

Experimental Climate Monitoring and Prediction for the Maldives – June 2016

Prepared by Staff from Foundation for Environment, Climate and Technology, Sri Lanka and USA, Maldives Meteorological Service, and Columbia University

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June 30, 2016

PACIFIC SEAS STATE

June 16, 2016

During mid-June 2016 the tropical Pacific SST anomaly was near zero, indicating ENSO-neutral conditions. The key atmospheric variables also indicate neutral ENSO condition. This includes near-average upper and lower level tropical Pacific winds, as well as near-normal cloudiness and rainfall patterns in the central and eastern equatorial Pacific. Most ENSO prediction models indicate neutral ENSO conditions during June, with likely development of La Niña (of unknown strength, but likely weak) by late July or August, lasting through fall and into winter.

(Text Courtesy IRI)

INDIAN OCEAN STATE

Jun 22, 2016

Neutral SST observed near Maldives



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Highlights

Heavy rainfall was seen in the entire Maldives in May 2016 and the rainfall gradually decreased during the first three weeks of June. In northern and central islands, rainfall ceased by mid-June and in southern islands, rainfall ceased by early June and increased until mid-June up to 60 mm. NOAA CFS model does not predict heavy rainfall in the next few days in any part of the Maldives. The IRI predicts La Niña conditions by late June which shall give a drier tendency to rainfall in central and south central regions. In Northern and southernmost island rainfall shall have a wetter tendency. The sea around the Maldives show a much reduced level of warming

Summary

CLIMATOLOGY

Monthly Climatology: The rainfall in northern islands usually increases up to 250 mm in June, while it decreases to 150 mm in southern islands. Wind direction in June is usually easterly but with low speeds. In July the entire country receives up to 200 mm rainfall and the wind speed and direction does not change. In August, the rainfall in southern and central islands increases to 250 mm while in northern islands it remains up to 200 mm. The wind direction and speed is similar to previous months.

MONITORING

Weekly Rainfall Monitoring:

Date	Rainfall
14 th June 2016	Up to 20 mm in central and southern islands. Up to 70 mm in south eastern sea
15 th June 2016	Up to 15 mm near Gan. Up to 70 mm in south eastern sea
16 th June 2016	No rainfall
17 th & 18 th June 2016	Up to 10 mm in entire Maldives
19 th June 2016	Up to 70 mm in southern islands and southern sea.
14 th & 15 th May 2016	Up to 10 mm rain in the entire country
20 th – 22 nd June 2016	Up to 15 mm in the entire Maldives.
23 rd – 25 th June 2016	Up to 10 mm in southern islands
26 th – 28 th June 2016	No Rainfall

Monthly and Seasonal Rainfall Monitoring: More than 100 mm heavy rainfall was seen in the entire country during May 2016 and gradually decreased during June in northern and central islands. Rain completely ceased in these islands by mid-June. In southern islands, up to 200 mm rain was seen in mid-May and the rain ceased completely by Early-June. The first week was dry and thereafter rainfall increased up to 60 mm until mid-June.

PREDICTIONS

Weekly Rainfall Forecast: According to NOAA CFS models, Heavy rainfall events are not expected during 29th June- 4th July. The entire country shall receive up to 50 mm total rainfall during this period.

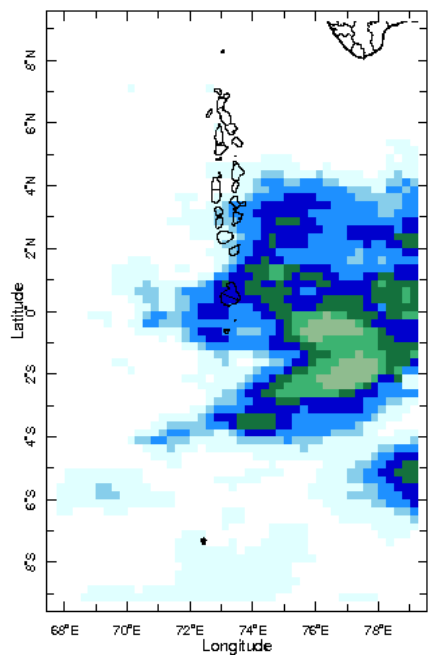
Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for July to September 2016, the rainfall shall be climatological in the entire country. The 3-month average temperature has a 70- 80% likelihood to be in the above-normal tercile during these 3 months in the entire country.

