SOME OBSERVATIONS ON ZAMBEZI RIVER RAINFALL NEAR MANA POOLS

THE ZAMBEZI SOCIETY - February 2023

A typical rainy season view from Mana Pools across the Zambezi River towards storms on the Zambian escarpment mountains

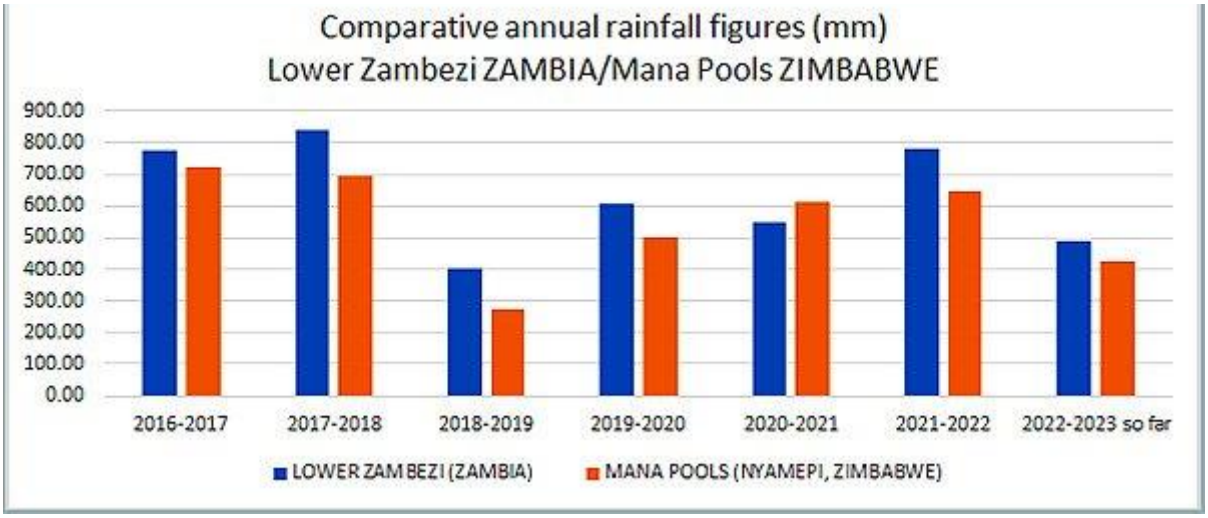
Not many people (except those who work there) get to experience the rainy season months in Mana Pools, and to witness scenes like the one pictured above. We feel privileged, over our many years of operation in the Zambezi Valley, to have been there and done just that.

So it seemed worthwhile to take a slightly closer look at rainfall trends in the Mana area at this time of the year, to see if the figures agree with some of our own personal impressions and experiences from over the years.

Anyone who spends time in Mana Pools during this period cannot fail to notice how most of the rain in the area seems to fall on the escarpment mountains in Zambia! So many times we watch from the Zimbabwe side of the river as the stormclouds gather and release a downpour on the hills opposite, while Nyamepi receives nothing but the dust from a forceful downburst of wind coming out of Zambia's storm! Quite often, when the floodplain is nothing but dust, the inland jesse and mopane woodland areas to the south are green and lush with pans full of water, having received early, heavy rain only about 30 kilometres to the south of the river. It is clear that the Mana Pools floodplain lies in a "rain-shadow" area, as the wind driving these rainstorms comes predominantly from the North.

Furthermore, it certainly seems as though the poor Mana"floodplain" area has been experiencing more and more extended end-of-year drought periods lasting well into December. The significant rains seem to be coming only in late December or even not until January. This means that the lack of grass and leaf cover that is always predominant in October- November each year, is now being extended for several weeks longer than usual. This results in grazing and browsing species being absolutely desperate for food in December. Antelope like impala are forced to delay their normal calving time to co-incide with the delayed rains, and when they do calve, they are vulnerable to losing their off-spring to hungry baboons desperate for food. Erosion is increased as several months without grass cover has left bare earth exposed to winds which sweep it up and carry it away during duststorms.

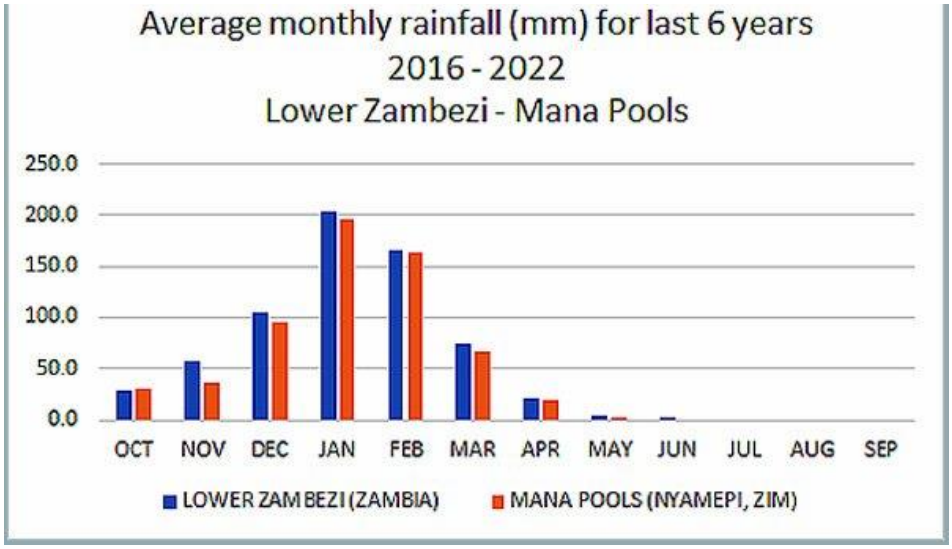
So we asked our friends at Conservation Lower Zambezi on the Zambian side of the river, and at the ZimParks Mana Pools station at Nyamepi to give us some rainfall figures for the past few years, to see if our impressions might be borne out by the actual rainfall statistics.



The above graph shows rainfall figures (in mm) from 2016 to present from the Lower Zambezi National Park (Zambia) in blue, and Mana Pools National Park (Zimbabwe) in red. Recordings were taken on opposite sides of the same stretch of the Zambezi River.

It is interesting to observe that, with the exception of the 2020-2021 rainy season, rainfall on the Zimbabwe side of the river at Mana Pools IS generally lower than on the Zambian side (in some cases, quite considerably lower).

Unfortunately we have been unable, so far, to obtain similar yearly annual rainfall recordings from the escarpment mountains of Zambia and those in Zimbabwe (the latter lying about 50kms south of the river). But we speculate that both of these would show higher figures than those taken along the river either in the Lower Zambezi or Mana Pools – thus underlining the existence of the "rain-shadow" scenario.



The monthly rainfall statistics for the both sides of the Zambezi River (as above) show less of disparity, but it is clear that January produces the most rain. What the graph above does not

show is that most of Mana Pools' December rainfall is, in recent years, mostly falling heavily in the second half of the month, leaving the first two weeks of December still badly droughted.

So – is this all just idle speculation, or is there really some sort of "climate change" shift going on in the rainfall patterns of the Zambezi Valley in the Mana Pools area? And if so, should we be worried?

It's hard to say. But one thing is for sure, we do need to keep a sharp eye on the rainfall patterns into the future.

The Zambezi Society would be most grateful to hear from fellow weather-watchers, tour operators, conservation entities or interested visitors who have a long-standing relationship with this area, what their own experiences or thoughts are regarding changes in Mana's local climate. And if you have solid statistics and rainfall measurements to back up your theories – please share them so we can build a better picture.

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