

Department of Fisheries and Wildlife
Western Australia

ANNUAL RAINFALL AND WETLAND REVIEW

NOVEMBER 1981

Compiled by Research Officer J.A.K. Lane
and Technical Officer D.R. Munro, for
submission to the W.A.W.A. Bird
Committee on 30 November 1981.

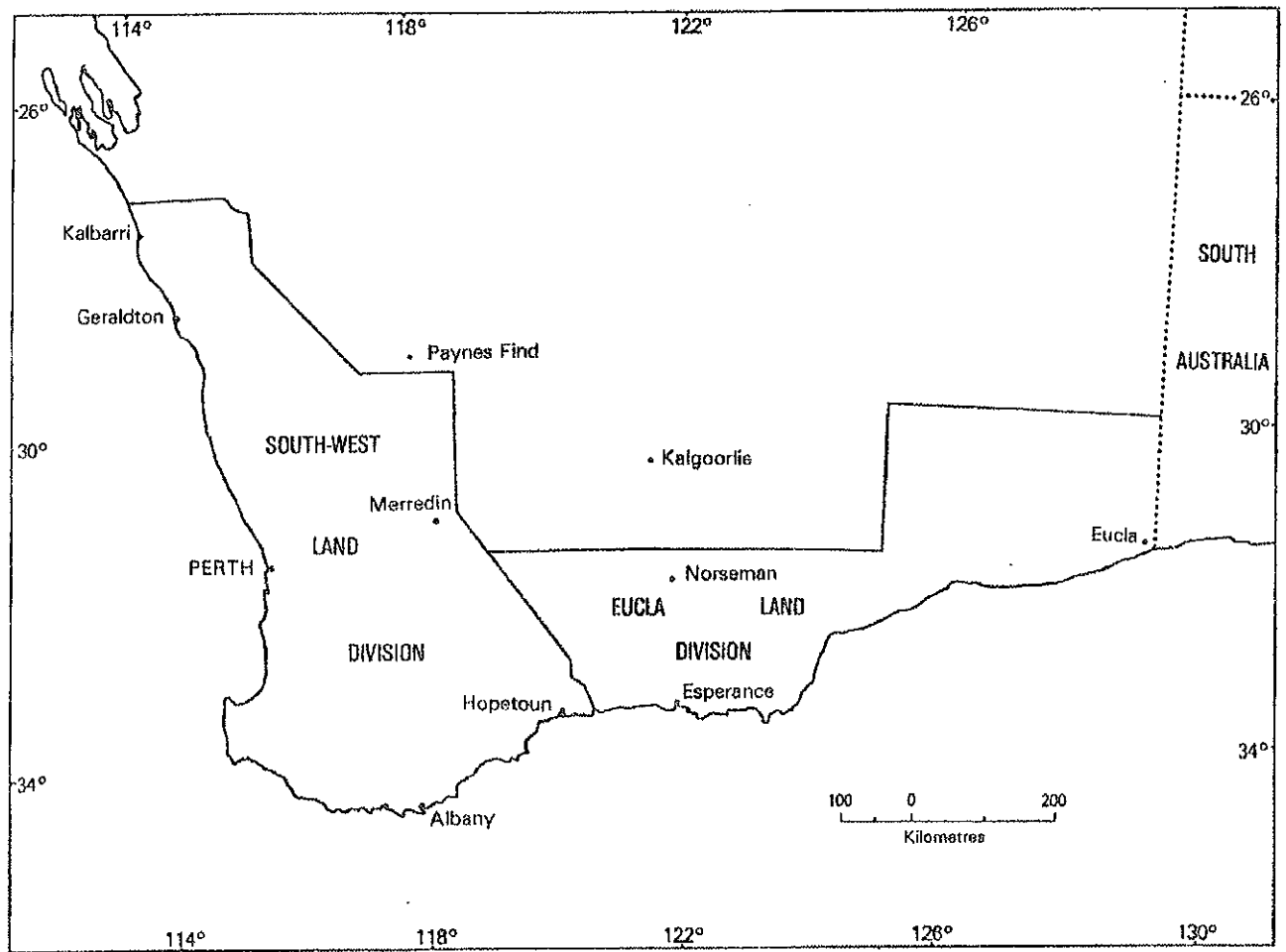
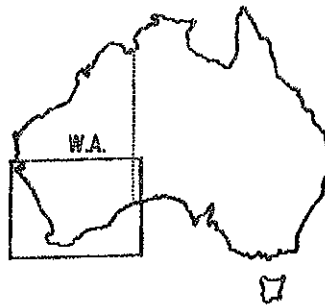


FIGURE 1. Boundaries of the South-West and Eucla Land Divisions.

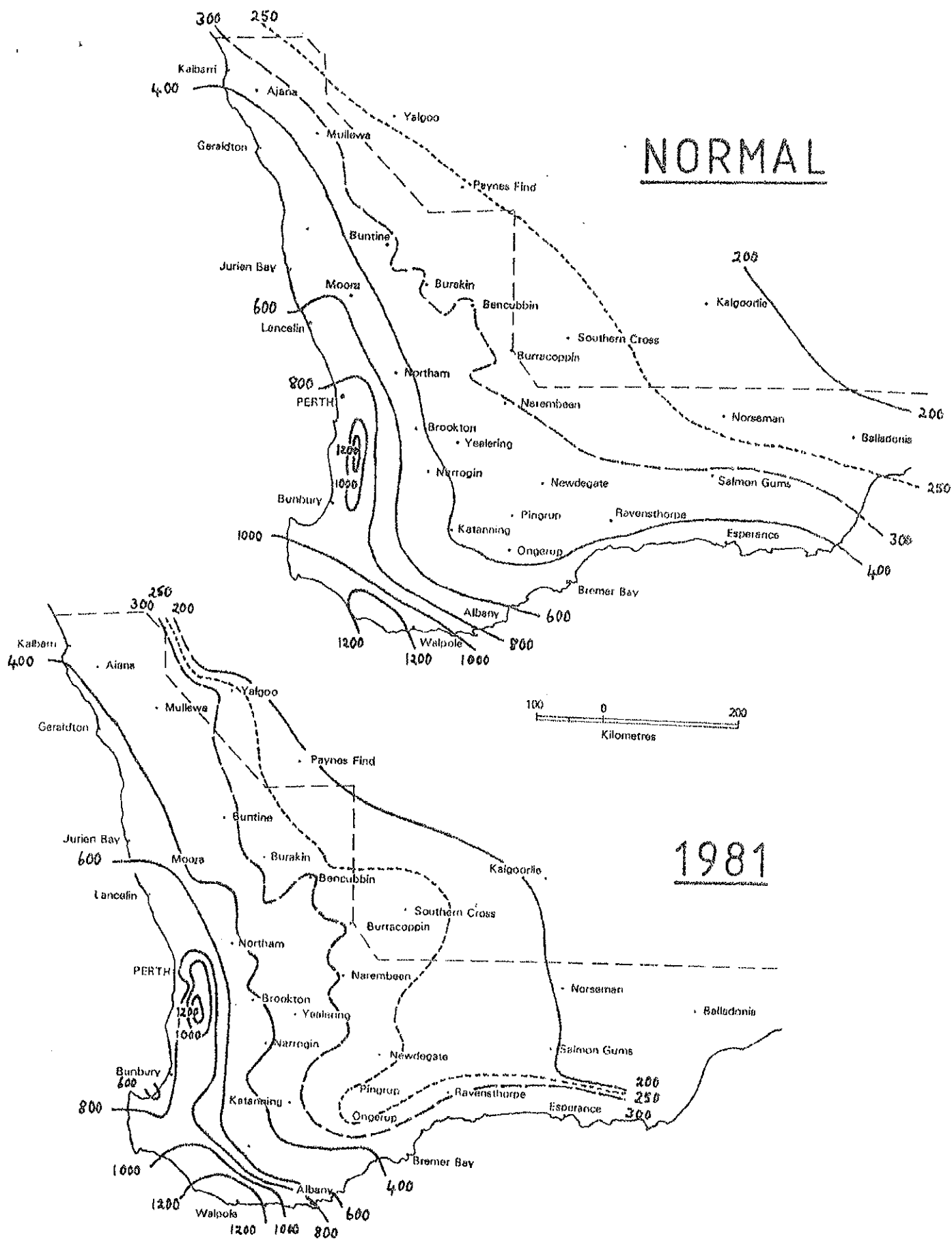


FIGURE 2. Rainfall recorded (mm): Jan-Oct 1981 and Jan-Oct Normal.

