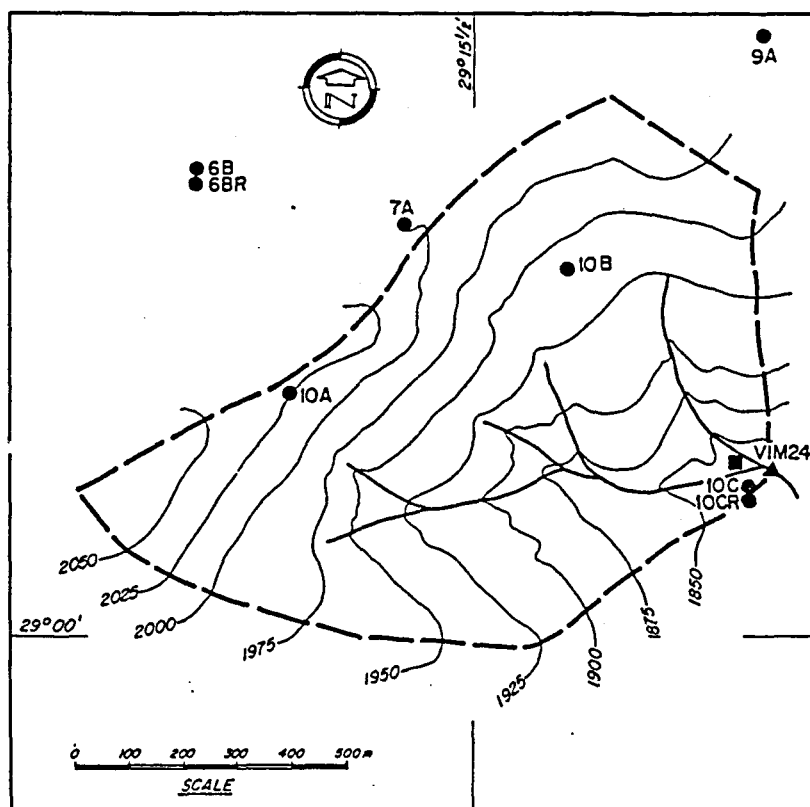
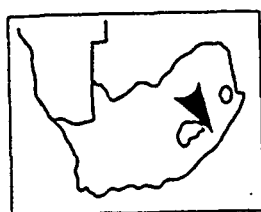
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	6BR	Casella Siphon	1953-1984	No details	Continuous	Paper strip	
	10CR	Casella Siphon	1973-1984	No details	Continuous	Paper strip	
	6S	Standard	1980-1984	No details	> Daily	Data sheet	
	7A	Standard	1953-1984	No details	> Daily	Data sheet	
	9A	Standard	1954-1984	No details	> Daily	Data sheet	
	10A	Standard	1954-1984	No details	> Daily	Data sheet	
	10B	Standard	1954-1984	No details	> Daily	Data sheet	
	10C	Standard	1954-1984	No details	> Daily	Data sheet	
RUNOFF	VIM24	Belfort	1954-1984	No details	Continuous	Paper strip	
CHEMICAL	VIM24	Grab Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
SOL. RADIATION							
SOIL MOISTURE							
FILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

ATCHMENT IDENTIFICATION

ATCHMENT NAME	8 Cathedral Peak	GAUGE REFERENCE NO	V1M25
LOCATION LAT.	28 deg. 59.00 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 16.00 min. E.	MAGISTERIAL DISTRICT	Bergville
IVER	Ndedema 8	PROVINCE OR COUNTRY	Natal

ATCHMENT DETAILS

ATCHMENT AREA	.63 sq.km.	VEGETATION	T-F Alpine/Highland & Dohne Sourveld
AVERAGE CATCHMENT SLOPE	Steep (15%)	LAND USE	Veld
MEAN ALTITUDE	1895 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1260 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
HAPE FACTOR	No details		
RAINAGE DENSITY	No details		

ATA COLLECTED

AINFALL	Yes	TEMPERATURE	No
UNOFF	Yes	WIND	No
HEMICAL	No	RELATIVE HUMIDITY	No
DS	Yes	NET RADIATION	No
EDIMENT	No	SOIL MOISTURE	No
VAPORATION	No	INFILTRATION	No

AINFALL data are available, RUNOFF data are available

TREAMFLOW RECORDING STATION DETAILS

ONTROL	Compound V-notch Sharp-crested Weir
EASURING LIMIT	1.36 cumec at .91 metres
ATING CURVE	Calculated
TORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

ACKGROUND INFORMATION

RGANIZATION	South African Forestry Research Inst.
EPARTMENT	Environment Affairs, Forestry Branch
ONTACT PERSON	Mr J M Bosch
DDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
ELEPHONE	(02231) 72805

HE MONITORING PROGRAMME	- started : 1963
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

FORMATION FILES

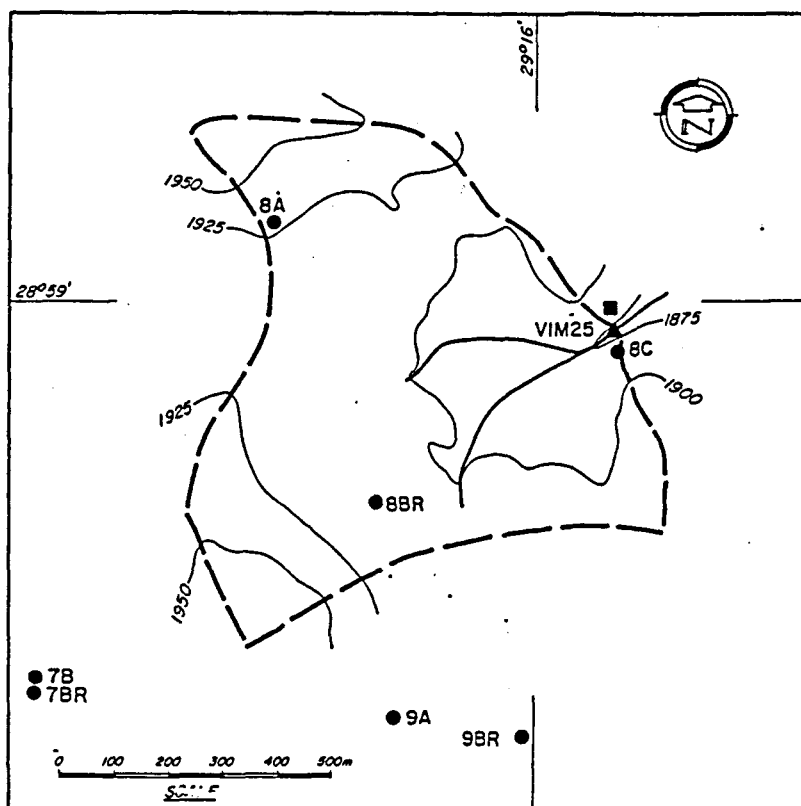
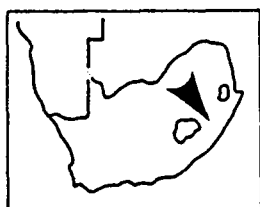
ATCHMENT INFORMATION FILE	V1M25	(Last update : January 1985)
ATCHMENT MAP	V1M25.MAP	
IST OF REFERENCES	FOR.REF	
AINFALL DATA	V1M25.RAIN	
UNOFF DATA	V1M25.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1963 to 1984	100 % veld
RAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	7BR	Casella Siphon	1953-1984	No details	Continuous	Paper strip	Computer tape
	8BR	Casella Siphon	1963-1984	No details	Continuous	Paper strip	Computer tape
	9BR	Casella Siphon	1954-1984	No details	Continuous	Paper strip	Computer tape
	7B	Standard	1953-1984	No details	> Daily	Data sheet	
	8A	Standard	1963-1984	No details	> Daily	Data sheet	
	8C	Standard	1963-1984	No details	> Daily	Data sheet	
RUNOFF CHEMICAL TDS SEDIMENT	9A	Standard	1954-1984	No details	> Daily	Data sheet	
	VIM25	Belfort	1963-1984	No details	Continuous	Paper strip	
	VIM25	Grab Sampler	1982-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION TEMPERATURE WIND REL. HUMIDITY NET RADIATION							
SOIL MOISTURE INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Weir 14A	GAUGE REFERENCE NO	V1M28
LOCATION LAT.	29 deg. 2.00 min. S.	NEAREST TOWN	Estcourt
LONG.	29 deg. 40.00 min. E.	MAGISTERIAL DISTRICT	Estcourt
RIVER	Tributary of Kleinbloukrans	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.41 sq.km.	VEGETATION	Highland & Dohne Sourveld
AVERAGE CATCHMENT SLOPE	Steep (13%)	LAND USE	Veld
MEAN ALTITUDE	1500 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1140 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone, mudstone & shale of the Beaufort Group (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch (90 deg) Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Natal
DEPARTMENT	Agricultural Engineering
CONTACT PERSON	Dr R E Schulze
ADDRESS	Senior Hydrologist Department of Agricultural Engineering P O Box 375 PIETERMARITZBURG 3200
TELEPHONE	(0331) 63320

THE MONITORING PROGRAMME	- started : 1977
	- purpose : To develop rainfall/runoff models for small catchments in different physiographic and soil conditions
	- future extensions : Automatic sed sampler to operate & 2 new c/ments to be monitored from 1985

INFORMATION FILES

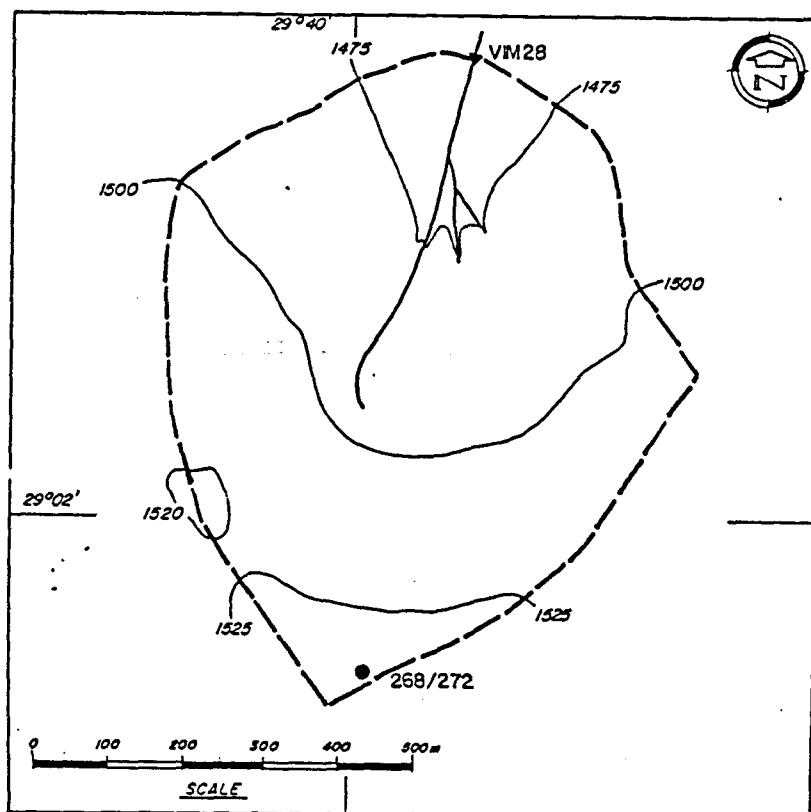
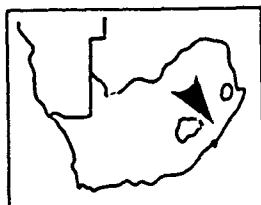
CATCHMENT INFORMATION FILE	V1M28	(Last update : January 1985)
CATCHMENT MAP	V1M28.MAP	
LIST OF REFERENCES	NATAL.REF	
RAINFALL DATA	V1M28.RAIN	
RUNOFF DATA	V1M28.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1977 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	268/272	Theiss	1964-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	VM28	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Natal University

CATCHMENT IDENTIFICATION

CATCHMENT NAME	11 Cathedral Peak	GAUGE REFERENCE NO	V1M42
LOCATION LAT.	28 deg. 59.50 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 13.00 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Ndumeni 11	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.26 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (36%)	LAND USE	Veld
MEAN ALTITUDE	2003 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1590 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	V1M42	(Last update : January 1985)
CATCHMENT MAP	V1M42.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	V1M42.RAIN	
RUNOFF DATA	V1M42.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

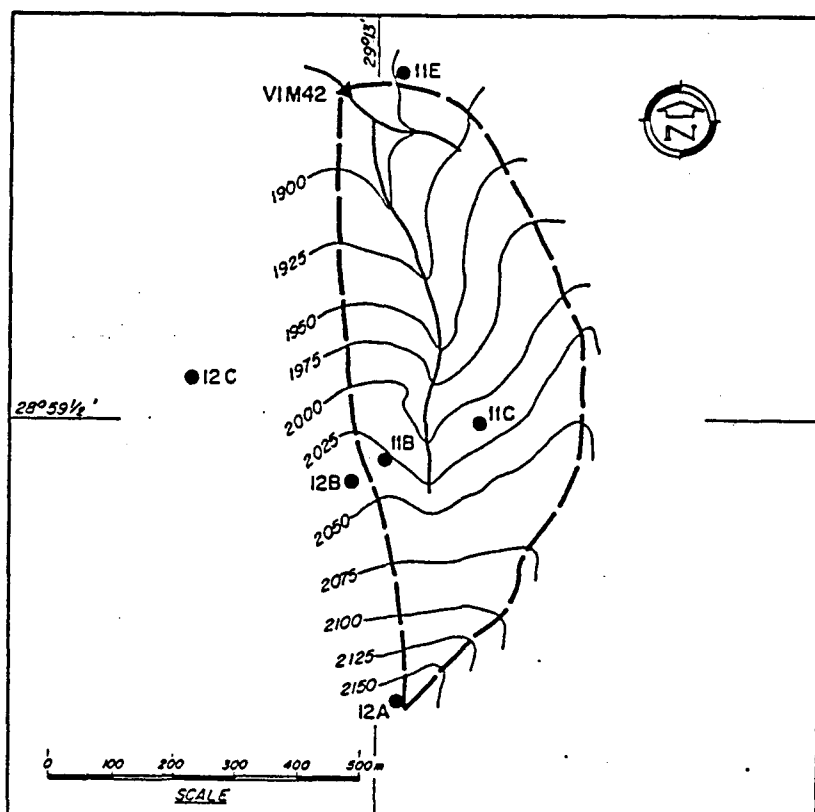
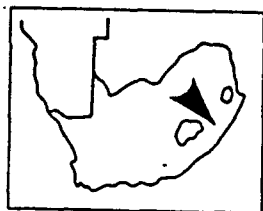
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	11B	Standard	1974-1984	No details	Daily	Data sheet	
	11C	Standard	1974-1984	No details	Daily	Data sheet	
	11E	Standard	1974-1984	No details	Daily	Data sheet	
	12A	Standard	1974-1984	No details	Daily	Data sheet	
	12B	Standard	1974-1984	No details	Daily	Data sheet	
	12C	Standard	1974-1984	No details	Daily	Data sheet	
RUNOFF	VIM42	Belfort	1974-1984	No details	Continuous	Paper strip	
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	12 Cathedral Peak	GAUGE REFERENCE NO	VIM43
LOCATION LAT.	28 deg. 59.50 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 13.00 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Ndumeni 12	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.14 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (44%)	LAND USE	Veld
MEAN ALTITUDE	2037 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1590 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	VIM43	(Last update : January 1985)
CATCHMENT MAP	VIM43.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	VIM43.RAIN	
RUNOFF DATA	VIM43.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

Measuring site for

Rainfall

Runoff

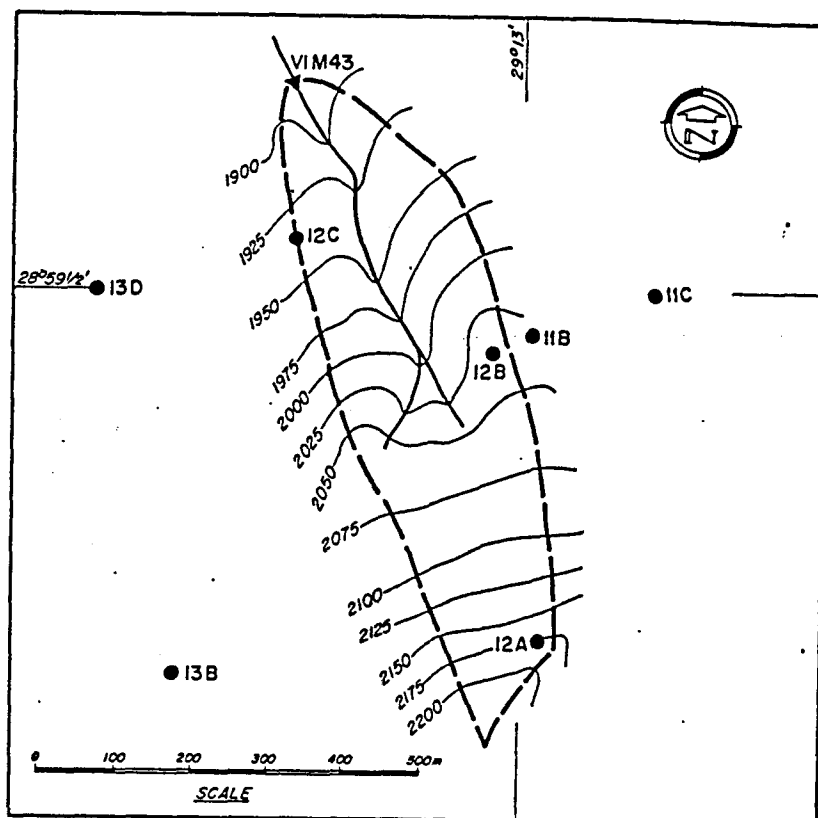
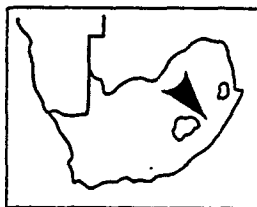
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	11B	Standard	1974-1984	No details	Daily	Data sheet	
	11C	Standard	1974-1984	No details	Daily	Data sheet	
	12A	Standard	1974-1984	No details	Daily	Data sheet	
	12B	Standard	1974-1984	No details	Daily	Data sheet	
	12C	Standard	1974-1984	No details	Daily	Data sheet	
	13B	Standard	1974-1984	No details	Daily	Data sheet	
	13D	Standard	1974-1984	No details	Daily	Data sheet	
RUNOFF	VIM43	Belfort	1975-1984	No details	Continuous	Paper strip	
CHEMICAL							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	13 Cathedral Peak	GAUGE REFERENCE NO	V1M44
LOCATION LAT.	28 deg. 59.50 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 13.00 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Ndumeni 13	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.28 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (53%)	LAND USE	Veld
MEAN ALTITUDE	2032 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1590 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

