

# FIELD TRIP: A TRANSECT ACROSS THE ACADIAN AND TACONIC OROGENIC ZONE: HUDSON VALLEY, NY TO THE BERKSHIRE MASSIF, MA

*Geosciences 500*  
*Fall 2019*

## PURPOSE

The purpose of this field trip is to complete a transect across the Appalachian mountain belt from the autochthonous (i.e., in place) molasse deposits associated with the Devonian Catskill wedge to the allochthonous (i.e., transported) thrust sheets of the Acadian and Taconic foreland to the metamorphosed basement and cover rocks of the hinterland. The trip will consist of two parts:

### 1) Day 1

Stop 1- Appalachian trail exposure of the Great Unconformity that separates the Grenville age basement (1.0 Ga) and the staurolite grade Cambrian conglomerates that mark the base of the Paleozoic section.

Stop 2- Deformed schists of the Taconic flysch near the contact with the underlying drift Cambro-Ord. carbonates.

Stop 3- Deformed slates of the Taconic Allochthon at the intersection of Rte 23 and the Taconic Parkway.

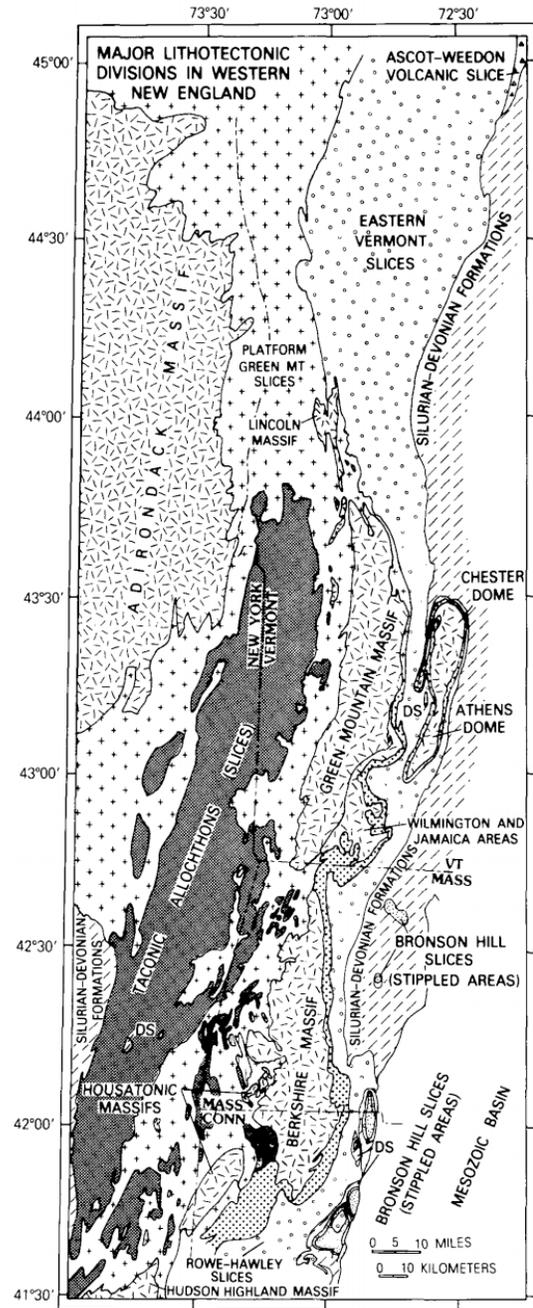
Stop 4- Melange of the Taconic thrust front.

Stop 5- Bashbush Falls- Phyllites of the Taconic thrust slices

### 2) Day 2

Stop 1-- Taconic unconformity, Acadian foreland fold and thrust belt, and stratigraphy of the Helderberg Group.

Stop 2-- an exposure of the Esopus shale, an intensely deformed unit that acted as an upper detachment to the structures at stop 1.