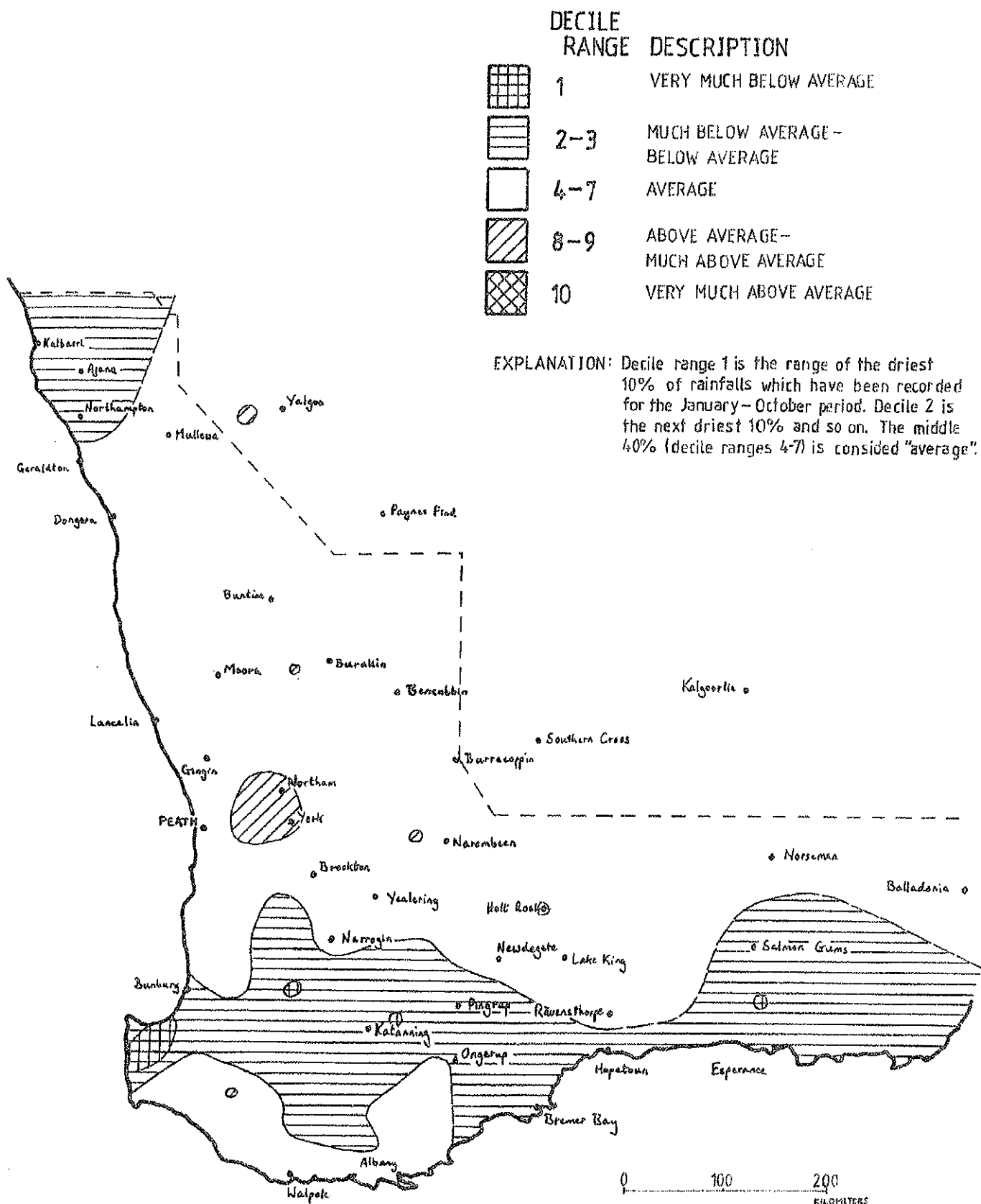


FIGURE 3. Distribution of Decile Range Numbers of Rainfall: January to October, 1981.

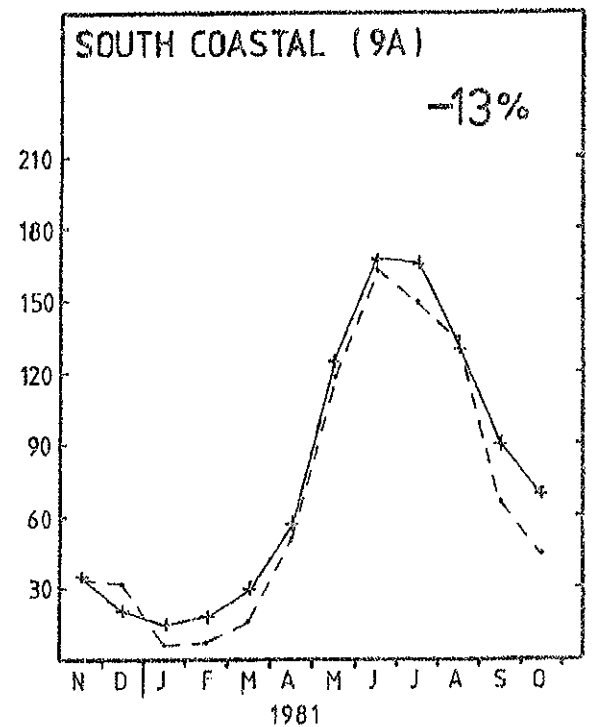
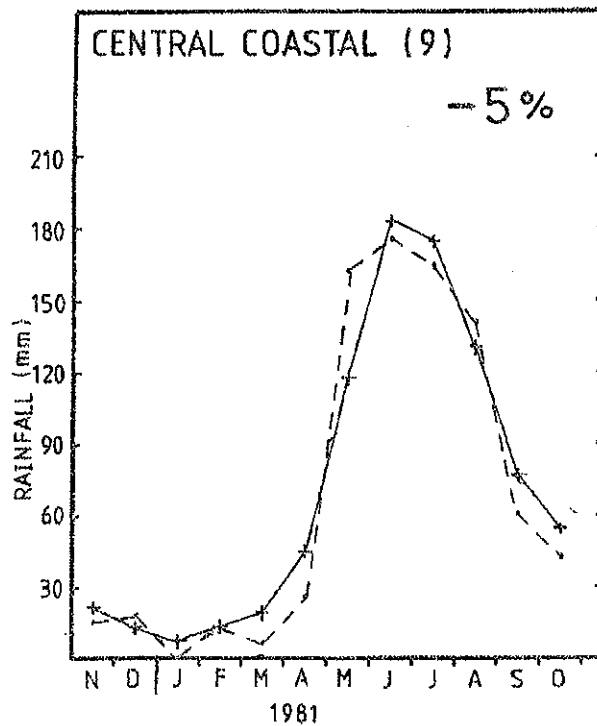
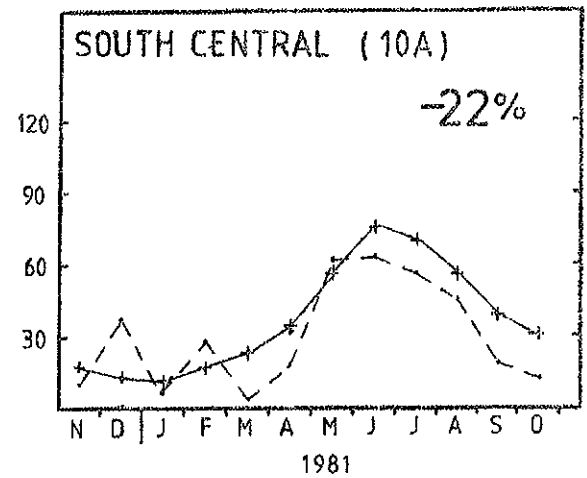
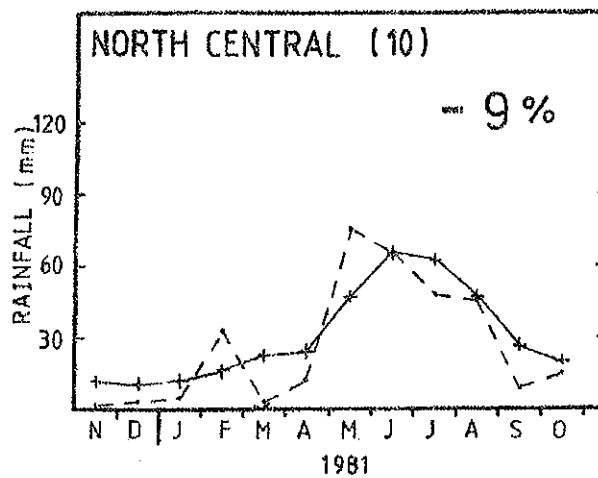
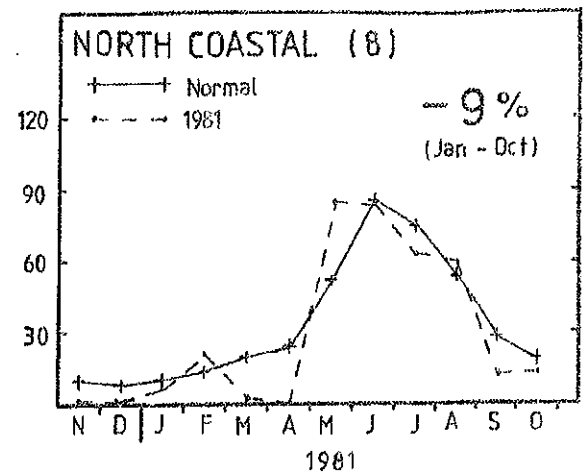
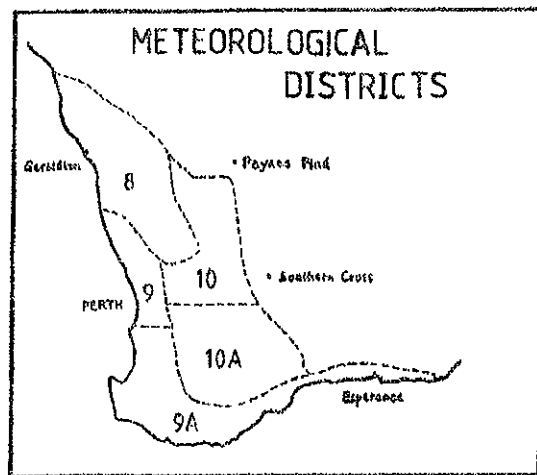


