NARCCAP
The Earth System Grid (ESG), Data & Knowledge Systems, & A Few Useful Tools

NARCCAP User Workshop - February 15, 2008

Don Middleton
National Center for Atmospheric Research
Computational and Information Systems Lab

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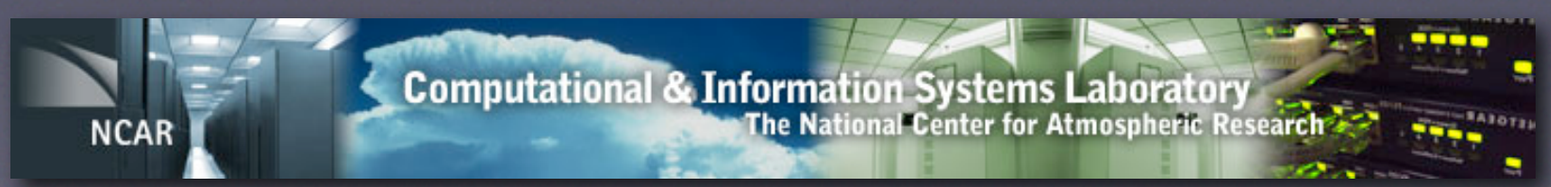
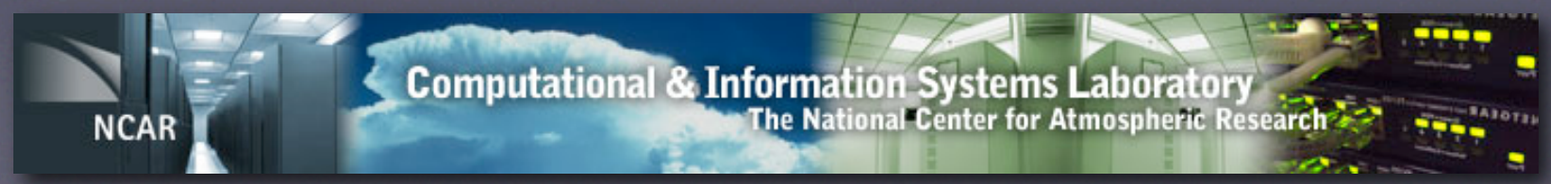


NSF

It's like having a bunch of dead elephants in your living room. You can't really push them around very much, and they just lie there and decompose...

The Honorable Dr. Phil Duffy ;-)



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Towards Global Earth System Modeling

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Earth System Grid

ESG All Hands Meeting, NCAR Vislab

Office of Science
U.S. DEPARTMENT OF ENERGY

SciDAC
Scientific Discovery through Advanced Computing

Making Earth System Data Available to a Global Community

NCAR

Computational & Information Systems Laboratory
The National Center for Atmospheric Research

