**PETROGRAPHY OF ISLAND ARC VOLCANICS**  
**JAPAN ARCHIPELIGO**

**Objective:** Japan is the classic example of a mature island arc. It contains all the tectonic elements of an oceanic arc with a trench, forearc, broad volcanic arc and a back-arc basin. It also contains the diversity of volcanic compositions from basalts to andesites to rhyolites, tholeiites to calc-alkaline compositions, and low-, medium-, and high-K compositions. Being dominated by explosive eruptions of volatile calc-alkaline andesites, many of the samples will be pyroclastic deposits rather than lava flows. These “tuffs” should be distinguished on the basis of their being dominantly composed of ash, rock fragments (lithics) or crystal fragments, or some combination (e.g. a crystal lithic tuff). Also note that amphibole (hornblende) and/or intermediate plagioclase will be common phenocrysts or crystal tuff constituents in the andesitic compositions.

**Procedure:** Select 4 thin sections and hand samples from the J1 sample suites. Complete a petrographic description form for each sample. Refer to the glossary of petrographic terms to aid in using the correct terminology.