

# AIRS and SNNP Sounder Support at the Goddard Earth Science Data and Information Services Center

Feng Ding<sup>1,3</sup>, Thomas J. Hearty<sup>2,3</sup>, Michael Theobald<sup>1,3</sup>,  
Andrey Savtchenko<sup>1,3</sup>, Bruce Vollmer<sup>3</sup>, Asghar E. Esfandiari<sup>1,3</sup>

1. ADNET Systems Inc.
2. Wyle Information Systems Inc.
3. NASA/GSFC Goddard Earth Science Data and Information Services Center, Code 610.2, Greenbelt, MD 20771

NASA Sounder Science Team Meeting

Greenbelt, MD

October 15, 2015

# Outline

- Mission of sounder support
- Unified User Interface
- AIRS V6 on Giovanni 4
- SNPP sounder support
- AIRS V5 retirement

# Mission of Sounder Support

- GES DISC is the home of processing, archiving, and distribution services for data from the Atmospheric Infrared Sounder (AIRS) mission
- Develop data management tools/systems for better data access and distribution
- Develop data explore tools for accelerating the research
- Provide users help
- Begin and will support SNPP CrIS/ATMS

# Unified User Interface (UUI)

- AIRS data holding links to new UUI page rather than old product table page.
- Unified one-stop interactive search interface
- Dynamically updating based on the Directory Interchange Format (DIF) content (future Common Metadata Repository (CMR) content)
- Keyword search
- Filter by subject, measurement, source, processing level, temporal and spatial resolution
- Sort column

# Data Holdings on AIRS page links to UUI

The screenshot shows the NASA GES DISC website. The browser address bar displays `disc.sci.gsfc.nasa.gov/AIRS`. The page header includes the NASA logo and the text "National Aeronautics and Space Administration". The main navigation bar contains links for "Data Services", "Mission Portals", "Science Portals", and "Info". Below this, a banner for "AIRS Atmospheric InfraRed Sounder" is visible, accompanied by three small satellite imagery thumbnails.

The main content area features a breadcrumb trail: "You are here: [GES DISC Home](#) » [AIRS](#)". Below this, there are two tabs: "+ DATA HOLDINGS" (selected) and "+ DOCUMENTATION". A yellow warning box is prominently displayed with the following text:

**IMPORTANT MESSAGE Jul 24, 2015** Why do my Data Holdings look different?

Accessing your data through the GES DISC web site may seem a little unfamiliar to you to these days, but we can assure you, your data is all still available. The location of the data in the online archive has not changed.

The GES DISC has implemented a new interactive interface to make finding data easier than ever. We've added features like searching by keywords, filtering by criteria such as measurements, processing level and spatial resolution, and sortable data columns so now you can fine tune your search results. To get you started we put together a [Help](#) document to introduce you to the new interface. If you have any questions about the new design please contact us using the Feedback link in the upper right-hand corner or contact the GES DISC Help Desk by sending email to [gsfc-help-disc@lists.nasa.gov](mailto:gsfc-help-disc@lists.nasa.gov).

**Close**

The AIRS/AMSU/HSB suite of instruments is flying on board of [Aqua](#) satellite, and thus their "overpass" pattern is [this of Aqua](#).

The AIRS/AMSU/HSB suite constitutes an innovative atmospheric sounding system of infrared, microwave and visible sensors. The infrared radiance data product is stable to 10 mK/yr and accurate to better than 200 mK. This product is the most accurate and stable set of hyperspectral infrared radiance spectra measurements made in space to date, and it meets the criteria identified by the National Research Council for climate data records. The geophysical products provide daily global temperature profiles at an accuracy of 1 K per 1 km thick layer in the troposphere and moisture profiles at an accuracy of 20% per 2 km thick layer in the lower troposphere (20% - 60% in the upper troposphere). With the Version 5 release the Level-2 and Level-3 products also include the burden and profiles of the minor gases: O3 (Level-2 only), CO and CH4.

The accuracy of the temperature and humidity profiles derived from AIRS/AMSU/HSB is recognized as improving forecasts from meteorological prediction models. NOAA administrator Lautenbacher has reported that "the AIRS instrument has provided the most significant increase in forecast improvement in this time range of any other single instrument." Currently researchers are using AIRS data products to validate climate models and to test their representations of critical climate feedbacks.

On the left sidebar, under "Additional Features", there are links for: News, Notices, Software Tools, Science Focus, Gallery, Applications, Instruments, Links, and FAQ.

On the right sidebar, there are sections for "Today's Global Browse Image" (showing a satellite image of Earth), "Near Real Time Data Products" (showing a colorful data visualization), and "Hide News" (listing recent news items such as "Giovanni-4 takes center stage at the NASA GES DISC" and "Data Rods" from the NASA GES DISC).

The bottom of the page shows the Windows taskbar with the system clock displaying 11:14 AM on 9/24/2015.

# UUI: AIRS products

disc.sci.gsfc.nasa.gov/uui/#/search/%22AIRS%22

EARTHDATA Data Discovery DAACs Community Science Disciplines

## GES DISC

Atmospheric Composition, Water and Energy Cycle, and Climate Variability Data

"AIRS"

Feedback Help

### 01/10 Datasets

Showing (99) datasets associated with "AIRS"...

Refine By

**Subjects** Sort ▾

- Aerosols (4)
- Air Quality (15)
- Altitude (41)
- Atmospheric Chemistry (55)
- Atmospheric Pressure (33)
- More...

**Measurements** Sort ▾

- Absorption (6)
- Air Temperature (34)
- Atmospheric Emitted Radiation (3)
- Brightness Temperature (15)
- Carbon Dioxide (12)
- More...

**Source** Sort ▾

- Aqua AIRS (93)
- Aqua AMSU-A (42)
- Aqua HSB (11)
- CloudSat CloudSat-CPR (3)
- METOP-A AMSU-A (1)
- More...

**Processing Level** Sort ▾

- 1 (21)
- More...

Image	Dataset	Source	Temporal Resolution	Spatial Resolution	Process Level	Begin Date	End Date
	Aqua AIRS Level 3 Support Multiday (8-day) Product (AIRS+AMSU+HSB) (AIRH3SP8.006) - Altitude, Atmospheric Chemistry, Atmospheric Pressure ▾	Aqua AIRS	8 days	1°	3	2002-08-30	2003-02-08
	Aqua AIRS Level 2 Support Retrieval (AIRS+AMSU) (AIRX2SUP.006) - Air Quality, Altitude, Atmospheric Chemistry ▾	Aqua AIRS, Aqua AMSU-A	12 hours	50 km	2	2002-08-30	present
	Aqua AIRS Level 3 Support Daily Product (AIRS+AMSU) (AIRX3SPD.006) - Air Quality, Altitude, Atmospheric Chemistry ▾	Aqua AIRS, Aqua AMSU-A	12 hours	1°	3	2002-08-30	present
	Aqua AIRS Level 3 Support Monthly Product (AIRS+AMSU) (AIRX3SPM.006) - Air Quality, Altitude, Atmospheric Chemistry ▾	Aqua AIRS, Aqua AMSU-A	1 month	1°	3	2002-08-30	present
	Aqua AIRS Level 2 Standard Physical Retrieval (AIRS+AMSU) (AIRX2RET.006) - Air Quality, Altitude, Atmospheric Chemistry ▾	Aqua AIRS, Aqua AMSU-A	12 hours	50 km	2	2002-08-30	present

3:48 PM 9/24/2015

# UUI: Level 3 filter

disc.sci.gsfc.nasa.gov/uui/#/search/%22AIRS%22

Refine By

**Subjects** Sort ▾

- Air Quality (9)
- Altitude (27)
- Atmospheric Chemistry (33)
- Atmospheric Pressure (27)
- Atmospheric Radiation (15)
- More...

**Measurements** Sort ▾

- Absorption (6)
- Air Temperature (28)
- Atmospheric Emitted Radiation (3)
- Carbon Dioxide (6)
- Carbon Monoxide (9)
- More...

**Source** Sort ▾

- Aqua AIRS (45)
- Aqua AMSU-A (15)
- Aqua HSB (4)

**Processing Level** Sort ▾

- 3 (45)
- 1 (21)
- 2 (30)
- 4 (3)

**Temporal Resolution** Sort ▾

- 12 hours (11)
- 5 days (6)
- 8 days (11)
- 1 month (17)

**Spatial Resolution** Sort ▾

- 50 km (11)

Image	Dataset	Source	Temporal Resolution	Spatial Resolution	Process Level	Begin Date	End Date
	Aqua AIRS Level 3 Support Monthly Product (AIRS-only) (AIRS3SPM.006) - Altitude, Atmospheric Chemistry, Atmospheric Pressure ▾	Aqua AIRS	1 month	50 km	3	2002-08-30	present
	Aqua AIRS Level 3 Support Daily Product (AIRS+AMSU) (AIRX3SPD.006) - Air Quality, Altitude, Atmospheric Chemistry ▾	Aqua AIRS, Aqua AMSU-A	12 hours	1°	3	2002-08-30	present
	AIRS/Aqua Level 3 Monthly standard physical retrieval (AIRS+AMSU) (AIRX3STM.005) - Air Quality, Altitude, Atmospheric Chemistry ▾	Aqua AIRS, Aqua AMSU-A	1 month	1°	3	2002-09-01	2013-02-28
	Aqua AIRS Level 3 Daily Standard Physical Retrieval (AIRS+AMSU) (AIRX3STD.006) - Air Quality, Altitude, Atmospheric Chemistry ▾	Aqua AIRS, Aqua AMSU-A	12 hours	1°	3	2002-08-30	present
	AIRS/Aqua Level 3 Daily standard physical retrieval (AIRS+AMSU) (AIRX3STD.005) - Air Quality, Altitude, Atmospheric Chemistry ▾	Aqua AIRS, Aqua AMSU-A	12 hours	1°	3	2002-08-31	2013-02-28
	Aqua AIRS Level 3 Monthly Standard Physical Retrieval (AIRS+AMSU) (AIRX3STM.006) - Air Quality, Altitude, Atmospheric Chemistry ▾	Aqua AIRS, Aqua AMSU-A	1 month	1°	3	2002-08-30	present
	Aqua AIRS Level 3 Support Multiday (8-day) Product (AIRS+AMSU) (AIRX3SP8.006) - Air Quality, Altitude, Atmospheric Chemistry ▾	Aqua AIRS, Aqua AMSU-A	8 days	1°	3	2002-08-30	present

