

## **TCI DATA POLICY** **(12 January 2016)**

The goal of the Tropical Cyclone Intensity (TCI) Initiative is to improve the prediction of Tropical Cyclone (TC) intensity and structure change. The specific focus is an improved understanding of TC upper-level outflow layer processes and dynamics. This was investigated in a comprehensive manner using the observations obtained during the TCI field Phase in 2015 and high-resolution tropical cyclone models. The ultimate goal is to improve the prediction of tropical cyclone intensity change, especially rapid intensification and rapid decay as well as TC structural changes that are hypothesized to occur through synergistic interactions with outflow.

The 2015 TCI Experiment brings together multiple investigators, institutions and data sources. Data for TCI will consist of observations collected from various Tropical Storm and Hurricane flights in the Atlantic and Pacific Oceans along with other supporting data (e.g. satellite, radar, surface/upper air) during the period 15 July – 31 October 2015. Data will also consist of model output of varying complexity and scope. Model and observational data are treated equivalently. All data are collected for basic research and are unclassified.

The development and maintenance of a comprehensive and accurate data archive is a critical step in meeting the scientific objectives of TCI, and the full success of the TCI Experiment depends on effective data sharing among the collaborating scientists. The overall guiding philosophy for the TCI data management is to make the completed data set available to the scientific community as soon as possible following the TCI Field Phase, while providing ample time to the TCI Investigators and Participants to process, quality control, and analyze their data before providing open access. TCI will coordinate closely with the NOAA Intensity Forecasting Experiment (IFEX) and the NOAA/NASA Sensing Hazards with Operational Unmanned Technology (SHOUT) Projects in the archival and exchange of their data and associated information.

In general, users will have free and open access to all the TCI data, subject to procedures to be put into place at the various Archives and the TCI Data Policy. Any exceptions to this policy or other special circumstances related to data archival and distribution is the responsibility of the TCI Science Leadership. The following is a summary of the TCI Data Policy by which all TCI participants, data providers, and data users are required to abide by:

1. All investigators participating in TCI agree to promptly submit their **preliminary** processed data and metadata to the main TCI Data Archive Center at EOL no later than 31 March 2016 (six months after the end of the field campaign) to facilitate initial instrument inter-comparisons, quality control checks and calibrations, as well as early interpretation of the combined data set. Individual preliminary datasets (including model output) can be restricted (password protected) at the discretion of the data provider. All archived supporting operational data and products will be open and accessible by the Scientific Community during this period. The **preliminary** data submission period is from 31 October 2015 to 31 March 2016.
2. TCI Investigators agree to submit their **final** research data and metadata to the EOL within the one-year period following the conclusion of the field campaign. The TCI Investigators are also responsible for the processing and quality assurance/quality control of their data prior to submission to the TCI archive. The **final** data submission period is from 31 March 2016 to 31 October 2016.

3. During the initial data analysis period, defined as a 17-month period following the end of the Field Phase, TCI Principal Investigators (PIs) and their collaborators will have exclusive access to all TCI generated research data. There will be no third party data dissemination allowed. This initial analysis period is designed to provide an opportunity to quality control the combined data set as well as to provide the PIs, their students and collaborators ample time to analyze and publish their results. The initial data analysis period is from 31 October 2015 to 31 March 2017.
4. All data and metadata in the archive will be considered open to the public domain 17 months following the end of the field Phase (i.e., on 31 March 2017 and thereafter). However, any research dataset within the TCI archive can be opened to the public domain earlier at the discretion of the responsible data provider in consultation with the TCI Science Leadership.
5. A list of TCI Investigators will be provided by the project science leadership to EOL and will include the PIs directly participating in the field experiment as well as collaborating scientists and agencies who have provided guidance and data in the planning and analysis of TCI data. All TCI investigators will have equal access to all data. All data shall be promptly provided to other TCI investigators on the list described above upon request. However, the TCI science leadership will be responsible for approving any data requests from Investigators not included on the list.
6. During the initial data analysis period, the responsible data provider must be notified first of the intent to use their data, in particular if data are to be provided to a third party (e.g., journal articles, presentations, research proposals, other investigators). It is strongly encouraged that the responsible data provider(s) be invited to become collaborators and/or co-authors on any projects, publications and presentations. If the contribution of the data product is significant to the publication, the PIs responsible for generating a measurement or a data product should be offered the right of co-authorship. In any case, Investigators using other Investigators' data must discuss and send any manuscript to them prior to submission anywhere. Also, any use of the data should include an acknowledgment or preferably a citation (e.g. Digital Object Identifiers or DOIs). [See Items #7 and #8].
7. International agencies, professional societies, and research organizations are moving towards requiring researchers to formally cite data and their sources that led to a given research result. Consequently, there has been an increased use of DOIs or Digital Object Identifiers (used to cite publications for many years), as a simple standard way to also reference or cite datasets. DOIs allow for linkages between datasets and respective publications, thus providing the ability to track the use of these datasets in the literature (metrics). DOIs are considered "perpetual" and citation format standards have been established for data DOIs. Once final datasets are submitted to the TCI archive, EOL will create and distribute respective DOIs that should be used in TCI related publications. In all circumstances, the responsible data provider(s) should be acknowledged appropriately (see also Item #8).
8. All acknowledgments of TCI data and resources should identify: (1) TCI; (2) The providers who collected the particular datasets being used in the study; (3) The relevant funding agencies associated with the collection of the data being studied, and (4) the role of EOL or relevant data archive center, and (5) use of any relevant DOIs.

9. A suggested acknowledgement: "The author(s) wish to acknowledge the TCI Project, [the Data Provider(s)] funded by the [relevant Funding Agency; *e.g. Office of Naval Research (ONR)*], and the TCI Data Archive Center at NCAR's Earth Observing Laboratory [or other relevant Archive Center]." In addition, this text could include "This dataset is cited through doi:XX.XXXX/XXXXXXXXX .", or preferably use the appropriate dataset citation(s) in your Publication's References section.
10. The EOL will be responsible for the long-term data stewardship of the TCI archive and coordinate with other agency archives containing complementary data (e.g. NOAA NASA) to the extent possible.