Monthly Drought monitoring Bulletin through standardized Precipitation Index (SPI) (End of April 2018)

Drought Monitoring Division, Department of Meteorology

PREAMBLE

In order to provide latest information regarding meteorological drought to improve the nation's preparedness for drought and more specifically, enhance drought readiness the Department of Meteorology initiate a monthly drought monitoring bulletin since January 2018.

Meteorological drought is usually defined on the basis of the degree of dryness (in comparison to some "normal" or average amount) and the duration of the dry period. This month Drought Monitoring Bulletin has been prepared using the World Meteorological Organization (WMO) recommended Standardized Precipitation Index (SPI) technique. Monthly rainfall data from more than 250 stations were used to prepare this high resolution maps .

INTERPRETATION OF MAPS

The 3-month SPI provides a comparison of the precipitation over a specific 3-month period with the precipitation totals from the same 3-month period for all the years included in the historical record. A 3-month SPI reflects short- and medium-term moisture conditions and provides a seasonal estimation of precipitation. In primary agricultural regions, a 3-month SPI might be more effective in highlighting available moisture conditions.

The 6-month SPI compares the precipitation for that period with the same 6-month period over the historical record. For example, a 6-month SPI at the end of September compares the precipitation total for the April–September period with all the past totals for that same period.

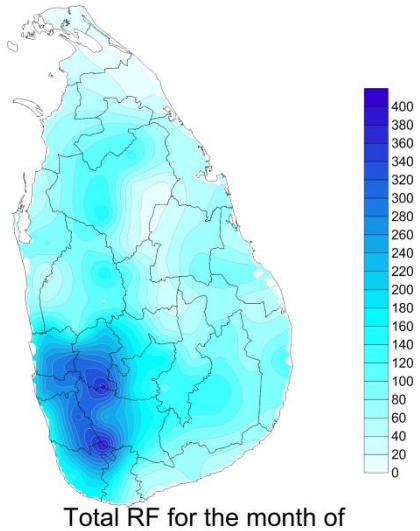
The 9-month SPI provides an indication of inter-seasonal precipitation patterns over a medium timescale duration. Droughts usually take a season or more to develop. SPI values below -1.5 for these timescales are usually a good indication that dryness is having a significant impact on agriculture and may be affecting other sectors as well.

12-month SPI reflects long-term precipitation patterns. A 12-month SPI is a comparison of the precipitation for 12 consecutive months with that recorded in the same 12 consecutive months in all previous years of available data. Because these timescales are the cumulative result of shorter periods that may be above or below normal, the longer SPIs tend to gravitate toward zero unless a distinctive wet or dry trend is taking place. 12-month SPI tied to stream flows, reservoir levels, and even groundwater levels at longer timescales.

OBSERVED FEATURES

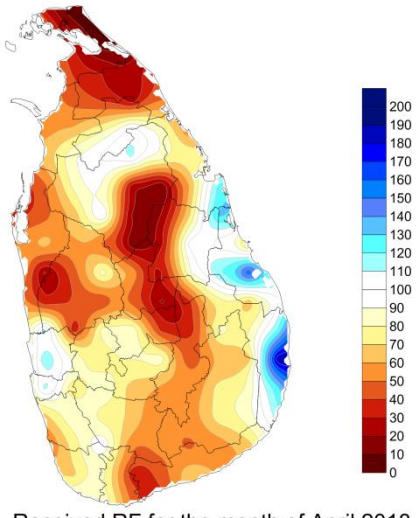
The maps represent monthly accumulated rainfall (mm) during April 2018 (Figure 1), monthly rainfall as a percentage with respect to long term mean for April (Figure 2), monthly rainfall anomaly map (mm) during April 2018 (Figure 3). Most parts of the country received below normal rainfall for April 2018 except eastern coastal areas and a few places in the western parts (Figs 1, 2 & 3)

