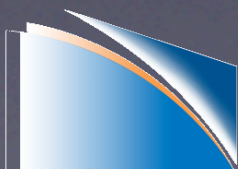


NCAR DCPC Update for WMO ET-WISC

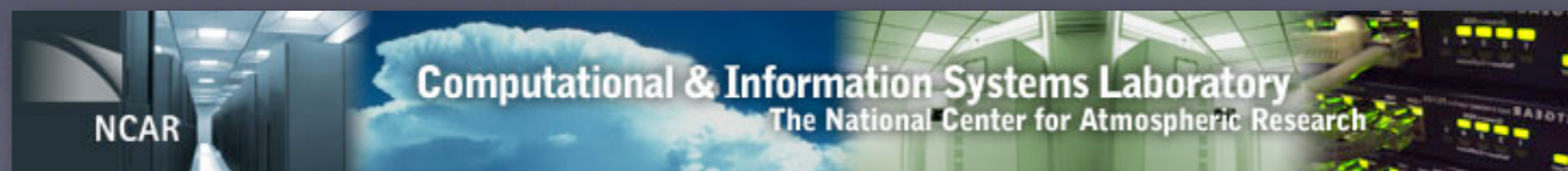
June 10-12, 2007; Darmstadt, Germany

Don Middleton & Al Kellie

National Center for Atmospheric Research
Computational and Information Systems Lab



NCAR





The Community Data Portal (CDP) is a collection of earth science datasets from NCAR, UCAR, UOP, and participating organizations.

Statistics:
8000+ collections
1,095,974 files
7.8TB total size
2.23TB Downloaded
1068 Registrations

The Community Data Portal is led by NCAR's Computational Science and Information Systems Laboratory (CISL). Support is provided through NCAR's Cyberinfrastructure Strategic Initiative (CSI) and is a collaboration among NCAR, UCAR, UOP, and the National Science Foundation. The technology base for this effort is also a collaborative effort, combining contributions from Unidata, NOAA/PMEL, DLESE, OPeNDAP, OAI, and NASA. [Privacy Policy](#) | [Terms of Use](#)

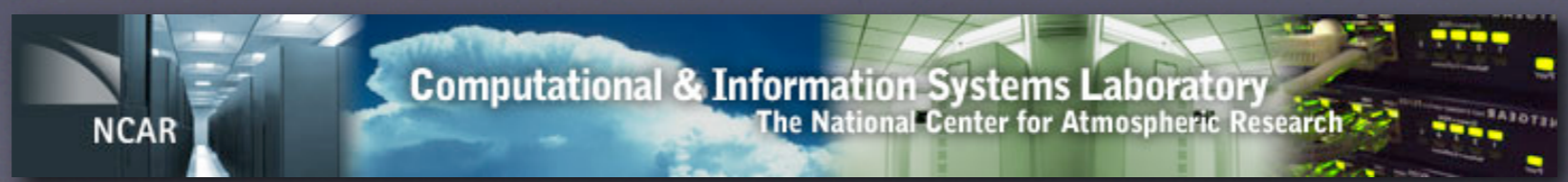
Search: Search Advanced Search

- Browse Themes Browse by Organization
- ACD : Atmospheric Chemistry Models, Data Sets and Visualization Tools
 - MILAGRO : Milagro field campaign
Requires CDP login and Milagro membership ([Click here to request access](#))
 - WACCM Model : Whole Atmosphere Community Climate Model
 - CGD : Climate and Global Dynamics Division
 - CME : Carbon in the Mountains Experiment
 - COLA : Center for Ocean-Land-Atmosphere studies
 - CU/CIRES/ENLIL : Heliospheric Model
 - ECMWF : ERA40 Datasets
Requires ECMWF membership
 - EOL : Earth Observing Laboratory - Access To EOL Public Data Holdings
 - ESMF : Earth System Modeling Framework Software
 - GB/NCAS/BADC : British Atmospheric Data Centre, OAI Harvested Datasets
 - GIS : Climate Change Scenario Project
 - HAO/CISM : Center for Integrated Space Weather Modeling
 - IHOPE : Integrated History of People on Earth
This Dataset is currently locked
 - IPCC AR4 : Chapter 3 of the IPCC Fourth Assessment Report
 - SCD/DSS : Data Support Section top level catalog
 - SCD/VETS : Visualization Gallery
 - TIGGE : NCAR THORPEX Interactive Grand Global Ensemble (TIGGE) Data Archive Portal
 - Unidata : Realtime data from IDD
 - VEMAP : Vegetation/Ecosystem Modeling and Analysis Project
 - WRF Model : The Weather Research and Forecasting Model
Requires CDP login and WRF membership

Display a menu



NCAR



NCAR **Community Data Portal** UCAR

Home | CISEL | **CDP Home** | Applications | Support | My Account | Metrics | Logout



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Search: Search [Advanced Search](#)

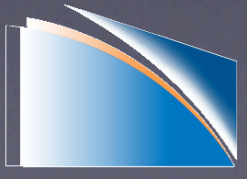
Browse Themes | Browse by Organization

<p>Climate Climate Change, Models, Data</p>	<p>Weather Weather Data, Events, Models</p>
<p>Models Climate, Atmospheric Chemistry, Weather Prediction Models</p>	<p>Sun-Earth and Space Weather Data about the Ionosphere, Solar Data</p>
<p>Polar Data from the Arctic and Antarctica</p>	<p>Field Campaigns and Observations Campaigns to Collect Measurements of Atmospheric Parameters</p>
<p>Human Dimensions, Environmental Impacts Interactions of Climate, and Weather and Human Activity</p>	<p>IPCC International Panel on Climate Change, Data, Reports</p>
<p>Software and Tools Model software, Visualization software</p>	<p>Visualizations 2D and 3D Visualizations of Scientific Data and Models</p>

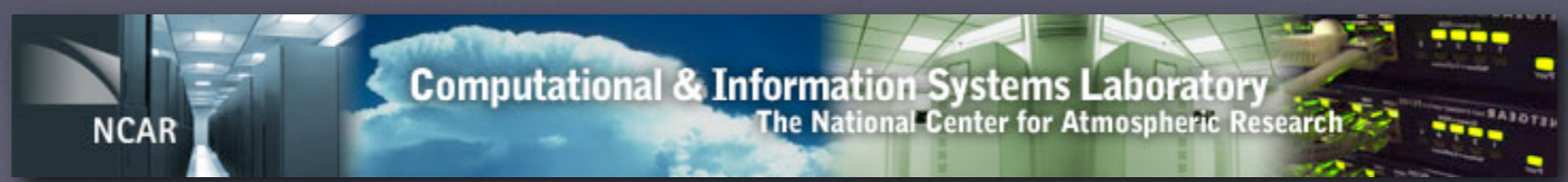
User: don | [CDP Home](#) | [Help Page](#) | [Contact Us](#) | [My Data Cart](#) | [My Data Requests](#)

Portal Software version 4.1.3 © UCAR, all rights reserved.