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The Earth System Grid

DOE SciDAC2 Center for Enabling Technologies

Office of Science
U.S. DEPARTMENT OF ENERGY

SciDAC
Scientific Discovery through Advanced Computing

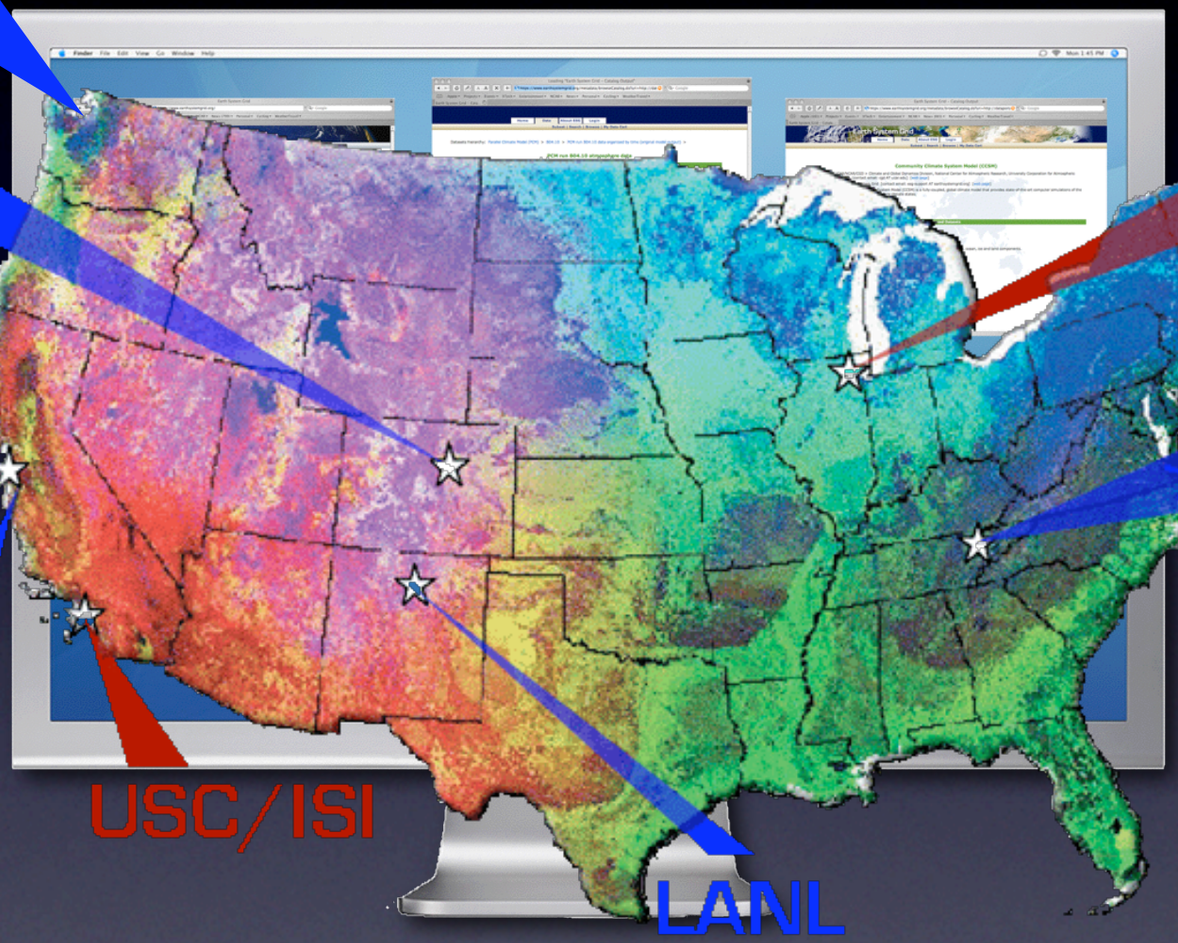
NOAA/PMEL

NCAR

TeraGrid™
EMPOWERING DISCOVERY

LBNL/NERSC
Science
Gateway

LLNL



ANL

ORNL

Global
Climate Grid

ESG provides access to over 200TB of CCSM, IPCC, NARCCAP, CSIM, CLM, POP, PCM data; the CCSM model, and analysis and visualization tools.

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Over 500 Sites Ingesting ESG Products

Image courtesy Gary Strand, NCAR

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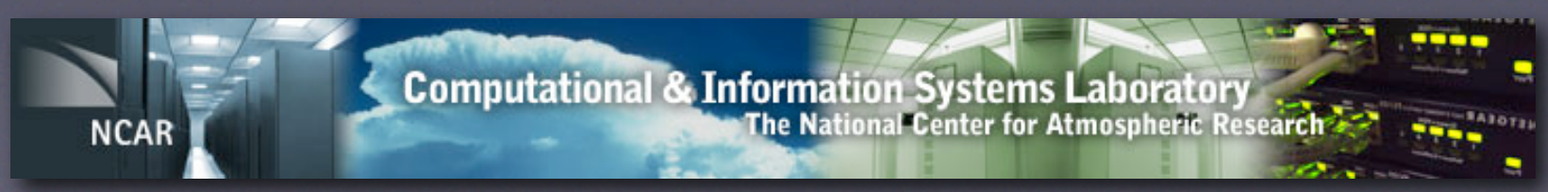

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Peace 2007

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

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Nobelprize.org

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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"

Photo: Scanpix/Tom Hevezi

Intergovernmental Panel on Climate Change (IPCC)

1/2 of the prize

Geneva, Switzerland

Founded in 1988

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

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.

