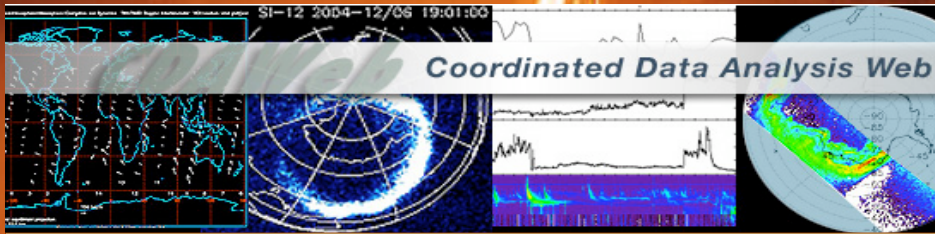
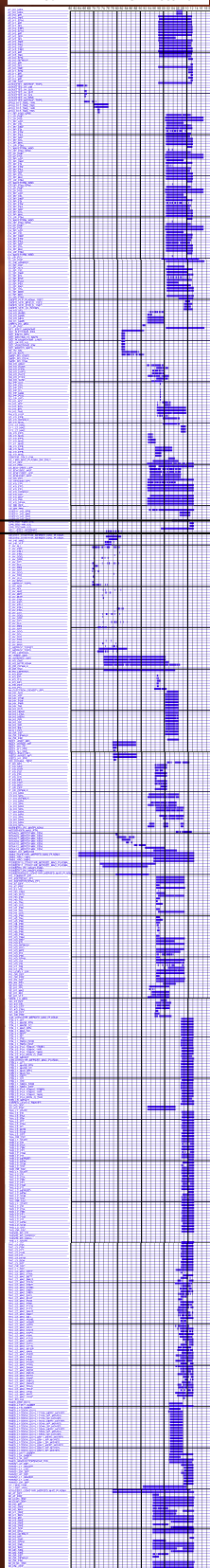


GPS TEC Data on CDAWeb

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CDAWeb DATA INVENTORY 1969-2011



Simultaneous data from most instruments on most current non-solar heliospheric NASA and related missions 1992-2005
 Plus various ground-based experiments and selected holdings from some older missions including DE-1, -2 and ISIS-1, -2
 Plus OMNI Combined, Definitive, 1AU, 1-minute, 15-minute and 1-hour IMF and Plasma data
 Most recent expansion by THEMIS, GPS, C/NOFS

Easy data browse and display, user-specified time and parameter subsets with graphics, listings, file download (ASCII and CDF)

CDAWebLib is the collection of IDL routines that powers CDAWeb displays

Services are also available by CDAS webservice API and data directories by direct FTP

CDAWeb

- + CDAWEB HOME
- + FEEDBACK
- + ABOUT CDAWEB

CDAWeb Mirror Site

- + RAL/UK

Guides and Tutorials

- + CDAWeb help
- + Internet browser help

CDAWeb Plus Java Interface

- + CDAWeb Plus

Additional Services

- + Alternative Data Access Methods
- + Web Service Access to CDAWeb
- + HTTP & Anonymous FTP access to public CDAWeb databases
- + Autoplot.org (non-NASA) interface to public CDAWeb databases
- + Data Format Translations

Additional Resources

- + Usage Statistics
- + GIFWALK Data and Orbit plots
- + Space Physics Use of CDF
- + Data Inventory Graph
- + SPDF Home Page

- ACE
- ARTEMIS
- Aboute
- Aquila
- C/NOFS
- CRRES
- Cluster
- DE
- DAMP (selected links only)
- Equator-S
- FAST
- GOES
- Goodat
- GPS
- Genesis
- Gendat
- HawkEye
- Helios
- IMAGE
- IMP (A1)
- ISEE
- ISIS
- ISS
- Interball
- LANL
- MESSENGER
- Mariner
- NOAA
- OMNI (Combined 1AU IP Data; Magnetic and Solar Indices)
- Pioneer
- Polar
- ROCSAT-1(FORMOSAT-1)/IPEI
- SAMPEX
- SNOE
- SOHO
- STEREO
- THEMIS
- TIMED
- TWINS
- Ulysses
- Voyager
- Wind
- Ground-Based Investigations

- Activity Indices
- Electric Fields (space)
- Engineering
- Ephemeris
- Gamma and X-Rays
- Imager (space)
- Imaging and Remote Sensing (ITM/Earth)
- Imaging and Remote Sensing (Magnetosphere/Earth)
- Imaging and Remote Sensing (Sun and Earth)
- Imaging and Remote Sensing (Sun)
- Magnetic Fields (space)
- Particles (space)
- Plasma and Solar Wind
- Radio and Plasma Waves (space)
- Ground-Based HF-Radars
- Ground-Based Magnetometers, Riometers, Sounders
- Ground-Based VLF/ELF/ULF, Photometers

CDAWeb Data Explorer

Select start and stop times from which to GET or PLOT data:

START TIME: (YYYY/MM/DD HH:MM:SS.ZZZ) 2012/06/20 00:00:00.000
 STOP TIME: (YYYY/MM/DD HH:MM:SS.ZZZ) 2012/06/21 00:00:00.000

Select an activity:

Plot Data - select one or more variables from list below and press submit.
 (Also create PS and PDF outputs (all plot types except images and panoramas).
 Many panels per dataset are allowed but <=4 panels optimal for standard Y-axis height and single page display.)

