SRI LANKA

Climate & Food Security Monitoring Bulletin

Maha Season 2019-2020

20 March 2020

Prepared by:

United Nations World Food Programme

International Water Management Institute

WFP World Food Programme

PRISM

IWMI International Water Management Institute

CGIAR RESEARCH PROGRAM ON Water, Land and Ecosystems

1. Highlights

A successful Maha Season 2019-2020 means paddy production is estimated to be sufficient to meet domestic demand until September 2020. Floods, mainly along the East and North coast, caused an estimated production loss of 57,065 Mt. This however, should not have an impact on short- to medium-term food security. Limitation of vegetables and onions were observed in early 2020.

Substantial rainfall, particularly in the Central, North and East saw dramatic rises in major/minor water reservoirs. Currently water levels are above at 80% of total capacity, substantially higher than this time last year (66%). Nevertheless, drier conditions has shown a slight decline in the water level the past month affecting some sectors, especially drinking water in few areas & hydropower.

Sustained dry conditions over the past two months has led to magnify human induced wildfires in Central and Uva Province. So far, more than 120 cases have been reported. Most cases have required the support of airborne waterbombers to manage the conditions.

Novel-Coronavirus (COVID-19) outbreak has created an emergency all over the world, making a global pandemic situation halting many international services. Since March 2020, Sri Lanka also has been impacted and the Government has taken preventive measures to control the spread. A continuing situation may create a high level of food insecurity and indebtedness for most vulnerable groups in the country.

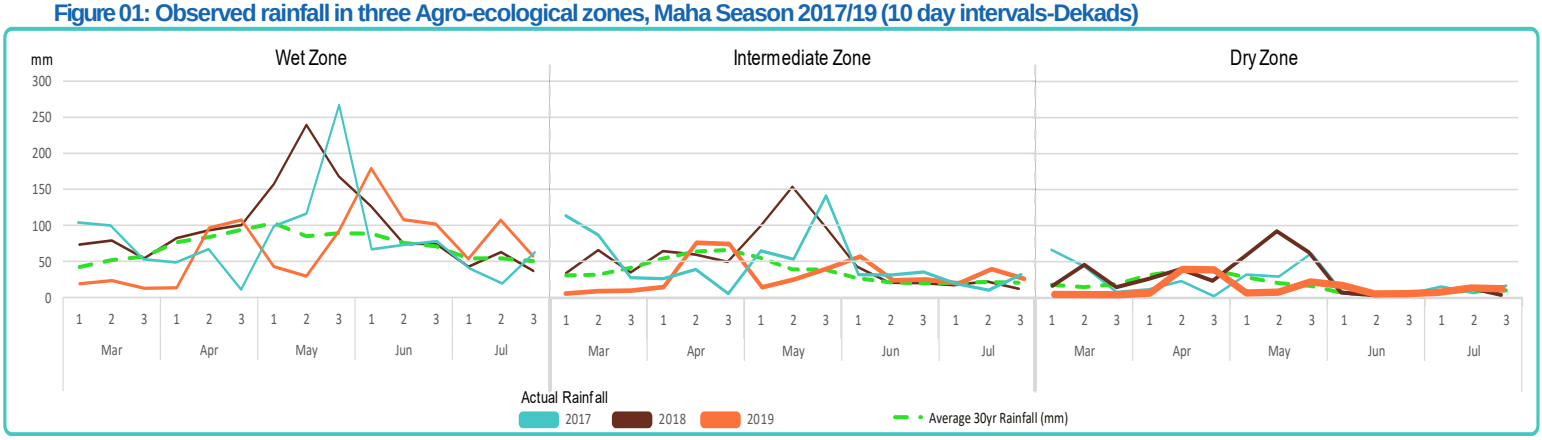
Seasonal weather forecasts for the next three months indicate that there will be below-average rainfall and above-average temperature. Low rainfall during January & February in some parts of the country, coupled with this forecast, will increase water stress and limited supply for consumption, agriculture and domestic use. First inter-monsoon rains expected in early April may bring some relief to this context.

