

## **Application of Remote Sensing to Study Dynamical and Morphological Characteristics of Meso-Scale Convective Systems to Develop 'Thunderstorms Numerical Prediction Model (TNPM)' Over Tropics'.**

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The large scale kinematic and thermodynamic behavior, evolutionary features & 3D structure of selected mesoscale Convective Systems, e.g. intense Cloud Clusters, and Severe Thunderstorms, NHCZ & SHCZ, SSTs would be investigated by using Aircraft, Doppler Weather Radar, conventional, and Satellite data fitted with Lightning sensors & CubeSats carrying high-frequency passive microwave sensors, over the domain.

The values of characteristics, e.g. lifetime, distribution, trajectories, size, & 3D structure, i.e., the vertical extent of these systems would be computed in order to develop a 'Thunderstorms Numerical Prediction Model' for Asian, Tropical, Mid-latitude.

Based on Goswami's 'Cluster Coalescence Theory' & 'Giant Cluster Theory'; regional/sub-regional tropical Cyclone Forecasting Model (TCFM)' would be developed using satellite imageries & computation of deep convective mass transport inside the thunderstorm-cell through Cloud Tracer Analysis.