Geologic maps as an aid to site type classification

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Site type is the interaction of topography, soil parent material, and climate on vegetation communities.
Geologic control—certain layers support tree growth

North of St. Joe River
Geologic control—certain layers don’t readily support tree growth (here argillite of Belt Supergroup)

East of Sandpoint
Example of close-up view of a geologic map

Sagle quadrangle southeast of Sandpoint

Moyie sill

Prichard Formation
Widespread north Idaho rock units

- Prichard Formation (Belt Supergroup)
  Southeast of Sandpoint

- Moyie sill (igneous intrusion)
  Northeast of Bonners Ferry
Weaknesses of geologic maps

- May not be recent coverage (S Idaho)
- Mixed units are not easily characterized
- Loess/ash not always mapped

Strengths of geologic maps

- Strong predictive capability over large areas
- Easily combined with other GIS datasets
Example of homogeneous rock unit (granite)

Northeast of Sandpoint

Easy to predict mineralogic and chemical composition
Example of mixed rock unit (metasedimentary)

Difficult to predict mineralogic and chemical composition—wide range in silica content, for example
Location relative to modern stream incision also key

Near Juliaetta

Near Weippe

BASALT

SEDIMENT

BASEMENT (METASEDIMENTS + GRANITE)
Search for Geologic Maps

The Idaho Geological Survey offers a searchable index to over 500 geologic maps found throughout its publications. The index includes not only published maps but also the many figures and plates that accompany books, reports, and the individual papers in collected works. Formats range from page-sized illustrations to oversized sheets.

Selected Recent Geologic Mapping from IGS

- 50k and 100k
- 24k
- 24k Surface
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Selected Recent Geologic Mapping from IG5

![Map Preview]
Geologic Maps (GM)

Title: Geologic Map of the Idaho Part of the Grangeville 30 x 60 Minute Quadrangle, and Adjoining Areas of Washington and Oregon

Author(s): John D. Kauffman
Keegan L. Schmidt
Reed S. Lewis
David E. Stewart
Kurt L. Othberg
Dean L. Carwood

Year: 2014
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Pages: 24
Scale: 1:100,000
Size: 36" x 43"
Publication ID: GM-50

Please indicate preference for folded or rolled.

Print type: This publication is printed once an order has been placed and is not stocked. Expected printing time is 3–4 business days.

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Status of geologic mapping by the Idaho Geological Survey

See also:

USGS National Geologic Map Database
https://ngmdb.usgs.gov/

Montana Bureau of Mines and Geology
https://www.mbm.mtech.edu/

Oregon Department of Geology and Mineral Industries
www.oregongeology.org/

Washington State Division of Geology and Earth Resources
www.dnr.wa.gov/geology
Digital Analytical Data Series (DAD)—whole-rock analyses

Idaho Geochemical Samples
- In Progress (Bonnichsen Data)
- Other Geochemical Samples

Major elements:
Si, Al, K, Na….

Trace elements:
Cu, Zn, Rb, Sr….