NEW! GPCP Version 2.2 Precipitation Dataset in TOVAS Now

**ABSTRACT**

The NASA Goddard Earth Sciences Data and Information Services Center (GES DISC) is home of global precipitation product archives, in particular, the Tropical Rainfall Measuring Mission (TRMM) products. TRMM is a joint U.S.–Japan satellite mission to monitor tropical and subtropical (40°S - 40°N) precipitation and to estimate its associated latent heating. The TRMM satellite provides the first detailed and comprehensive dataset on the four dimensional distribution of rainfall and latent heating over vasty undersampled tropical and subtropical oceans and continents. The TRMM satellite was launched on November 27, 1997. TRMM data products are archived at and distributed by GES DISC.

The newly released TRMM Version 7 consists of several changes including new parameters, new products, metadata, data structures, etc. For example, hydrometeor profiles in 3A21 now have 28 layers (V6). New parameters have been added to several popular Level-3 products, such as, 3B42, 3B43.

Version 2.2 of the Global Precipitation Climatology Project (GPCP) dataset has been added to the TOVAS Online Visualization and Analysis System (TOVAS). TOVAS provides online analysis and visualization without downloading data and software. The GPCP dataset extends back to 1979.

Section 3 of the Global Precipitation Climatology Centre (GPCP) monitoring product has been updated in TOVAS as well. The product provides global gauge-based monthly rainfall along with number of gauges per grid. The dataset begins in January 1986.

To facilitate data and information access and support precipitation research and applications, we have developed a Precipitation Data and Information Services Center (PDISC) URL: http://disc.gsfc.nasa.gov. In addition to TRMM, PDISC provides current and past observational precipitation data. Users can access precipitation data archives consisting of both remote sensing and in-situ observations. Users can use these data products to conduct a wide variety of activities, including case studies, model evaluation, uncertainty investigation, etc. To support Earth science applications, PDISC provides users near-real-time precipitation products over the internet. At PDISC, users can access tools and software. Documentation, FAQ and assistance are also available.

Other capabilities include: 1) Mirador (http://mirador.gsfc.nasa.gov/), a simplified interface for searching, browsing, and ordering Earth science data at NASA Goddard Earth Sciences Data and Information Services Center (GES DISC), Mirador is designed to be fast and easy to learn; 2) TOVAS; 3) NetCDF data download for the GIS community; 4) Data via OPeNDAP (http://disc.gsfc.nasa.gov/services/opendap/). The OPeNDAP provides remote access to 2) TOVAS; 3) NetCDF data download for the GIS community; 4) Data via OPeNDAP (http://disc.gsfc.nasa.gov/services/opendap/). The OPeNDAP provides remote access to individual variables within datasets in a form usable by many tools, such as IDV, MdIAS-V, Panoply, Ferret and GrADS; 5) The Open Geospatial Consortium (OGC) Web Map Service (WMS) (http://disc.gsfc.nasa.gov/services/wms_gcc.shtml). The WMS is an interface that uses the data and enables clients to build customized maps with data coming from an interface that uses the data and enables clients to build customized maps with data coming from a different network.

**NEW! TRMM Version 7 Products**

Precipitation datasets (left):
- Standard TRMM products
- Ancillary products (e.g., merged IR)
- Ground based instruments
- Other precipitation products in TOVAS (e.g., WRCC, GPCP)

Other data products:
- Other remote sensing products from different missions (e.g., ARES, A-Train)
- Modeling products (e.g., MERRA, GLDAS)

**Outreach As Service and Collaboration**

Our purpose is not to just push data to users, but to make available potential solutions to users’ problems.

**Example Applications (Agriculture):**
- United Nations World Food Programme
- USDA Foreign Agricultural Service
- Agriculture Information System (AIS)
- Current Conditions Map

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Temporal Coverage:
- Long term monthly means, derived from the monthly data

Spatial Coverage:
- 2.5 degree latitude x 2.5 degree longitude grid
- 87.5°N - 88.75°S, 1.25°E - 358.75°E

The 30 years of GPCP Version 2.2 data allow time-series analysis. Top left: A well-known phenomenon is decreasing precipitation in northeastern China. Top right: In contrast to northeastern China, the southern provinces of China are experiencing increased precipitation extending to the east indicating an El Niño event.

Hovmöller latitude versus time diagram of the tropical Pacific ocean, showing seasonal and interannual variability of precipitation. Top left: Precipitation in this region is strongly influenced by El Niño - Southern Oscillation (ENSO) events: the brighter “stripes” extending to the east indicate an El Niño event.

The Hovmöller latitude versus time diagram of the tropical Pacific ocean, showing seasonal and interannual variability of precipitation. Top left: Precipitation in this region is strongly influenced by El Niño - Southern Oscillation (ENSO) events: the brighter “stripes” extending to the east indicate an El Niño event.

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