

Experimental Climate Monitoring and Prediction for the Maldives

–March 2015

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

23 March 2014

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PACIFIC SEAS STATE

March 19, 2015

During February through mid-March 2015 the SST just met the thresholds for weak Niño conditions.

During the last month, some of the atmospheric variables began indicating an El Niño pattern more than they had been earlier, including trade wind weakening and excess rainfall migrating farther to the east. The consensus of ENSO prediction models indicate weak El Niño conditions during the March-May 2015 season in progress, continuing and strengthening El Niño toward mid-2015.

(Text Courtesy IRI)

INDIAN OCEAN STATE

Mar 14, 2014

Neutral Sea surface temperature was observed around Maldives

Highlights

Below average rainfall was observed in January 2015 in Maldives and a continuation of this dry condition was observed in February and early March 2015 as well. Significant amount of rainfall is not predicted in the next few days by NOAA/ CFS models. The rainfall deficit in Maldives has increased to about 22- 33% of what is typical during the past 365 days. IRI predicts an El Niño by mid-2015.

Summary

CLIMATOLOGY

Monthly Climatology: Usually in March, northern islands receive around 50 mm rainfall and this increases up to 150 mm in southern islands. In April rainfall usually increases throughout the country with northern islands receiving rainfall up to 100 mm and southern islands receiving rainfall up to 200 mm. The average precipitation in May normally increases further throughout the country. Wind direction is usually south-westerly in March and in April northern islands receive south-easterly wind while southern islands receive easterly wind. Strong easterly wind is usually observed in May.

MONITORING

Weekly Rainfall Monitoring: Between 14th- 20th March, rainfall was only observed on 14th and 16th. During these two days the entire country received rainfall with central islands receiving rainfall up to 30 mm and the others receiving rainfall up to 20 mm. Even the sea around Maldives did not receive a significant amount of precipitation during this week.

Monthly and Seasonal Rainfall Monitoring: Rainfall received during February 2015 was climatological in northern and central islands while it was below average in southern islands. Due to this the rainfall deficit has become about 33% in northern and central islands and about 22% in southern islands.

PREDICTIONS

Weekly Rainfall Forecast: According to NOAA models, significant amount of rainfall is not expected during 22nd- 27th March 2015.

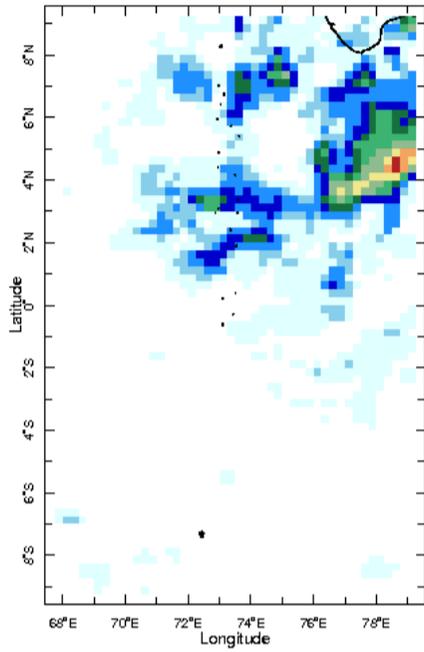
Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for March to May, the total 3 month precipitation shall climatological. The 3 month average temperature has a 50-60% likelihood for central islands and about 60% likelihood for southern-most islands of being in the above-normal tercile during this period.

