

Syn-tectonic Control of Migmatite Structures and the Location of Associated Granite Plutons, Western Maine.

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SG&T Forum Field Trip. Tuesday June 21, 2022

This trip is designed to illustrate evidence for syn-tectonic metamorphism, melting and granite magma ascent during transpressive deformation. The evidence is recorded by structures, petrology, geochemistry and ages of metasedimentary rocks, migmatites and granites in the Rangeley-Rumford area of western Maine. We will examine the Devonian regional structures as recorded in outcrop by relict metasedimentary structures, metamorphic mineral fabrics, migmatite structures, and the shapes and sizes of associated granitic rock bodies from migmatite leucosomes to plutons.

We will begin at 8:30am, at our meeting location, at Coos Canyon, Byron, Maine (44.720336,-70.6407892), where we will see metasedimentary rocks in one of a set of km-scale zones of apparent flattening strain. We will then travel across strike to see similar rocks in one of a set of km-scale zones of apparent constriction. These zones alternate across strike. We will then visit outcrops of migmatites and granite bodies whose structures correspond to these structural zones. We finish the trip in the Mooselookmeguntic pluton and discuss its genetic relation to the progressive structural development.

There will be some light-to-moderate hiking, but no hike is very far from vehicles. The trip requires travel between some outcrops by driving on dirt logging roads that are in uncertain maintenance conditions. It may be useful to consolidate vehicles at certain points. Unfortunately, there will be no opportunities for lunch or restroom stops, except for a privy at the Coos Canyon meeting location. Please bring water, and provisions for lunch.



Stromatic migmatite with sub-concordant and composite granite sheets in pavement outcrop along the Swift River in Roxbury, Maine.