2. Seasonal Observations

- Overall, the rainfall during Maha season 2019/20 has been above average through Sept-Dec 2019. The majority of the rain occurred from October to December with an average of 304 mm each month. As seen in Figure 01 there are distinct spikes in rainfall during this time, specifically in the third dekad of both October and November.
- The rainfall in all months, excluding January, was concentrated predominantly in paddy cultivating areas (Figure 02) and came at the right time – during the cultivation period of the Maha season. This has resulted in favourable conditions for paddy production due to high vegetation health (seen in Figure 04)
- Below-average rainfall conditions in January has experienced in Trincomalee, Anuradhapura, Polonnaruwa Matale, Kandy, Badulla, Monaragala, Batticaloa and Ampara districts; and in other parts of the island. In February, above-average rainfall conditions has experienced by some parts of Mannar district however, below-average rainfall were experienced in the rest of the island.
- The dry weather condition has led to wildfires spreading through the country, especially through the Central and Uva Provinces. These are being managed by airborne waterbombers and are under constant monitoring, by DMC.
- Some rainfall has received in the 3rd week of March especially in southern/south-western parts of the country, however, the country is yet to receive the 1st Inter-monsoon, which might commence in early April. These rains have supported to reduce high salinity in drinking water in Kalutara area.

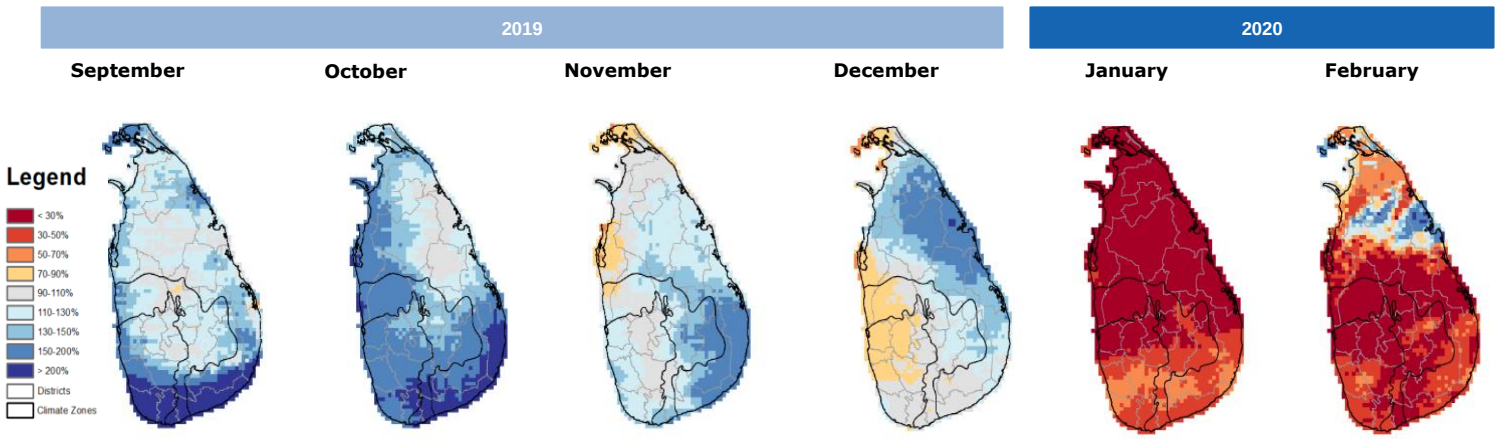
Below chart (Figure 01) shows the rainfall observations/pattern over the past three years during March to July, which is most important for Yala cropping season. The same pattern might continue in the three agro-ecological zones with some variabilities, but no major shift is expected in 2020. The chart depicts the inter-monsoon rains starting in early April and enhancing during the onset of the South-West monsoon at late May. However, extremes may occur due to the climatological phenomenon, creating adverse impacts.