FIGURE 4. Monthly Rainfall Patterns: November 1980 to October 1981

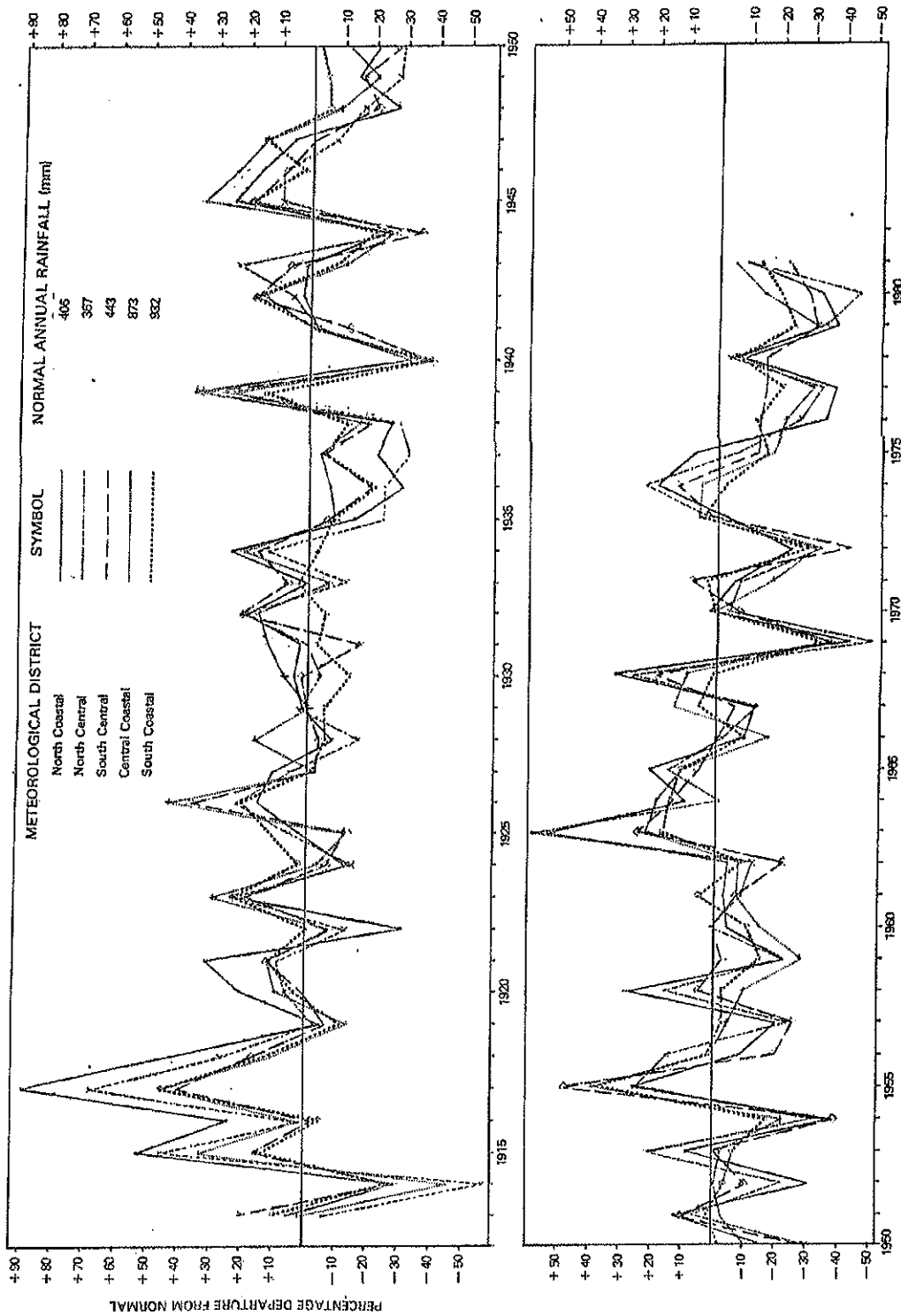


FIGURE 5 Rainfall recorded annually in each of the Meteorological Districts of the south-west, from 1913 to 1981, expressed as percentage departures from normal.

Percentage departures from normal for 1981 are based on January-October rainfall.
 Normal rainfalls for this period are 53-96% of annual totals.

WETLAND No.	WETLAND NAME	DEPTH (metres)				MAXIMUM RECORDED NOV-JAN DEPTH DECREASE (metres)
		NOV 1978	NOV 1979	NOV 1980	NOV 1981	
1	LOGUE		DRY	DRY	1.55	-
2	CAPAMAURA			DRY	0.70	-
3	EGANU	1.78	0.20	DRY	2.28	0.43
4	PINJARREGA		1.10	DRY	2.14	-
5	STREETS	0.04	DRY	DRY	1.21	-
6	HINDS		DRY	DRY	1.00	-
7	NINAN	0.25	0.23	DRY	1.96	-
8	MOLLERIN			DRY	<0.01	-
9	WALYORMOURING	0.03	0.03	DRY	0.51	-
10	CAMPION		DRY	DRY	0.65	-
11	NOONYING		0.85	DRY	1.18	0.38
12	DOBADERRY			DRY	0.49	-
13	BEVERLEY	1.65	0.63	0.24	1.70	0.50
14	MEARS	1.74	0.72	DRY	1.00	0.54
15	NONALLING		DRY	0.88	0.75	0.43
16	BROWN		<0.16	DRY	1.46	-
17	YEALERING	1.67	0.56	0.32	1.94	0.56
18	DULBINNING		DRY	DRY	0.70	-
19	TOOLIBIN	DRY	DRY	DRY	1.35	-
20	WALBYRING		DRY	DRY	0.37	-
21	TAARBLIN	DRY	DRY	DRY	<0.08	-
22	BOKAN		DRY	0.02	0.39	-
23	LITTLE WHITE		DRY	0.47	0.81	-
24	KWOBRUP		0.14	DRY	DRY	-
25	COYRECUP	1.00	DRY	<0.13	0.35	-
26	CASUARINA	DRY	DRY	<0.49	0.90	-
27	COOMELBERRUP	0.53	DRY	DRY	0.36	0.32
28	COBLININE		0.91	1.27	1.21	0.39
29	DUMBLEYUNG		<0.13	0.13	0.25	-
30	GUNDARING	0.82	0.48	0.67	0.95	0.48
31	PARKEYERRING	0.49	DRY	<0.10	0.60	0.41
32	FLAGSTAFF		DRY	0.14	0.26	-
33	WARDERING	0.82	0.24	0.66	0.99	0.40
34	QUEEREARRUP	0.34	DRY	0.30	0.57	0.34
35	MARTINUP		DRY	0.24	0.33	-
36	WEST ARTHUR 5456			DRY	0.80	-
37	TOWERINNING	1.69	0.81	0.54	1.10	0.51
38	KONDININ		0.20	DRY	0.62	-
39	GOUNTER			DRY	0.10	-
40	ACE			DRY	<0.02	-
41	PALLARUP			DRY	<0.07	-
42	KENT 29020			DRY	DRY	-

TABLE 1 : November depths of monitored wetlands; 1978-1981. Refer to Figure 8 (fold-out map) for wetland locations.

WETLAND No.	WETLAND NAME	DEPTH (metres)				MAXIMUM RECORDED NOV-JAN DEPTH DECREASE (metres)
		NOV 1978	NOV 1979	NOV 1980	NOV 1981	
43	BRYDE		DRY	DRY	DRY	-
44	CAIRLOCUP			DRY	DRY	-
45	GNOWANGERUP 26264			0.07	DRY	-
46	CAMEL			0.19	DRY	-
47	CRANBROOK 25812			0.20	0.06	-
48	ENEMINGA			DRY	3.00	-
49	CRACKERS			DRY	0.05	-
50	KARAKIN		0.55	0.82	0.98	0.82
51	WANNAMAL	1.14	1.15	1.24	1.23	0.80
52	YURINE		1.01	0.66	2.20	0.60
53	GINGIN 31241		2.08	2.14	2.07	0.60
54	BAMBUN		2.27	2.31	2.32	0.50
55	NAMBUNG		DRY	0.07	0.49	-
56	MUNGALA		0.10	0.12	0.70	-
57	CHANDALA		0.74	0.82	0.70	0.44
58	CHITTERING	1.39	1.38	1.45	1.31	0.45
59	JANDABUP	1.35	1.25	1.22	1.27	0.39
60	JOONDALUP	3.01	2.87	2.88	2.92	0.35
61	THOMSONS	0.94	0.17	0.86	0.90	0.44
62	FORRESTDALE	0.92	0.30	0.79	0.93	0.42
63	MURRAY 24739			0.57	0.32	0.57
64	HARVEY 12632			1.16	1.08	0.51
65	BOYUP BROOK 18239			<0.05	DRY	-
66	UNICUP			0.60	0.64	0.35
67	MUIR		0.14	0.17	0.52	-
68	BYENUP	2.40	2.27	2.14	2.38	0.29
69	TORDIT-GARRUP	3.15	2.91	2.75	2.88	0.29
70	POORGINUP	0.55	0.53	0.55	0.54	0.23
71	WARRINUP			0.21	0.12	-
72	KWORNICUP		0.41	0.26	0.39	0.33
73	PLANTAGENET 25386		0.73	0.48	0.41	0.73
74	ALBANY 27157			1.10	0.84	0.23
75	PLEASANT VIEW		2.20	1.52	1.15	0.28
76	MOATES		4.44	4.51	4.32	0.46
77	JERDACUTTUP		2.41	1.30	0.62	0.38
78	SHASTER		1.04	0.17	0.20	0.37
79	GORE		1.72	1.35	1.32	0.30
80	SHARK		2.40	2.25	2.29	0.25
81	WARDEN		1.53	<0.84	0.66	0.32
82	MULLET			0.57	0.53	0.35

TABLE 1. CONT'D...