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

CHEMISTRY

Gerhard Ertl

Display a menu

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Over 500 Sites Ingesting ESG Products

Image courtesy Gary Strand, NCAR

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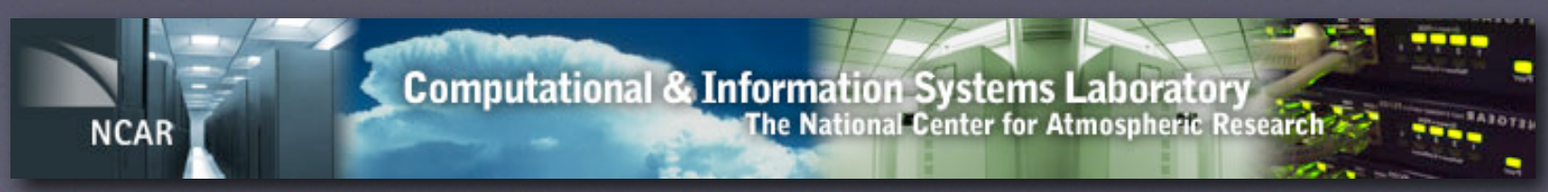

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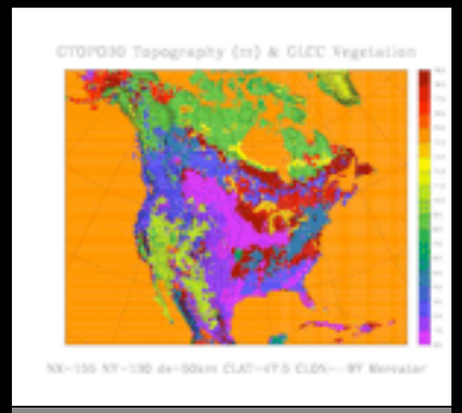
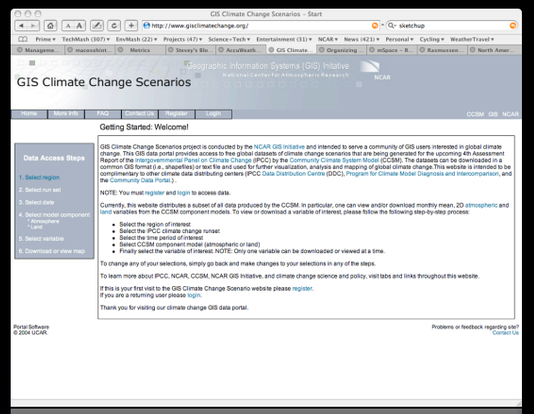
The Earth System Grid (Climate/IPCC, DOE+NSF)



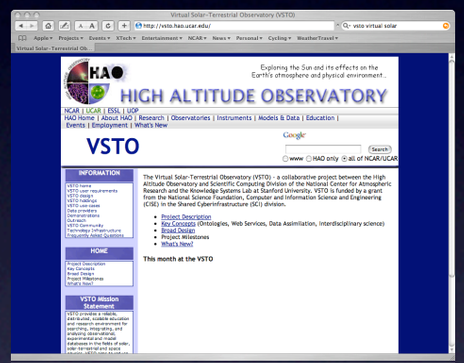
NARCCAP (Regional Climate: NSF, DOE, NOAA)



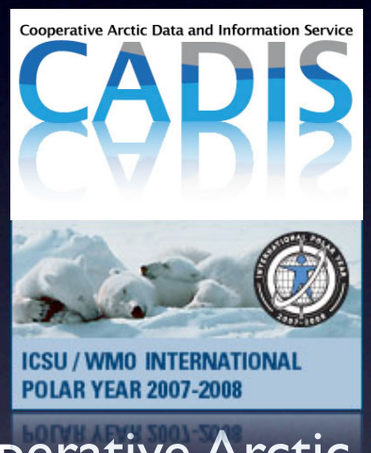
GIS IPCC Portal

ESMF

ESMF & Earth System Curator (Models+Data, NSF)

