

Bedrock Geology of the Northwestern Portion of the Baker Island Quadrangle, Maine

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This map supersedes a portion of the B-38 Bedrock Geology map.

EXPLANATION OF UNITS

INTRUSIVE ROCKS

Devonian(?) [D]

Dse **Seawall Granite.** Reddish gray to light gray, fine-grained to medium-grained biotite granite with sugary texture. Red hematite grains are common. Irregular veins of coarse-grained to pegmatitic granite containing abundant quartz and locally amazonite. (Revised from "Seawall Metafelsite" of Chadwick, 1944)

Dbg **Baker Island Granite.** Pink to pinkish gray, medium-grained biotite granite. Biotite grains are aligned to produce a faint "grain" or foliation in places.

STRATIFIED ROCKS

Silurian [S]

Cranberry Island Volcanic Series. Extrusive equivalent of the Southwest Harbor Granite and early part of the Cadillac Granite (Seaman and others, 1999; Wiebe, 1994).

Scm2 **Basaltic lava and tuff.** Dark gray, locally pillowed and vesiculated, fine-grained basaltic lavas discontinuously interbedded with dark gray, layered, fine-grained basaltic tuffs and thin layers of fine-grained, rippled, epiclastic tuff. The basalts contain fine-grained labradoritic plagioclase, epidote, hornblende, biotite, actinolite, chlorite, quartz, and locally garnet.

Scm1 **Basaltic tuff.** Laminated green, red, and white water-lain tuffs with larger fragments disrupting the lamination. Grain size is silt to sand sized. Green layers contain epidote, hornblende, and/or actinolite (~70%), plagioclase (~20%), and chlorite (~10%). Red layers contain biotite (~75%), and plagioclase (~25%). White layers contain quartz (~90-95%) and plagioclase (~5-10%). Green and red layers show delicate cross-bedding and ripple structures. The unit is interpreted to be pyroclastic fallout and flow deposits.

Scf6 **Rhyolitic ignimbrite, tuff, and breccia.** Gray, pumiceous, crystal-rich, rhyolitic, plagioclase-quartz-sandine ignimbrite and volcanic breccia with brown discontinuous fine-grained clay-rich layers. Pumice clasts, typically 1 to 2 centimeters across, become less common upward in the unit, while rounded, dark gray mafic enclaves become more common. Breccia clasts are typically a few centimeters to tens of centimeters across.

Cadillac Mountain
Plutonic Volcanic Complex

EXPLANATION OF LINES

Contact between rock units, of stratigraphic or intrusive origin
(well located, approximately located, poorly located).

.....
D
U
High-angle fault, interpreted from truncation of units on the map or from disruption of stratigraphic sequence.
D (down) and U (up) indicate sense of dip-slip motion
(poorly located).

EXPLANATION OF SYMBOLS

Note: Structural symbols are drawn parallel to strike or trend of measured structural feature. Barb or tick indicates direction of dip, if known. Annotation gives dip or plunge angle, if known. For most planar features, symbol is centered at observation point; for joints, observation point is at end of strike line opposite dip tick. For linear features, tail of symbol is at observation point. Multiple measurements at a site are represented by combined symbols. Symbols on the map are graphical representations of information stored in a bedrock database at the Maine Geological Survey. The database contains additional information that is not displayed on this map.

- | | | | |
|---|--|-------|---|
| + | Outcrop of non-foliated plutonic rock. | ↘ / ↗ | Bedding in volcanic rocks, tops unknown (inclined, vertical). |
| ⊗ | Quartz vein (vertical). | ✕ | Foliation, metamorphic (vertical). |

