



SRI LANKA

Climate & Food Security Monitoring Bulletin May-September 2020

Department of Meteorology, Department of Irrigation, Department of Agriculture, Disaster Management Center, Ministry of Health, National Disaster Relief Services Center, International Water Management Institute

Guidance: State Ministry of Internal Security, Home Affairs and Disaster Management

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Key Highlights and Recommendations

The harvest of paddy and other food crops in 2020 was above-average compared to the past few years. Major reservoir storage levels are at 39 percent of their capacity at present, which is well above average.

At the Monsoon Forum conducted by the Department of Meteorology on 5th October 2020, it was advised that the rainfall in October to December is likely to be reduced due to current meteorological conditions which may continue till end of December. This will create challenges to some sectors. However, if the current mild La-Nina becomes stronger in the beginning of year 2021, it may bring considerable rains early next year.

Water availability and supply

Irrigation Department is planning to continue full extent cultivation for the next “Maha” Season in Major and Medium Irrigation schemes, however cultivations in minor schemes and in rain-fed schemes might be at risk if the rains are reduced.

- ◆ It is recommended to promote water saving technologies and cultivation of Other Field Crops (OFC) in feasible lands;
- ◆ Water saving methodologies and farming practices such as **Bethma** are recommended if water levels are not satisfactory during cultivation;
- ◆ Renovate abandoned tanks and build eco-systems to promote rainwater harvesting (linking the national government priority under “**Wari Saubhagya**”); and to conduct a mapping on ongoing irrigation tank rehabilitation projects under different schemes.

Agriculture activities in the Maha cropping season

- ◆ Department of Agriculture recommends dry seeding of paddy on light/coarse textured soils wherever feasible (i.e, Eastern province,- DL2a and DL2b; Northern province-DL3 and part of the Kurunegala district-IL3) as in the past (refer **Figure 06**).
- ◆ Farmers are advised to commence incipient rains for land preparation, especially where lands are considerably soaked with good rains received during the month of September ;
- ◆ Choose only 3-3½ months age paddy varieties where water storage of respective irrigation tanks and reservoirs remain at a satisfactory level at present (at least 30 percent-40 percent), else 2½ month varieties are recommended;
- ◆ Promote OFC in uplands and drainage-conducive upper slope paddy fields of different irrigation schemes (Mahaweli and other), where water scarcity is anticipated;
- ◆ Promote home gardening all over the country under the government vision of “**Saubhagya**”.

Health and Food Security

Although a dry period is forecasted due to a mild La-Nina event, there may be stormy activity during the months of November and December which could trigger heavy rains, resulting in flooding and landslides and creating temporary population displacements.

- ◆ In this context, the Ministry of Health advises to adhere to health guidelines, while media agencies are requested to support in promoting the guidelines in coordination with the Government Information Center;
- ◆ Promote intake of different nutritious food for communities in the plantation sector, poor and marginalized families around the country including women and people with disabilities as well as feeding practices for infants and children.

Planning and budgeting recommendations

- ◆ Provide adequate budget allocations for seeds (paddy and other crops) and provisions for agriculture tools such as fertilizer, equipment etc.;
- ◆ Provide soft loans and fund facilities for vulnerable small holder farmers and other micro to medium scale entrepreneurs to enable stable economic options;
- ◆ Ensure adequate budgetary provisions for suitable Crop Insurance Schemes as a risk transfer mechanism in agriculture in a changing and variable climate.
- ◆ Create income generating opportunities for laborers and daily wage earners in tourism, hotels and other industries heavily impacted by the COVID outbreak.

Summary

Wet conditions prevailed during the last five months around the country, however dry conditions were also experienced in some pockets. The South-West monsoon during May to September, brought considerable rainfall across the country, however, it was less in south western areas compared to previous years. The DMC, NDRSC, Military and Public Administrative agencies implemented a special preparedness programme which was supported by WFP and other agencies during March to mid-May to prepare for the South-West monsoon, however only minor flooding was experienced.

