**GeoMapApp exercise** (due Jan 26th): Please feel free to collaborate outside of class but, if you do, please do not choose the same core location or duplicate your choice of variable in Part 2, questions 3 and 4 below.

Part 1. Below is a set of figures from the Initial Reports Volume of ODP Leg 162 focusing on the drilled sites ODP Site 980 and 981.

1) Looking at the data and figures below, how far apart are the two sites?
2) Which site has the highest sedimentation rate in the Pleistocene? Which site has the highest sedimentation rate in the Pliocene? What is the depth and age of the oldest sediment recovered at each site?
3) You want to produce a long, high-resolution climate record from this region using these two sites and have sufficient though not unlimited analytical resources. What strategy(ies) might you use?

Part 2. Using GeoMapApp:

1) Create a base map of the Gulf of Mexico (GOM).
2) Create a map of all sediment cores taken in GOM coded by where they are archived: DSDP, ODP, LDEO, WHOI, all others.
3) Choose one core location and create a map showing the two nearest crossing seismic lines and a second figure showing the crossing seismic lines in vertical section. Project approximate location of core site onto seismic line and indicate the depth the core extends into sedimentary sequence.
4) Make a map plot of any other variable you like for both the region immediate to the core site and for the GOM as a whole. Think like a scientist writing a coring proposal for paleoclimate studies.
Figure 1. View of the Rockall Trough and the Rockall Plateau showing location of Sites 980, 981, and 982. Flow from northeast is over the Wyville-Thompson Ridge. Land in southeast corner is Ireland. Physiographic features: RB = Rockall Bank, FD = Fenri Drift, RT = Rockall Trough, FI = Faeroe Islands, HRB = Hatton Rockall Basin, HB = Hatton Bank.

Figure 35. Map showing Leg 162 site survey track lines. Heavy parts of Lines S5 and S7 mark the seismic section shown in Figure 36. The originally proposed sites PENS-1 and PENS-2 are marked.
Figure 36. A. Composite plot of parts of seismic Lines S5 and S7, on which Sites 980 and 981 were identified. B. Interpretation of the seismic data shown in (A), with seismic reflectors and units shown. See Figure 35 for location.
Figure 37. Diagram showing the seismic stratigraphy and its relation to lithostratigraphy and geotechnical units at Sites 980 and 981. Note that the time scale (seconds) is linear within the drilled depths.

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