Figure 01: Observed rainfall in three Agro-ecological zones, Maha Season 2017/19 (10 day intervals-Dekads)



Source: DataViz World Food Programme (CHIPRS data)

Figure 02: Maha Season 2019-20 Rainfall Anomaly (Deviation from long-term average)



Source: PRISM (CHIRPS data) *Note: Rainfall Anomaly is based on average rainfall experience in a given month over the average in the past 30 years*

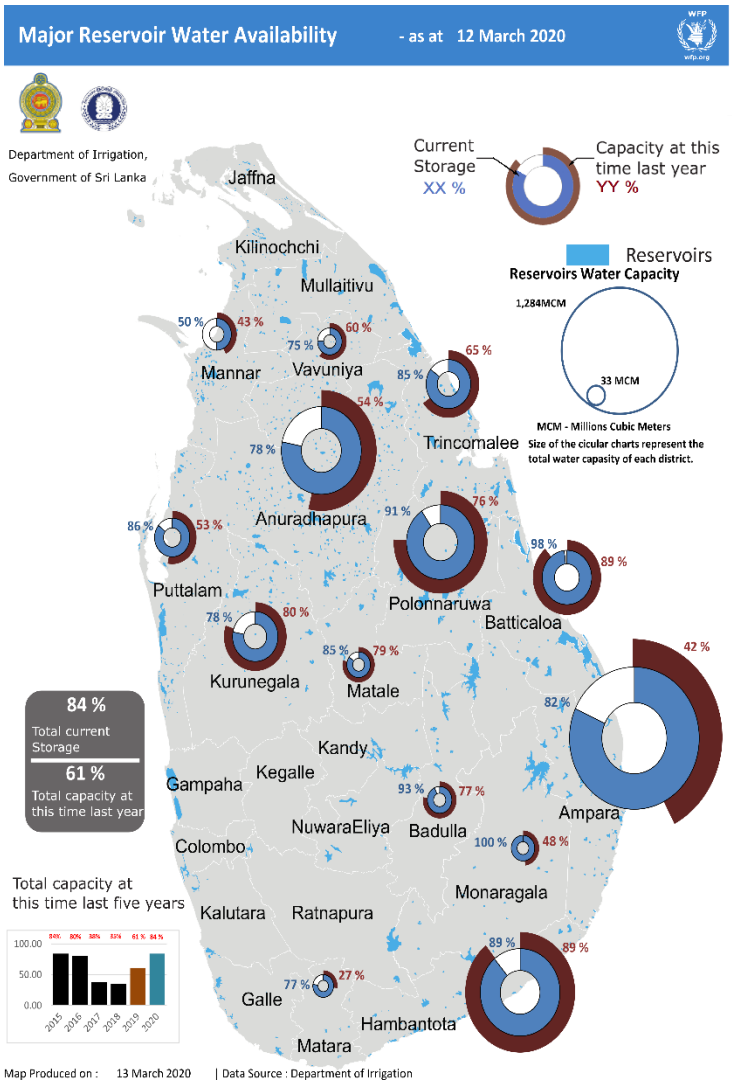
3. Yala cropping season-2020 and adaptive measures

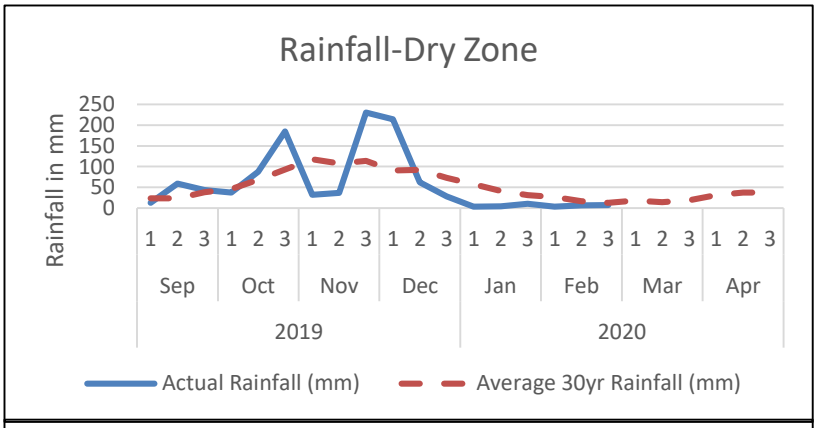
From the above summary and the evidence shown in the bulletin, there are a series of important interventions and adaptation measures that could be taken in the main agro-ecological areas to support food security:

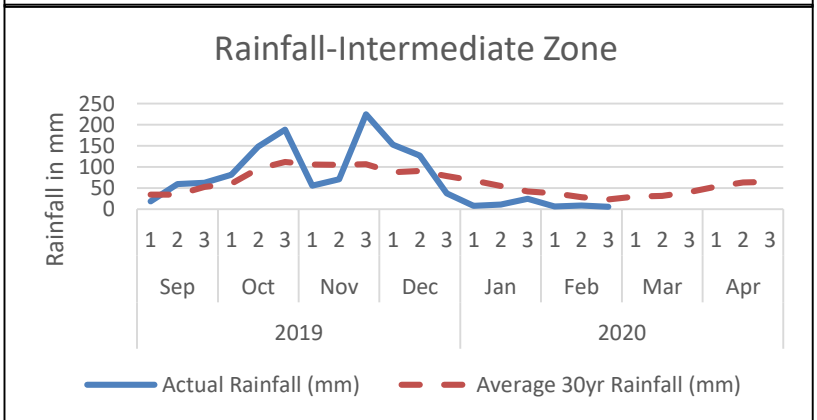
- Cropping advisories to farmers through agriculture extension services could be institutionalised for the three main agriculture zones.
- Major reservoirs are showing very good water levels (Figure-03) especially in Kurunegala, Ampara, Anuradhapura, Polonnaruwa, Vavuniya and other agriculture related districts. However, water controls and community mechanisms such as “Bethma, cab be activated (Bethma method is conservation of tank water using agreed rules by farmers for sharing water in scarce situations”.
- Food accessibility and purchasing power should be monitor through price and labour market data to monitor the impact of the COVID-19 outbreak and potential consequences.

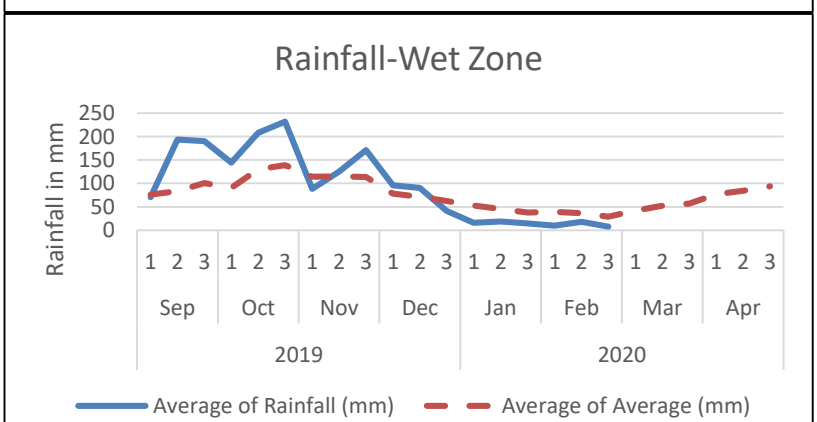
Below charts show reservoir capacity; and the spread of rainfall over the main Agro-ecological zones in Maha-2019 to early-2020, with potential trend.

