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INSTITUTE FOR CLIMATE CHANGE STUDIES

An autonomous Institution of Science and Technology Department
Govt. of Kerala

ICCS Webinar 6

One Month – One Theme Initiative
20th October 2022

Meteorological Observations for Extreme Weather & Climate Events in India with emphasis on Kerala

Speaker

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Head- Climate Research &Services, Surface Instrument Division, IMD Pune

Thursday, 20th October, 2022

3.30 p.m. – 4.30 p.m.

To Join:
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Abstract of the Lecture

What is the current rate of climate change?
It's obvious that the answer to this question depends on accurate observations & our ability to detect small trends rests on high-quality measurements. So accurate observations are foundation of studies towards climate change studies.

As we all are aware that, extreme weather events are on rise globally due to climate change and it is disturbing all the major sectors of the human activities. It's now well documented fact that rise in global temperatures is responsible for increase in the intensity and frequency of extreme weather events like; heat waves, heavy rainfall, droughts etc While climate experts all over the world and agencies like IPCC, WMO are talking about the global warming, the regional climate change assessment could be another greater challenge as it can have the presence of local inputs too. Recently its observed that the annual mean land surface air temperature averaged over India till September 2022 stayed +0.510C above the long-term average (1981-2010 period). The year 2022 was the fifth warmest year on record since nationwide records commenced in 1901.
Recent years, there is an increase in the extreme weather events like heavy rainfall, floods, landslides, lightning and thunderstorms over various parts of the country. Kerala; one of the most progressive coastal state of India, also has started experiencing large variabilities in rainfall and temperature, leading to flash floods, huge landslides and increasing trends in warmer conditions. In the recent period (1971-2021), a significant decrease in the south-west monsoon rainfall over Kerala has been observed. However, the number of heavy rainfall events within the season has increased considerably. Both the surface maximum and minimum temperatures of most of the stations of Kerala are showing significantly increasing trend for the period (1901 to 2021). It is also important to note that 8 of the 10 warmest years in record over Kerala were pertaining to the recent decade (2012-2021). As mentioned in beginning, a better understanding of these extremes and their timely predictions are highly dependent on the availability of the high-quality observational data. IMD under MoES has various schemes to establish the different types of weather observing network over the land and oceans and it is continuous process too. There has been a significant contribution towards this from all state government agencies including Kerala state government, and other users, stake holders connected with IMD. This talk will provide an overall clue about the major changes happening in the extreme weather events over Kerala and the importance of different weather observation and the density of observational network in predicting the extreme events.