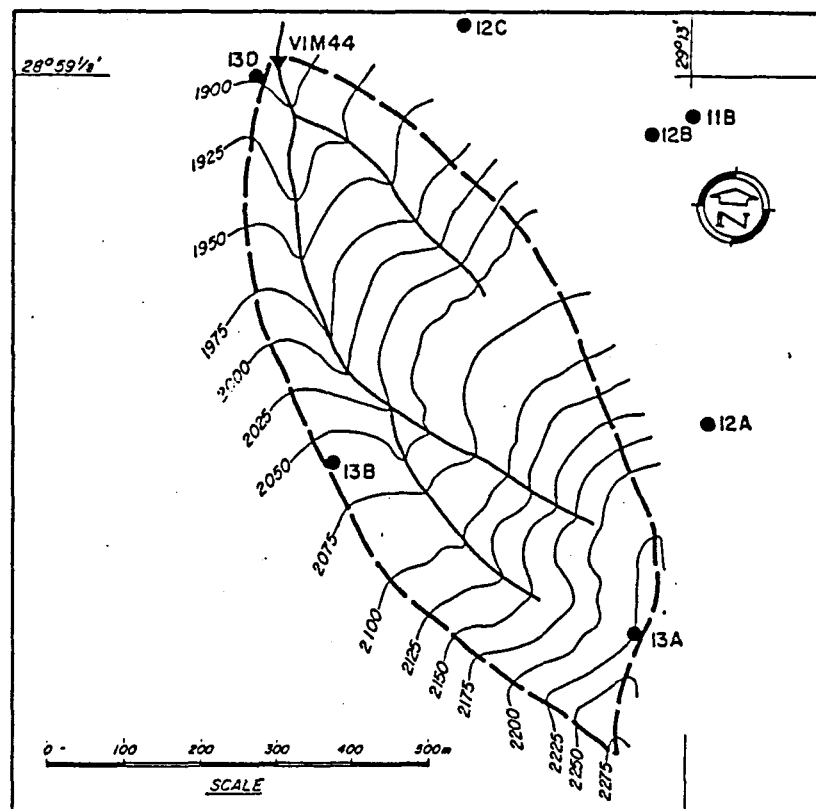
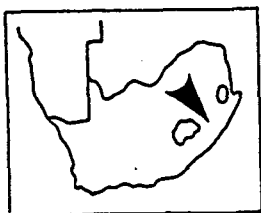
CATCHMENT INFORMATION FILE	V1M44	(Last update : January 1985)
CATCHMENT MAP	V1M44.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	V1M44.RAIN	
RUNOFF DATA	V1M44.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ●
- Wind ●
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	11B	Standard	1974-1984	No details	> Daily	Data sheet	
	12A	Standard	1974-1984	No details	> Daily	Data sheet	
	12B	Standard	1974-1984	No details	> Daily	Data sheet	
	12C	Standard	1974-1984	No details	> Daily	Data sheet	
	13A	Standard	1974-1984	No details	> Daily	Data sheet	
	13B	Standard	1974-1984	No details	> Daily	Data sheet	
	13D	Standard	1974-1984	No details	> Daily	Data sheet	
RUNOFF	VIM44	Belfort	1975-1984	No details	Continuous	Paper strip	
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	14 Cathedral Peak	GAUGE REFERENCE NO	V1M45
LOCATION LAT.	29 deg. .00 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 12.50 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Ndumeni 14	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	1.30 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (37%)	LAND USE	Veld
MEAN ALTITUDE	2270 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1590 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	2.50 cumec at 1.22 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr. J. M. Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	V1M45	(Last update : January 1985)
CATCHMENT MAP	V1M45.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	V1M45.RAIN	
RUNOFF DATA	V1M45.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : measuring site for

Rainfall

Runoff

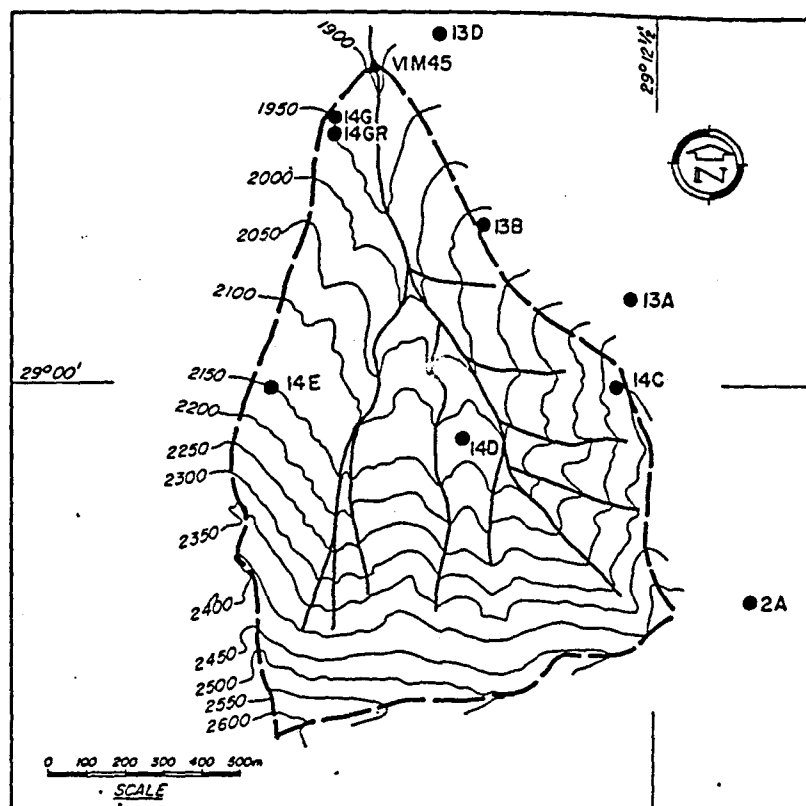
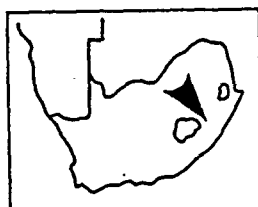
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	14GR	Casella Siphon	1975-1984	No details	Continuous	Paper strip	
	2A	Standard	1948-1984	No details	Daily	Data sheet	
	13A	Standard	1974-1984	No details	Daily	Data sheet	
	13B	Standard	1974-1984	No details	Daily	Data sheet	
	13D	Standard	1974-1984	No details	Daily	Data sheet	
	14C	Standard	1974-1984	No details	Daily	Data sheet	
	14D	Standard	1974-1984	No details	Daily	Data sheet	
	14E	Standard	1974-1984	No details	Daily	Data sheet	
	14G	Standard	1974-1984	No details	Daily	Data sheet	
RUNOFF	VM45	Belfort	1975-1984	No details	Continuous	Paper strip	
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	15 Cathedral Peak	GAUGE REFERENCE NO	V1M46
LOCATION LAT.	28 deg. 59.00 min. S.	NEAREST TOWN	Winterton
LONG.	29 deg. 12.50 min. E.	MAGISTERIAL DISTRICT	Bergville
RIVER	Ndumeni 15	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	1.06 sq.km.	VEGETATION	Themeda-Festuca Alpine Veld
AVERAGE CATCHMENT SLOPE	Steep (50%)	LAND USE	Veld
MEAN ALTITUDE	2111 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1590 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basaltic lavas overlying sandstone, mudstone and shale
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	2.50 cumec at 1.22 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	V1M46	(Last update : January 1985)
CATCHMENT MAP	V1M46.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	V1M46.RAIN	
RUNOFF DATA	V1M46.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

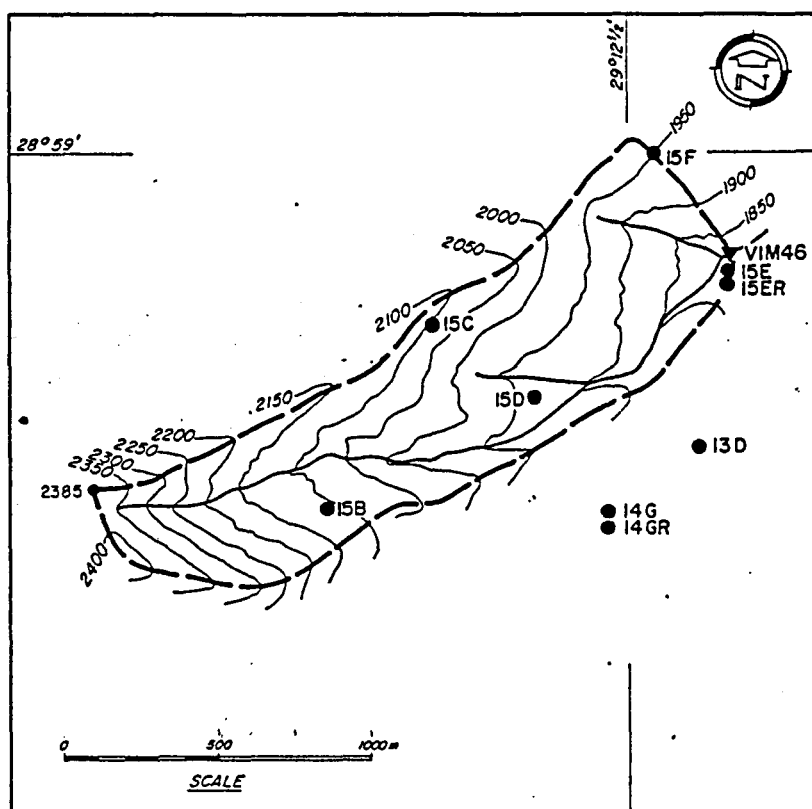
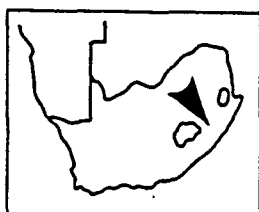
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	14GR	Casella Siphon	1975-1984	No details	Continuous	Paper strip	
	15ER	Casella Siphon	1976-1984	No details	Continuous	Paper strip	
	13D	Standard	1974-1984	No details	> Daily	Data sheet	
	14G	Standard	1974-1984	No details	> Daily	Data sheet	
	15B	Standard	1974-1984	No details	> Daily	Data sheet	
	15C	Standard	1974-1984	No details	> Daily	Data sheet	
	15D	Standard	1974-1984	No details	> Daily	Data sheet	
	15E	Standard	1974-1984	No details	> Daily	Data sheet	
	15F	Standard	1974-1984	No details	> Daily	Data sheet	
RUNOFF	VIM46	Belfort	1975-1984	No details	Continuous	Paper strip	
CHEMICAL							
TDS	VIM46	Grab Sampler	1982-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Weir 18	GAUGE REFERENCE NO	V7M03
LOCATION LAT.	29 deg. 2.00 min. S.	NEAREST TOWN	Estcourt
LONG.	29 deg. 39.50 min. E.	MAGISTERIAL DISTRICT	Estcourt
RIVER	Tributary of Little Bushmans	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.45 sq.km.	VEGETATION	Highland & Dohne Sourveld
AVERAGE CATCHMENT SLOPE	Steep (24%)	LAND USE	Veld
MEAN ALTITUDE	1500 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1140 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone, mudstone & shale of the Beaufort Group (Karoo Sequence)
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch (90 deg) Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Natal University
DEPARTMENT	Agricultural Engineering
CONTACT PERSON	Dr R E Schulze
ADDRESS	Senior Hydrologist Department of Agricultural Engineering P O Box 375 PIETERMARITZBURG 3200
TELEPHONE	(0331) 63320

THE MONITORING PROGRAMME

- started : 1977
- purpose : To develop rainfall /runoff models for small catchments in different physiographic and soil conditions
- future extensions : Silt & sediment surveys to start, 2 new c/wents to be monitored from 1985

INFORMATION FILES

CATCHMENT INFORMATION FILE	V7M03	(Last update : January 1985)
CATCHMENT MAP	V7M03.MAP	
LIST OF REFERENCES	NATAL.REF	
RAINFALL DATA	V7M03.RAIN	
RUNOFF DATA	V7M03.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1977 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

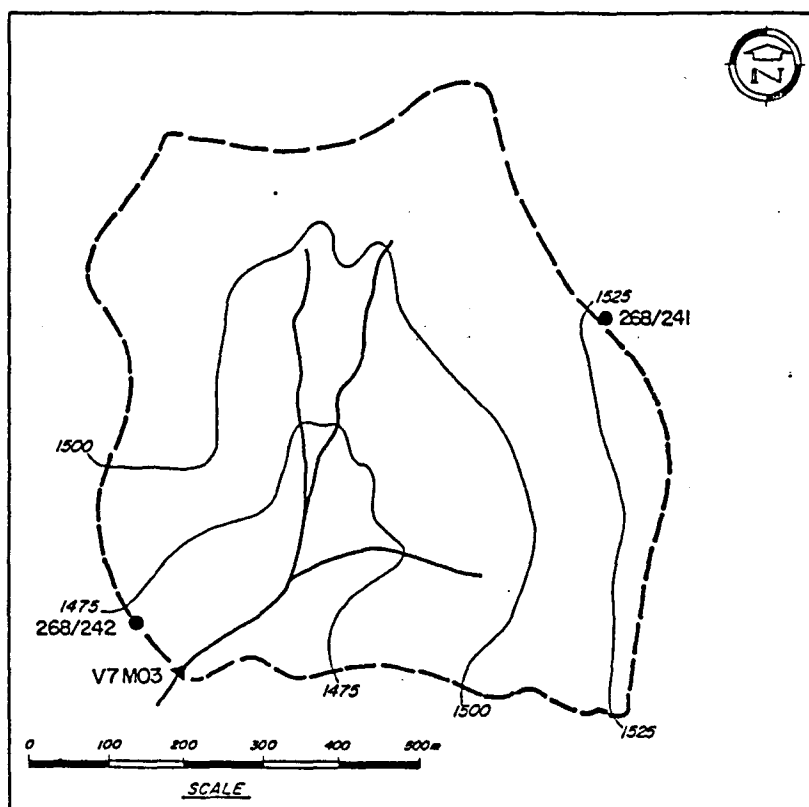
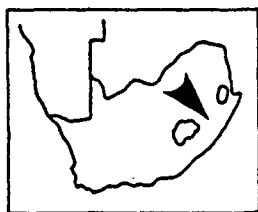
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	268/242	Theiss	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	268/241	Theiss	1964-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	V7M03	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Natal University

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Weir 23	GAUGE REFERENCE NO	V7M11
LOCATION	LAT. 29 deg. 3.00 min. S. LONG. 29 deg. 40.00 min. E.	NEAREST TOWN	Estcourt
RIVER	Little Bushmans	MAGISTERIAL DISTRICT	Estcourt
		PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	34.00 sq.km.	VEGETATION	Sn Tall Grassveld/Highland, Dohne Sour
AVERAGE CATCHMENT SLOPE	Flat (4%)	LAND USE	Veld, Agriculture & Afforestation
MEAN ALTITUDE	1550 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1140 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Sandstone, mudstone & shale of the
SHAPE FACTOR	No details		Beaufort Group (Karoo Sequence)
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch (90 deg) Weir
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Natal
DEPARTMENT	Agricultural Engineering
CONTACT PERSON	Dr R E Schulze
ADDRESS	Senior Hydrologist Department of Agricultural Engineering P O Box 375 PIETERMARITZBURG 3200
TELEPHONE	(0331) 63320

THE MONITORING PROGRAMME	- started : 1964
	- purpose : To develop rainfall/runoff models for small catchments in different physiographic and soil conditions
	- future extensions : Silt & sediment surveys to start. Two new c/ments to be monitored from 1985

INFORMATION FILES

CATCHMENT INFORMATION FILE	V7M11	(Last update : January 1985)
CATCHMENT MAP	V7M11.MAP	
LIST OF REFERENCES	NATAL.REF	
RAINFALL DATA	V7M11.RAIN	
RUNOFF DATA	V7M11.FLOW	

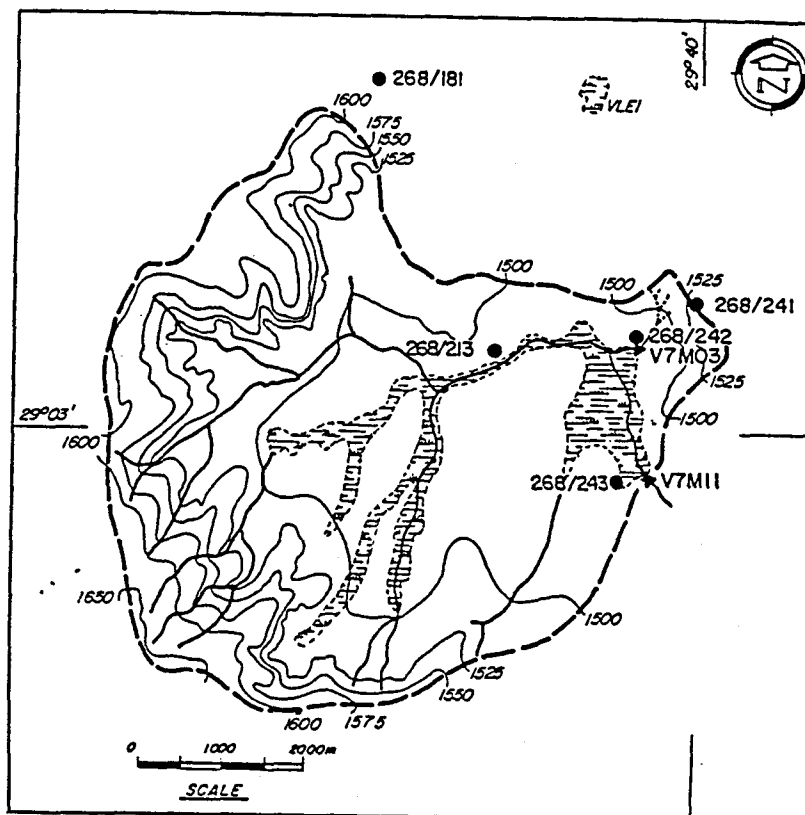
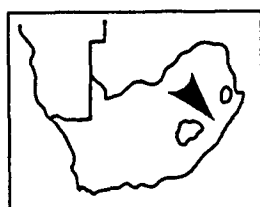
PHYSICAL CATCHMENT INFORMATION

LAND USE	1964 to 1984	70 % veld 17 % agriculture 13 % afforestation
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DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined
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KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	268/181	Theiss	1964-1984	0-25 %	Continuous	Paper strip	Computer tape
	268/241	Theiss	1964-1972	0-25 %	Continuous	Paper strip	Computer tape
	268/242	Theiss	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	268/243	Theiss	1964-1984	0-25 %	Continuous	Paper strip	Computer tape
	268/213	Theiss	1964-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	V7M11	Ott	1964-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL	V7M03	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
TDS							
SEDIMENT							
EVAPORATION	268/213	Class A Pan	1973-1984	0-25 %	Daily	Data sheet	Data sheet
TEMPERATURE	268/213	Max & Min Ths	1973-1984	0-25 %	Daily	Data sheet	Data sheet
WIND	268/213	Lamprucht	1975-1984	0-25 %	Daily	Data sheet	Data sheet
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Natal University

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Ebaleni	GAUGE REFERENCE NO	W1M12
LOCATION LAT.	28 deg. 54.00 min. S.	NEAREST TOWN	Empangeni
LONG.	31 deg. 46.00 min. E.	MAGISTERIAL DISTRICT	Mtunzini
RIVER	Ntuze	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	82.90 sq.km.	VEGETATION	Coastal Forest & Thornveld
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld, Agriculture & Afforestation
MEAN ALTITUDE	200 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1800 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean granite & gneisses
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	No	RELATIVE HUMIDITY	Yes
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Broad-crested multiple V-notch weir
MEASURING LIMIT	218.00 cumec at 5.59 metres
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Zululand
DEPARTMENT	Hydrological Research Unit
CONTACT PERSON	Mr B Rawlins
ADDRESS	Senior Research Officer Private Bag X1001 KWADLANGEZWA 3886

TELEPHONE (0351) 93777

THE MONITORING PROGRAMME	- started	: 1977
	- purpose	: To evaluate techniques for estimating catchment runoff yield and simulating stormflow hydrographs
	- future extensions	: It is planned to initiate sediment and TDS sampling

