

Make a map with GeoMapApp:

GeoMapApp is an earth science exploration and visualization application that is continually being expanded as part of the Marine Geoscience Data System at the Lamont-Doherty Earth Observatory of Columbia University. The application provides direct access to the Global Multi-Resolution Topography compilation that hosts high resolution (~100 m node spacing) bathymetry from multibeam data for ocean areas and ASTER and NED topography datasets for the global land masses. Manuals and video tutorials are located on their webpages.

Assignment:

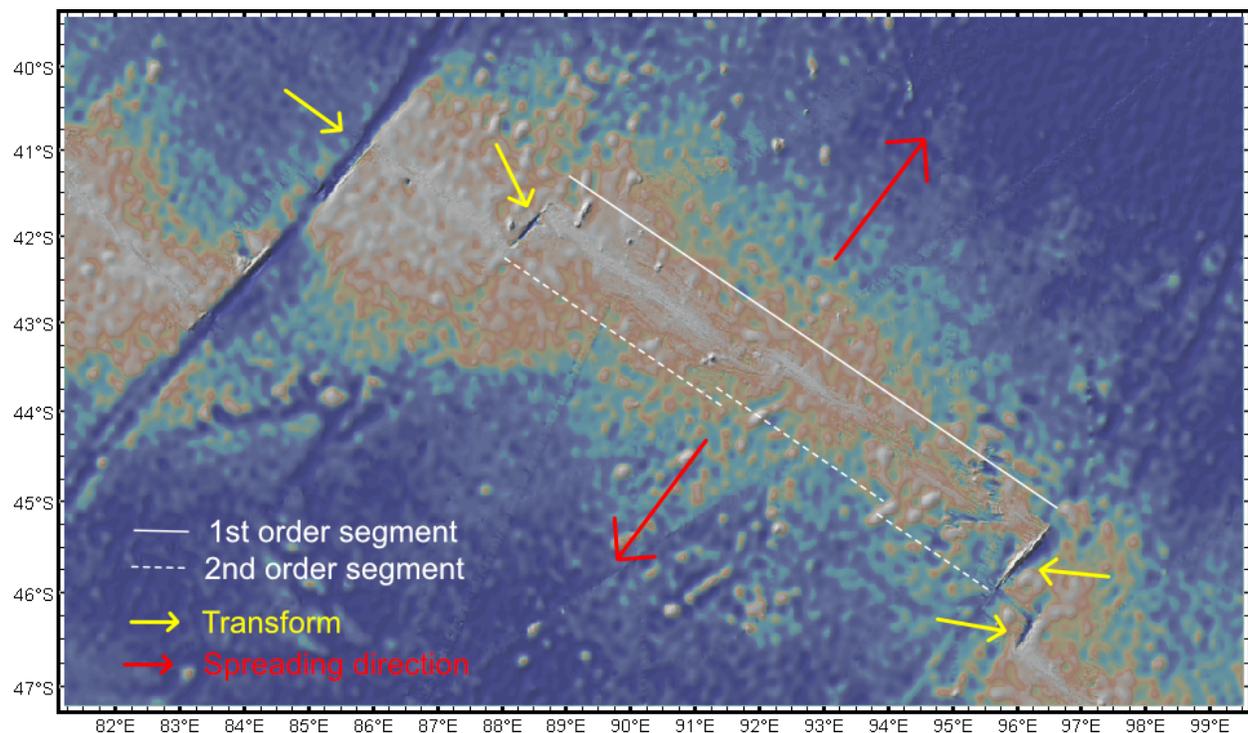
Make some maps of a section of mid-ocean ridge that contains at least 3 segments and/or is 1000km long (whichever is shorter). The map should have latitude and longitude marks on the left and bottom. 1) One map should show the ridge bathymetry (illuminated) with labels for spreading direction, ridge segment order, and transform fault location. 2) Another map should use a different color palette (e.g., Haxby) and contours at whatever interval looks most pleasing to you. 3) Make <4 maps that show the location of the different bathymetry datasets used in the compilation (if there are more than 4, choose the ones that cover the most area). 4) Make a map that shows the location of samples from PetDB colored by MgO. 4) Make one map that shows the gravity along the ridge.