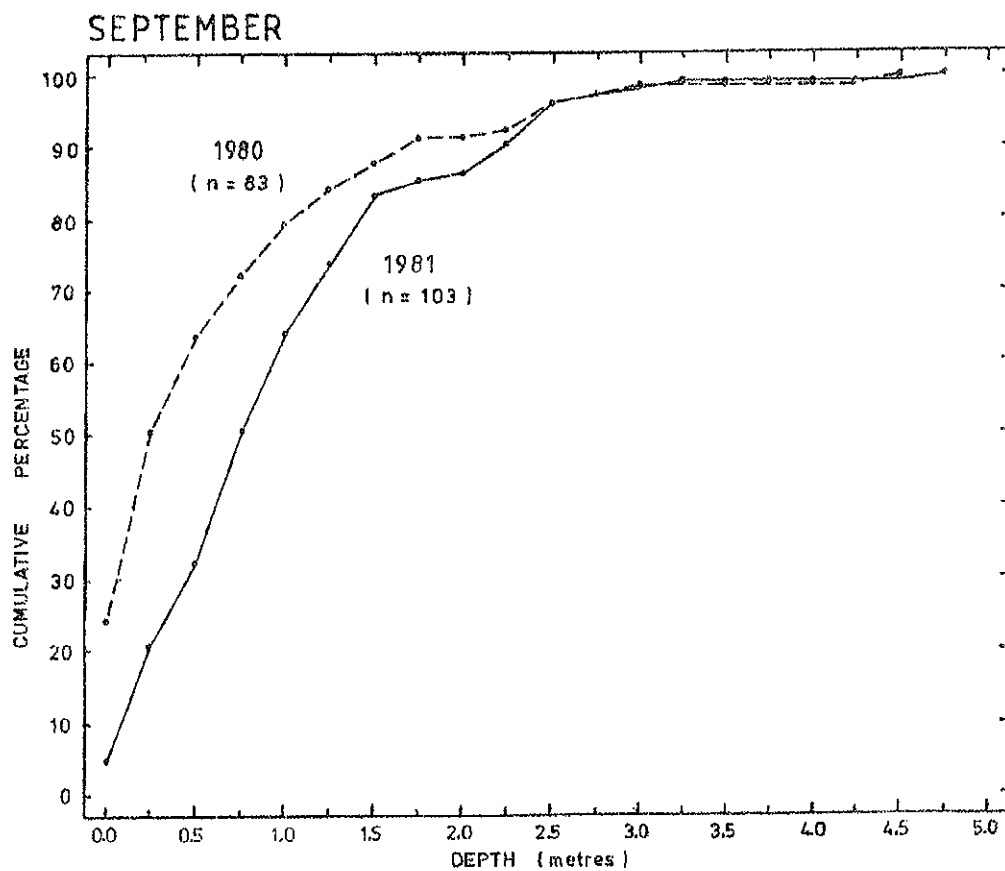
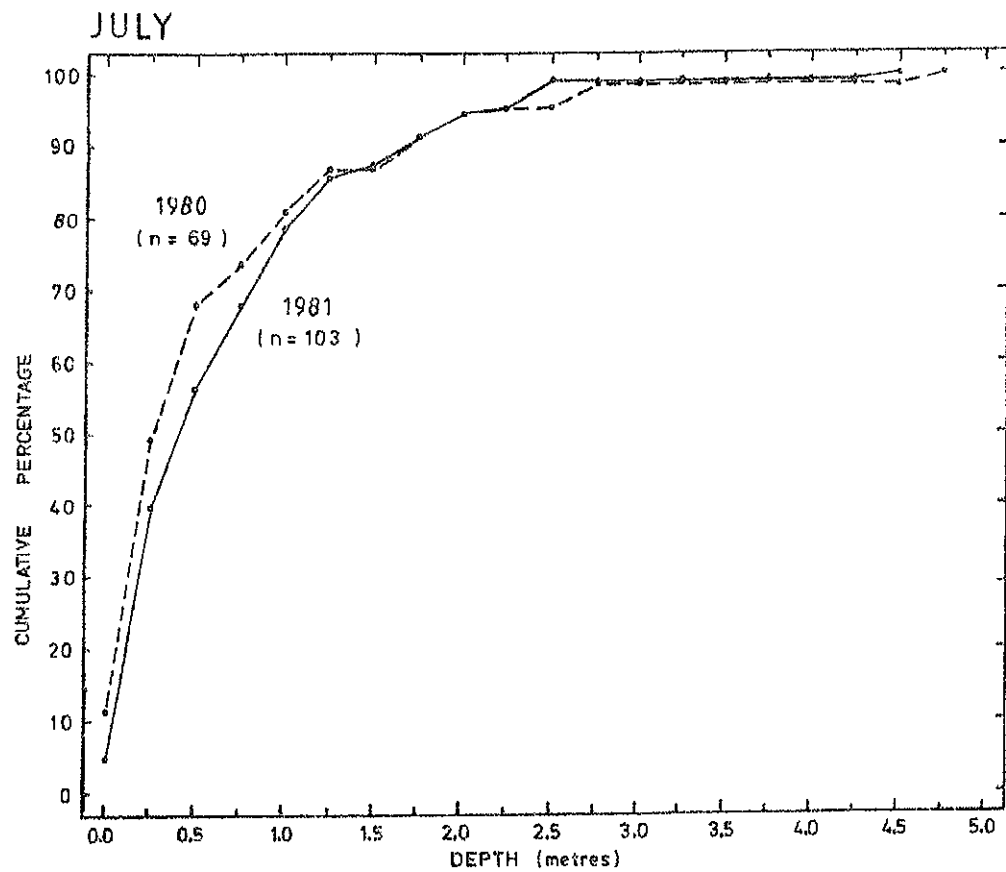


FIGURE 6. Year to year comparisons of depths of monitored wetlands. "n" is the number of wetlands monitored.

