WRF Domain Wizard

A tool for the WRF Preprocessing System

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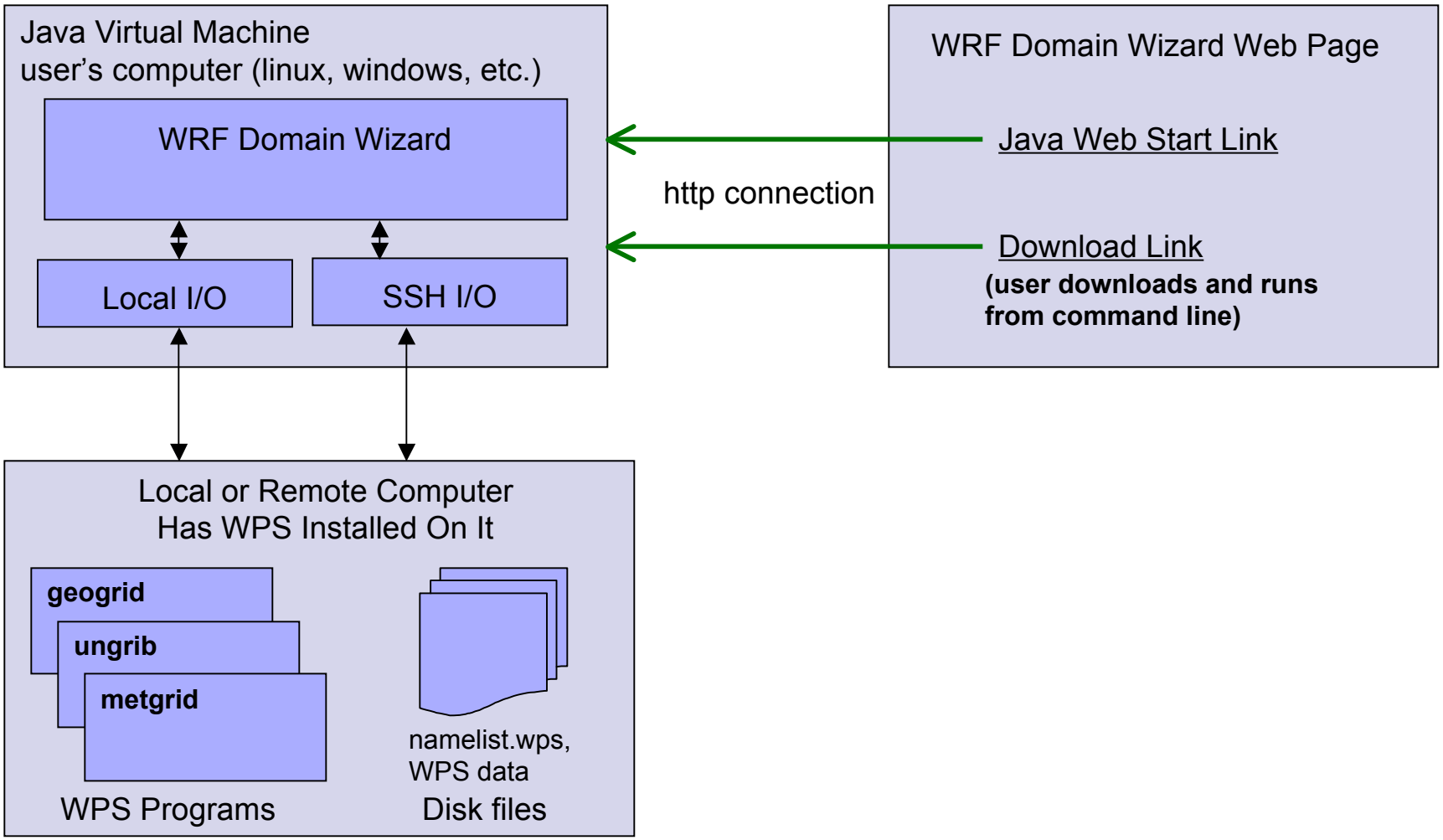
What is WRF Domain Wizard

- Graphical User Interface (GUI) for WPS
- Supports latest WRF / WPS version 3 features
- Used to
  - Define the region and projection of a domain on map
  - Define any nests
  - Write information to namelist.wps
  - Write information to namelist.input
  - Run the WPS programs
  - Visualize/Map NetCDF output
- WRF Domain Wizard is a component of WRF Portal (GUI for running WRF)
  - WRF Domain Wizard can also be run “standalone” (outside of WRF Portal)

WRF Domain Wizard Technical Info

- Software is written in Java
  - Minimum JRE 1.5; recommend JRE 1.6 for best performance
  - Runs on local computer or remote computer; uses SSH-2 and SFTP to connect to remote computer
  - 384 MB of RAM (memory) available
    1024 x 768 (or better) video display
- Can Be Run
  - Standalone - from a webpage
  - Standalone - download and run from the command line (either on local computer, or on remote computer with X forwarding)
  - From within WRF Portal (GUI for running WRF)

