

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
STARRED QUESTION NO. *355
TO BE ANSWERED ON WEDNESDAY, 22ND DECEMBER, 2021**

AUTOMATIC WEATHER STATIONS

*355. DR. SHASHI THAROOR:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the Kerala Government is dissatisfied with the preparedness of India Meteorological Department (IMD) for weather forecast, especially after the devastating floods in the recent years;
- (b) if so, the details thereof;
- (c) whether the Ministry is aware that as per the BIS standards, Kerala requires 256 weather stations but there are only 21 Automatic Weather Stations (AWS) of which only 15 are functional;
- (d) the progress made by IMD towards setting up of 100 AWSs in Kerala immediately as promised to the Disaster Management Authority in August, 2018;
- (e) whether the Government is aware that the Kerala Government has hired private weather forecasters and makes use of weather warnings of IMD only for 'comparison';
- (f) if so, the details thereof; and
- (g) the details of the Ministry's action plan for the State?

**ANSWER
THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR
MINISTRY OF SCIENCE AND TECHNOLOGY
AND EARTH SCIENCES
(DR. JITENDRA SINGH)**

(a)to (g): A Statement is laid on the Table of the House.

STATEMENT LAID ON THE TABLE OF THE LOK SABHA IN REPLY TO (a) to (g) OF STARRED QUESTION NO. *355 REGARDING “AUTOMATIC WEATHER STATION” TO BE ANSWERED ON, DECEMBER 22, 2021

- (a)-(b) India Meteorological Department (IMD) is providing the best weather observation and forecast services for the benefit of the people of Kerala and will continue to extend similar services in future also.
- (c) As per the BIS 1994 norms the State of Kerala should have 115 (recording/non recording rain stations). However, at present there are 133 rain stations (63 auto + 70 manual) in Kerala. IMD has installed a total number of 30 AWSs in Kerala and their details are given in Annexure –I. The details of departmental and part time observatories are given in Annexure – II.
- (d) Out of 100 AWS planned for Kerala, 15 AWSs have been installed in July 2020 and the remaining installations are to be carried out in 2022 for which procurement is under progress.
- (e)-(f) No communication from the State Government of Kerala is received by the Ministry in this regard.
- (g) For generating good forecast, both observations (insitu and satellite) and numerical weather prediction models are essential. It is mentioned that, very high resolution Numerical Weather Prediction Model Forecast from IMD’s state of the art Global Forecast System (GFS), Weather Research & Forecasting Model (WRF) and Global Ensemble Forecasting System (GEFS) are being provided by IMD to Kerala State Disaster Management Authority (KSDMA) since last two years. These forecasts are further downscaled and utilized to generate forecasts for finer spatial resolution like Taluka, district, river basin etc. to meet their requirements for sectorial applications.

Regarding the quality of IMD’s forecasts, it is mentioned that the forecasts are being utilized by many countries of South Asia for their weather forecast services under regional activities of World Meteorological Organisation (WMO) and that of Regional Integrated Multi-Hazard Early Warning System (RIMES) for Africa and Asia.

From May 2020 onwards, IMD is providing rainfall forecasts at 12.5 Km resolution for next ten days to Kerala State Council for Science, Technology & Environment which is updated on daily basis to support their Basin Wise Emergency System for alerts during flood events related to the project for Periyar River Basin, Kerala.

Regarding Doppler Weather Radars (DWR) in Kerala, it is mentioned that two Doppler Weather Radars are already installed in Kerala; one at Kochi and another at Thiruvananthapuram which meet the requirements for Kerala; especially the central and southern parts of Kerala.

Thus, IMD is providing the best weather observation and forecast services for the benefit of the people of the State of Kerala and will continue to extend similar services in future also.