Install the GeoMapApp software from [www.geomapapp.org](http://www.geomapapp.org)

Example (1): Bathymetric map

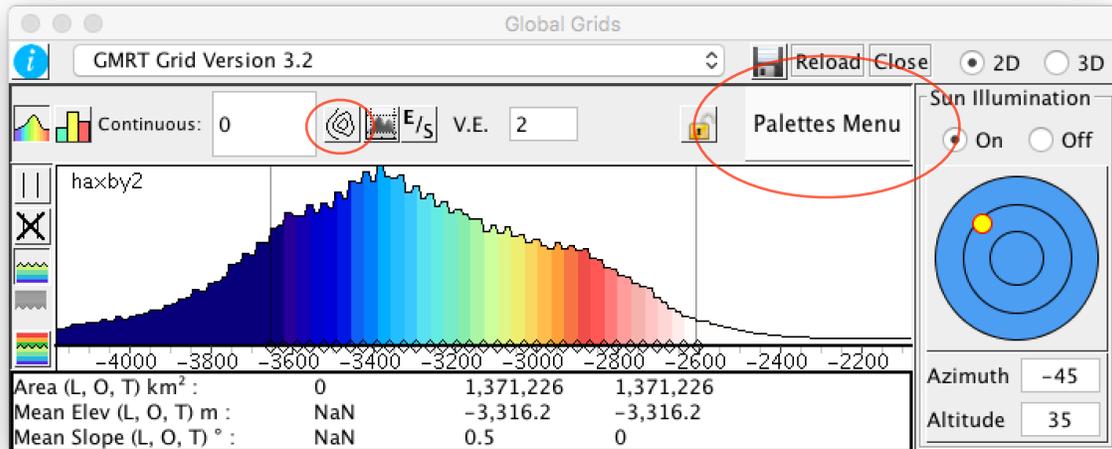
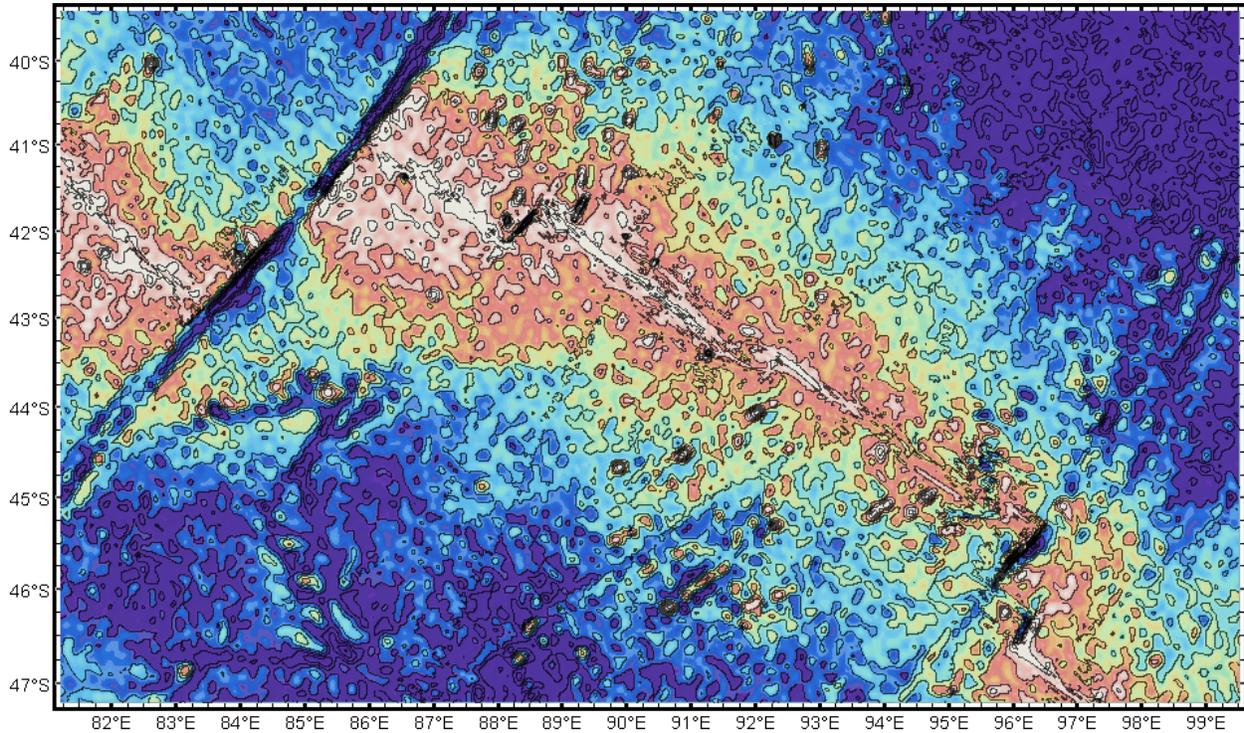
[Hint: When you find the area you are interested in, click on the 'grid' button to load the actual

data that you can manipulate.  ]