INFORMATION FILES

CATCHMENT INFORMATION FILE	W1M12	(Last update : January 1985)
CATCHMENT MAP	W1M12.MAP	
LIST OF REFERENCES	ZULUL.REF	
RAINFALL DATA	W1M12.RAIN	
RUNOFF DATA	W1M12.FLOW	

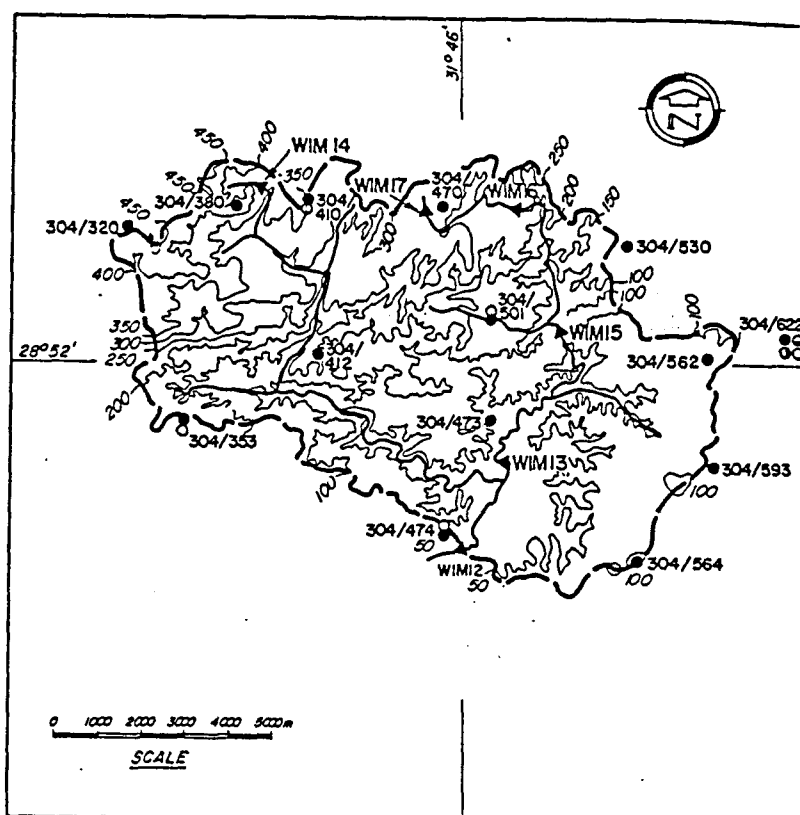
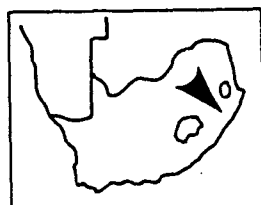
PHYSICAL CATCHMENT INFORMATION

LAND USE	1969 to 1979	67 % veld 9 % agriculture 24 % afforestation
	1979 to 1984	66 % veld 10 % agriculture 24 % afforestation

DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	304/320	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/353	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/380	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/410	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/412	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/470	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/473	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/474	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/501	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/530	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/562	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/564	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/593	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/622	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	WIM12	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	WIM13	Ott	1977-1980	0-25 %	Continuous	Paper strip	Computer tape
	WIM14	Ott	1980-1984	0-25 %	Continuous	Paper strip	Computer tape
	WIM15	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	WIM16	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL TDS SEDIMENT	WIM17	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
EVAPORATION	304/353	Class A Pan	1975-1984	0-25 %	Daily	Data sheet	Data sheet
	304/501	Class A Pan	1975-1984	0-25 %	Daily	Data sheet	Data sheet
	304/622	Symons Tank	1975-1984	0-25 %	Daily	Data sheet	Data sheet
TEMPERATURE	304/622	Max & Min Tns	1975-1984	0-25 %	Daily	Data sheet	
WIND	304/622	Anemometer	1975-1984	75-100%	Continuous	Paper strip	
REL. HUMIDITY	304/622	Hydrograph	1975-1984	75-100%	Continuous	Paper strip	
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Kwa Mqongwane	GAUGE REFERENCE NO	W1M13
LOCATION LAT.	28 deg. 53.00 min. S.	NEAREST TOWN	Empangeni
LONG.	31 deg. 47.00 min. E.	MAGISTERIAL DISTRICT	Mtunzini
RIVER	Kwa Gugashe	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	32.45 sq.km.	VEGETATION	Coastal Forest & Thornveld
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld, Agriculture & Afforestation
MEAN ALTITUDE	162 m AMSL	SOILS	Arenosols
MEAN ANNUAL PRECIPITATION	1700 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaeal granite & gneisses
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	Yes
RUNOFF	Yes	WIND	Yes
CHEMICAL	No	RELATIVE HUMIDITY	Yes
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Crump, shallow V-notch weir & cableway
MEASURING LIMIT	101.50 cumec at 3.75 metres
RATING CURVE	Calibrated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Zululand
DEPARTMENT	Hydrological Research Unit
CONTACT PERSON	Mr B Rawlins
ADDRESS	Senior Research Officer Private Bag X1001 KWADLANGEZWA 3886

TELEPHONE (0351) 93777

THE MONITORING PROGRAMME	- started : 1977
	- purpose : To evaluate techniques for estimating catchment runoff yield and simulating stormflow hydrographs
	- future extensions : It is planned to initiate sediment and TDS sampling

INFORMATION FILES

CATCHMENT INFORMATION FILE	W1M13	(Last update : January 1985)
CATCHMENT MAP	W1M13.MAP	
LIST OF REFERENCES	ZULUL.REF	
RAINFALL DATA	W1M13.RAIN	
RUNOFF DATA	W1M13.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1969 to 1984	86 % veld
		10 % agriculture
		4 % afforestation

DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

Measuring site for

Rainfall

Runoff

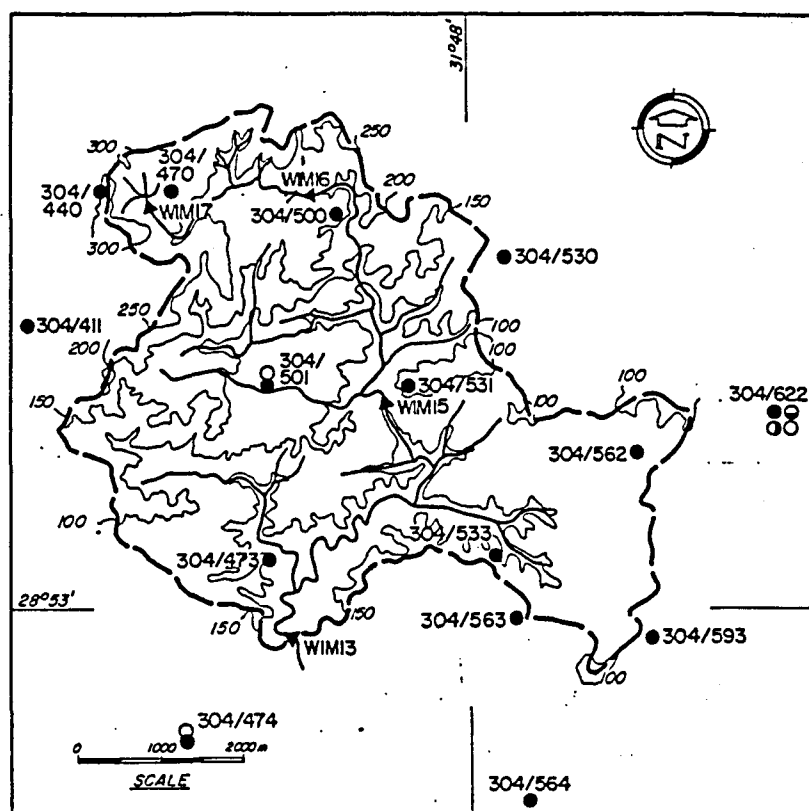
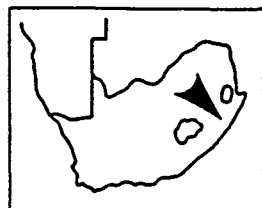
Water Quality

Evaporation

Temperature

Wind

Soil Condition



ORD-LD DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	304/470	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/473	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/474	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/501	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/530	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/562	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/564	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/593	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/622	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/411	Standard	1975-1984	0-25 %	1 Daily	Data sheet	Data sheet
	304/440	Standard	1975-1984	0-25 %	1 Daily	Data sheet	Data sheet
	304/500	Standard	1975-1984	0-25 %	1 Daily	Data sheet	Data sheet
	304/531	Standard	1975-1984	0-25 %	1 Daily	Data sheet	Data sheet
	304/533	Standard	1975-1984	0-25 %	1 Daily	Data sheet	Data sheet
	304/563	Standard	1975-1984	0-25 %	1 Daily	Data sheet	Data sheet
RUNOFF	WIM13	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	WIM15	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	WIM16	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	WIM17	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
SILT SEDIMENT							
EVAPORATION	304/474	Class A Pan	1975-1984	0-25 %	Daily	Data sheet	Data sheet
	304/501	Class A Pan	1975-1984	0-25 %	Daily	Data sheet	Data sheet
	304/622	Symons Tank	1975-1984	0-25 %	Daily	Data sheet	Data sheet
TEMPERATURE							
WIND	304/622	Max & Min Tns	1975-1984	0-25 %	Daily	Data sheet	
REL. HUMIDITY	304/622	Anemometer	1975-1984	75-100%	Continuous	Paper strip	
SOL. RADIATION	304/622	Hydrograph	1975-1984	75-100%	Continuous	Paper strip	
SOIL MOISTURE							
FILTRATION							

Majority of gauges are owned by Water Research Commission

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Ongoye	GAUGE REFERENCE NO	W1M14
LOCATION LAT.	28 deg. 50.00 min. S.	NEAREST TOWN	Empangeni
LONG.	31 deg. 43.00 min. E.	MAGISTERIAL DISTRICT	Mtunzini
RIVER	Tributary of Ntuzi	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	1.20 sq.km.	VEGETATION	Indigenous Forest
AVERAGE CATCHMENT SLOPE	Steep	LAND USE	Nature Reserve
MEAN ALTITUDE	400 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1900 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean granite & gneisses
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Custom-built Weir with V-notch
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Zululand
DEPARTMENT	Hydrological Research Unit
CONTACT PERSON	Mr B Rawlins
ADDRESS	Senior Research Officer Private Bag X1001 KWADLANGEZWA 3886

TELEPHONE (0351) 93777

THE MONITORING PROGRAMME	- started	: 1980
	- purpose	: To evaluate techniques for estimating catchment runoff yield and simulating stormflow hydrographs
	- future extensions	: It is planned to initiate sediment & TDS sampling

INFORMATION FILES

CATCHMENT INFORMATION FILE	W1M14	(Last update : January 1985)
CATCHMENT MAP	W1M14.MAP	
LIST OF REFERENCES	ZULUL.REF	
RAINFALL DATA	W1M14.RAIN	
RUNOFF DATA	W1M14.FLOW	

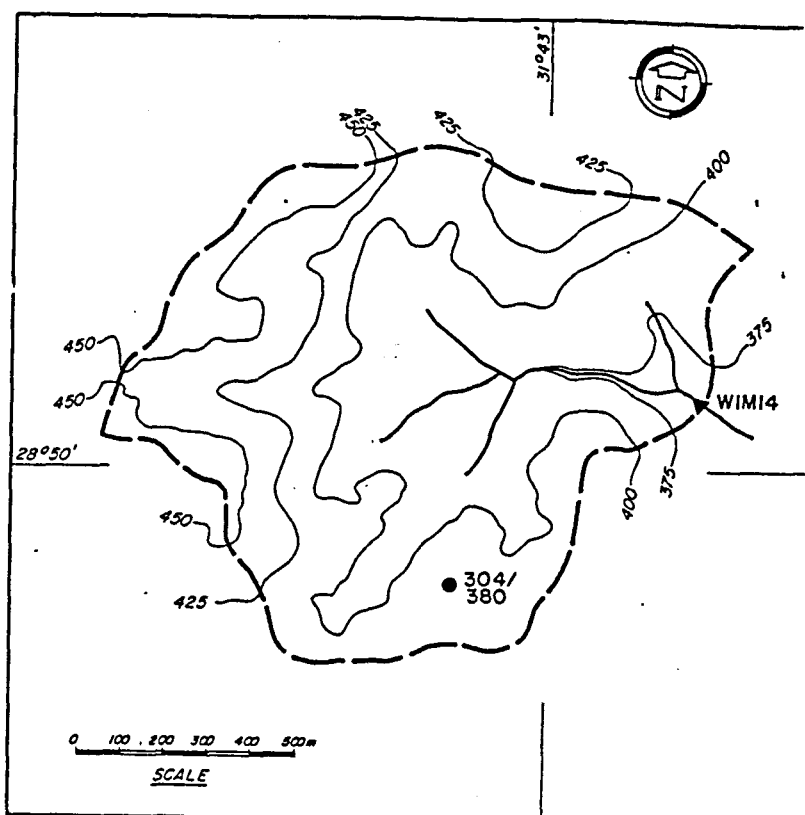
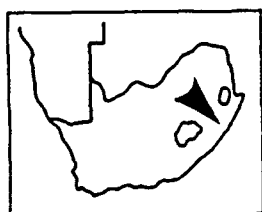
PHYSICAL CATCHMENT INFORMATION

LAND USE	1969 to 1984	7 % veld 93 % afforestation
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	304/380	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
RUNOFF	WIM14	Ott	1980-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Ihlongane	GAUGE REFERENCE NO	WIM15
LOCATION LAT.	28 deg. 51.50 min. S.	NEAREST TOWN	Empangeni
LONG.	31 deg. 47.00 min. E.	MAGISTERIAL DISTRICT	Mtunzini
RIVER	Kwa Gugushe	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	13.65 sq.km.	VEGETATION	Coastal Forest & Thornveld
AVERAGE CATCHMENT SLOPE	Steep	LAND USE	Veld, Agriculture & Afforestation
MEAN ALTITUDE	182 m AMSL	SOILS	Arenosols, Lithosols
MEAN ANNUAL PRECIPITATION	1700 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean granite & gneisses
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	Yes	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available, OTHER CLIMATIC data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Sharp-crested V-notch Weir
MEASURING LIMIT	69.39 cumec at 2.21 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Zululand
DEPARTMENT	Hydrological Research Unit
CONTACT PERSON	Mr B Rawlins
ADDRESS	Senior Research Officer Private Bag X1001 KWADLANGEZWA 3886

TELEPHONE (0351) 93777

THE MONITORING PROGRAMME

- started : 1977
- purpose : To evaluate techniques for estimating catchment runoff yield and simulating stormflow hydrographs
- future extensions : It is planned to initiate sediment & TDS sampling

INFORMATION FILES

CATCHMENT INFORMATION FILE	WIM15	(Last update : January 1985)
CATCHMENT MAP	WIM15.MAP	
LIST OF REFERENCES	ZULUL.REF	
RAINFALL DATA	WIM15.RAIN	
RUNOFF DATA	WIM15.FLOW	

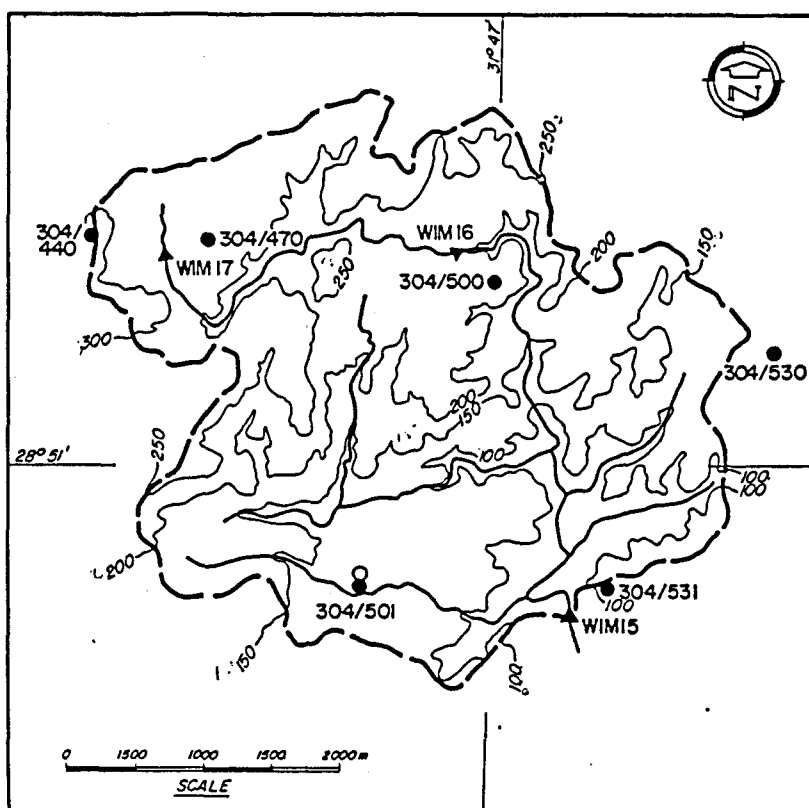
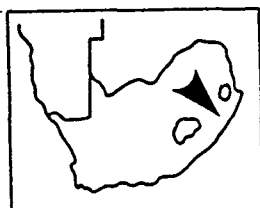
PHYSICAL CATCHMENT INFORMATION

LAND USE	1969 to 1984	92 % veld 4 % agriculture 4 % afforestation
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

Y : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	304/470	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/501	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/530	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/440	Standard	1975-1984	0-25 %	> Daily	Data sheet	Data sheet
	304/500	Standard	1975-1984	0-25 %	> Daily	Data sheet	Data sheet
	304/531	Standard	1975-1984	0-25 %	> Daily	Data sheet	Data sheet
RUNOFF	WIM15	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	WIM16	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	WIM17	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL TDS SEDIMENT							
EVAPORATION	304/501	Class A Pan	1975-1984	0-25 %	Daily	Data sheet	Data sheet
TEMPERATURE							
WIND							
REL. HUMIDITY							
SOL. RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Matshemathathu	GAUGE REFERENCE NO	WIM16
LOCATION LAT.	28 deg. 50.00 min. S.	NEAREST TOWN	Empangeni
LONG.	31 deg. 46.50 min. E.	MAGISTERIAL DISTRICT	Mtunzini
RIVER	Kwa Gugushe	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	3.22 sq.km.	VEGETATION	Coastal Forest & Thornveld/Lowveld
AVERAGE CATCHMENT SLOPE	Steep (20%)	LAND USE	Vald, Agriculture & Afforestation
MEAN ALTITUDE	260 m AMSL	SOILS	Arenosols, Lithosols
MEAN ANNUAL PRECIPITATION	1620 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean granite & gneisses
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Sharp-crested V-notch Weir
MEASURING LIMIT	27.48 cumec at 1.88 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Zululand
DEPARTMENT	Hydrological Research Unit
CONTACT PERSON	Mr B Rawlins
ADDRESS	Senior Research Officer Private Bag X1001 KWADLANGEZWA 3886

TELEPHONE (0351) 93777

THE MONITORING PROGRAMME

- started : 1977
- purpose : To evaluate techniques for estimating catchment runoff yield and simulating stormflow hydrographs
- future extensions : It is planned to initiate sediment & TDS sampling

INFORMATION FILES

CATCHMENT INFORMATION FILE	WIM16	(Last update : January 1985)
CATCHMENT MAP	WIM16.MAP	
LIST OF REFERENCES	ZULUL.REF	
RAINFALL DATA	WIM16.RAIN	
RUNOFF DATA	WIM16.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1977 to 1984	85 % vald 7 % agriculture 8 % afforestation
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall

Runoff

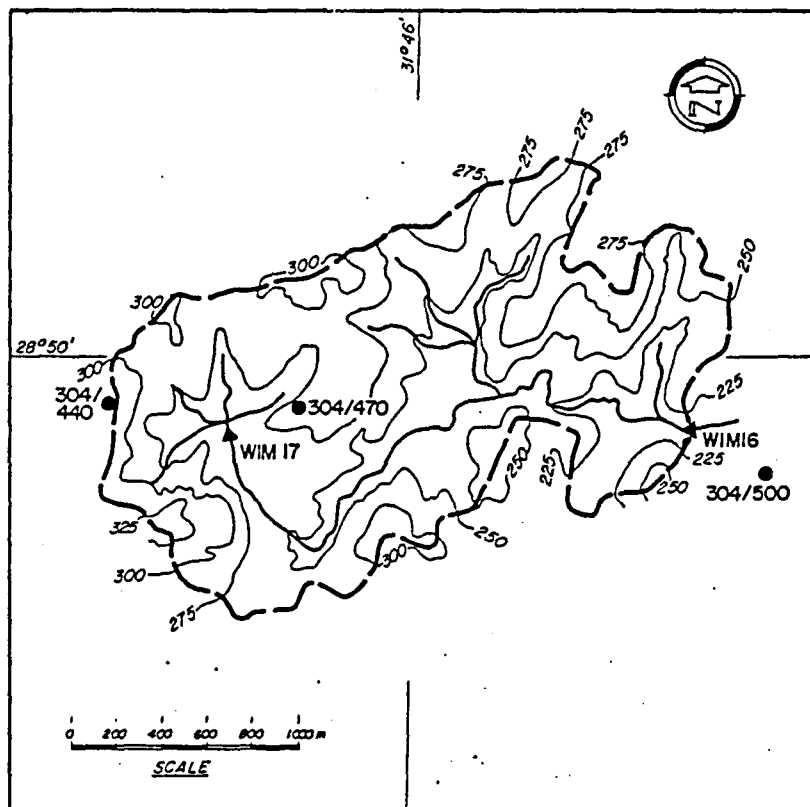
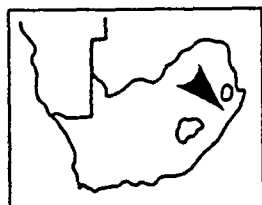
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	304/470	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/440	Standard	1975-1984	0-25 %	> Daily	Data sheet	Data sheet
	304/500	Standard	1975-1984	0-25 %	> Daily	Data sheet	Data sheet
RUNOFF	WIM16	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
	WIM17	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Emabuthweni	GAUGE REFERENCE NO	W1M17
LOCATION LAT.	28 deg. 50.00 min. S.	NEAREST TOWN	Empangeni
LONG.	31 deg. 45.50 min. E.	MAGISTERIAL DISTRICT	Mtunzini
RIVER	Kwa Gugushe	PROVINCE OR COUNTRY	Natal

CATCHMENT DETAILS

CATCHMENT AREA	.67 sq.km.	VEGETATION	Coastal Forest & Thornveld/Lowveld
AVERAGE CATCHMENT SLOPE	Steep (19%)	LAND USE	Veld, Agriculture & Afforestation
MEAN ALTITUDE	262 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1620 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean granite and gneisses
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Sharp-crested V-notch Weir
MEASURING LIMIT	16.25 cumec at 1.74 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONT OL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	University of Zululand
DEPARTMENT	Hydrological Research Unit
CONTACT PERSON	Mr B Rawlins
ADDRESS	Senior Research Officer Private Bag X1001 KWADLANGEZWA 3886

TELEPHONE (0351) 93777

THE MONITORING PROGRAMME	- started	: 1977
	- purpose	: To evaluate techniques for estimating catchment runoff yield and simulating stormflow hydrographs
	- future extensions	: It is planned to initiate sediment and TDS sampling

INFORMATION FILES

CATCHMENT INFORMATION FILE	W1M17	(Last update : January 1985)
CATCHMENT MAP	W1M17.MAP	
LIST OF REFERENCES	ZULUL.REF	
RAINFALL DATA	W1M17.RAIN	
RUNOFF DATA	W1M17.FLOW	

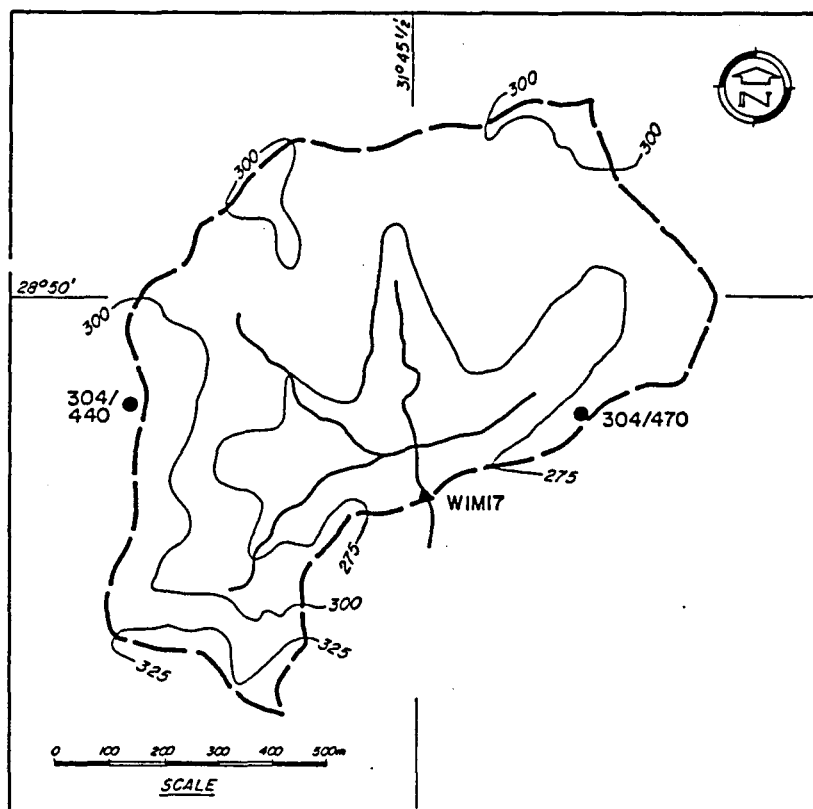
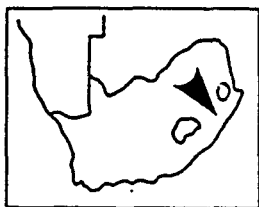
PHYSICAL CATCHMENT INFORMATION

LAND USE	1967 to 1984	91 % veld
		7 % agriculture
		2 % afforestation

DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	304/470	Casella Siphon	1975-1984	0-25 %	Continuous	Paper strip	Computer tape
	304/440	Standard	1975-1984	0-25 %	1 Daily	Data sheet	Data sheet
RUNOFF	WIM17	Ott	1977-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Water Research Commission

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Mtilane	GAUGE REFERENCE NO	24
LOCATION LAT.	31 deg. 16.50 min. S.	NEAREST TOWN	Manzini
LONG.	26 deg. 28.25 min. E.	MAGISTERIAL DISTRICT	Matsapha
RIVER	Mtilane	PROVINCE OR COUNTRY	Swaziland

CATCHMENT DETAILS

CATCHMENT AREA	124.00 sq.km.	VEGETATION	Lowveld Sour Bushveld
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld
MEAN ALTITUDE	900 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	950 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Basement and post basement granite and gneiss
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	No details
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Ministry of Natural Resources, Swaziland
DEPARTMENT	Water Resources Branch
CONTACT PERSON	Mr D N Jenkins
ADDRESS	Senior Hydrologist P O Box 58 MBABANE Swaziland

TELEPHONE (0194) 42321

THE MONITORING PROGRAMME - started : 1976
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	24	(Last update : January 1985)
CATCHMENT MAP	24.MAP	
LIST OF REFERENCES	SWAZIL.REF	
RAINFALL DATA	24.RAIN	
RUNOFF DATA	24.FLOW	

PHYSICAL CATCHMENT INFORMATION

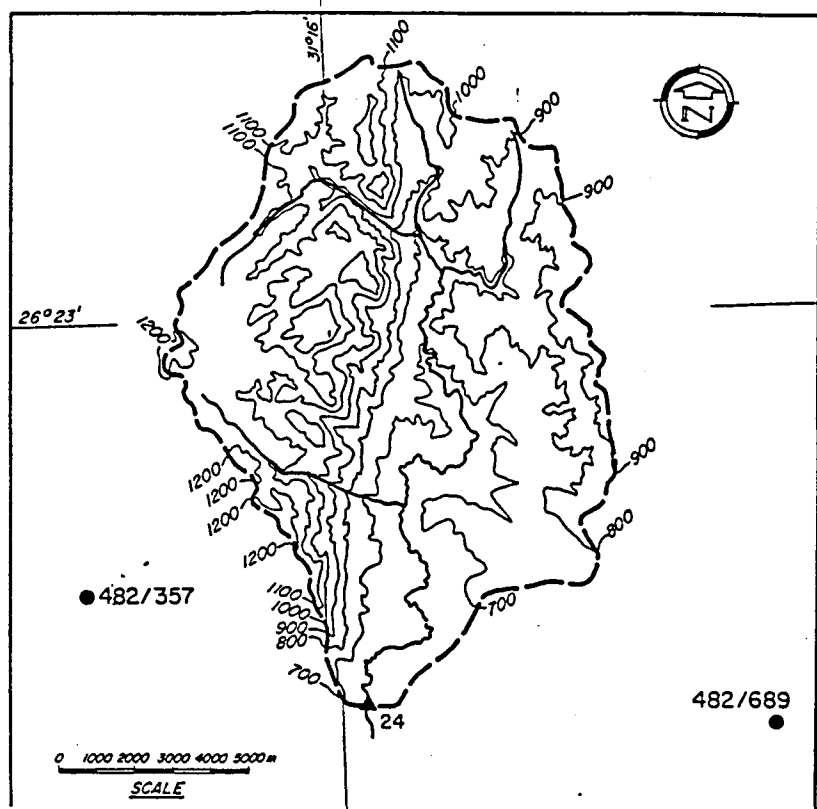
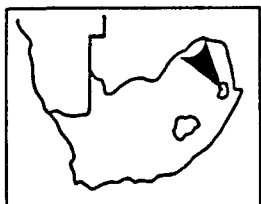
LAND USE 1976 to 1984 100 % veld
DRAINAGE CHARACTERISTICS Stream is perennial and well defined

KEY : Measuring site for

Rainfall
 Runoff
 Water Quality
 Evaporation
 Temperature
 Wind
 Soil Condition



and



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	482/357	Standard	1919-1984	No details	Daily	Data sheet	Data sheet
	482/689	Standard	1894-1984	No details	Daily	Data sheet	Data sheet
RUNOFF	24	Stevens	1976-1984	No details	Continuous	Paper strip Computer tape	
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Swaziland

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Volinde Spillway	GAUGE REFERENCE NO	36
LOCATION LAT.	31 deg. 50.25 min. S.	NEAREST TOWN	Mhlume
LONG.	26 deg. 6.00 min. E.	MAGISTERIAL DISTRICT	Ngomane
RIVER	Volinde	PROVINCE OR COUNTRY	Swaziland

CATCHMENT DETAILS

CATCHMENT AREA	73.00 sq.km.	VEGETATION	Lowveld Sour Bushveld
AVERAGE CATCHMENT SLOPE	Flat	LAND USE	Veld & Agriculture
MEAN ALTITUDE	250 m AMSL	SOILS	Montmorillonitic clays
MEAN ANNUAL PRECIPITATION	700 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	1	GEOLOGY	Shales & sandstones of Ecca Group & r rens Formation/Beaufort Group shales mudstones/Lebombo Group basalts
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	No details
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Ministry of Natural Resources, Swaziland
DEPARTMENT	Water Resources Branch
CONTACT PERSON	Mr D N Jenkins
ADDRESS	Senior Hydrologist P O Box 58 MBABANE Swaziland

TELEPHONE (0194) 42321

THE MONITORING PROGRAMME	- started : 1977
	- purpose : To determine catchment runoff yield
	- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	36	(Last update : January 1985)
CATCHMENT MAP	36.MAP	
LIST OF REFERENCES	SWAZIL.REF	
RAINFALL DATA	36.RAIN	
RUNOFF DATA	36.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1977 to 1984	33 % veld 67 % agriculture
DRAINAGE CHARACTERISTICS	Stream is perennial and well defined	

KEY : Measuring site for

Rainfall

Runoff

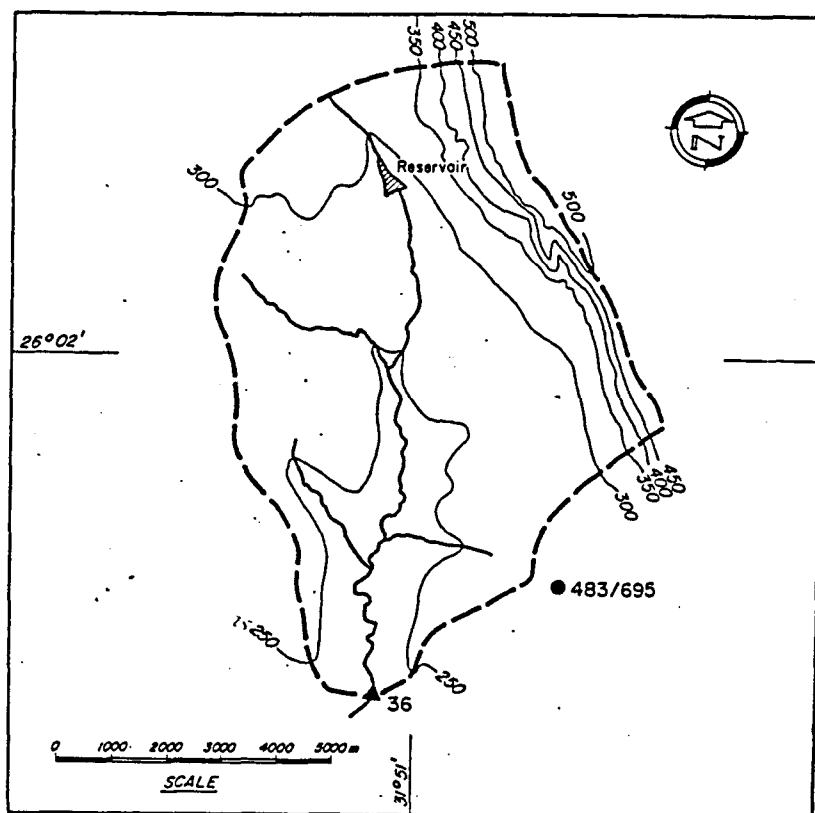
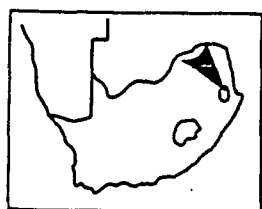
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	483/695	Standard	1945-1984	No details	Daily	Data sheet	Data sheet
RUNOFF	36	Stevens	1977-1984	No details	Continuous	Paper strip Computer tape	Data sheet Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Swaziland

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Mnkenke	GAUGE REFERENCE NO	37
LOCATION LAT.	31 deg. 52.50 min. S.	NEAREST TOWN	Mhluma
LONG.	26 deg. 7.75 min. E.	MAGISTERIAL DISTRICT	Ngomane
RIVER	Mnkenke	PROVINCE OR COUNTRY	Swaziland

CATCHMENT DETAILS

CATCHMENT AREA	8.00 sq.km.	VEGETATION	Lowveld Sour Bushveld
AVERAGE CATCHMENT SLOPE	Flat	LAND USE	Veld & Agriculture
MEAN ALTITUDE	250 m AMSL	SOILS	Montmorillonitic clays
MEAN ANNUAL PRECIPITATION	700 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Beaufort Group sandstones, shales & mudstones/Clarens Formation sandstones & shales
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	No details
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Ministry of Natural Resources, Swaziland
DEPARTMENT	Water Resources Branch
CONTACT PERSON	Mr D N Jenkins
ADDRESS	Senior Hydrologist P O Box 58 MBABANE Swaziland

TELEPHONE (0194) 42321

THE MONITORING PROGRAMME

- started : 1975
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	37	(Last update : January 1985)
CATCHMENT MAP	37.MAP	
LIST OF REFERENCES	SWAZIL.REF	
RAINFALL DATA	37.RAIN	
RUNOFF DATA	37.FLOW	

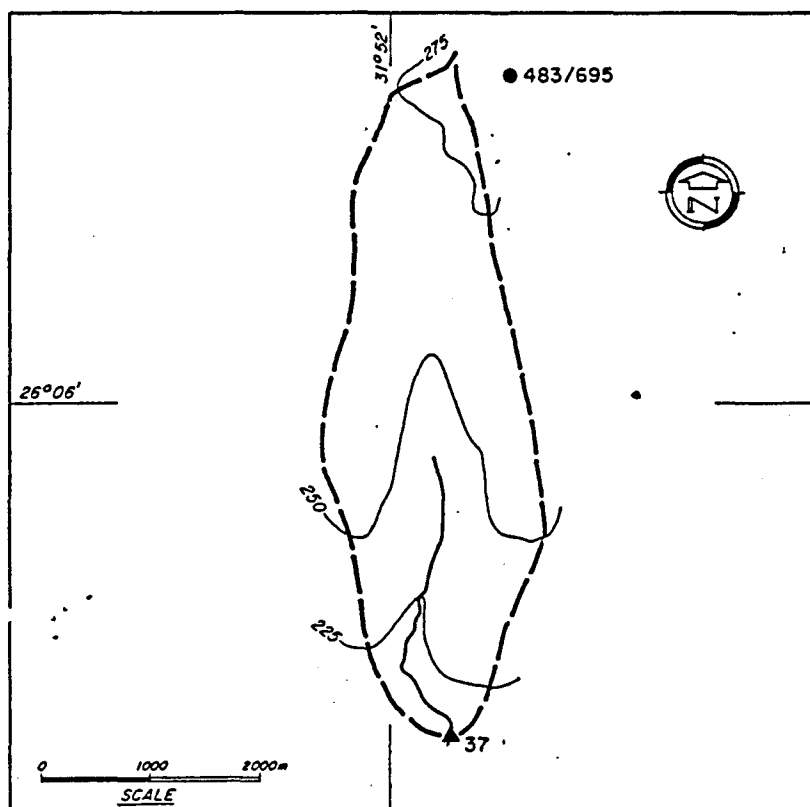
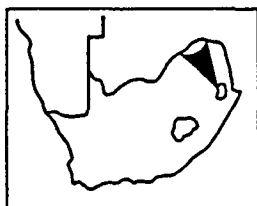
PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	40 % veld 60 % agriculture
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall	●
Runoff	▲
Water Quality	■
Evaporation	○
Temperature	◐
Wind	◑
Soil Condition	□



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	483/695	Standard	1945-1984	No details	Daily	Data sheet	Data sheet
RUNOFF	37	Stevens	1975-1984	No details	Continuous	Paper strip Computer tape	Data sheet Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Swaziland

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Lufutwana	GAUGE REFERENCE NO	38
LOCATION LAT.	31 deg. 54.00 min. S.	NEAREST TOWN	Mhlume
LONG.	26 deg. 8.25 min. E.	MAGISTERIAL DISTRICT	Ngomane
RIVER	Lufutwana	PROVINCE OR COUNTRY	Swaziland

