

**Late Paleozoic events affecting the Acadia fold belt in the Meguma Terrane:  
fold reactivation, pluton emplacement and rift inversion**

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The main phase of Acadian folding occurred at ca. 390 Ma -- probably during docking of Gondwana with Laurentia. Later peripheral deformation of the terrane resulted from transpression along the Chedabucto-Cobequid fault. In addition, reactivation of the fold belt at locations internal to the fold belt appears to be widespread.

Flexural-slip folding is an important mode of reactivation in Meguma folds and may locally account for up to thirty percent of limb dip and accompany evolution of chevrons from box folds. A variety of auriferous quartz veins may accompany flexural slip. Close resemblance of the flexural-slip vein systems to published descriptions of many Nova Scotian deposits suggests a model for gold deposits in the Meguma Terrane. Flexural-slip structures cut porphyroblasts of the thermal aureole of the ca. 370 Ma South Mountain Batholith, giving an age constraint on this mode of reactivation.

In the Halifax area, Acadian folds in the roof of the South Mountain Batholith are undisturbed by emplacement and stoping is active here. By contrast, at the steep margin of the batholith, the Acadian folds are deformed, and bedding is flexed downward and youngs toward the batholith. It seems likely that the sheet-like South Mountain Batholith made space for itself by depressing its floor. Roof-lifting did not occur but the roof may have been eroded by stoping.

In southwest Nova Scotia, Carboniferous reactivation of folds affecting the Meguma and Annapolis Supergroups is restricted to a belt thirty kilometres wide. The belt of deformation is likely an inverted rift in which the Annapolis Supergroup was originally deposited. This interpretation is consistent with various stratigraphic, geochemical and field data.