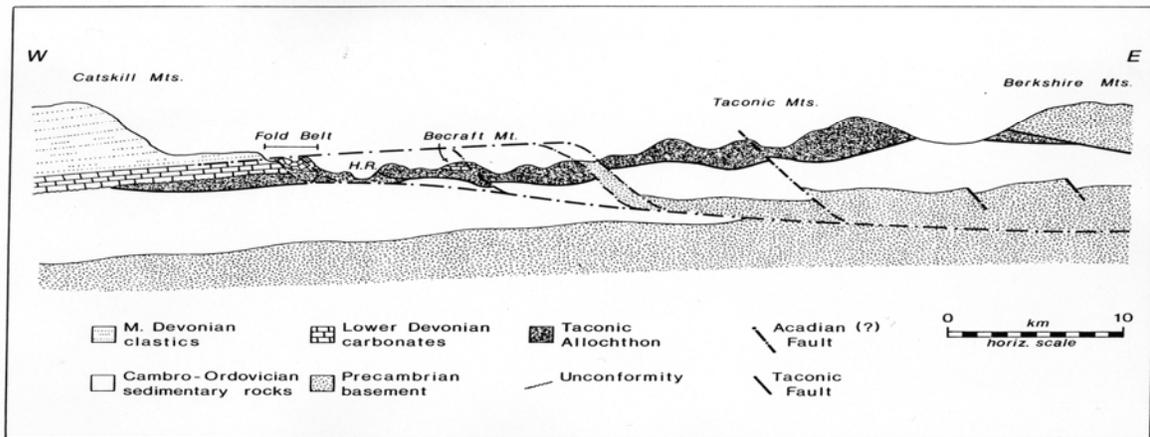


Figure 2. Schematic cross section between the Berkshire and Catskill Mountains (from Marshak, 1983)

