GES DISC use of GCMD and MWS

Bruce Vollmer

Goddard Earth Sciences Data and Information Services Center

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GES DISC Metadata Architecture

Collection Level Metadata

Science Team

data documentation

GES DISC Data Specialists

Global Change Master Directory

S4PA

Data Product Landing Page

doi:10.5067/MEASURES/OZONE/DATA201

Data Product Pages (Web)

Mirador

ECHO

1GCMD DIF retrieval
http://gcmdservices.gsfc.nasa.gov/mws/dif/GES_DISC_AIRX2RET_v005
PRODUCT SUMMARY

Data Set Short Name: GSSTF_NCEP
Data Set Long Name: NCEP/DOE Reanalysis II in HDF-EOS5, for GSSTF2b, 1x1 deg Daily grid
Data Set Version: 2b
Data Set Creator: Shie, C.-L., K. Hilburn, L. S. Chiu, R. Adler, H Lin, E. Nelkin, and J. Ardizzone
Data Set Publisher: Goddard Earth Science Data and Information Services Center (GES DISC)
Data Set Release Place: Greenbelt, MD, USA
Horizontal Resolution: 1 degree x 1 degree
Temporal Resolution: 24 hr
Parameters: sea level pressure, atmospheric heating, heat flux, radiative flux, air temperature, skin temperature, surface air temperature, evaporation, humidity, precipitable water, water vapor, surface winds, turbulence, wind stress, conduction, evaporation, heat flux, sea level pressure, sea surface temperature, surface winds, turbulence, wind stress

PRODUCT DESCRIPTION

These data are the Goddard Satellite-based Surface Turbulent Fluxes Version-2b (GSSTF2b) Dataset recently produced through a MEaSUREs funded project led by Dr. Chung-Lin Shie (UMC/C/GEST, NASA/GSFC), converted to HDF-EOS5 format. The stewardship of this HDF-EOS5 dataset is part of the MEaSUREs project, http://earthdata.nasa.gov/our-community/community-data-system-programs/measures-projects/surface-turbulent-fluxes-esdr

This is a Daily (24-hour) product; data are projected to equidistant Grid that covers the globe at 1x1 degree cell size, resulting in data arrays of 360x180 size.

The input data sets used for this recent GSSTF production include the upgraded and improved datasets such as the Special Sensor Microwave Imager (SSMI) Version-5 (V6) product of brightness temperature [TB], total precipitable water [W], and wind speed [U] produced by the Wente of Remote Sensing Systems (RSS), as well as the NCEP/DOE Reanalysis-2 (R2) product of sea skin temperature [SKT], 2-meter air temperature [Tair], and sea level pressure [SLP].

These HDF-EOS5 files contain one grid that have 4 variables:

"SST" sea surface skin temperature (C)
"Psea_level" sea level pressure (hPa)
"Tair_2m" 2m air temperature (C)
"Gsat" sea surface saturation humidity (g/kg)

The doublequoted labels are the short names of the data fields in the HDF-EOS5 files.

The GSSTF2b was originally released in binary format, and more details on the methodology, and relevant references, can be found here:
Data Citation

To cite the data in publications:

Product Description

These data are the Goddard Satellite-based Surface Turbulent Fluxes Version-3 (GSTTF3) Dataset recently produced through a MEaSUREs funded project led by Dr Chung-Lin Shia (UMBC/GEST, NASA/GSFC), converted to HDF-EO85 format. The stewardship of this HDF-EO85 dataset is part of the MEaSUREs project.


This suite of GSTTF version 3 products is the 0.25x0.25 deg resolution version of the GSTTF 2a collections. It does not contain, however, the “WB” variable - lowest 500-m precipitable water (g/cm^2).

This is the Daily (24-hour) product; data are projected to equidistant Grid that covers the globe at 0.25 degree cell size, resulting in data arrays of 1440x720 size.

As in previous versions, the daily fluxes have first been produced for each individual available SSM/I satellite tapes (e.g., F08, F10, F11, F13, F14 and F15). Then, the Combined daily fluxes are produced by averaging (equally weighted) over available flux data/ files from various satellites. These Combined daily flux data are considered as the “final” GSTTF, Version 3, and are stored in this HDF-EO85 collection.
GSSTF: Goddard Satellite-Based Surface Turbulent Fluxes, Daily Grid

**Data Access**

Data Service Name: MIRADOR
Data Service Description: Search, visualize, subset, and download data in HDF-EOS5
Data Service Access URL: [http://mirador.gsfc.nasa.gov/cgi-bin/mirador/homepageAll.pl?keyword=GSSTF+AND+%22Version+3%22](http://mirador.gsfc.nasa.gov/cgi-bin/mirador/homepageAll.pl?keyword=GSSTF+AND+%22Version+3%22)

Data Service Name: ON-LINE ARCHIVE

Data Service Name: REVERB
Data Service Description: Refine your granule search with ECHO's next generation Earth Science discovery tool (Reverb) using information from this record.
Data Service Access URL: [http://reverb.echo.nasa.gov/reverb/index.php?%26E2%93%83spatial_map=satellite&spatial_type=rectangle&keywords=GES_DISC_GSSTF_3](http://reverb.echo.nasa.gov/reverb/index.php?%26E2%93%83spatial_map=satellite&spatial_type=rectangle&keywords=GES_DISC_GSSTF_3)
GSSTF: Goddard Satellite-Based Surface Turbulent Fluxes, Daily Grid

You are here: GS DISC Home > Measures > GSSTF: Goddard Satellite-Based Surface Turbulent Fluxes, Daily Grid

The variables in each of the data files include the following:

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Description</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DQ</td>
<td>sea-air humidity difference</td>
<td>g/kg</td>
</tr>
<tr>
<td>E</td>
<td>latent heat flux</td>
<td>W/m²/s</td>
</tr>
<tr>
<td>H</td>
<td>sensible heat flux</td>
<td>W/m²/s</td>
</tr>
<tr>
<td>Clair</td>
<td>surface air (~10-m) specific humidity</td>
<td>g/kg</td>
</tr>
<tr>
<td>STu</td>
<td>zonal wind stress</td>
<td>m/s</td>
</tr>
<tr>
<td>STv</td>
<td>meridional wind stress</td>
<td>m/s</td>
</tr>
<tr>
<td>Tot_Precip_Water</td>
<td>total precipitable water</td>
<td>g/cm²/s</td>
</tr>
<tr>
<td>U</td>
<td>10-m wind speed</td>
<td>m/s</td>
</tr>
</tbody>
</table>
Future Work

→ Extended Metadata
  ` Summary description of variables in data files

→ Use MWS to submit DIFs to GCMD
  ` http://gcmdservices.gsfc.nasa.gov/mws/validator
  ` http://gcmdservices.gsfc.nasa.gov/mws/publisher

→ Machine readable landing pages
  ` ESIP Preservation and Stewardship discussions
Questions?