Inside this Issue

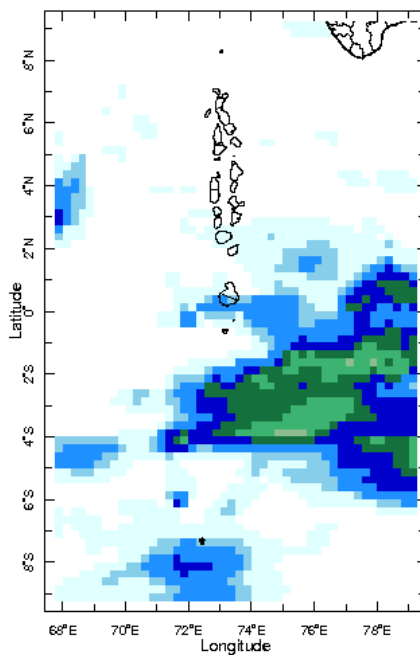
1. Monthly Climatology
2. Rainfall Monitoring
 - a. Daily Satellite derived Rainfall Estimates
 - b. Monthly Rainfall derived from Satellite Rainfall Estimate
 - c. Monthly and Seasonal Monitoring
3. Ocean Surface Monitoring
4. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions from IRI¹

Daily Rainfall Monitoring

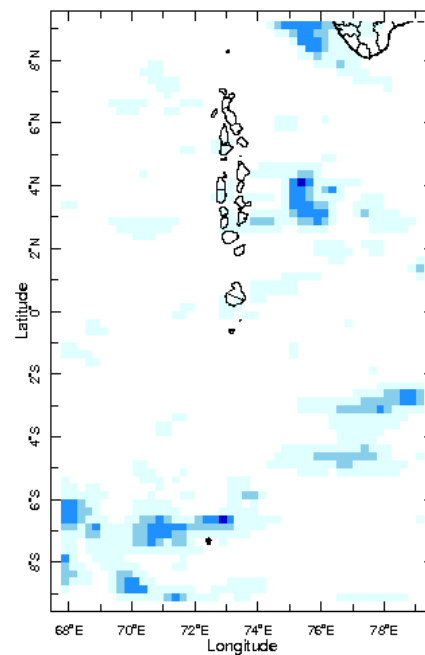
The following figures show the observed rainfall in the last 15 days in Maldives.