NCAR Community Data Portal, sponsored by National Science Foundation

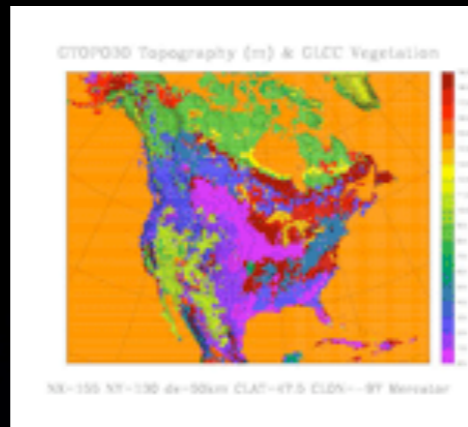


NCAR

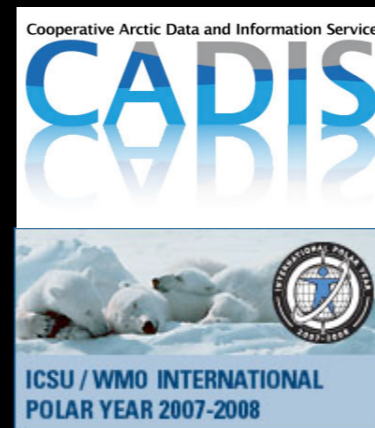




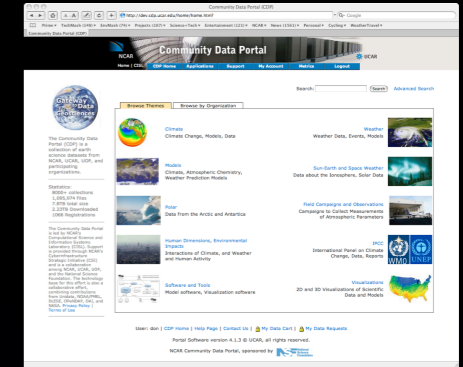
The Earth System Grid
(Climate/IPCC,
DOE+NSF)



NARCCAP
(Regional Climate:
NSF, DOE, NOAA)



Cooperative Arctic Data
and Information Service
(Polar, NSF)



NCAR's Community
Data Portal



Earth System Curator
(Models+Data, NSF)



TIGGE
(Ensemble weather)



NSF
TeraGrid



WMO-WIS
(Global Federation)

Science Gateway Framework (in development)

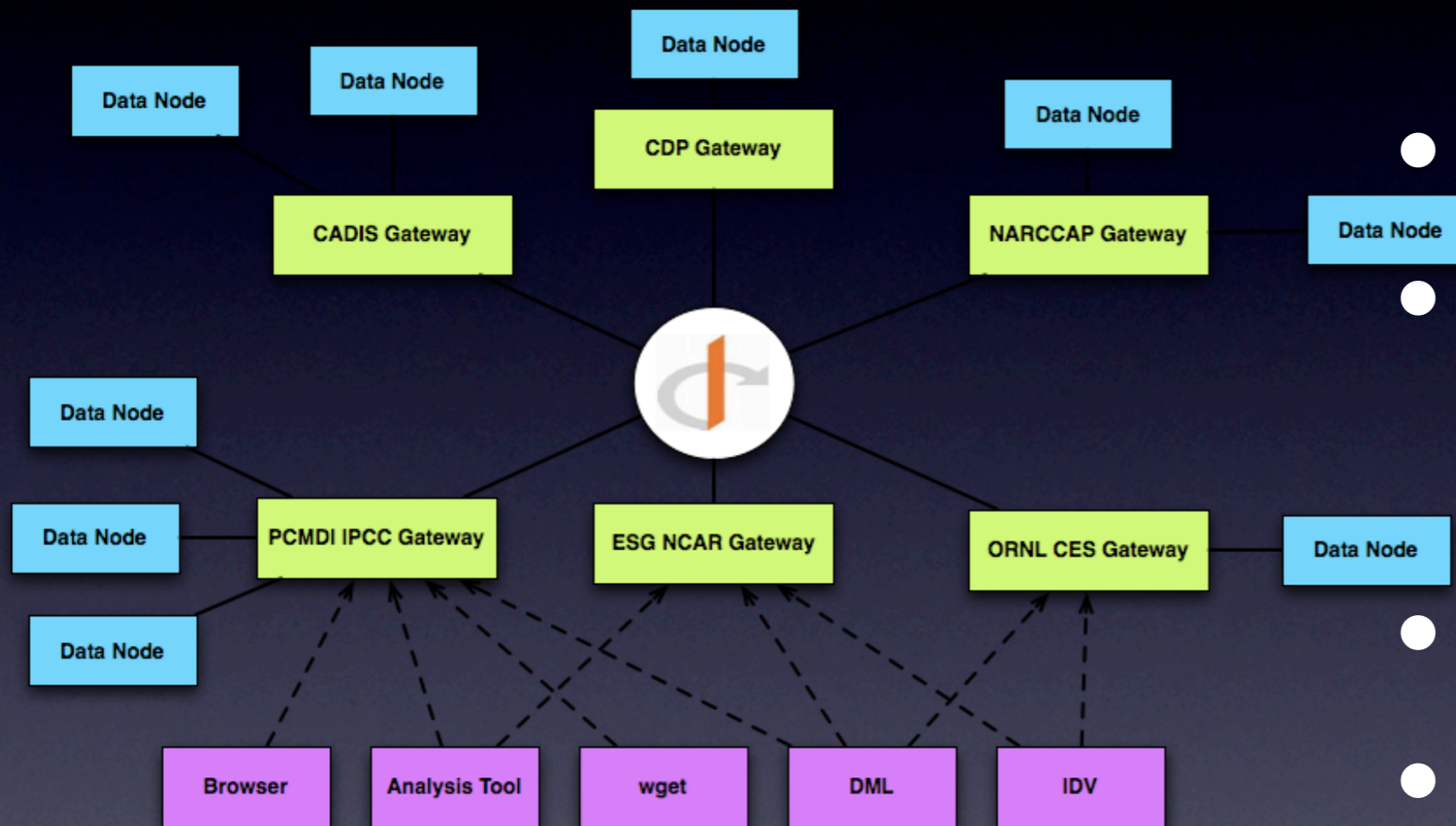


NCAR

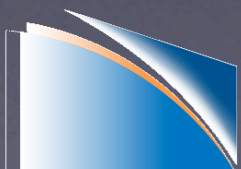


Science Gateway Framework

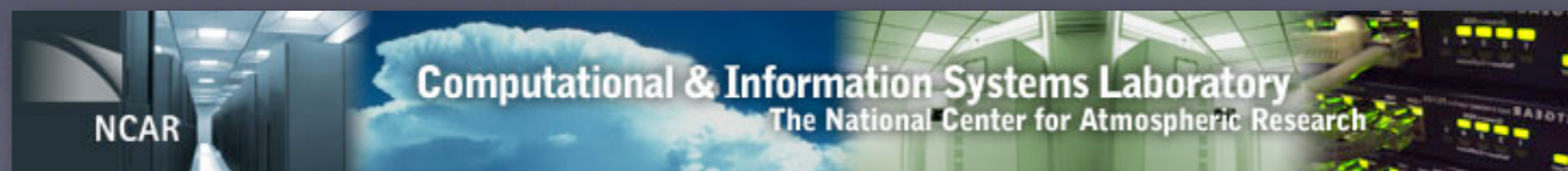
Part of NCAR's Earth System Knowledge Environment (ESKE)