Figure-1



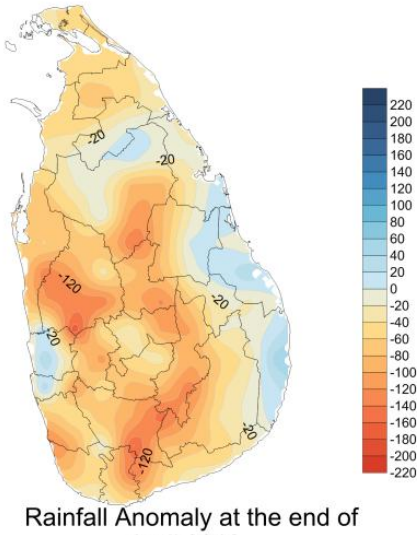
Total RF for the month of April 2018

Figure-2



Received RF for the month of April 2018 as a percentage wrt Long Term Mean

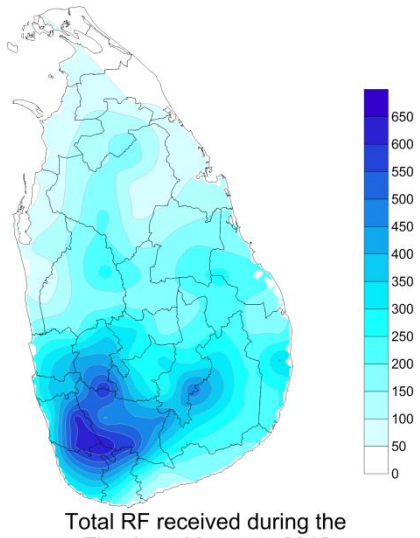
Figure-3



Rainfall Anomaly at the end of April 2018

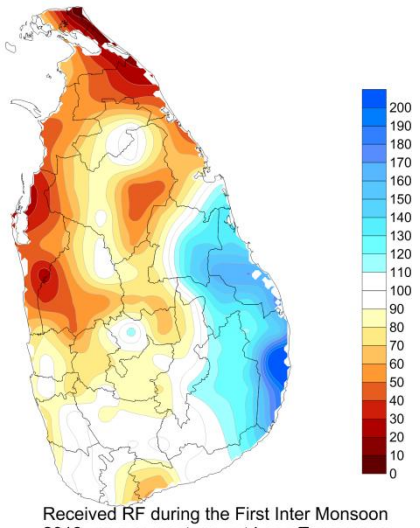
Figures 4, 5 and 6 represent first inter monsoon (March to April) rainfall (mm) 2018, first inter monsoon rainfall as a percentage with respect to long term mean, first inter monsoon rainfall anomaly map (mm).Below normal rainfall was received in most parts of the island except eastern parts and isolated patches in southern, central and north central parts. Significantly below normal rainfall was received at the north western parts of the island.

Figure-4



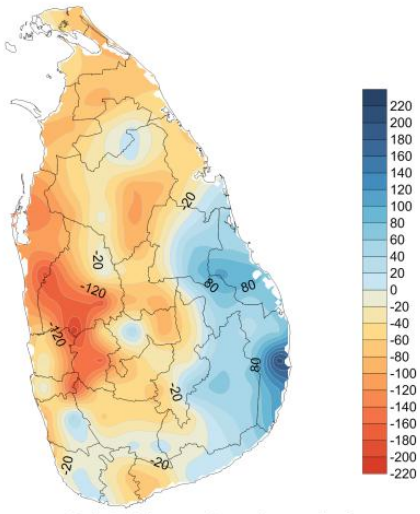
Total RF received during the First Inter Monsoon 2018

Figure-5



Received RF during the First Inter Monsoon 2018, as a percentage wrt Long Term mean

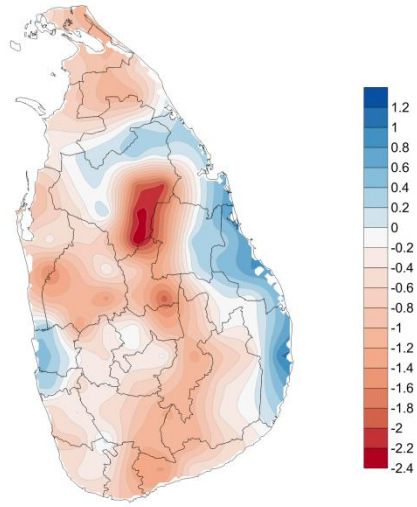
Figure-6



Rainfall Anomaly at the end of First Inter Monsoon 2018

Dry and wet conditions with respect to SPI (1-month) (i.e. April, 2018) seems still remain over the country expect over the eastern coastal belt, northern border of Anuradhapura district and western province. (Figure-7)

Figure-7



Dry & Wet condition (wrt SPI)
at the end of April_2018

Figure 8 to figure 15 represents the 1-month (i.e. April, 2018), the 2-month (March, 2018 - April, 2018) , the 3-month (February, 2017 - April, 2018) the 4-month (January, 2017 - April, 2018) the 5-month (December, 2017 - April, 2018), the 6-month (November, 2017 - April, 2018), the 9-month (August, 2017 - April, 2018) and the 12-month (May, 2017 - April, 2018) SPIs respectively using standard color code provided by WMO. They show the degrees of wetness and dryness across the country during the periods under review.

Figure 10 shows the 3-month SPI map, indicating, moderate dryness in Puttulam and Kurunegala districts and parts of Jaffna district where soil moisture conditions might be low.

Figure 14 shows the 9-month SPI map, indicating moderate to very dryness in Puttalam and Kurunegala districts and parts of Nuwara Eliya, Kandy,Mathale,Ampara and Badulla districts where agriculture and other sensitive sectors might be impacted.