Domain Wizard Architecture and Flow

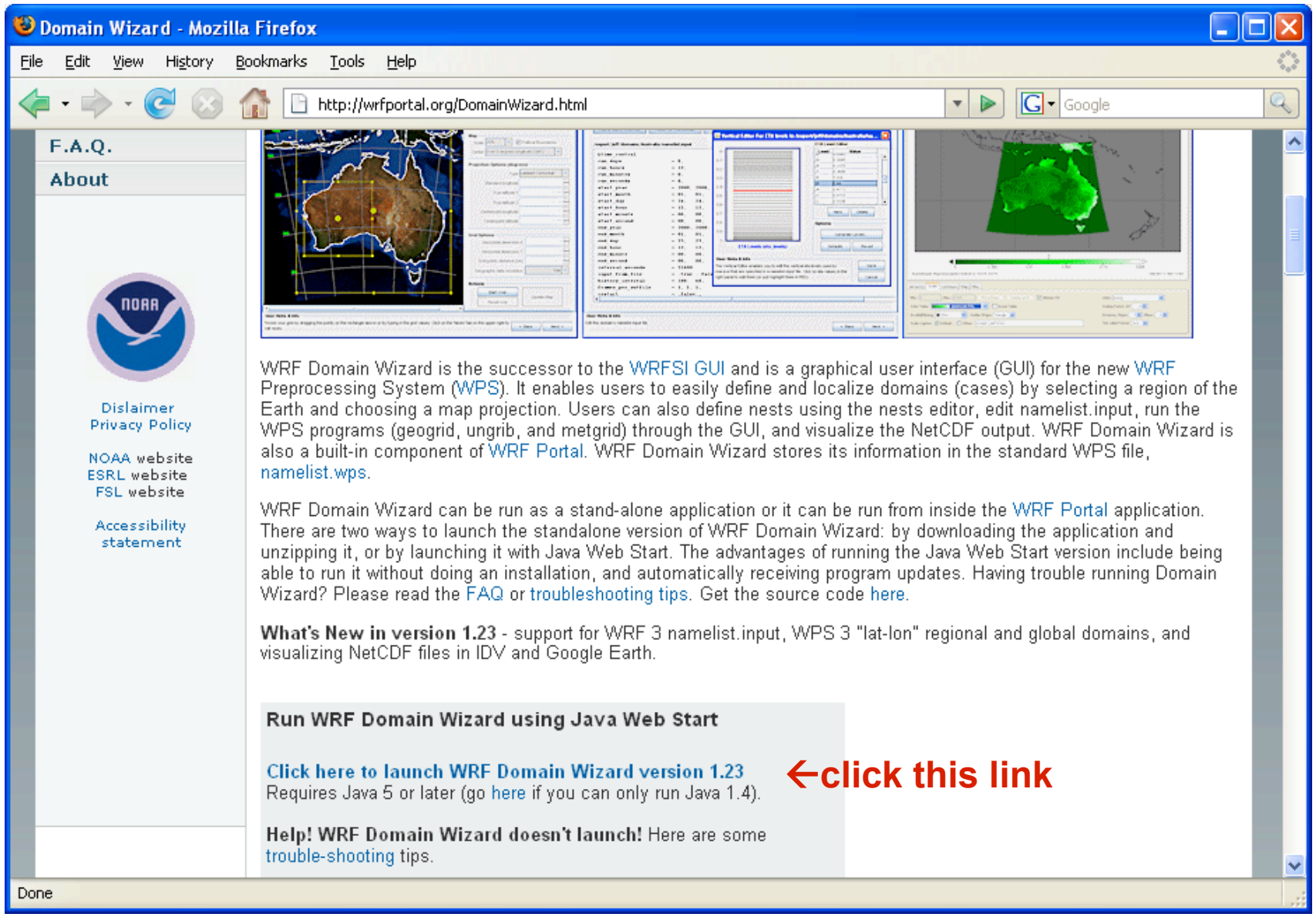


http://www.wrfportal.org/DomainWizard.html

WRF Domain Wizard – How to Launch

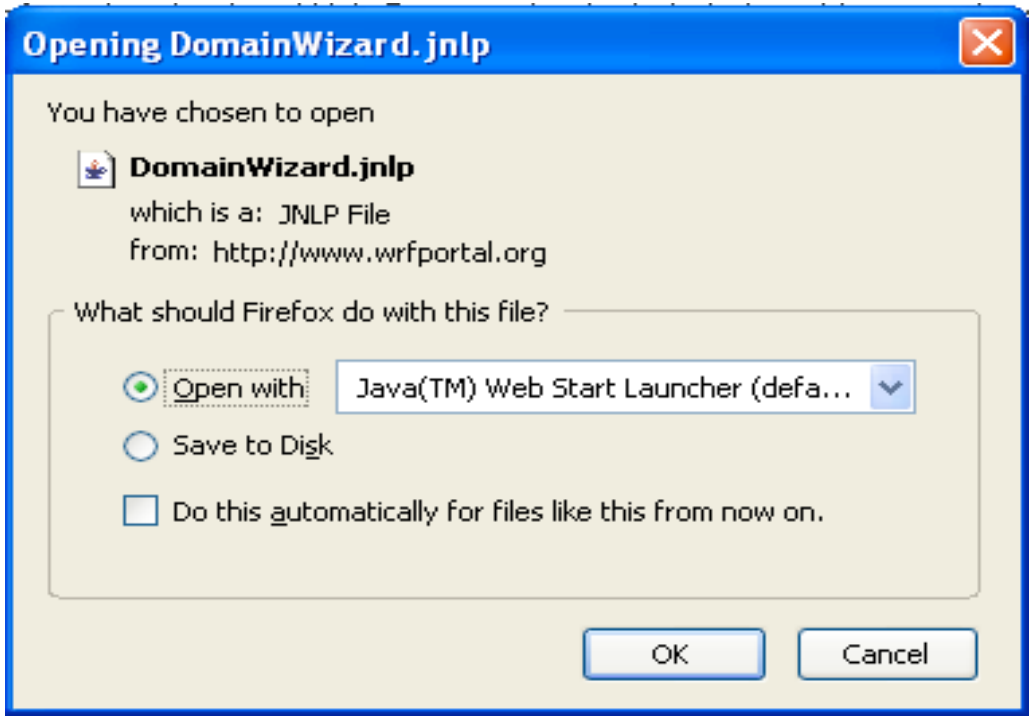
- Launch using Java Web Start
  - Just click on the web page link, wait several seconds while the software downloads, then the program just runs
  - No complicated installation required!
  - Java and Java Web Start (javaws) come standard with Linux and Mac
  - If you don't have Java on your system, download a free Java Runtime Edition (JRE) version 1.5 or later www.**java**.com/get**java**

WRF Domain Wizard – How to Launch



WRF Domain Wizard – How to Launch

- Launch using Java Web Start



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WRF Domain Wizard – How to Launch

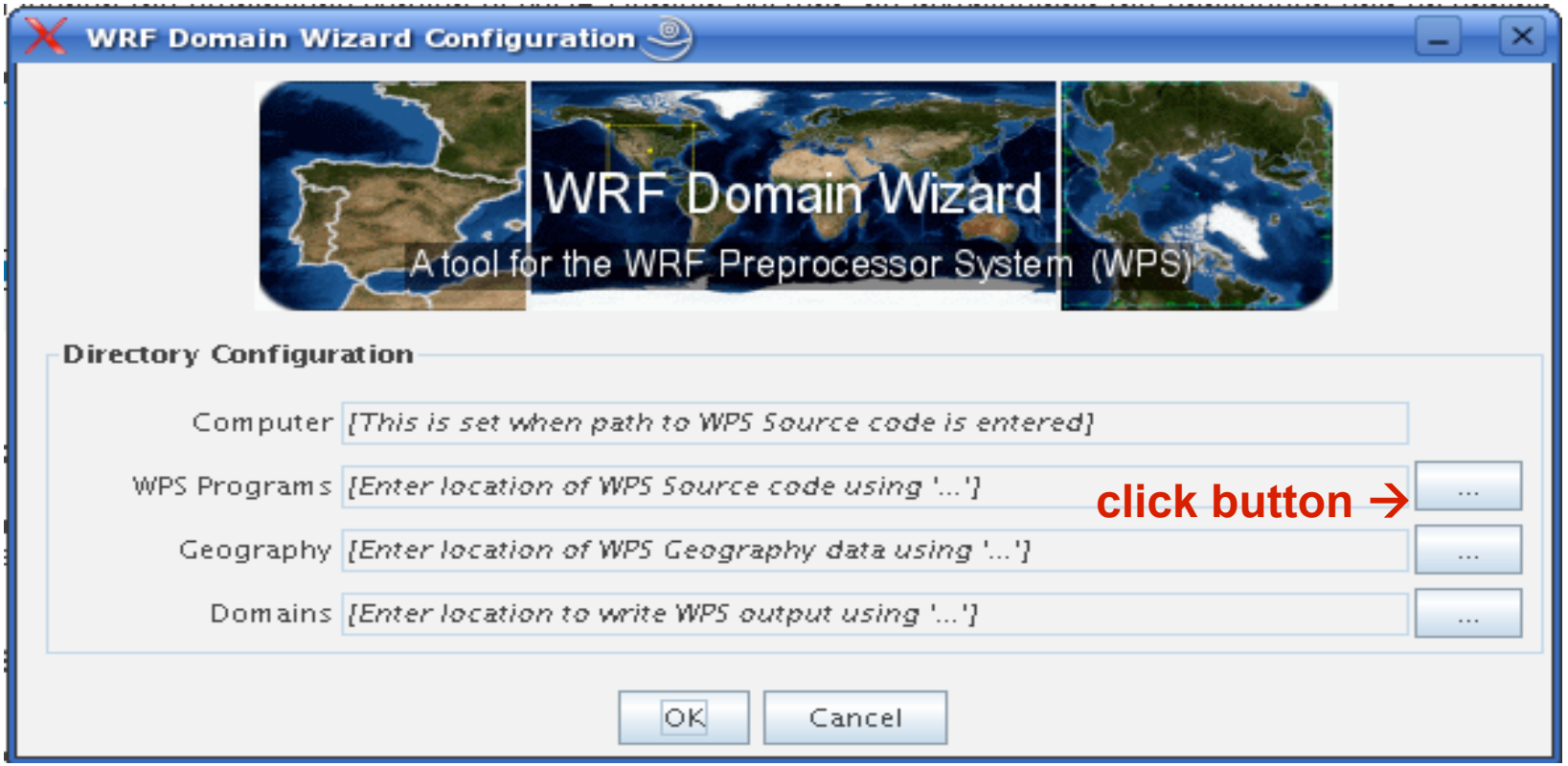
- Alternate launch: by downloading jar file
  - Download the **WRFDomainWizard.zip** to e.g. c:\WRFDomainWizard or /home/WRFDomainWizard
  - unzip **WRFDomainWizard.zip**
  - Run "run_DomainWizard.bat" (Windows)
    or
    "run_DomainWizard" (Linux, after chmod +x)
    or run it directly like so