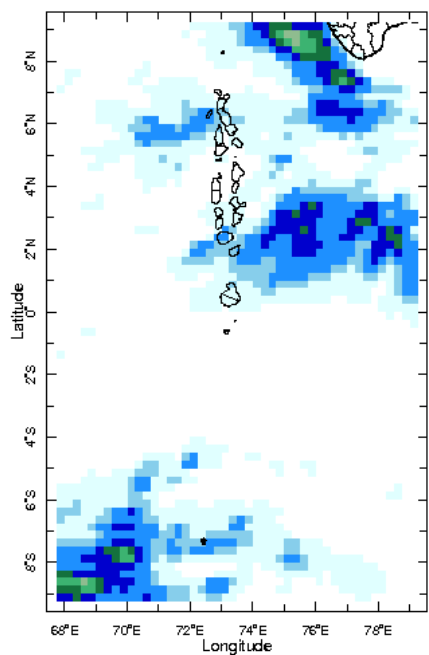
14 Jun 2016



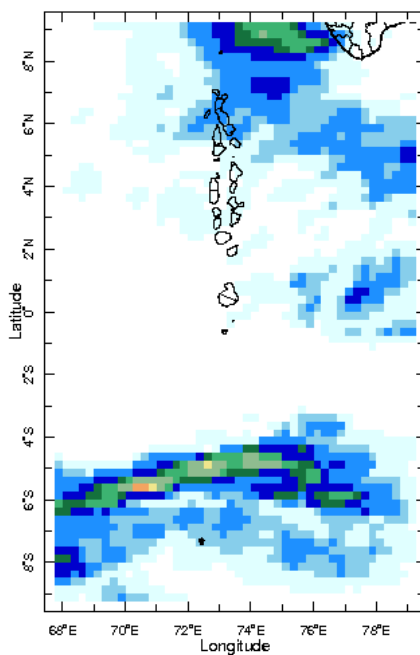
15 Jun 2016



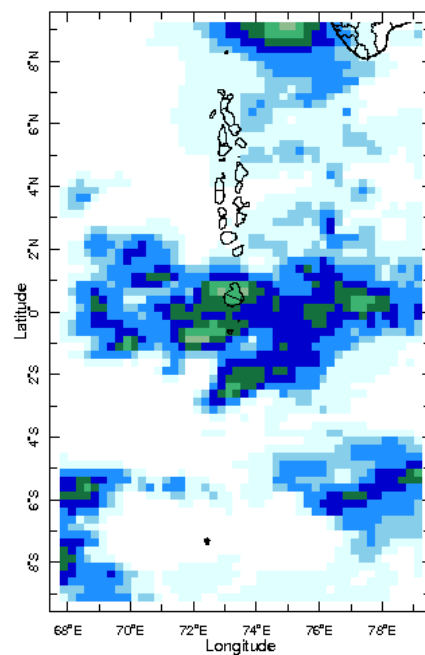
16 Jun 2016



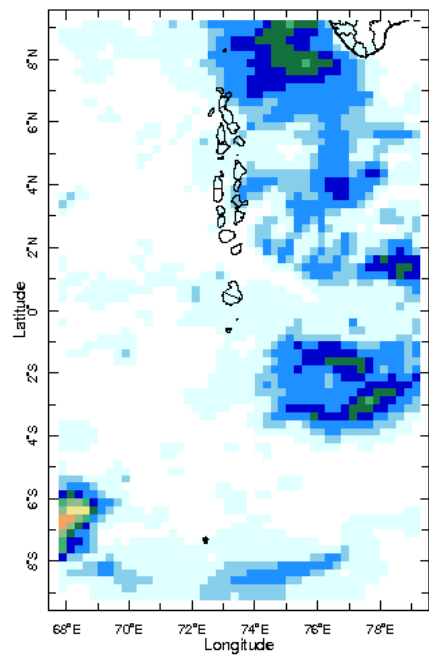
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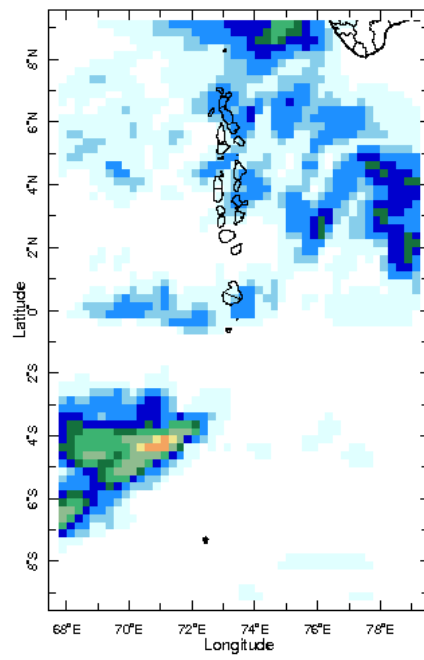
18 Jun 2016



