An Assessment of Hygroscopic Cloud Seeding Operations over Rain Shadow Area of Andhra Pradesh, India

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The Government of Andhra Pradesh has been identified 12 districts composed of 653 mandals as Rain Shadow Regions whose average annual rainfall is less than 600mm. To meet the demands of water scarcity mainly for the Agriculture production, the cloud seeding program has been conducted in the year 2009. It has been observed from the cloud data processed by TITAN software that responsiveness of the clouds to the seeding material is slightly different in different regions and changing with the season. From the average variation observed in the rain mass of both the seeded and unseeded clouds it has been observed that there is a change in the variation of rain mass of the seeded clouds than unseeded clouds. The target and control method, quartile of rain mass curves and statistical analysis of the rain fall data using double ratio method has also shown some changes in the seeded cloud parameters as well as in rainfall pattern also. Results of the Hygroscopic Flares tested during the Phase-I component of the CAIPEEX program of IITM to understand the Cloud Aerosol Interaction with the Passive Cavity Aerosol Spectro Photo Meter (PCASP-PMS PCASP SPP-200) for the estimation of size and number distribution of the Hygroscopic particles released at the premises of the warm cloud bases where the updrafts in to the clouds are felt to be more while seeding will be presented along with the assessment of Hygroscopic cloud seeding operations conducted over the rain shadow regions of Andhra Pradesh state, India in the year 2009 will be discussed in this paper.