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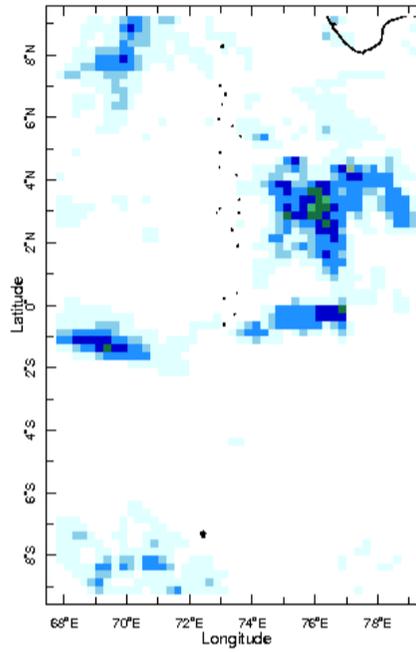
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Daily Rainfall Monitoring

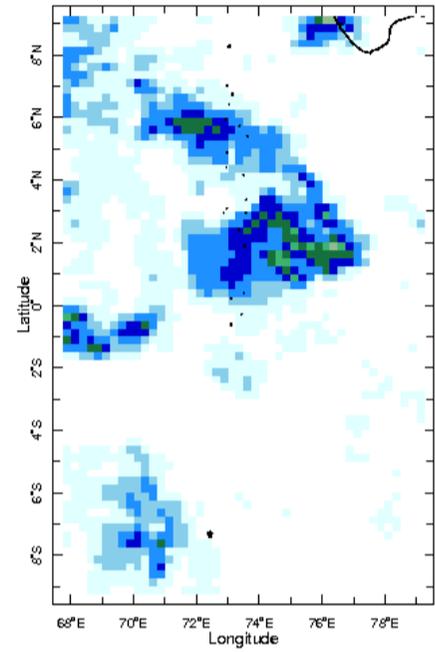
The following figures show the observed rainfall in the last 7 days in Maldives.



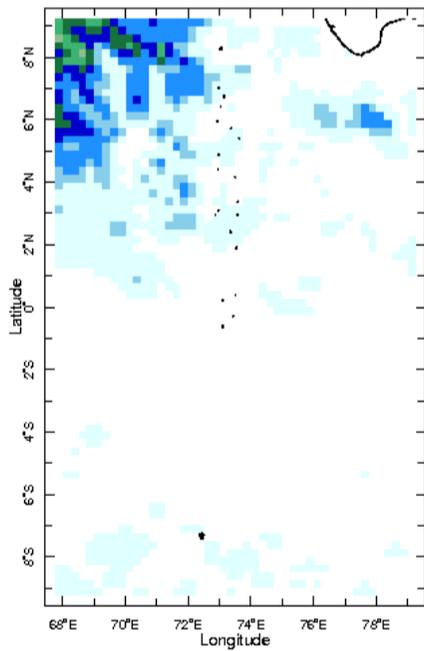
14 Mar 2015



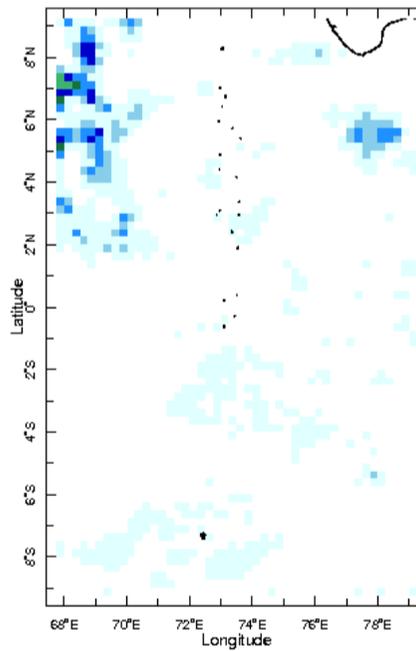
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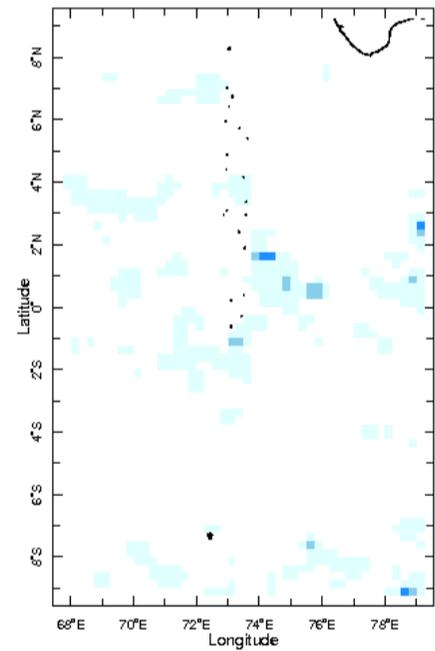
16 Mar 2015



