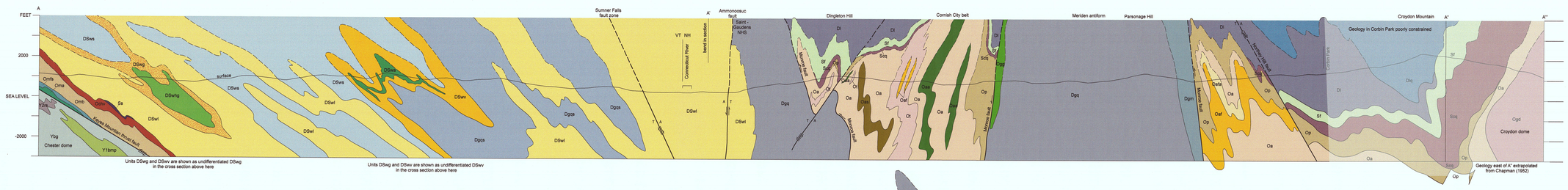
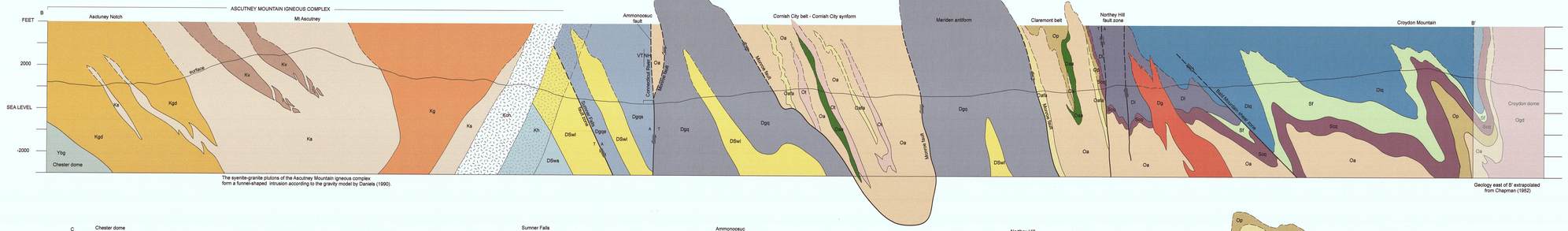
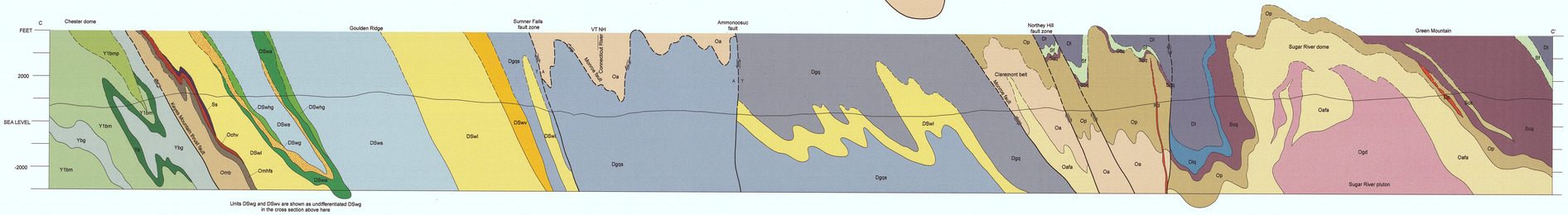
Prepared in cooperation with the
STATE OF VERMONT, VERMONT AGENCY OF NATURAL RESOURCES,
VERMONT GEOLOGICAL SURVEY,
STATE OF NEW HAMPSHIRE, DEPARTMENT OF ENVIRONMENTAL SERVICES,
NEW HAMPSHIRE GEOLOGICAL SURVEY, and the
NATIONAL PARK SERVICE