- Distributed, federated
- Support for discipline/ theme oriented gateways (skinning)
- Semantic-based search
- Browser and native application access



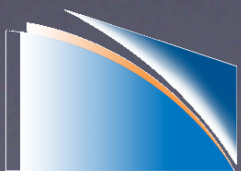
NCAR



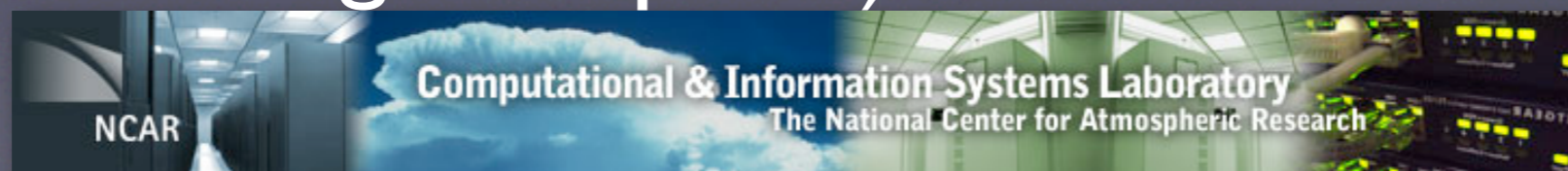


OpenID

- User-centric digital identity
 - e.g. <http://openid.aol.com/donmiddleton@mac.com>
- Open, decentralized, free
- Estimated: 160M OpenID's, 10K sites accepting
- IBM, Microsoft, Google, & Verisign first corporate board members (BBC, Orange, SourceForge adoption)



NCAR



Semantic Search

ESG Advanced Search

http://esg-cet.ucar.edu/query/queryESG-3.htm

Work | Gazzetta | CNN | VETS BC | MyBC | VETS Wiki | WebPortals | UCAR | Javadocs | Software | Metadata | My | Music

Earth System Grid

Home | Data | About ESG | Login

Collection Browsing | Simple Search | Power Search (1) | Power Search (2) | Data Visualization

Advanced Search

Instructions: Use the categories below to create a search hierarchy. Search results will be filtered from left to right by each option selected within each category. Rearrange the categories to change the search hierarchy.

Search Categories

Model | Experiment | CF Standard Name | Time Frequency | Data Format | Domain | Grid

Selected Option:

- Model**
 - Model
 - Model > CCSM 3
 - Model > PCM 1
- Experiment**
 - IPCC AR4
 - IPCC AR4 > IPCC AR4 PDcntrl
- CF Standard Name**
 - air pressure at sea level
 - air temperature
 - atmosphere cloud condensed water
 - atmosphere cloud ice content
 - atmosphere water vapor content
 - cloud area fraction
 - cloud area fraction in atmosphere
 - convective cloud area fraction in a
 - convective precipitation flux

Free Text

Reset All Categories | Reset All Options | Submit Query

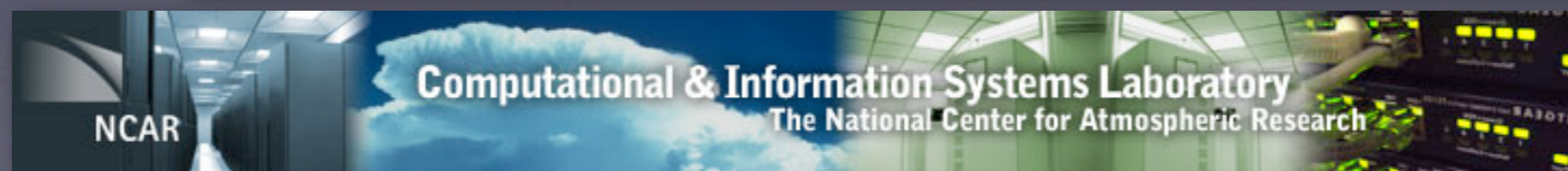
Total Number of Results: 1
1-1 of 1 results

- [CCSM run b30.009: atmospheric post-processed data, monthly averages](#)
Description: CCSM 3.0 1990 control run, resolution: T85_gx1v3
Authorization: Guest Users
Access: [Data Visualization \(LAS\)](#)

User: guest | [ESG Home](#) | [Contact Us](#)
Gateway Portal Software version 0.2 © UCAR, all rights reserved.



NCAR



Cooperative Arctic Data and Information Service

CADIS

Arctic Observing Network



AON-CADIS: Arctic Observing Network Cooperative Arctic Data and Information Service

http://www.eol.ucar.edu/projects/aon-cadis/

Prime TechMash (488) EnvMash (42) Projects (141) Science+Tech Entertainment (417) NCAR News (4761) Personal Cycling WeatherTravel

AON-CADIS: Arctic Observi...

Cooperative Arctic Data and Information Service
of the ARCTIC OBSERVING NETWORK

Welcome to CADIS

CADIS - The Cooperative Arctic Data and Information Service - supports the Arctic Observing Network (AON). It will be a portal for data discovery, and provide near-real-time data delivery, a repository for data storage, and tools to manipulate data.

AON is an NSF initiative for the [International Polar Year \(IPY\)](#) to improve observational capabilities in the Arctic and leave a long-term legacy for the benefit of science and society. AON data will contribute to scientific research leading to (1) increased knowledge and understanding of the regional and global causes and consequences of present-day environmental Arctic Change, (2) scenarios for and prediction of the course of future Arctic Change and its regional and global consequences, and (3) the development of adaptive responses to Arctic Change.

AON is integral to the [Study of Environmental Arctic Change \(SEARCH\)](#). AON currently consists of [28 projects](#) funded by the NSF Office of Polar Programs. The AON projects fall into the following [SEARCH Implementation Plan](#) categories: Atmosphere; Ocean and Sea Ice; Hydrology/Cryosphere; Terrestrial Ecosystems; and Human Dimensions. CADIS will support all these projects, as well as the [IASOA \(International Arctic Systems for Observing the Atmosphere\)](#) program.

[NSF AON Fact Sheet](#)

More information about CADIS is available in the recent presentation given at the [AON PI Meeting](#) and via the links to the left.