3:52 PM 9/24/2015

# UUI: link to product landing page

AIR5 — GES DISC - Goddard Earth Sciences Data and Information Services Center

GES DISC  
Goddard Earth Sciences Data and Information Services Center

You are here: [GES DISC Home](#) » AIRX3STD Version 006: Aqua AIRS Level 3 Daily Standard Physical Retrieval (AIRS+AMSU)

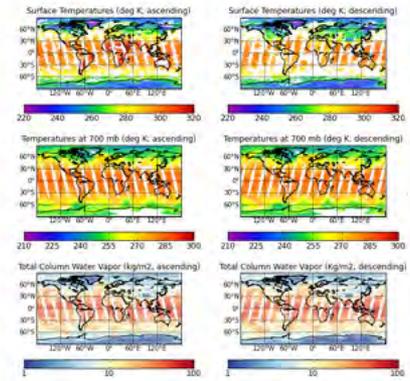
## AIRX3STD Version 006: Aqua AIRS Level 3 Daily Standard Physical Retrieval (AIRS+AMSU)

[Data Citation](#) [Get Data](#) [Summary](#) [Data Documents](#)

### Data Citation

To cite the data in publications:  
AIRS Science Team/Joao Teixeira (2013), *Aqua AIRS Level 3 Daily Standard Physical Retrieval (AIRS+AMSU), version 006*. Greenbelt, MD, USA: NASA Goddard Earth Science Data and Information Services Center (GES DISC). Accessed [Enter User Data Access Date](#) at doi:10.5067/AQUA/AIRS/DATA301

### Product Description



Local/Global File: AIRS\_2013\_12\_01\_L3\_Std0060\_04\_13\_0\_02338021302000

Sample data of AIRX3STD

The AIRS Level 3 Daily Gridded Product contains standard retrieval means, standard deviations and input counts. Each file covers a temporal period of 24 hours for either the descending (equatorial crossing North to South @1:30 AM local time) or ascending (equatorial crossing South to North @1:30 PM local time) orbit. The data starts at the international dateline and progresses westward (as do the subsequent orbits of the satellite) so that neighboring gridded cells of data are no more than a swath of time apart (about 90 minutes). The two parts of a scan line crossing the dateline are included in separate L3 files, according to the date, so that data points in a grid box are always coincident in time. The edge of the AIRS Level 3 gridded cells is at the date line (the 180E/W longitude boundary). When plotted, this produces a man with 0 degrees longitude in the center of the image unless

3:54 PM  
9/24/2015

# AIRS V6 Available on Giovanni V4

- Next generation Giovanni version 4 replaced Giovanni V3 on September 1, 2015.
- New version Giovanni holds most commonly used variables of AIRS V6 products
- Some Giovanni4 highlights
  - Faster
  - One interface for all portals data at GES DISC
  - Keyword search, filter by measurement...
  - New services
  - Variable level usage metrics
- [giovanni.gsfc.nasa.gov](http://giovanni.gsfc.nasa.gov)

# Giovanni 4: keyword search, filter

The screenshot displays the Giovanni 4 web interface in a browser window. The address bar shows the URL: `giovanni.gsfc.nasa.gov/giovanni/#service=TmAvMp&starttime=&endtime=&bbox=-180,-90,180,90`. The page header includes the "GIOVANNI" logo and navigation links for "Data Discovery", "DAACs", "Community", and "Science Disciplines". A yellow banner at the top indicates that "Time-Averaged Scatter temporarily unavailable... [1 of 2 messages] Read More".

The main interface is divided into several sections:

- Select Plot:** Includes radio buttons for "Maps: Time Averaged Map" (selected), "Comparisons: Select...", "Time Series: Select...", "Vertical: Select...", and "Miscellaneous: Select...".
- Select Date Range (UTC):** Features input fields for "YYYY-MM-DD" and "HH:mm" with a "to" separator. A "Valid Range: 1979-01-01 to 2015-10-05" is displayed below. A red error message states "Please specify a start date.".
- Select Region (Bounding Box or Shapefile):** Includes a text input field for a bounding box (currently containing "-180, -90, 180, 90") and buttons for "Show Map" and "Show Shapes".
- Select Variables:** A sidebar on the left lists filter categories: Disciplines, Measurements, Platform / Instrument, Spatial Resolutions, Temporal Resolutions, Wavelengths, Depths, Special Features, and Portal. The main area shows "Number of matching Variables: 0 of 576" and a "Keyword:" search field with "Search" and "Clear" buttons. A "Total Variable(s) included in Plot: 0" is also shown.

At the bottom of the interface, there are buttons for "Help", "Reset", "Feedback", and a prominent green "Plot Data" button. The footer contains the text "Responsible NASA Official: Steven J. Kempler@nasa.gov", "Powered By:", and "Contact Us". The Windows taskbar at the very bottom shows the system clock as 11:50 AM on 10/5/2015.

# Giovanni 4: filter AIRS + OLR

Giovanni

giovanni.gsfc.nasa.gov/giovanni/#service=TmAvMp&starttime=&endtime=&bbox=-180,-90,180,90&variableFacets=dataFieldMeasurement%3AOLR%3I

Most Visited Getting Started Latest Headlines

EARTHDATA Data Discovery DAACs Community Science Disciplines

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

**Time-Averaged Scatter temporarily unavailable...** [1 of 2 messages] [Read More](#)

**Select Plot**

Maps: Time Averaged Map Comparisons: Select... Time Series: Select... Vertical: Select... Miscellaneous: Select...

**Select Date Range (UTC)** YYYY-MM-DD HH:mm to YYYY-MM-DD HH:mm  
Valid Range: 1979-01-01 to 2015-10-05

**Select Region (Bounding Box or Shapefile)** Format: West, South, East, North  
-180, -90, 180, 90 Show Map Show Shapes

Please specify a start date.

**Select Variables**

Number of matching Variables: 8 of 576 Total Variable(s) included in Plot: 0

Keyword: Search Clear

	Variable Name	Source	Temp. Res.	Spat. Res.	Begin Date	End Date	Units	Vert. Slice
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation Clear Sky (Daytime/Ascending) (AIRX3STD v006)</a>	AIRS	Daily	1°	2002-08-31	2015-10-03	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation Clear Sky (Nighttime/Descending) (AIRX3STD v006)</a>	AIRS	Daily	1°	2002-08-31	2015-10-03	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation (Daytime/Ascending) (AIRX3STD v006)</a>	AIRS	Daily	1°	2002-08-31	2015-10-03	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation (Nighttime/Descending) (AIRX3STD v006)</a>	AIRS	Daily	1°	2002-08-31	2015-10-03	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation Clear Sky (Daytime/Ascending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation Clear Sky (Nighttime/Descending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation (Daytime/Ascending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-

Help Reset Feedback **Plot Data**

# Giovanni 4: Maps Plot

Giovanni 4: Maps Plot interface showing the configuration for a Time-Averaged Scatter plot.

**Time-Averaged Scatter temporarily unavailable...** [1 of 2 messages] [Read More](#)

**Select Plot**

- Maps: Time Averaged Map
- Comparisons: Select...
- Time Series: Select...
- Vertical: Select...
- Miscellaneous: Select...

**Maps Choices**

- Time Averaged Map**  
Interactive map of average over time at each grid cell  
[Details...](#)
- Animation**  
Map animated along the chosen timeline for each grid cell  
\* Limited to 365 time steps  
[Details...](#)
- Difference of Time Averaged**  
Difference of two time averaged variable maps  
[Details...](#)
- Accumulated**  
Accumulation of measurement over time at each grid point  
[Details...](#)
- User-Defined Climatology**  
Quasi Climatology Map  
[Details...](#)

Ozone (8)  
 Surface Temperature (4)

**Platform / Instrument**

- AIRS (8)

**Spatial Resolutions**

**Temporal Resolutions**

**Select Region (Bounding Box or Shapefile)**  
Format: West, South, East, North  
-180, -90, 180, 90 [Show Map](#) [Show Shapes](#)

Variables: 8 of 576 Total Variable(s) included in Plot: 0

Name	Source	Temp. Res.	Spat. Res.	Begin Date	End Date	Units	Vert. Slice
<input type="checkbox"/> <a href="#">Longwave Radiation Clear Sky (Descending) (AIRX3STD v006)</a>	AIRS	Daily	1°	2002-08-31	2015-10-03	W/m2	-
<input type="checkbox"/> <a href="#">Longwave Radiation (Ascending) (AIRX3STD v006)</a>	AIRS	Daily	1°	2002-08-31	2015-10-03	W/m2	-
<input type="checkbox"/> <a href="#">Longwave Radiation (Descending) (AIRX3STD v006)</a>	AIRS	Daily	1°	2002-08-31	2015-10-03	W/m2	-
<input type="checkbox"/> <a href="#">Longwave Radiation Clear Sky (Ascending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation Clear Sky (Nighttime/Descending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation (Daytime/Ascending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation (Nighttime/Descending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-

[Search](#) [Clear](#)

[Help](#) [Reset](#) [Feedback](#) [Plot Data](#)

Responsible NASA Official: [Steven.J.Kempler@nasa.gov](mailto:Steven.J.Kempler@nasa.gov) Powered By: [Contact Us](#)

12:04 PM 10/5/2015

# Giovanni 4: Comparison

Giovanni

giovanni.gsfc.nasa.gov/giovanni/#service=TmAvMp&starttime=&endtime=&bbox=-180,-90,180,90&variableFacets=dataFieldMeasurement%3AOLR%3I

EARTHDATA Data Discovery DAACs Community Science Disciplines

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

**Time-Averaged Scatter temporarily unavailable...** [1 of 2 messages] [Read More](#)

Select Plot

Maps: Select... Comparisons: Map, Correlation Time Series: Select... Vertical: Select... Miscellaneous: Select...