At the same time, above normal rainfall was observed in North-central, North-western and Northern regions during May to early August, enabling a productive harvest in the “Yala” cultivation season.

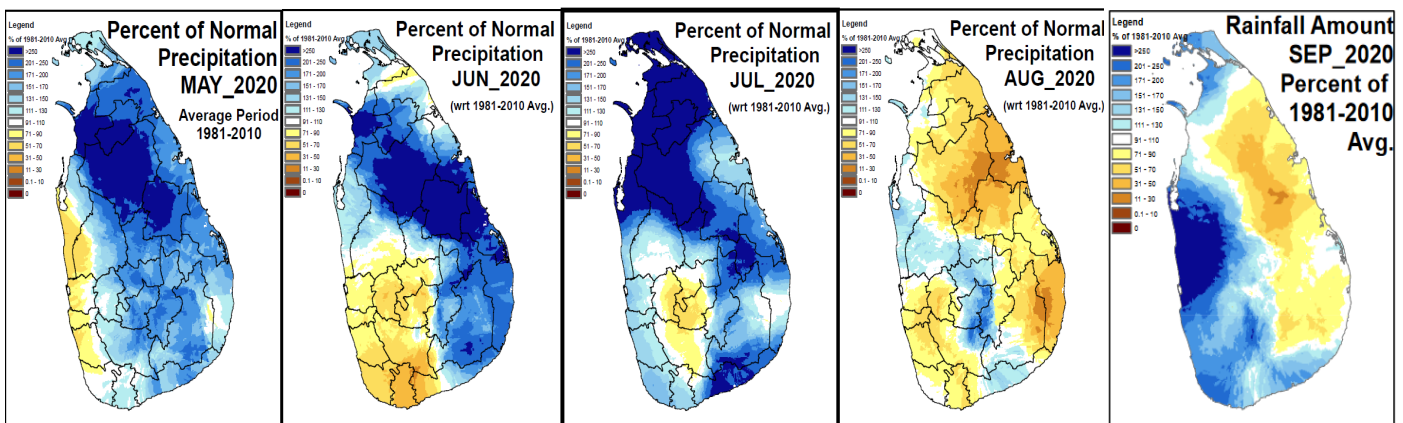
These conditions helped to enhance production of rice, vegetables, fruits and other cash crops to a good level, despite the COVID-19 challenges and the 2019/2020 “Maha” and the 2020 “Yala” cropping seasons were very successful with an above-average harvest compared to the past 10 years. Similarly, the current storage levels of major reservoirs in the country are well above average, which is conducive for a good “Maha” cultivating season.

The movement restrictions imposed to contain the COVID-19 outbreak during April to June, impacted household economy and food security in the country. The consequent return to functioning markets and supply chain helped to stabilize the demand and supply of food and other essentials. The Government also commenced an island-wide home gardening campaign to increase domestic production, which helped to provide stable income options for vulnerable communities.

For the next three months, below-normal rains are forecast, associated with the conditions created by a mild La-Nina event currently observed in the equatorial Pacific Ocean, which may impact the water storage and cultivation in the “Maha” season.

1. Meteorological observations

Figure 01: Monthly Rainfall deviation from long-term normal (anomaly) - 2020, Department of Meteorology



- ◆ Cyclone **Amphan** categorized as a super cyclone, created some influences over south-west of Sri Lanka in the latter half of May, 2020. It brought very heavy rainfall exceeding 150mm particularly over southwestern parts of the country on 15th, 18th and 19th of May, which resulted in flooding in these areas. However, damages were less compared to previous years.
- ◆ From May to July above-average rainfall was observed in Dry Zone, especially in some parts of Mannar, Kurunegala, Polonnaruwa and Anuradhapura districts which received around 200 percent above the average rainfall, compared to their long term average (**Figure 01**).
- ◆ Based on the locally observed data by DoM: Rainfall received during the South West monsoon season (May to September 2020) was reported as near or above normal (**Figure 02**) compared to the long-term average (1981-2010), over most parts of the country except for some pockets in Matara, Kegalle, Ampara and Monaragala districts.

