Advanced Dvorak Technique (ADT)

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In news– The American meteorologist Vernon Dvorak, best credited for developing the Dvorak (read as Do-rak) technique has passed away at the age of 100.

What is Advanced Dvorak Technique (ADT)?

- **It was first developed in 1969 and tested for observing storms in the northwest Pacific Ocean**.
- Forecasters used the available satellite images obtained from polar orbiting satellites to examine the features of the developing tropical storms (hurricanes, cyclones and typhoons).
- During day time, images in the visible spectrum were used while at night, the ocean would be observed using infrared images.

- **This technique was a cloud pattern recognition technique** based on a concept model of the development and decay of the tropical cyclone.
- From the satellite images thus obtained, **it helps forecasters to do a pattern recognition from the observed structure of the storm**, locate its eye and

estimate the intensity of the storm.

- Through this statistical technique, **scientists are able to measure the cyclone's convective cloud pattern – curved bands, eye** and central dense or cold region and shear.
- It is the Dvorak technique which gives the **best estimates of the cyclone intensity.**
- This tool **cannot help make any predictions, measure wind or pressure** or any other meteorological parameters associated with the cyclone.
- The veteran meteorologist had also presented the wind speed and associated category of the tropical cyclone, making it a near-perfect tool for the operational cyclone forecasters.

Relevance of this technique-

- There are many vast regions across the four oceans that have not been fully examined with meteorological instruments. **Ocean observations are mostly taken by deploying buoys or dedicated ships,** but the number of observations from the seas is still not sufficient across the world.
- That is why meteorologists have had to depend more on satellite-based imageries, and combine it with the available ocean-data at the time of forecasting the intensity and wind speed of the tropical cyclones.
- **The Dvorak technique, said to be one of the greatest meteorological innovations,** has undergone several advancements since its inception. **Even in the present day, when forecasters have access to several state-of-the-art tools like model guidance,** animations, artificial intelligence, machine learning and satellite technology, **it is the advanced versions of the 50-year-old technique that continues to be widely used.**

Note:

- Dvorak was an American meteorologist best credited for developing the Dvorak (read as Do-rak) technique in the early 1970s.
- Dvorak was educated at the University of California, Los Angeles. His Master's degree thesis in 1966 was titled 'An investigation of the inversion-cloud regime over the subtropical waters west of California'. He worked with the National Environmental Satellite, Data, and Information Service of National Oceanic and Atmospheric Administration (NOAA).
- He was bestowed with the United States Department of Commerce Meritorious Service award in 1972. In 2002, he received a Special Lifetime Achievement Award from the National Weather Association.