CATCHMENT DETAILS

CATCHMENT AREA	26.00 sq.km.	VEGETATION	Lowveld Sour Bushveld
AVERAGE CATCHMENT SLOPE	Flat	LAND USE	Veld & Agriculture
MEAN ALTITUDE	300 m AMSL	SOILS	Montmorillonitic clays
MEAN ANNUAL PRECIPITATION	700 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Ecca Group shales, sandstone/Beaufort Group sandstones & mudstones/clarens Formation sandstone
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	No details
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Ministry of Natural Resources, Swaziland
DEPARTMENT	Water Resources Branch
CONTACT PERSON	Mr D N Jenkins
ADDRESS	Senior Hydrologist P O Box 58 MBABANE Swaziland

TELEPHONE (0194) 42321

THE MONITORING PROGRAMME - started : 1976
- purpose : To determine catchment runoff yield

- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	38	(Last update : January 1985)
CATCHMENT MAP	38.MAP	
LIST OF REFERENCES	SWAZIL.REF	
RAINFALL DATA	38.RAIN	
RUNOFF DATA	38.FLOW	

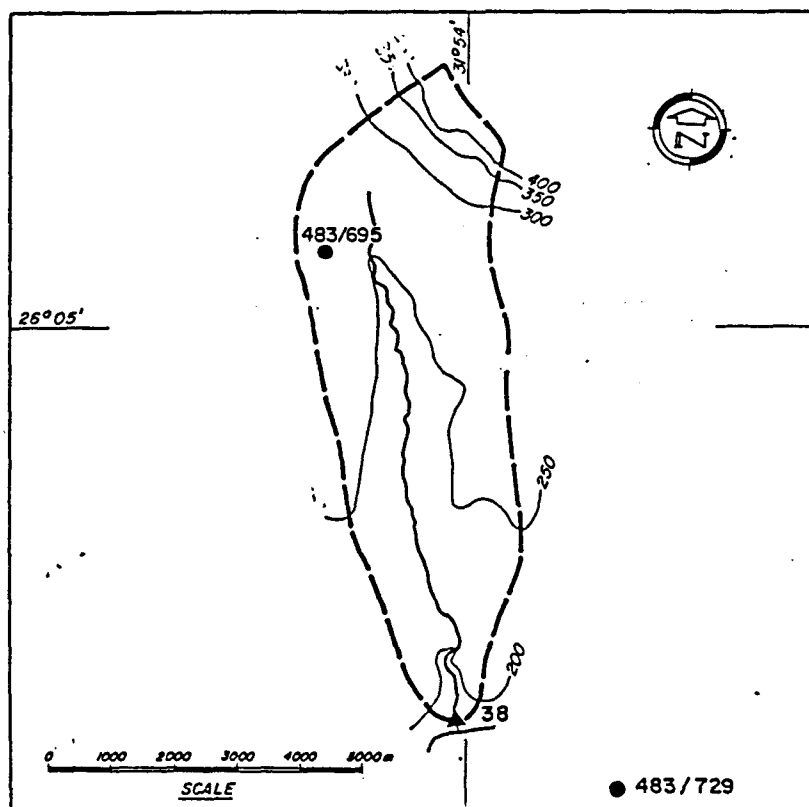
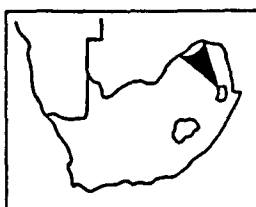
PHYSICAL CATCHMENT INFORMATION

LAND USE	1976 to 1984	73 % veld 27 % agriculture
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	483/695	Standard	1945-1984	No details	Daily	Data sheet	Data sheet
	483/729	Standard	1957-1984	No details	Daily	Data sheet	Data sheet
RUNOFF	38	Stevens	1976-1984	No details	Continuous	Paper strip Computer tape	Data sheet Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Swaziland

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Tambankulu 40	GAUGE REFERENCE NO	40
LOCATION LAT.	31 deg. 57.25 min. S.	NEAREST TOWN	Mhlume
LONG.	26 deg. 8.00 min. E.	MAGISTERIAL DISTRICT	Ngomane
RIVER	Ngwenya	PROVINCE OR COUNTRY	Swaziland

CATCHMENT DETAILS

CATCHMENT AREA	16.00 sq.km.	VEGETATION	Lowveld Sour Bushveld
AVERAGE CATCHMENT SLOPE	Flat	LAND USE	Veld & Agriculture
MEAN ALTITUDE	230 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	700 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	1	GEOLOGY	Clarens Formation sandstone & shale/ Lebombo Group basalt
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	No details
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Ministry of Natural Resources, Swaziland
DEPARTMENT	Water Resources Branch
CONTACT PERSON	Mr D N Jenkins
ADDRESS	Senior Hydrologist P O Box 58 MBABANE Swaziland

TELEPHONE (0194) 42321

THE MONITORING PROGRAMME

- started : 1975
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	40	(Last update : January 1985)
CATCHMENT MAP	40.MAP	
LIST OF REFERENCES	SWAZIL.REF	
RAINFALL DATA	40.RAIN	
RUNOFF DATA	40.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	25 % veld 75 % agriculture
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Tambankulu 41	GAUGE REFERENCE NO	41
LOCATION LAT.	31 deg. 57.50 min. S.	NEAREST TOWN	Mhlume
LONG.	26 deg. 7.75 min. E.	MAGISTERIAL DISTRICT	Ngomane
RIVER	Tambankulu	PROVINCE OR COUNTRY	Swaziland

CATCHMENT DETAILS

CATCHMENT AREA	98.00 sq.km.	VEGETATION	Lowveld Sour Bushveld
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld & Agriculture
MEAN ALTITUDE	450 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	700 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	2	GEOLOGY	Clarens Formation sandstone & shale/ Lebombo Group basalt/Rhyolite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	No details
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Ministry of Natural Resources, Swaziland
DEPARTMENT	Water Resources Branch
CONTACT PERSON	Mr D N Jenkins
ADDRESS	Senior Hydrologist P O Box 58 MBABANE SWAZILAND

TELEPHONE 80194) 42321

THE MONITORING PROGRAMME

- started : 1975
- purpose : To determine catchment runoff yield
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	41	(Last update : January 1985)
CATCHMENT MAP	41.MAP	
LIST OF REFERENCES	SWAZIL.REF	
RAINFALL DATA	41.RAIN	
RUNOFF DATA	41.FLOW	

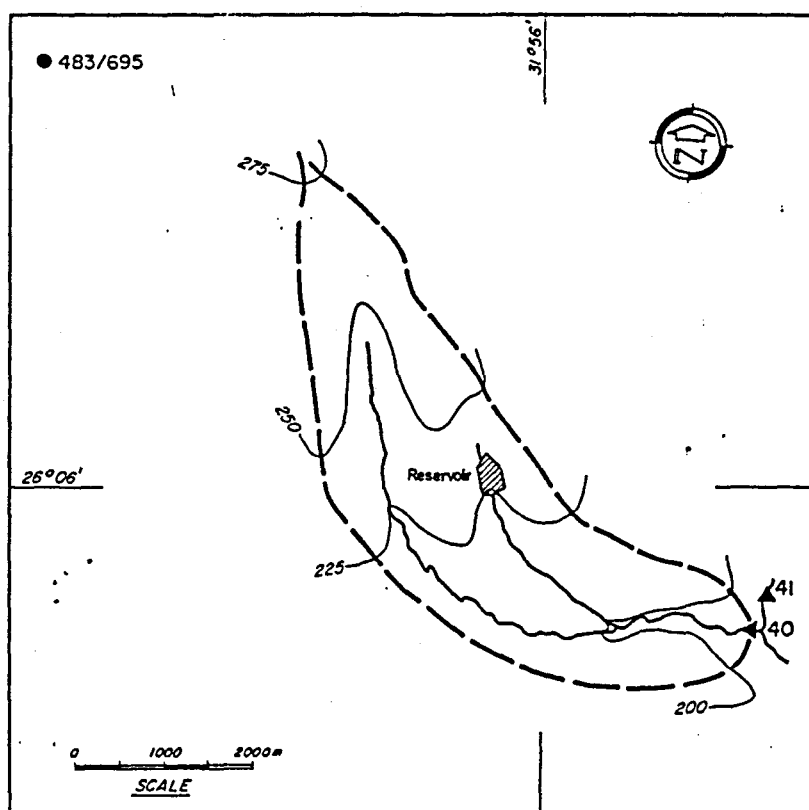
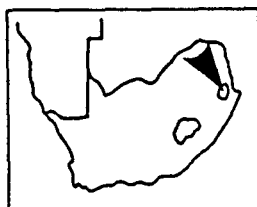
PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	92 % veld 8 % agriculture
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DRAINAGE CHARACTERISTICS Stream is perennial and well defined

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



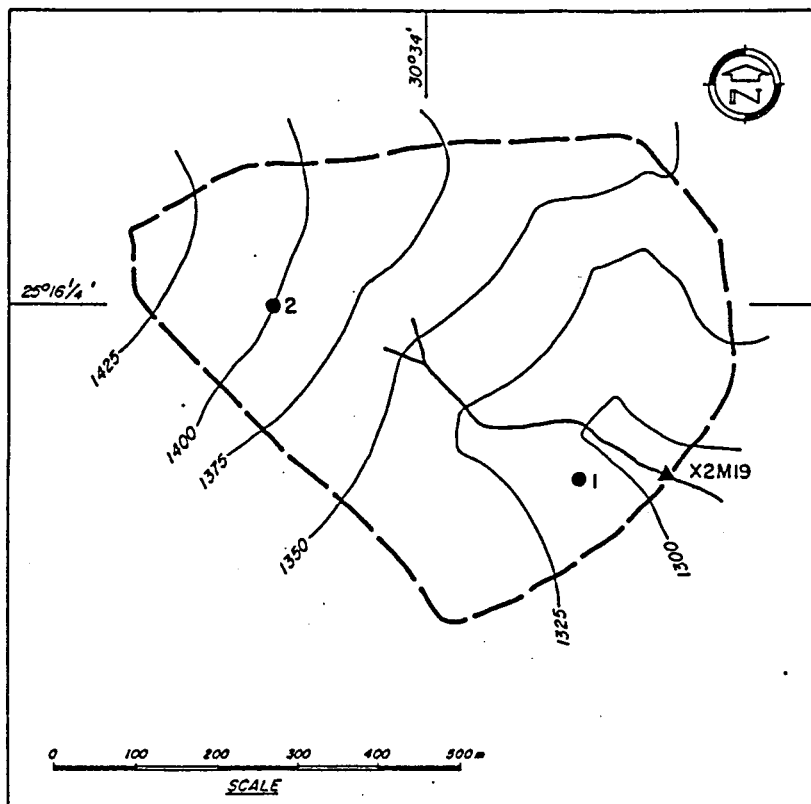
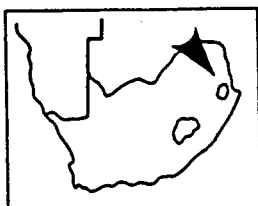
RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	483/695	Standard	1945-1984	No details	Daily	Data sheet	Data sheet
RUNOFF	40	Stevens	1975-1984	No details	Continuous	Paper strip Computer tape	Data sheet Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs Swaziland

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	1	Standard	1956-1984	No details	> Daily	Data sheet	
	2	Standard	1956-1984	No details	> Daily	Data sheet	
RUNOFF	X2M19	Stevens	1956-1961	No details	Continuous	Paper strip	
CHEMICAL	X2M19	Belfort	1961-1984	No details	Continuous	Paper strip	
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	B Mokobulaan	GAUGE REFERENCE NO	X2M20
LOCATION LAT.	25 deg. 18.00 min. S.	NEAREST TOWN	White River
LONG.	30 deg. 34.00 min. E.	MAGISTERIAL DISTRICT	Lydenburg
RIVER	Research 2	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	.34 sq.km.	VEGETATION	North-Eastern Mountain Sourveld
AVERAGE CATCHMENT SLOPE	Steep (22%)	LAND USE	Afforestation
MEAN ALTITUDE	1396 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1165 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Pretoria Group - quartzite, shale, tillite, andesite, chert, jaspilite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1956
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	X2M20	(Last update : January 1985)
CATCHMENT MAP	X2M20.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	X2M20.RAIN	
RUNOFF DATA	X2M20.FLOW	

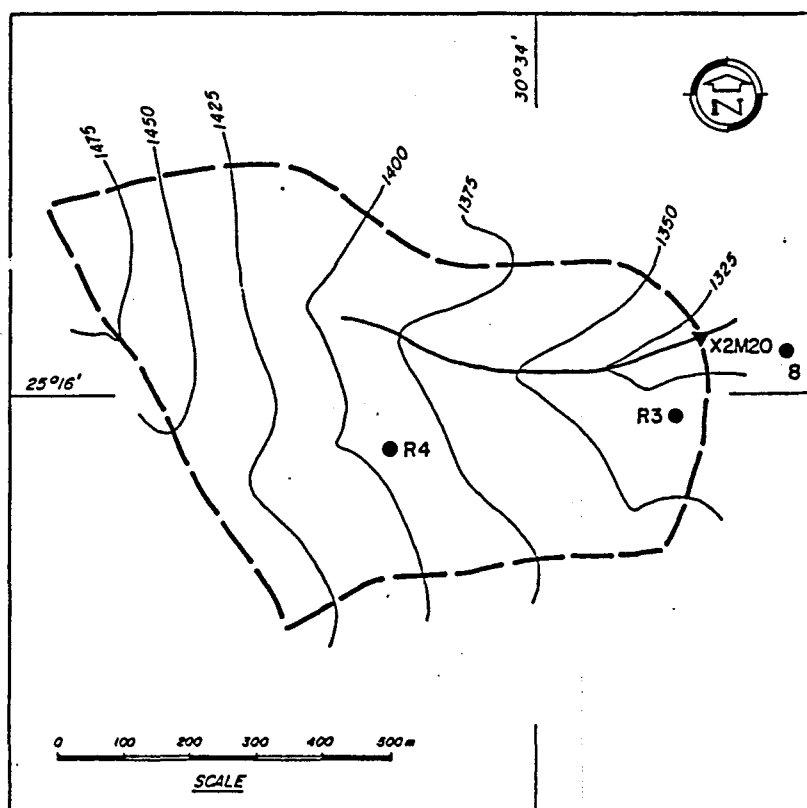
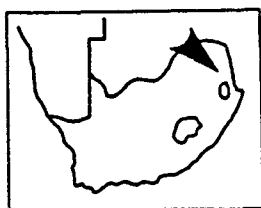
PHYSICAL CATCHMENT INFORMATION

LAND USE	1956 to 1971	100 % veld
	1971 to 1984	100 % afforestation

DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall
 Runoff
 Water Quality
 Evaporation
 Temperature
 Wind
 Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	R3	Casella Siphon	1956-1984	No details	Continuous	Paper strip	
	R4	Casella Siphon	1956-1984	No details	Continuous	Paper strip	
	S	Standard	1956-1984	No details	> Daily	Data sheet	
RUNOFF	X2M20	Stevens	1956-1961	No details	Continuous	Paper strip	
CHEMICAL	X2M20	Belfort	1961-1984	No details	Continuous	Paper strip	
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	C Mokobulaan	GAUGE REFERENCE NO	X2M21
LOCATION LAT.	25 deg. 15.75 min. S.	NEAREST TOWN	White River
LONG.	30 deg. 33.75 min. E.	MAGISTERIAL DISTRICT	Lydenburg
RIVER	Research 3	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	.37 sq.km.	VEGETATION	North-Eastern Mountain Sourveld
AVERAGE CATCHMENT SLOPE	Steep (26%)	LAND USE	Veld
MEAN ALTITUDE	1427 m AMSL	SOILS	Lithosols
MEAN ANNUAL PRECIPITATION	1165 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Pretoria Group - quartzite, shale, tillite, andesite, chert, Jaspilite
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1956
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

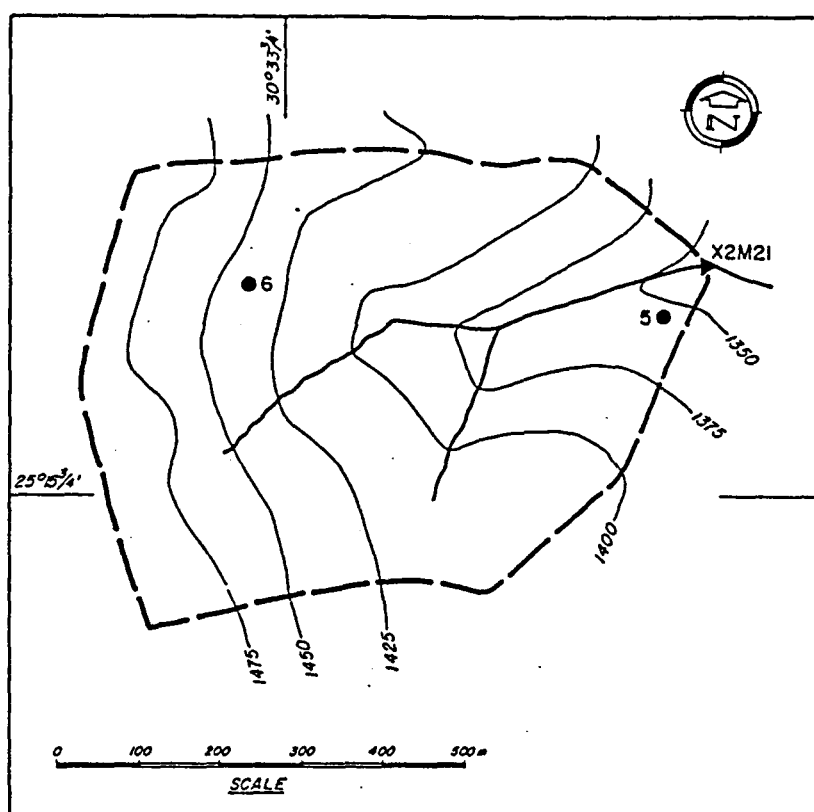
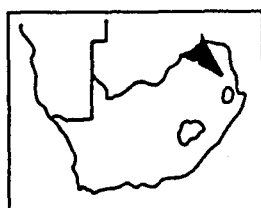
CATCHMENT INFORMATION FILE	X2M21	(Last update : January 1985)
CATCHMENT MAP	X2M21.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	X2M21.RAIN	
RUNOFF DATA	X2M21.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1956 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	5	Standard	1956-1984	No details	> Daily	Data sheet	
	6	Standard	1956-1984	No details	> Daily	Data sheet	
RUNOFF	X2M21	Stevens	1956-1961	No details	Continuous	Paper strip	
	X2M21	Belfort	1961-1984	No details	Continuous	Paper strip	
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	4 Witklip	GAUGE REFERENCE NO	X2M37
LOCATION LAT.	25 deg. 13.00 min. S.	NEAREST TOWN	Sabie
LONG.	30 deg. 51.00 min. E.	MAGISTERIAL DISTRICT	Pilgrim's Rest
RIVER	Witklip 4	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	1.00 sq.km.	VEGETATION	N-E Sandy Highveld/Piet Retief Sourve:
AVERAGE CATCHMENT SLOPE	Steep (30%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	1277 m AMSL	SOILS	Ferrallitic clays
MEAN ANNUAL PRECIPITATION	1595 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean Granite - migmatite, gneiss, ultrametamorphic rocks
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	X2M37	(Last update : January 1985)
CATCHMENT MAP	X2M37.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	X2M37.RAIN	
RUNOFF DATA	X2M37.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	22 % veld 78 % afforestation
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