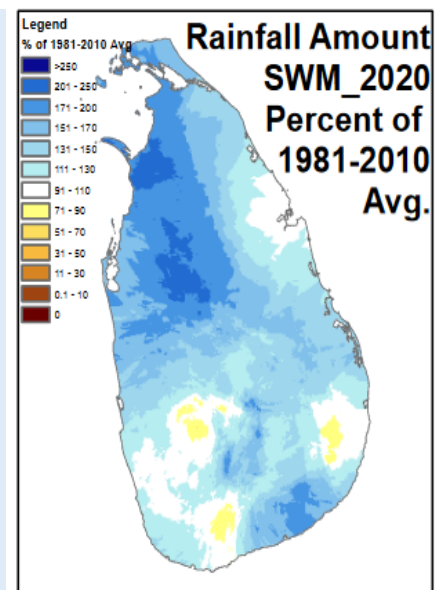
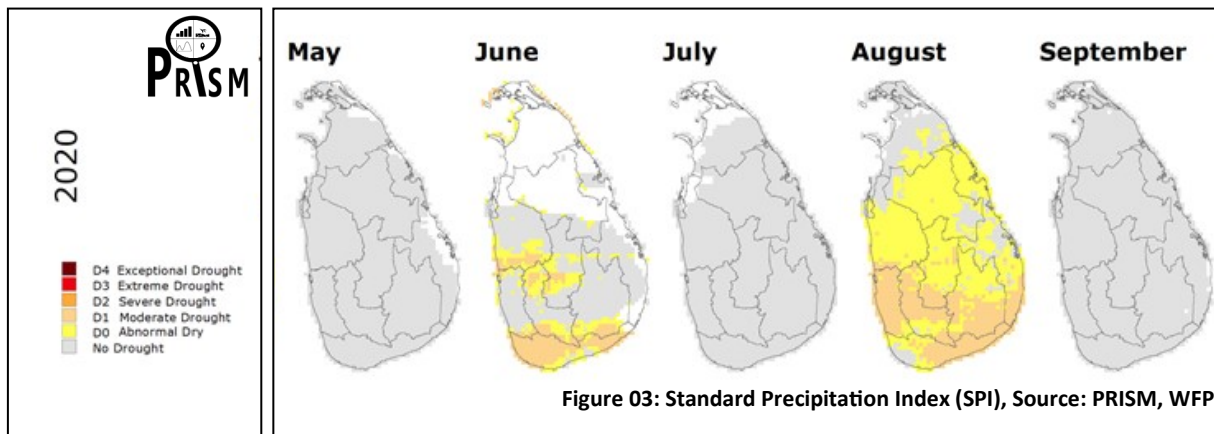


Figure 02: Seasonal (May to September) Rainfall deviation from long-term normal (anomaly) - 2020



- ◆ Despite mild dry weather prevailed during August in many parts of the country, normal climatic conditions were observed (**Figure 03: Standard Precipitation Index**), throughout the South-Western monsoon season, other than in a few pockets in Batticaloa, Trincomalee, Kilinochchi and Mullative districts;
- ◆ In general a good rainfall distribution prevailed in all parts of the country, favorable for many sectors such as hydro-power, drinking water and irrigation.

2. Hydrology and access to water

- ◆ According to the Department of Irrigation, water flow of rivers in wet and Intermediate zones are at above average at end of September when compared to average year, however, dry zone rivers remain near or below average.
- ◆ Water storage of major irrigation reservoirs (**Figure 04**) are around 39percent for the entire country at the end of September 2020 while medium reservoirs are around 35percent. This is at the above average level when compared with last seven years.
- ◆ The water discharge and storage situation in the whole country is in favour of a good Maha season cultivation, than in previous years. However, the existing storage and river levels will not be sufficient for a successful Maha cultivation as it is dependent on the next rainy season until January 2021.
- ◆ It is observed that hydropower reservoirs in the Mahaweli, Laxapana and Kukule water schemes are at the above average condition at the end of September. Reservoirs in the Mahaweli scheme remain with normal water levels.
- ◆ During July and August, hydro power generation was reduced due to low water levels along the Mahaweli river basin, increasing the use of thermal power, however in September hydropower generation is returned to normal (CEB).
- ◆ Based on information from NDRSC, distribution of drinking water was done in July and August in some Districts, however this was very minimal compared to the past few years.