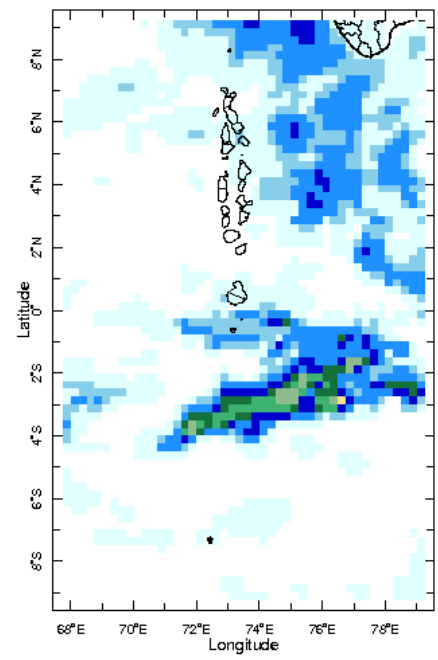
19 Jun 2016



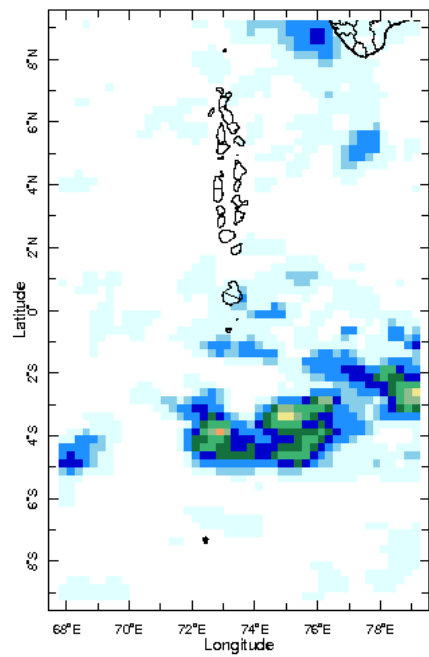
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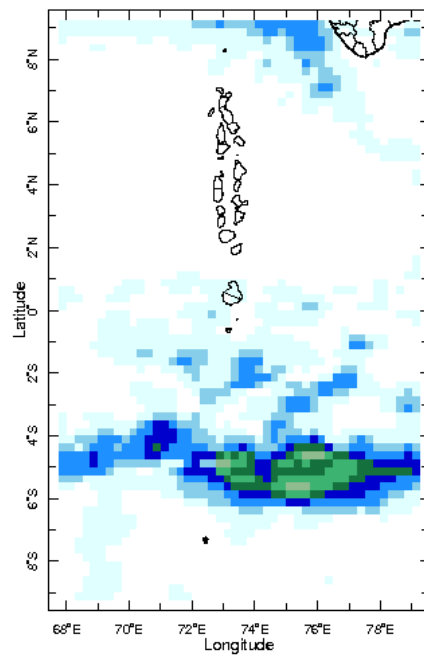
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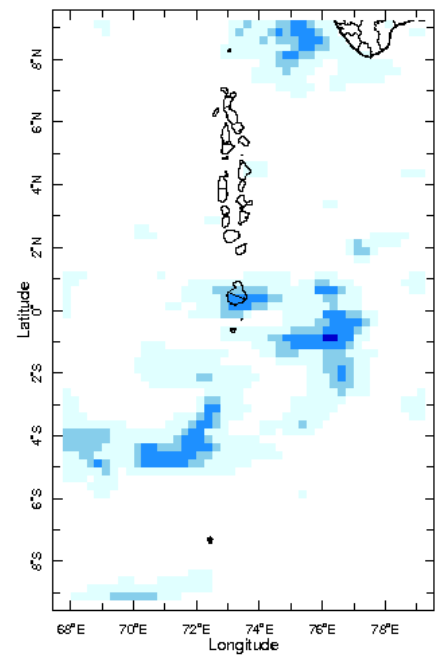
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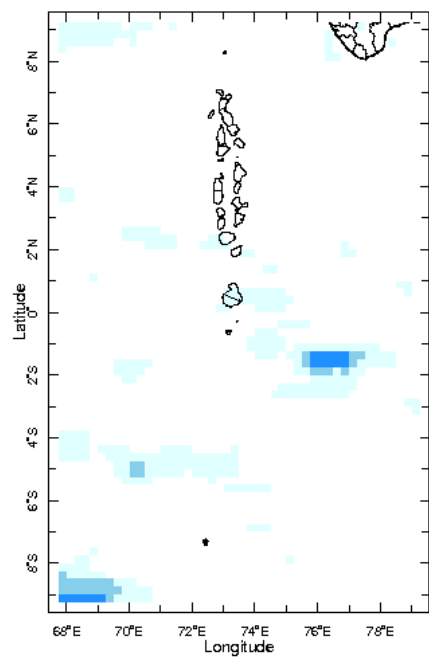
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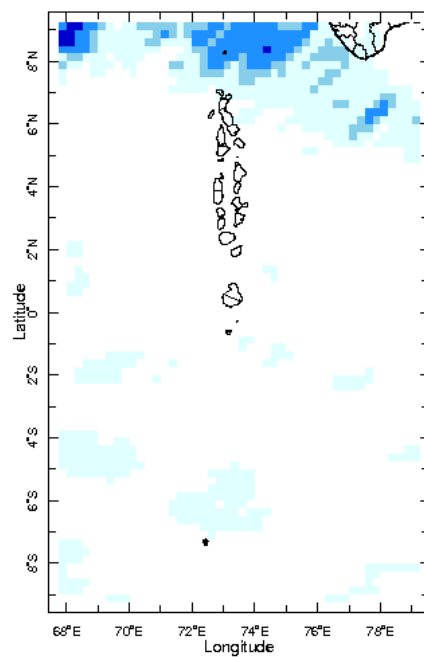
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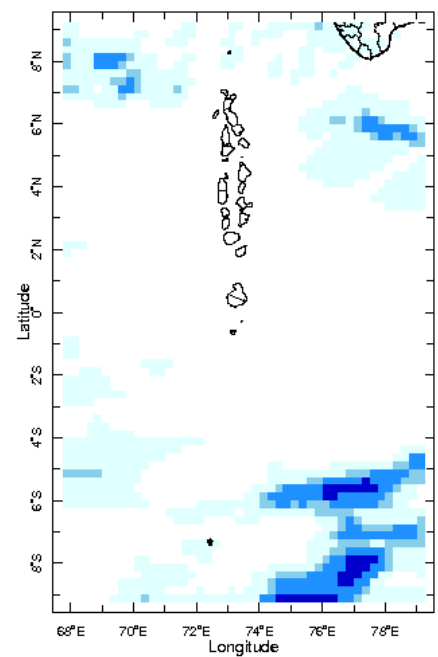
25 Jun 2016



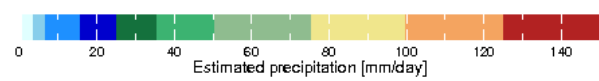
26 Jun 2016



27 Jun 2016



28 Jun 2016



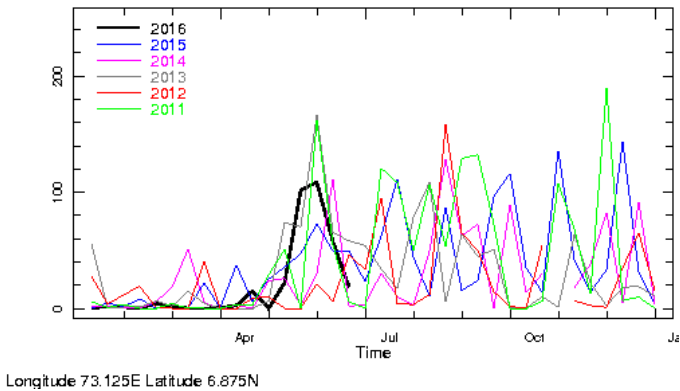
Monthly Rainfall Monitoring

The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places with above average rainfall. Darker shades show higher magnitudes in rainfall