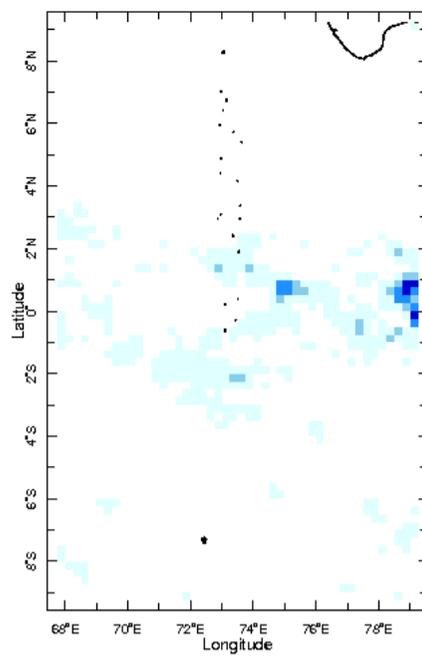
17 Mar 2015



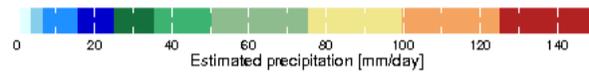
18 Mar 2015



19 Mar 2015

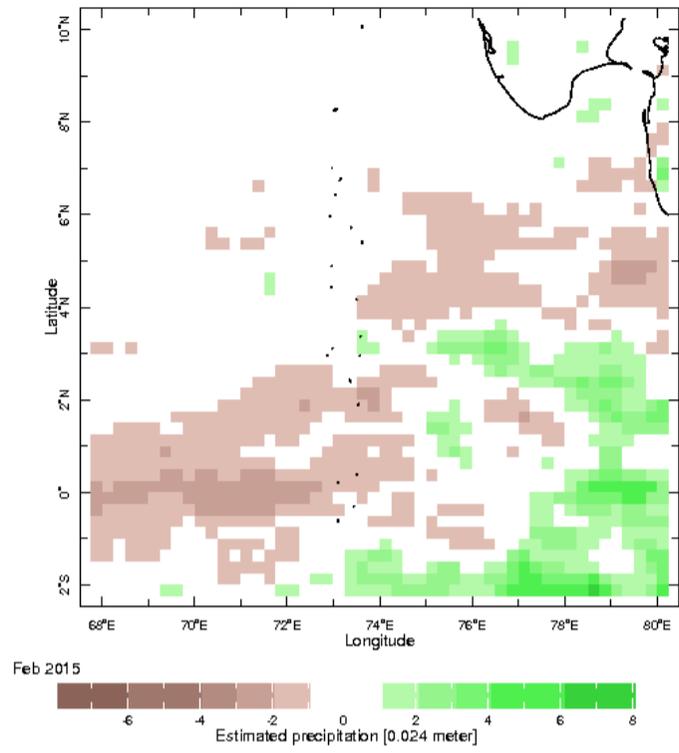
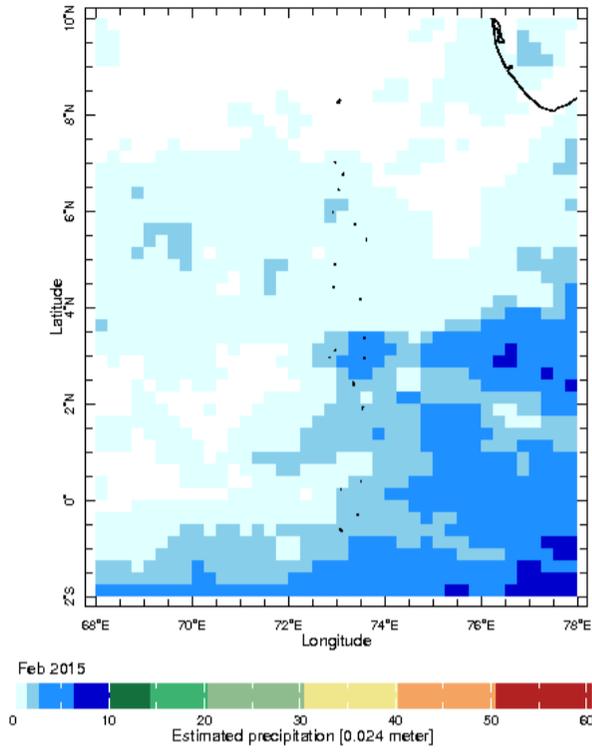