Select Date Range (UTC)

YYYY-MM-DD HH:mm to

Valid Range: 1979-01-01 to 2015-10-05

Please specify a start date.

Select Variables

Measurements

- Air Pressure (4)
- Air Temperature (12)
- Altitude (4)
- Atmospheric Moisture (20)
- CH4 (8)
- CO (8)
- CO2 (2)
- Cloud Fraction (4)
- Cloud Properties (8)
- Geopotential (4)
- OLR (8)
- Ozone (8)
- Surface Temperature (4)

Platform / Instrument

- AIRS (8)

Spatial Resolutions

Temporal Resolutions

Comparisons Choices

- Map, Correlation**  
Simple linear regression of 2 variables at each grid cell  
[Details...](#)
- Scatter, Area Averaged (Static)**  
Scatter plot comparing area averaged time series for two variables  
[Details...](#)
- Interactive Scatter Plot**  
Interactive Scatter  
[Details...](#)
- Scatter (Static)**  
Static Scatter  
[Details...](#)
- Scatter, Time-Averaged (Interactive)**  
Time-averaged, interactive X-Y plot of 2 variables  
[Details...](#)

Mapfile

Show Map Show Shapes

Total Variable(s) included in Plot: 0

Search Clear

Variable	Temp. Res.	Spat. Res.	Begin Date	End Date	Units	Vert. Slice
...	Daily	1°	2002-08-31	2015-10-03	W/m2	-
...	Daily	1°	2002-08-31	2015-10-03	W/m2	-
...	Daily	1°	2002-08-31	2015-10-03	W/m2	-
...	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation Clear Sky (Nighttime/Descending)</a> (AIR3STM v006)	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation (Daytime/Ascending)</a> (AIR3STM v006)	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation (Nighttime/Descending)</a> (AIR3STM v006)	Monthly	1°	2002-09-01	2015-08-31	W/m2	-

Help Reset Feedback **Plot Data**

Responsible NASA Official: [Steven J. Kempler@nasa.gov](mailto:Steven.J.Kempler@nasa.gov) Powered By: [Contact Us](#)

12:04 PM 10/5/2015

# Giovanni 4: Timer Series

giovanni.gsfc.nasa.gov/giovanni/#service=TmAvMp&starttime=&endtime=&bbox=-180,-90,180,90&variableFacets=dataFieldMeasurement%3AOLR%3I

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

**Time-Averaged Scatter temporarily unavailable...** [1 of 2 messages] [Read More](#)

**Select Plot**

Maps: Select... Comparisons: Select... **Time Series: Area-Averaged Differences** Vertical: Select... Miscellaneous: Select...

**Select Date Range (UTC)**

YYYY-MM-DD HH:mm to YYYY-MM-DD HH:mm

Valid Range: 1979-01-01 to 2015-10-05

Please specify a start date.

**Select Variables**

**Measurements**

- Air Pressure (4)
- Air Temperature (12)
- Altitude (4)
- Atmospheric Moisture (20)
- CH4 (8)
- CO (8)
- CO2 (2)
- Cloud Fraction (4)
- Cloud Properties (8)
- Geopotential (4)
- OLR (8)
- Ozone (8)
- Surface Temperature (4)

**Platform / Instrument**

- AIRS (8)

**Spatial Resolutions**

**Temporal Resolutions**

**Time Series Choices**

- Area-Averaged Differences**  
Time series of area averages of differences between two variables at each spatial grid point  
[Details...](#)
- Area-Averaged**  
Time series of area-averaged values  
[Details...](#)
- Seasonal**  
Seasonal (inter annual) time series  
[Details...](#)
- Hovmoller, Longitude-Averaged**  
Longitude-averaged Hovmoller, plotted over the selected time and longitude ranges  
[Details...](#)
- Hovmoller, Latitude-Averaged**  
Latitude-averaged Hovmoller, plotted over the selected time and latitude ranges  
[Details...](#)

Number of matching Variables: 0

Keyword:

Variable Name	Instrument	Resolution	Lat	Start Date	End Date	Units	Vert. Slice
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation Clear Sky (Nighttime/Descending)</a> (AIRX3STM v006)	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation (Daytime/Ascending)</a> (AIRX3STM v006)	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation (Nighttime/Descending)</a> (AIRX3STM v006)	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-

Total Variable(s) included in Plot: 0

Help Reset Feedback **Plot Data**

# Giovanni 4: Vertical Plot

giovanni.gsfc.nasa.gov/giovanni/#service=TmAvMp&starttime=&endtime=&bbox=-180,-90,180,90&variableFacets=dataFieldMeasurement%3AOLR%3I

**EARTHDATA** Data Discovery DAACs Community Science Disciplines

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

**Time-Averaged Scatter temporarily unavailable...** [1 of 2 messages] [Read More](#)

**Select Plot**

Maps: Select... Comparisons: Select... Time Series: Select... **Vertical: Cross Map, Latitude-Pressure** Miscellaneous: Select...

**Select Date Range (UTC)** YYYY-MM-DD HH:mm to YYYY-MM-DD HH:mm  
Valid Range: 1979-01-01 to 2015-10-05  
*Please specify a start date.*

**Select Region (Bounding Box or Shapefile)** Format: West, South, East, North  
-180, -90, 180, 90

**Select Variables**

Number of matching Variables: 8 of 576

Keyword:

Variable Name	Source	Frequency	Time	Start Date	End Date	Units	Vert. Slice
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation Clear Sky (Nighttime/Descending) (AIRX3STD v006)</a>	AIRS						
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation (Daytime/Ascending) (AIRX3STD v006)</a>	AIRS						
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation (Nighttime/Descending) (AIRX3STD v006)</a>	AIRS	Daily	1°	2002-08-31	2015-10-03	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation Clear Sky (Daytime/Ascending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation Clear Sky (Nighttime/Descending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation (Daytime/Ascending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/> <a href="#">Outgoing Longwave Radiation (Nighttime/Descending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-

**Vertical Choices**

- Cross Map, Latitude-Pressure**  
Cross Map, Latitude-Pressure  
[Details...](#)
- Cross Map, Longitude-Pressure**  
Cross Map, Longitude-Pressure  
[Details...](#)
- Cross Map, Time-Pressure**  
Cross Map, Time-Pressure  
[Details...](#)
- Vertical Profile**  
Vertical Profile  
[Details...](#)

Total Variable(s) included in Plot: 0

Help Reset Feedback **Plot Data**

# Giovanni 4: Miscellaneous

Giovanni

giovanni.gsfc.nasa.gov/giovanni/#service=TmAvMp&starttime=&endtime=&bbox=-180,-90,180,90&variableFacets=dataFieldMeasurement%3AOLR%3I

Most Visited Getting Started Latest Headlines

EARTHDATA Data Discovery DAACs Community Science Disciplines

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

**Time-Averaged Scatter temporarily unavailable...** [1 of 2 messages] [Read More](#)

Select Plot

Maps: Select... Comparisons: Select... Time Series: Select... Vertical: Select... **Miscellaneous: Zonal Mean**

Select Date Range (UTC) YYYY-MM-DD HH:mm to - - : : Show Map Show

Select Region (Bounding Box or Shapefile) Format: West, South, East, North -180, -90, 180, 90

Valid Range: 1979-01-01 to 2015-10-05

Please specify a start date.

Select Variables

Measurements

- Air Pressure (4)
- Air Temperature (12)
- Altitude (4)
- Atmospheric Moisture (20)
- CH4 (8)
- CO (8)
- CO2 (2)
- Cloud Fraction (4)
- Cloud Properties (8)
- Geopotential (4)
- OLR (8)
- Ozone (8)
- Surface Temperature (4)

Platform / Instrument

- AIRS (8)

Spatial Resolutions

Temporal Resolutions

Number of matching Variables: 8 of 576

Keyword: Search Clear

	Variable Name	Source	Temp. Res.	Spat. Res.	Begin Date	End Date	Units	Vert. Slice
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation Clear Sky (Nighttime/Descending) (AIRX3STD v006)</a>	AIRS	Daily	1°	2002-08-31	2015-10-03	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation (Daytime/Ascending) (AIRX3STD v006)</a>	AIRS	Daily	1°	2002-08-31	2015-10-03	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation (Nighttime/Descending) (AIRX3STD v006)</a>	AIRS	Daily	1°	2002-08-31	2015-10-03	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation Clear Sky (Daytime/Ascending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation Clear Sky (Nighttime/Descending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation (Daytime/Ascending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-
<input type="checkbox"/>	<a href="#">Outgoing Longwave Radiation (Nighttime/Descending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	W/m2	-

Miscellaneous Choices

- Zonal Mean  
Zonal mean plot, averaged values are plotted over latitude zones  
[Details...](#)
- Histogram  
Distribution of values over time and space  
[Details...](#)

table(s) included in Plot: 0

Help Reset Feedback **Plot Data**

Responsible NASA Official: [Steven J. Kempler@nasa.gov](mailto:Steven.J.Kempler@nasa.gov) Powered By: [Contact Us](#)

12:06 PM 10/5/2015

# Use Case: 2015 Hot Spring and Summer Seasonal (inter annual) Time Series

Giovanni - Data Selection

giovanni.gsfc.nasa.gov/giovanni/#service=InTs&starttime=2003-01-01T00:00:00Z&endtime=2015-12-31T23:59:59Z&seasons=MAM,JJA&bbox=-180,-90,-

**EARTHDATA** Data Discovery DAACs Community Science Disciplines

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

**Time-Averaged Scatter temporarily unavailable...** [1 of 2 messages] [Read More](#)

**Select Plot**

Maps: Select... Comparisons: Select... **Time Series: Seasonal** Vertical: Select... Miscellaneous: Select...

