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EPISODIC FLOOD EVENTS OF RIVERS CROSSING THE DESERT

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Important questions are now:

- is this a random temporary situation or does it indicate a trend?
- if there is a trend, what is the reason, and will it carry on in future?

The following considerations must be borne in mind:

- There has been a severe rainfall drought in the central area of the country in the late seventies and early eighties, which sufficiently explains the absence of floods in the desert during that period;
- Two major impoundments were built on the Swakop River in the past two decades; Von Bach Dam (1970) and Swakoppoort Dam (1977) with a combined interception capacity of 119 million cubic metres. This might explain, for this river specifically, why the recovery after the drought period was only partial. It indicates that the trend of a lower frequency of floods in the desert will persist.

The period of drought alone does, however, not fully explain why the Kuiseb's river régime has shown a similar decline over the past 10 to 15 years (see FIGURE 6). There is no evidence of major developments in the catchment recently. Apart from irregular changes in the rainfall pattern, one would like to speculate that the catchment response has been modified through a change of unknown nature in catchment management.

5. CONCLUSION

Because of the high variability experienced in the rainfall, and consequently runoff, the importance of further monitoring the hydrology of these rivers should be appreciated.

DRAINAGE SYSTEM IN NAMIBIA

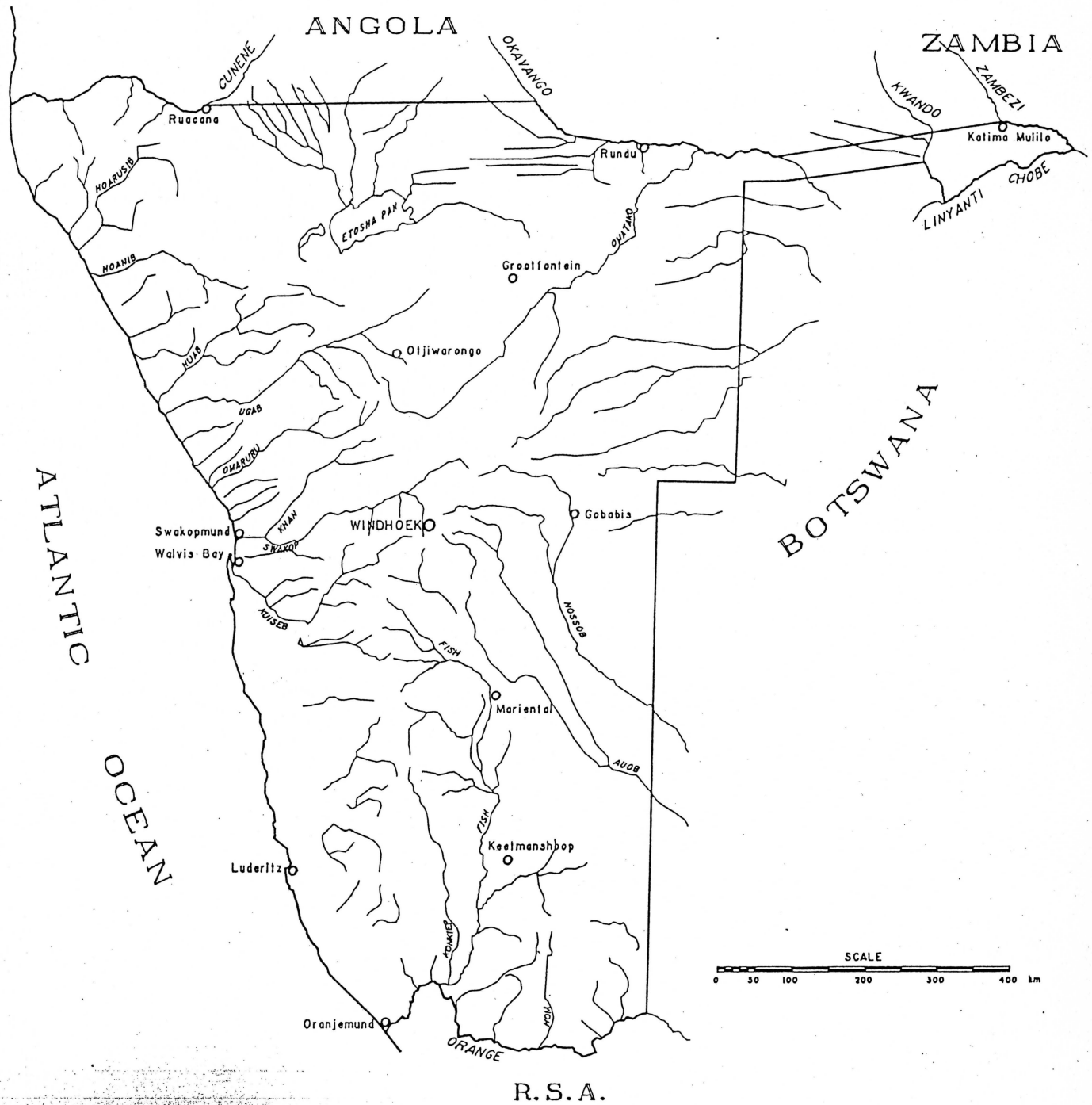


FIGURE 1

ANNUAL FLOW VOLUME (MILLION M3)