    java -Xmx390m -jar DomainWizard.jar

  - You can place a shortcut icon on your desktop

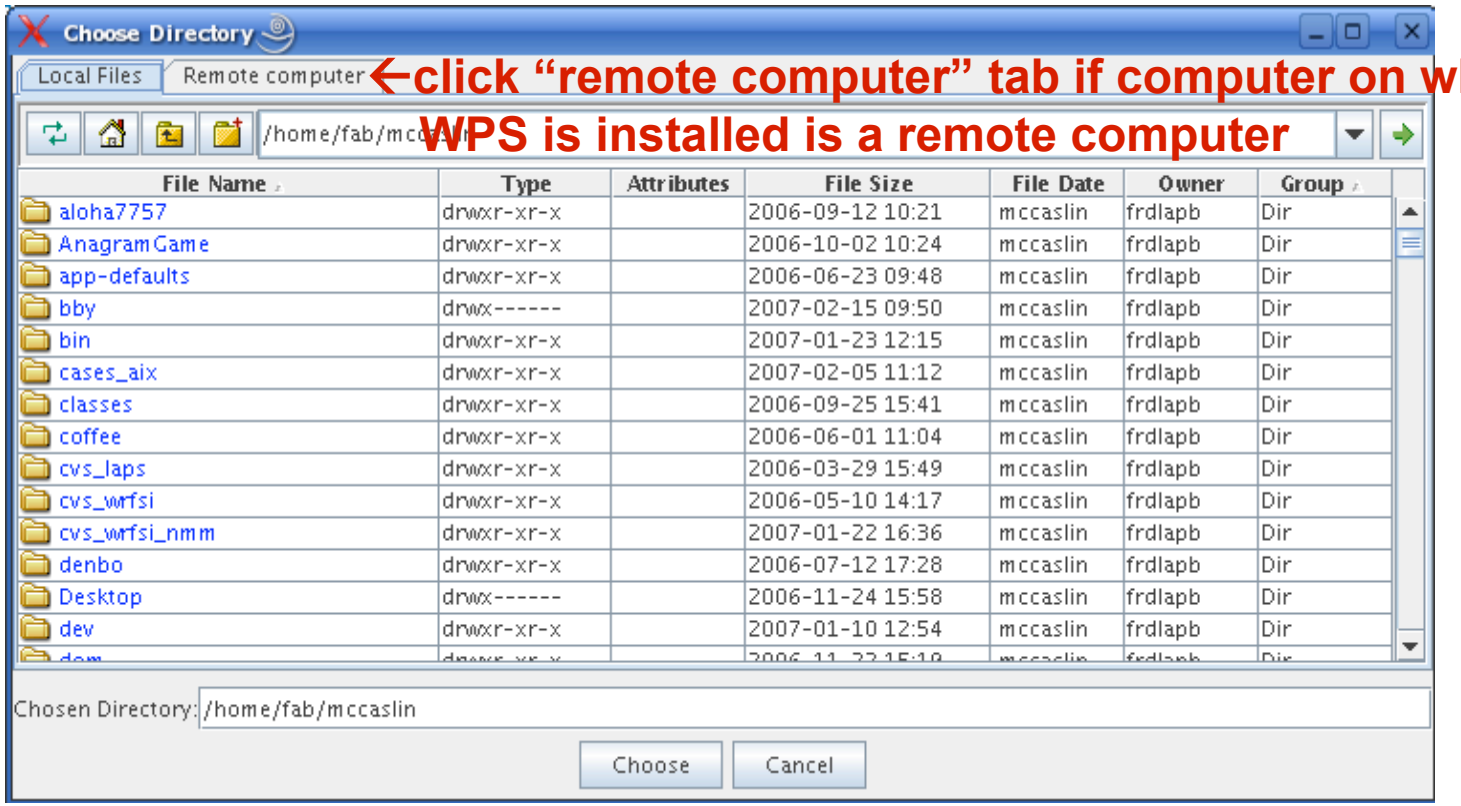
WRF Domain Wizard – How to Run

- When first launched, the configuration window appears
- Click on the "…" buttons to set the paths



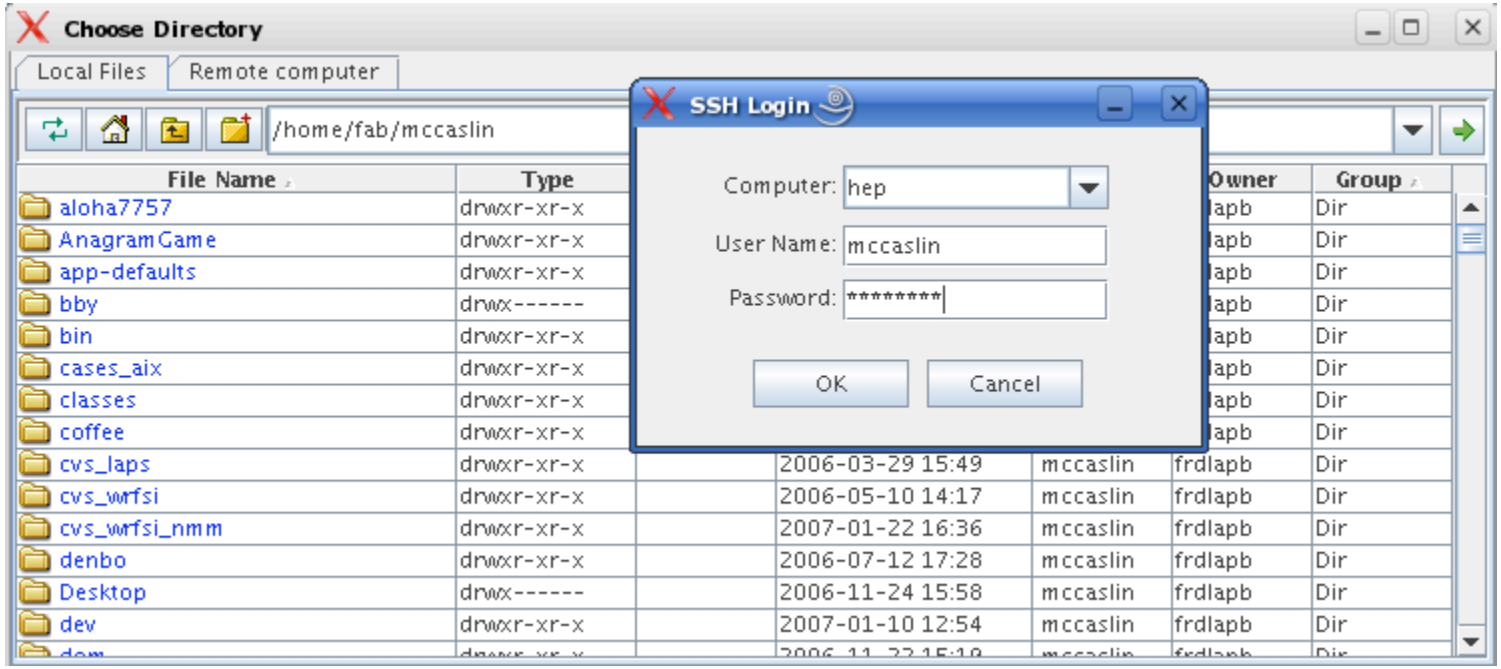
WRF Domain Wizard – How to Run

- Configuration Directory Chooser



WRF Domain Wizard – How to Run

- SSH login for “remote computer”