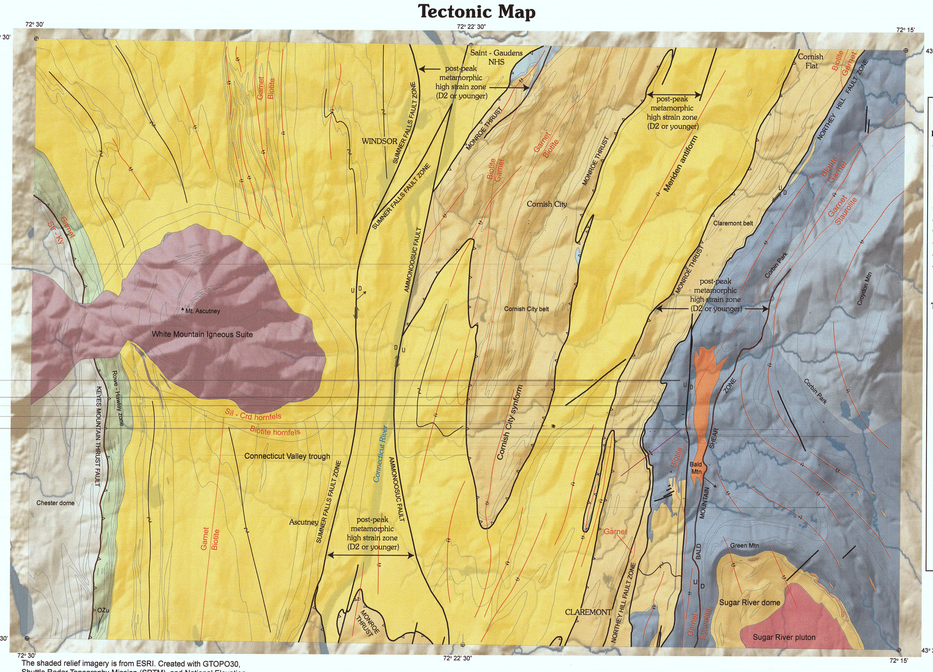
Cross Sections







Tectonic Map



Explanation for Tectonic Map

Contact

Faults

- Monroe thrust fault (Acadian D1) and Keyes Mountain thrust fault (Taconic? or Acadian D1)
- Fault or fault zone — showing post-peak metamorphic, D2 or younger, motion. Undifferentiated Alleghanian or Mesozoic; relative motion shown where known, long arrow shows dominant lineation trend

Axial Traces and Isograds

- Acadian F1 recumbent anticline (nappe-stage)
- Acadian F1 recumbent syncline (nappe-stage)
- F2 overturned antiform (early dome stage)
- F2 overturned synform (early dome stage)
- F3 or younger antiform (dome stage or younger)
- Isograd or metamorphic facies boundary due to faulting; indicates peak Acadian metamorphism

Tectonic Belt

- White Mountain Igneous Suite (Cretaceous)
- Mesozoic fault rock
- New Hampshire Plutonic Suite (Devonian)
- Clough, Fitch, and Littleton Formations (Silurian and Devonian) Rocks in the Monroe thrust sheet
- Rocks east of the Northey Hill fault zone
- Connecticut Valley trough (Silurian and Devonian)
- Sugar River pluton of the Oliverian Plutonic Suite (Ordovician)
- Bronson Hill arc (Ordovician)
- Ultramafic rock in the Rowe-Hawley zone (Ordovician and Neoproterozoic?)
- Rowe-Hawley zone (Cambrian and Ordovician)
- Chester dome (Middle Proterozoic)