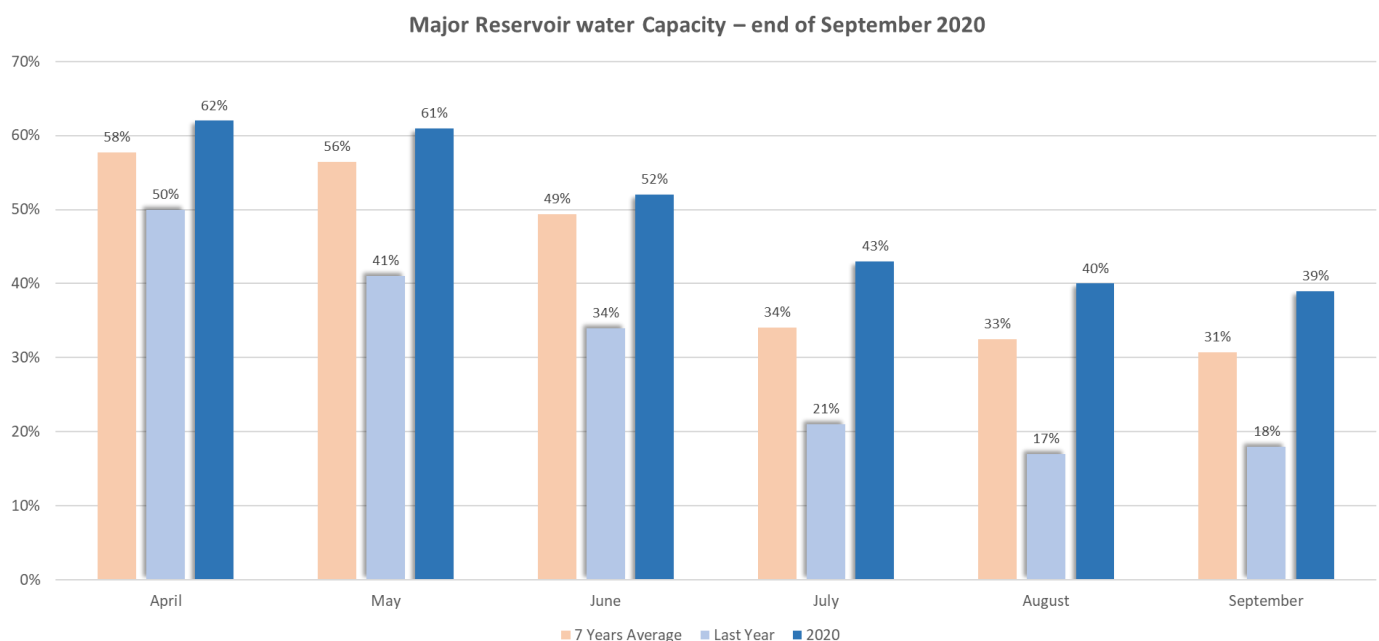
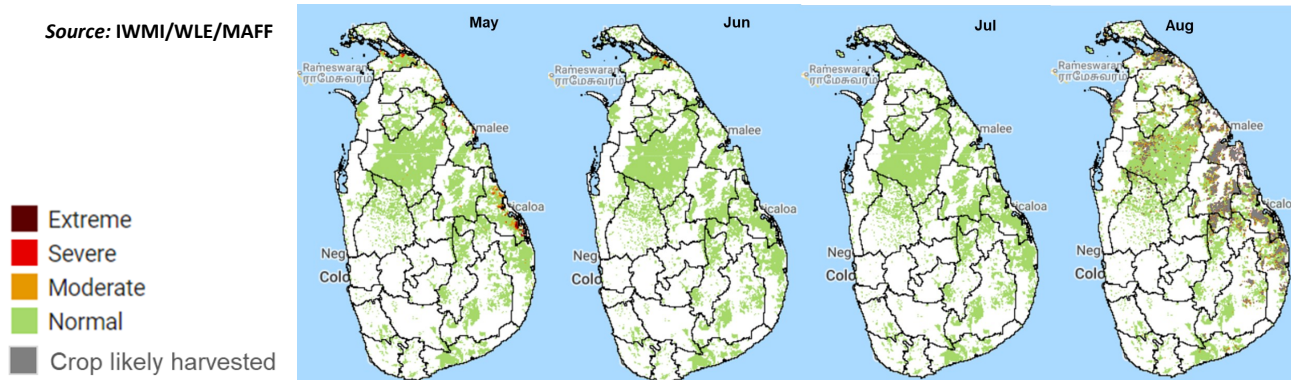


