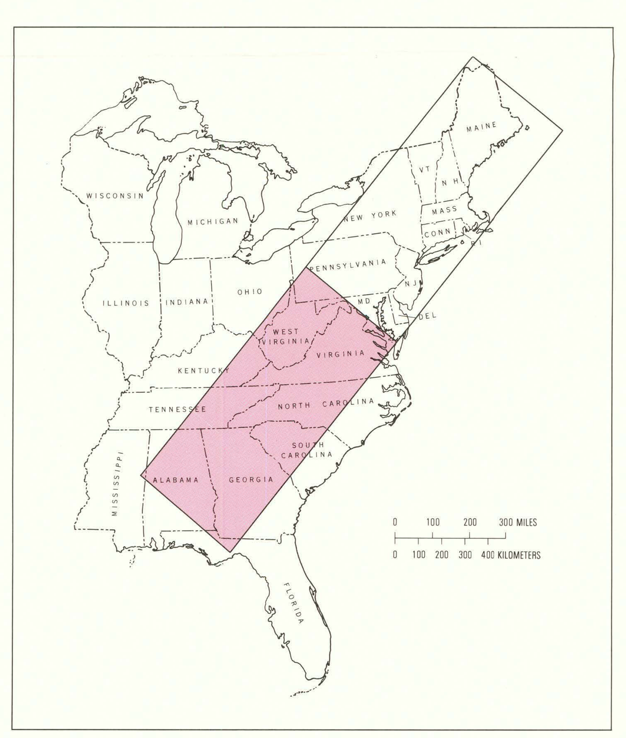
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

MISCELLANEOUS INVESTIGATIONS SERIES
MAP I-1655 (SHEET 2 of 2)



INDEX SHOWING LOCATION OF SHEET 2

BASEMENT AND BASEMENT-COVER RELATION MAP OF THE APPALACHIAN OROGEN IN THE UNITED STATES

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EXPLANATION

AGE OF BASEMENT ROCK INCLUDING OPHIOLITE COMPLEXES AND FRAGMENTS

- Pre-Middle Ordovician—491-570 Ma
- Avalonian—570-900 Ma
- Grenvillian—900-1600 Ma

TECTONIC STATUS

- Allochthonous or parautochthonous (in the Alpine sense, Heritsch, 1929) basement; that is, the rock body has known autochthonous equivalents. Rock body is not necessarily bounded by a thrust fault at the surface, but may be above a thrust fault that crops out within the cover rocks or is blind such as in the northern Blue Ridge, parts of the Reading Prong, and the Green Mountains.
- Highly allochthonous basement; that is, the rock body has no known autochthonous equivalent
- Basement terrane that is either rifted fragment of, or exotic to, the North American craton. These rocks may also be allochthonous to their cover

DATE OF LAST MAJOR TECTONISM

M	(Mesozoic)—Post-230 Ma
C^{al}	(Alleghanian)—230-280 Ma
C^{ac}	(Acadian)—360-400 Ma
C^{t}	(Taconian)—450-470 Ma
P^{a}	(Late Proterozoic)—570-750 Ma

NATURE OF BASEMENT-COVER CONTACT

(Age of contact is specified by a tectonism symbol, such as C^{al})

- Intrusive contact
- Unconformity
- Thrust fault
- High-angle fault—U, upthrown side; D, downthrown side

METAMORPHIC STATE PRIOR TO DEPOSITION OF COVER

- High-grade (hornblende-amphibolite facies and above)
- Medium-grade (epidote-amphibolite facies)
- Low-grade (greenschist facies)

RADIOMETRIC AGE

+ 1057 Ma	Rb/Sr
○ 1140 Ma	Zircon

PRIMARY ROCK TYPE

s	Metasedimentary
vm	Metavolcanic, mafic
vf	Metavolcanic, felsic
v	Metavolcanic, undifferentiated
pf	(Meta) plutonic, felsic or intermediate
pm	(Meta) plutonic, mafic or ultramafic
po	Ophiolitic complexes and fragments

Note: For convenience, ophiolite fragments are depicted as being thrust-bounded although some may be large olistoliths. For small rock bodies, symbols are given in the sequence: primary rock type, age of contact, and date of last major tectonism, such as pf+s, C^{t}, C^{al}.