GOVERNMENT OF ANDHRA PRADESH

HEAT WAVE ACTION PLAN - 2019

ANDHRA PRADESH STATE DISASTER MANAGEMENT AUTHORITY
REVENUE (DM) DEPARTMENT.

Contents

EXECUTIVE SUMMARY

Heat wave is also called a “silent disaster” as it develops slowly injures, kills humans and animals statewide. Higher daily peak temperatures of longer duration and more intense heat waves are increasing frequently, globally due to climate change.

As stated in the State Level Climatic Monologue (IMD) “State averaged summer mean maximum temperatures have increased over Andaman and Nicobar, **Andhra Pradesh**, Goa, Himachal Pradesh, Karnataka, Kerala, Lakshadweep, Maharashtra, Mizoram, Rajasthan, Sikkim and Tamil Nadu.” The figure is as below.

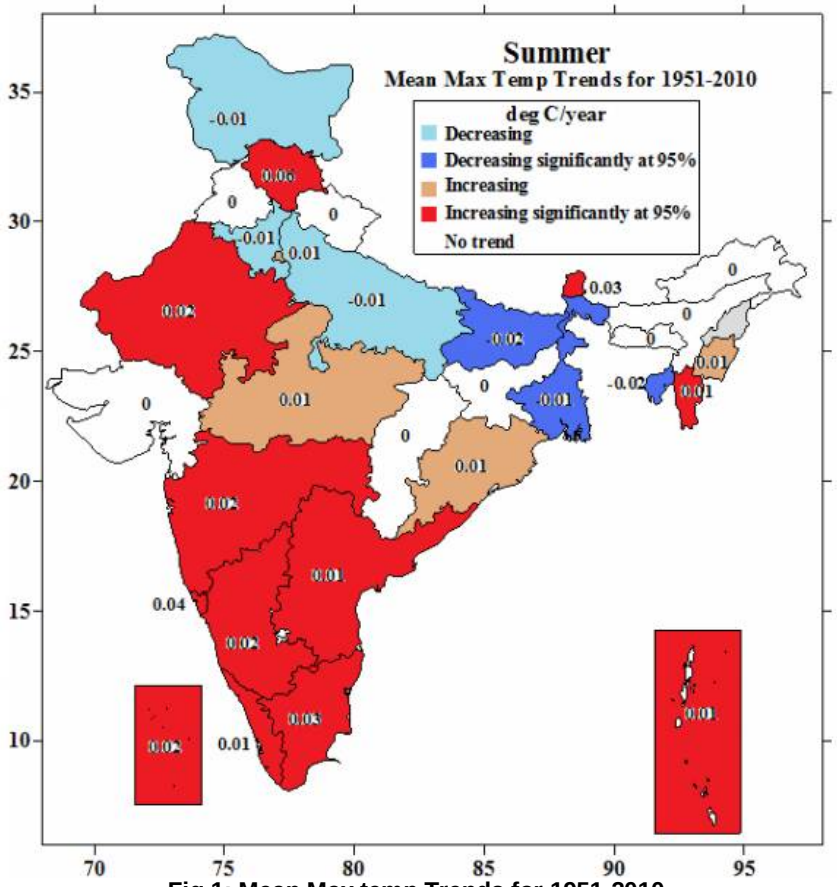

Fig 1: Mean Max temp Trends for 1951-2010

The extreme temperatures combined with high humidity and resultant atmospheric conditions adversely affect people living in these regions leading to physiological stress, sometimes even death. This unusual and uncomfortable hot weather can impact human and animal health and also cause major disruption in community infrastructure such as power supply, public transport and other essential services. The heat wave action plan is formulated to enable administrators to take appropriate measures and action for being in a state of preparedness for the heat wave during the months of March, April and May.

1. INTRODUCTION

There is a strong and global scientific consensus that the climate is changing and this change will cause an increase in average global temperatures, as well as the number and intensity of heat-waves. Heat-waves are a significant cause of death and morbidity across the world, and the impacts of heat events are likely to increase due to changing frequency, severity, and intensity of heat-waves caused by climate change.

India too is feeling the impact of climate change in terms of increased instances of heat waves which are more intense in nature with each passing year, and have a devastating impact on human health thereby increasing the number of heat wave casualties. Heat waves have contributed to more deaths than any other natural disaster in Andhra Pradesh and represent a significant risk to public health.

Heat wave action plan of AP adopted two criteria to identify the heat wave affected areas; one based on the criteria suggested by IMD using observed maximum daily temperature and its deviation from normal and second one using a Thermal index computed in combination of temperature and humidity taking the threshold values for heat index based on bio-climatic charts suitable to areas in Andhra Pradesh region.

Increased occurrences of summer heat wave conditions in recent years are fettle to the human life. Prior information about the possible heat wave conditions will help in reducing the risk to human life also helps in taking precautionary action, also the government agencies to be vigilant and allow them to plan outreach activities to save the lives of the public.

2. HEAT WAVE

What is a Heat Wave?

There is no universally excepted definition for heat wave, it is generally defined as a prolonged period of temperature above normal (excessive heat). As per World Meteorological Organization (WMO) heat wave is defined as “when the daily maximum temperature of more than five consecutive days exceeds the average maximum temperature by 5°C.

As per India Meteorological Department (IMD) for heat wave to be declared,
Following criteria to be met:

When maximum temperature reaches **40°C in plains** and at least **30°C in hilly Regions.**
i) Based on Departure from Normal ➢ **Heat Wave:** Departure from normal is **4.5°C to 6.4°C.** ➢ **Severe Heat Wave:** Departure from normal is **>6.4°C** or **more.**
ii) Based on Actual Maximum Temperature ➢ **Heat Wave:** When actual maximum temperature **≥ 45°**C. ➢ **Severe Heat Wave:** When actual maximum temperature **≥47°C.**
iii) Criteria for describing Heat Wave for coastal stations When maximum temperature departure is **4.5°C or more** from normal, Heat Wave may be described provided actual maximum temperature is **37°C or more**.

To declare a heat wave, the above criteria should be met at least at two stations in a Meteorological sub-division for at-least two consecutive days. A heat wave will be declared on the second day.

Color Signals for Heat wave Alert

The Heat alerts based on thresholds determined by the IMD using the following color signal system shall be issued

Red Alert (Severe Condition)	**Extreme Heat Alert for the Day**	**Normal Maximum Temp increase 6º C to more**
Orange Alert (Moderate Condition)	**Heat Alert Day**	**Normal Maximum Temp increase 4º C to 5º C**
Yellow Alert (Heat-wave Warning)	**Hot Day**	**Nearby Normal Maximum Temp.**
White (Normal)	**No Alert**	**Below Normal Maximum Temp.**

Table: 1. Classification of Heat wave