



Data User Guide

GPM Ground Validation Mission Reports IPHEX

Introduction

The Global Precipitation Measurement (GPM) Ground Validation Integrated Precipitation and Hydrology Experiment (IPHEX) campaign was centered in the Southern Appalachians and spanned into the Piedmont and Coastal Plain regions of North Carolina. The campaign sought to characterize warm season orographic precipitation regimes, and the relationship between precipitation regimes and hydrologic processes in regions of complex terrain.

The GPM Ground Validation Mission Reports IPHEX dataset contains reports from the intense campaign period which occurred during May 1, 2014 to June 13, 2014. This dataset consists of various reports filed by the scientists during the campaign. This dataset includes flight reports, weather forecasts, GPM flight forecasts, instrument reports, mission science reports, and plan-of-day reports. Many reports have additional information included as attachments.

Citation

Petersen, Walter A. 2016. GPM Ground Validation Mission Reports IPHEX [indicate subset used]. Dataset available online from the NASA EOSDIS Global Hydrology Resource Center Distributed Active Archive Center, Huntsville, Alabama, U.S.A. doi: <http://dx.doi.org/10.5067/GPMGV/IPHEX/REPORTS/DATA101>

Keywords:

NASA; GHRC; IPHEX, GPM GV; North Carolina; mission science reports; weather forecasts; flight reports; instrument reports; plan of day reports;

Campaign

The GPM Ground Validation campaign used a variety of methods for validation of GPM satellite constellation measurements prior to and after launch on the GPM Core Satellite, which launched on February 27, 2014. The instrument validation effort included numerous GPM-specific and

joint-agency/international external field campaigns, using state of the art cloud and precipitation observational infrastructure (polarimetric radars, profilers, rain gauges, disdrometers). These field campaigns accounted for the majority of the effort and resources expended by the GPM Ground Validation mission. More information about the GPM mission is available at <https://pmm.nasa.gov/index.php?q=GPM>.

One of the GPM Ground Validation field campaigns was the GPM IPHEX, which was held in North Carolina during 2014 with an intense study period from May 1 to June 15, 2014. The goal of the IPHEX campaign was to collect data that could aid in the development, evaluation, and improvement of remote sensing precipitation algorithms in support of the GPM mission through NASA GPM Ground Validation field campaign (IPHEX_GVFC) and the evaluation of Quantitative Precipitation Estimation (QPE) products for hydrological forecasting and water resource applications in the Upper Tennessee, Catawba-Santee, Yadkin-Pee Dee, and Savannah river basins (IPHEX-HAP, H4SE). NOAA Hydrometeorology Testbed (HTM) has synergy with this project. More information about IPHEX is available at <http://gpm.nsstc.nasa.gov/iphex/>.

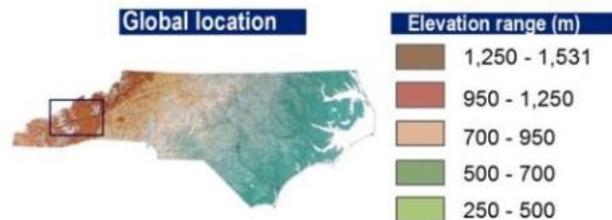


Figure 1: Region of North Carolina IPHEX campaign ground validation (image source: <http://gpm-gv.gsfc.nasa.gov/Gauge/>)

Investigators

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File Naming Convention

The GPM Ground Validation Mission Reports IPHEX dataset file names have the following six file naming conventions:

Flight Report:

[ER2|UND]-Flight-Report_YYYY-MM-DDTbbbb_yyyy-mm-ddTeeee.pdf

Daily Overpass Report:

GPMoverpasses_YYYY-MM-DDTbbbb_yyyy-mm-ddTeeee.tar

Weather Report:

weather-forecast_YYYY-MM-DDTbbbb_yyyy-mm-ddTeeee.[tar|pdf]

Instrument Reports:

inst_acronym_YYYY-MM-DDTbbbb_yyyy-mm-ddTeeee.pdf

Scientist Reports:

mission-scientist_YYYY-MM-DDTbbbb_yyyy-mm-ddTeeee.[tar|pdf]

Plan-of-Day:

POD_YYYY-MM-DDTbbbb_yyyy-mm-ddTeeee.[tar|pdf]

Table 1: File naming convention variables

Variable	Description
[ER2 UND]	Type of aircraft flown
YYYY	Four-digit year beginning of report
MM	Two-digit month beginning of report
DD	Two-digit day beginning of report
Tbbbb	Four-digit time at beginning of report
yyyy	Four-digit year end of report
mm	Two-digit month end of report
dd	Two-digit day end of report
Teeee	Four-digit time at end of report
.pdf	Acrobat Portable Document Format
.tar	Tape ARchive
acronym	Instrument acronym: 2ds, 2dvd, ampr, apu-Duke, apu-NASA, UND-Citation, cosmir, cpi, crs, d3r, exrad, ground, hiwrap, jw-disdrometer, lip, microphysics-probes, mrr-Duke, mrr-NASA, nevorov, npol, pluvio, dual-rain-gauge-platform, tdl, w-band, xpol

Data Format Description

The GPM Ground Validation Campaign Reports IPHEX dataset consists of reports in Acrobat Portable Document Format (.pdf) format and Tape ARchive (.tar) files. Reports with associated attachments are in a .tar file. The attachments are in various formats such as PowerPoint (.pptx), Joint Photographic Experts Group (.jpg), Portable Network Graphics (.png), and Microsoft Word (.docx).

Contact Information

To order these data or for further information, please contact:

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User Services

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