NOAA Modeling GUI Tools

Helping achieve NOAA’s Mission Goal:
“Serve Society’s Needs for Weather and Water Information”

Presented by Jeff Smith
Portal and Domain Wizard

**WRF/FIM Portal** – graphical user interface (GUI) that guides you through the entire process of running WRF or FIM: setting up environment variables, creating and running workflows, launching jobs and monitoring the progress of your runs, diff'ing workflows and files, visualizing output.

**WRF Domain Wizard** – GUI for the WRF Preprocessing System (WPS). Define a domain by selecting a region of the Earth, choose a map projection and grid dimensions, add nests, edit namelist.input, run the WPS programs, and visualize the resulting NetCDF output.
Portal excels in managing large and complicated workflows, like ensembles (e.g. 294 tasks and 49,000 lines of XML).

Portal allows users to see, in one screen, all the information about what tasks completed in how long and in what order, without having to parse thousands of lines of output for errors.
Collaborations

- National Center for Atmospheric Research (NCAR) – developed WRF Domain Wizard in consultation with the WRF development team and we continue to give talks at the NCAR WRF workshops

- Developmental Testbed Center (DTC)
  - 2007, 13-km WRF Dynamic Core Test Report
  - 2009, Hurricane WRF (HWRF) support

- Linked Environments for Atmospheric Research (LEAD) development of a special version of WRF Domain Wizard for the NSF funded LEAD portal

- Geo Targeted Alert System (GTAS) project – added support for GLAPS domains
Our Users

Who uses the software?

- Our users are spread across the globe and they come from academia, government and private industry

Estimated Worldwide Users of This Software

<table>
<thead>
<tr>
<th>Software</th>
<th>Est. Users</th>
<th>Countries</th>
<th>Google Earth</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRF Portal</td>
<td>964</td>
<td>66</td>
<td>open in Google Earth</td>
</tr>
<tr>
<td>WRF Domain Wizard</td>
<td>1472</td>
<td>69</td>
<td>open in Google Earth</td>
</tr>
<tr>
<td>Ext. Workflow Mgr</td>
<td>74</td>
<td>18</td>
<td>open in Google Earth</td>
</tr>
</tbody>
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A Few Of Our Users

Stephen Shaffer  
Center for Environmental Fluid Dynamics  
Arizona State University

Ashish Bhangale  
Computer Science Department  
Indiana University

Carmelo Borque  
University of Zaragoza (Spain)

Sumit Puri  
Department of Civil Engineering  
University of Nevada Las Vegas

Le Van Thien  
Department of Meteorology  
University of Hawaii

Don Morton  
Arctic Region Supercomputing Center  
University of Alaska Fairbanks

Jason P Evans  
Climate Change Research Centre  
University of New South Wales, Australia

Nakako Kobayashi  
Graduate School of Environmental Studies  
Nagoya University (Japan)

Michael Culp  
Department of Computer Science  
University of Montana

Ravan Ahmadov  
Chemical Sciences Division  
Earth System Research Lab

Pallavi Marrapu  
Center for Global and Regional Environmental Research  
University of Iowa

Chris Thomas  
Geoscience Australia (Australian Government)

Varun Bhatt  
Indian Institute of Technology at Kanpur

Brad Evans  
School of Environmental Science  
Murdoch University, Australia

Seung Min Oh  
Dept of Environmental Science and Engineering  
Ewha Womans University (Korea)

Remi Montroty  
Meteo France
Portal Demo
WRF Domain Wizard Demo