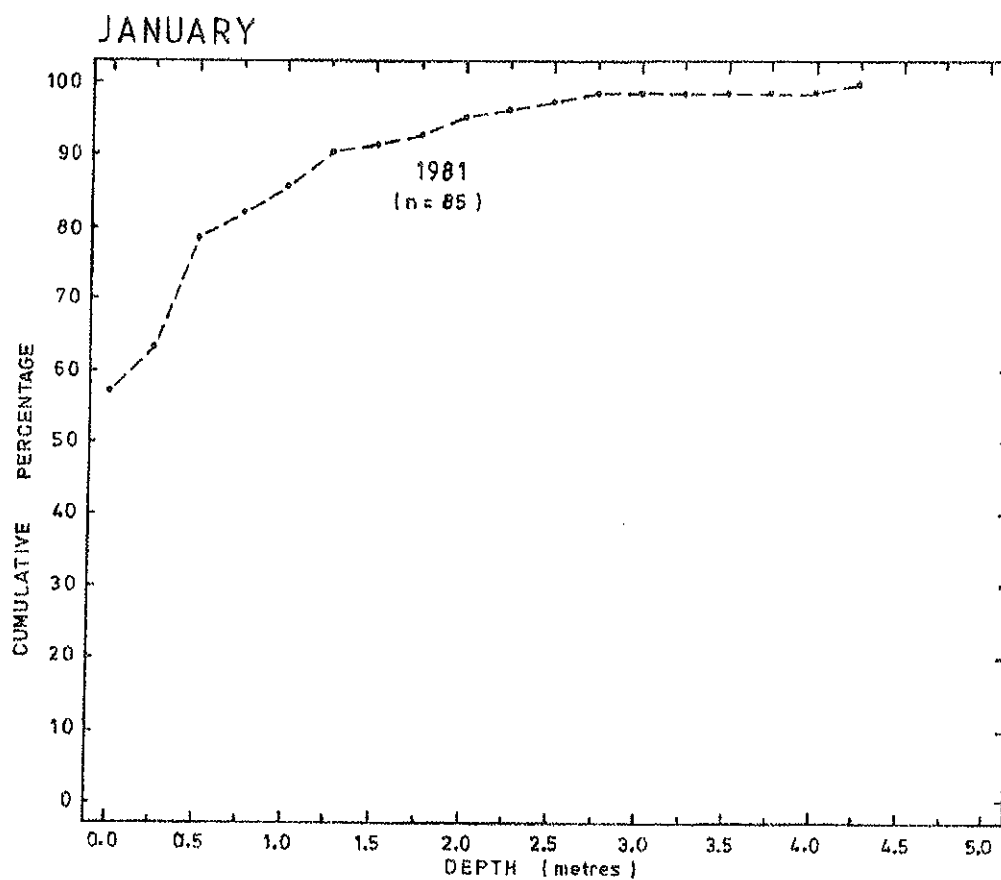
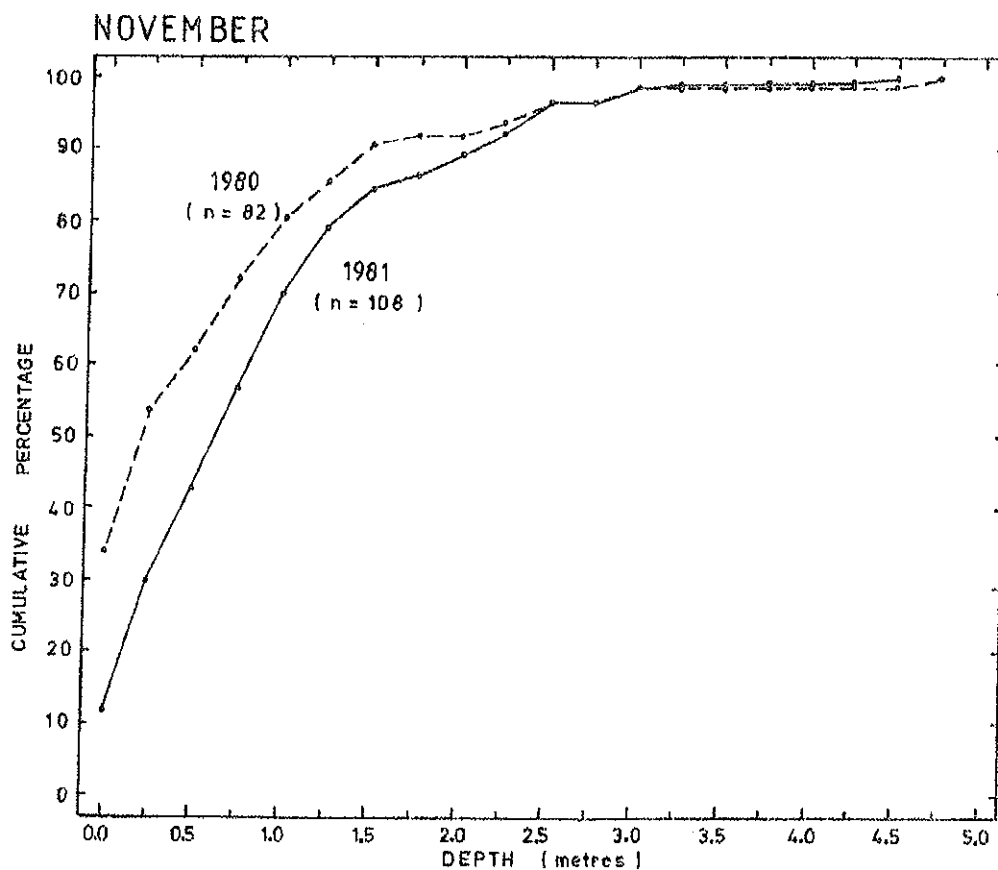
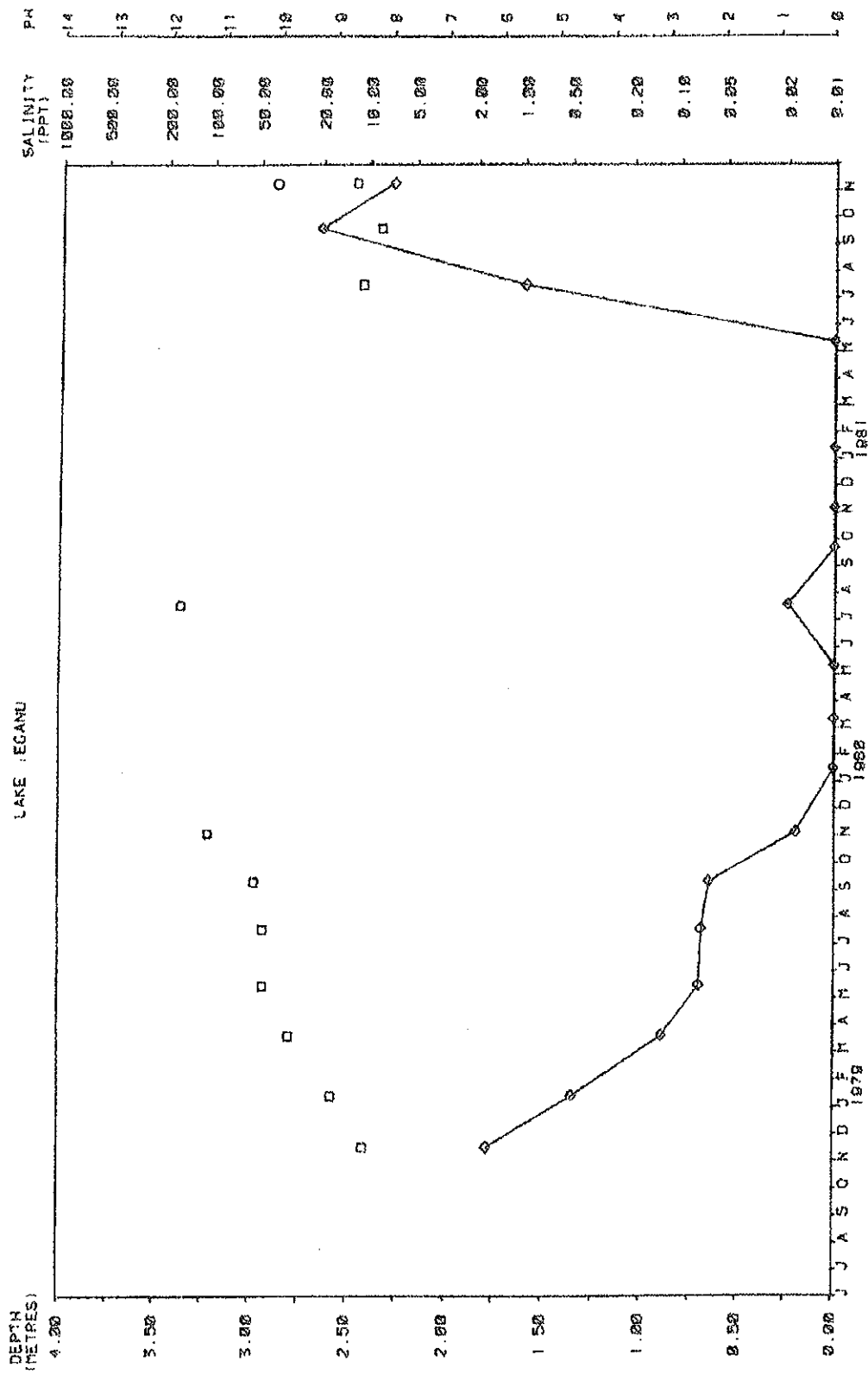
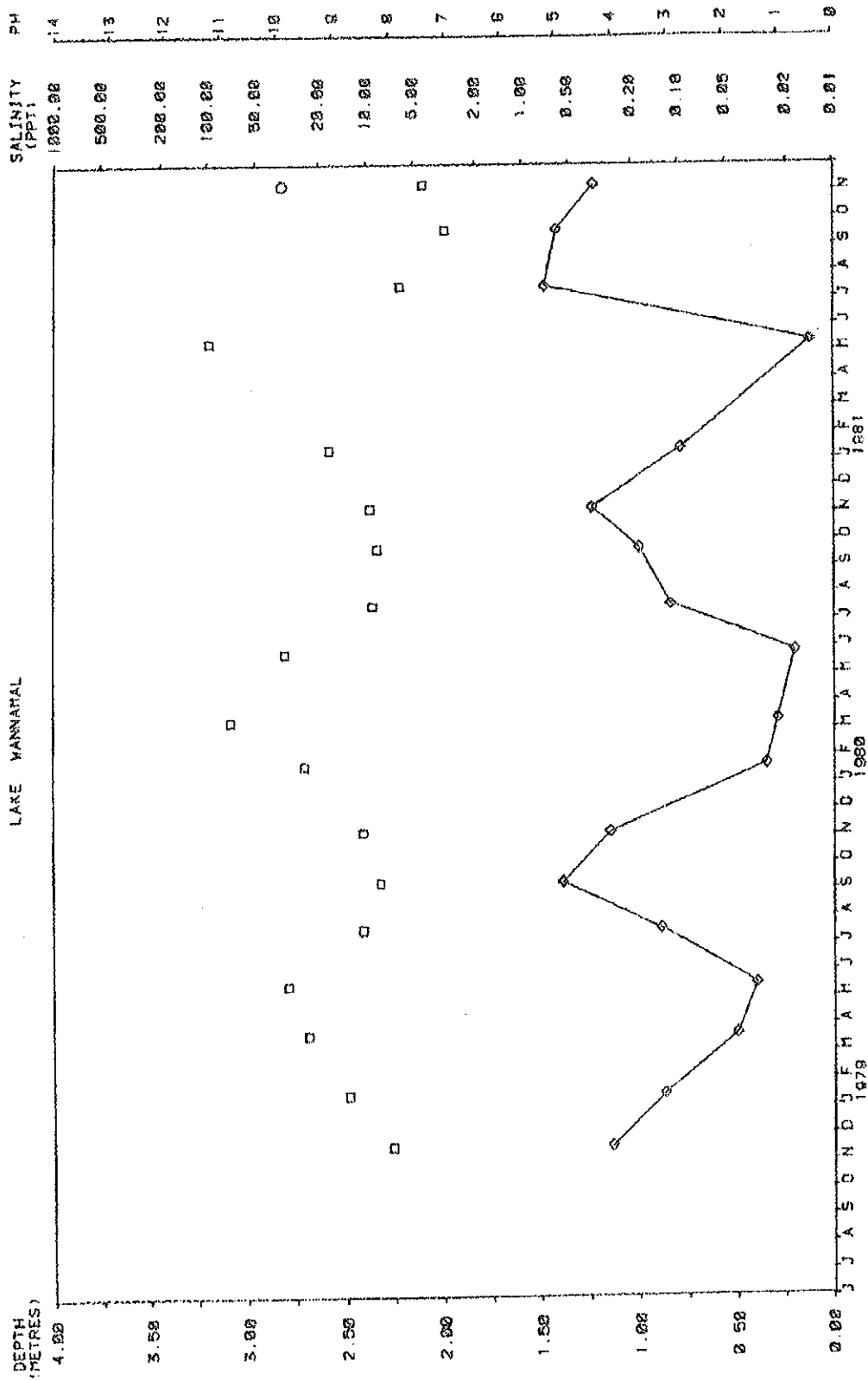


