Primary Sites:

Key Science Questions

-creation of continental crust

-rates and fluxes of arc crustal growth

(1) Cascades:

-high-resolution seismic image of crustal column beneath active volcano:
where are the melt/mush zones?

-good infrastructure; lots previous work

-additional mapping/geochronology/geochemistry on volcanic/plutonic exposures

-compare adjacent volcanic centers with distinctly different magma types

-deliverables within 5 years

(2) Aleutians (island arc):

-same as above, plus:

-example of juvenile arc crust:

-can use crustal column to infer magma influx rates over lifetime of arc

-can deploy transportable array (OBS)

-deliverables within 10 years

Thematic Objectives:

-sequestered funds for work on a wide range of localities, but will coordinate work done among broad community

Key Science Questions

-what are the slab inputs?

-what is the architecture of arc crust/lithosphere?

(1) Exhumed slabs

-sites that collectively sample wide P-T range/mineralogy

-geochemistry, petrology, fabrics, geophysical property measurements, etc.

-need to organize curation of all samples, etc.

-if possible, new analytical work on samples already collected

-deliverables within 3-5 years

(2) Exhumed arc crustal sections (deep and middle)

-sites that collectively sample entire crustal column (lower, middle, upper)

-geochemistry, petrology, fabrics, geophysical property measurements, etc.

-need to organize curation of all samples, etc.

-if possible, new analytical work on samples already collected

-deliverables within 3-5 years