ECT <u>Foundation for Environment</u> Climate and Technology C/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.

Phone (+94) 81-2376746, 4922992

E-mail <u>climate@sltnet.lk</u>

Experimental Climate Monitoring and Prediction

by: Prabodha Agalawatte, Sewwandhi Chandrasekara, Sanjaya Ratnayake, Zeenas Yahiya, Lareef Zubair and Michael Bell (FECT and IRI¹)

14 February 2013

FECT BLOG

Monitoring and Predictions:

Significant amount of rainfall is predicted for Southern regions of Sri Lanka for the coming week. For 15th & 16th February, 2013 Ratnapura and Kegalle districts shall receive a considerable amount of rainfall. However rainfall shall decrease gradually till 22nd for entire Sri Lanka.

Web Site <u>http://www.climate.lk</u>

Summary

Monitoring

Highlights

Weekly Monitoring: During the period 6th-12th February 2013 rainfall ranged between 5-185 mm. Maximum amount of rainfall was observed on the 12th February in Trincomalee & Mulativu districts. From 29th January-2nd February most of the regions experienced a wet condition. On 11th & 12th the entire country received rainfall.

Predictions

7-day prediction: Considerable amount of rainfall (5-55 mm) is predicted for the period of 13th-19th February 2013 for central mountainous regions and upper most regions of Northern Sri Lanka.

IMD WRF Model Forecast & IRI forecast: For the 15^{th} of February 2013, IMD WRF model predicts less than 65 mm of rainfall for the district boundary region between Ratnapura & Kegalle districts. For the same day rest of the regions shall receive rainfall less than 36 mm. For the 16^{th} of February, IMD WRF model prediction indicates that rainfall shall shift towards the west direction which shall receive less than 36 mm of rainfall for Puttalam, Kandy, Nuwara Eliya, Badulla, Ratnapura, Kegalle and Gampaha and, shall reduce in the adjoining regions. For the same day less than 1 mm of rainfall is predicted for the Northern and Eastern districts of Sri Lanka. NOAA model predicts heavy rainfall for the Southern $1/3^{rd}$ of the country from $13^{th} - 18^{th}$ February.

30 Days Prediction: Overall- Existing rainfall shall persist till 22nd February. Thereafter rainfall shall increase. Western Slopes – Existing rainfall shall persist till 19th February, and shall decrease to reach minimum rainfall on 22nd February for the period between 12th February-9th March. Thereafter rainfall shall increase. Western Coast - Existing rainfall shall persist till 16th and shall decrease till 21st. Thereafter rainfall shall increase. Eastern slopes - Rainfall shall vary frequently, but not significantly. However after 22nd rainfall shall increase significantly. Eastern Coast - Rainfall shall be observed same as in the Eastern slopes. Northern region- Rainfall shall decrease till 18th upto 0 mm/day. Thereafter rainfall shall gradually increase. Southern Region- Existing rainfall shall persist till 15th & it shall reduce drastically till 17th. Thereafter it shall increase gradually.

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on January 2013; for February 2013 to April 2013, there is a 50%-60% probability for temperature to be above normal in the country while the rainfall is to be climatological.

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 - b. Weekly precipitation forecast (IRI)
 - c. 1 month experimental predictions by Paul Roundy and L. Zubair
 - d. Seasonal Predictions from IRI

¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.
 ² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.
 Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.



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http://fectsl.wordpress.com/

FECT WEBSITES

http://www.climate.k and http://www.tropicalclimate.org/

February 7, 2013 PACIFIC SEAS STATE

Most of the ENSO prediction models predict natural ENSO conditions through the first half of 2013. During January the observed SST conditions have become below average, but in the neutral range. (Text Courtesy IRI)

INDIAN OCEAN STATE

In the Pacific, the El Nino state has weakened to neutral although there is weak warming remnant in the El Nino index areas. The unusually warmer sea surfaces of the Arabian Sea/Central Western and South-Eastern Indian Ocean remain. Climate and Technology

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E-mail climate@sltnet.lk

Web Site http://www.climate.lk

1. Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 6th-12th February 2013 (Left-Right, Top-Bottom)

10⁻N N.9.6 92'N 2.N 8.8[°]N 2.8.10 8.4"N 14⁻N 5 6.8 N 7.2 N 7.6 N 8 N Latitude 7.6 N 8 N Latitude 7.6'N 8'N 7.2 N N.C 6.8°N N.8 6.4[°]N 6.4°N 6.0[°]N õ 5.6'N N.9 N.9 79.2°E 79.6°E 80°E 80.4°E 80.8°E 81.2°E 81.6°E 82.0°E 82.4°E Longitude 79.2°E 79.6°E 80°E 80.4°E 80.8°E 81.2°E 81.6°E 82.0°E 82.4°E Longitude 79.2°E 79.6°E 80°E 80.4°E 80.8°E 81.2°E 81.6°E 82.0°E 82.4°E Longitude 6 Feb 2013 7 Feb 2013 8 Feb 2013 N.0 10_N 10⁻N N.96 0.9 N 0.6 N 9.2°N 92'N 92'N 8.8[°]N 8.8[°]N 8.8 N 84**"**N 8.4°N 8.4°N 6.8 N 7.2 N 7.6 N 8N Latitude 7.6 N 8 N Latitude 7.6 N 8 N 7.2 N 2 N 6.8[°]N 8.8 N 6.4°N 6.4 N 6.4[°]N 6.0^N 6.0[°]N 6.0 N N.9'9 5.6°N 5.6[°]N 79.2°E 79.6°E 80°E 80.4°E 80.8°E 81.2°E 81.6°E 82.0°E 82.4°E Longitude 79.2°E 79.6°E 80°E 80.4°E 80.8°E 81.2°E 81.6°E 82.0°E 82.4°E Longitude 79.2"E 79.6"E 80"E 80.4"E 80.8"E 81.2"E 81.6"E 82.0"E 82.4"E Longitude 9 Feb 2013 10 Feb 2013 11 Feb 2013 N_01 N.90 02[™] 8.8[°]N 8.4°N Latitude 7.6 N 8 N 7.2'N 8.8 N

> 70 JE 70 SE 60 E 60 JE 60 JE 61 JE 61 SE 62 JE 62 JE 12 Feb 2013

0 N 6.4 N

0 20 40 60 80 100 120 140 160 180 200 220 240 Estimated Precipitation [mm]

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 Foundation for Environment Climate and Technology
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b) Weekly Average SST Anomalies



Weekly Average SST Anomalies (⁰C), 3rd-9th February, 2013 Data Source: NCEP Environmental monitoring center (Climatology 1971-2000)

2. Predictions



a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.

Source – NOAA Climate Prediction Center

Foundation for Environment c/o, Maintenance Office, Mahaweli Authority, Climate and Technology

Digana Village, Rajawella, Sri Lanka.

Phone (+94) 81-2376746, 4922992

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E-mail climate@sltnet.lk

Web Site http://www.climate.lk

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b) WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\ based on 00 UTC of 13-02-2013 valid for 03 UTC of 16-02-2013



Climate and Technology

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c) Weekly Precipitation Forecast for 13th-18th February 2013 (Precipitation Forecast in Context Map Tool, IRI)



d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 14th February, 2013

All Sri Lanka (Rainfall Scale from 0-20 mm/day)



Western Slopes (Rainfall Scale from 0-20 mm/day)



Western Coast (Rainfall Scale from 0-20 mm/day)





Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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Northern Region (Rainfall Scale- from 0-20 mm/day)



Southern Region (Rainfall Scale- from 0-20 mm/day)



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e) Seasonal Rainfall and Temperature Predictions from IRI