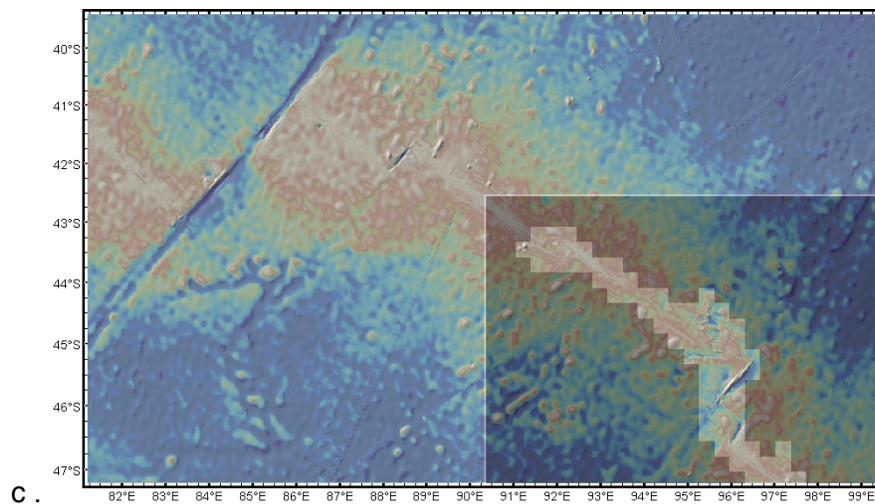
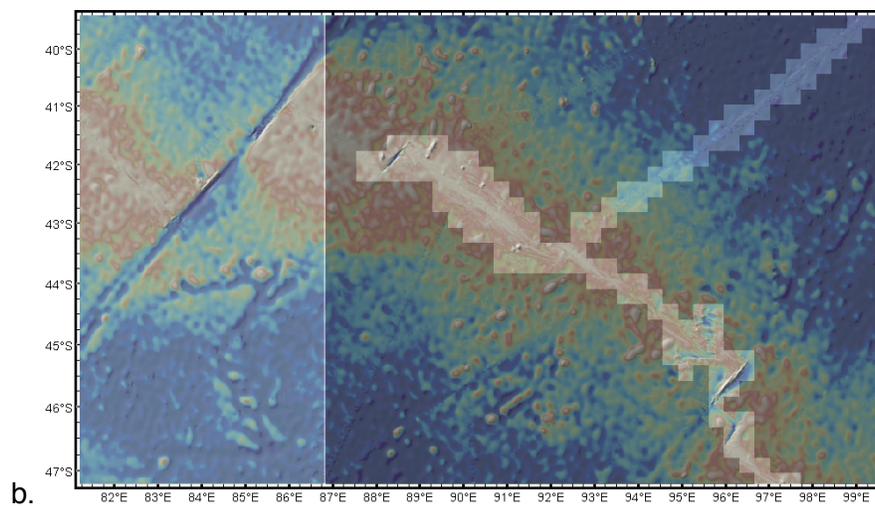
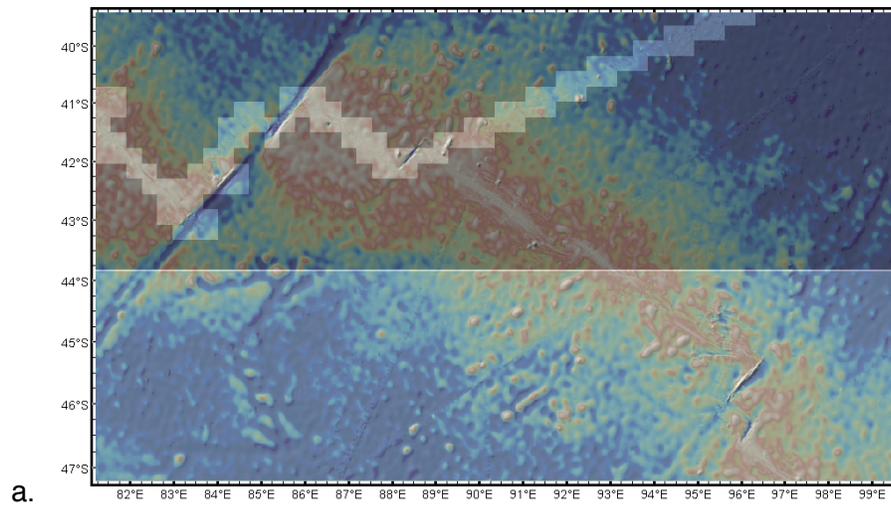