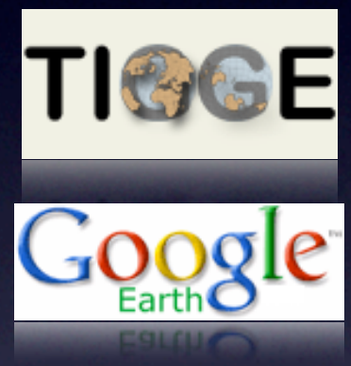


VSTO (Solar-terrestrial, semantic, NSF)



Cooperative Arctic Data and Information System (Polar, NSF)

WMO-WIS (Global Federation)



TIGGE (Ensemble weather)

CDP + GE (Oppfund)

Collaborating Towards an Earth System Knowledge Environment

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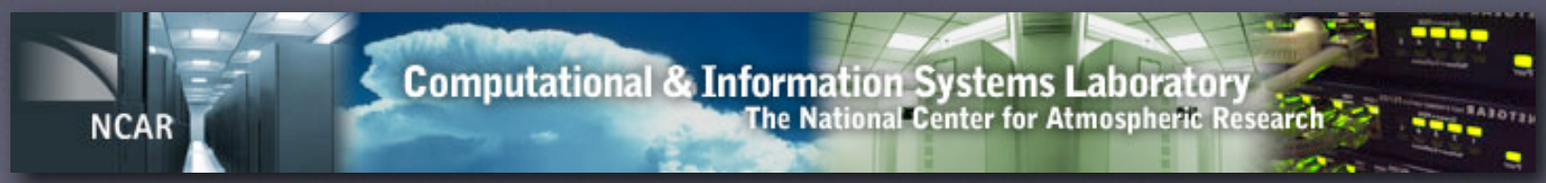
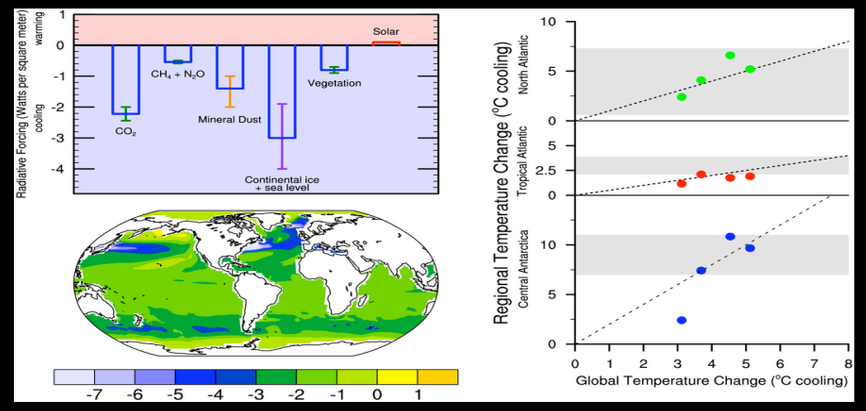


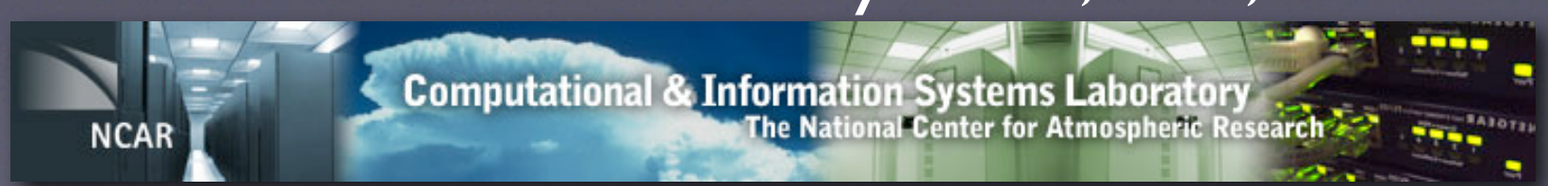
NSF

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 73 countries
- Several training workshops each year
- Distribution for most Unix systems, Mac, Windows



