DAGIK: A data-showcase system of geoscience in KML

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Dagik
DAta-showcase system for Geoscience In Kml

Problems of WWW-based database system

- Difficult to find and make plots if the users are not familiar with the data.

- Difficult to combine and compare various types of data with different sampling in time and space.

Concepts of Data-showcase system

Showcase of scientific data of WWW-based databases. A system to use before access to databases.

It displays data of databases on Geo-browsers to show the outline, location and timing of the data. The users who are interested in the data are expected to follow the links to the databases, and download/browse the data to study in detail.

How does it work?

1. Make plot files of the data of the database for the geo-browser, which are KML/KMZ files for Google Earth.
2. Put them on WWW server of the database.
3. Register the files in the data list file at the data-showcase center.
4. Plots are browsed on the geo-browser.

Procedure of the data display by Dagik [Saito and Yoshida, 2009]

How to use?

1. Download "dagik.kml" from
   http://dagik.org/
2. Open it with Google Earth.
3. Select date from "Dagik date list", and select data type.

Rules of plot

1. Same time scale. In Dagik, one plot file is for one day in UT.
2. Same plot width for "screen-overlay" plots to overlap them.
3. Contain links to the database or website.

Examples of data in Dagik

Data Sets in Dagik
(Total)
public   : 33 entries
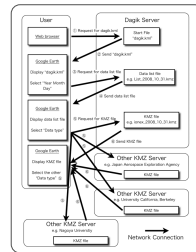beta test: 66 entries
[Nov. 2009]

List of Data Categories
1. Solar Activity
2. Geomagnetic Index
3. Geomagnetic Field
4. GPS TEC
5. Radio Observation
6. Optical Measurements
7. Satellite Data
8. Satellite Orbit
9. Numerical Models
10. Other Geophysical Data

List of Databases
- All-sky camera: STEL, Nagoya University
  http://stdb2.stelab.nagoya-u.ac.jp/omti/
- DMSP SSIES: UT Dallas
  http://cindispace.utdallas.edu/DMSP/
- EISCAT: NIPR
  http://polaris.nipr.ac.jp/~eiscat/eiscatdata/
- GEONET-TEC: Kyoto University
  http://stegps.kugi.kyoto-u.ac.jp/
- GEOTAIL footprint: ISAS/JAXA
  http://darts.isas.jaxa.jp/index.html.en
- Hokkaido SuperDARN radar: UEC & Nagoya University,
  http://skdb1.stelab.nagoya-u.ac.jp/hokkaido/
- IMAGE-FUV: SSL, UC Berkeley
  http://sprg.ssl.berkeley.edu/image/
- Ionosonde data: NICT,
  http://wdc.nict.go.jp/IONO/index_E.html
- MIT-TEC:MIT/Haystack observatory
  http://madrigal.haystack.mit.edu/madrigal/
- Magnetometer data and indices: WDC Kyoto for Geomagnetism
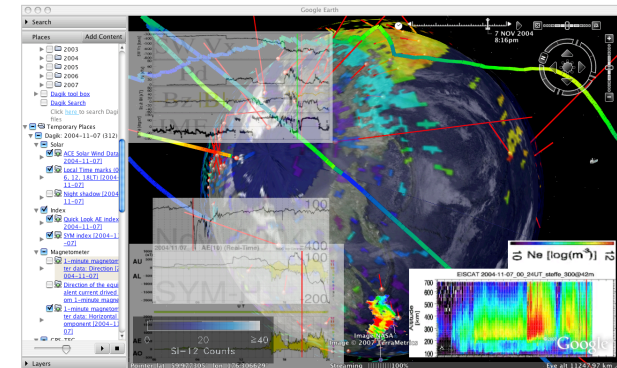 http://swdcwww.kugi.kyoto-u.ac.jp/

How to add your data in Dagik?

1. Make KML/KMZ files following the plot rules. Dagik data center helps to make KML/KMZ files.
2. Put them on WWW. Dagik data center also hosts them.
3. Register to Dagik data list.
   - Contact: info@dagik.org

Support to make KML/KMZ files

1. A short lecture on KML
   http://dagik.org/kml_intro/
2. "kml.pro": IDL procedure to make KML/KMZ files.

"Dagik: Introduction to KML"

Dagik on the Web

New user interfaces of Dagik with Google Earth API and Javascript.
http://dagik.org/dow/
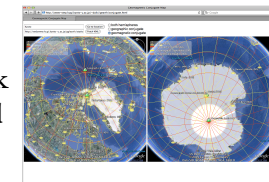
Dagik on the Web:
"Geomagnetic Conjugate Map"

Reference

A. Saito and D. Yoshida, "Dagik: A Data-Showcase System for the Geospace", Data Science Journal, 8, S92-S95, doi:10.2481/dsj.8.S92, 2009.

Presentation on "Dagik Earth"

Tomorrow, ED51A-0522 POSTER

Saito et al., "Dagik Earth: an affordable three-dimensional presentation of global geoscience data in classrooms and science museums"

Exhibition of Dagik Earth