

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 2295
TO BE ANSWERED ON 09.08.2021

Database for climate change

2295 SHRI HARNATH SINGH YADAV:
SHRI VIJAY PAL SINGH TOMAR:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether Government has any proposal to use remote earth sensing for establishing a strong database for measuring climate change;
- (b) whether any study has been carried out by Government to assess the impact of such database for prevention and control of global warming in Indian region; and
- (c) if so, the details thereof ?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ASHWINI KUMAR CHOUBEY)

(a) to (c) The Government is seized of the matter. The key Ministries/Departments concerned with climate change in their respective sectors are regular users of the remote sensing information and related databases thereto. The main sources of such information and databases are the Indian Space Research Organization (ISRO) and the Ministry of Earth Sciences (MoES).

The National Information System for Climate and Environment Studies (NICES) at the National Remote Sensing Centre (NRSC), ISRO is providing information on geophysical variables relevant to climate and environmental variables derived from space and ground based observations. These include ocean, atmosphere, terrestrial and cryospheric products which are being made accessible through NICES/Bhuvan geoportal. ISRO is also carrying out research studies on monitoring of river discharge, rainfall trends, sea level rise, coral reefs, mangroves and productivity of Arabian Sea.

India Meteorological Department (IMD) of the MoES has a Satellite Meteorology Division. The IMD utilizes the satellite products for, inter-alia, the following services:

- (i) INSAT-3D and INSAT-3DR satellite data are used in forecasting/monitoring weather.

- (ii) Round the clock surveillance of weather systems including severe weather events around the Indian region and generating satellite bulletins based on satellite images and products for use in forecasting.
- (iii) Detect genesis and growth of tropical cyclones their location and intensity at required intervals depending upon its severity. Monitor movements of migrating systems such as tropical cyclones, region of intense convection, etc.
- (iv) Various satellite products are given as an input to weather forecasters and used to decide the onset of monsoon.
- (v) Development and operationalization of real-time Analysis of Product and Information Dissemination (RAPID) in IMD.
- (vi) All the processed satellite images and products are archived on a regular basis.
- (vii) National Centre for Weather Forecasting (NCMRWF) has generated high resolution reanalysis data sets utilizing satellite and other data for 40 years period, 1979 to 2018 over the Indian region. A data portal (<https://rds.ncmrwf.gov.in>) has been developed for sharing the reanalysis data sets with global research and user community. These data sets are extensively used in the numerical modeling for weather prediction.
- (viii) Satellite data products are also used to simulate/evaluate the long term climate variability and change.