Annexure -I**Location of 30 AWS installed in Kerala**

S NO.	STATE	DISTRICT	STATION
1	KERALA	ALAPPUZHA	CHERTHALA
2	KERALA	ALAPPUZHA	KAYAMKULAM
3	KERALA	ERNAKULAM	NORTH_PARAVUR
4	KERALA	IDUKKI	CHERUTHONI
5	KERALA	IDUKKI	MUNNAR
6	KERALA	IDUKKI	PEERMADE
7	KERALA	KANNUR	IRIKKUR
8	KERALA	KANNUR	KANNUR AIRPORT
9	KERALA	KASARAGOD	KUDLU
10	KERALA	KASARAGOD	PILICODE
11	KERALA	KASARAGOD	VELLARIKKUNDU
12	KERALA	KOLLAM	KOTTARAKKARA
13	KERALA	KOLLAM	WEST KALLADA
14	KERALA	KOTTAYAM	KUMARAKOM
15	KERALA	KOTTAYAM	POONJAR
16	KERALA	KOZHIKODE	KAKKAYAM
17	KERALA	KOZHIKODE	KOZHIKODE
18	KERALA	MALAPPURAM	NILAMBUR
19	KERALA	MALAPPURAM	VAKKAD
20	KERALA	PALAKKAD	ADAKKAPUTHUR
21	KERALA	PALAKKAD	MANKARA
22	KERALA	PATHANAMTHITTA	SEETHATHODE
23	KERALA	THIRUVANANTHAPURAM	NEYATTINKARA
24	KERALA	THIRUVANANTHAPURAM	THIRUVANANTHAPURAM
25	KERALA	THIRUVANANTHAPURAM	VELLAYANI
26	KERALA	THRISSUR	CHALAKKUDY
27	KERALA	THRISSUR	PERINGALKUTHU
28	KERALA	THRISSUR	VELLANIKKARA
29	KERALA	WAYANAD	AMBALAVAYAL
30	KERALA	WAYANAD	PADINJARATHARA_DAM

Departmental Observatories in Kerala

Sl. No	Name of Station	Lat /long	Type of Observatory	Hours of observation	
			Surface/PB/RS/AMS/Radiation/AET/PET/PMO/other	Surface	Aeronautical Meteorological Station (AMS)
1.	MC Thiruvananthapuram	8.5079°N/ 76.9582°E	Surface / PB / RS / Radiation / Seismology	00,03,06,09,12,15, 18 & 21 Z	
2.	AM O - Thiruvananthapuram	8.4765°N/ 76.9197°E	AMS & Surface	03 & 12 Z	Half hourly METAR from 0000 Z to 2330 Z and 03 & 12 Z observations
3..	MO Alappuzha	10.8336°N / 76.3191°E	Surface	00,03,06,09 & 12 Z	-
4.	MO Kozhikode	10.8336°N/ 75.7595°E	Surface	00,03,06,09,12,15, 18 & 21 Z	-
5.	MO Kannur	10.8336°N / 75.371°E	Surface	00,03,06,09 & 12 Z	-
6.	AMS Kozhikode (Karipur)	10.8336°N/ 75.9486°E	AMS & Surface	03 & 12 Z	Half hourly METAR from 0000 Z to 2330 Z
7.	AMS Kannur (KIAL)	11.54°N/ 75.32°E	AMS & Surface	03 & 12 Z	Half hourly METAR from 0000 Z to 2330 Z
8.	AMS Kochi (CIAL)	10.8336°N / 76.4003°E	AMS & Surface	03,06,09 & 12Z	Half hourly METAR from 0000 Z to 2330 Z

Non Departmental Observatories in Kerala

Sl.No.	Name of Station	Lat /long	Type of Observatory	Hours of observation	
			Surface/PB/RS/AMS/Radiation/AET/PET/P MO/other	Surface	Aeronautical Meteorological Station (AMS)
1.	Naval air Station Kochi	10.8336 °N/ 76.273°E	Surface / PB / Aviation	00,03,06,09,12,15, 18 & 21 Z	Half Hourly METAR
2.	Punalur	9.0145 °N/ 76.9448°E	Surface	03 & 12 Z	
3..	Kottayam	10.8336°N/ 76.5716 °E	Surface	03 & 12 Z	-
4.	Palakkad	10.8336°N/ 76.6832°E	Surface	03 & 12 Z	-
5.	Vellanikkara	10.5483°N/ 76.2829°E	Surface	03 & 12 Z	
