

## **Agenda Item - 11: Space and Climate Change**

### **Mr. Chair and distinguished delegates**

The Indian delegation is happy to deliberate on the agenda item ‘Space and Climate Change’.

Climate change refers to long-term shift in global or regional climate patterns. It has become a major concern for our planet because of the potential catastrophic effects it can have on our environment and society. Climate change is mainly caused by anthropogenic activities such as burning fossil fuels, deforestation, and industrial processes. These activities release greenhouse gases into the atmosphere which trap heat and cause the Earth’s temperature to rise due to positive radiative forcing. The impact of climate change is being experienced globally, which is causing a variety of effects such as rising sea levels, more frequent and severe weather events like hurricanes, droughts, and floods, and changes in ecosystems leading to extinction of species. India recognizes the seriousness of climate change issue and emphasize that it can be addressed by global cooperation based on the multilateral framework of the United Nations and committed to the global responses to tackle the adverse effect of climate change.

### **Mr. Chair**

Satellite based observations together with in-situ observational data are used in estimation of state of the Earth’s climate on a regular basis by ingesting these data into global and regional climate models. ISRO has designed, developed and launched satellites with advanced payloads for monitoring the state of the atmosphere, oceans and land over India and the surrounding region.

Oceansat series of satellites, with OCM and scatterometer payloads, are providing information on chlorophyll distribution over the ocean and the global ocean surface wind vector data which are used for weather prediction, detection and tracking of cyclones. The intensity of a tropical cyclone and its movements over the ocean have been studied using ARGOS and ALTIKA payloads, on board Indo-French SARAL satellite. The weather satellites, INSAT-3D and INSAT-3DR are providing frequent data on atmospheric temperature & humidity profiles, geophysical parameters like fog, fire, total ozone concentration in the atmospheric column and land surface temperature.

### **Mr. Chair**

Information on impact of climate change at regional level is significant to devise mitigation and adaptation measures. In this regard, sea level rise has been observed at the Indian coasts over the decades. Also, the impact of climate change has been studied on five major coral reef regions of India using modelled and satellite derived Sea Surface Temperatures for the last three decades. The study found that Indian coral reef regions have different regional, thermal and bleaching thresholds corresponding to their individual warmest months and warmest quarters. A prototype coral bleaching alert system based on these regional thresholds has also been

developed.

To ensure food security, India has been continuously focusing on advanced strategies of adaptation and mitigation of future climates on agriculture. It includes, varietal development with specific traits of drought resistance & short growing period, management of cropping systems, enhancing water use efficiency, pest & disease resistance etc.

**Mr. Chair**

India has established Meteorological & Oceanographic Satellite Data Archival Centre (MOSDAC) which hosts variety of data sets from satellite missions and ground based observations and accessible to scientific and research community. The web portal disseminates near real-time weather services such as cloud bursts and heavy rain alerts, genesis of tropical cyclones along with track and intensity prediction.

Another significant initiative is setting up of National Information System for Climate and Environment Studies (NICES) programme to promote the generation, dissemination and use of climate data acquired through satellites. NICES web portals, hosting substantial database of more than 70 geophysical variables pertaining to Terrestrial, Ocean and Atmosphere, mainly derived from Indian and international EO satellites.

**Mr. Chair**

India is continuously upscaling of renewable energy, that can propel the growth of the industrial and service sectors significantly. Green technologies initiatives spread across energy demanding sectors including industry, agriculture, business and commerce.

India has made plans to make the transport sector green through e-mobility. India has stabilized, protected and enhanced its forest and tree cover over the years. India's commitment to rapidly increasing the renewable energy capacity reflects its strong commitment to limiting the rise in global temperatures.

To conclude, India will continue to focus on climate friendly technology and committed to work in a multilateral framework for environmental sustainability.

**Thank you Mr. Chair and distinguished delegates.**