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- G Secretary to the Government of India Ministry of Environment and Forests.
- H The Chief of the Army Staff
- I The Secretary to the Government of India Ministry of Defence.
- J Secretary to the Government of India Ministry of Information and Broadcasting.
- K The Secretary to the Government of India Department of Expenditure.
- L Secretary to the Government of India, Ministry of Tribal Affairs.
- M Director-General of Forests Ministry of Environment and Forests.
- N Director-General of Tourism.
- O The Director-General, Indian Council for Forestry Research and Education, Dehradun.
- P The Director, Wild Life Institute of India, Dehradun.
- Q The Director, Zoological Survey of India.
- R The Director, Botanical Survey of India.
- S The Director, Indian Veterinary Research Institute.
- T The Member-Secretary, Central Zoo Authority.
- U The Director, National Institute of Oceanography.
- V One representative each from ten State/Union Territory Governments by rotation
- (i) Andhra Pradesh
  - (ii) Goa
  - (iii) Rajasthan
  - (iv) Uttarakhand
  - (v) Andaman and Nicobar Islands
  - (vi) Punjab
  - (vii) Kerala
  - (viii) Gujarat
  - (ix) Tripura
  - (x) West Bengal
- W. Director, Wildlife Preservation- Member- Secretary.
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**Dealing with global warming**

49. SHRI K.J ALPHONS: Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether global temperature has gone up during the last five years;
- (b) the increase in temperature in India during the last five years; and
- (c) the plan of action to deal with global warming?

THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (SHRI BABUL SUPRIYO): (a) Global and regional temperature increase is conveniently expressed as the difference between the actual temperature in a given year and the long-term average over the past century or more. Climate scientists refer to this difference as the temperature anomaly. The global temperature anomaly is positive during last five years. The highest anomaly among the last five years was observed in the year 2016 (+1.0°C), with respect to the long-term average over the period from 1901 to 2000.

The details of the anomalies of global annual temperatures during the last five years follow:

Year	Global Temperature Anomaly (°C) (Climatology based on the period 1901-2000)
2019	+0.95
2018	+0.83
2017	+0.91
2016	+1.00
2015	+0.93

(b) In conjunction with that, the anomaly similarly associated with the annual average temperature over India for the last five years, is also positive. The highest anomaly for India during the last five years was also reported in 2016 (+1.0°C), based on the long-term average of the annual average temperature for India, over the period from 1901 to 2000. The annual average temperature of the country as a whole, based on data for the / period 1901-2000, is 25.2°C.

The details of the anomalies of annual average temperatures for India during the last five years follow:

Year	Temperature Anomaly over Indian Region (°C) (Climatology based on the period 1901-2000)
2019	+0.65
2018	+0.69
2017	+0.83
2016	+1.00
2015	+0.72

(c) India is a Party to the United Nations Framework Convention on Climate Change (UNFCCC), its Kyoto Protocol (KP) and Paris Agreement (PA). For addressing the challenge of climate change, India adheres to the paramountcy of the UNFCCC processes. It has proactively contributed to multilateral efforts to combat climate change and continues to do so while undertaking its own independent, enhanced initiatives in climate mitigation and adaptation besides meeting all its commitments under the UNFCCC, its KP and PA. Independent studies rate India's efforts highly and compliant with the requirements under these instruments. However, since global warming is a global collective action problem, it will require the effort of all countries, on the basis of equity and principle of common but differentiated responsibilities and respective capabilities, to effectively meet the challenge.

The Government is implementing the National Action Plan on Climate Change (NAPCC) which comprises eight missions in specific areas of solar energy, energy efficiency, water, agriculture, Himalayan ecosystem, sustainable habitat, green India and strategic knowledge on climate change. NAPCC provides an overarching framework for all climate actions. Thirty-three States/Union Territories (UTs) have prepared their State Action Plan on Climate Change in line with the NAPCC taking into account State's/UT's specific issues relating to climate change. Under the Paris Agreement, India has submitted Nationally Determined Contributions (NDC) with the target of reducing the emissions intensity of its Gross Domestic Product (GDP) by 33 to 35 % from 2005 levels by 2030, to achieve 40% of its total installed capacity for power generation from non-fossil fuel-based energy resources by 2030, and to create an additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> eq through additional forest and tree cover by 2030.