**Select Seasonal Dates** Month or Season and YYYY range: MAM,JJA 2003 to 2015

**Select Region (Bounding Box or Shapefile)** Format: West, South, East, North: -180, -90, 180, 90 [Show Map](#) [Show Shapes](#)

Select months or seasons: 15-08-31 Select seasons or months

Months  Seasons

- DJF
- MAM
- JJA
- SON

Air Pressure (2)

Air Temperature (6)

Altitude (2)

Atmospheric Moisture (10)

CH4 (4)

CO (4)

Cloud Fraction (2)

Cloud Properties (4)

Geopotential (2)

OLR (4)

Ozone (4)

Surface Temperature (2)

► Platform / Instrument

► Spatial Resolutions

Number of matching Variables: 6 of 576

Keyword: AIRX3STM [Search](#) [Clear](#)

	Variable Name	Source	Temp. Res.	Spat. Res.	Begin Date	End Date	Units	Vert. Slice
<input checked="" type="checkbox"/>	<a href="#">Air temperature at surface (Daytime/Ascending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	K	
<input type="checkbox"/>	<a href="#">Air temperature at surface (Nighttime/Descending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	K	-
<input type="checkbox"/>	<a href="#">Tropopause Temperature (Daytime/Ascending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	K	-
<input type="checkbox"/>	<a href="#">Tropopause Temperature (Nighttime/Descending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	K	-
<input type="checkbox"/>	<a href="#">Air Temperature (Daytime/Ascending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	K	1000 hPa
<input type="checkbox"/>	<a href="#">Air Temperature (Nighttime/Descending) (AIRX3STM v006)</a>	AIRS	Monthly	1°	2002-09-01	2015-08-31	K	1000 hPa

Total Variable(s) included in Plot: 1

[Help](#) [Reset](#) [Feedback](#) [Plot Data](#) [Go to Results](#)

# Use Case: download plot image

Giovanni - Time Series, Seasonal

giovanni.gsfc.nasa.gov/giovanni/#service=InTs&starttime=2003-01-01T00:00:00Z&endtime=2015-12-31T23:59:59Z&seasons=MAM,JA&bbox=-180,-1

Most Visited Getting Started Latest Headlines

EARTHDATA Data Discovery DAACs Community Science Disciplines

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

Time-Averaged Scatter temporarily unavailable... [1 of 2 messages] [Read More](#)

## 1. Time Series, Seasonal

Interannual time series (90S - 90N, 180W - 180E)  
Air temperature at surface (Daytime/Ascending) monthly 1 deg. [AIRS AIRX3STM v006] K

Data year	MAM (K)	JJA (K)
2003	288.6	290.1
2004	288.4	289.8
2005	288.5	290.1
2006	288.4	290.0
2007	288.5	290.0
2008	288.4	289.8
2009	288.4	290.0
2010	288.5	290.0
2011	288.4	290.1
2012	288.5	290.0
2013	288.4	289.9
2014	288.5	289.9
2015	288.6	289.9

History

- 1. Time Series, Seasonal
  - User Input
  - Plots
  - Plot Options
  - Downloads
  - Lineage

Acknowledgment Policy Help Feedback Back to Data Selection

Responsible NASA Official: [Steven J. Kempler@nasa.gov](mailto:Steven.J.Kempler@nasa.gov)  
Web Curator: [M. Hegde.gsfc-giovanni-disc@lists.nasa.gov](mailto:M.Hegde.gsfc-giovanni-disc@lists.nasa.gov)  
[Privacy Policy and Important Notices](#)

Powered By: NCOS OPeNDAP ECHO

Contact Us

12:12 PM 10/6/2015

# Use Case: download result files

The screenshot shows a web browser window displaying the GIOVANNI website. The browser's address bar shows the URL: `giovanni.gsfc.nasa.gov/giovanni/#service=InTs&starttime=2003-01-01T00:00:00Z&endtime=2015-12-31T23:59:59Z&seasons=MAM,JJA&bbox=-180,-90`. The website header includes the NASA logo, the text "GIOVANNI The Bridge Between Data and Science v 4.16", and navigation links for "Release Notes", "Browser Compatibility", and "Known Issues". A yellow banner at the top of the main content area reads "Time-Averaged Scatter temporarily unavailable... [1 of 2 messages] Read More". The main content area is titled "1. Time Series, Seasonal" and contains the instruction "Click on file links to download. Files contain data portrayed in the plot images." Below this, under the heading "NetCDF:", there are two blue hyperlinks: `g4.ints.AIRX3STM_006_SurfAirTemp_A.20030101-20151231_SEASON_MAM.180W_90S_180E_90N.nc` and `g4.ints.AIRX3STM_006_SurfAirTemp_A.20030101-20151231_SEASON_JJA.180W_90S_180E_90N.nc`. On the right side of the page, there is a "History" panel with a tree view showing the current page and sub-items: "User Input", "Plots", "Plot Options", "Downloads", and "Lineage". A tooltip with the text "Click to display links to data files ready for downloading" is positioned over the "Downloads" item. At the bottom of the page, there are buttons for "Help", "Feedback", and "Back to Data Selection", along with a link to the "Acknowledgment Policy". The footer contains the NASA logo, contact information for Steven J. Kempler and M. Hegde, and logos for "Powered By: NCOS, OPeNDAP, and ECHO". The Windows taskbar at the bottom shows the system clock as 1:23 PM on 10/6/2015.

giovanni.gsfc.nasa.gov/giovanni/#service=InTs&starttime=2003-01-01T00:00:00Z&endtime=2015-12-31T23:59:59Z&seasons=MAM,JJA&bbox=-180,-90

**EARTHDATA** Data Discovery DAACs Community Science Disciplines

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

**Time-Averaged Scatter temporarily unavailable...** [1 of 2 messages] [Read More](#)

## 1. Time Series, Seasonal

Click on file links to download. Files contain data portrayed in the plot images.

**NetCDF:**

- [g4.ints.AIRX3STM\\_006\\_SurfAirTemp\\_A.20030101-20151231\\_SEASON\\_MAM.180W\\_90S\\_180E\\_90N.nc](#)
- [g4.ints.AIRX3STM\\_006\\_SurfAirTemp\\_A.20030101-20151231\\_SEASON\\_JJA.180W\\_90S\\_180E\\_90N.nc](#)

**History**

- 1. Time Series, Seasonal
  - User Input
  - Plots
  - Plot Options
  - Downloads
  - Lineage

Click to display links to data files ready for downloading

[Acknowledgment Policy](#) [Help](#) [Feedback](#) [Back to Data Selection](#)

Responsible NASA Official: [Steven J. Kempler@nasa.gov](mailto:Steven.J.Kempler@nasa.gov)  
Web Curator: [M. Hegde@gsfc-giovanni-disc@lists.nasa.gov](mailto:M.Hegde@gsfc-giovanni-disc@lists.nasa.gov)

Powered By:

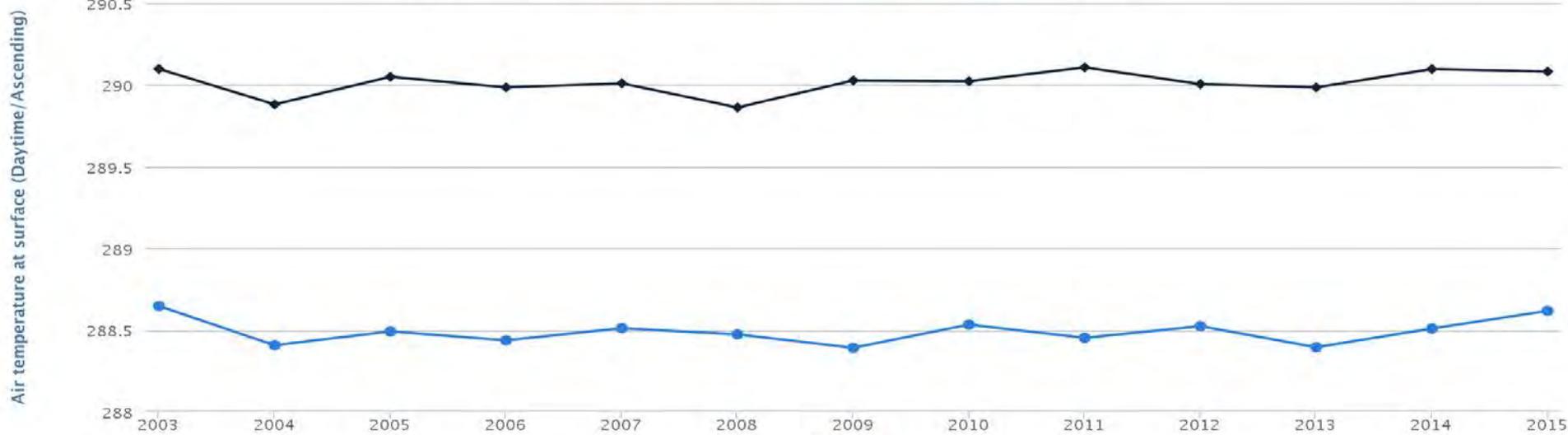
[Contact Us](#)

giovanni.gsfc.nasa.gov/giovanni/# [CV and Important Notices](#)

