**Plate Tectonics Map Set, Information and Credits**

This is a set of 6 world maps that I compiled to help my students explore the distributions of earthquakes and volcanoes and their relationships to world plate boundaries. They show that lines of shallow earthquakes delineate many of the plate boundaries, that bands of deeper earthquakes and arc volcanoes locate the subduction zones, and that the locations of hot spot volcanoes are, for the most part, independent of the surface plate geometries, suggesting sources in the deeper mantle.

For each group of 3-4 students, I create a stack with Map 1 xeroxed onto a transparency and Maps 2-6 on paper. IMPORTANT: Do all the xeroxing at one time, both transparencies and paper maps; copy machines tend to drift in scale and you want them all to be exactly the same scale so that they overlay well.

The "Instructions" document describes the map exercise that I created for my classes. Use this or make up your own exercise.

The maps include:

1. coastlines (to be used as a transparent overlay for the other maps).

2. locations of shallow earthquakes, i.e. epicenters less than 70 km deep.

3. locations of plate boundaries.

4. locations of intermediate and deep earthquakes, i.e. epicenters 70 to 680 km deep.

5. locations of "arc" (subduction driven) volcanoes.

6. locations of "hot spot" volcanoes.

Made by Tanya Atwater from the 1990 computer collections of the Lamont-Doherty Earth Observatory.

The materials on this site are free works. You may download, copy, distribute, and modify them as suits your purposes. Acknowledgement of authorship and reference to this website is appreciated. Note that many were constructed in the 1990’s when computer files were much more restricted in size and delivery rate. Hopefully they are still useful.

Complaints, corrections, comments and, especially, suggestions for how to make these materials more useful are always welcomed: [atwater@geol.ucsb.edu](mailto:atwater@geol.ucsb.edu)