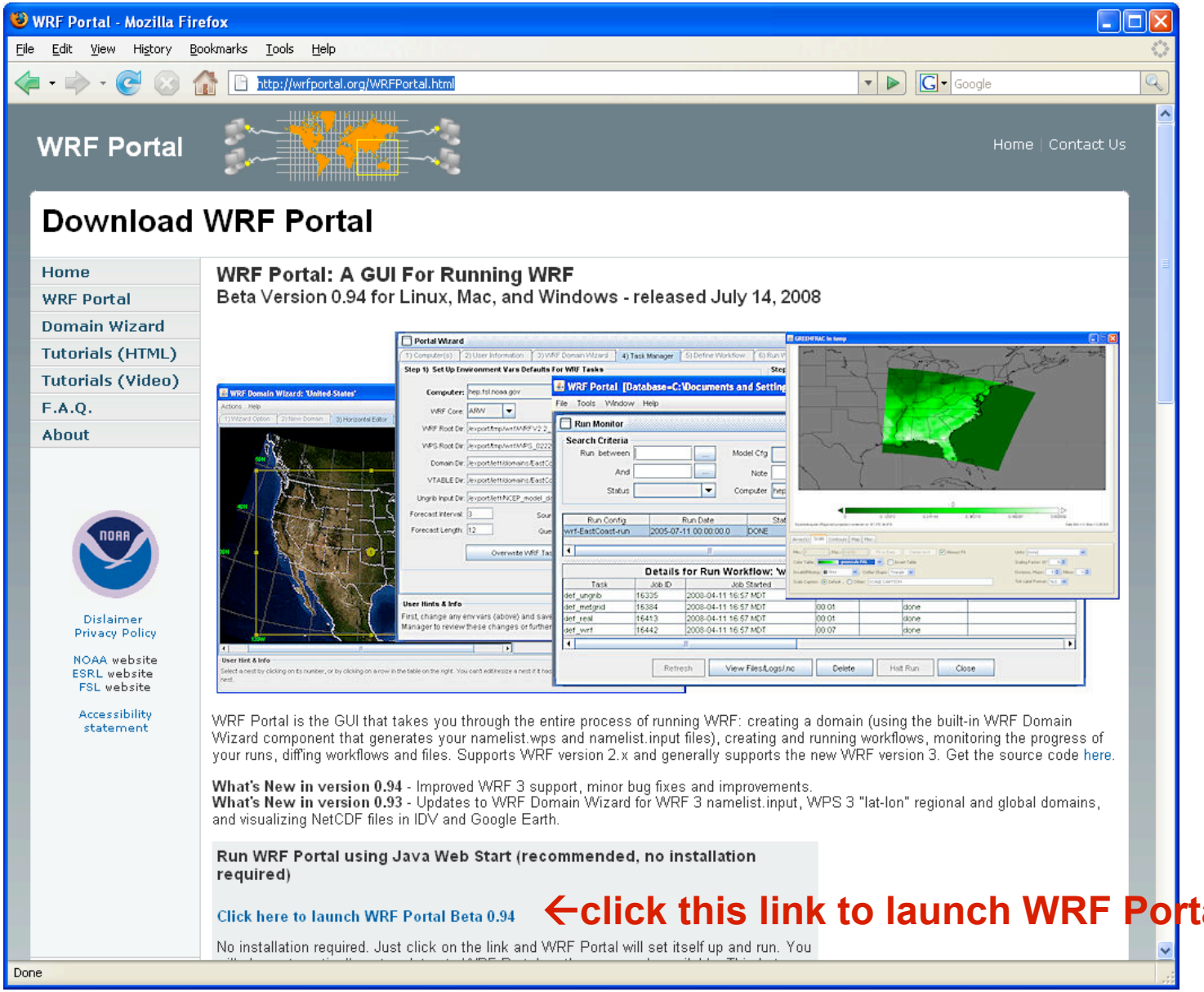
WRF Domain Wizard – How to Run

- Configuration complete

WRF Domain Wizard – How to Run

- WRF Domain Wizard writes these dir paths (configuration information) to a text file called DomainWizard.cfg
  - Located in your home directory, will contain, e.g.:
    - hep
    - /export/tmp/wrf/WPS
    - /export/tmp/wrf/geog
    - /home/mccaslin/cases
- Alternatively, you can run WRF Domain Wizard from within WRF Portal (next slide)

http://www.wrfportal.org/WRFPortal.html



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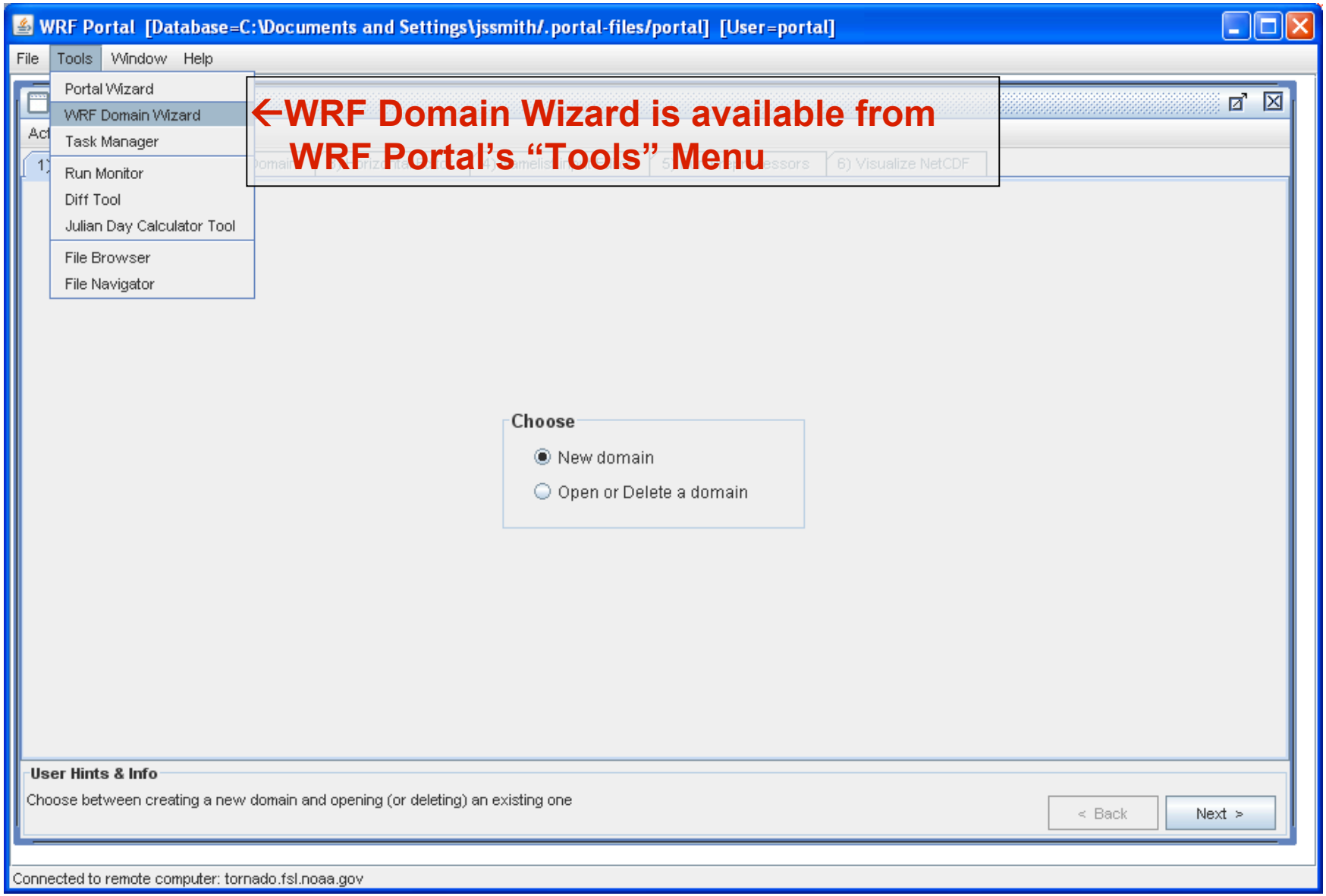
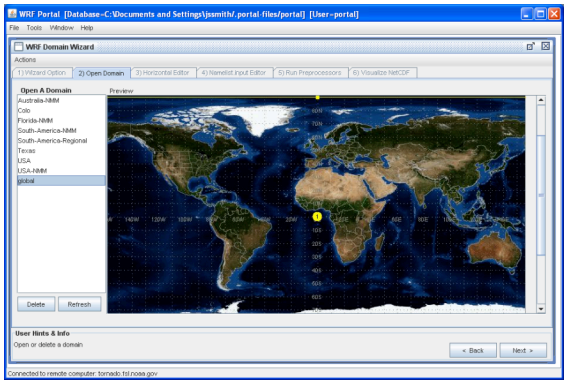
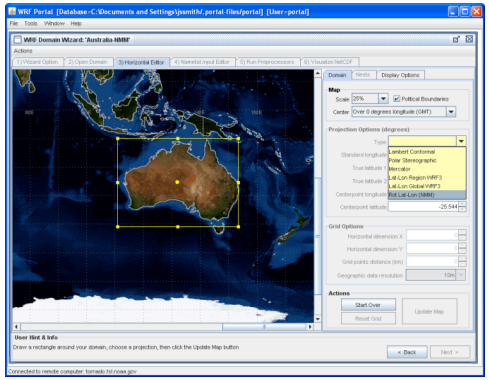
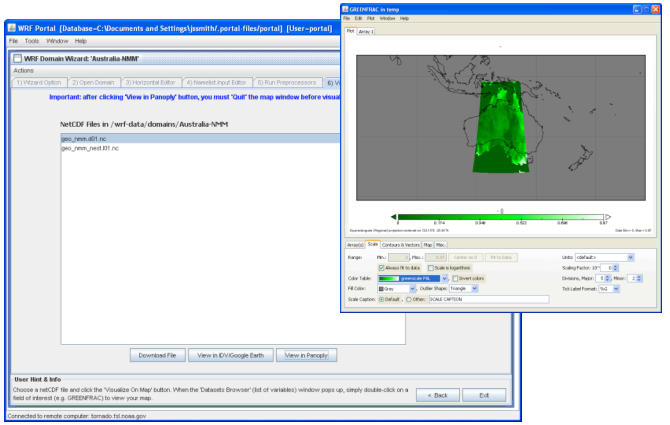
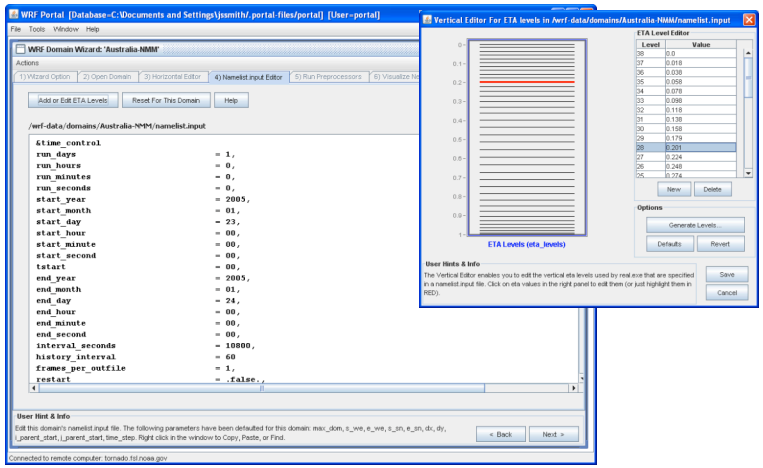