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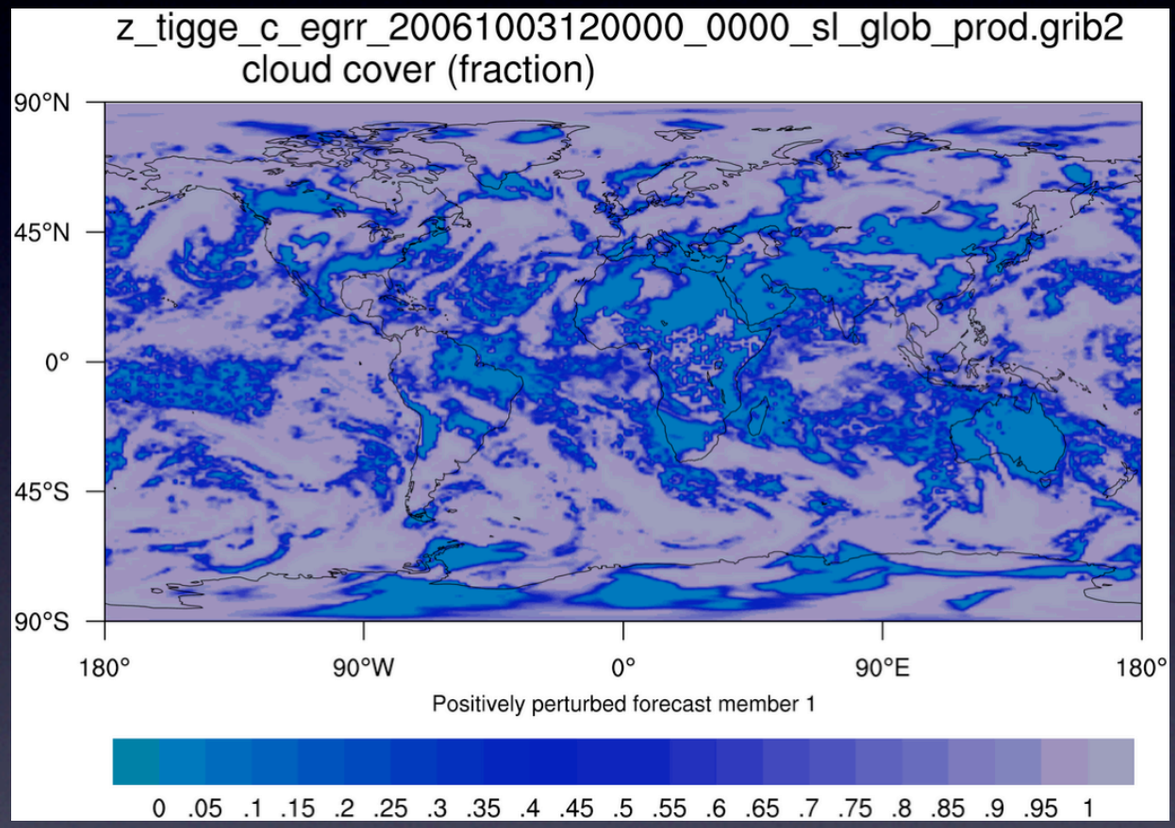
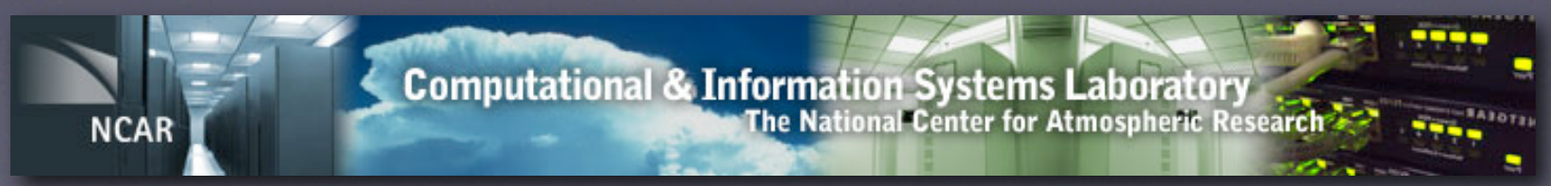
NCL & Python

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)



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Questions?

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