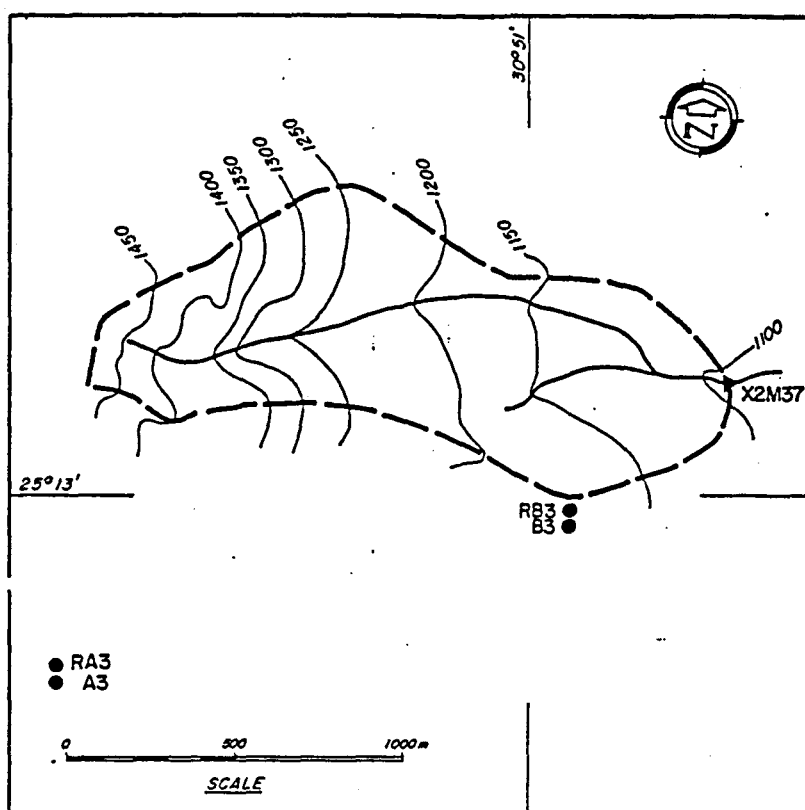
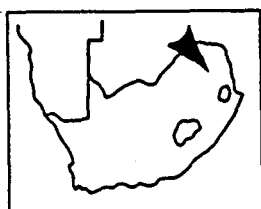
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	RA3	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	RB3	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	A3	Standard	1973-1984	No details	> Daily	Data sheet	
	B3	Standard	1973-1984	No details	> Daily	Data sheet	
RUNOFF	X2M37	Belfort	1975-1984	No details	> Daily	Data sheet	
CHEMICAL							
TO							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	5 Witklip	GAUGE REFERENCE NO	X2M38
LOCATION LAT.	25 deg. 12.00 min. S.	NEAREST TOWN	Sabie
LONG.	30 deg. 52.50 min. E.	MAGISTERIAL DISTRICT	Pilgrim's Rest
RIVER	Witklip 5	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	1.08 sq.km.	VEGETATION	N-E Sandy Highveld/Piet Retief Sourve
AVERAGE CATCHMENT SLOPE	Steep (24%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	1192 m AMSL	SOILS	Ferrallitic clays
MEAN ANNUAL PRECIPITATION	1470 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean Granite - migmatite, gneiss, ultrametanorphic rocks
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To determine the influence of manage- ment regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	X2M38	(Last update : January 1985)
CATCHMENT MAP	X2M38.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	X2M38.RAIN	
RUNOFF DATA	X2M38.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	48 % veld 52 % afforestation
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall

Runoff

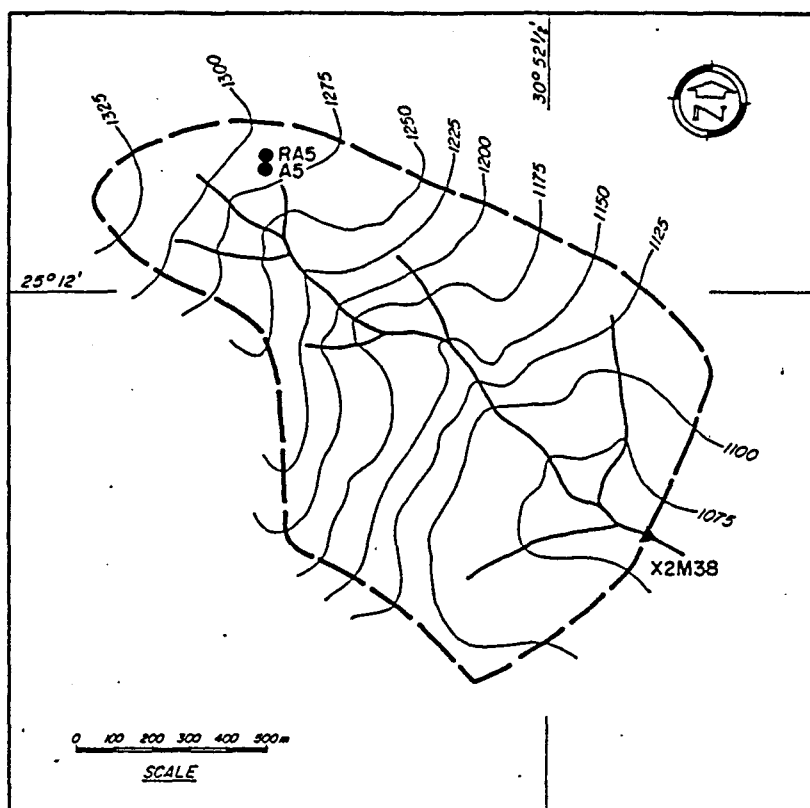
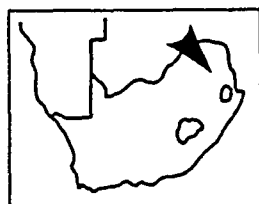
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	RA5 A5	Casella Siphon Standard	1974-1984 1980-1984	No details No details	Continuous > Daily	Paper strip Data sheet	Computer tape
RUNOFF	X2M38	Belfort	1975-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	X2M38	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
TDS	X2M38	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	X2M38	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	6 Witklip	GAUGE REFERENCE NO	X2M39
LOCATION LAT.	25 deg. 12.50 min. S.	NEAREST TOWN	Sabie
LONG.	30 deg. 53.00 min. E.	MAGISTERIAL DISTRICT	Pilgrim's Rest
RIVER	Witklip 6	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	1.65 sq.km.	VEGETATION	Piet Retief Sourveld
AVERAGE CATCHMENT SLOPE	Steep (14%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	1167 m AMSL	SOILS	Ferrallitic clays
MEAN ANNUAL PRECIPITATION	1470 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean Granite - migmatite, gneiss, ultrametamorphic rocks
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 600
TELEPHONE	02231) 72805

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	X2M39	(Last update : January 1985)
CATCHMENT MAP	X2M39.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	X2M39.RAIN	
RUNOFF DATA	X2M39.FLOW	

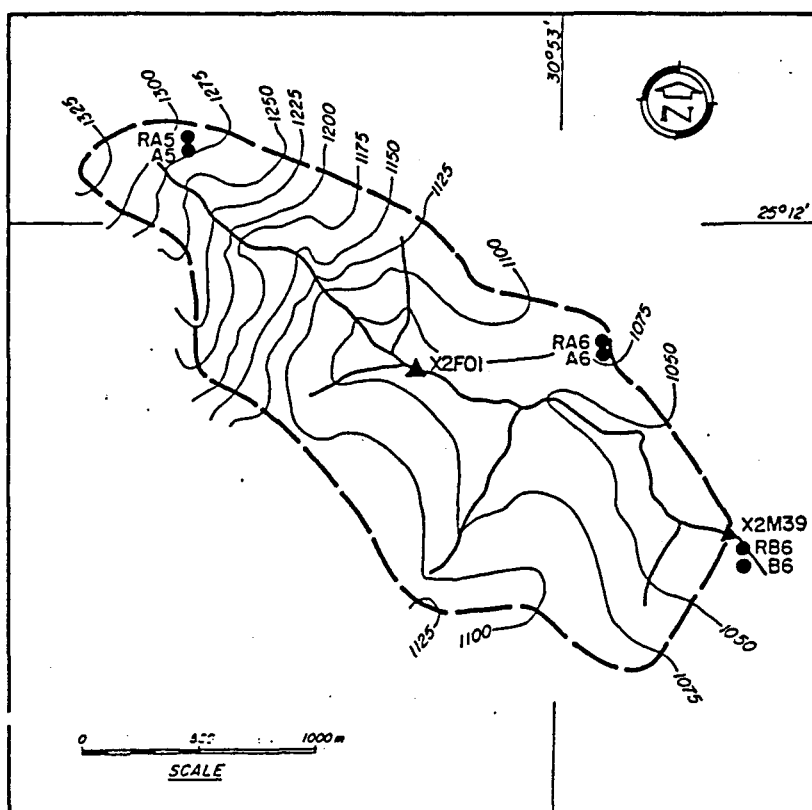
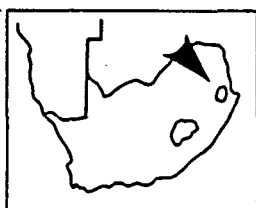
PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	10 % veld 90 % afforestation
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	RA5	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	RA6	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	R86	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	A5	Standard	1980-1984	No details	> Daily	Data sheet	
	A6	Standard	1976-1984	No details	> Daily	Data sheet	
	B6	Standard	1976-1984	No details	> Daily	Data sheet	
RUNOFF	X2M39	Belfort	1975-1984	No details	Continuous	Paper strip	Computer tape
	X2M39	Belfort	1975-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	X2M39	Grab Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
TDS	X2M39	Grab Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	7 Witklip	GAUGE REFERENCE NO	X2M40
LOCATION LAT.	25 deg. 12.50 min. S.	NEAREST TOWN	Sabie
LONG.	30 deg. 54.50 min. E.	MAGISTERIAL DISTRICT	Pilgrim's Rest
RIVER	Witklip 7	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	.69 sq.km.	VEGETATION	N-E Sandy Highveld/Piet Retief Sourveld
AVERAGE CATCHMENT SLOPE	Steep (37%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	1140 m AMSL	SOILS	Ferrallitic clays
MEAN ANNUAL PRECIPITATION	1350 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaeon Granite - migmatite, gneiss, ultrametamorphic rocks
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	.19 cumec at .45 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7601
TELEPHONE	(02131) 72805

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	X2M40	(Last update : January 1985)
CATCHMENT MAP	X2M40.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	X2M40.RAIN	
RUNOFF DATA	X2M40.FLOW	

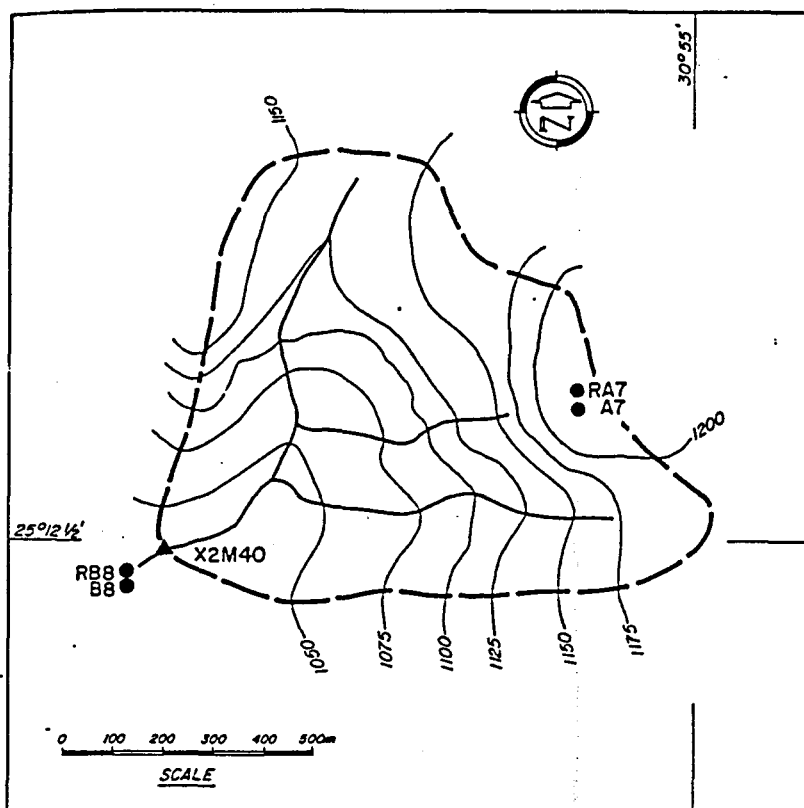
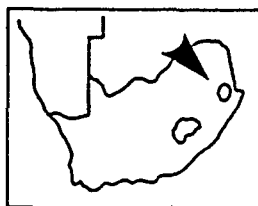
PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	66 % veld 34 % afforestation
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DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined
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KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	RA7	Casella Siphon	1976-1984	No details	Continuous	Paper strip	Computer tape
	RB8	Casella Siphon	1976-1984	No details	Continuous	Paper strip	Computer tape
	A7	Standard	1980-1984	No details	> Daily	Data sheet	
	B8	Standard	1975-1984	No details	> Daily	Data sheet	
RUNOFF	X2M40	Belfort	1975-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	X2M40	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
TDS	X2M40	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	X2M40	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	1 Witklip	GAUGE REFERENCE NO	X2M41
LOCATION LAT.	25 deg. 14.00 min. S.	NEAREST TOWN	Sabie
LONG.	30 deg. 51.00 min. E.	MAGISTERIAL DISTRICT	Pilgrim's Rest
RIVER	Witklip 1	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	1.98 sq.km.	VEGETATION	N-E Sandy Highveld/Fiet Retief Sourvel
AVERAGE CATCHMENT SLOPE	Steep (25%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	1277 m AMSL	SOILS	Ferrallitic clays
MEAN ANNUAL PRECIPITATION	1570 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean Granite - migmatite, gneiss, ultrametamorphic rocks
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72815

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	X2M41	(Last update : January 1985)
CATCHMENT MAP	X2M41.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	X2M41.RAIN	
RUNOFF DATA	X2M41.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	63 % veld 37 % afforestation
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall

Runoff

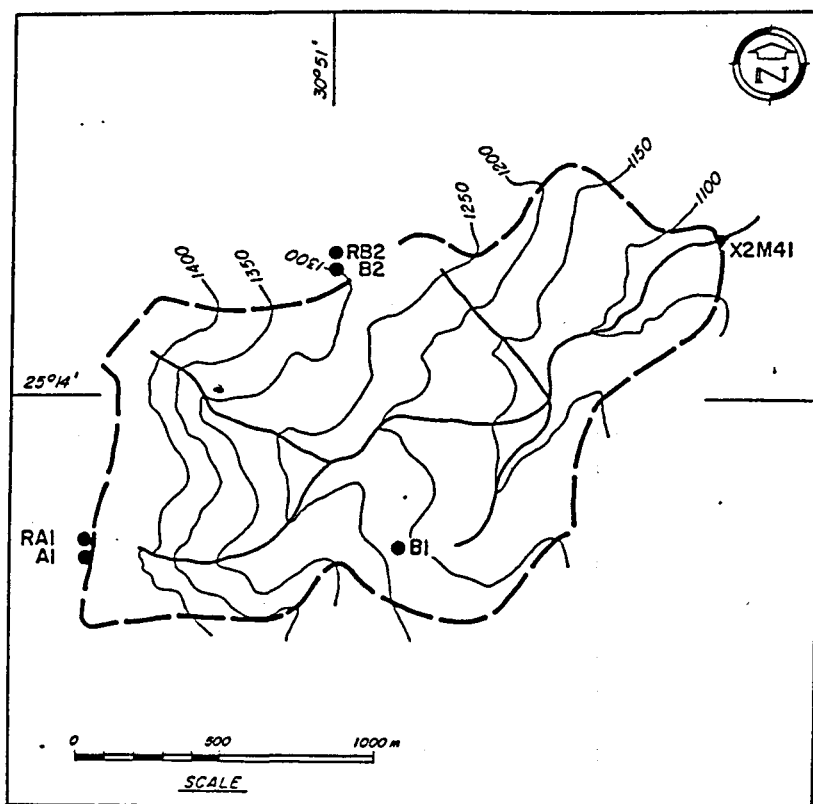
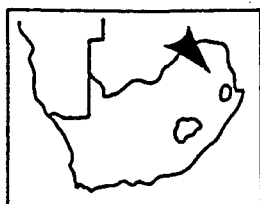
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	RA1	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	RB2	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	A1	Standard	1973-1984	No details	> Daily	Data sheet	Computer tape
	B1	Standard	1973-1984	No details	> Daily	Data sheet	
	B2	Standard	1973-1984	No details	> Daily	Data sheet	
RUNOFF	X2M41	Belfort	1975-1980	No details	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	3 Witklip	GAUGE REFERENCE NO	X2M42
LOCATION	LAT. 25 deg. 13.00 min. S.	NEAREST TOWN	Sabie
	LONG. 30 deg. 50.50 min. E.	MAGISTERIAL DISTRICT	Pilgrim's Rest
RIVER	Witklip 3	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	1.59 sq.km.	VEGETATION	N-E Sandy Highveld/Piet Retief Sourvel.
AVERAGE CATCHMENT SLOPE	Steep (26%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	1289 m AMSL	SOILS	Ferrallitic clays
MEAN ANNUAL PRECIPITATION	1595 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archaean Granite - migmatite, gneiss, ultrametamorphic rocks
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1975
	- purpose : Archaean Granite - migmatite, gneiss, ultrametamorphic rocks
	- future extensions : None planned

INFORMATION FILES

CATCHMENT INFORMATION FILE	X2M42	(Last update : January 1985)
CATCHMENT MAP	X2M42.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	X2M42.RAIN	
RUNOFF DATA	X2M42.FLOW	