Figure 03: Major Water Reservoir Capacity – as at 12 March 2020









4. Agricultural Conditions and Food Security

- Integrated Drought Severity Index (IDSI) analyses the agricultural drought conditions. Figure 04 shows that due to the heavy rains received through Sept to Dec 2019, in many areas of the country, overall health of agricultural land has moved to normal.
- In some areas it shows dry now as the paddy harvesting has started around the country, indicating negative health in fields.
- According to Department of Agriculture, given the high rice production in the both the Maha and Yala seasons, it is predicted that rice stocks will be sufficient for the next nine months. Total rice production for this season is 2.97 million Mt (Figure 05).
- Paddy production in Batticaloa, Mannar and Ampara didtricts sustained the most damage in this period. While this was a substantial loss for a number of local communities, it should not have an adverse impact on overall rice production and the surplus prediction.
- Dry conditions in January and February have prevailed across most of the major rice producing areas. This has meant favourable conditions for paddy harvesting and drying activities.
- Food inflation increased substantially to a 25-month high of 11.7 percent in January 2020 from 6.3 percent in December 2019, while Non-food inflation stood at 2.9 percent.

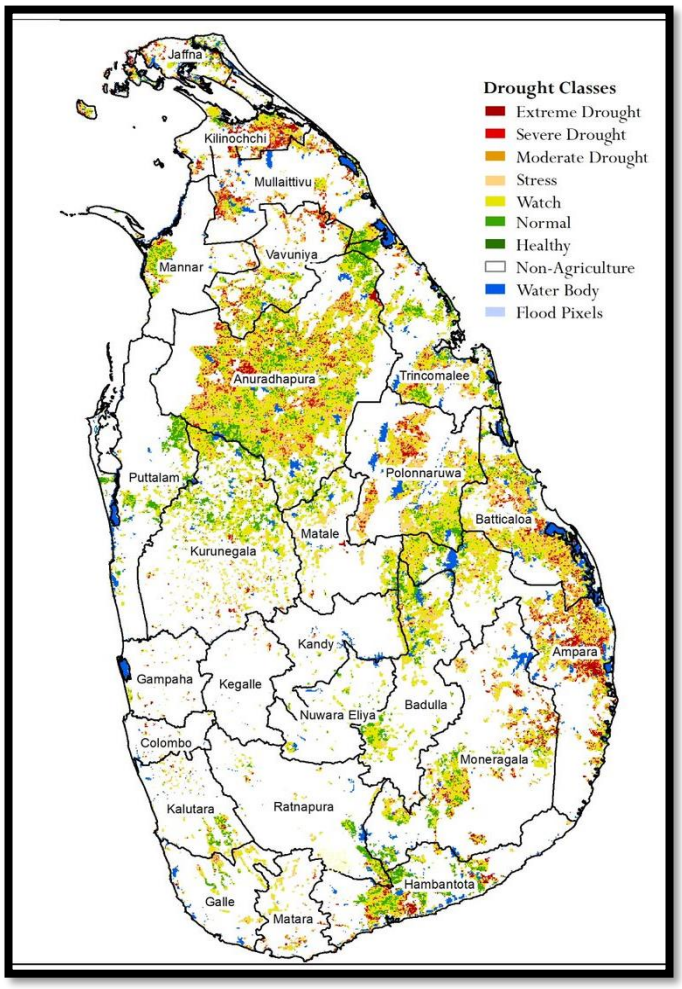


Figure 04: Integrated Drought Severity Index (IDSI) – 18-25 Feb 2020 ***Source: IWMI***