Figure 04: Monthly water capacity of 73 major irrigation reservoirs, Source: Department of Irrigation

3. Agriculture production, markets and food security

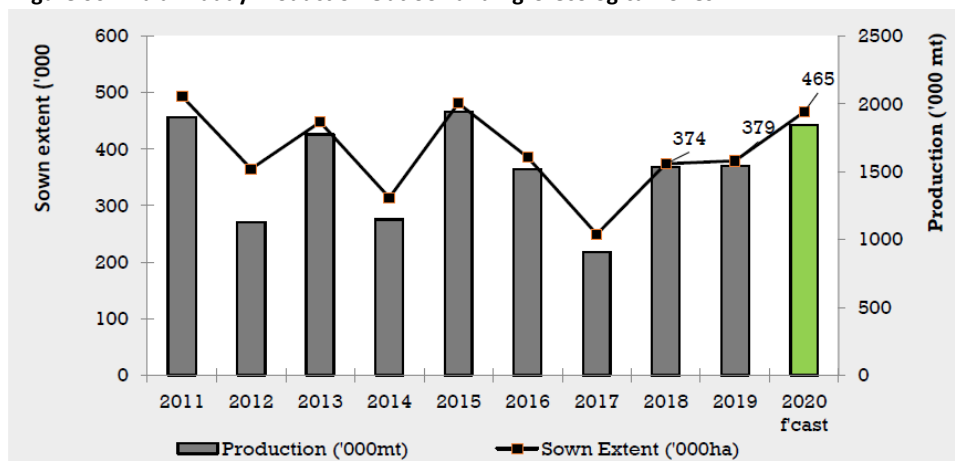
Figure 05: Integrated Drought Severity Index (IDSI) 2020– May– August 2020

