



## **Meteorology in the service of Indian Society**

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Meteorology is a science that deals with atmosphere and its phenomenon and especially with weather and weather forecasting. Atmosphere or air is one of the five fundamental elements of Nature as a Vedic verse says: "PRITHIVYAPASTEJOVAYURAKASAT" (EARTH, WATER, FIRE, AIR AND SKY OR SPACE). Indeed the Rigvedic verses were mostly in praise of these elements! Their significance became more important when agriculture developed in the regions where the Vedic people lived and all these elements had a role to play. From time immemorial, it was customary for the kings as well as the common man to consult a scholar well versed in astronomy, astrology and weather science regarding what holds for the country and its people with reference to the weather conditions, onset of monsoon, the amount of rainfall during the coming season, the likely crop yield and such other mundane matters. Even today, deep in the country side, where newspapers may not reach and meteorology reports are of no consequence, farmers still depend on the age-old wisdom passed over by successive generations in predicting the weather. The indicators would baffle scientific reasoning. The Indian almanac, called 'Panchang', meaning five parts, deals with the thithi of the day, the weekday, the star of the day, fortune of the day and karana. The almanac predicts the rainfall during the year, general weather conditions, likely disasters that might hit the country and the likely crop yield. These almanacs are based on the planetary movements, but their predictions have in general proved correct to a large extent. Therefore, Varahamihira (5<sup>th</sup> century A.D.) deals with weather, rainfall, cloud formation and other aspects of meteorology in his magnum opus, "Brihatsamhita". Panini's "Ashtadhyayi" refers to rain-gauging, measuring the rainfall and that system was introduced by the Maurya and the Gupta emperors throughout the breadth and length of the country. Many maxims and proverbs amongst the agriculturists have their roots in the observations made by Indians millennia ago. In the modern period, the practice of meteorological observations and their

importance were stressed by no less a person than Sir Jon Herschell as they affected the operations of the seamen and of the husbandman, and were still a vital element in the calculations of the health officers, of administrators and of engineers. In the Bengal Presidency, the earliest meteorological journal was kept by Colonel Pearse at Calcutta(1785). James Prinsep took a careful series of meteorological observations at Benares(1823). Numerous observations were made, from time to time, by travellers and residents, while the registers of medical officers were continually accumulating. Thus several personalities contributed to the science and to the public. A complete series of meteorological observations was registered at the astronomical observatory at Madras since 1796. A series of observatories came to be set up at Dodabetta in the Nilgiri hills, Trivandrum, Colaba and so on while 14 meteorological stations more were later established by 1870. Besides there were some private observatories operated, like the one by G.V.Jaggarao at Vizagapatam. The India Meteorological Department(IMD) came to be established in 1875. India launched a geostationary meteorological satellite METSAT in September 2002, and renamed it KALPANA-1. Another geostationary(multi-purpose) satellite INSAT-3A was launched in April 2003. IMD has also installed 250 cyclone warning dissemination systems and a National Center for Medium Range Weather Forecasting was established in 1988, for providing the medium range weather forecasts to the Indian farmers. At present, the forecasts are produced for a 150 km resolution grid which would be changed to a higher resolution at 75 km grid or less soon .Thus meteorology continues to serve the Indian Society.