FIGURE 6 CONTD.



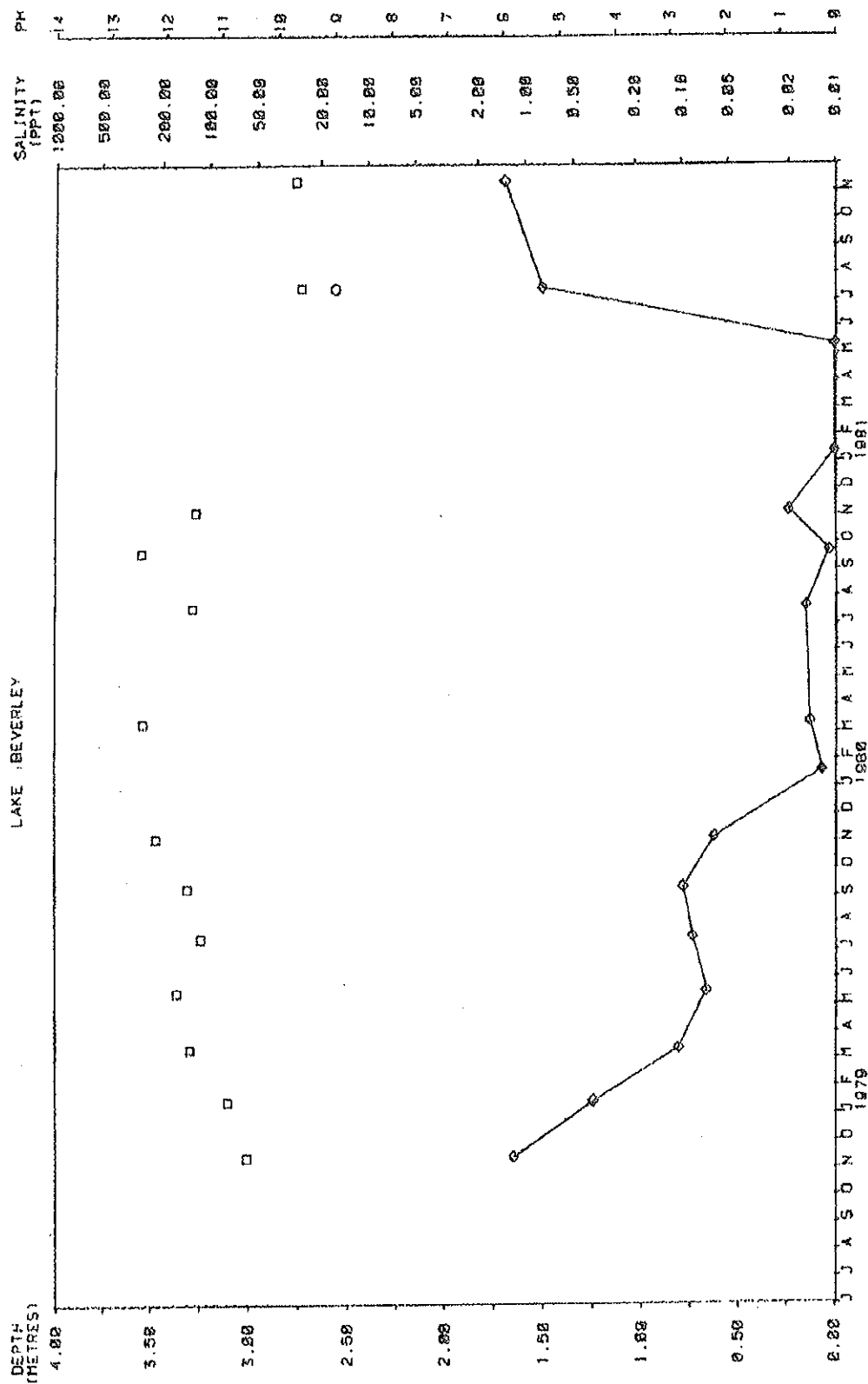
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 WATERBIRD RESEARCH