FLOW AT SWAKOPMUND

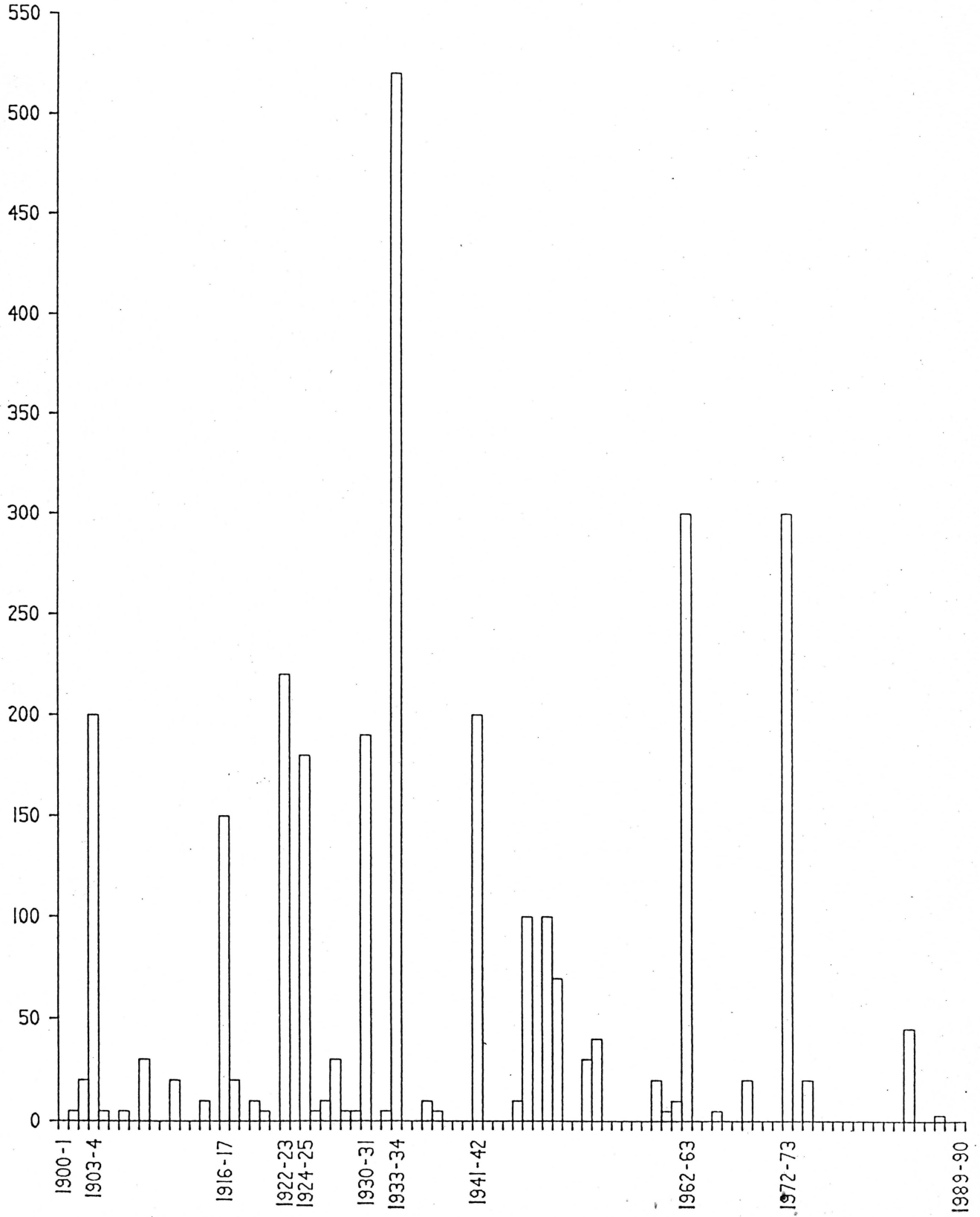


FIGURE 4