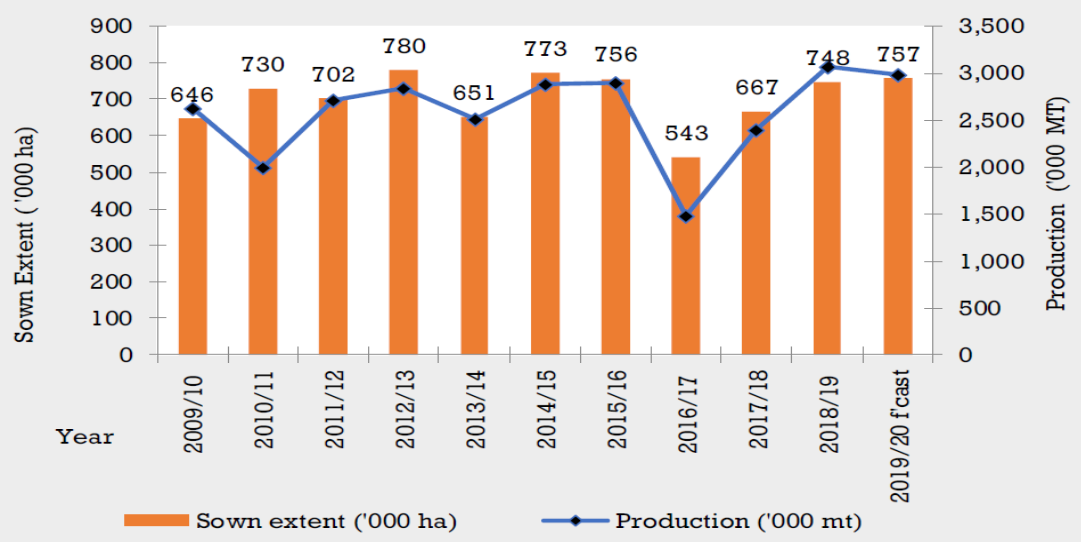


Figure 05: Total Rice Production Outlook

Source: Socio Economic Planning Centre of Department of Agriculture.

Note: Factoring the estimated crop damage and excluding production forecasts for Yala 2020

Crop production progress and prices

- Other field crops - Cultivation progress is 118,567 ha, 68% from the target.
- Vegetables – Up country vegetable cultivation progress is 7,374 ha, 50% from the target, low country vegetable cultivation progress is 20,886 ha, 59% from the target.
- The average price of most rice varieties remains considerably lower than during the same period last year. This can be attributed to surplus stocks being produced over the Maha seasons of 2019-2020, as well as the Government's paddy purchasing program.
- The price of grade-I Samba and grade-I Nadu rice has remained constant at Rs.98/kg as a result of government price control.

Other Food Market Monitoring

- Prices of most vegetables at the beginning of 2020 are higher than last year values. High vegetable prices might have a negative impact on the nutritional value and quality of the diet of poorest population groups, although overall the country may not be facing an immediate threat of food insecurity.
- The possible economic impact of COVID-19 on food prices in wholesale and retail markets in the country has so far been contained through government interventions. Effective 18 March, the Consumer Affairs Authority has stipulated maximum retail prices for a few commodities: Lentils (dhal) – Rs.65 per kg, Big onions – Rs. 150 per kg, and Canned fish - Rs. 100 per 425g tin.
- The government price controls may be extended to other staples considering the evolving situation, hence potential price fluctuations could be expected in the coming weeks.
- No restrictions on import of food items have been announced. The wholesale markets currently have food stocks of different commodities, estimated to be adequate for 3-6 months.
- Prices of most vegetable varieties decreased further in the Dambulla Economic Centre (wholesale market) compared to the past few days, due to a favourable supply from major producing areas, in addition to low trading activities. However, the present conditions of quarantine and shut down of services across the country has affected local distribution (transportation) in some areas. Due to the current high demand and quick turnover of food items, and the limitations in transport, some disruption is expected in delivery of fruits and vegetables from production areas or economic centres.

5. Water Needs & Yala 2020 Cultivation

- As of 12 March, the capacity of water of all major water reservoirs was 84% (Figure 04), significantly higher than 66% at the same time last year.
- There is a notable sharp increase in water levels between November and December. Between these months there were sustained high amounts of rainfall, predominantly over the districts that rely heavily on water from irrigation tank for most of the year.

- According to Disaster Management Centre data, there are currently over 90,000 families who are being affected by water stress across 11 Districts.
- As of early March a total of 71,349 households across 6 districts are being supplied drinking water - 33 DS divisions due to the dry spell over 2 and a half months despite good capacity of irrigation tank water in the country.
- For water distribution, a major intervention is ongoing in Kalutara and Beruwala DS Divisions in the Kalutara District which is over 80% of the water distribution.
- Figure 07 shows relationship between Standard rainfall index and water distribution in some areas; Mannar, Puttalam, Gampaha, Kurunegala, Ratnapura, and Kegalle where less number of minor tanks are functioning.
- A good carry-over of water capacity remains for Yala cropping season (usually 50% of total water capacity). This is likely to result in good harvesting at the end of season, adding to the Maha production.
- Early engagement to initiate Yala season cultivation at the onset of the 1st inter-monsoon is likely to be a better option for farmers. Agriculture authorities may further support with adequate local level information to produce better yield and possibly increase income.

