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## **Global Warming and Climate-Based methods in meteorology**

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Scientific studies of climate change and global warming have progressed in recent years due to combination of factors, including demographic changes and disrespect shown to the environment & ecology almost everywhere on the planet. This has enabled the concerned stakeholders to analyse the role of human causes. However, one can find misunderstanding on the linkages between human-induced climate change (and resulting extreme weather) among some meteorologists. It is in the context of these widely accepted evidence-based research data that today understanding of meteorological phenomena now has a new variable in the form of "climate change". The international community has realized the facts that that weather condition are changing globally based on carbon emissions. It is understood that a warming climate will not lead to uniform warming everywhere. Due to global climate change, in the new millennium, some regions (countries) are experiencing unusual warmer, hot and drier weather conditions; whereas other are witnessing wetted and cold weather patterns. These issues were extensively debated at the recently held the UN Climate Change Conference COP 25 (2-13 December 2019, Madrid, Spain).

Large scale research studies have indicated that some countries have experienced slowing of their ocean jet streams and "cooling-colder" and "wetter weather". Further, global climate change has the potential to change not just weather conditions, but change regional rules too. Furthermore, environmental scientists have predicted that unusual weather patterns will become common in the years/decades to come for the next generation.

The author, in this paper, attempts to investigate into climate-based methods that can be used in meteorology. In terms of methodology of data (which are largely 'qualitative' in nature) analysis in the work, descriptive research technique has been employed by the author, involving "desk-based research". The author concludes that as the climate changes takes place across the regions of the globe, demographers and meteorologists need to take set of innovative initiatives. One of such measures is looking into seasonal averages over the years in order to research into and to: (a) understand what the weather might be like today or tomorrow, and/or (b) predict long-term forecasts for future developments that are sustainable in nature.

#### **Biography**

Santosh Kumar Mishra has Independent Researcher (Scholar) retired (on June 30, 2020), as Technical Assistant, from Population Education Resource Centre, Department of Lifelong Learning & Extension, S.N.D.T. Women's University, Mumbai, India. I underwent training in demography, with award of Government of India Fellowship, during 1986-1987 from the IIPS, Mumbai. Also, I acquired Ph. D. from University of Patna in 1999. My other qualifications include Post-Master's Diploma in Adult & Continuing Education, Certificate Course on Hospital and Health Care Management, and Diploma in Human Resource Development. I have authored (some co-authored) 5 booklets, 4 books, 23 book chapters, 97 journal articles, 2 monographs, 7 research studies, & 56 papers for national & international conferences (some with bursary). I have been awarded with Certificate of Excellence in Reviewing for 2017, 2018, 2021 & 2022. I have been conferred with Excellence of Research Award for outstanding contribution & recognition in the field of agriculture in 2021.