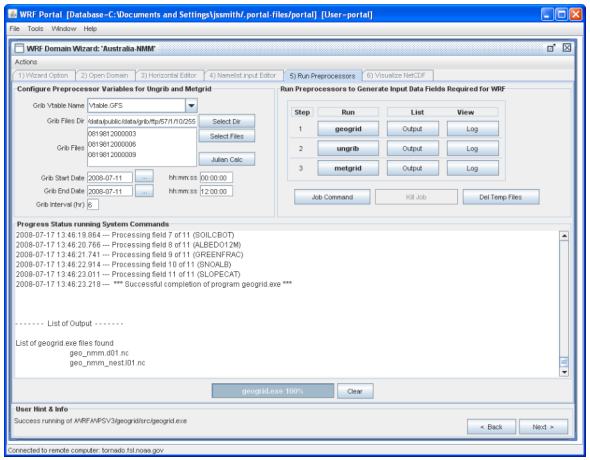




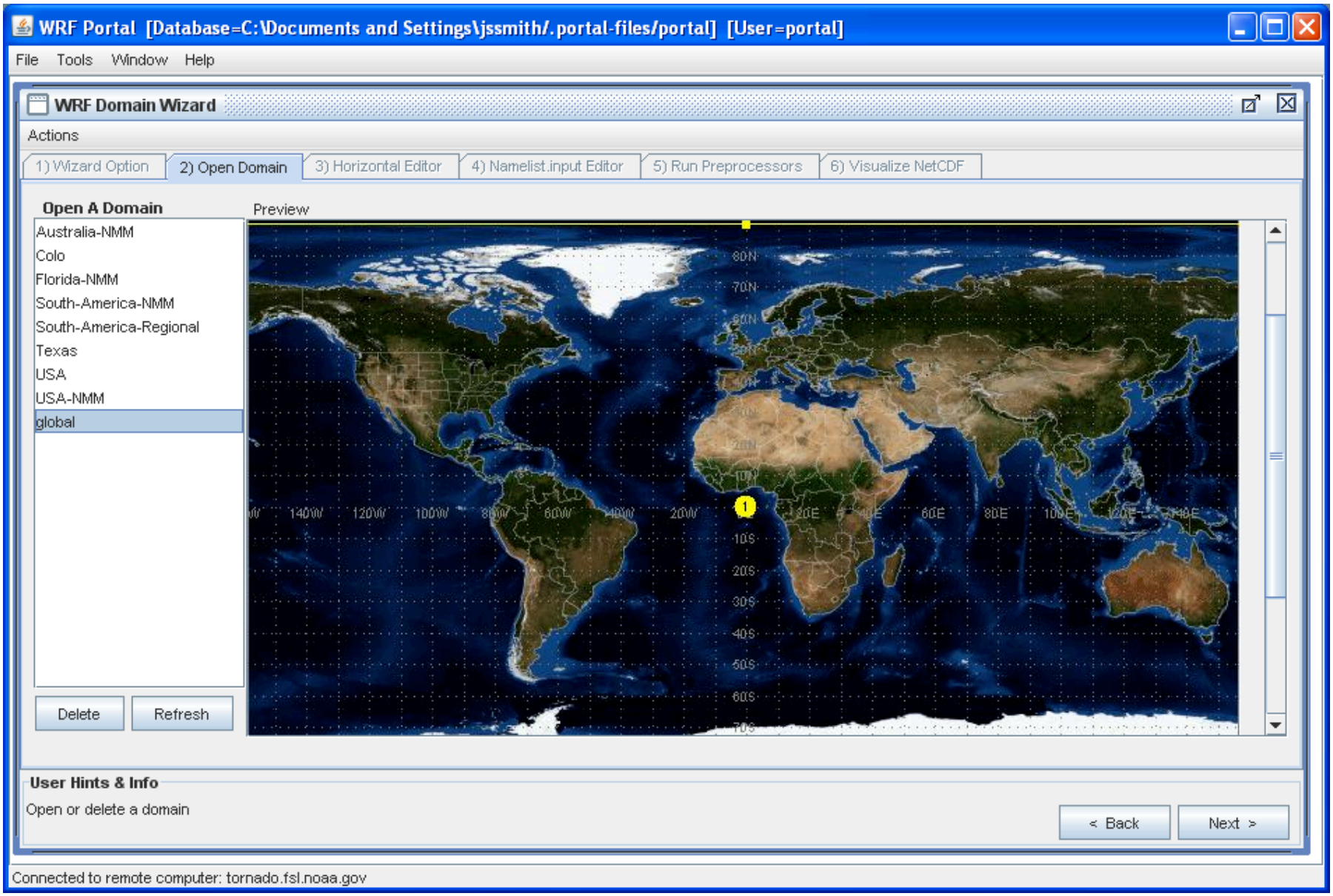


WRF Domain Wizard screen images…

