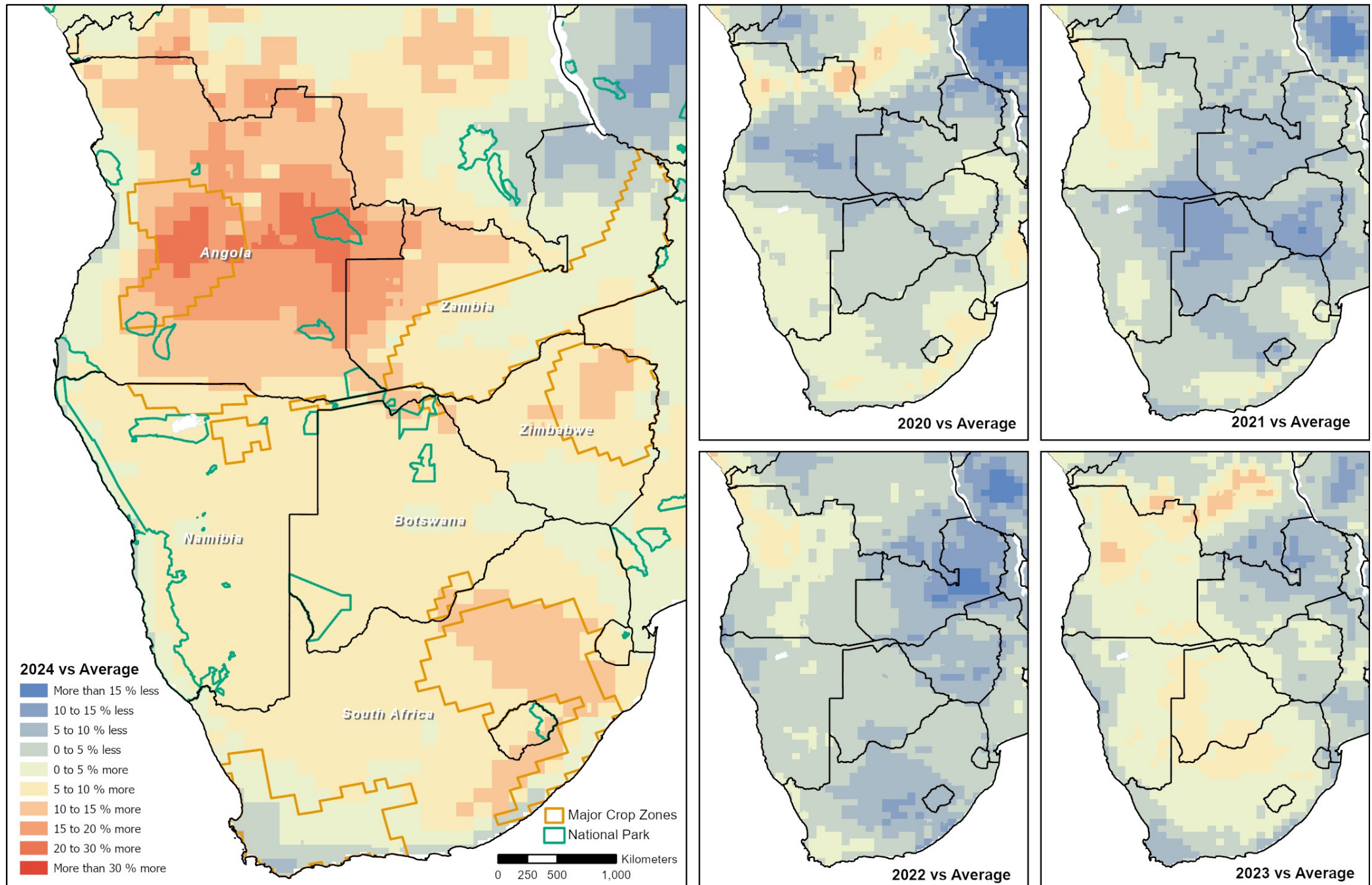


Average Annual Reference Evapotranspiration against Historic Annual (%) Average (1980 to 2019)



Reference Evaporanspiration of 2024 for southern Africa

Reference evapotranspiration (ET_0 , RefET in graphs) is a measure of the rate at which water evaporates from a hypothetical reference surface, that is covered by growing vegetation. The reference surface ensures consistency. ET_0 is an important climatic indicator representing the "evaporating power of the atmosphere". It is only influenced by meteorological factors and not by crop type, growth stage or soil conditions. It is also not a representation of how much water is actually evaporating and available for evaporation.

The main application of reference evapotranspiration is to serve as a benchmark for determining the water needs of crops. Moreover, it is an indicator of droughts, with higher ET_0 indicating drought conditions. ET_0 can further be linked to the health of the hydrological cycle and the effects of climate change.

In that line, the spike in 2024 in the graphs for all southern African countries analysed, can also be linked to the prevalent drought conditions that plagued the region until late 2024. The drought, as also reported in SASSCAL's Info Map "Prolonged Drought in southern Africa in 2023/24", started for large parts of the region during the 2022/23 rainfall year.

These drought conditions are also well reflected in the maps representing the Average Annual Reference Evapotranspiration against Historic Annual (%) Average (1980 to 2019) for 2023 and 2024.

Data Source:
NOAA monthly global reference evapotranspiration (ET_0) reanalysis (1980 to 2024)

References:

1. SASSCAL. 2024. SASSCAL Info Map: Prolonged Drought in southern Africa in 2023/24.
2. Hobbins et al. 2023. [A global long-term daily reanalysis of reference evapotranspiration for drought and food-security monitoring.](#)