◊ DEPTH ◻ SALINITY ○ PH FACTOR



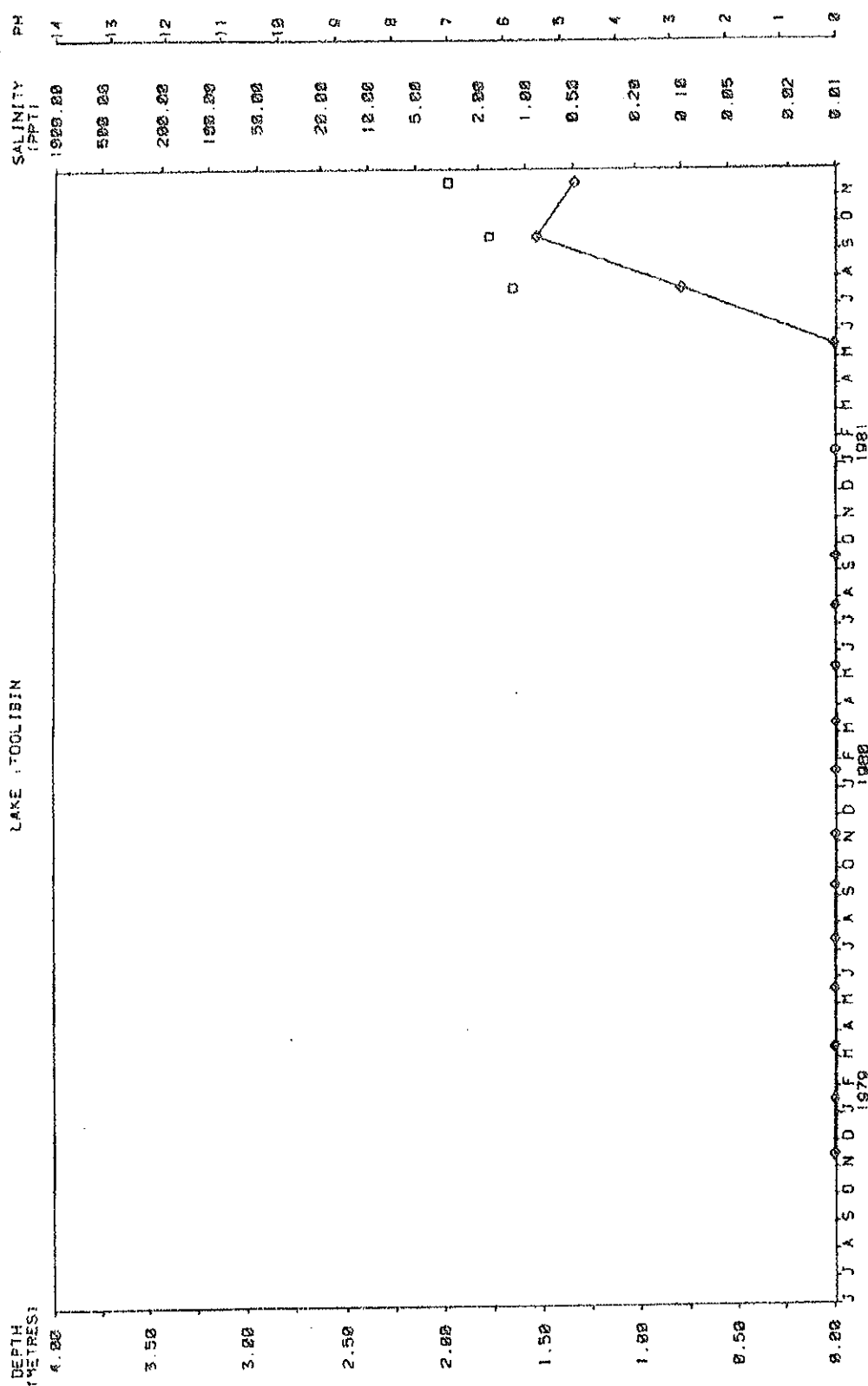
WA DEPT FISHERIES + WILDLIFE
WATERBIRD RESEARCH

◇ DEPTH □ SALINITY ○ PH FACTOR



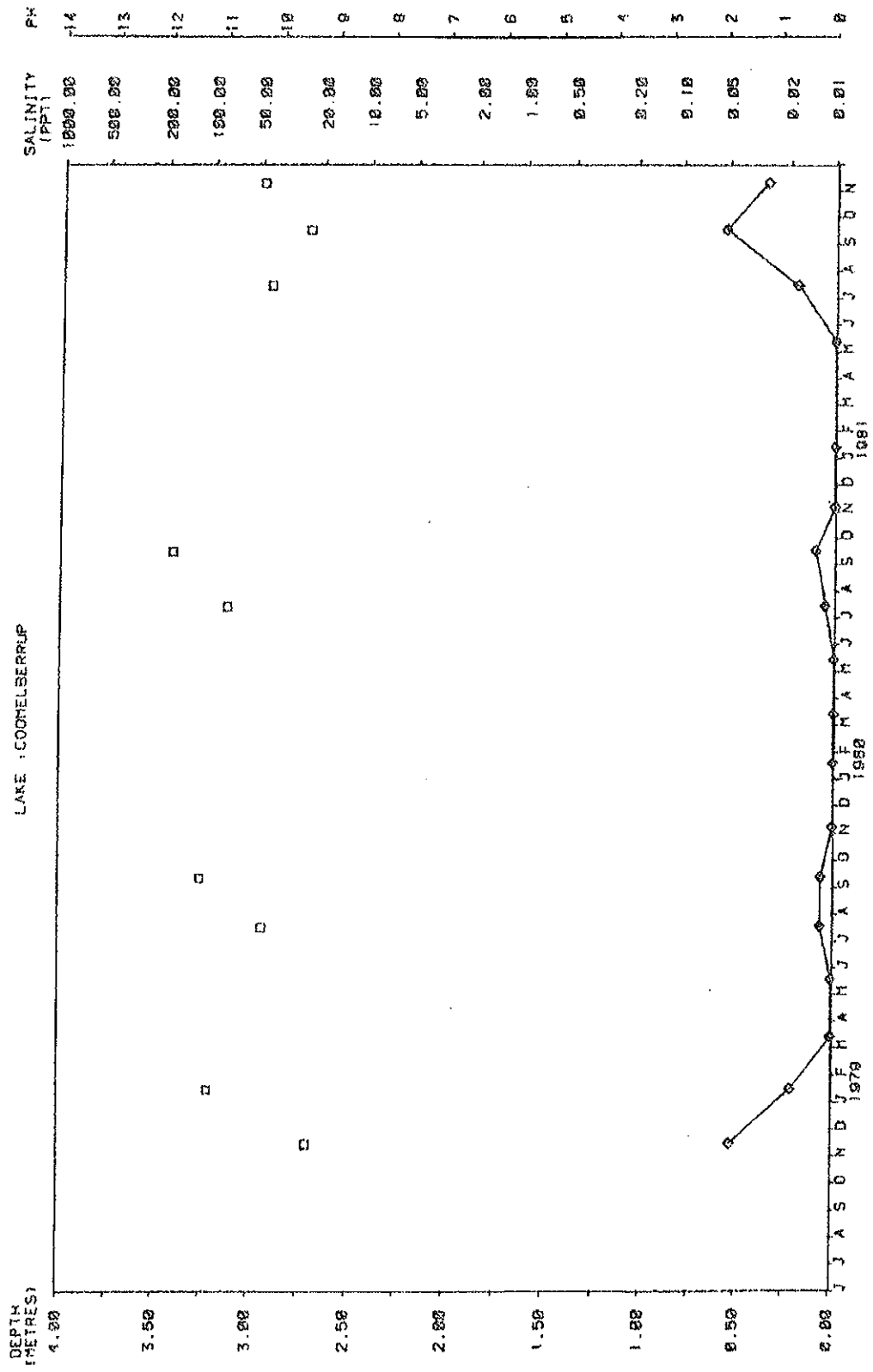
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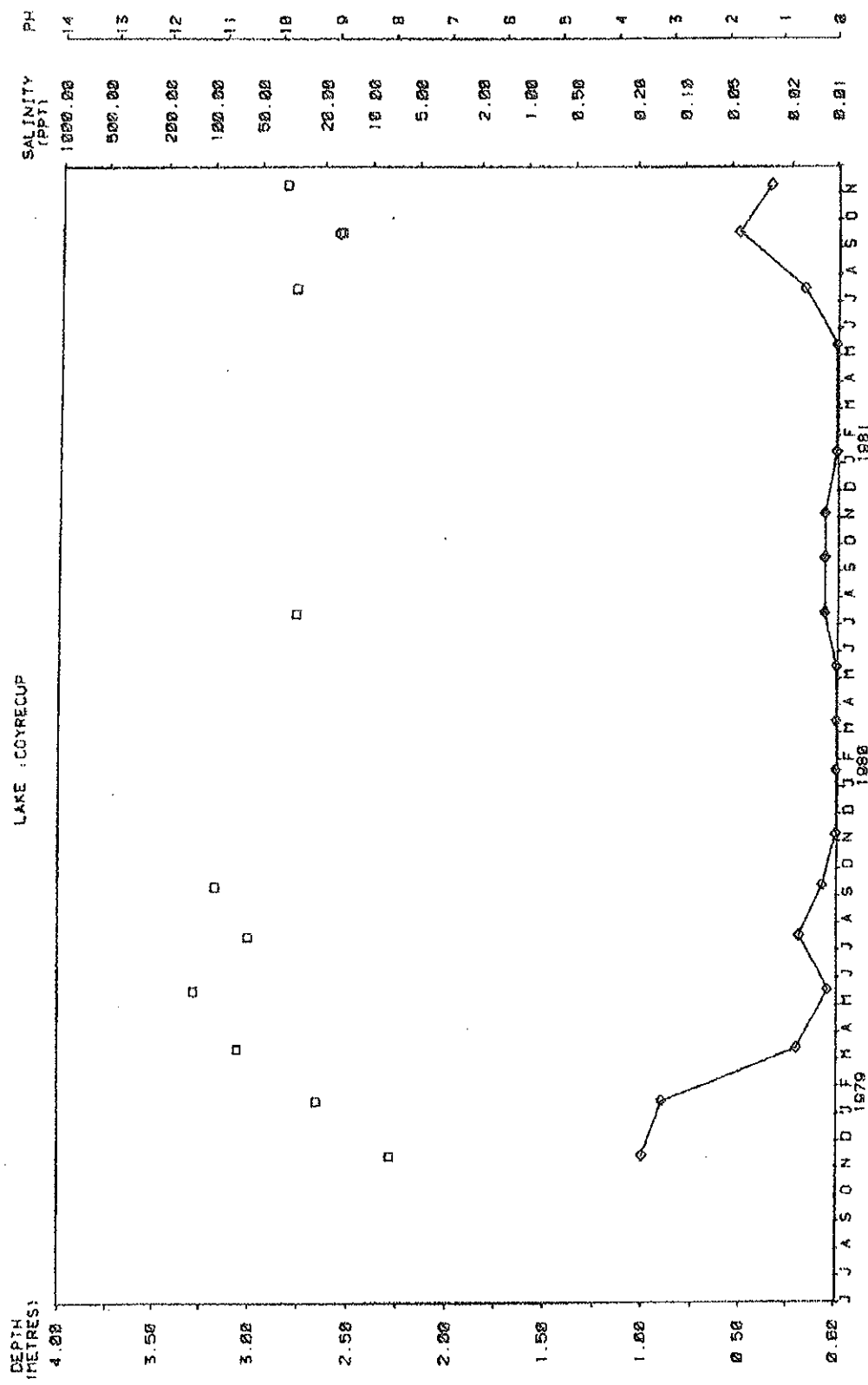
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WATERBIRD RESEARCH