NCAR Earth Observing Laboratory
Last Update: 27 April 2007

NCAR/Earth Observing Laboratory (NCAR/EOL)
National Snow and Ice Data Center (NSIDC)



NCAR

NCAR

Computational & Information Systems Laboratory

The National Center for Atmospheric Research



International Polar Year

2007 - 2008

ICSU / WMO INTERNATIONAL POLAR YEAR 2007-2008

2007 - 2008

ICSU / WMO INTERNATIONAL POLAR YEAR 2007-2008

Cooperative Arctic Data and Information Service

CADIS

Arctic Observing Network



NCAR

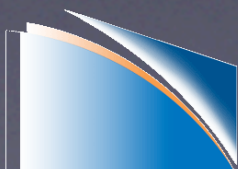
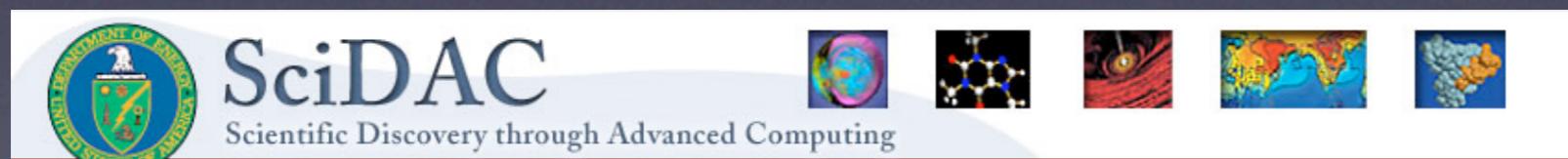
Computational & Information Systems Laboratory
The National Center for Atmospheric Research



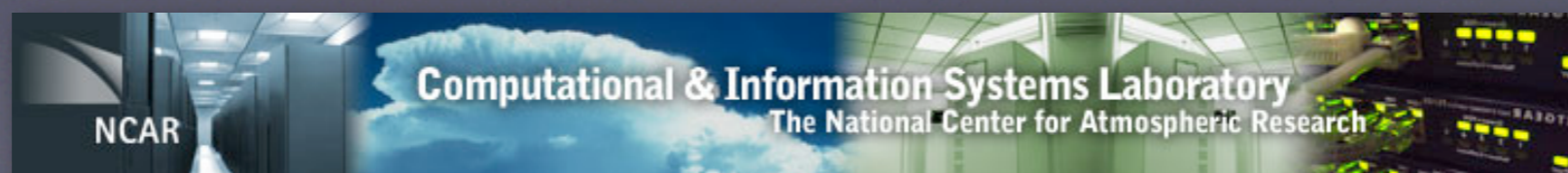
The Earth System Grid (ESG)



Distributed
Climate Simulation
and IPCC Data,
Models, and Tools

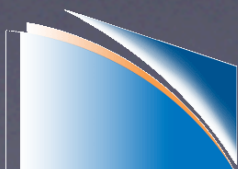


NCAR



Earth System Grid Update

- Earth System Grid Center for Enabling Technologies (ESG-CET) funded for 5 years (DOE, NSF, NOAA, USC/ISI)
- Planning and design underway for CMIP-4 and IPCC Assessment Report AR-5
- U.S. (ESG: DOE, NSF, NOAA), U.K. (BADC), EU (MPI/DKRZ), and other partners engaged in discussions of federation strategies, security, design considerations, and IPCC Working Groups 1-3 cross-requirements



NCAR



A Few Metrics

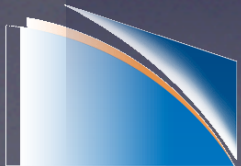
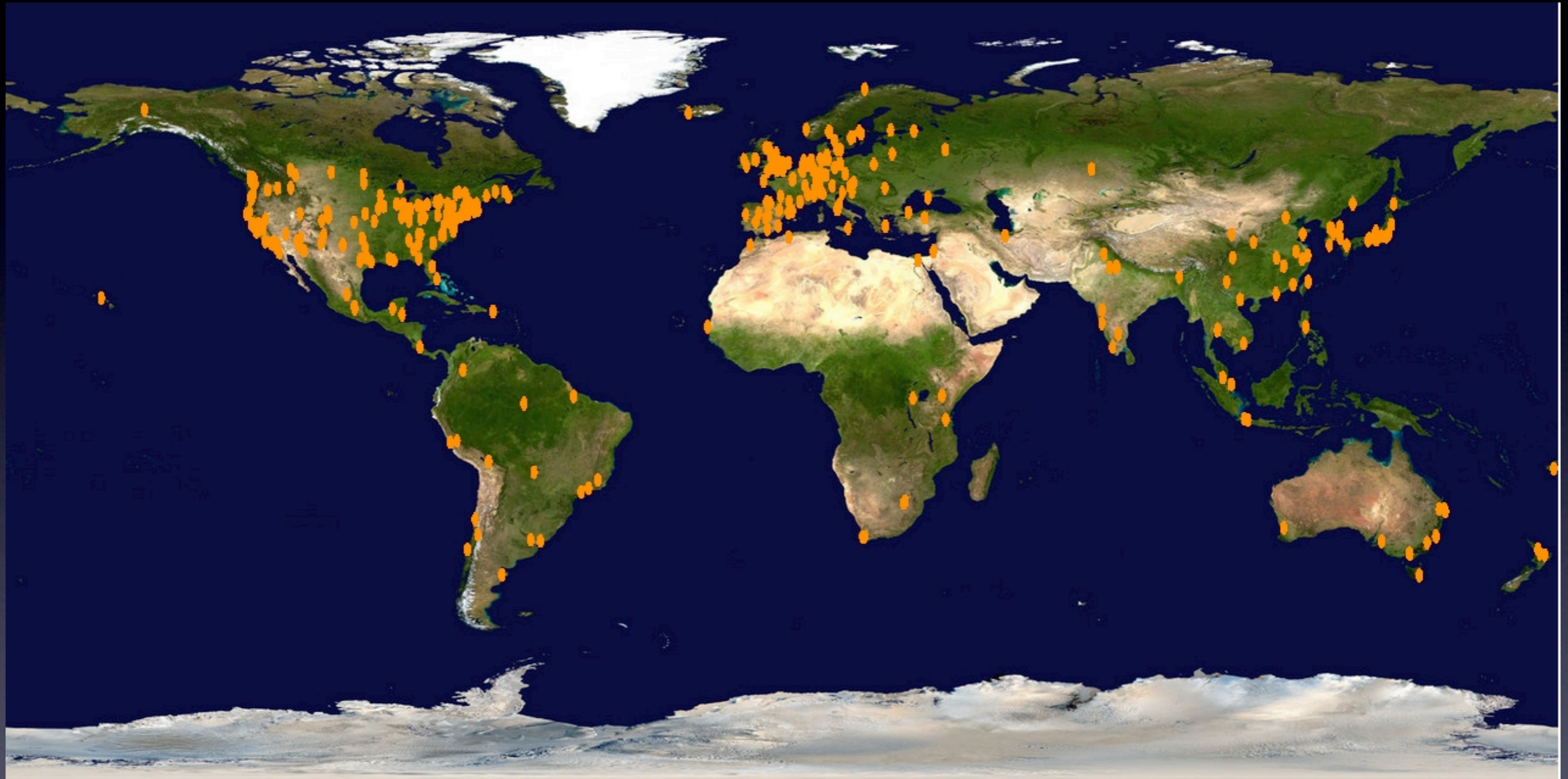
- Across all ESG portals, approximately 10,000 registered users
- Over 230TB of climate simulation data available, from models and centers around the world
- Approximately 400TB of data downloaded
- More than just data: model source code, initialization datasets, analysis and visualization tools
- Over 360 scientific papers authored via analyses of ESG data hosted at DOE/PCMDI