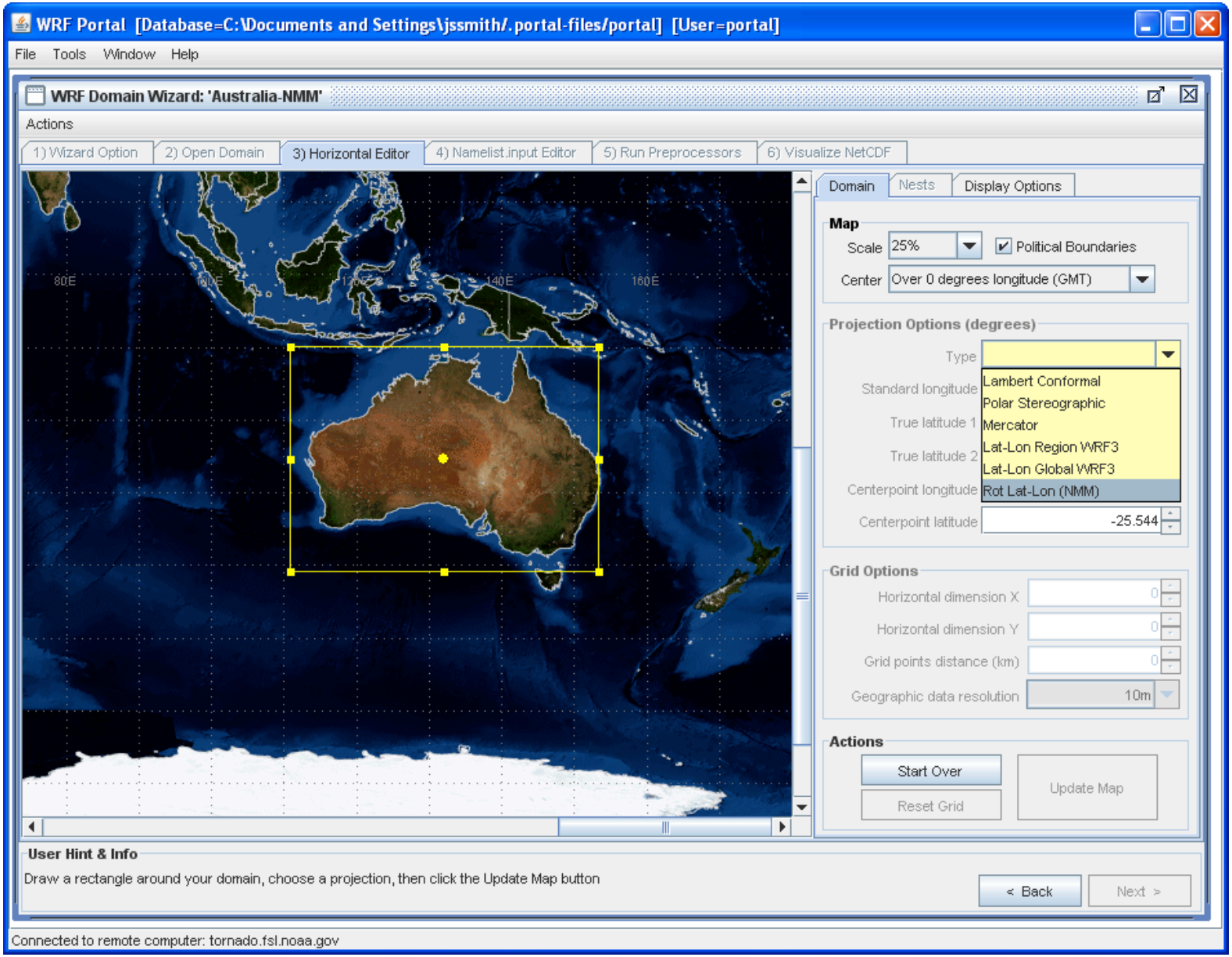




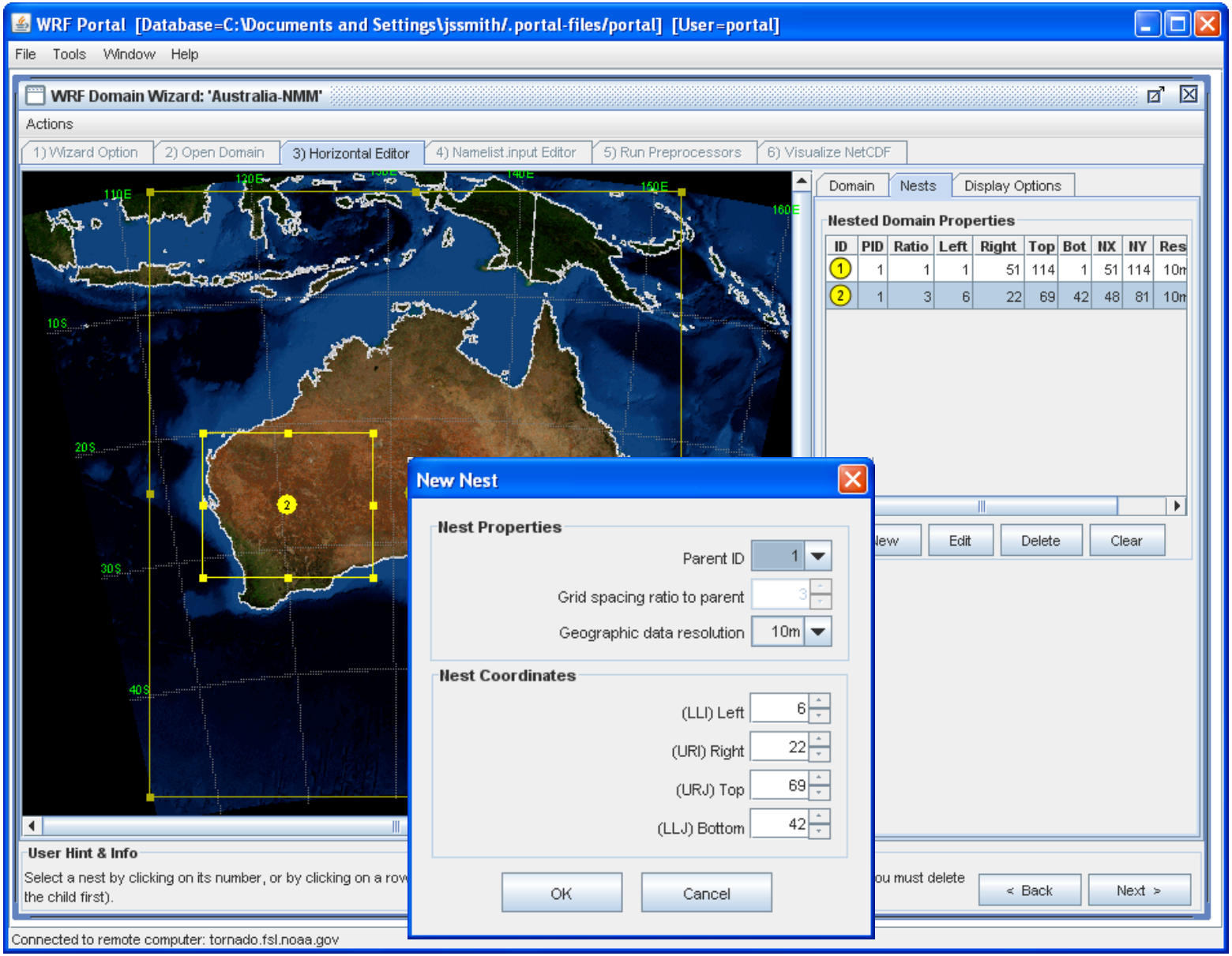
Open an existing domain (with preview)