20 Mar 2015



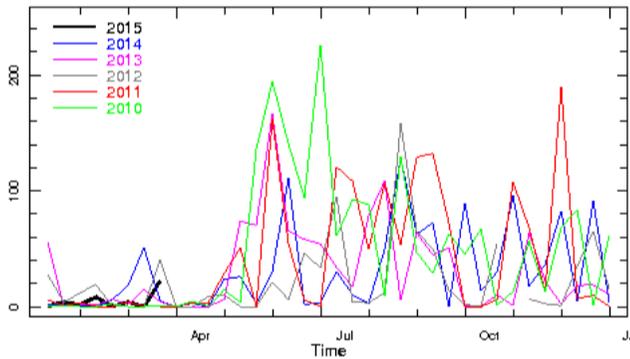
Monthly Rainfall Monitoring

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

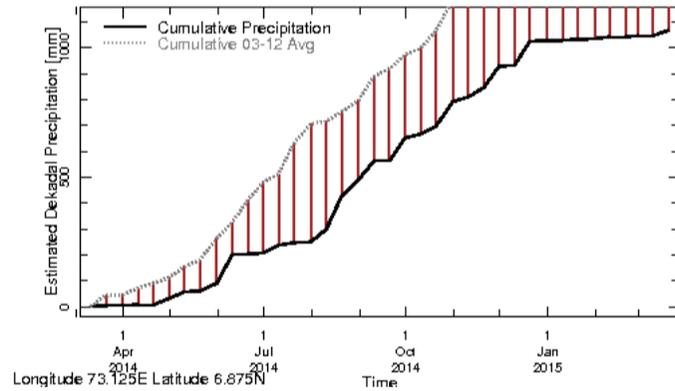


Monthly and Seasonal Monitoring

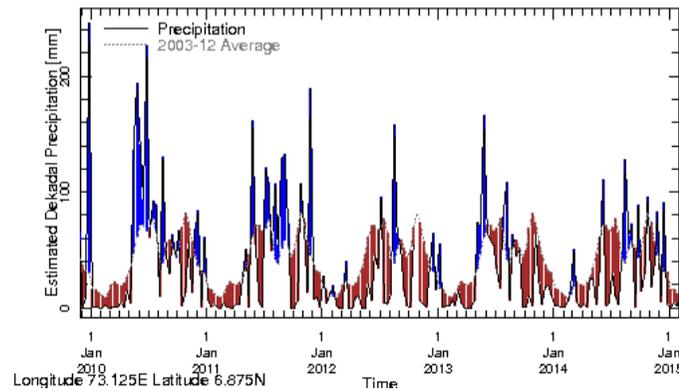
Northern Maldives:



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

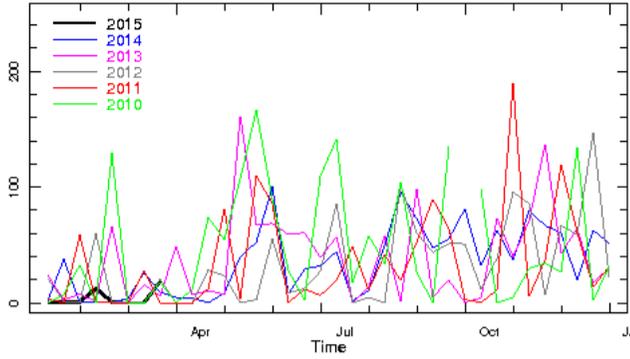


Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.



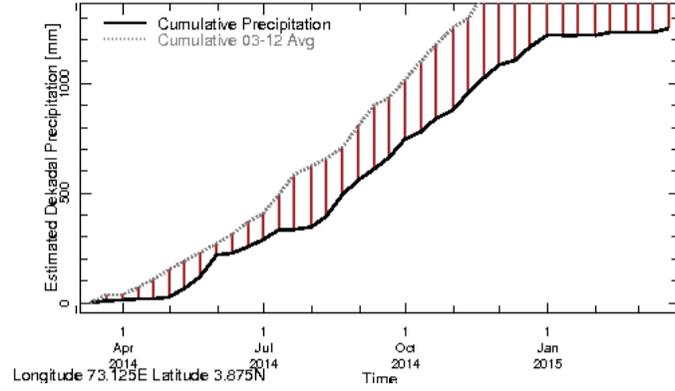
Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average rainfall hatched in brown

Central Maldives:



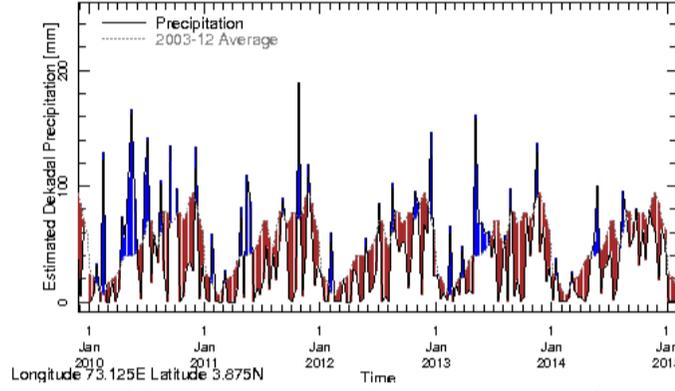
Longitude 73.125E Latitude 3.875N

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



Longitude 73.125E Latitude 3.875N

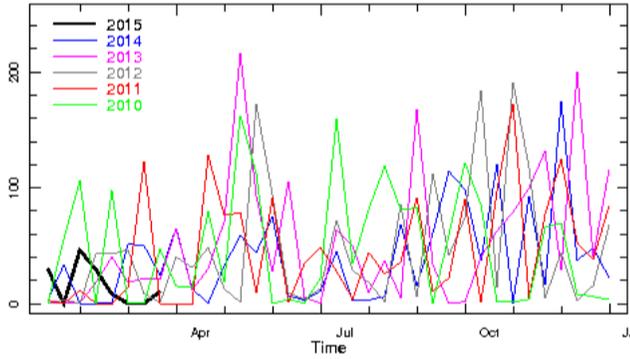
Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.