NCAR



Earth System Grid Users



NCAR



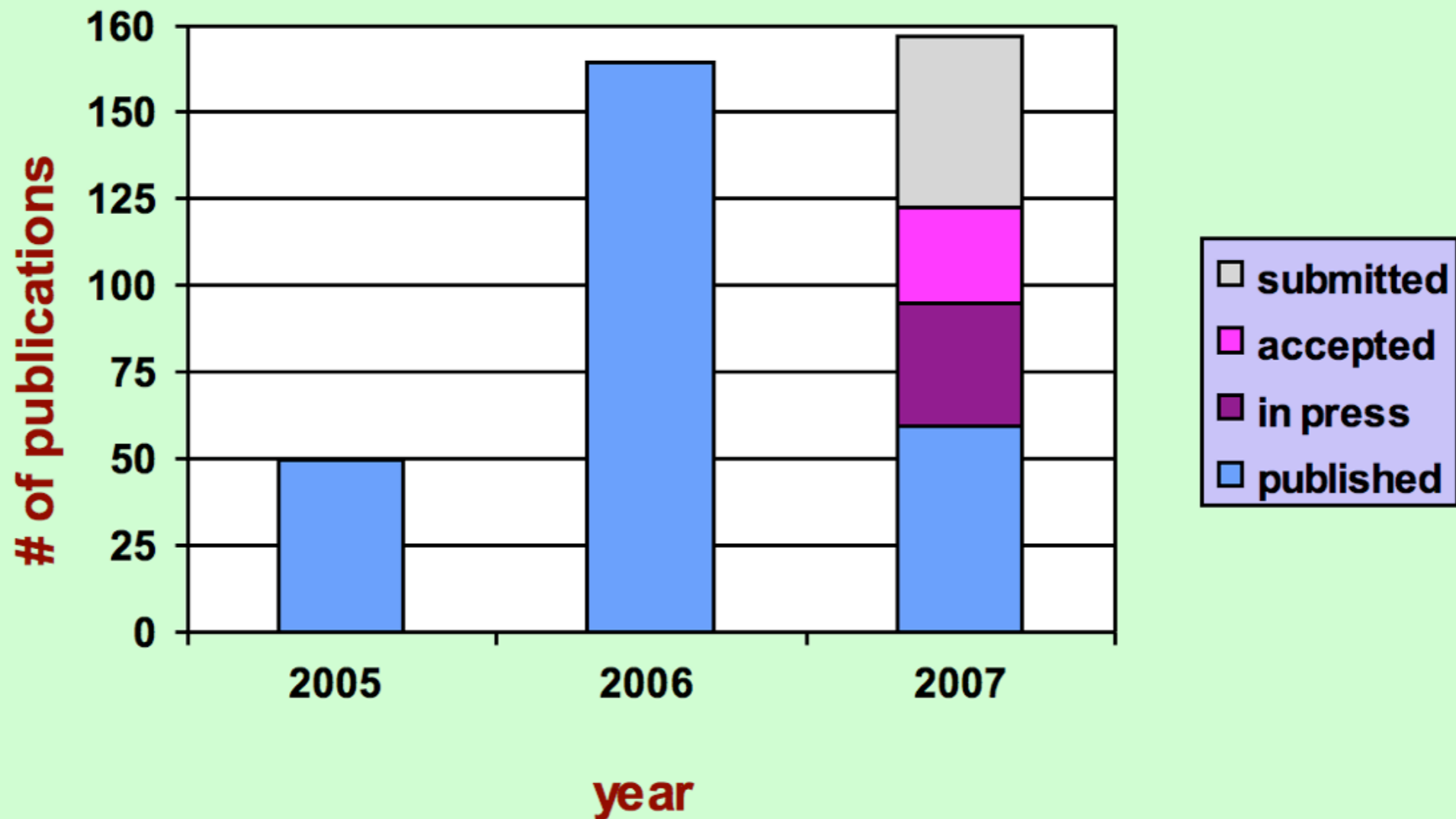
NCAR

Computational & Information Systems Laboratory

The National Center for Atmospheric Research



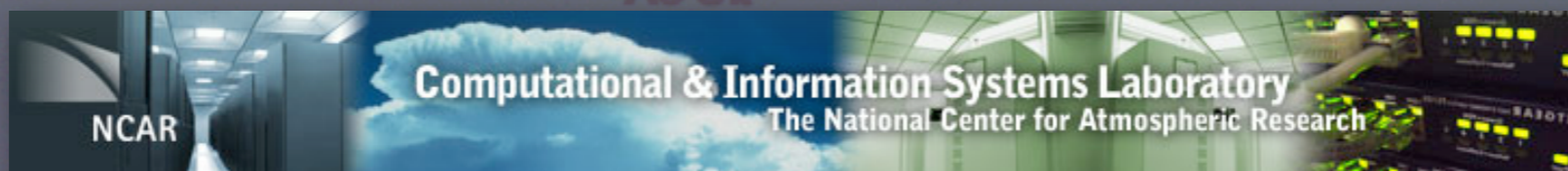
Publications Using ESG Data



netCDF and CF were key enablers!



NCAR



Peace 2007

http://nobelprize.org/nobel_prizes/peace/laureates/2007/

Google Apple MacRum BBC Weather BC Amazon eBay Projects (161) News (17) Feeds (1769) NCAR Personal WeatherTravel

Peace 2007

Nobel Foundation | Nobel Media | Nobel Museum | Nobel Peace Center | Nobel Web | HOME | CONTACT US | SEARCH

Nobelprize.org

NOBEL PRIZES | ALFRED NOBEL | PRIZE AWARDERS | NOMINATION | PRIZE ANNOUNCEMENTS | AWARD CEREMONIES | EDUCATIONAL GAMES

By Year | Nobel Prize in Physics | Nobel Prize in Chemistry | Nobel Prize in Medicine | Nobel Prize in Literature | **Nobel Peace Prize** | Prize in Economics

Peace

The Nobel Peace Prize 2007

"for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change"



Intergovernmental Panel on Climate Change (IPCC)

1/2 of the prize

Geneva, Switzerland

Founded in 1988



Photo: Scanpix/Tom Hevezi

Albert Arnold (Al) Gore Jr.

1/2 of the prize

USA

Printer Friendly

Comments & Questions

Tell a Friend

The 2007 Prize in:

Peace

Prev. year

Articles - The work for peace

All Nobel Peace Prize Laureates

Listen to Peace Prize Laureates

Who are the awarded women?

Quiz this year's Nobel Laureates

NEW! 2007 Nobel Prizes news feed

The Nobel Peace Prize 2007

Prize Announcement

Press Release

Intergovernmental Panel on Climate Change (IPCC)

Interview

Other Resources

Albert Arnold (Al) Gore Jr.

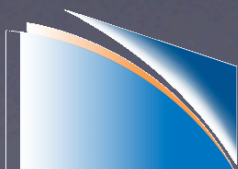
See Also

Speed Read: Nobelprize.org's two minute summary of this year's award.