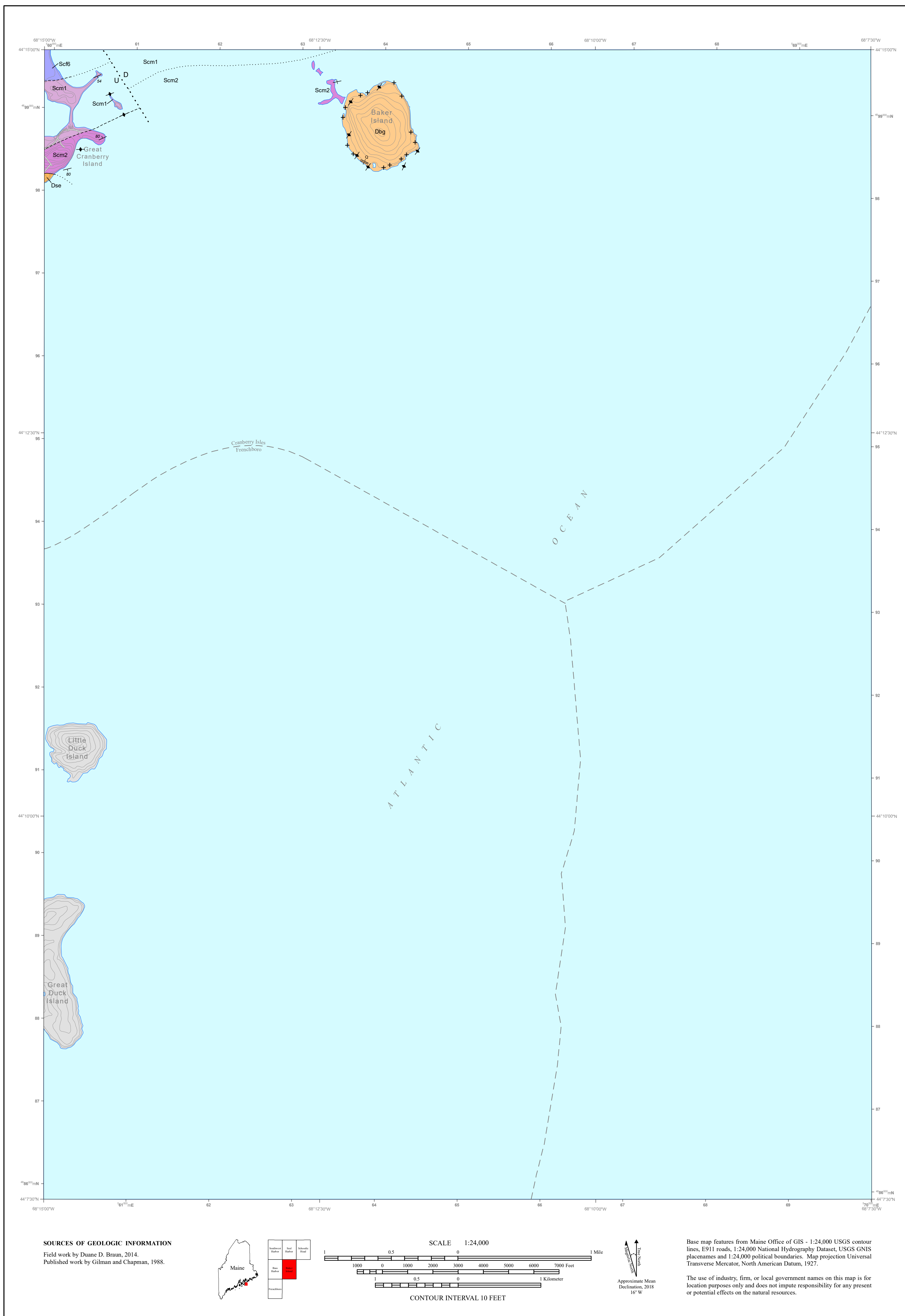
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GEOLOGIC TIME SCALE

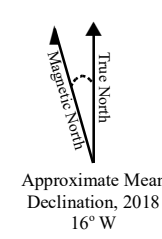
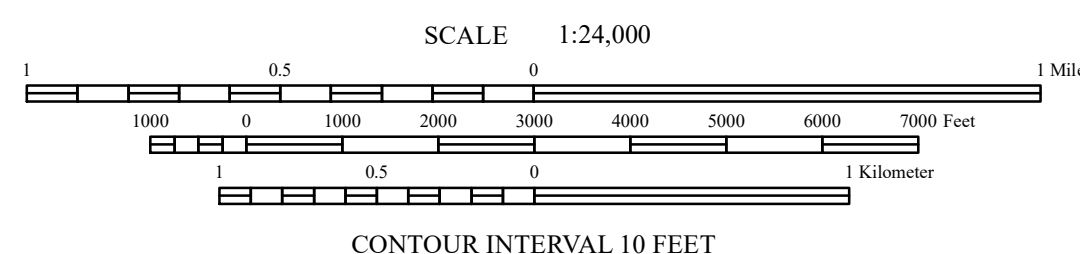
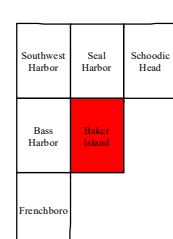
Geologic Age	Absolute Age*
Cenozoic Era (Cz)	0-66
Mesozoic Era (Mz)	
Cretaceous Period (K)	66-145
Jurassic Period (J)	145-201
Triassic Period (T)	201-252
Paleozoic Era (Pz)	
Permian Period (P)	252-299
Carboniferous Period (C)	299-359
Devonian Period (D)	359-419
Silurian Period (S)	419-444
Ordovician Period (O)	444-485
Cambrian Period (C)	485-541
Precambrian time (Pc)	Older than 541

* In millions of years before present. (Walker, J.D., Geissman, J.W., Bowring, S.A., and Babcock, L.E., compilers, 2012 Geologic Time Scale v. 4.0: Geological Society of America, doi: 10.1130/2012.CTS004R3C.)



SOURCES OF GEOLOGIC INFORMATION

Field work by Duane D. Braun, 2014.
Published work by Gilman and Chapman, 1988.



Base map features from Maine Office of GIS - 1:24,000 USGS contour lines, E911 roads, 1:24,000 National Hydrography Dataset, USGS GNIS placenames and 1:24,000 political boundaries. Map projection Universal Transverse Mercator, North American Datum, 1927.

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