Source: IWMI/WLE/MAFF

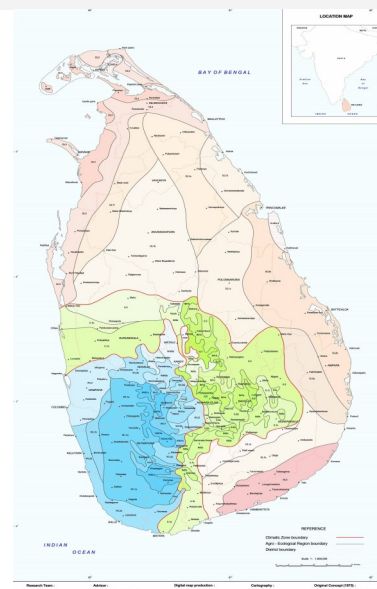


- ◆ **Integrated Drought Severity Index (IDSI)** which is a composite of rainfall, vegetation, soil moisture and temperature to monitor the scale of Agricultural drought (**Figure 05**) indicates that this “Yala” season is a normal year, providing a bumper harvest for major crops such as rice and maize, which is a increase in production compared to 2019 (IWMI);
- ◆ Based on the **Crop Forecast** by the Department of Agriculture, the sown extent of Paddy in the “Yala” season at end August 2020, reached 96 percent of the target, despite damages occurring to nurseries due to the impact of Cyclone **Amphan**. This was the best during the last 5-years mainly due to good water capacity. The expected paddy production would be sufficient for more than five months. When considering the expected paddy production of 1.84 million metric tonnes for the “Yala” season (**Figure-06**), the country will gain good paddy production during this year;
- ◆ Cultivation progress of major OFC's up to end August 2020 was 114 percent of the target. The progress of cultivating major up-country vegetables is at 84 percent from the target, but in the low country it was 118 percent of the target. However, the cultivation of crops such as Maize, Soya bean and Red Onion reported a slightly lower progress (75 percent, 62 percent and 72 percent respectively). Perennial crops including tea and rubber coconut are not largely affected by the water stress, however, heat conditions has influenced tea production during some months;
- ◆ Prices of several fruit varieties have increased due to limited supply and high demand. In terms of coconut prices, the Hector Kobbekaduwa Agrarian Research & Training Institute (HARTI) indicates a significant increase in wholesale and retail prices of large and small coconuts compared to last year, due to the limited supply, which may continue during the next three months;
- ◆ The local big onion production was impacted by heavy rains during the past two months, prompting the average wholesale and retail prices to increase to Rs. 145.25/kg and Rs.178.33/kg respectively in September. Nevertheless, compared to the same period last year, average wholesale and retail prices decreased by 3.4 percent and 21.2 percent respectively;
- ◆ The outbreak of COVID-19 created difficulties in farming during the period of March to May. This was partially offset by introducing home gardening around the country through a government programme which issued two million seed packs to farming families. The home gardens helped to reduce household food insecurity to some extent.

Figure 06: “Yala” Paddy Production Outlook and Agro-ecological zones



Source: Crop Forecast September 2020: Socio Economic Planning Centre ; Agro-ecological zones, Natural resource Management Center, Department of Agriculture



4. Health and Social impact

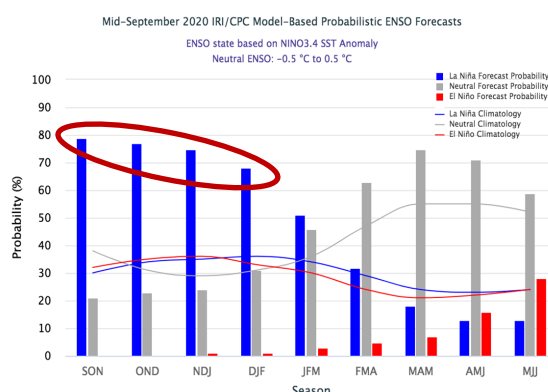
- ♦ Schools around the country were closed due to the COVID-19 outbreak, which also temporarily suspended the national school meals programme. The Ministry of Education commenced the provision of a nutritious meal for school children living in the most vulnerable areas, supported by WFP.
- ♦ The Ministry of Health developed comprehensive COVID-19 outbreak control guidelines for various interventions with special attention given to preparing for search and rescue operations and safety centre management during the South-West monsoon season.
- ♦ According to ground level assessments conducted during April to June, a reduction in consumption of nutritious foods was observed due to economic barriers and constrained access in many low-income families around the country, posing the risk of exacerbating nutritional issues.
- ♦ Adherence to the COVID-19 health guidelines by general public was at very satisfactory level during the past few months, however continuing these precautionary health practices is critical.

5. Government response during COVID-19

- ♦ The COVID-19 outbreak was unprecedented and from March to July there were tremendous challenges in health, food supply and food security, income losses, indebtedness, market functions and production;
- ♦ In responding to the crisis, the Government immediately implemented several social protection schemes such as providing cash grants through the Samurdhi scheme covering all vulnerable groups, and door-delivering food packs in movement-restricted areas;
- ♦ Relief packages were offered to the private sector with the support of many stakeholders, including small and medium enterprises. To stabilise the national economy, the Government also relaxed taxation policies, temporarily banning imports to restrict monetary outflows and focused on increasing local production.

