



Bancroft Terrane

- Middle to upper amphibolite grade marble
- Siliciclastic sediments
- Granodiorite/orthogneiss
- 1.1 Ga nepheline syenites
- Carbonatite
- Thrusting at base of southern zone
- High grade metamorphism of the central zone

Elzevir Terrane

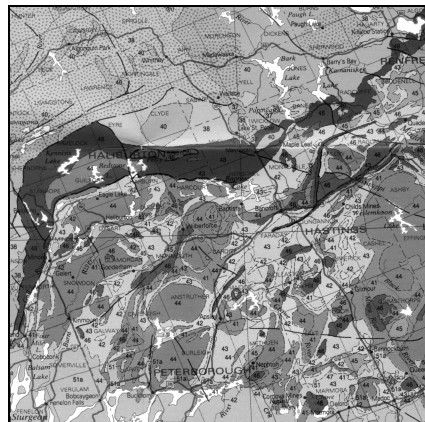
- Greenschist and amphibolite grade metavolcanics
- Marble and siliciclastic sediments
- Tholeiitic and calc-alkali volcanic rocks
- ~1.3 GA tonalites and granites
- Peralkaline volcanics and plutons

Frontenac Terrane

- Lacks metavolcanics and tonalites
- Contains marble and siliciclastic sediments
- Amphibolites to granulites
- SE dipping foliations
- ~1.2 gabbro-syenite-granite plutons

Adirondack Terrane

- Mylonite zone at NW contact with Frontenac Terrane
- Large anorthosite-gabbro-charnockite complexes
- Siliciclastic, carbonate, and evaporite metasediments
- Felsic metavolcanics
- 1.3 – 1.1 Ga intrusions



Grenville Controversies

- Anorthositic complexes?
- Nature of contact with Superior Province
 - The Grenville Front
- Extensive granulite facies rocks
 - Suggest 60 km crust during formation

Evidence for Grenville Origin

- Rifting at the start of the Grenville
 - Plateau basalts
 - NE trend of dike swarms
- Deformation and metamorphism ~1.1 Gy
- Probably represents the opening and closing of an ocean
- Rapikivi granites ~1.4 Gy represent rift related bimodal facies

Late Proterozoic Rifting

- Late Proterozoic rifting began ~0.8 Ga
- Continental breakup occurred ~ 0.6 Ga
- St. Lawrence represents a failed rift of this period
- Alkali intrusions associated with this rifting