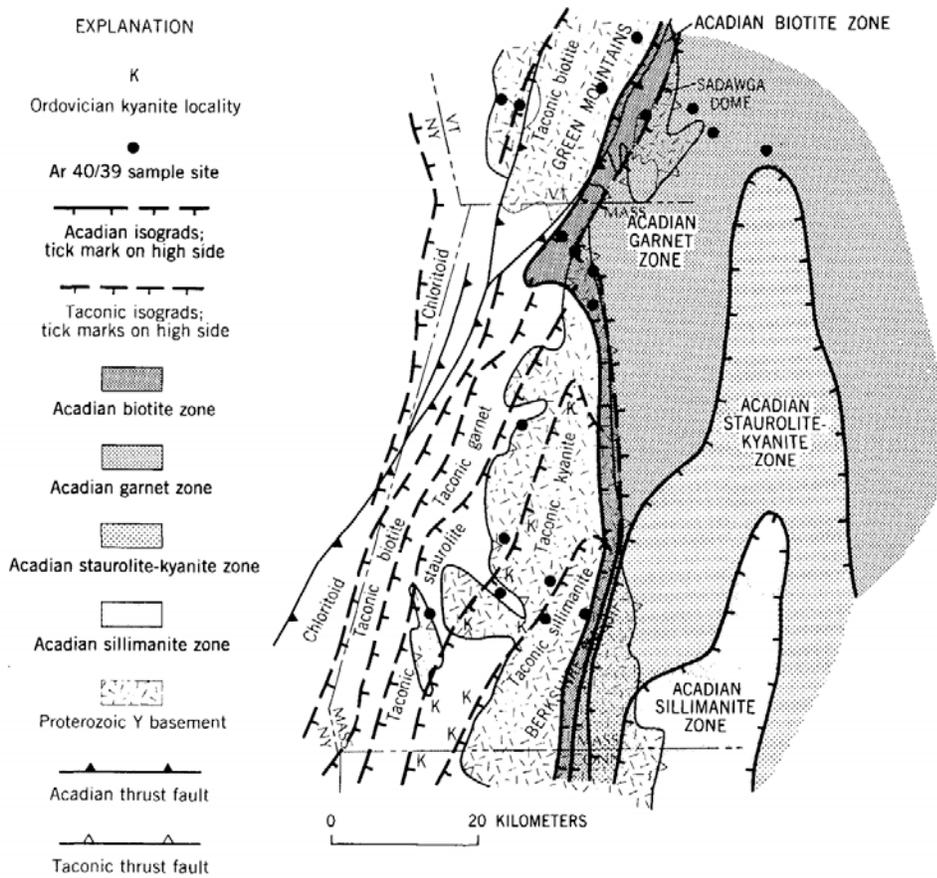


Figure 3. Metamorphic Isograds for Western Massachusetts from Ratcliffe, 1998

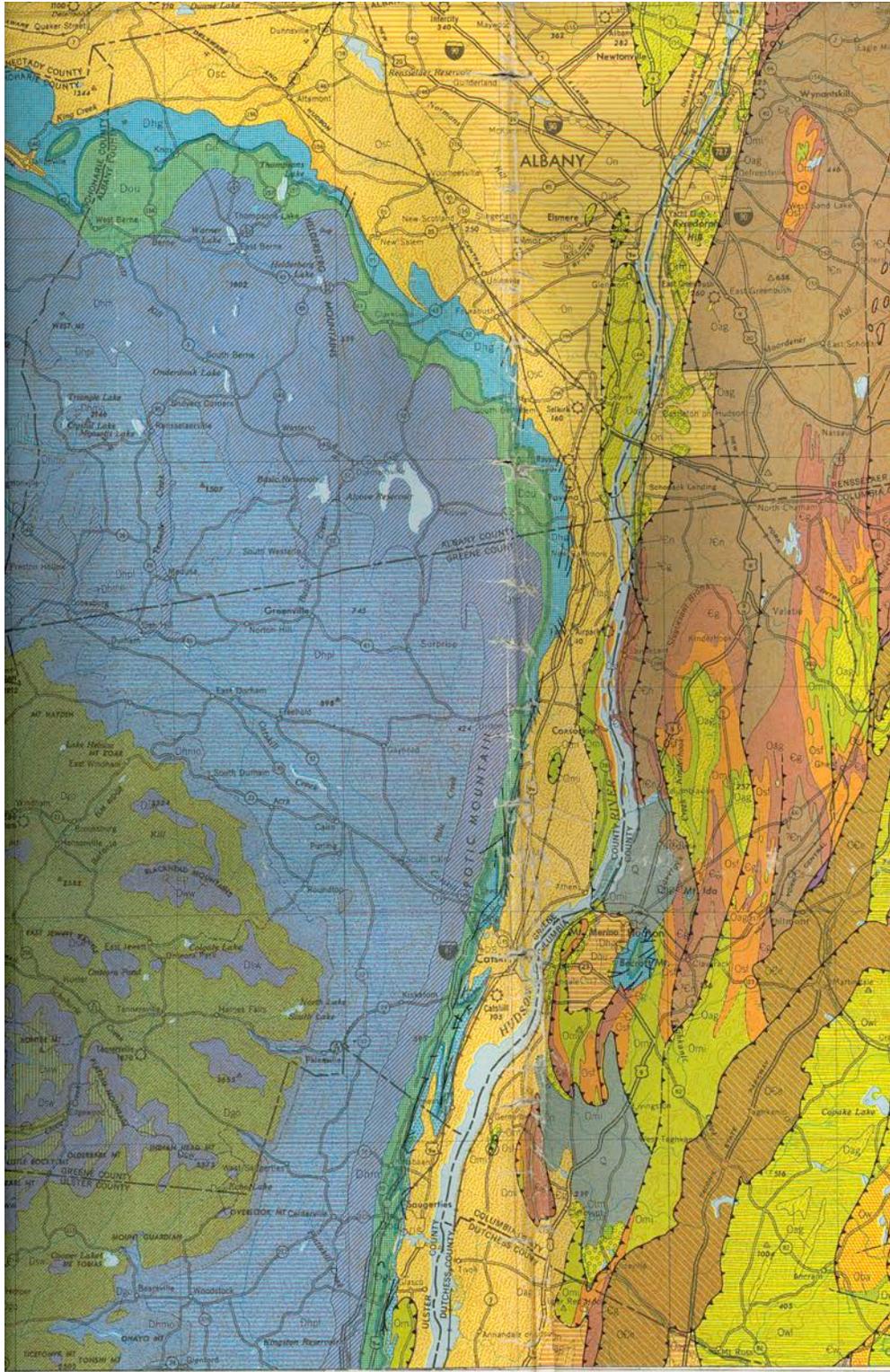


Figure 4. Geological Map of the Hudson Valley.