6. Climate and seasonal Outlook

Figure 07: La-Niña event monitoring, Cooler sea surface temperature in Pacific ocean; Source: IRI/CPC



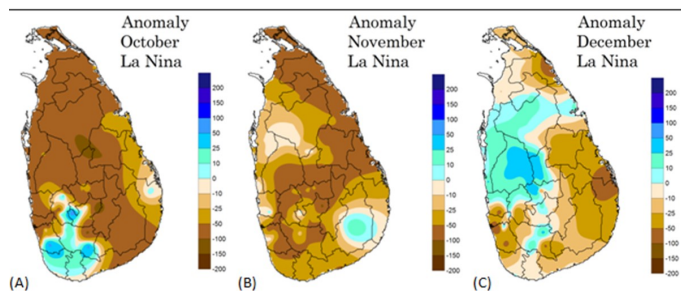
Currently, weak La Niña conditions are prevailing in the tropical Pacific Ocean (**Figure 07**), while neutral Indian Ocean Dipole (IOD) conditions are prevailing in the Indian Ocean (SASCOF-17). These parameters, which are known to influence the climate variability over Sri Lanka, are likely to continue at their current levels until December.

Department of Meteorology: In this context, below-normal rainfall is likely during the 2020 October to December season over most parts of Sri Lanka (**Figure 09**) while near normal rainfall is likely in the top parts of northern areas.

There is a higher chance of experiencing above-normal maximum temperature in Trincomalee and Ampara districts, while Mannar and Galle districts may experience below-normal maximum temperature. Central & Uva areas however, may experience near-normal maximum temperature (**Figure 09**) in the next 3 months.

Furthermore, there is a possibility of forming of low-pressure atmospheric systems in Indian Ocean during October to December which could turn to depressions or cyclones, could bring excess rainfall over the country.

Figure 08: Co-relation between rainfall anomaly in Sri Lanka during La-Niña event



Based on a research findings (*Hapuarachchi et al 2016*) the above maps (**Figure 08**) indicate that rainfall over most parts of the country may be reduced during October to December, if a La-Niña condition is present.

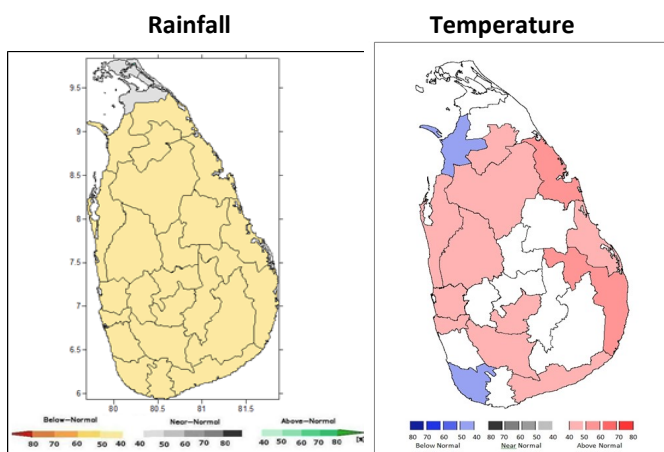


Figure 09: Seasonal (October to December) rainfall & temperature forecast for Sri Lanka, DoM



This bulletin is jointly produced by Department of Meteorology, Department of Irrigation, Department of Agriculture, Disaster Management Center, Ministry of Health, National Disaster Relief Services Center and International Water Management Institute, with the support of the United Nations World Food Programme.

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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 the first and second quarter of year 2020, through the products of Platform for Real-time Information and Situation Monitoring (PRISM). PRISM system is WFP hosted spatial data system, has the capability of automatic capture of climate related and space based information.