CHEMISTRY

Gerhard Ertl

Display a menu



NCAR

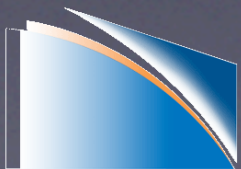
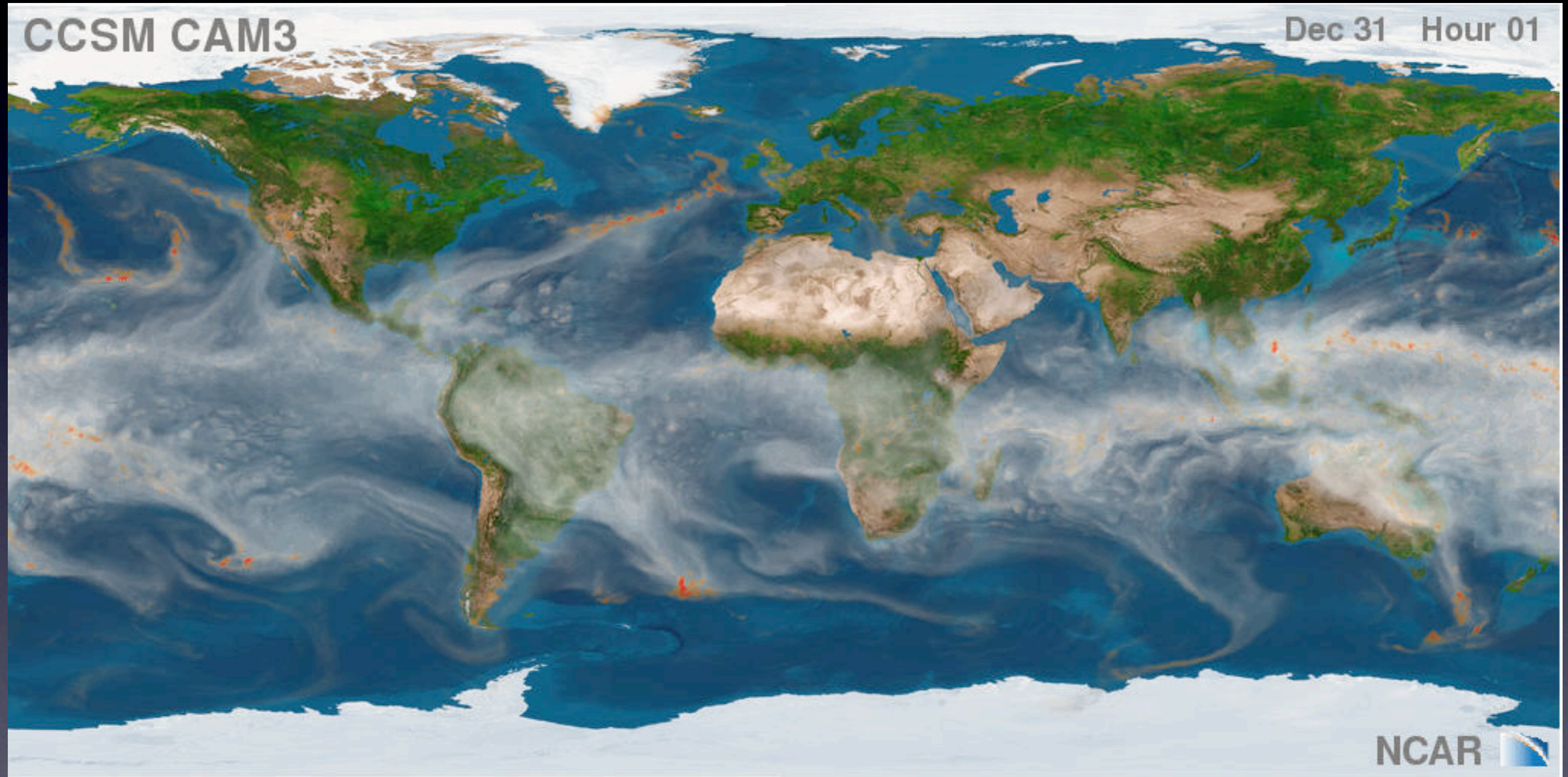
NCAR

Computational & Information Systems Laboratory

The National Center for Atmospheric Research



Community Climate System Model at T34 I resolution(37km)