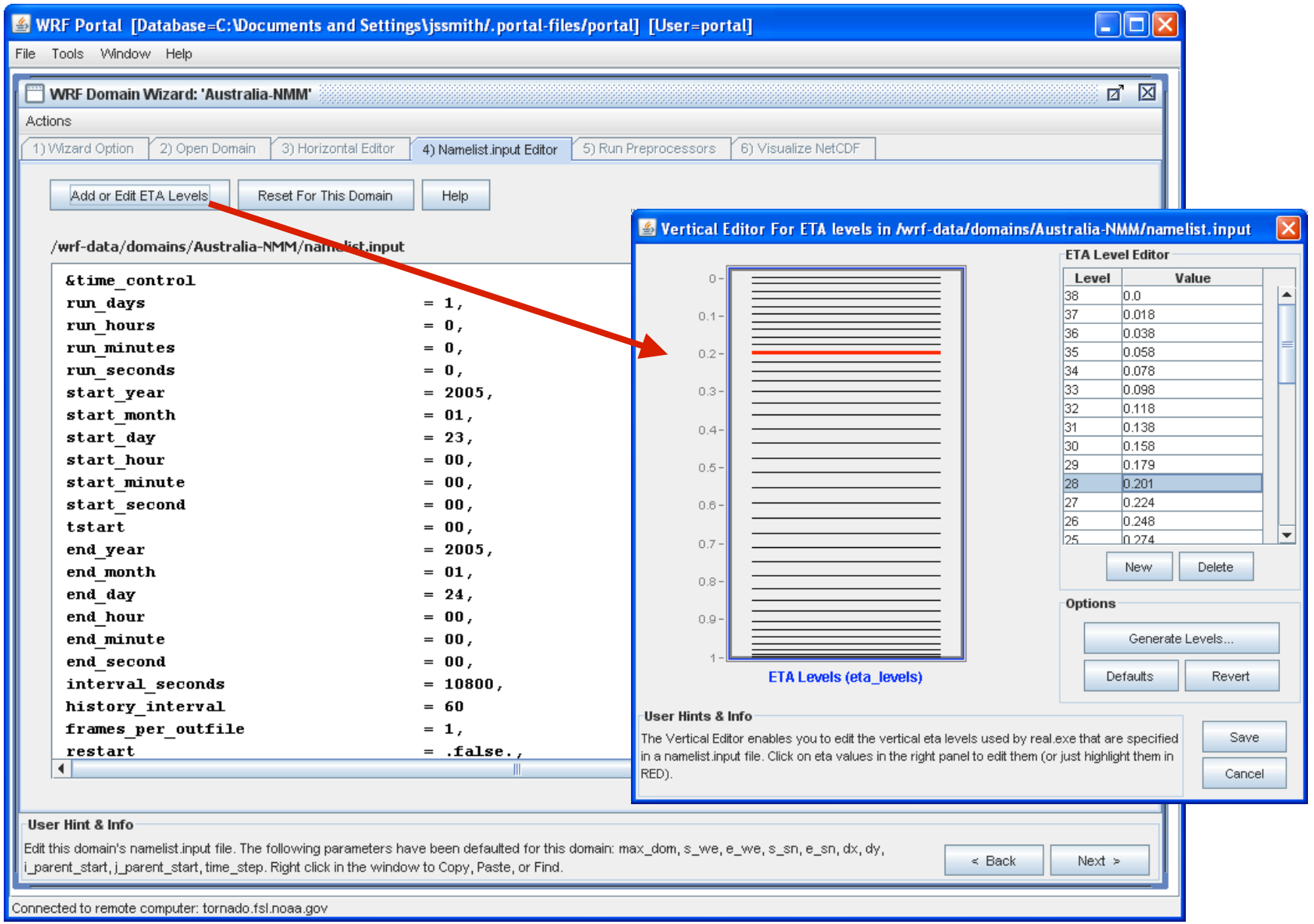
Select domain, choose projection…



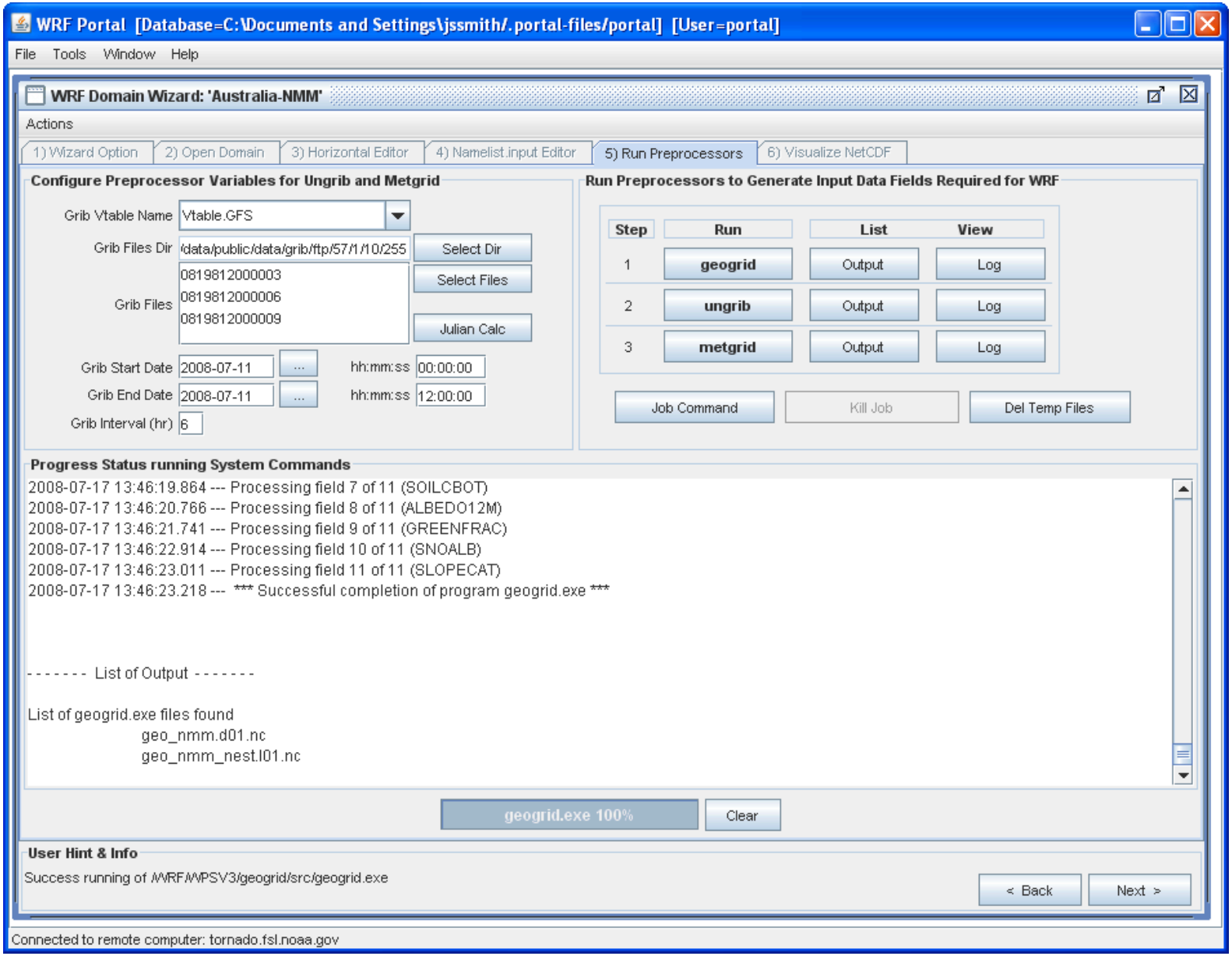
Edit Nests…


WRF Portal [Database=C:\Documents and Settings\jssmith/.portal-files/portal] [User=portal]
File Tools Window Help
WRF Domain Wizard: 'Australia-NMM'
Actions
1) Wizard Option
2) Open Domain
3) Horizontal Editor
4) Namelist.input Editor
5) Run Preprocessors
6) Visualize NetCDF
Domain
Nests
Display Options
Nested Domain Properties
ID PID Ratio Left Right Top Bot NX NY Res
1 1 1 1 51 114 1 51 114 10m
2 1 3 6 22 69 42 48 81 10m
New
Edit
Delete
Clear
New Nest
Nest Properties
Parent ID 1
Grid spacing ratio to parent 3
Geographic data resolution 10m
Nest Coordinates
(LLI) Left 6
(URI) Right 22
(URJ) Top 69
(LLJ) Bottom 42
OK
Cancel
User Hint & Info
Select a nest by clicking on its number, or by clicking on a row
the child first).
ou must delete
< Back
Next >
Connected to remote computer: tornado.fsl.noaa.gov

