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

Elzivir 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 granulate 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

[Diagram showing 0.8-0.6 Ga Rifting]