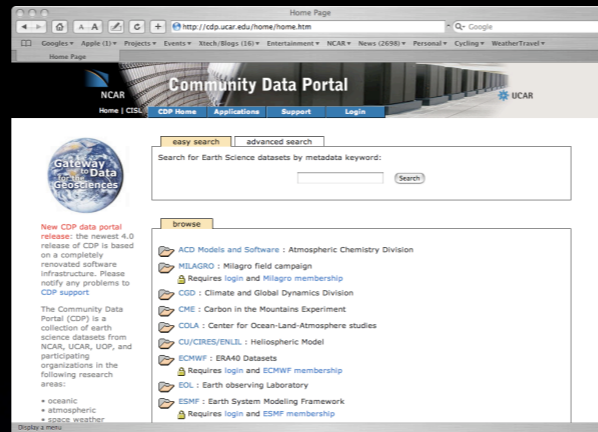
NCAR



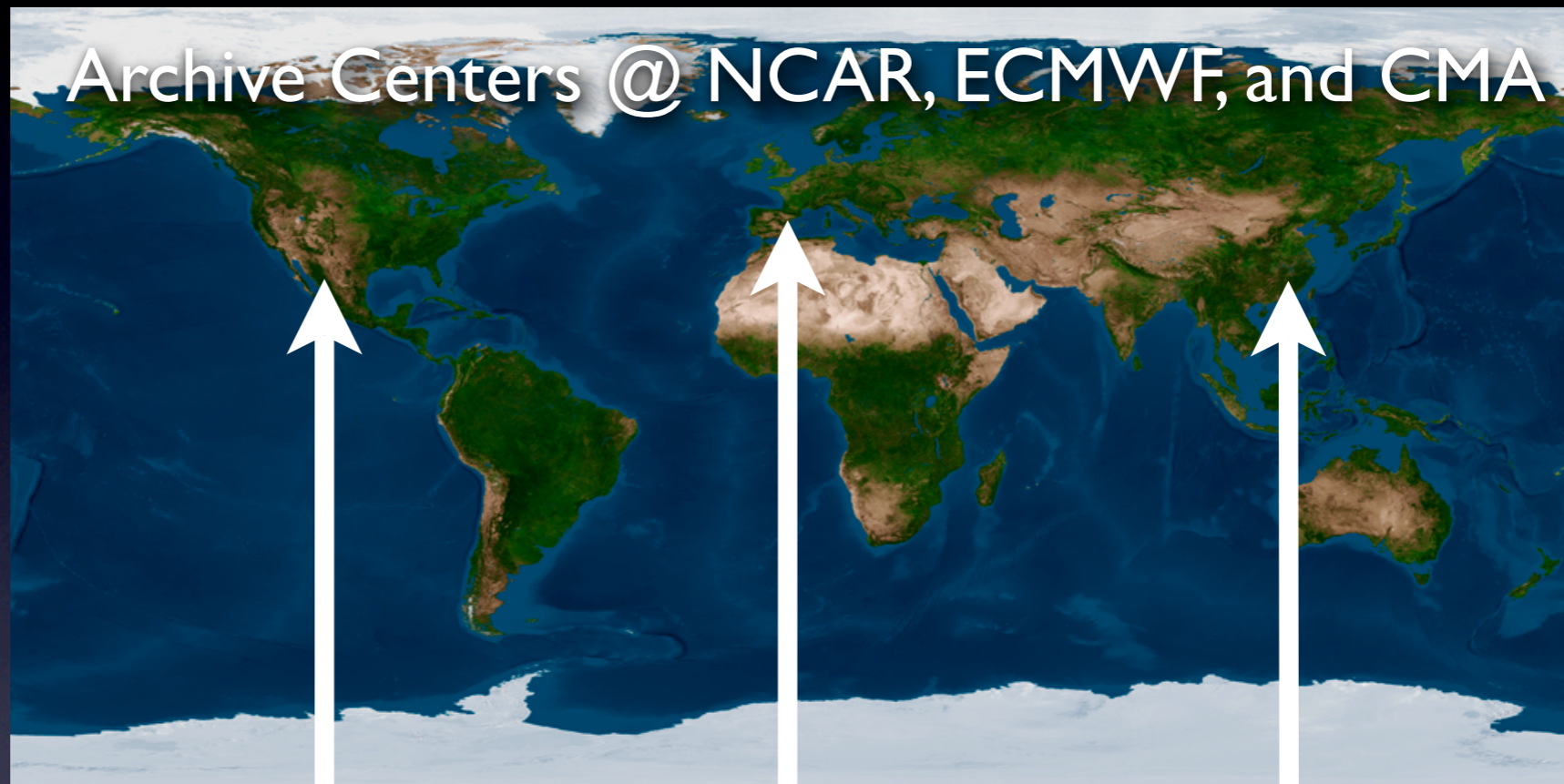
TIGGE

THORPEX

Interactive Grand Global Ensemble



CDP and other TIGGE Portals

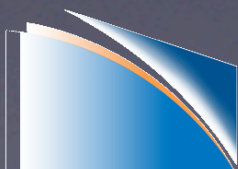
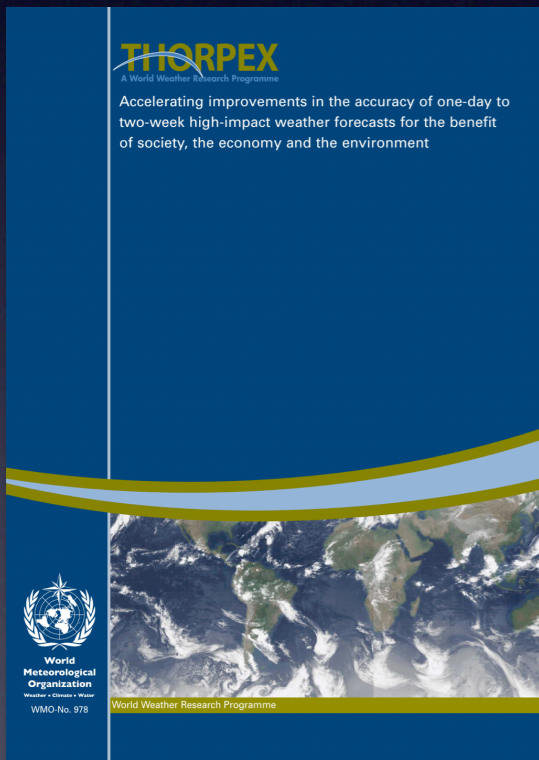