Example (2): Haxby colormap with 200m contours

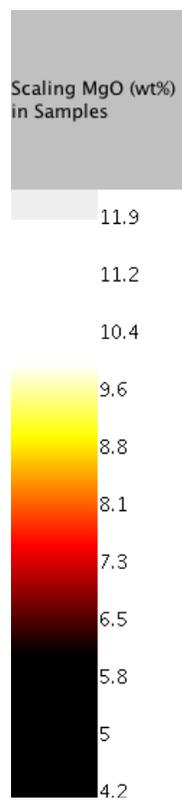
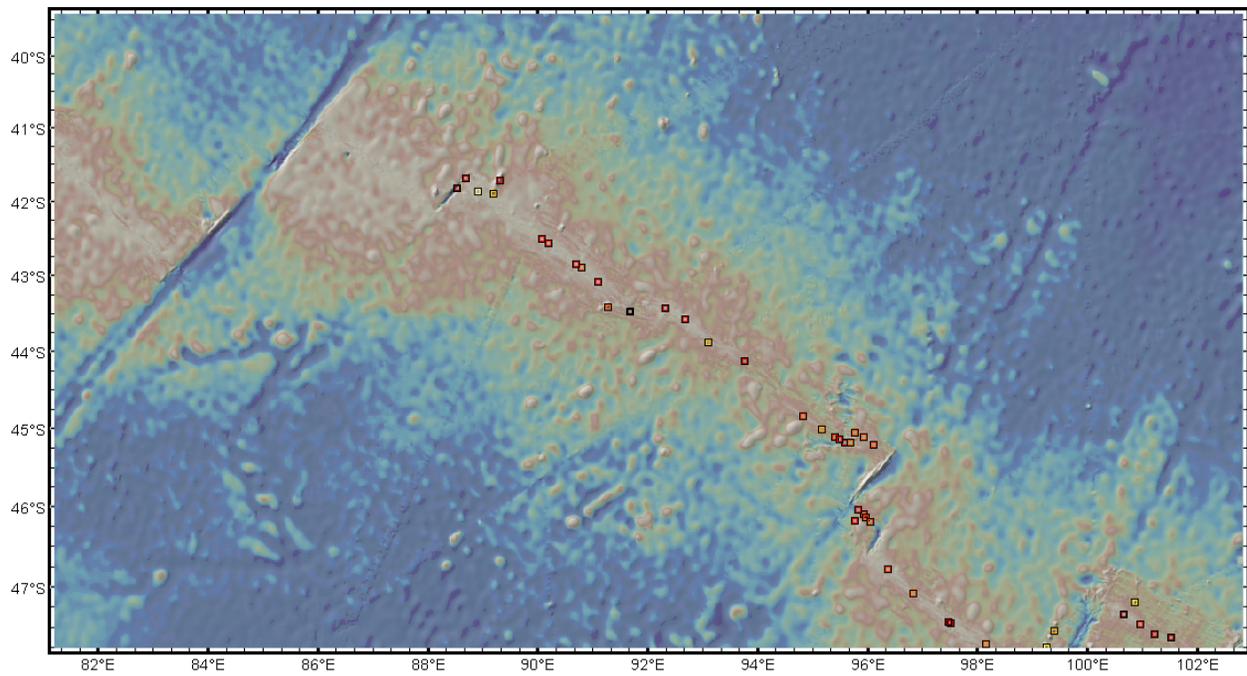
[Hint: on the 'Global Grids' window, check out the 'Palettes Menu' and the contour button]



Example (3): Bathymetry data sets (a. BMRG06MV, b. WEST10MV, c. WEST09MV)  
[Hint: Look at the 'info' button near 'Elevation Data Sources (lower-left), click on 'Show Location' and the relevant data set.]



Example (4): PetDB colored by MgO wt%  
[Hint: Look in 'Portals' -> 'PetDB']



Example (5): Mantle Bouguer anomaly

[Hint: Look in 'Data Layers' -> 'Geophysics' -> 'Gravity Anomalies']

