January 2024 Drought Update

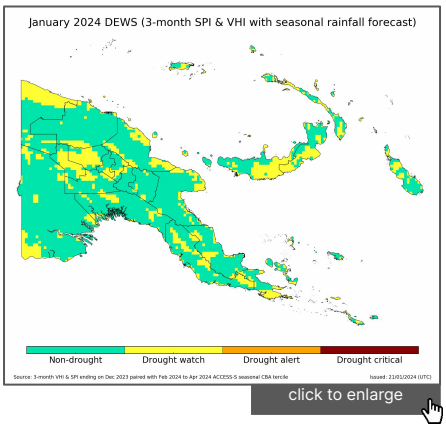
Issued 24/01/2024

Key messages

Hela and NCD continues to be on Drought Watch with Severe Vulnerability levels. El Niño is likely to continue into at least March. Positive IOD steadily weakening. The wet season is set in effect which may mean that this drying influence can be broken by rains with the NW monsoon. While there is still potential that the *drying effects* are in play, their effects may not be physically visible at this time.

Drought Early Warning Status (DEWS)

Derived from observed 3-month rainfall and vegetation health, along with 3-month forecasted rainfall.



- Drought watch conditions persist for Hela and NCD at 3-month timescales.
- At the 12-month rainfall timescale, deficiencies linger for Bougainville and some areas in the Highlands and Momase provinces. Long term deficiencies will have different impacts to short term rainfall deficiencies. Low groundwater, brackish wells and reduced streamflow may be some impacts observed at this timescale.

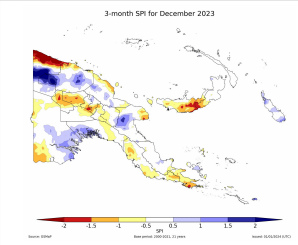
3-month timescale provincial summary

(A province's overall status is given by its majority status on the map and is presented in this summary table)

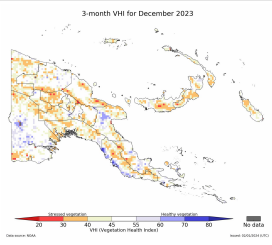
Drought Watch	Drought Alert	Drought Critical
Below average rainfall **or** Stressed vegetation **or** Dry forecast	(Below average rainfall **or** Stressed vegetation) **and** Dry forecast	Below average rainfall **and** Stressed vegetation **and** Dry forecast
East New Britain, Enga, Hela, Manus, Milne Bay, NCD, New Ireland and West New Britain	No Province	No Provinces

3-month DEWS inputs

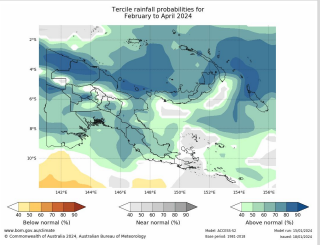
3-month Observed Rainfall
Standardised Precipitation Index – 3 month



3-month Observed Vegetation Health
Vegetation Health Index – 3 month



3-month Forecasted Rainfall
Chance of below, near or above normal rainfall



Links to other timescales:

1-month Drought Early Warning Status
Drought early warning status using 1-month rainfall, 1-month vegetation health and 3-month rainfall forecast.

1-month Standardised Precipitation Index
Rainfall over the last month.

1-month Vegetation Health Index
Vegetation health over the last month.

6-month Drought Early Warning Status
Drought early warning status using 6-month rainfall, 6-month vegetation health and 3-month rainfall forecast.

6-month Standardised Precipitation Index
Rainfall over the last 6 months.

6-month Vegetation Health Index
Vegetation health over the last 6 months.

Provinces at Risk if Drought Occurs

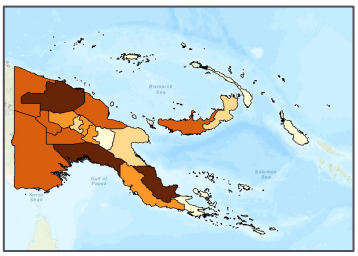
Contextualise drought early warning information with drought risk information.

Drought risk is the probability of harmful impacts resulting from interactions between drought hazard, exposure, and vulnerability. Hazard information is given by the Early Warning Status, with drought exposure and vulnerability levels shown in the maps below.

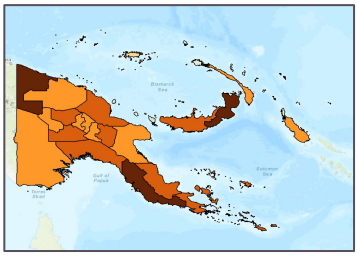
Provinces of concern:

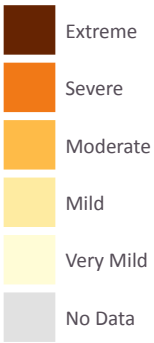
- **Hela** has a majority Drought Watch status with Moderate exposure levels and Severe vulnerability levels.
- **NCD** has a majority Drought Watch status with Mild exposure levels and Severe vulnerability levels.

Exposure - Extent of exposed aspects of the total population and its livelihoods in an area which drought may occur.



Vulnerability - Likelihood of exposed factors to suffer negative impacts when drought occurs.





Climate Context

A summary of the relevant climate drivers affecting PNG over the coming months

- ACCESS-S outlook for next 3 months, February to April, forecasts shows a likely above average rainfall for the country. For next fortnight (27 Jan - 9 Feb) a likely average to below average rainfall outlook for West New Britain and East New Britain. For most parts of the country average to above average rainfall is expected.
- El Niño has peaked. This El Nino is likely to continue into at least March 2024.
- A positive Indian Ocean Dipole (IOD) weakening steadily. Models indicate this positive IOD to end likely in the coming weeks.
- During an El Niño event, greater parts of the mainland together with the southern eastern coastal parts of the country become much drier whilst the New Guinea Islands tends to be less impacted.However, from past experiences, we know that not all El Niño's are alike, therefore the impacts can vary across the country and within the provinces.
- A moderate to strong MJO was present in the Maritime Continent last week while progressing eastward. Likely to reach the Western Pacific in a few days.

For more information, feel free to contact the Climate and Special Services team at the PNG-NWS via 3255925 or kinape70@gmail.com