

**GOVERNMENT OF INDIA**  
**MINISTRY OF EARTH SCIENCES**  
**LOK SABHA**  
**UNSTARRED QUESTION NO. 232**  
**TO BE ANSWERED ON WEDNESDAY, 24<sup>TH</sup> JULY, 2024**

**IMPACT OF HEAT WAVES ON INDIA**

232. SHRI BALASHOWRY VALLABHANENI :

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) the manner in which the Government looks at the research conducted by Australia-based Monash University published in PLoS Medicine that impact of heat wave on India is severe due to geographical, climatic and socio-economic factors;
- (b) Whether it is also true that India shouldered the highest heat-wave related deaths globally and accounts 20% of 1.53 lakh mortalities reported every year since 1990;
- (c) whether it is also true that the World Meteorological Organisation indicated that there are 110 reported fatalities due to heatstroke in 2023 in India; and
- (d) the details of the remedial measures that the Government is planning to take to address this issue?

**ANSWER**

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

- (a) The study published in PLoS Medicine was based on the daily deaths and temperature data from 750 locations in 43 countries. The published article also mentioned that “The main limitation of the study was the lack of data from certain regions, e.g., Arabian Peninsula and South Asia”.

The India Meteorological Department (IMD) defines heatwave conditions based on temperature criteria as reported by the stations located across various districts in the country. IMD mainly considers meteorological parameters at local levels as the impact of heatwaves is aggravated due to prevailing humidity, winds, climatological and geographical information.

- (b) No. As per the National Crime Record Bureau (NCRB, Ministry of Home Affairs) report, the highest number of deaths (1908) associated with heatwaves in the Indian region occurred in 2015. The details are provided in the Annexure-1. It has been reduced since then due to seamless weather prediction of temperature, and early warning alters for the heatwave conditions by IMD, and the implementation of the heat action plan by the National Disaster Management Authority.
- (c) Yes.

- (d) The India Meteorological Department has taken various steps to improve monitoring and early warning systems, which helped minimize loss of life and property during extreme weather events, including heatwaves. These include:
- i. Issuing seasonal and monthly outlook of temperature and heatwave conditions.
  - ii. District-wise heatwave vulnerability Atlas over India to help State Government authorities and disaster management agencies in planning and taking appropriate action.
  - iii. The hot weather hazard analysis over India that includes daily temperature, winds, and humidity condition.
  - iv. Heat index forecast for the entire country and impact-based forecast of heatwave conditions at district levels.
    - v. Real-time heatwave information and warnings on the Web-GIS platform.
  - vi. Heat Action Plans (HAPs) in 23 States that are prone to heatwave conditions jointly implemented by the national disaster management authority in collaboration with the State Governments.
  - vii. Improvement of warning dissemination services; using modern tools of dissemination systems for timely public outreach.

## Annexure-1

### State/UT wise deaths due to Heat/Sun Stroke in 2015:

S. No.	State/UT	2015
1	Andhra Pradesh	654
2	Arunachal Pradesh	0
3	Assam	0
4	Bihar	86
5	Chhattisgarh	2
6	Goa	0
7	Gujarat	52
8	Haryana	34
9	Himachal Pradesh	0
10	Jharkhand	96
11	Karnataka	0
12	Kerala	1
13	Madhya Pradesh	24
14	Maharashtra	61
15	Manipur	0
16	Meghalaya	0
17	Mizoram	0
18	Nagaland	0
19	Odisha	60
20	Punjab	99
21	Rajasthan	41
22	Sikkim	0
23	Tamil Nadu	0
24	Telangana #	182
25	Tripura	0
26	Uttar Pradesh	487
27	Uttarakhand	0
28	West Bengal	28
	<b>TOTAL STATE (S)</b>	<b>1907</b>
29	A & N Islands	0
30	Chandigarh	0
31	D&N Haveli and Daman&Diu @ +	0
32	Delhi UT	0
33	Jammu & Kashmir @ *	1
34	Ladakh @	-
35	Lakshadweep	0
36	Puducherry	0
	<b>TOTAL UT(S)</b>	<b>1</b>
	<b>TOTAL (ALL INDIA)</b>	<b>1908</b>

As per data provided by States/UTs

‘+’ Combined data of erstwhile D & N HAVELI AND DAMAN & DIU UT during 2013-2019

‘\*’ Data of erstwhile JAMMU & KASHMIR State Including LADAKH during 2013-2019

‘#’ Data of newly created State during 2014

‘@’ Data of newly created Union Territory 2020

Source: National Crime Record Bureau (NCRB), Ministry of Home Affairs (MHA)

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