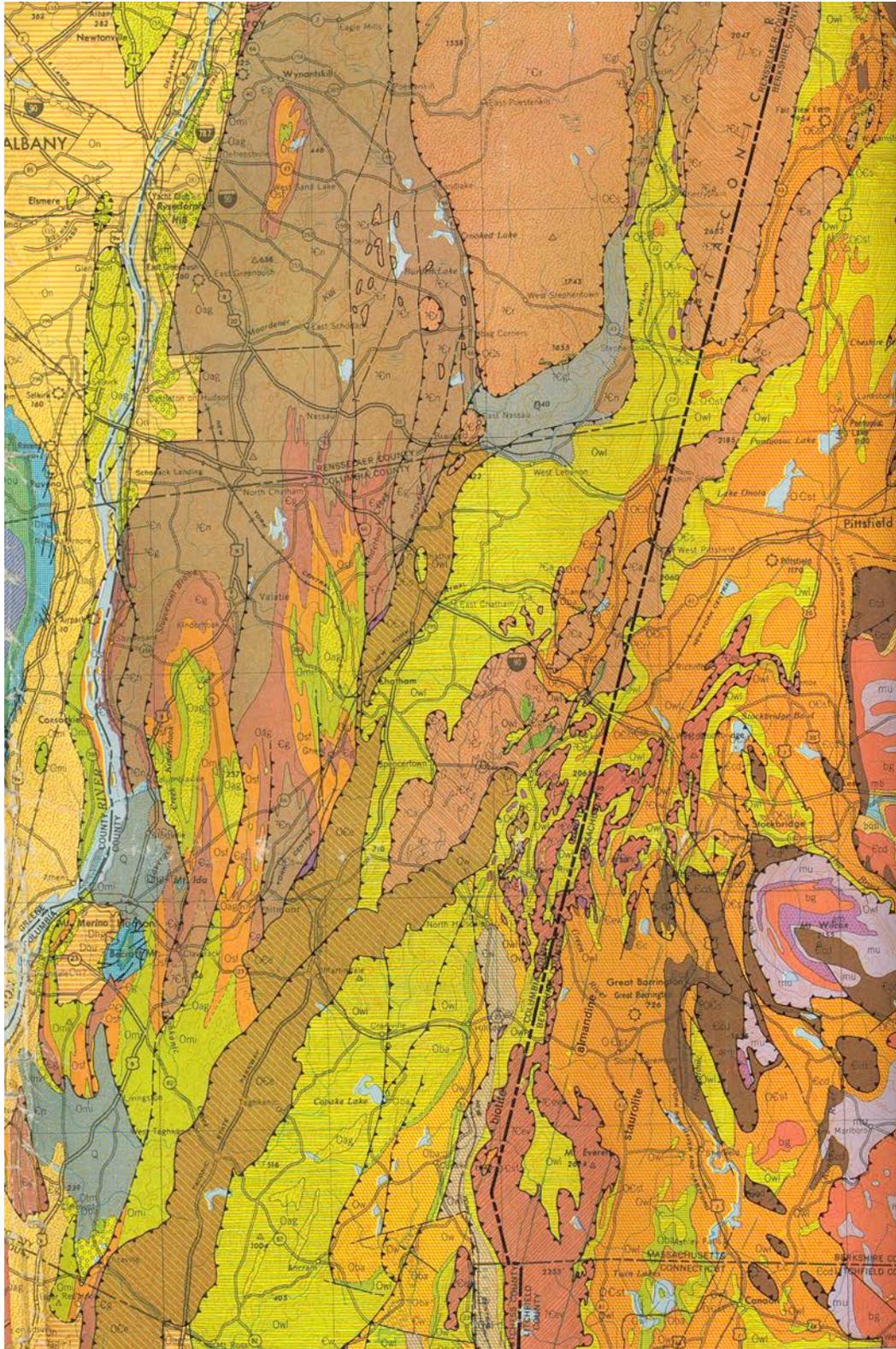


Figure 5. Geologic map of Hudson Valley and Western Massachusetts.