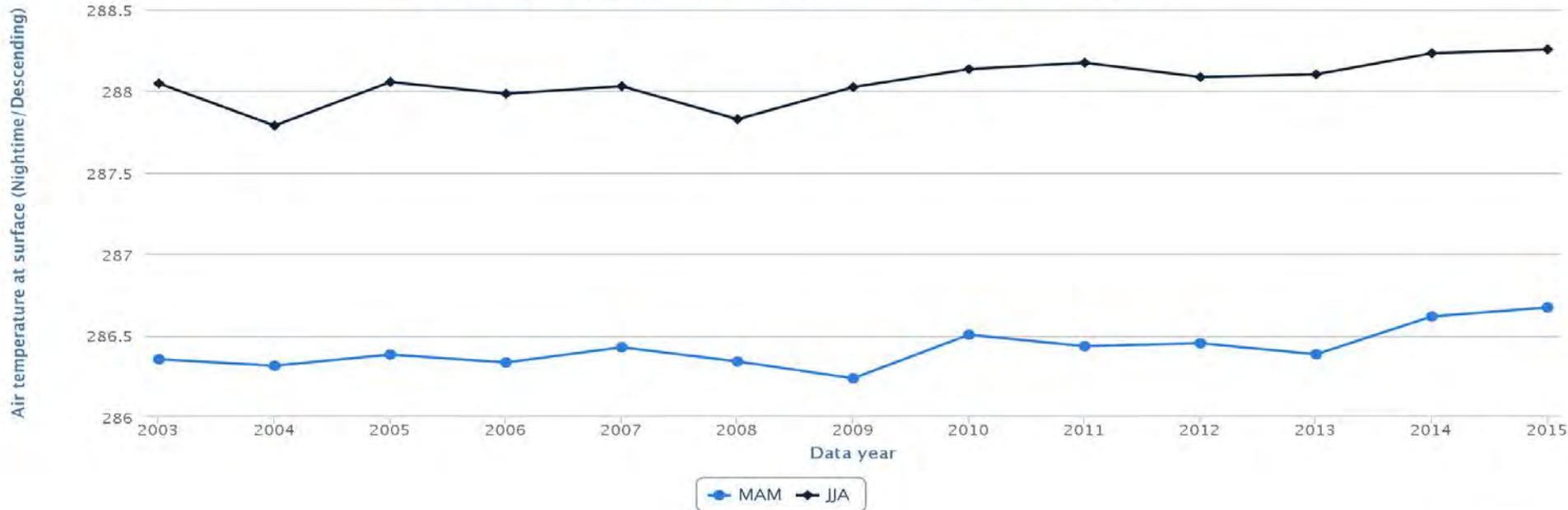
1:23 PM 10/6/2015

# Use Case: 2015 Hot Spring and Summer

Interannual time series (90S – 90N, 180W – 180E)  
Air temperature at surface (Daytime/Ascending) monthly 1 deg. [AIRS AIRX3STM v006] K

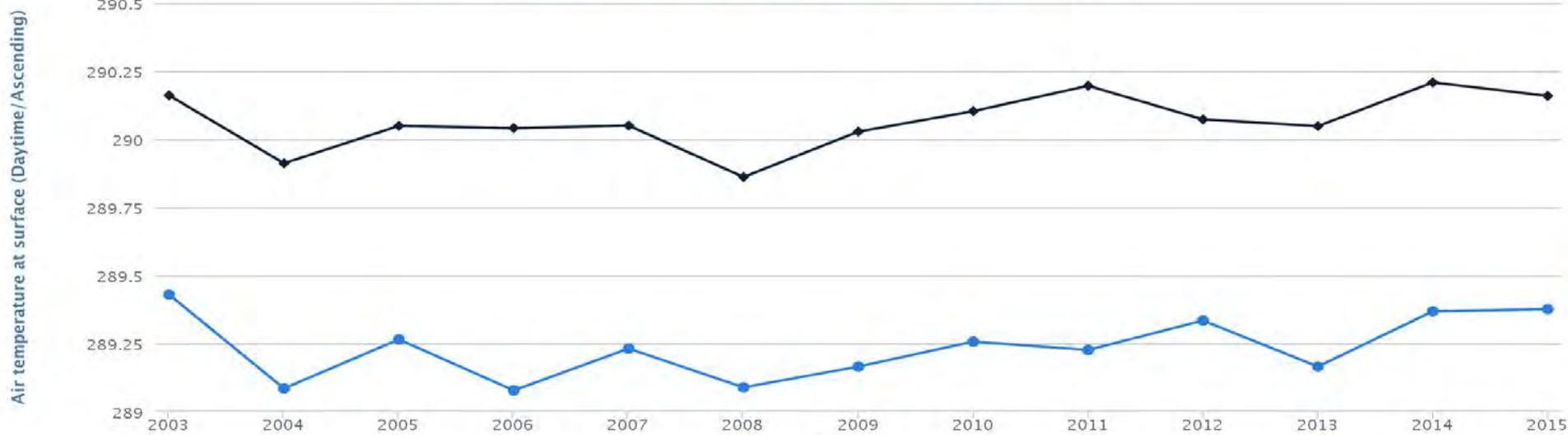


Interannual time series (90S – 90N, 180W – 180E)  
Air temperature at surface (Nighttime/Descending) monthly 1 deg. [AIRS AIRX3STM v006] K

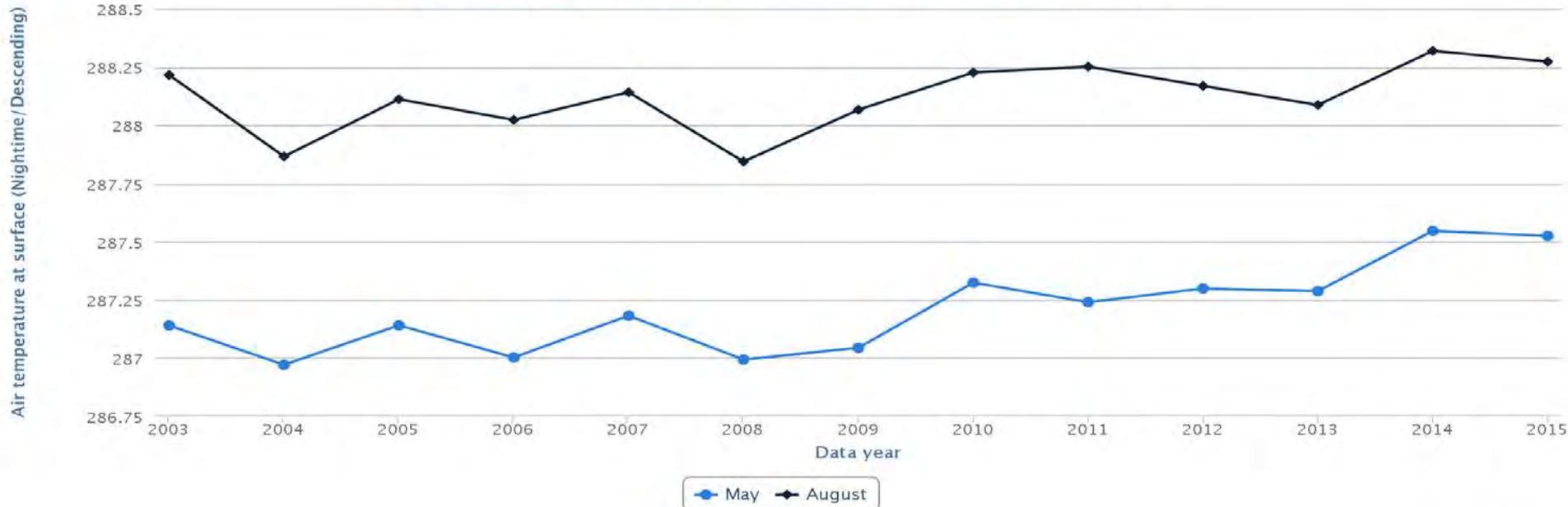


# Use Case: 2015 Hot May and August

Interannual time series (90S – 90N, 180W – 180E)  
Air temperature at surface (Daytime/Ascending) monthly 1 deg. [AIRS AIRX3STM v006] K



Interannual time series (90S – 90N, 180W – 180E)  
Air temperature at surface (Nighttime/Descending) monthly 1 deg. [AIRS AIRX3STM v006] K



# Use Case: User-Defined Climatology for El Nino

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

**Time-Averaged Scatter temporarily unavailable...** [1 of 2 messages] [Read More](#)

**Select Plot**

**Maps: User-Defined Climatology**
 Comparisons: *Select...*
 Time Series: *Select...*
 Vertical: *Select...*
 Miscellaneous: *Select...*

**Select Seasonal Dates** *Month or Season and YYYY range:*

July, August 2003 to 2014

**Select Region (Bounding Box or Shapefile)** *Format: West, South, East, North*

-170, -10, -90, 10

**Select months or seasons**

Months
  Seasons

- January
- July
- February
- August
- March
- September
- April
- October
- May
- November
- June
- December

Cloud Fraction (2)  
 Cloud Properties (4)  
 Geopotential (2)  
 OLR (4)  
 Ozone (4)  
 Surface Temperature (2)

Platform / Instrument  
 Spatial Resolutions  
 Temporal Resolutions  
 Portal

Number of matching Variables: 2 of 570

Keyword: AIRX3STM

	Variable Name	Source	Temp. Res.	Spat. Res.	Begin Date	End Date	Units	Vert. Slice
<input checked="" type="checkbox"/>	<a href="#">Surface Temperature (Daytime/Ascending)</a> (AIRX3STM v005)	AIRS	Monthly	1°	2002-09-01	2015-08-31	K	-
<input type="checkbox"/>	<a href="#">Surface Temperature (Nighttime/Descending)</a> (AIRX3STM v006)	AIRS	Monthly	1°	2002-09-01	2015-08-31	K	-

giovanni.gsfc.nasa.gov/giovanni/# NASA Official: [Steven.J.Kempler@nasa.gov](mailto:Steven.J.Kempler@nasa.gov)
 Powered By: [Contact Us](#)

11:51 AM 10/6/2015

# Use Case: Select Region

Giovanni

giovanni.gsfc.nasa.gov/giovanni/#service=QuCI&starttime=2003-01-01T00:00:00Z&endtime=2014-12-31T23:59:59Z&months=07,08&bbox=-170,-10,-

Most Visited Getting Started Latest Headlines

EARTHDATA Data Discovery DAACs Community Science Disciplines

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

Time-Averaged Scatter temporarily unavailable... [1 of 2 messages] [Read More](#)

Select Plot

Maps: User-Defined Climatology Comparisons: Select... Time Series: Select... Vertical: Select... Miscellaneous: Select...