Longitude 73.125E Latitude 3.875N

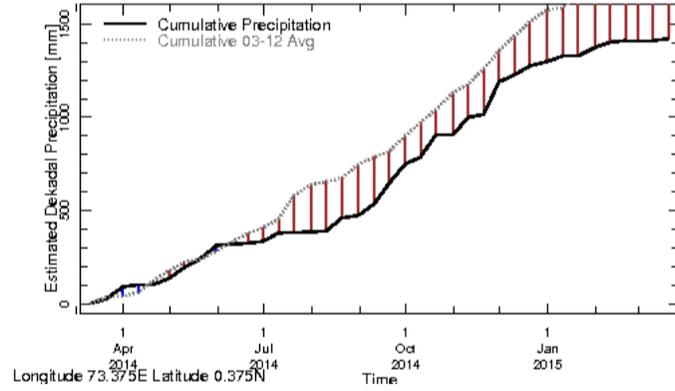
Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown

Southern Maldives:



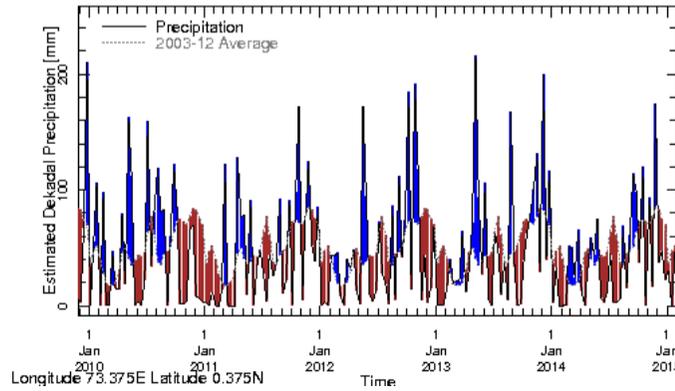
Longitude 73.375E Latitude 0.375N

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



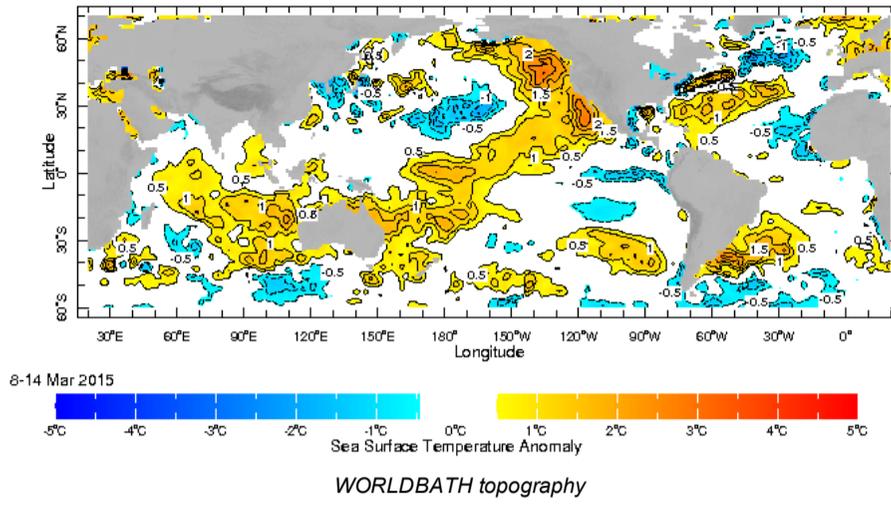
Longitude 73.375E Latitude 0.375N

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



Longitude 73.375E Latitude 0.375N

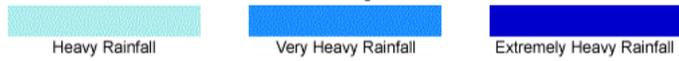
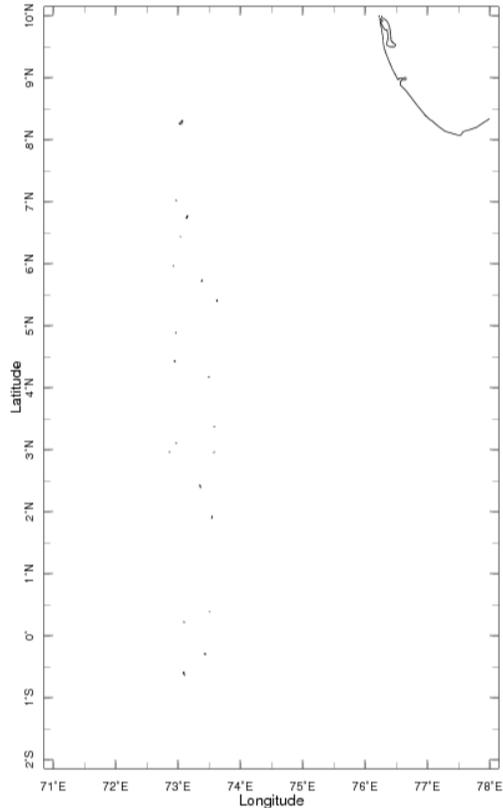
Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown



Weekly Rainfall Forecast

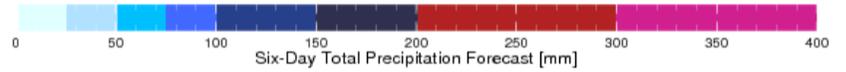
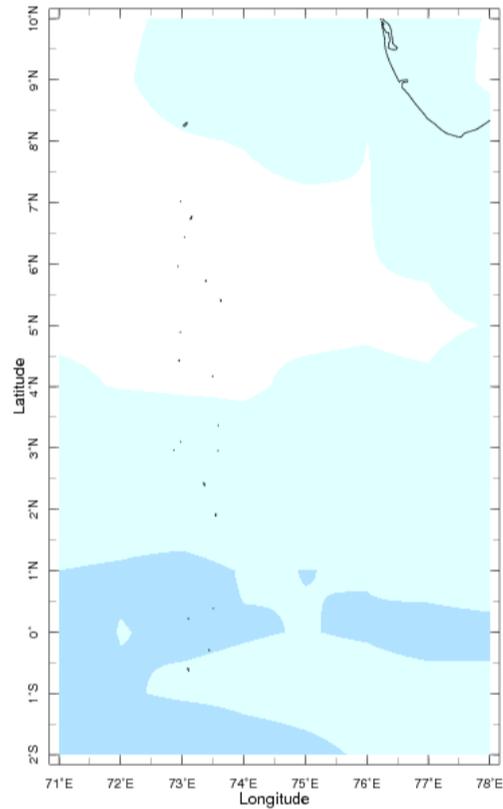
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 22-27 Mar 2015 Issued 0000 22 Mar 2015