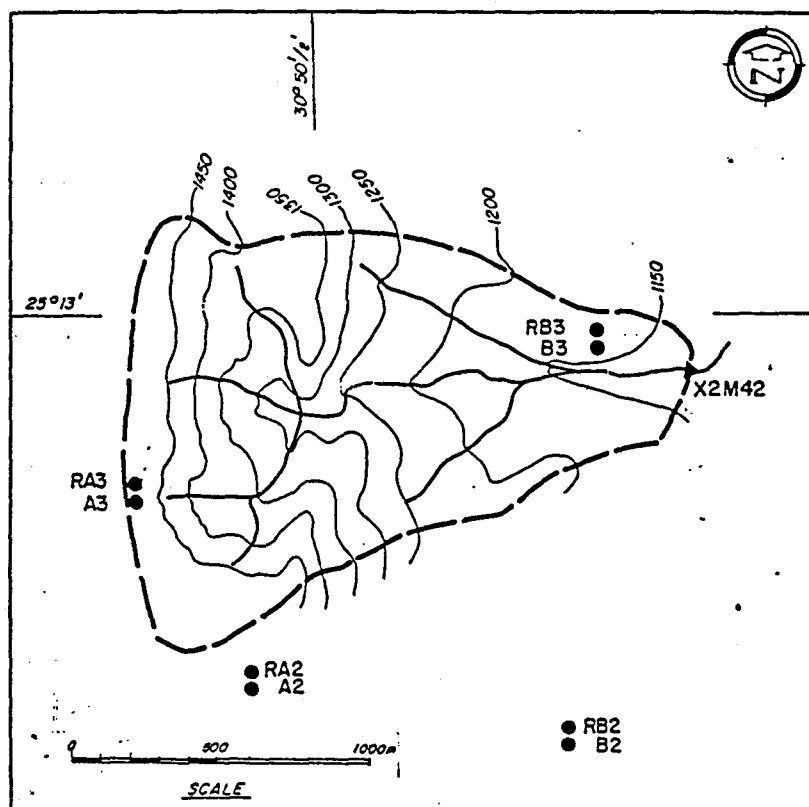
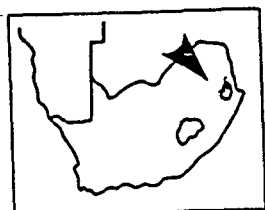
PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	66 % veld 34 % afforestation
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DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	RA2	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	RB2	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	RA3	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	RB3	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	A2	Standard	1973-1984	No details	> Daily	Data sheet	
	B2	Standard	1973-1984	No details	> Daily	Data sheet	
	A3	Standard	1973-1984	No details	> Daily	Data sheet	
	B3	Standard	1973-1984	No details	> Daily	Data sheet	
RUNOFF	X2M42	Belfort	1975-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT							
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	8 Witklip	GAUGE REFERENCE NO	X2M43
LOCATION LAT.	25 deg. 12.50 min. S.	NEAREST TOWN	Sabie
LONG.	30 deg. 54.50 min. E.	MAGISTERIAL DISTRICT	Pilgrim's Rest
RIVER	Witklip 8	PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	.51 sq.km.	VEGETATION	N-E Sandy Highveld/Piet Retief Sourveld
AVERAGE CATCHMENT SLOPE	Steep (18%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	1122 m AMSL	SOILS	Ferrallitic clays
MEAN ANNUAL PRECIPITATION	1375 mm	BIOHIAL SOIL TYPE	No details
NO OF DAHS IN CATCHMENT	0	GEOLOGY	Archaean Granite - migmatite, gneiss, ultrametamorphic rocks
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	.19 cumec at .45 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J M Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1975
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

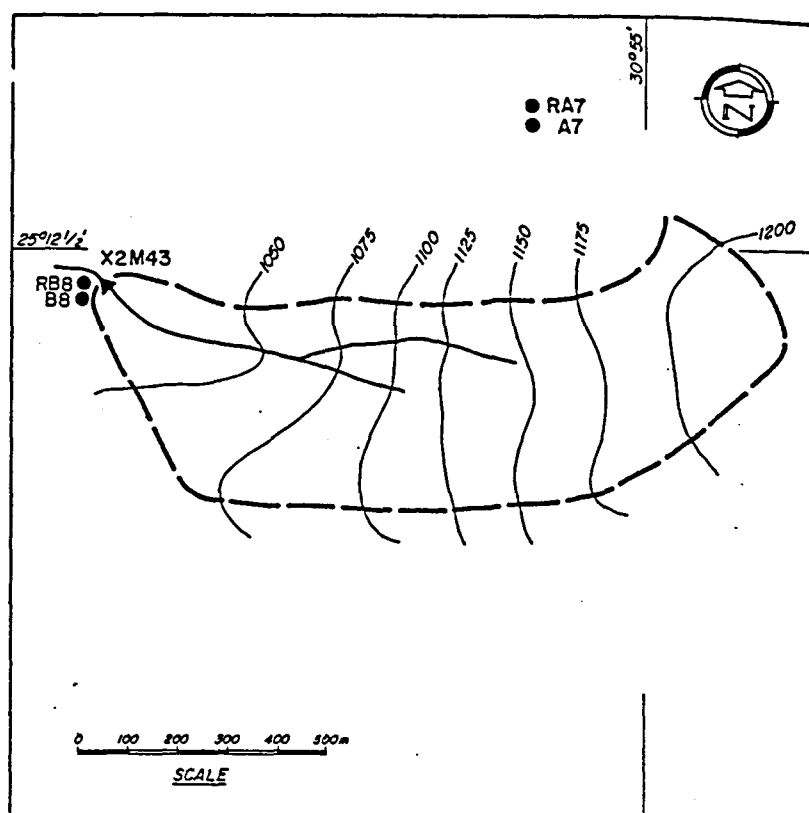
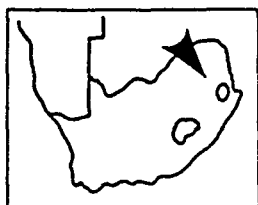
CATCHMENT INFORMATION FILE	X2M43	(Last update : January 1985)
CATCHMENT MAP	X2M43.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	X2M43.RAIN	
RUNOFF DATA	X2M43.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1975 to 1984	22 % veld 78 % afforestation
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

- Rainfall ●
- Runoff ▲
- Water Quality ■
- Evaporation ○
- Temperature ○
- Wind ○
- Soil Condition □



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	RA7	Casella Siphon	1976-1984	No details	Continuous	Paper strip	Computer tape
	RB8	Casella Siphon	1976-1984	No details	Continuous	Paper strip	Computer tape
	A7	Standard	1980-1984	No details	> Daily	Data sheet	
	B8	Standard	1975-1984	No details	> Daily	Data sheet	
RUNOFF	X2M43	Standard	1975-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	X2M43	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
TDS	X2M43	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	X2M43	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	2 Witklip	GAUGE REFERENCE NO	X2M44
LOCATION	LAT. 25 deg. 13.50 min. S. LONG. 30 deg. 51.00 min. E.	NEAREST TOWN	Sabie
RIVER	Witklip 2	MAGISTERIAL DISTRICT	Pilgrim's Rest
		PROVINCE OR COUNTRY	Transvaal

CATCHMENT DETAILS

CATCHMENT AREA	1.36 sq.km.	VEGETATION	N-E Sandy Highveld/Piet Retief Sourveld
AVERAGE CATCHMENT SLOPE	Steep (28%)	LAND USE	Veld & Afforestation
MEAN ALTITUDE	1308 m AMSL	SOILS	Ferrallitic clays
MEAN ANNUAL PRECIPITATION	1560 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Archean Granite - migmatite, gneiss, ultrametamorphic rocks
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are available

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Compound V-notch Sharp-crested Weir
MEASURING LIMIT	1.36 cumec at .91 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	South African Forestry Research Inst.
DEPARTMENT	Environment Affairs, Forestry Branch
CONTACT PERSON	Mr J H Bosch
ADDRESS	Officer-In-Charge Forestry Research Centre Private Bag X5011 STELLENBOSCH 7600
TELEPHONE	(02231) 72805

THE MONITORING PROGRAMME	- started : 1976
	- purpose : To determine the influence of management regimes on the water yielding properties of mountain catchments
	- future extensions : None planned

INFORMATION FILES

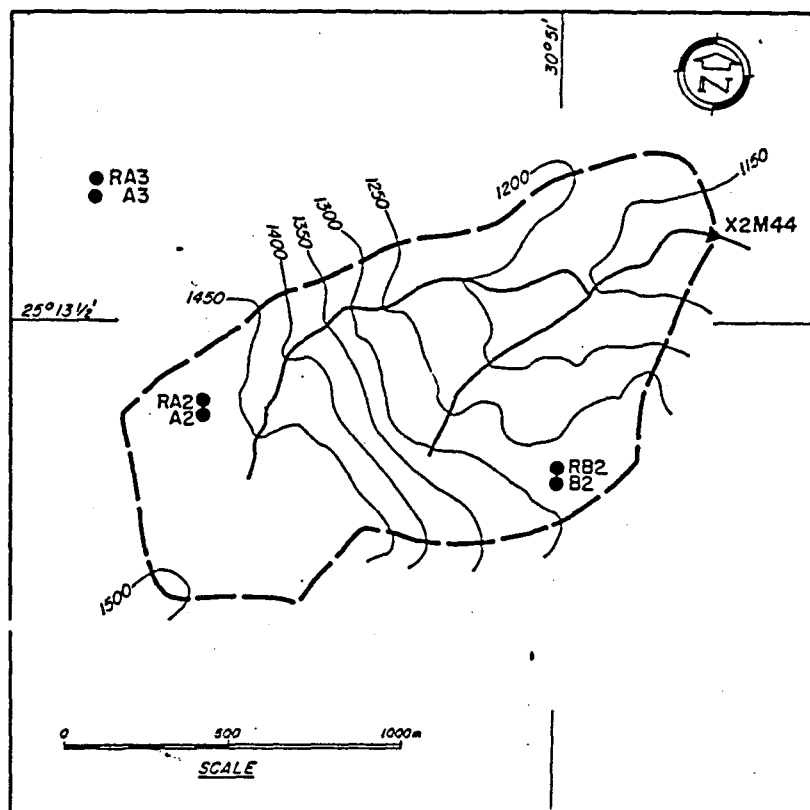
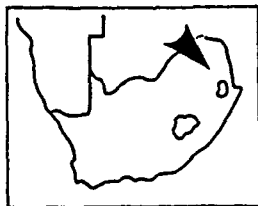
CATCHMENT INFORMATION FILE	X2M44	(Last update : January 1985)
CATCHMENT MAP	X2M44.MAP	
LIST OF REFERENCES	FOR.REF	
RAINFALL DATA	X2M44.RAIN	
RUNOFF DATA	X2M44.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1976 to 1984	66 % veld 34 % afforestation
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
 Runoff
 Water Quality
 Evaporation
 Temperature
 Wind
 Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	RA2	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	RB2	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	RA3	Casella Siphon	1974-1984	No details	Continuous	Paper strip	Computer tape
	A2	Standard	1973-1984	No details	> Daily	Data sheet	
	B2	Standard	1973-1984	No details	> Daily	Data sheet	
	A3	Standard	1973-1984	No details	> Daily	Data sheet	
RUNOFF	X2M44	Belfort	1976-1984	No details	Continuous	Paper strip	Computer tape
CHEMICAL	X2M44	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
TDS	X2M44	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
SEDIMENT	X2M44	Auto Sampler	1981-1984	No details	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Forestry Branch, Dept Environment Affrs

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Heusis	GAUGE REFERENCE NO	2991M08
LOCATION LAT.	22 deg. 38.00 min. S.	NEAREST TOWN	Windhoek
LONG.	16 deg. 38.00 min. E.	MAGISTERIAL DISTRICT	Windhoek
RIVER	Heusis	PROVINCE OR COUNTRY	South West Africa

CATCHMENT DETAILS

CATCHMENT AREA	38.40 sq.km.	VEGETATION	Highland Savannah
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld
MEAN ALTITUDE	1730 m AMSL	SOILS	Alluvial soils, Lithosols
MEAN ANNUAL PRECIPITATION	394 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	2	GEOLOGY	Khomas sub-group of the Damara
SHAPE FACTOR	No details		Sequence - quartzite, schists,
DRAINAGE DENSITY	No details		calc-silicate rock, marble

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are partly classified

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Broad-crested weir
MEASURING LIMIT	35.00 cumec at 3.00 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Department of Water Affairs, SWA
DEPARTMENT	Hydrology Division
CONTACT PERSON	Mr P Webster
ADDRESS	Principal Hydrologist
	Private Bag 13193
	WINDHOEK
	9000

TELEPHONE (061) 63141

THE MONITORING PROGRAMME	- started : 1978
	- purpose : To collect basic hydrological data and to establish catchment runoff parameters
	- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	2991M08	(Last update : January 1985)
CATCHMENT MAP	2991M08.MAP	
LIST OF REFERENCES	SWA.REF	
RAINFALL DATA	2991M08.RAIN	
RUNOFF DATA	2991M08.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1978 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

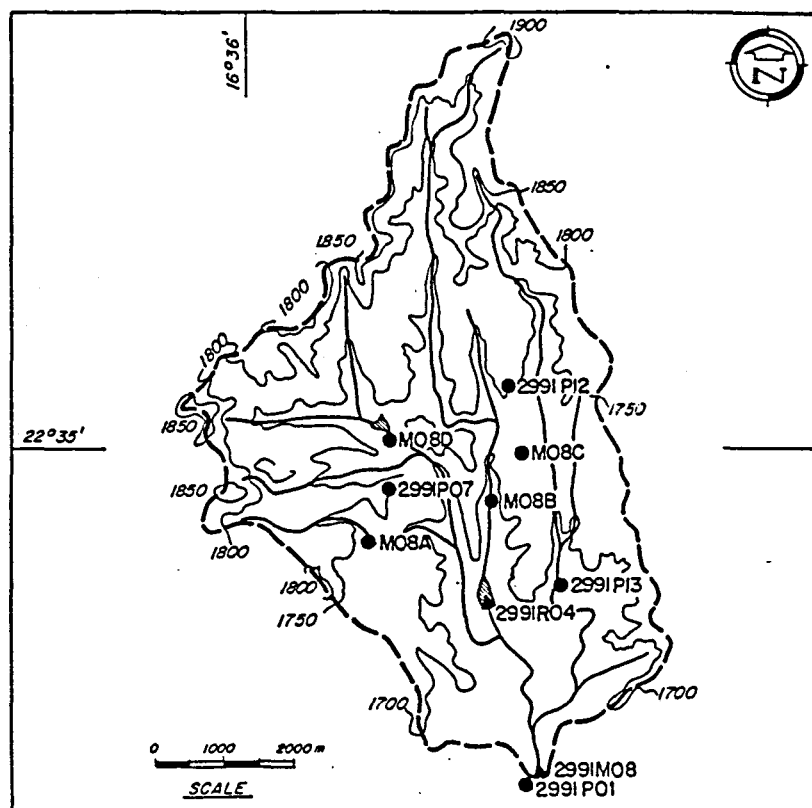
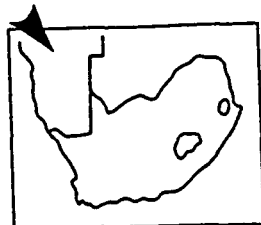
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	2991P01	Theiss Siphon	1977-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
	2991P07	Theiss Siphon	1980-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
	2991P12	Theiss Siphon	1984-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
	2991P13	Theiss Siphon	1984-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
	2991M08A1	Standard	0- 0	No details	Daily	Data sheet	
	2991M08B1	Standard	0- 0	No details	Daily	Data sheet	
	2991M08C1	Standard	0- 0	No details	Daily	Data sheet	
	2991M08D1	Standard	0- 0	No details	Daily	Data sheet	
RUNOFF	2991M08	Ott	1978-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
	2991R04	Gauge Plates	1980-1984	0-25 %	> Daily	Data sheet	
CHEMICAL TDS SEDIMENT	2991M08	Grab Sampler	1978-1984	No details	> Daily	Data sheet	
EVAPORATION TEMPERATURE WIND REL.HUMIDITY NET RADIATION							
SOIL MOISTURE INFILTRATION							

Majority of gauges are owned by Department of Water Affairs SWA
Other gauge owners indicated are : 1 = Local Farmers

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Westende	GAUGE REFERENCE NO	2991M09
LOCATION LAT.	22 deg. 53.00 min. S.	NEAREST TOWN	Windhoek
LONG.	16 deg. 34.00 min. E.	MAGISTERIAL DISTRICT	Windhoek
RIVER	Westende	PROVINCE OR COUNTRY	South West Africa

CATCHMENT DETAILS

CATCHMENT AREA	17.30 sq.km.	VEGETATION	Highland Savannah
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld
MEAN ALTITUDE	1700 m AMSL	SOILS	Alluvial soils, Lithosols
MEAN ANNUAL PRECIPITATION	275 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	2	GEOLOGY	Khomas sub-group of the Damara
SHAPE FACTOR	No details		Sequence - quartzite, schists,
DRAINAGE DENSITY	No details		calc-silicate rock, marble

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are partly classified

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Thin-crested weir with u/s sloping face
MEASURING LIMIT	120.00 cumec at 2.50 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Department of Water Affairs, SWA
DEPARTMENT	Hydrology Division
CONTACT PERSON	Mr P Webster
ADDRESS	Principal Hydrologist
	Private Bag 13193
	WINDHOEK
	9000

TELEPHONE (061) 63141

THE MONITORING PROGRAMME

- started : 1978
- purpose : To collect basic hydrological data and to establish catchment runoff parameters
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	2991M09	(Last update : January 1985)
CATCHMENT MAP	2991M09.MAP	
LIST OF REFERENCES	SWA.REF	
RAINFALL DATA	2991M09.RAIN	
RUNOFF DATA	2991M09.FLOW	

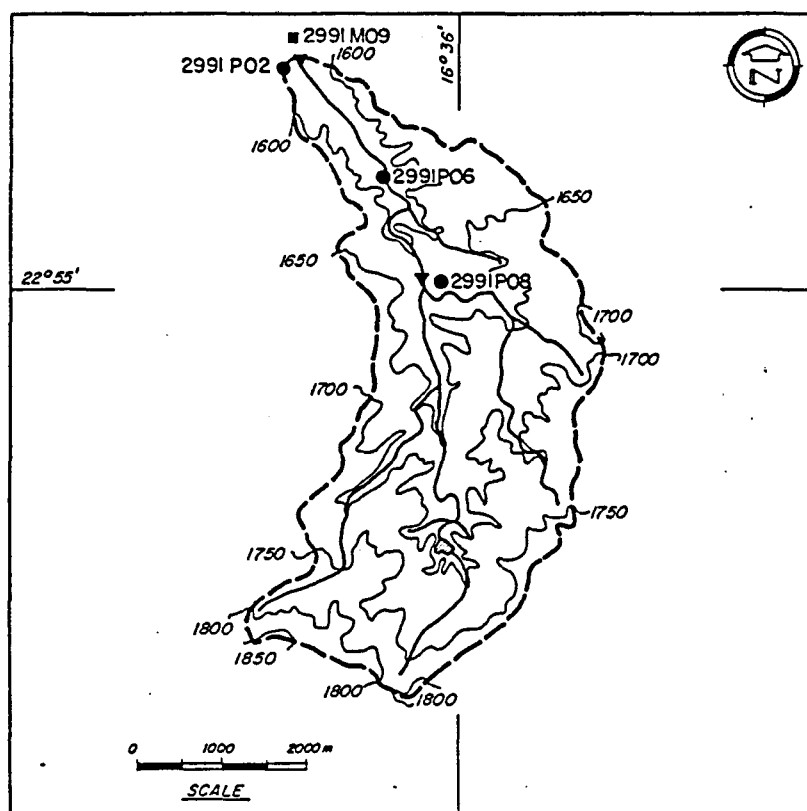
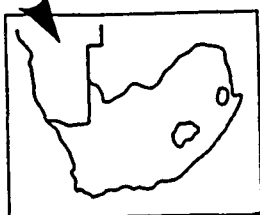
PHYSICAL CATCHMENT INFORMATION

LAND USE 1978 to 1984 100 % veld

DRAINAGE CHARACTERISTICS Stream is seasonal and well defined

KEY : Measuring site for

Rainfall
Runoff
Water Quality
Evaporation
Temperature
Wind
Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	2991P02	Theiss Siphon	1977-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
	2991P06	Theiss Siphon	1980-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
	2991P08	Theiss Siphon	1980-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
RUNOFF	2991M09	Ott	1978-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
CHEMICAL	2991R03	Gauge Plates	1981-1984	0-25 %	1 Daily	Data sheet	
TDS							
SEDIMENT	2991M09	Grab Sampler	1978-1984	0-25 %	1 Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs SWA

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Tweespruit	GAUGE REFERENCE NO	2991M10
LOCATION LAT.	22 deg. 56.00 min. S.	NEAREST TOWN	Windhoek
LONG.	15 deg. 56.00 min. E.	MAGISTERIAL DISTRICT	Windhoek
RIVER	Katros	PROVINCE OR COUNTRY	South West Africa