○ DEPTH □ SALINITY ◇ PH FACTOR



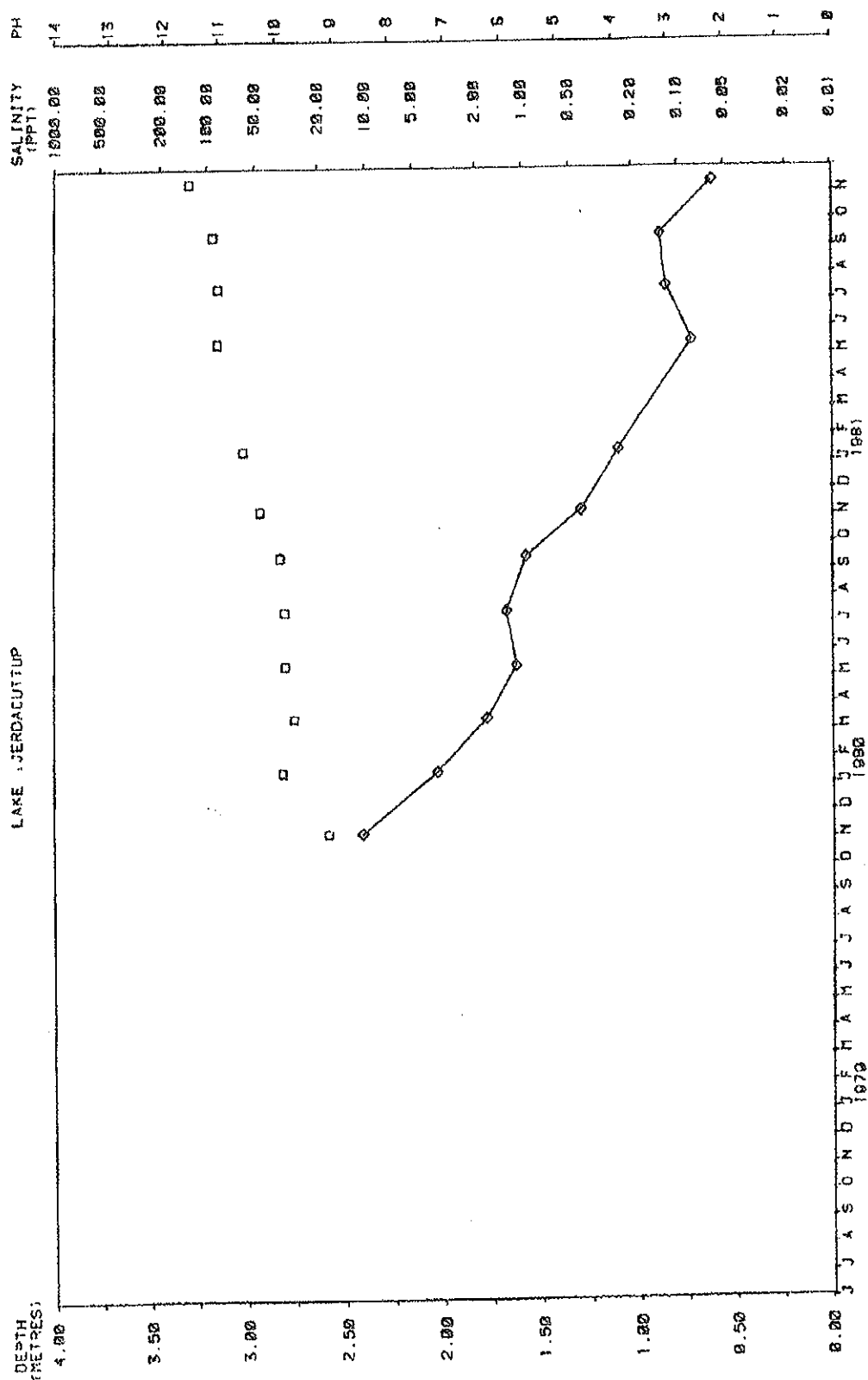
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SUMMARY

RAINFALL

Rainfall was average over central and northern areas of the south-west during 1981, with small areas of above-average rainfall in the Northam-York-Chidlow vicinity and below-average rainfall north of Geraldton (see Figure 3). Rainfall in southern areas, however, was generally below - to much-below-average. South coastal areas from Augusta to Albany and north to Borden received average falls.

District Rainfall Averages in 1981 were, in most cases, substantially higher than those recorded in 1979 and 1980 however none exceeded the long term average. (Figure 5).

Unusually heavy falls were recorded in North Coastal, North Central and Central Coastal Districts in May, and average falls were recorded in all Districts (except the South Central) in June and August (Figure 4). Falls were generally below average in March, April, July, September and October.

WETLANDS

Wetlands in central and northern areas of the south-west showed substantial increases in depth from 1979 and 1980 to 1981 (Table 1). Most also exceeded 1978 levels. Many important waterfowl sites which were dry in November 1980 contained 1.00 metres or more in November '81 (e.g. Logue, Streets, Hinds, Ninan, Noonying, Mears, Brown and Toolibin). Some were more than 2.00 m deep (e.g. Eganu, Pinjarrega and Eneminga).

Wetlands in southern areas (south of a line through Wagin, Lake King and Salmon Gums) also showed some improvement on levels for the preceding 2-3 years however the increases were generally not as great as those of wetlands further north. Water levels of some gauged wetlands were still lower than those recorded in 1978 (e.g. Coyrecup, Coomelberrup and Towerinning).

Water levels of gauged wetlands of the south coast from Albany to Esperance were similar to or below those of 1980. All were below 1979 levels, some markedly so (Pleasant View, Jerdacuttup, Shaster and Warden).

Summarizing, 1981 saw a substantial (and in some cases, dramatic) improvement in the condition of wetlands in central and northern areas of the south-west to pre-1978 levels; a less substantial but significant improvement in the condition of wetlands in southern areas; and a further, slight deterioration in conditions on the south coast from Albany to Esperance.

Unlike the summers of 1979/80 and 1980/81 when virtually all wetlands of inland areas of the south-west were dry by January, in 1981/82 many wetlands of the inland, in addition to those of the coast, will hold water at least until March, and in some cases right through to next winter.

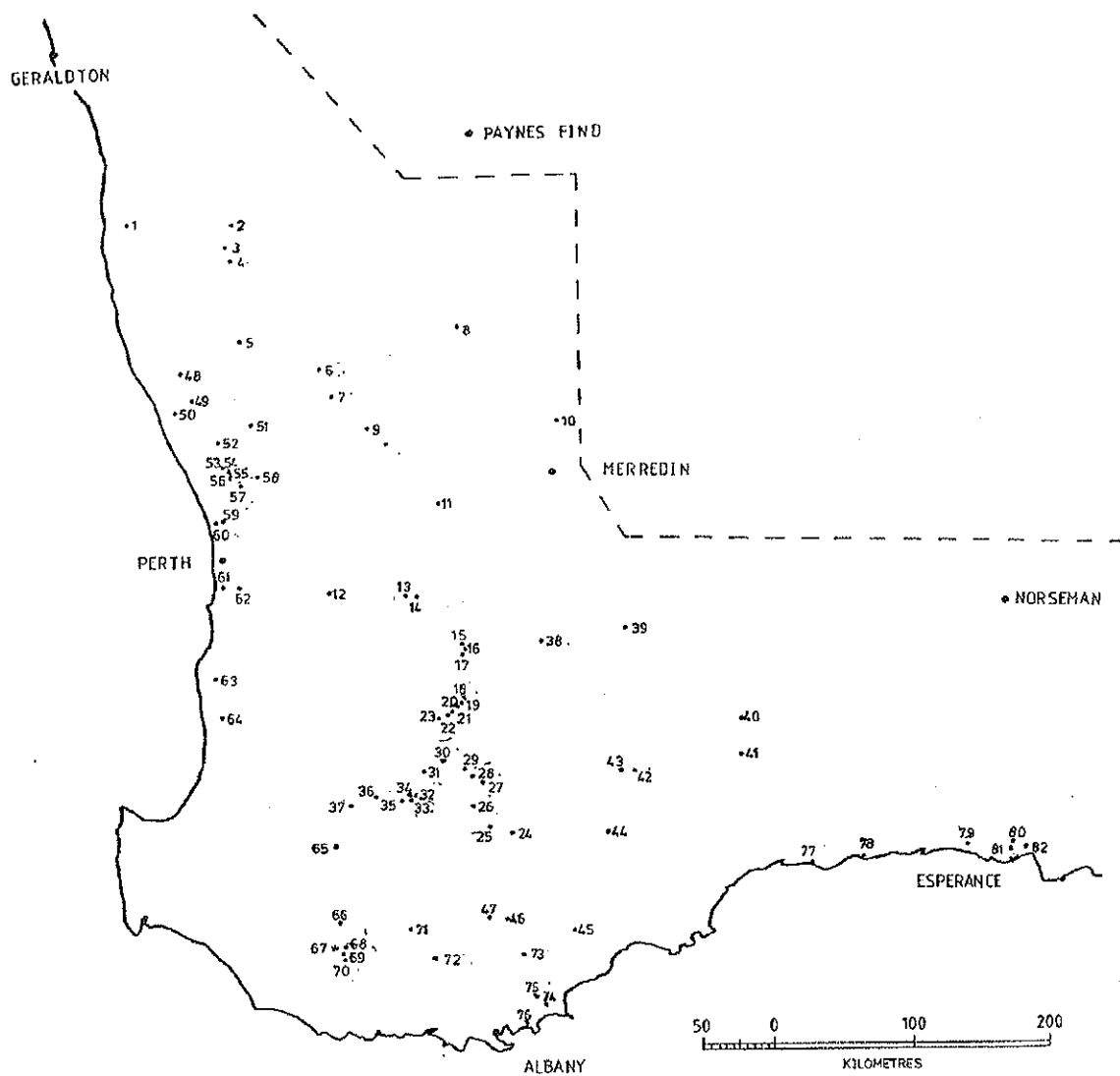


FIGURE 8. Location of Gauged Lakes.