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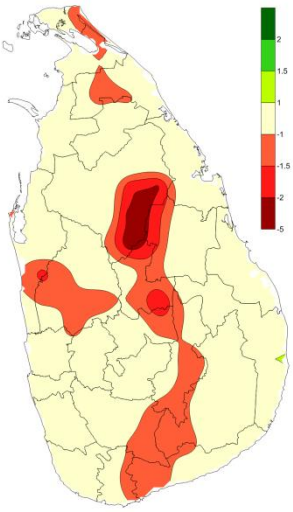
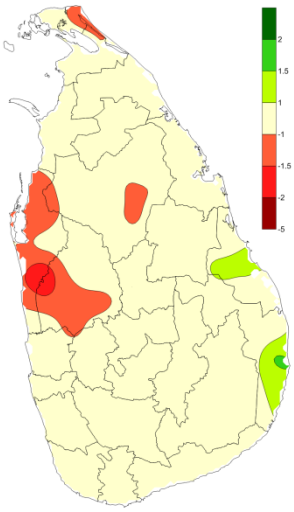
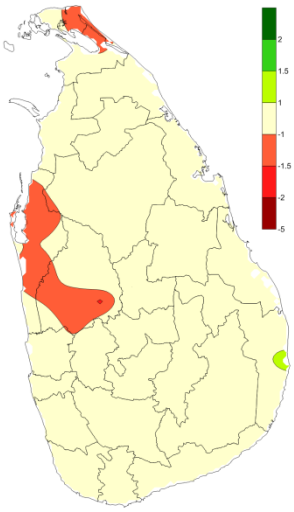
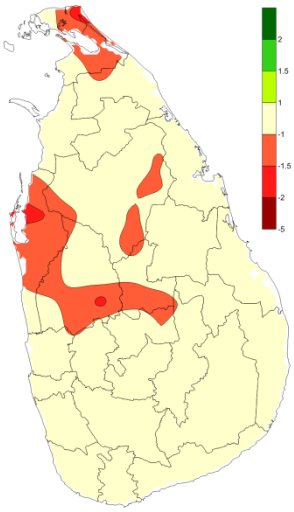
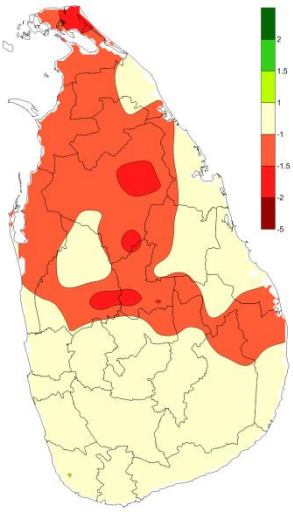
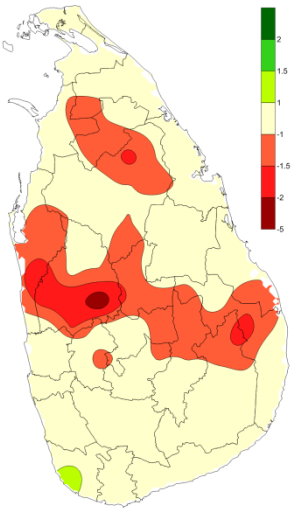
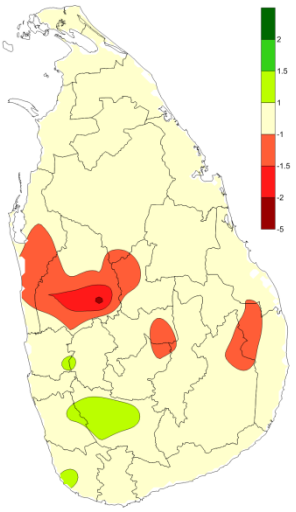
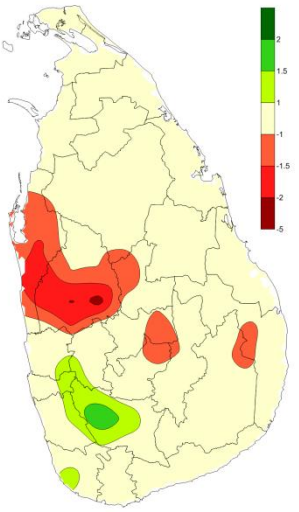
Figure 15 shows the 12-month SPI map, indicating very dry conditions in Kurunegala and Puttalam district where reservoir levels, and even groundwater levels can be impacted. Moderate dryness remains in parts of Ampara, Nuwara Eliya, Kandy and Badulla districts .

Figure-8	Figure-9	Figure-10	Figure-11
			
1-month_SPI at the end of April_2018	2-month_SPI at the end of April_2018	3-month_SPI at the end of April_2018	4-month_SPI at the end of April_2018

The legend for SPI maps

+2.0 and above	+1.50 to +1.99	+1.0 to +1.49	-0.99 to +0.99	-1.0 to -1.49	-1.5 to -1.99	-2.0 and below
Extremely Wet	Very Wet	Moderately Wet	Near Normal	Moderately Dry	Very Dry	Extremely Dry

Figure-12	Figure-13	Figure-14	Figure-15
			
5-month_SPI at the end of April_2018	6-month_SPI at the end of April_2018	9-month_SPI at the end of April_2018	12-month_SPI at the end of April_2018