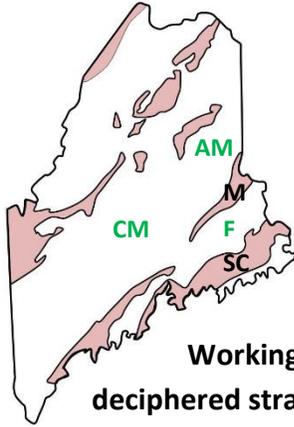
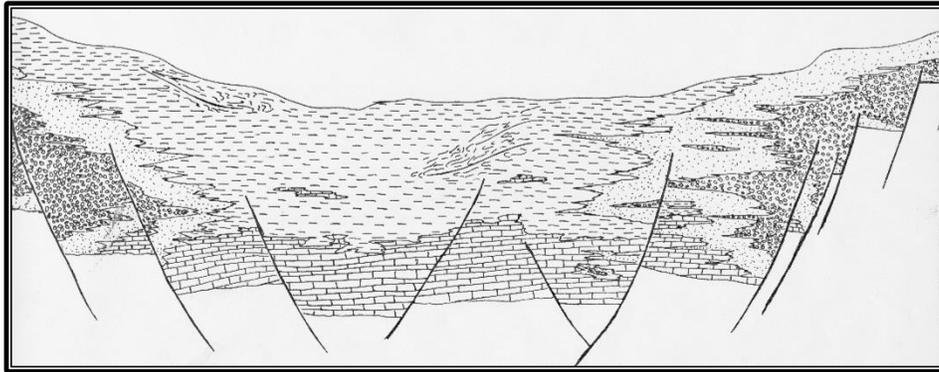


## SEDIMENTATION, STRATIGRAPHY, AND REGIONAL BASIN ANALYSIS



This map shows alternating belts of NE-trending pre-Silurian (pink) and Siluro-Devonian (white) rocks that underlie most of Maine. All of these have been folded at least once, faulted, and intruded by extensive felsic and mafic plutons not shown on the map. Glacial deposits cover more than 99% of the ground, making stratigraphy, basin analysis, and paleogeographic reconstruction difficult. The scarcity of fossils for age control doesn't help either.

Working with Queens College students and U.S. and Canadian colleagues, I have deciphered stratigraphic sequences in the five indicated tracts: pre-Silurian Miramichi (M) and St. Croix belts (SC) and the Aroostook-Matapedia (AM), Central Maine (CM), and Fredericton (F) cover rock sequences. Fossils found in the Central Maine belt led to a facies model for that basin and my current work is revealing complex facies and tectonic relationships among the pre-Silurian rocks and adjacent cover rocks for which they were presumably the source. For example, “unfolding” and “unfaulting” the rocks leads to the interpretation below of a two-sided basin in which the Central Maine and Aroostook-Matapedia sequences were deposited.



Click for examples of my stratigraphic research.

- <Pankiwskyj, K., A. Ludman, J.R. Griffin, and W.B.N. Berry, 1976, Stratigraphic relationships on the southeast limb of the Merrimack Synclinorium in central and west-central Maine; in Brownlow, A., and Lyons, P., editors, *Studies in New England Geology*, Geological Society of America Memoir 146, p. 263-280.>
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- <Ludman, Allan, 2013 Closing the gap: Relationships of the Waterville and Aroostook-Matapedia sequences; in Hanson, L., ed., *Guidebook for field trips in north-central Maine*; New England Intercollegiate Geological Conference, Trip A-1, p. 1-14>