List Data (ASCII) - select one or more variables from list below and press submit. (links back to full data)
 Download original CDFs - press submit button to retrieve list of files. (Max. 200 files - see [FAQ](#) for larger requests)
 Create V3.4 CDFs for download or V3/IBAO Analytic demonstration: select one or more variables from list below and press submit.
 Create Version 2.2 compatible CDFs (links to Version 3.4)

Get CDFs - Get CDFs (posting/holding needed software). To be used with either the daily or "current" CDF files available above.

Plotting Options:

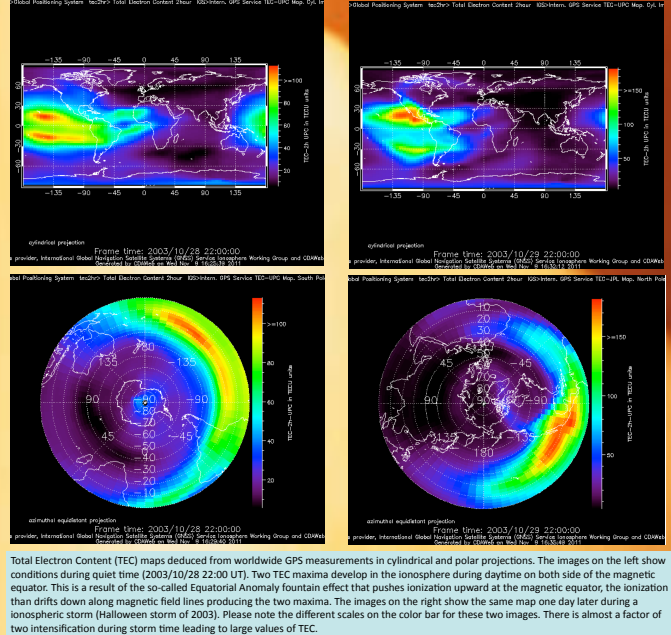
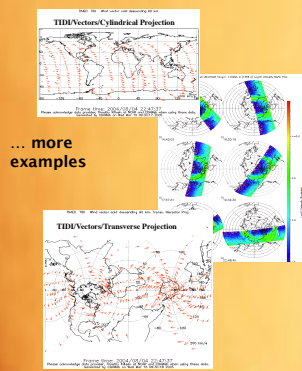
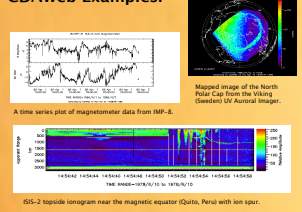
Use mouse wheel scrolling to zoom values inside 3 derivatives from mean of all values in the plotted time interval.
 Hide the Y-axis height for time-series and spectrogram plots.
 Consider all time-series and spectrogram plots for all requested datasets, into one plot file.

GPS parameters on CDAWeb:
 2-hour Total Electron Content (TEC) world maps from CODE = University Bern, Switzerland
 ESA = European Satellite Operations Centre, Darmstadt, Germany
 JPL = Jet Propulsion Laboratory, Pasadena, California, USA
 UPC = Catalanian Polytechnical University, Barcelona, Spain
 IGS = Average of the four methods

In each case:
 Final TEC, 12 day latency in Cylindrical projection
 Rapid-TEC, 12 hour latency in Cylindrical projection
 Move of Final TEC in Cylindrical projection
 Move of Rapid TEC in Cylindrical projection
 RMS of Final TEC in Cylindrical projection
 RMS of Rapid TEC in Cylindrical projection
 Same in North Pole projection
 Same in South Pole projection
 Number of Stations
 Number of Satellites

1-hour Total Electron Content (TEC) world maps from UPC and ESA only Rapid products
 15-min Total Electron Content (TEC) world maps from UPC; only Rapid products

CDAWeb Examples:



Total Electron Content (TEC) maps deduced from worldwide GPS measurements in cylindrical and polar projections. The images on the left show conditions during quiet time (2003/10/28 22:00 UT). Two TEC maxima develop in the ionosphere during daytime on both side of the magnetic equator. This is a result of the so-called Equatorial Anomaly fountain effect that pushes ionization upward at the magnetic equator, the ionization then drifts down along magnetic field lines producing the two maxima. The images on the right show the same map one day later during an ionospheric storm (Halloween storm of 2003). Please note the different scales on the color bar for these two images. There is almost a factor of two intensification during storm time leading to large values of TEC.