Select Seasonal Dates  
Month or Season and YYYY range:  
July, August 2003 to 2014

Select Region (Bounding Box or Shapefile)  
Format: West, South, East, North  
-170, -10, -90, 10 Show Map Show Shapes

Valid Range: 2002-09-01 to 2015-08-31

Select Variables

Measurements

- Air Pressure (2)
- Air Temperature (6)
- Altitude (2)
- Atmospheric Moisture (10)
- CH4 (4)
- CO (4)
- Cloud Fraction (2)
- Cloud Properties (4)
- Geopotential (2)
- OLR (4)
- Ozone (4)
- Surface Temperature (2)

Platform / Instrument

Spatial Resolutions

Temporal Resolutions

Portal

Number of matching Variables: 2 of 570

Keyword: AIRX3STM

Variable Name	Source
<input checked="" type="checkbox"/> Surface Temperature (Daytime/Ascending) (AIRX3STM v005)	AIR
<input type="checkbox"/> Surface Temperature (Nighttime/Descending) (AIRX3STM v006)	AIR

05°44'N, 109°41'W

45°00'N

00°00'N

45°00'S

135°00'W 90°00'W 45°00'W 00°00'E 45°00'E 90°00'E 135°00'E

Help Reset Feedback Plot Data

Responsible NASA Official: Steven.J.Kempler@nasa.gov Powered By: Contact Us

11:53 AM 10/6/2015

# Use Case: Options for improving plot map

Giovanni - User-Defined Climat...

giovanni.gsfc.nasa.gov/giovanni/#service=QuCI&starttime=2003-01-01T00:00:00Z&endtime=2014-12-31T23:59:59Z&months=07,08&bbox=-170,-10,-

Most Visited Getting Started Latest Headlines

EARTHDATA Data Discovery DAACs Community Science Disciplines

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

Time-Averaged Scatter temporarily unavailable... [1 of 2 messages] [Read More](#)

## 1. User-Defined Climatology

July (2003 - 2014)  
Surface Temperature (Daytime/Ascending) monthly 1 deg. [AIRS AIRX3STM v006] K

40°00'N

310  
300  
290

Map Options

July (2003 - 2014)

Change Data Range

Minimum: 220  
Maximum: 310

Change Palette

Blue-Red (Div, 11)  
 Spectral, Inverted (Div, 10)

[View All Palettes](#)

Change Smoothing

On  Off

[Restore Defaults](#) [Re-Plot](#)

[Acknowledgment Policy](#) [Help](#) [Feedback](#) [Back to Data Selection](#)

Responsible NASA Official: [Steven J. Kempler@nasa.gov](mailto:Steven.J.Kempler@nasa.gov)  
Web Curator: [M. Hegde.gsfc-giovanni-disc@lists.nasa.gov](mailto:M.Hegde.gsfc-giovanni-disc@lists.nasa.gov)