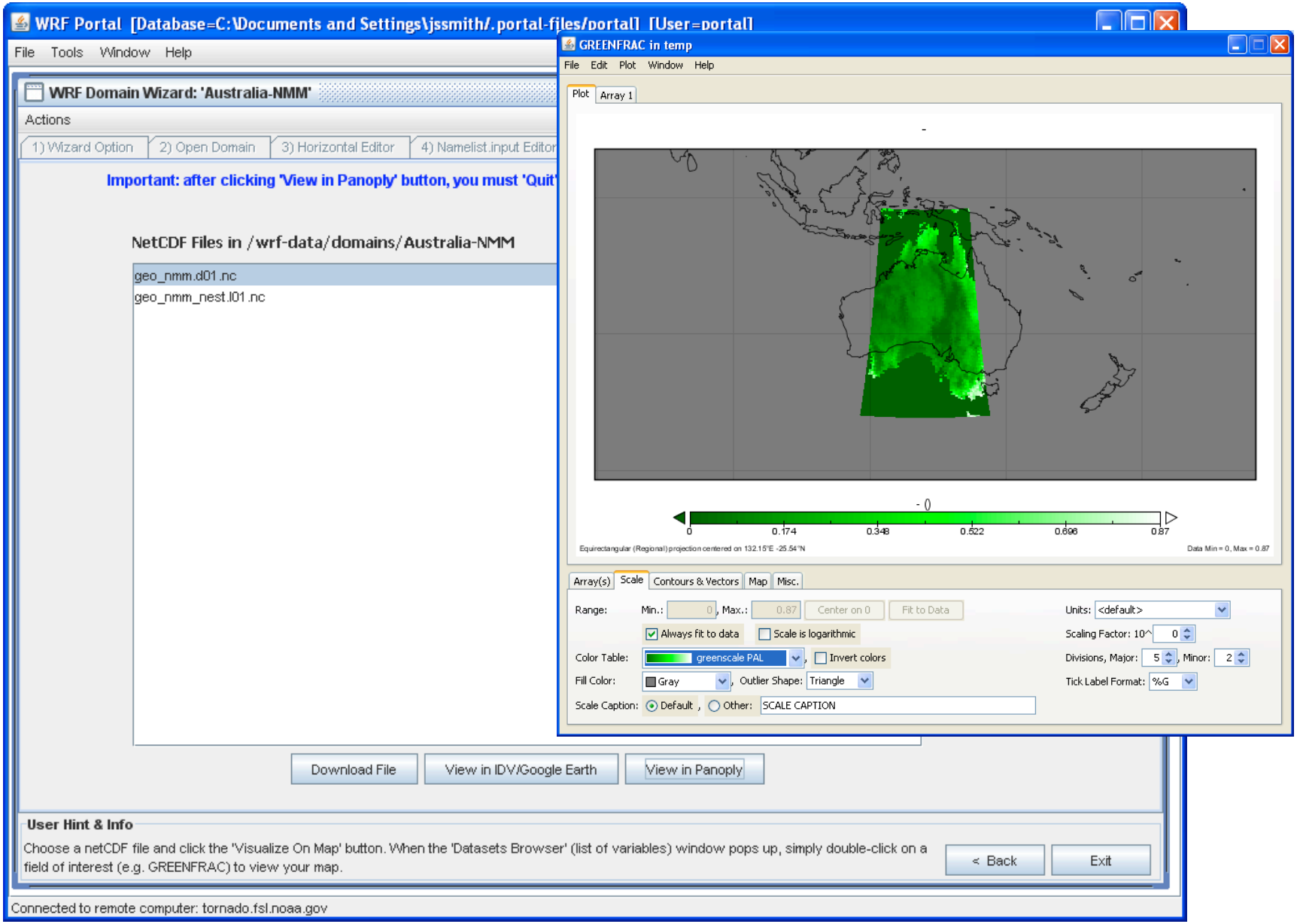
Edit namelist.input (and eta levels)



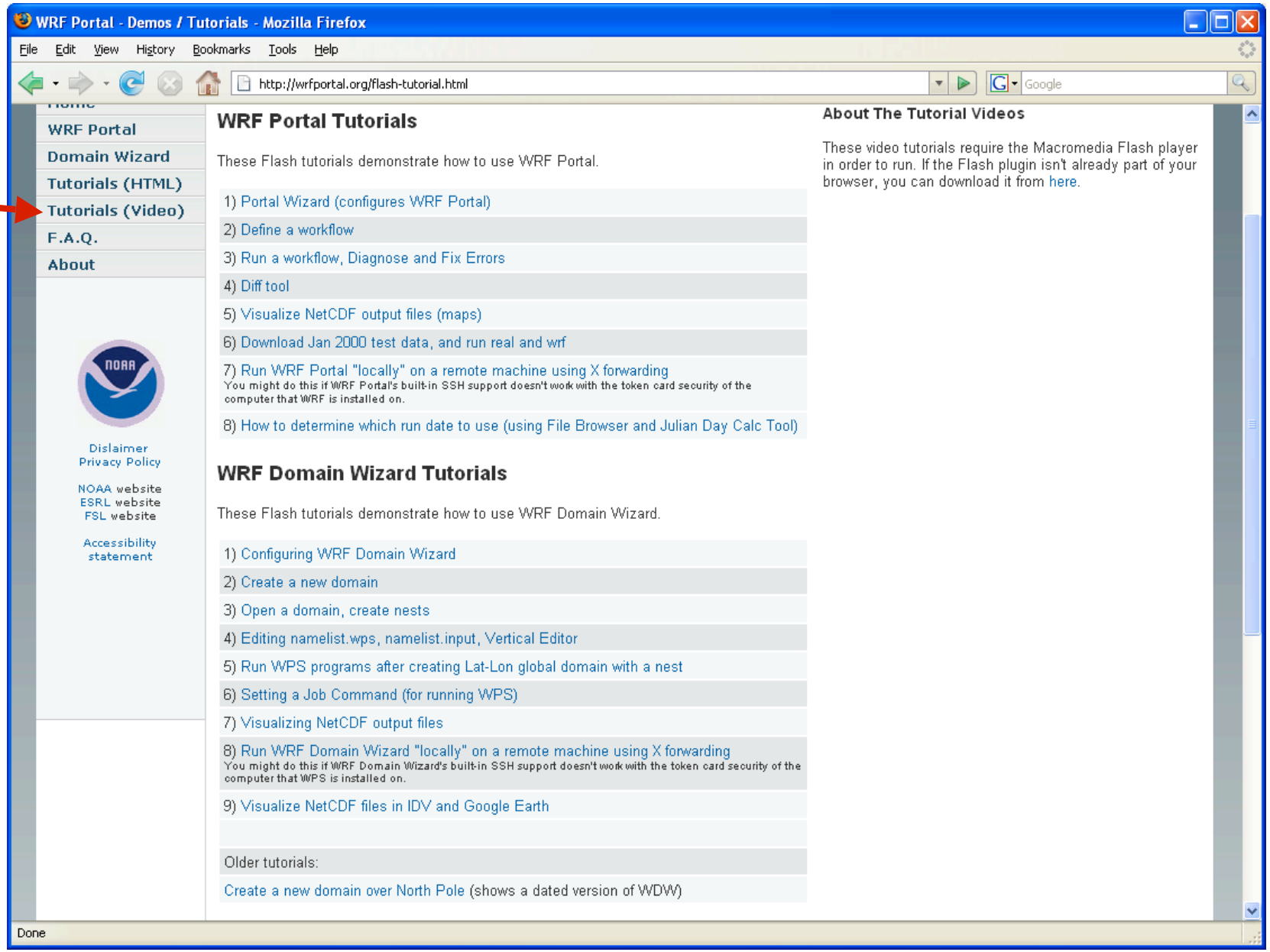
Run WPS programs (geogrid, ungrib, metgrid)



View output in Panoply or Google Earth



Confused? We have video tutorials here



Thank you!