



Global Hydrology Resource Center

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Mission Statement

To serve as NASA's Earth science data stewards for scientific, educational, commercial and governmental communities, with a focus on data for the global hydrologic cycle

Hydrologic Cycle • Severe Weather Interactions
Lightning • Atmospheric Convection

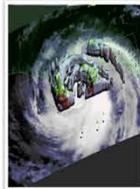
To provide knowledge augmentation services encompassing tools, infrastructure, user support, and expertise to our stakeholders



WHAT WE SERVE

Lightning Data

- Responsible for the ingest, archive, product generation, reprocessing and distribution of data from the TRMM Lightning Imaging Sensor...
National Lightning Detection Network...
Precursor satellite instruments...

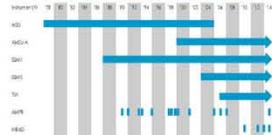


Internal structure of Hurricane Isaac depicting precipitation intensity and lightning from LIS

GHRC is recognized as the National Lightning Archive.

Microwave Data

Microwave Dataset Holdings at GHRC



- GHRC and its predecessor programs have been ingesting, processing, archiving and distributing microwave data for over 35 years.
MSU, AMSU, SSM/I, SSMIS, TMI (satellite); AMPR, HIRAD (airborne)

GHRC is also recognized as one of the primary data centers for microwave data.



Field Campaigns

Hurricane Science
Data from successive field campaigns since 1990 are tied together through common procedures, consistent metadata, and discovery and archival systems making it easy to access data from instruments that have been employed across several missions.

Global Precipitation Measurement Mission (GPM) Ground Validation (GV)

Ground and airborne precipitation datasets supporting physical validation of satellite-based precipitation retrieval algorithms.

Hurricane and Severe Storm Sentinel (HS3)

Five-year mission specifically targeted to investigate the processes that underlie hurricane intensity change in the Atlantic Ocean basin, utilizing two unmanned Global Hawks.



GHRC is recognized as one of the main data centers for Hurricane Science data.

GHRC is set up to manage a large number of episodic, heterogeneous datasets and can handle the "long tail" of science data.

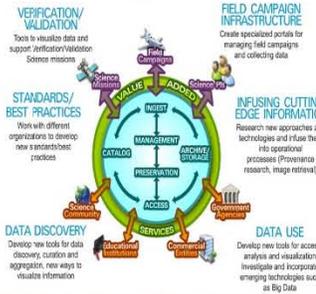
WHAT WE DO

Data Stewardship



Serve as NASA's Earth science data stewards for scientific, educational, commercial and governmental communities, with a focus on data for the global hydrologic cycle.

Knowledge Augmentation Services



Provide knowledge augmentation services encompassing tools, infrastructure, user support, and expertise to our stakeholders.

COMING SOON

New tools and technologies at GHRC

New Website

The new GHRC web site, currently being built, provides the user many options to get data right away

- Search box at top of page
Navigation on home page clarifies user choices and emphasizes GHRC is concerned primarily with data
Top navigation menu supplemented with additional "quick links" to popular destinations in the form of news-related slides and additional buttons



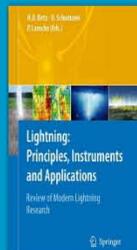
RASI

The Regional Air-Sea Interactions (RASI) tool allows users to explore a climatology of mountain gap winds over the ocean that can cause Coastal upwelling when warm surface water is pushed away from the coast by wind the jet, and deep cold water and nutrients rise to the surface.
http://ghrc.nsstc.nasa.gov/rasi



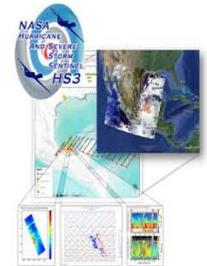
Data Impact beyond Science Teams

- New science areas
Science applications
Ancillary data used in many, many publications
Data used to address specific regional needs all over the world



HS3

The planned HS3 Information System for data from the Hurricane and Severe Storm Sentinel mission will provide a visual, map-based data interface to support:
- Data selection by aircraft flight track or storm track
- Data visualization with image overlays or insets
- Timeline plots showing storm characteristics and availability of aircraft observations



Data Publication and Citation

- Data Publication at GHRC
Data are ingested, cataloged and archived using standards based engineering processes
Data Citation and DOIs
Publication credit for the data producer
Traceability for where and how data are used
Data DOI in a citation provides a link from the scientific article to dataset information and download page



ghrc.nsstc.nasa.gov

Data Albums

Data Albums automate the tedious and time-consuming process of gathering relevant data and information from a wide variety of distributed resources for case studies, climatology analyses, and end users.