Extreme Rainfall Forecast

recast for 22-27 Mar 2015 Issued 0000 22 Mar 2015

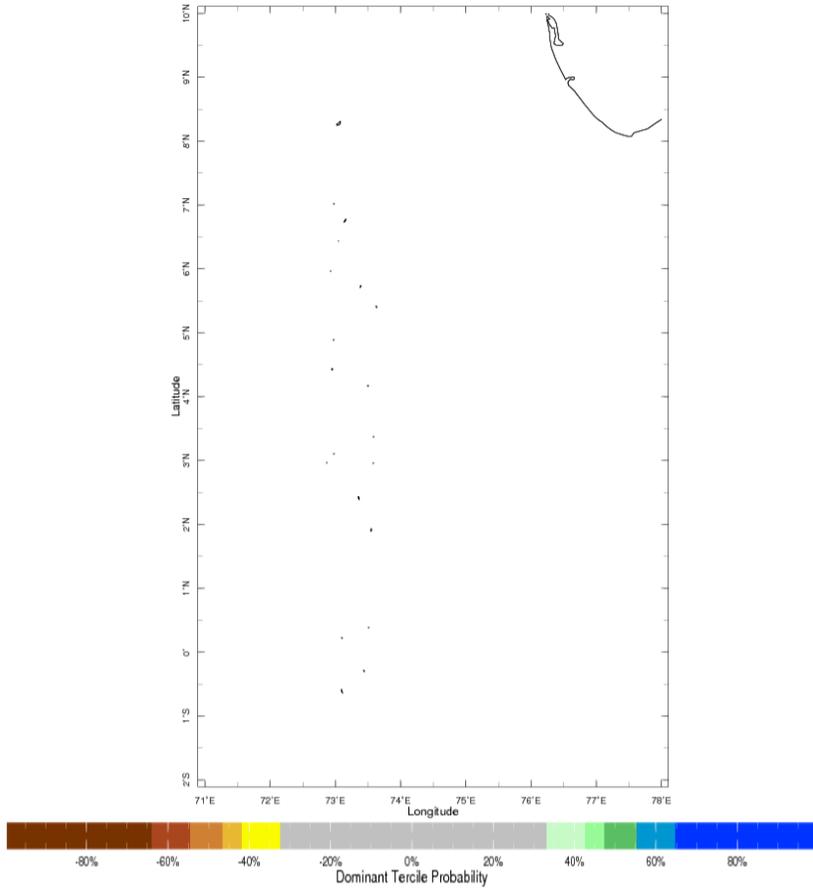


Total Six Day Precipitation Forecast

Seasonal Rainfall and Temperature Forecast

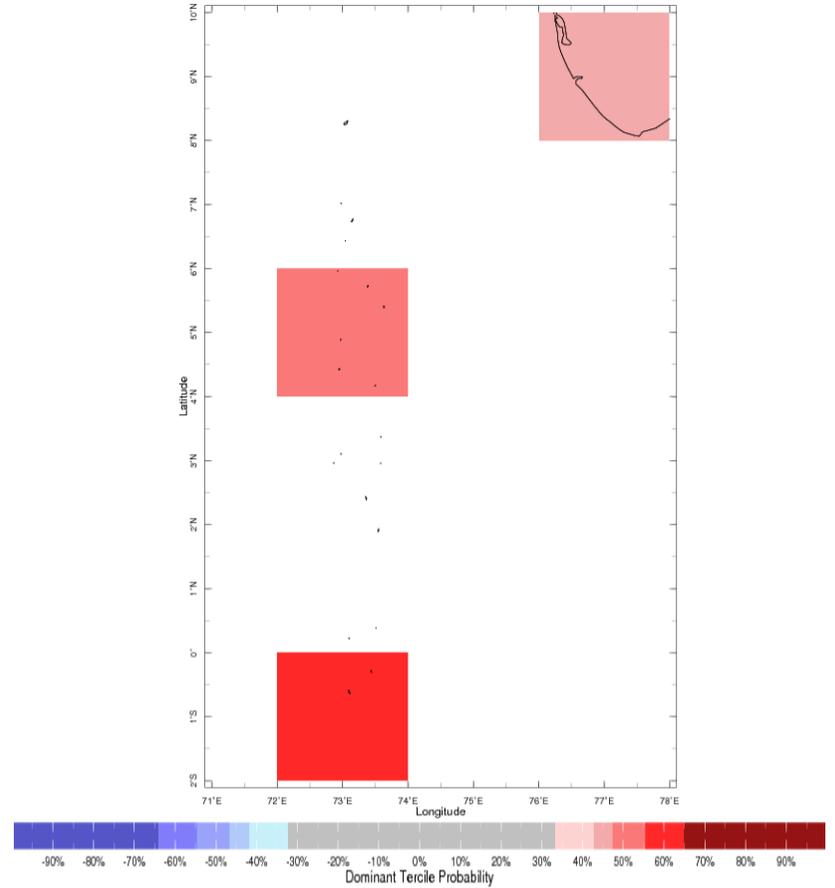
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant 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%).

Apr-Jun 2015 IRI Seasonal Precipitation Forecast issued Mar 2015



Precipitation Forecast

Apr-Jun 2015 IRI Seasonal Temperature Forecast issued Mar 2015



Temperature Forecast

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