

## **"Aviation Meteorology - Role and Importance"** **(An Interaction at Indian Aviation Academy)**

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1. During the last ten years, it has been a pleasure to be invited as Visiting Faculty to this esteemed national institution of aviation for providing capacity building to the officers of Airport Authority Of India at various stages of their career progression. Yesterday I delivered a talk on the role and importance of Aviation Meteorology for the highly enthusiastic and bright young airport managers. The main excerpts are:

2. The sphere of flying comprises three primary actors – the aircraft, the aviator and the airport. These actors operate within the medium of atmosphere, that is Troposphere, within which all the weather occurs and impacts air operations. It is important to understand the complex interdependence of these actors.

3. Weather is the utmost consideration for all aircrew when planning a commercial or a tactical sortie. Therefore, weather needs to be constantly monitored by Aviation Meteorologists & accordingly issue advisories to Aviators. No matter how best is the quality of meteorological services, an aircrew's ability to handle weather systems depends upon a number of factors, such as his own capacity, experience and currency, the weather system itself that needs to be negotiated, and even the aircraft's capability. Weather flying thus can be described by the three corners of a triangle representing the factors:-

- a) Weather - Dynamic factor with unknown variables
- b) Aircraft - With fixed parameters
- c) Human Element - to modify the fixed elements to match the variables.

4. Other aircrew and support crew at ground also need to respect weather gods, in order to ensure a safe environment, where we are able to avoid accidents mainly attributable to weather. One is always able to see the precursor to any flying accident. The precursors like physical incapability, poor judgement, aircraft deficiency, weather, failure of ATC or any other factor, in itself would not create an accident or incident, but combined with each other, may lead to disaster.

5. Like any difficult situation, the key to hazardous weather is knowledge. This allows all the three actors to play their role wisely, and make safe and intelligent decisions. But that is only half the safety equation. In the history of aviation, one would find numerous weather related accidents / incidents which occurred because the aviation stakeholders failed to observe that safety does not mean risk free. If one looks at it objectively, virtually all of these were preventable.

6. Contrary to the popular belief that the new technology is going to slowly replace the man behind the machine, the requirements of man-machine interaction to deliver precise aviation met forecasting for customised formats in services & sectors are self-explanatory.