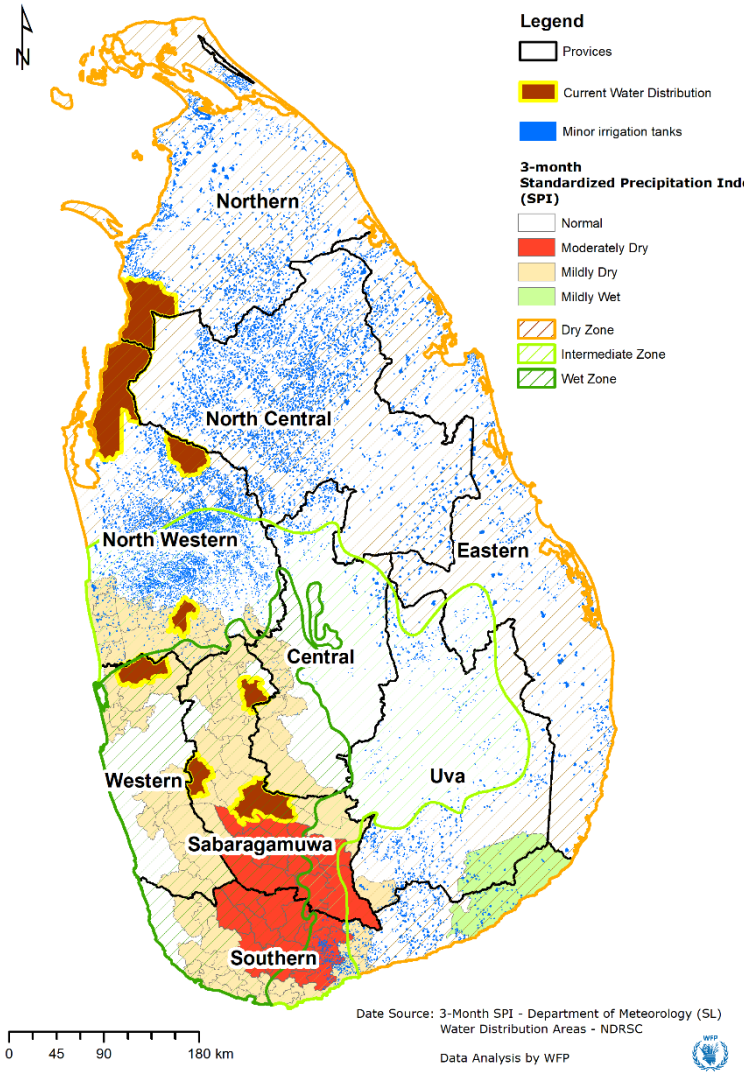
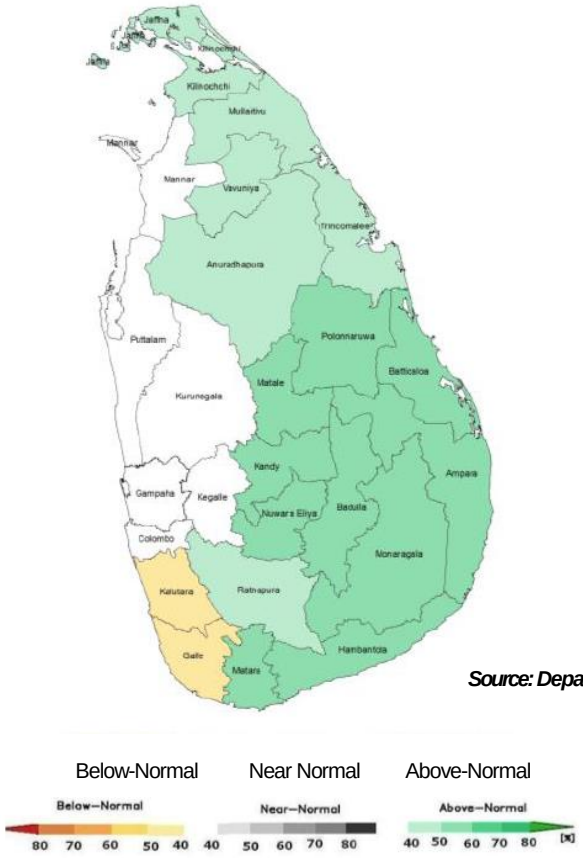