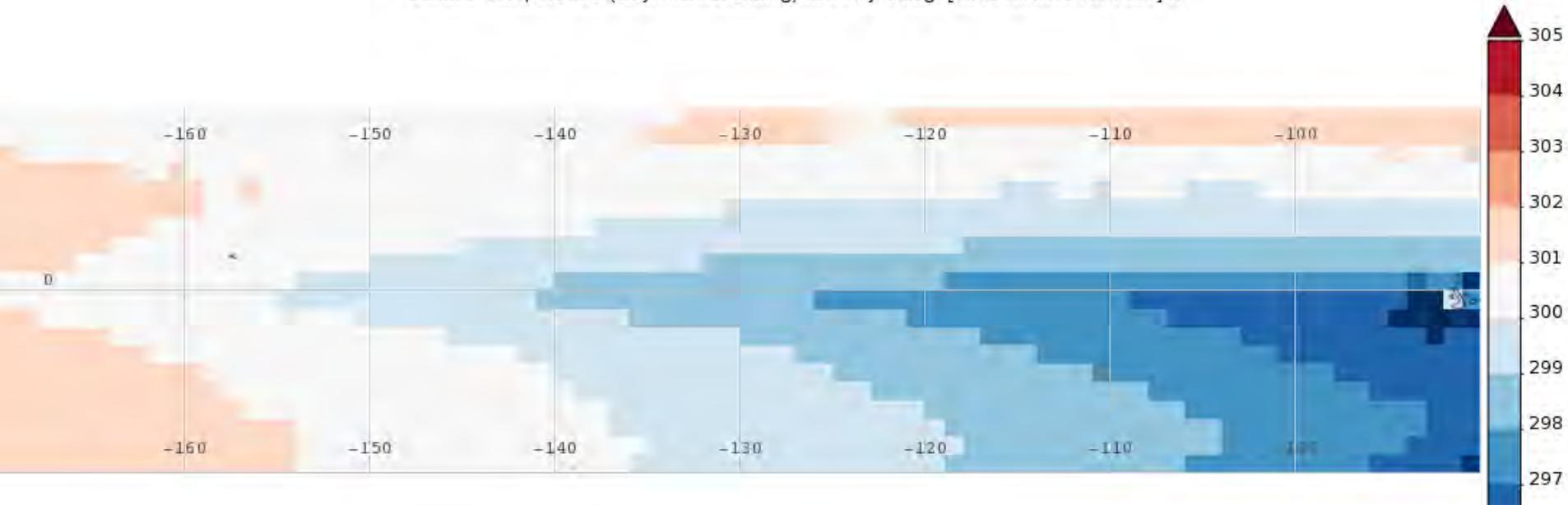
Powered By: NC OPeNDAP UI ECHO

Contact Us

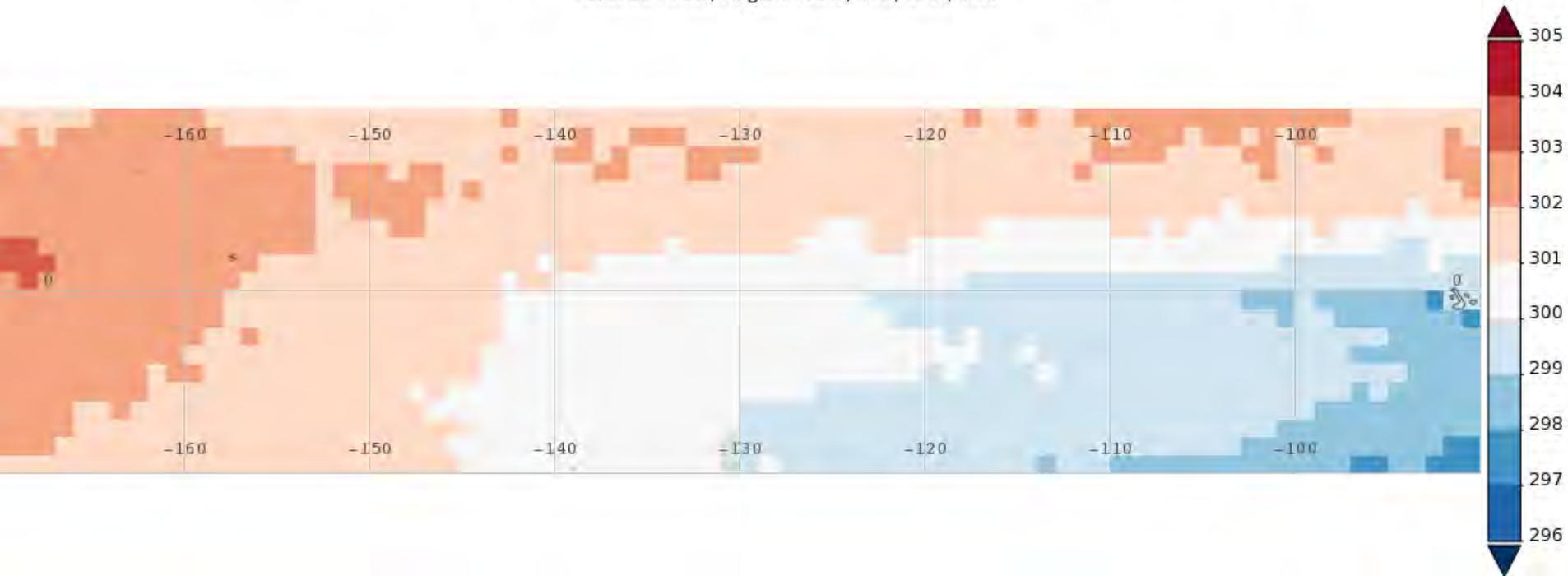
giovanni.gsfc.nasa.gov/giovanni/#

11:55 AM 10/6/2015

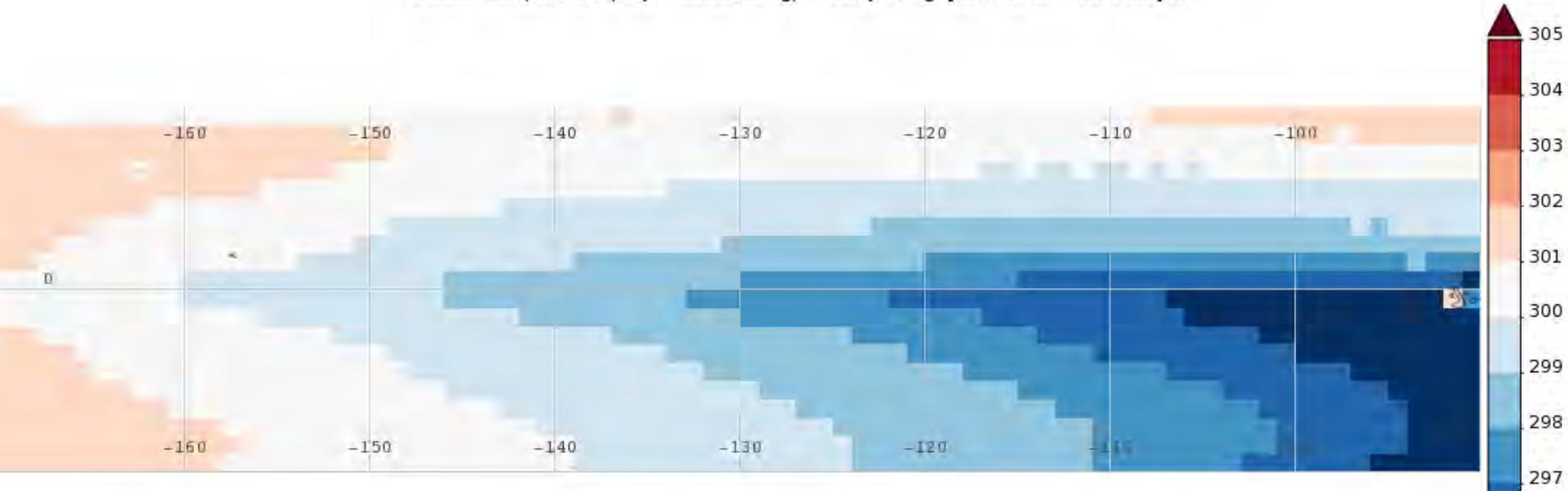
July (2003 - 2014)  
Surface Temperature (Daytime/Ascending) monthly 1 deg. [AIRS AIRX3STM v006] K



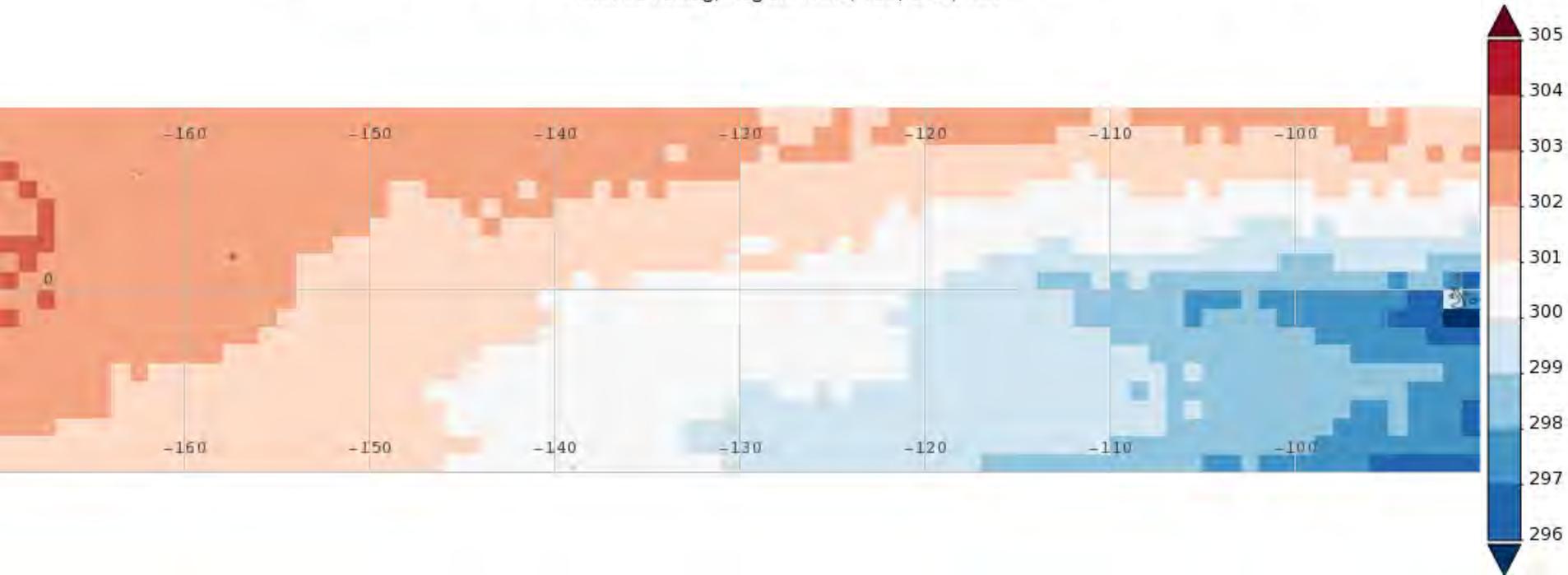
Time Averaged Map of Surface Temperature (Daytime/Ascending) monthly 1 deg. [AIRS AIRX3STM v006] K  
over 2015-Jul, Region 170W, 10S, 90W, 10N



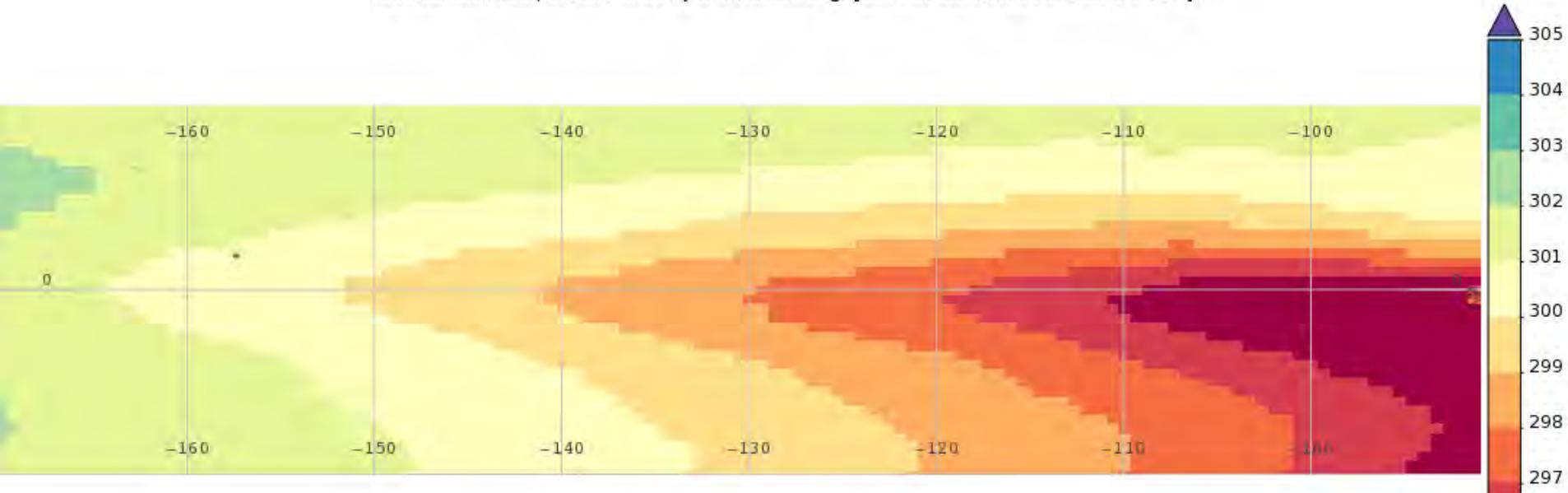
August (2003 - 2014)  
Surface Temperature (Daytime/Ascending) monthly 1 deg. [AIRS AIRX3STM v006] K



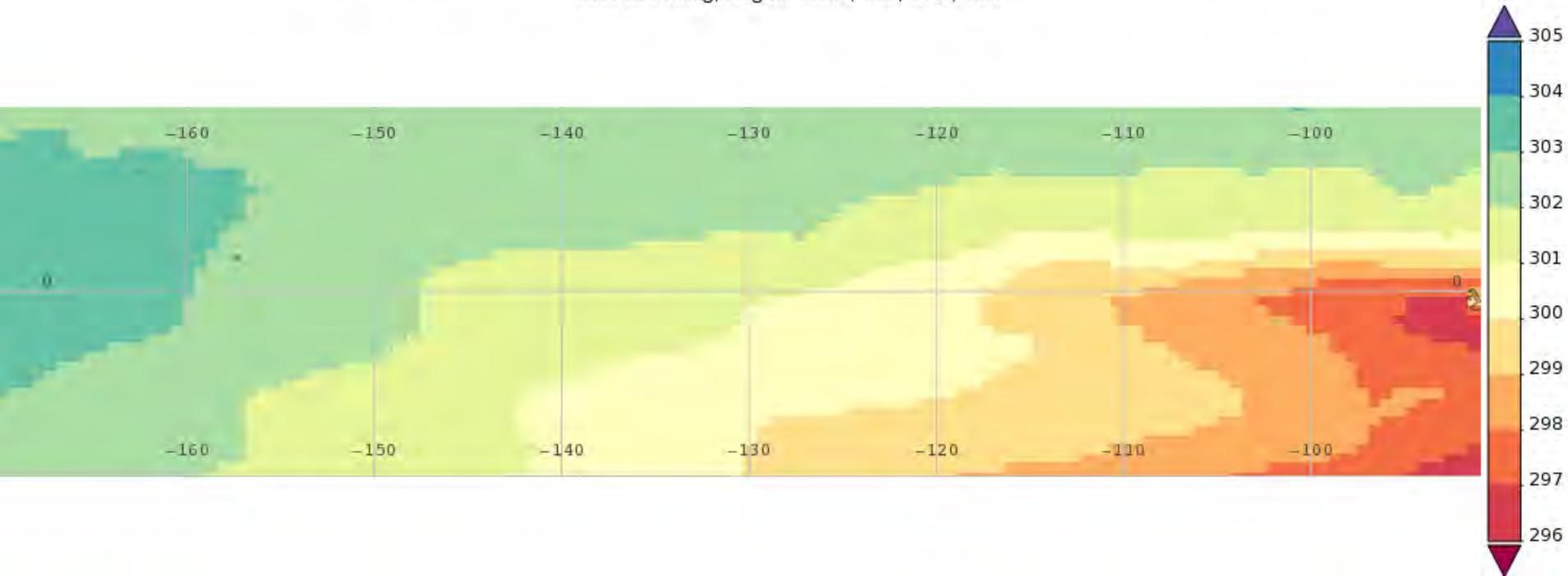
Time Averaged Map of Surface Temperature (Daytime/Ascending) monthly 1 deg. [AIRS AIRX3STM v006] K  
over 2015-Aug, Region 170W, 10S, 90W, 10N