CATCHMENT DETAILS

CATCHMENT AREA	81.60 sq.km.	VEGETATION	Highland Savannah
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld
MEAN ALTITUDE	1450 m AMSL	SOILS	Alluvial soils, Lithosols
MEAN ANNUAL PRECIPITATION	245 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	5	GEOLOGY	Khomas sub-group of the Damara
SHAPE FACTOR	No details		Sequence - quartzite, schists,
DRAINAGE DENSITY	No details		calc-silicate rock, marble

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are partly classified

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Thin-crested weir with sloping u/s face
MEASURING LIMIT	270.00 cumec at 2.20 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Department of Water Affairs, SWA
DEPARTMENT	Hydrology Division
CONTACT PERSON	Mr P Webster
ADDRESS	Principal Hydrologist Private Bag 13193 WINDHOEK 9000

TELEPHONE (061) 63141

THE MONITORING PROGRAMME	- started : 1978
	- purpose : To collect basic hydrological data and to establish catchment runoff parameters
	- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	2991M10	(Last update : January 1985)
CATCHMENT MAP	2991M10.MAP	
LIST OF REFERENCES	SWA.REF	
RAINFALL DATA	2991M10.RAIN	
RUNOFF DATA	2991M10.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1978 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

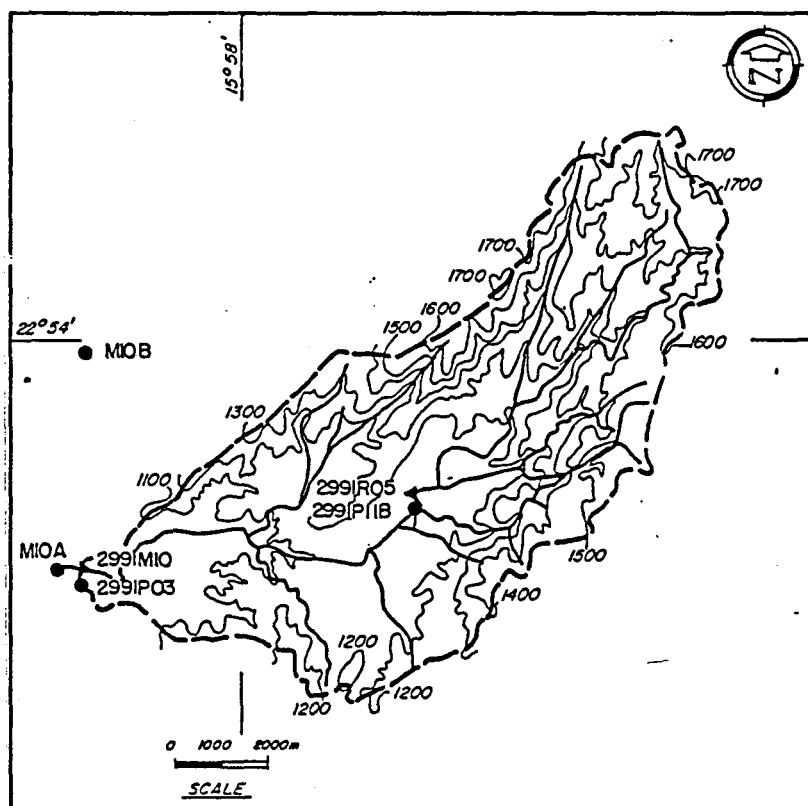
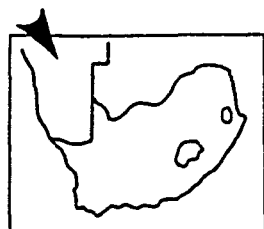
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	2991P03	Theiss Siphon	1977-1984	0-25 %	Continuous	Paper strip	Data sheet
	2991P11B	Theiss Siphon	1982-1984	0-25 %	Continuous	Paper strip	Computer tape
	M10A	Standard	1983-1984	0-25 %	Daily	Data sheet	Data sheet
	M10B	Standard	1977-1980	0-25 %	Daily	Data sheet	Computer tape
RUNOFF	2991M10	Ott	1978-1984	0-25 %	Continuous	Paper strip	Data sheet
	2991R05	Alpina BS 250	1983-1984	0-25 %	Continuous	Paper strip	Computer tape
CHEMICAL							
TDS							
SEDIMENT	2991M10	Grab Sampler	1978-1984	0-25 %	> Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs SWA
Other gauge owners indicated are : 1 = Local Farmers

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Kos Weir	GAUGE REFERENCE NO	2991M11
LOCATION LAT.	23 deg. 13.00 min. S.	NEAREST TOWN	Rahoboth
LONG.	16 deg. 11.00 min. E.	MAGISTERIAL DISTRICT	Windhoek
RIVER	Huis	PROVINCE OR COUNTRY	South West Africa

CATCHMENT DETAILS

CATCHMENT AREA	20.10 sq.km.	VEGETATION	Semi-desert & Savannah Transition
AVERAGE CATCHMENT SLOPE	Flat (1.9%)	LAND USE	Veld
MEAN ALTITUDE	1350 m AMSL	SOILS	Alluvial soils, Lithosols
MEAN ANNUAL PRECIPITATION	205 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Khomas sub-group of the Damara
SHAPE FACTOR	No details		Sequence - quartzite, schists,
DRAINAGE DENSITY	No details		calc-silicate rock, marble

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are partly classified

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Concrete channel section
MEASURING LIMIT	99.00 cumec at 2.00 metres
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Department of Water Affairs, SWA
DEPARTMENT	Hydrology Division
CONTACT PERSON	Mr P Webster
ADDRESS	Principal Hydrologist Private Bag 13193 WINDHOEK 9000

TELEPHONE (061) 63141

THE MONITORING PROGRAMME

- started : 1978
- purpose : To collect basic hydrological data and to establish catchment runoff parameters
- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	2991M11	(Last update : January 1985)
CATCHMENT MAP	2991M11.MAP	
LIST OF REFERENCES	SWA.REF	
RAINFALL DATA	2991M11.RAIN	
RUNOFF DATA	2991M11.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1978 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

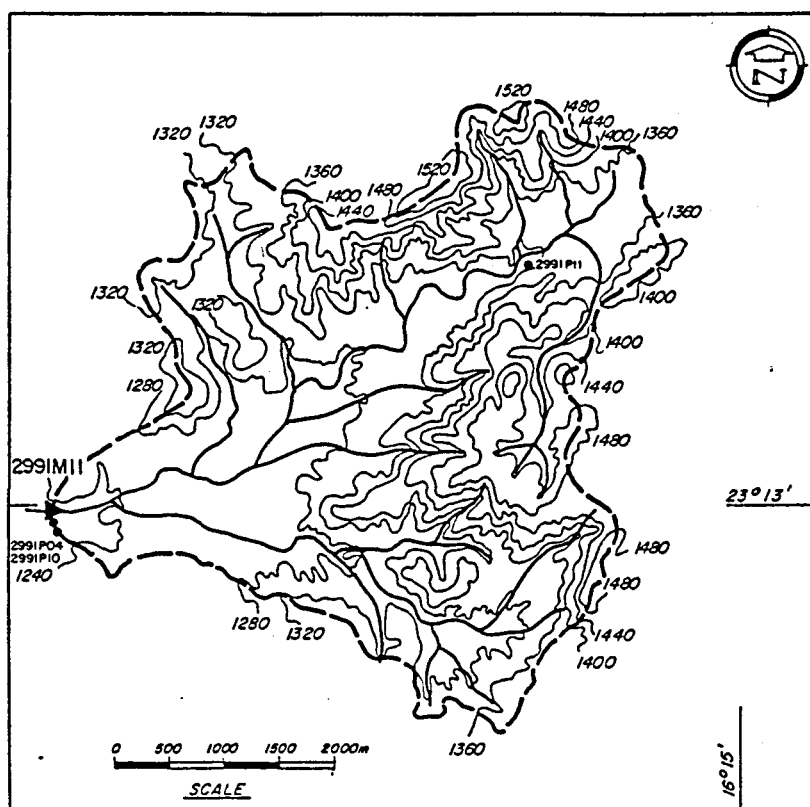
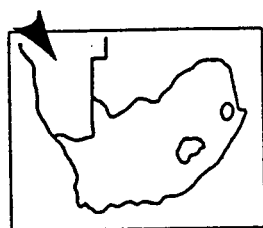
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	2991P04	Theiss Siphon	1977-1981	0-25 %	Continuous	Paper strip	Data sheet Computer tape
	2991P09	LTRG	1981-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
	2991P10	LTRG	1981-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
RUNOFF	2991M11	Alpina	1978-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
CHEMICAL TDS SEDIMENT	2991M11	Grab Sampler	1978-1984	0-25 %	1 Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs SWA

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Tinkas Dam	GAUGE REFERENCE NO	2985R01
LOCATION LAT.	22 deg. 51.00 min. S.	NEAREST TOWN	Swakopmund
LONG.	15 deg. 20.00 min. E.	MAGISTERIAL DISTRICT	Swakopmund
RIVER	Tinkas	PROVINCE OR COUNTRY	South West Africa

CATCHMENT DETAILS

CATCHMENT AREA	32.40 sq.km.	VEGETATION	Central Namib/Semi-desert
AVERAGE CATCHMENT SLOPE	Flat	LAND USE	Veld
MEAN ALTITUDE	1000 m AMSL	SOILS	Alluvial soils, Lithosols
MEAN ANNUAL PRECIPITATION	101 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	0	GEOLOGY	Khomas sub-group of the Damara Sequence - quartzite, schists, calc-silicate rock, marble
SHAPE FACTOR	No details		
DRAINAGE DENSITY	No details		

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	Yes	RELATIVE HUMIDITY	No
TDS	Yes	NET RADIATION	No
SEDIMENT	Yes	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are partly classified

STREAMFLOW RECORDING STATION DETAILS

CONTROL	Dam spillway
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Department of Water Affairs, SWA
DEPARTMENT	Hydrology Division
CONTACT PERSON	Mr P Webster
ADDRESS	Principal Hydrologist Private Bag 13193 WINDHOEK 9000

TELEPHONE (061) 63141

THE MONITORING PROGRAMME	- started : 1977
	- purpose : To collect basic hydrological data and to establish catchment runoff parameters
	- future extensions : None

INFORMATION FILES

CATCHMENT INFORMATION FILE	2985R01	(Last update : January 1985)
CATCHMENT MAP	2985R01.MAP	
LIST OF REFERENCES	SWA.REF	
RAINFALL DATA	2985R01.RAIN	
RUNOFF DATA	2985R01.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1977 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall

Runoff

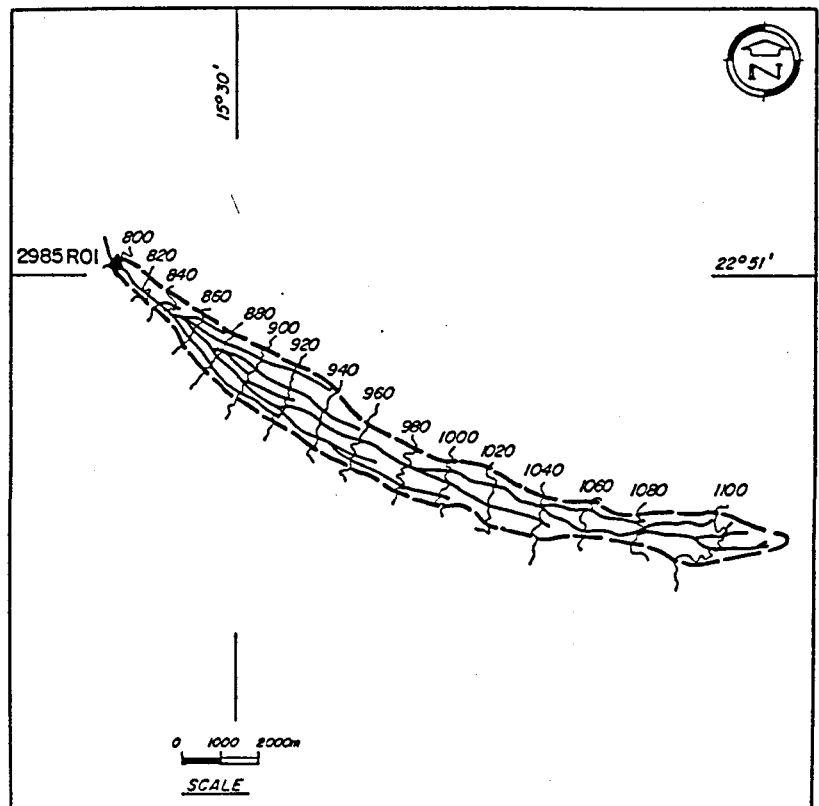
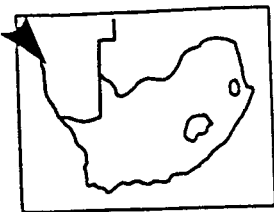
Water Quality

Evaporation

Temperature

Wind

Soil Condition



RECORDING DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	2985P01	LTRG	1983-1984	0-25 %	Continuous	Paper strip	
RUNOFF	2985R01	Ott	1977-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
CHEMICAL	2985R01	Grab Sampler	1977-1984	0-25 %	) Daily	Data sheet	Data sheet
TDS	2985R01	Grab Sampler	1977-1984	0-25 %	) Daily	Data sheet	Data sheet
SEDIMENT	2985R01	Grab Sampler	1977-1984	0-25 %	) Daily	Data sheet	Data sheet
EVAPORATION							
TEMPERATURE							
WIND							
REL. HUMIDITY							
NET RADIATION							
SOIL MOISTURE							
INFILTRATION							

Majority of gauges are owned by Department of Water Affairs SWA

CATCHMENT IDENTIFICATION

CATCHMENT NAME	Amsas	GAUGE REFERENCE NO	2991R05
LOCATION LAT.	22 deg. 56.00 min. S.	NEAREST TOWN	Windhoek
LONG.	16 deg. .00 min. E.	MAGISTERIAL DISTRICT	Windhoek
RIVER	Katros	PROVINCE OR COUNTRY	South West Africa

CATCHMENT DETAILS

CATCHMENT AREA	38.00 sq.km.	VEGETATION	Highland Savannah
AVERAGE CATCHMENT SLOPE	Moderate	LAND USE	Veld
MEAN ALTITUDE	1425 m AMSL	SOILS	Alluvial soils, Lithosols
MEAN ANNUAL PRECIPITATION	250 mm	BINOMIAL SOIL TYPE	No details
NO OF DAMS IN CATCHMENT	4	GEOLOGY	Khomas sub-group of the Damara
SHAPE FACTOR	No details		Sequence - quartzite, schists,
DRAINAGE DENSITY	No details		calc-silicate rock, marble

DATA COLLECTED

RAINFALL	Yes	TEMPERATURE	No
RUNOFF	Yes	WIND	No
CHEMICAL	No	RELATIVE HUMIDITY	No
TDS	No	NET RADIATION	No
SEDIMENT	No	SOIL MOISTURE	No
EVAPORATION	No	INFILTRATION	No

RAINFALL data are available, RUNOFF data are partly classified

STREAMFLOW RECORDING STATION DETAILS

CONTROL	No details
MEASURING LIMIT	No details
RATING CURVE	Calculated
STORAGE CAPACITY BEHIND CONTROL	No details
PERCENTAGE OF STORAGE SILTED	No details

BACKGROUND INFORMATION

ORGANIZATION	Department of Water Affairs, SWA
DEPARTMENT	Hydrology Division
CONTACT PERSON	Mr P Webster
ADDRESS	Principal Hydrologist Private Bag 13193 WINDHOEK 9000

TELEPHONE (061) 63141

THE MONITORING PROGRAMME

- started : 1983
- purpose : To collect basic hydrological data and to establish catchment runoff parameters especially sedimentation rates
- future extensions : None

INFORMATION FILES

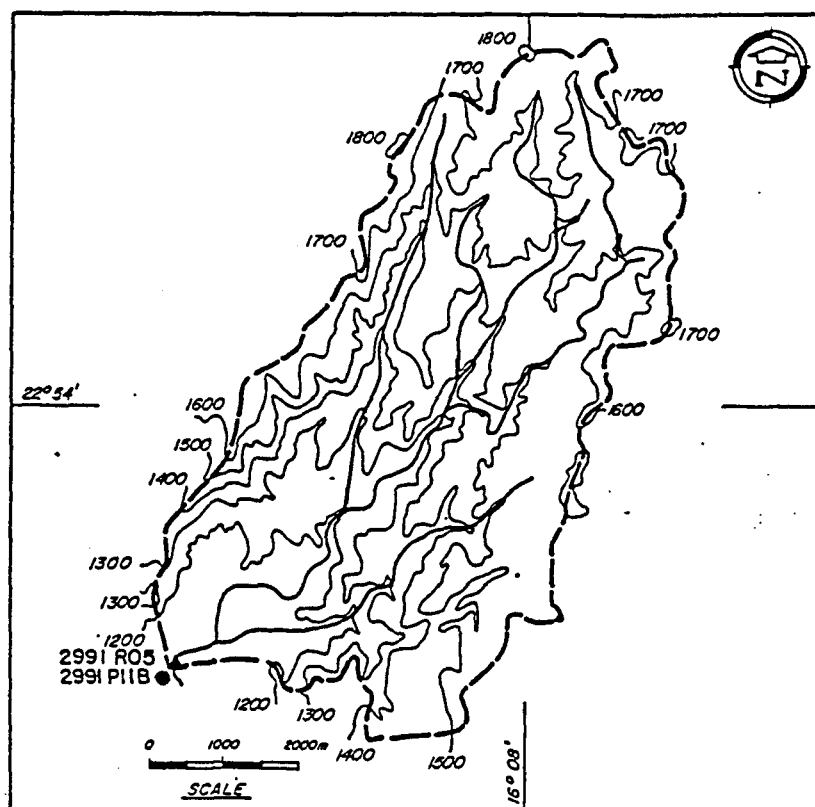
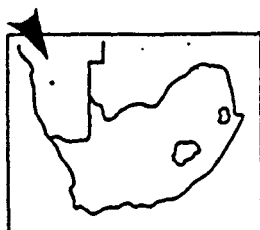
CATCHMENT INFORMATION FILE	2991R05	(Last update : January 1985)
CATCHMENT MAP	2991R05.MAP	
LIST OF REFERENCES	SWA.REF	
RAINFALL DATA	2991R05.RAIN	
RUNOFF DATA	2991R05.FLOW	

PHYSICAL CATCHMENT INFORMATION

LAND USE	1983 to 1984	100 % veld
DRAINAGE CHARACTERISTICS	Stream is seasonal and well defined	

KEY : Measuring site for

Rainfall
 Runoff
 Water Quality
 Evaporation
 Temperature
 Wind
 Soil Condition



RECORDED DATA

PARAMETER MEASURED	STATION NUMBER	INSTRUMENT TYPE	PERIOD FROM-TO	NO. OF BREAKDOWNS	MEASURING FREQUENCY	RAW DATA STORAGE STATUS	PROCESSED DATA STORAGE STATUS
RAINFALL	2991P11B	Theiss Siphon	1982-1984	0-25 %	Continuous	Paper strip	Data sheet Computer tape
RUNOFF CHEMICAL TDS SEDIMENT	2991R05	Alpina BS 250	1983-1984	0-25 %	Continuous	Paper strip	
EVAPORATION TEMPERATURE WIND REL. HUMIDITY NET RADIATION							
SOIL MOISTURE INFILTRATION							

Majority of gauges are owned by Department of Water Affairs SWA

4 REFERENCES RELATED TO DATA MONITORING PROGRAMS

4 REFERENCES

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