Figure 07: Relation of Water distribution and dry-spell

6. Climate Forecast and potential future impacts

Figure 08: Consensus Probabilistic Rainfall Forecast for March – May 2020



Source: Department of Meteorology

- El-Nino and Indian Ocean Dipole (IOD) indexes indicate that Neutral conditions are likely to continue during March to May 2020.
- A detailed seasonal climate outlook for March, April & May has been issued (Figure 08) by the Department of Meteorology on 4 March, showing reduction of rainfall in the wet-zone over the period.
- Temperatures are likely to be slightly warmer than average in Colombo, Gampaha, Galle, Nuwara Eliya, Ratnapura, Kandy, Trincomalee, Anuradhapura, Vavuniya, Puttlaum, Mannar, Hambantota and Kurunegala Districts.
- Prolonged dry conditions could create localized short-term food insecurity, possibly affecting the nutrition status of most vulnerable population groups.
- Most global models indicate that there is a higher chance of receiving normal to above-normal rainfall across the entire country throughout the second quarter of 2020. It is likely, though, that the majority of this rainfall will occur in May.

- Concentration of rainfall in May is likely to create conditions for potential seasonal disasters (flash floods and landslides).
- Such weather-related shocks combined with poor hygienic and sanitation conditions could result in increase of acute malnutrition.
- Further economic limitations linked with the impact and control response of the COVID-19 outbreak could potentially compound food security and nutrition challenges due to weather-related disasters, emphasizing the need of special contingency planning by the relevant authorities.

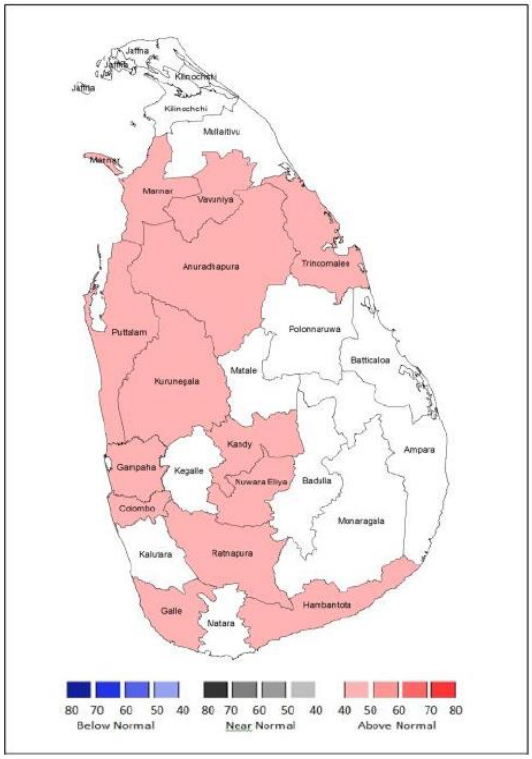


Figure 08: Probabilistic Forecast for Maximum Temperatures for March – May 2020

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Disclaimer: This bulletin looks into the key aspects of climatic seasonal trends and their impact on the population and food security during December 2019 to March 2020, through the products of Platform for Real-time Information and Situation Monitoring (PRISM) and through CGIAR & Department of Meteorology. PRISM system has the capability of automatic capture of climate related and space based information.