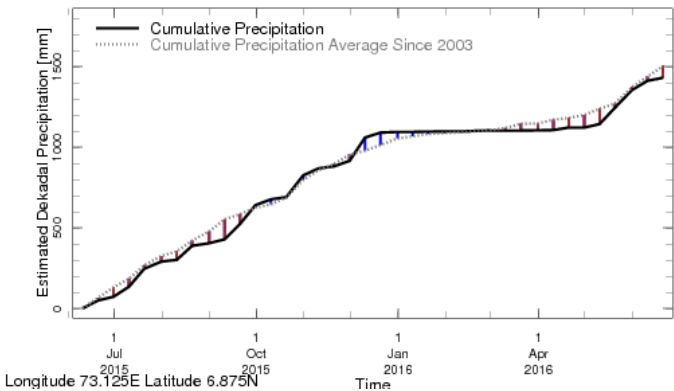


Monthly and Seasonal Monitoring

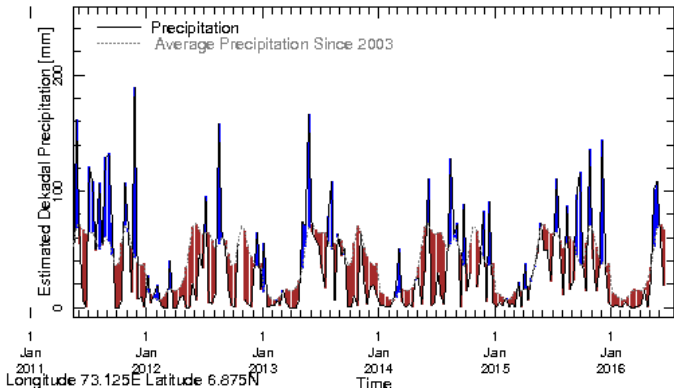
Northern Maldives:



Rainfall in the current year (black) compared to rainfall in previous 5 years

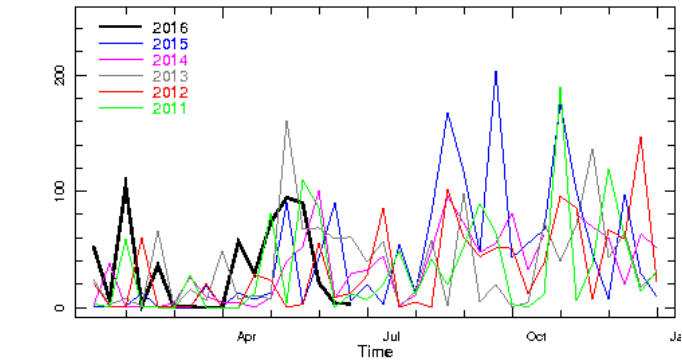


Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.

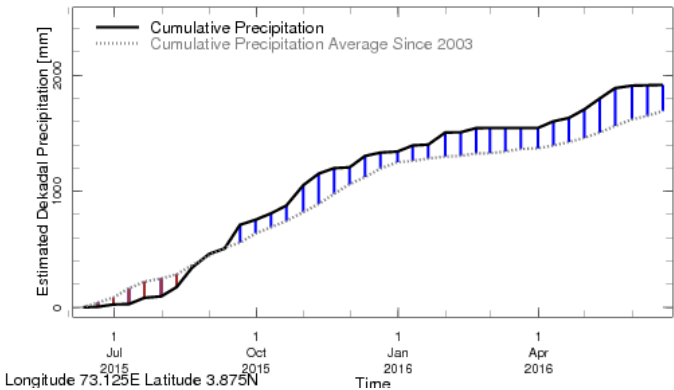


Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown

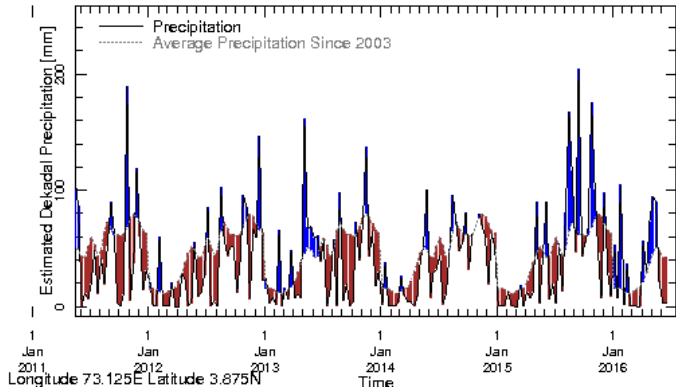
Central Maldives:



Rainfall in the current year (black) compared to rainfall in previous 5 years

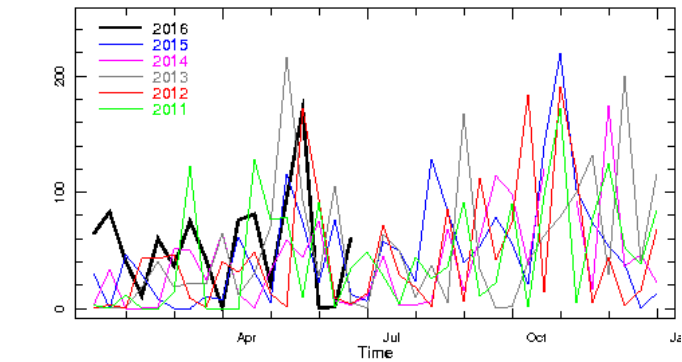


Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.

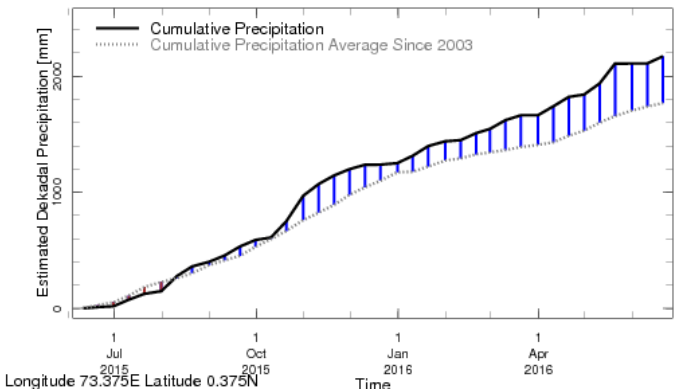


Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown

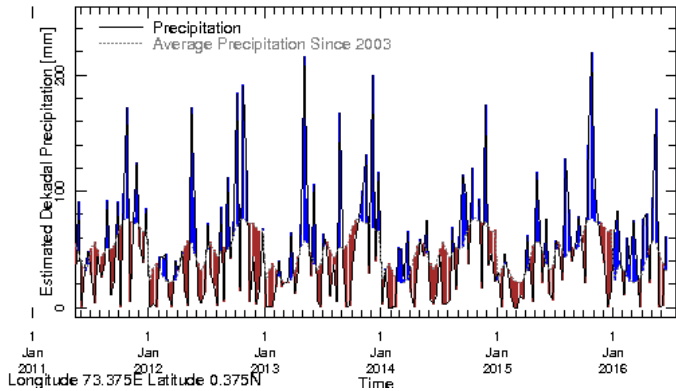
Southern Maldives:



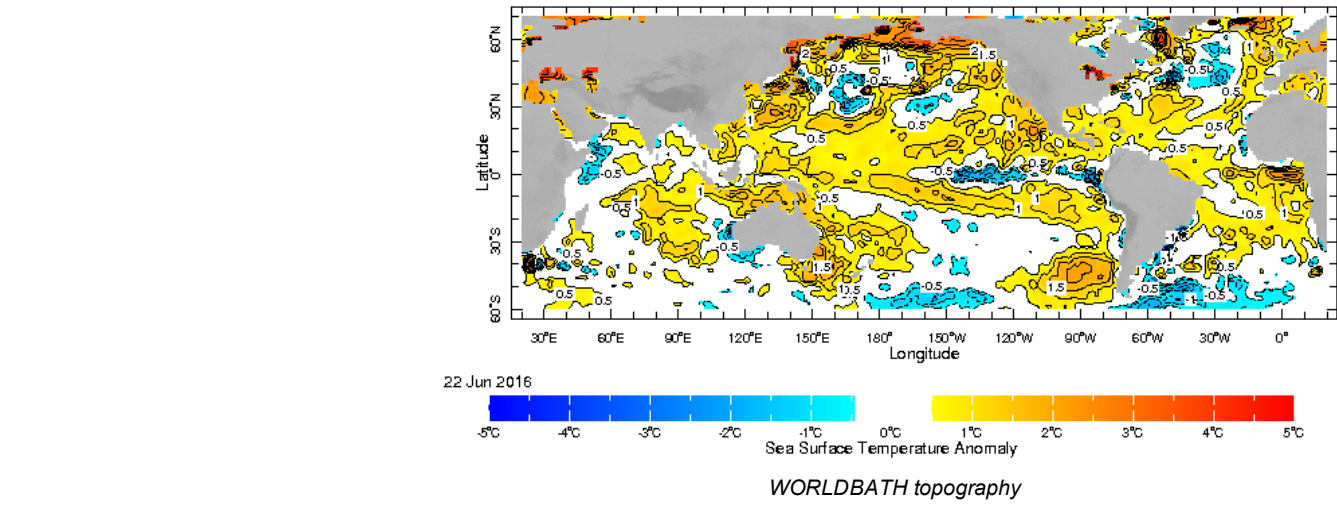
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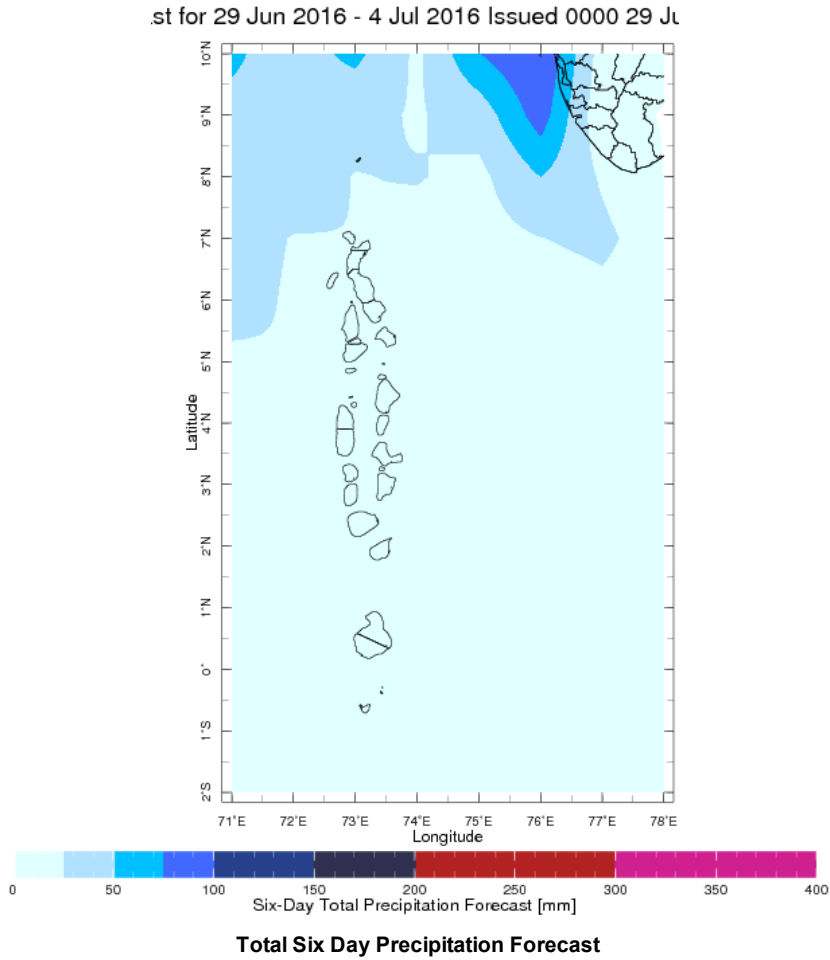
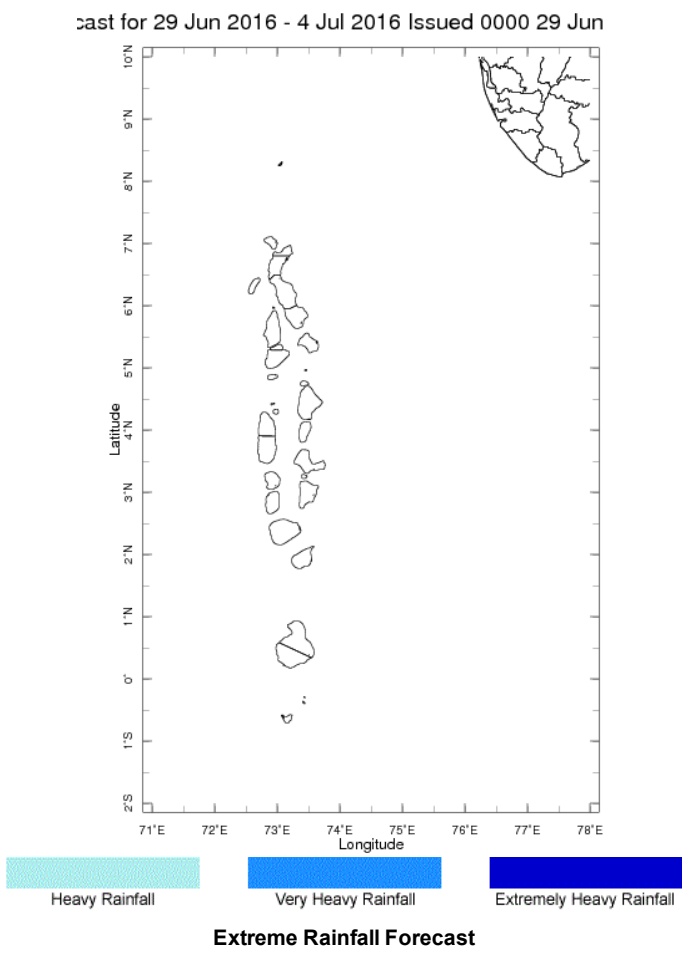


Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown



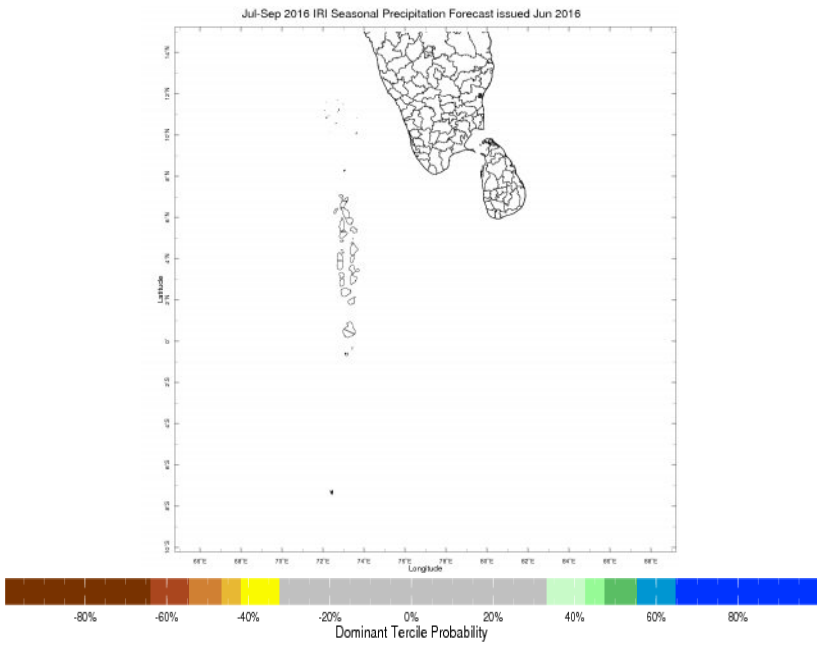
Weekly Rainfall Forecast

Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

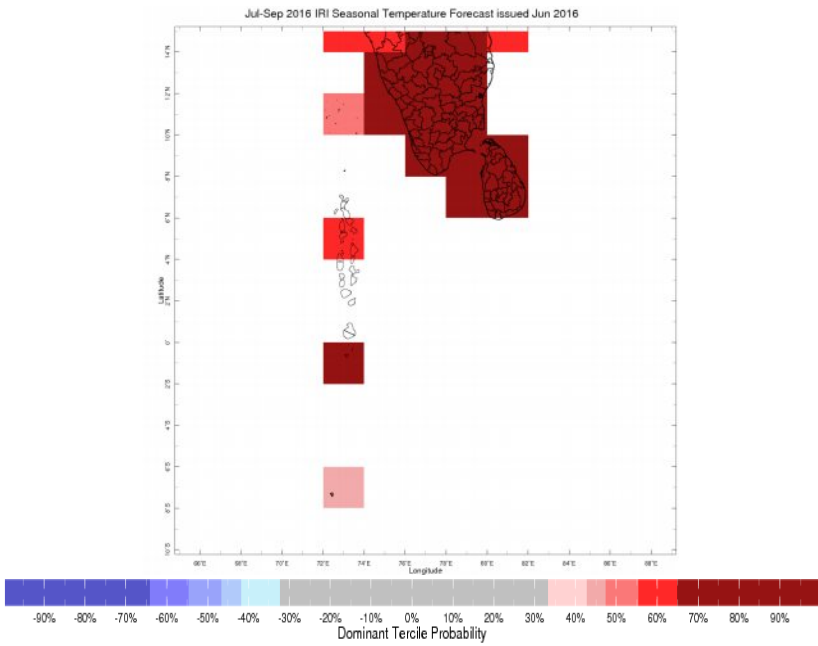


Seasonal Rainfall and Temperature Forecast

Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant tercile probability levels. The upper side of the color bar shows the colors used for increasingly strong probabilities when the dominant tercile is the above-normal tercile, while the lower side shows likewise for the below-normal tercile. The gray color indicates an enhanced probability for the near-normal tercile (nearly always limited to 40%).



Precipitation Forecast



Temperature Forecast

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