**Winter Fog filed campaign: Data Use Policy**

During the pilot Winter Fog filed campaign 2015-16, a variety of data will result including simultaneous measurements of surface micro meteorological conditions, radiation balance, turbulence, thermo-dynamical structure of the surface layer, droplet and aerosols microphysics, aerosol optical properties, aerosol and fog water chemistry, vertical profile of winds, temperature and humidity during intensive ground-based observation periods (IOPs). The analysis of the observations, their use in developing appropriate parameterization schemes for numerical models, and numerical modelling of different aspects of fog are key elements of the Winter Fog filed campaign. There needs to be synergy between investigators who collect data and those who use them. To cater to the overall objectives of Fog filed campaign, a well planned and implemented *Data Centre* is required to ingest, archive and distribute these data. Since many research groups and organizations are involved in Winter Fog filed campaign, a well defined data use policy is required. In doing so, data coming from regular observational network and those resulting from specially planned observations for addressing specific objectives and process studies (referred to as *special data* in the following) are to be differentiated.

It is desirable that the high-quality data along with the metadata collected should be processed and exchanged without significant delay. Early availability of data to other investigators keeps their interest in the problem alive and facilitates quicker work progress. Data collectors spend nontrivial amount of time and energy in setting up the observational system, taking measurements and archiving data, maintaining the system, data quality control, etc., and may also address specific scientific objectives. Investigators who collected the special data (whose energies get exhausted by the time quality checked data is prepared) may not be able to compete with other users in data analysis and modelling. Therefore, data policy needs to strike a balance between the rights of the investigators who collect data and the need for widespread access to data for its maximum utilization.

IITM Pune will host the fog Data Centre. This document mainly covers data collected during the period by institutions and individual scientists for meeting fog campaign objectives. Data archived in the Fog Data Centre are to be utilized for addressing objectives related to Fog. The redistribution of data to third parties and the usage for commercial applications is not to be permitted.

**A. Data providers' responsibilities**

a. Scientists giving data have the primary responsibility for the quality of the data they produce and distribute. Best efforts should be made to ensure that the data supplied meets international quality standards wherever possible.

b. Metadata (i.e., descriptive information such as content, units(standard, ISI), quality, condition that characterizes a set of measurements) is to be given along with each measurement. Make and model of each sensor, how installed, geographic location, calibration and intercomparison history, sensor change if any, etc., are to be given.

c. There is a need to preserve the raw data (data at the highest resolution) for future purpose. Therefore, both raw and processed data to be provided along with meta data.

**B. Data delivery time frames**

a. Data required for assimilation in models and weather prediction are to be made available during modeling experiments.

b. PIs producing special data have to provide them to the Data Center within 2 months after acquisition. A copy of the data to be sent to fog working committee, which will forward it to the Data Center. For complicated datasets requiring a lot of post processing and quality control, the period may be extended to 5 months. In cases where extensive post-processing of delayed mode data is needed before a final research quality data set can be generated, early release of a preliminary version of the data is required. This enables the Fog research community to know what all data are available, and also if any important measurements are missing.

c. PI and coordinator of the Fog filed campaign has priority in the use of his/her special data in the first year. Individuals/groups/ organizations interested in using the data within this period can contact the concerned PI and coordinator of the Fog filed campaign who has the freedom to decide whether to permit the free use of data, ask for carrying out work in collaboration mode or seek authorship in the publication. PI and coordinator of the Fog filed campaign may also inform the users of any data quality issues or other limitations. Early use of data by others will help in giving feedback to the PI and coordinator of the Fog filed campaign regarding data suitability and any quality related issues.

d. After one year, data to be accessible freely to all participants within the limits of the scientific objectives of the project proposed.

e. Users interested in getting data have to register with the Data Centre along with an undertaking not to give the data to any third party. An online procedure for registering with DC will be made available. When a special data set is accessed, an e-mail will be generated to the PI who provided the data.

f. International data sharing norms are to be separately worked out for international programmes where India is a partner/promoter/involved and for other individuals/ organizations, etc. seeking collaboration. It may be in conformity with nation's data sharing policy.

**C. Publication policy.**

a. Depending on the data type (operational or not), the age and the nature of scientific collaboration, a publication will have to be either co-authored by the PI and coordinator of the Fog filed campaign generating the data or at least contributions acknowledged appropriately with prior information before submission of manuscript. To avoid controversy, prior to submission of a research paper, consent is to be taken on scientific findings/use of data among the co-authors. In papers based on special data collected less than 2 years, a co-authorship is strongly suggested to the investigator making the observation.

**D. Information required from Investigators for data.**

Organization/Investigator producing data, data type and format, time period and duration, meta data, data volume, units for each variable, contact person for any clarification and collaboration. Raw data will not be visible to the public but archived in Data Centre. In case a particular data has security implications, then this needs to be told to the Data Centre manager so that access is limited to authorized persons only.