Archive Centers @ NCAR, ECMWF, and CMA

Internet Data Distribution System

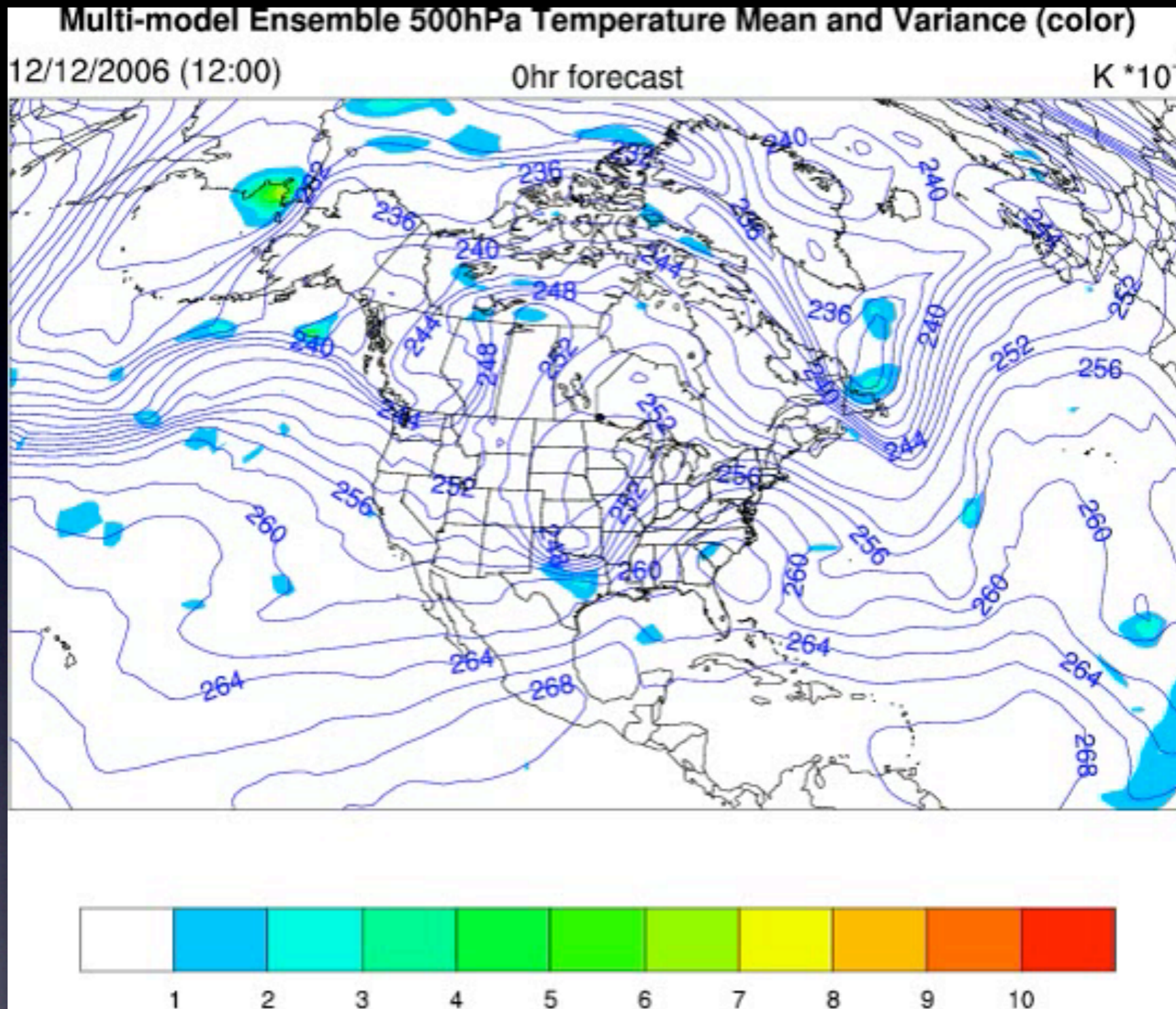
200GB/day

Near Real-time Ensemble Weather Forecasts

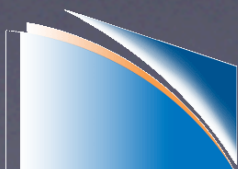


NCAR





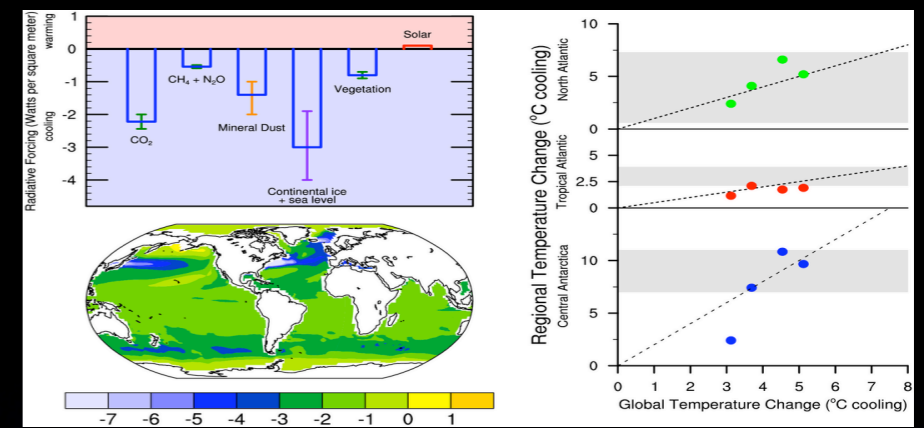
Visualization of TIGGE Data Courtesy of Doug Schuster and Steve Worley, NCAR/DSS



NCAR

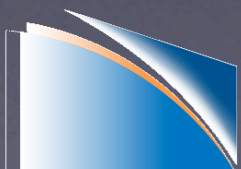


The NCAR Command Language (NCL)



An Open Source software package for processing, analyzing, and visualizing geoscientific data

- Handles NetCDF, GRIB1,2, HDF4, HDF-EOS, binary
- Over 800 computational functions, many geoscience-specific including focused CCSM & WRF support
- Quantitative visualization, publication-quality
- Responsive and knowledgeable support - a community of thousands of users in 108 countries
- Several training workshops each year
- Distribution for most Unix systems, Mac, Windows



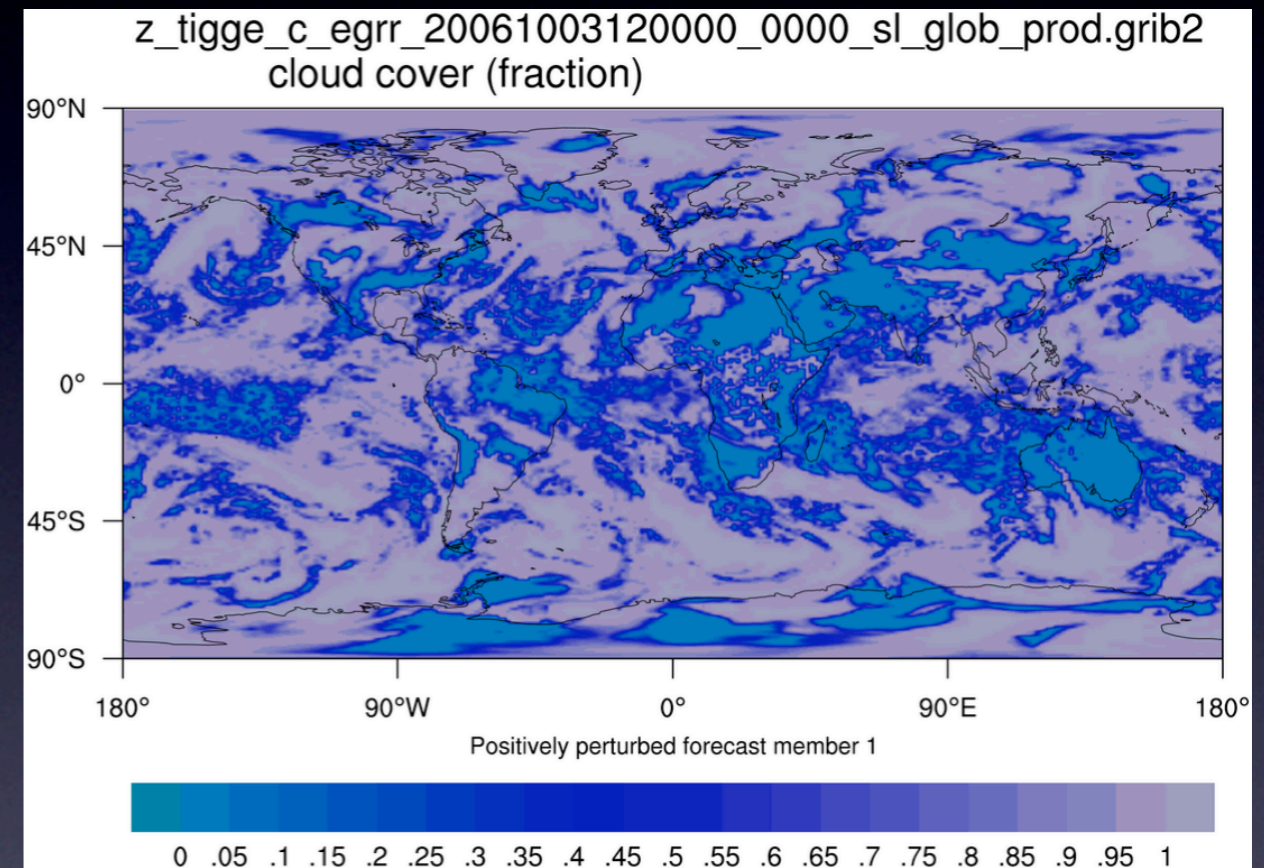
NCAR



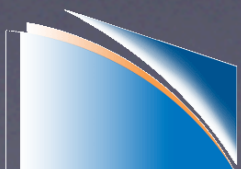
NCL & Python

Just released: PyNGL and PyNIO - Python interfaces to NCL's visualization and data handling capabilities

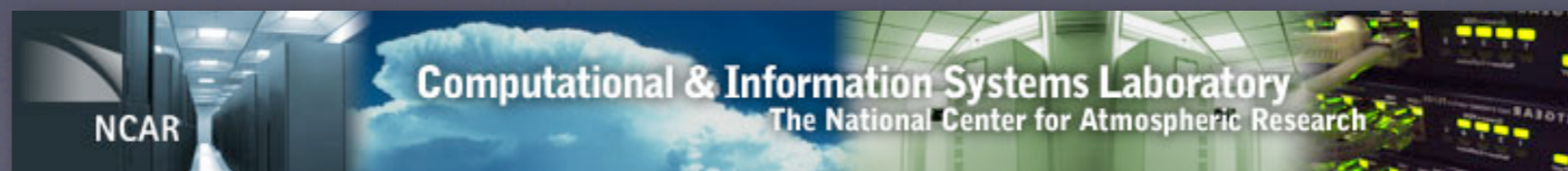
- Software available from <http://www.earthsystemgrid.org>
- Hundreds of examples at www.ncl.ucar.edu and www.pyngl.ucar.edu
- Contact haley@ucar.edu



TIGGE data (GRIB2)



NCAR



Questions?