August (1979 - 2014)  
Surface Skin Temperature monthly 0.5 x 0.667 deg. [MERRA Model MATMNXSLV v5.2.0] K



Time Averaged Map of Surface Skin Temperature monthly 0.5 x 0.667 deg. [MERRA Model MATMNXSLV v5.2.0] K  
over 2015-Aug, Region 170W, 10S, 91W, 10N



# Use Case: Shape file for CA drought

Giovanni - Data Selection

giovanni.gsfc.nasa.gov/giovanni/#service=ArAvTs&starttime=1980-01-01T00:00:00Z&endtime=2015-06-30T23:59:59Z&shape=tl\_2014\_us\_state/shp\_13&

**EARTHDATA** Data Discovery DAACs Community Science Disciplines

**GIOVANNI** The Bridge Between Data and Science v 4.16 [Release Notes](#) [Browser Compatibility](#) [Known Issues](#)

**Time-Averaged Scatter temporarily unavailable...** [1 of 2 messages] [Read More](#)

**Select Plot**

Maps: Select... Compensation: Select... **Time Series: Area-Averaged** Metadata: Select... Misc

**Select Date Range (UTC)** YYYY-MM HH:mm  
1980 - 01 - 01 00:00 to 2015 - 06 - 30 23:59  
Valid Range: 1979-01-01 to 2015-08-31

**Select Region (Bounding Box or Shapefile)** Format: West, South, East, North  
US States : California [Show Map](#) [Show Shapes](#)

**Select Variables**

- Mixed Layer Depth (1)
- NO2 (2)
- Nitrate (1)
- OLR (8)
- Ozone (15)
- Phytoplankton (4)
- Precipitation (61)
- Radiation, Net (9)
- Reflectivity (5)
- Runoff (8)
- SO2 (1)
- Sensible Heat Flux (2)
- Snow/Ice (6)
- Soil Moisture (50)
- Soil Temperature (18)
- Statistics (28)
- Surface Runoff (1)
- Surface Temperature (16)
- Total AOD Climatology Anomaly (6)
- Total Aerosol Optical Depth (59)

Number of matching Variables: 61 of 567

Keyword:  [Search](#) [Clear](#)

<input type="checkbox"/>	Variable Name	Source	Temp. Res.	Spa				
<input type="checkbox"/>	<a href="#">Precipitation Rate (TRMM_3B43 v7)</a>	TRMM	Monthly	0.25 °	1998-01-01	2011-06-30	mm/hr	-
<input type="checkbox"/>	<a href="#">Precipitation Rate (TRMM_3B43 v6)</a>	TRMM	Monthly	0.25 °	1998-01-01	2011-06-30	mm/hr	-
<input checked="" type="checkbox"/>	<a href="#">Precipitation Total (NLDAS_FORA0125_M v002)</a>	NLDAS Model	Monthly	0.125 °	1979-01-01	2015-08-31	mm/month	-
<input type="checkbox"/>	<a href="#">Precipitation Monthly Total (convective fraction) (NLDAS_FORA0125_M v002)</a>	NLDAS Model	Monthly	0.125 °	1979-01-01	2015-08-31	kg/m <sup>2</sup>	-
<input type="checkbox"/>	<a href="#">Rainfall (unfrozen precipitation) (NLDAS_NOAH0125_M v002)</a>	NLDAS Model	Monthly	0.125 °	1979-01-02	2015-08-31	kg/m <sup>2</sup>	-
<input type="checkbox"/>	<a href="#">Snowfall (frozen precipitation) (NLDAS_NOAH0125_M v002)</a>	NLDAS Model	Monthly	0.125 °	1979-01-02	2015-08-31	kg/m <sup>2</sup>	-
<input type="checkbox"/>	<a href="#">Snow depth (NLDAS_NOAH0125_M v002)</a>	NLDAS Model	Monthly	0.125 °	1979-01-02	2015-08-31	m	-
<input type="checkbox"/>	<a href="#">Snow melt (NLDAS_NOAH0125_M v002)</a>	NLDAS Model	Monthly	0.125 °	1979-01-02	2015-08-31	kg/m <sup>2</sup>	-
<input type="checkbox"/>	<a href="#">Snow cover (NLDAS_NOAH0125_M v002)</a>	NLDAS Model	Monthly	0.125 °	1979-01-02	2015-08-31	fraction	-

Source: [TIGER/Line, US Census Bureau](#)

[Done](#) [Clear Shape Selection](#)

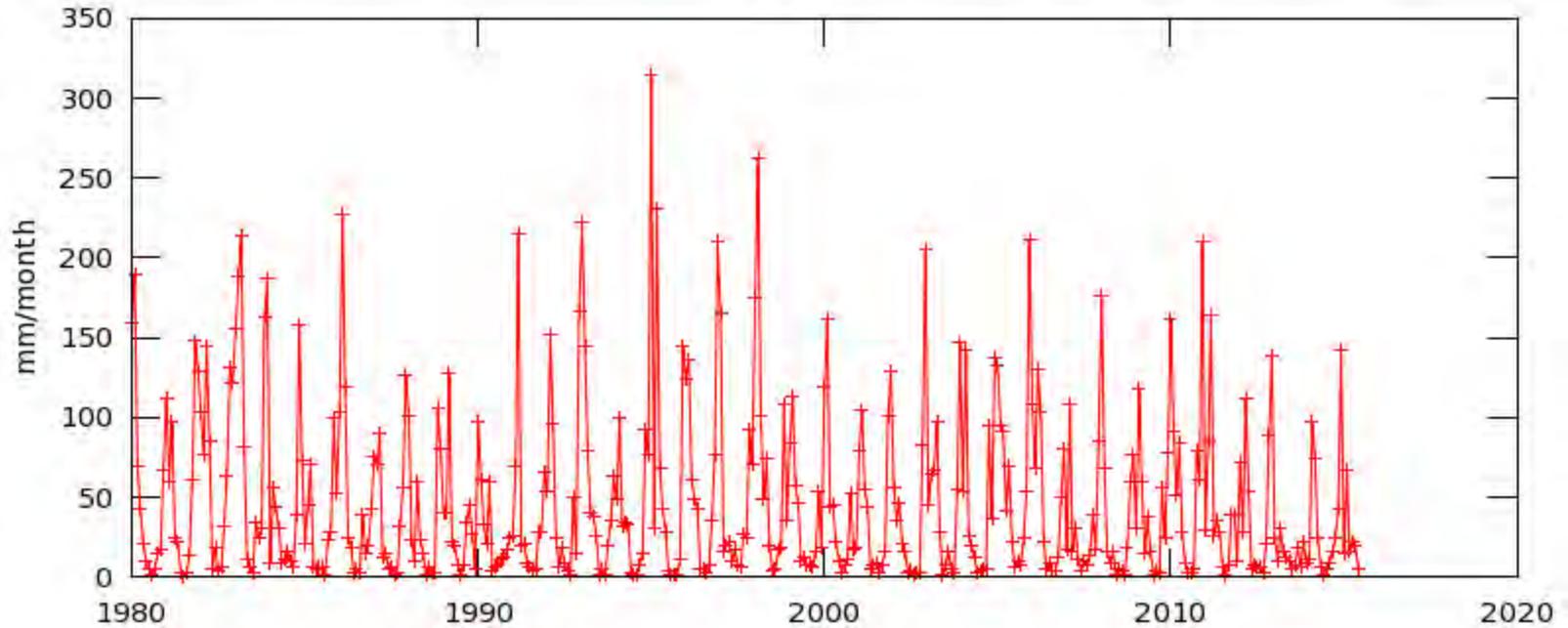
[Help](#) [Reset](#) [Feedback](#) [Plot Data](#) [Go to Results](#)

giovanni.gsfc.nasa.gov/giovanni/# NASA Official: [Steven.J.Kempler@nasa.gov](mailto:Steven.J.Kempler@nasa.gov) Powered By: [Contact Us](#)

2:36 PM 10/5/2015

# Use Case: Shape file for CA drought

Time Series, Area-Averaged of Precipitation Total monthly 0.125 deg. [NLDAS Model NLDAS\_FORA0125\_M v002] mm/month over 1980-Jan - 2015-Jun, Shape California



# SNPP Sounder Support at GES DISC

Currently archiving SNPP L0 PDS datasets from EDOS and selected ancillary products from NOAA

Anticipating receipt of converted heritage RDRs starting in early 2016

Completed testing of v00.02 ATMS L1A PGE

- Integrated PGE into production system
- Integrated products into archive system
- Provided feedback to JPL

Preparing to test v00.03 ATMS L1A and L1B PGEs

Goal is to provide same types of services for SNPP Sounder products as are currently offered for AIRS products.

# Version 5 Retirement

- AIRS L2 and L3 Version 5 products will be retired in the coming months.
- First phase (end of CY15) is to remove products from search portals (GCMD, ECHO, Mirador, GES DISC web portal), but maintain on-line access.
- Second phase (end of March 2016) is to remove on-line access, but still maintain in the archive.
- Third phase is to delete from archive (schedule TBD).