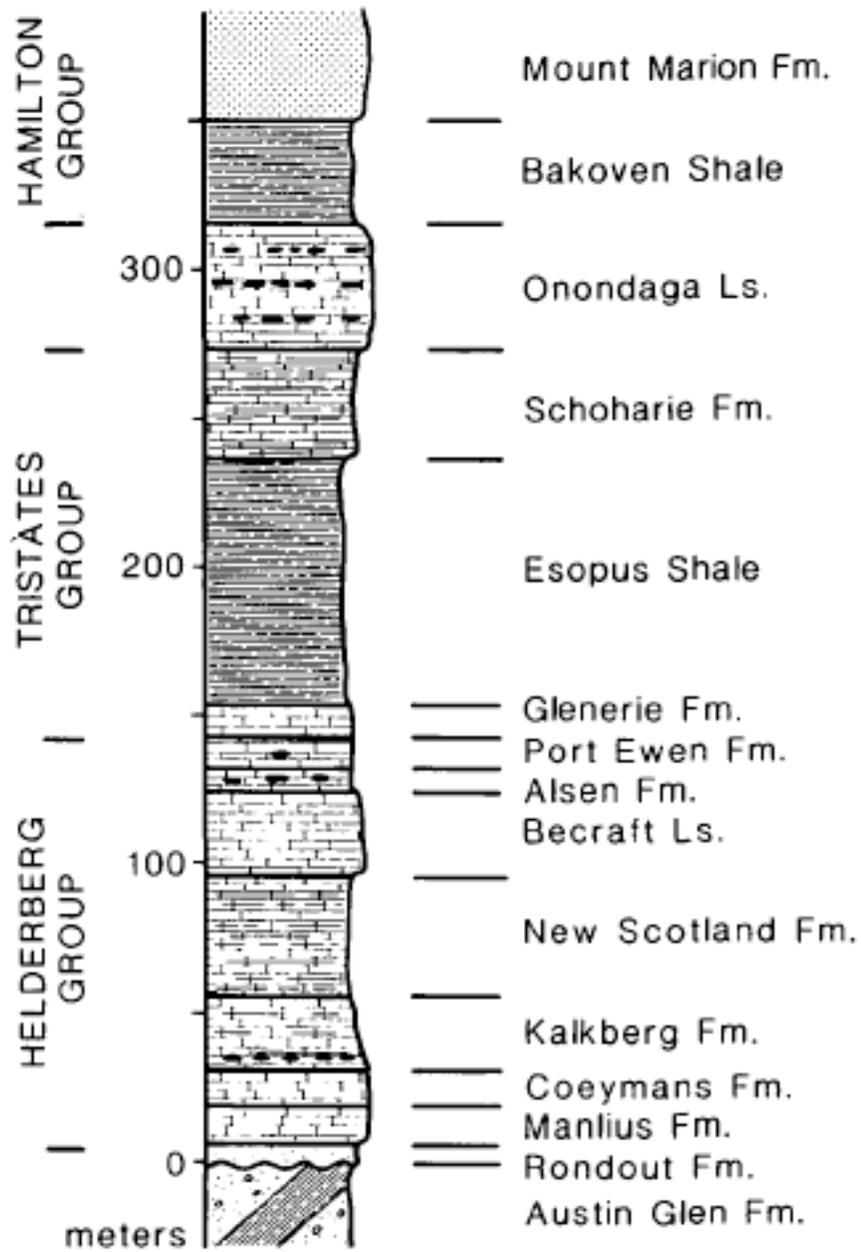
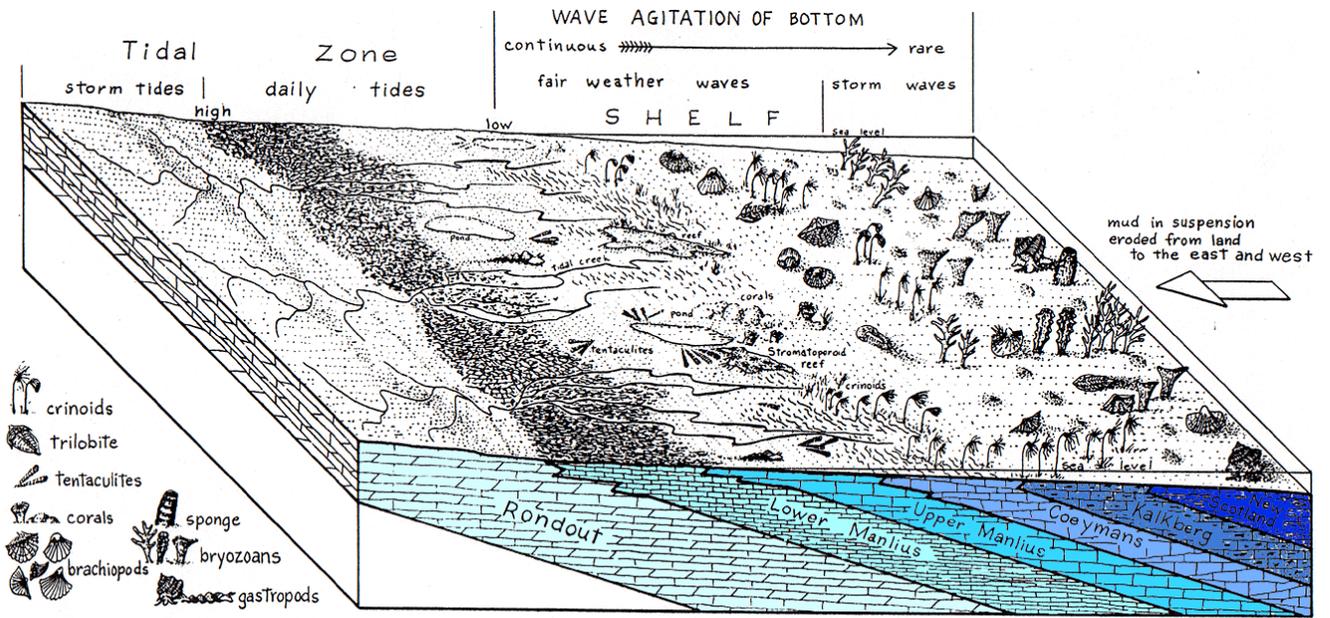


Figure 6: Stratigraphic Column for post-Taconic Stratigraphy in the Hudson Valley  
Figure



**Figure 7: Interpretation of the depositional environments of the Helderberg Sequence.**

Helderberg Facies (from U. of Rochester website)