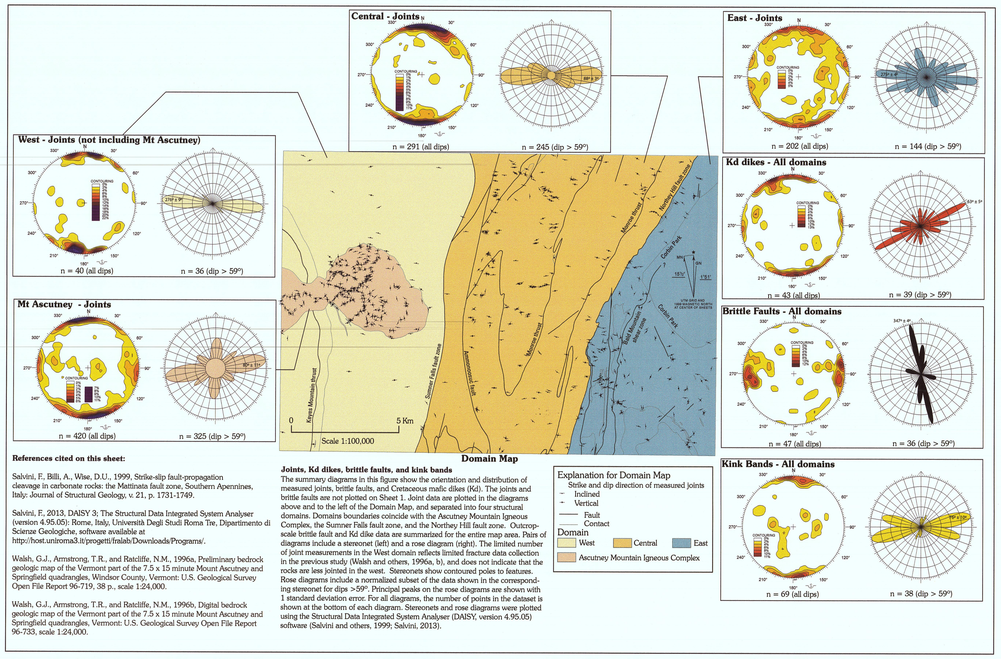
0 5 Km

Scale 1:50,000

Scale and north arrow for Tectonic Map

UTM GRID AND 1999 MAGNETIC NORTH AT CENTER OF SHEETS

Brittle Features



Explanation for Domain Map

Strike and dip direction of measured joints
- Inclined
- Vertical
- Fault
- Contact

Domain
- West
- Central
- East
- Ascutney Mountain Igneous Complex

References cited on this sheet:

Salvini, F., Billi, A., Wise, D.U., 1999, Strike-slip fault-propagation cleavage in carbonate rocks: the Mattinata fault zone, Southern Apennines, Italy: Journal of Structural Geology, v. 21, p. 1731-1749.

Salvini, F., 2013, DAISY 3; The Structural Data Integrated System Analyser (version 4.95.05): Rome, Italy, Università Degli Studi Roma Tre, Dipartimento di Scienze Geologiche, software available at http://host.uniroma3.it/progetti/fralab/Downloads/Programs/.

Walsh, G.J., Armstrong, T.R., and Ratcliffe, N.M., 1996a, Preliminary bedrock geologic map of the Vermont part of the 7.5 x 15 minute Mount Ascutney and Springfield quadrangles, Windsor County, Vermont: U.S. Geological Survey Open File Report 96-719, 38 p., scale 1:24,000.

Walsh, G.J., Armstrong, T.R., and Ratcliffe, N.M., 1996b, Digital bedrock geologic map of the Vermont part of the 7.5 x 15 minute Mount Ascutney and Springfield quadrangles, Vermont: U.S. Geological Survey Open File Report 96-733, scale 1:24,000.

Joints, Kd dikes, brittle faults, and kink bands

The summary diagrams in this figure show the orientation and distribution of measured joints, brittle faults, and Cretaceous mafic dikes (Kd). The joints and brittle faults are not plotted on Sheet 1. Joint data are plotted in the diagrams above and to the left of the Domain Map, and separated into four structural domains. Domains boundaries coincide with the Ascutney Mountain Igneous Complex, the Sumner Falls fault zone, and the Northey Hill fault zone. Outcrop-scale brittle fault and Kd dike data are summarized for the entire map area. Pairs of diagrams include a stereonet (left) and a rose diagram (right). The limited number of joint measurements in the West domain reflects limited fracture data collection in the previous study (Walsh and others, 1996a, b), and does not indicate that the rocks are less jointed in the west. Stereonets show contoured poles to features. Rose diagrams include a normalized subset of the data shown in the corresponding stereonet for dips >59°. Principal peaks on the rose diagrams are shown with 1 standard deviation error. For all diagrams, the number of points in the dataset is shown at the bottom of each diagram. Stereonets and rose diagrams were plotted using the Structural Data Integrated System Analyser (DAISY, version 4.95.05) software (Salvini and others, 1999; Salvini, 2013).

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Bedrock Geologic Map of the Mt. Ascutney 7.5 x 15 Minute Quadrangle, Windsor County, Vermont and Sullivan County, New Hampshire

By
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Last modified: 8 April 2015

GEO-116+117-024000-SMAP_WindsorClaremontNorth

This report is available from:
Digital files and a Geographic Information System (GIS) database are part of this report and are available online.

This map was produced on request, directly from digital files, on an electronic plotter.

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