

# Democratic Socialist Republic of Sri Lanka



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Session 3.3  
Country report  
Sri Lanka

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TOPOGRAPHY AND CLIMATE

The topography of the island is consists of;

**Coastal plains,**

**Central mountainous massif**

**Lowland hills**

**Mid Climate**

Average Rainfall : 1860 mm/year

Range of rainfall : 950 – 6000 mm

Mean Temperature : 27.5 C (lowlands)

Lower Temperatures in the highlands

The central massif rises up to a maximum elevation of 2,524m at Pidurutalagala.

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Weather and Climate Services in Sri Lanka

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1. Observation system overview

Surface Observation  
at Observatories and Automated Weather Stations

Synoptic (23) and Upper air (4) observation

Automated observations (38) network

Agro-met observation (42) network (green dots)

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4. Integrated use of observation data

**NWP out puts use in Short and medium range weather forecasting in DOM**

ECMWF data and products –Non commercial agreement from 1<sup>st</sup> July 2017

ECMWF/IMD/NCMRWF/JMA/NCEP

**Mainly Subjectively**

Use global reputed climate center's NWP Model products as a tool

SWFDP project for Bay of Bengal

Product type: HRES, ENS

22 forecasting items

- Temperature and geopotential
- 2m temperature and 10m wind
- 2m maximum temperature and 10m wind
- 2m relative humidity
- Clouds
- Wind and relative humidity
- CAPE
- Clouds
- Significant wave height and mean
- Sea level pressure height and mean
- Wave period and mean
- Wave direction and mean
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- Wave direction and mean

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2. Observational organization structure

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4. Integrated use of observation data

**Department of Meteorology-NWP Activities**

Model	Horizontal Resolution	Vertical levels	Initial/BD conditions	Forecast length			
				0000z	0600z	1200z	1800z
WRF 3.8.1	5/15 km	42	GFS 0.5 Full	4 days (99h)	2 days (81h)	9 days (240h)	1 day (33h)
WRF 3.9.1	3/9 km	50	GFS 0.25	4 days (99h)	2 days (81h)	9 days (240h)	1 day (33h)

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3. Quality management of observation data

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4. Integrated use of observation data

**24H Rainfall : 09-Feb-2019**

(8.30am 09-Feb-2019 to 8.30am 10-Feb-2019)

5km (WRF-GFS)    11km ECMWF    3km (WRF-ECMWF)    P - EFI

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5. Observer/expert training timeline

	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year
New staff training	←→			
On the Job Training		←→	←→	←→
Monitoring observation data in real time at Operation room		←→	←→	←→
Acting to system troubles		←→	←→	←→
Maintaining observation instruments		←→	←→	←→
Participating in the workshop	←→	←→	←→	←→

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7. Expectation for this workshop

- Knowing how to do QC
- Getting some materials on observation system lecturing for in my office
- Making firm relationships between participants to exchange useful information after the workshop

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6. Plan for developing products

- Establish 100 automated rain-gages in river-basins – ongoing (Sri Lanka)
- Establish 2 Doppler Radars – 2020 (JICA)
- Department restructuring project – (World Bank)

**A center of excellence to weather and climate related services in Sri Lanka**