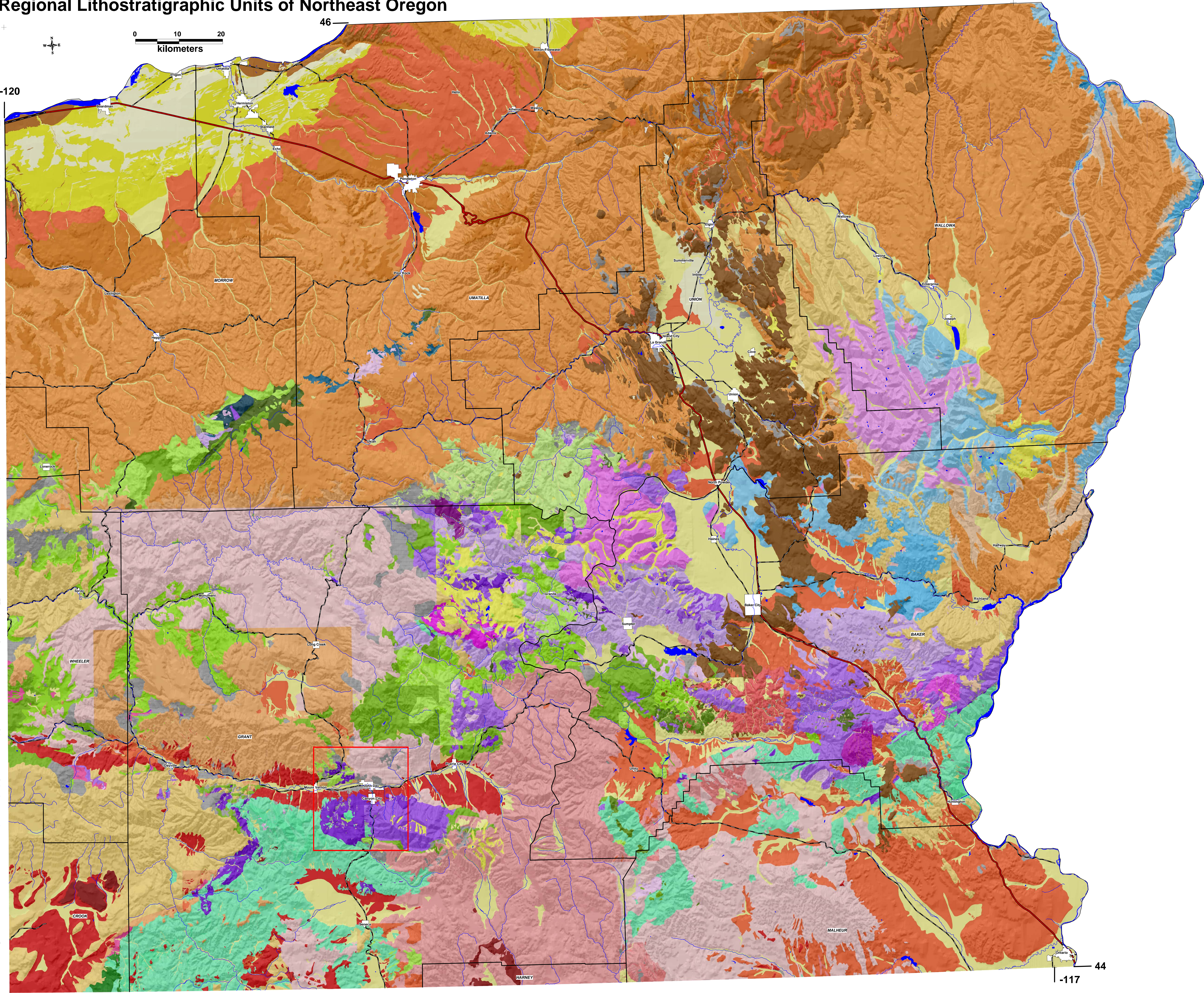


Regional Lithostratigraphic Units of Northeast Oregon

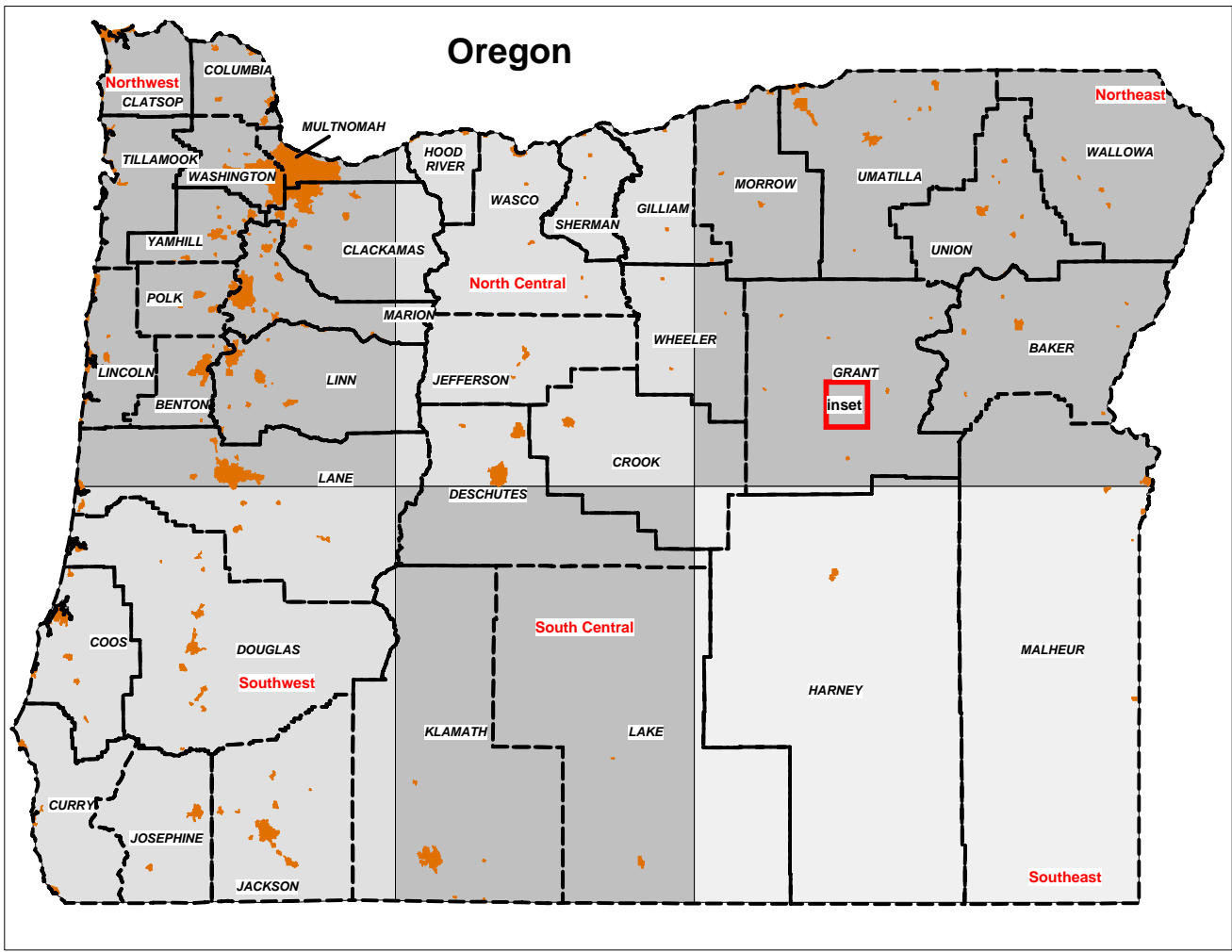


Pilot Digital Geologic Compilation Map and Database for NE Oregon

by
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Plate 2

Location of the NE Oregon map. Orange polygons are urban areas. The remaining 5 blocks will be the subject of planned compilations over the next five years. The SE block has been funded by STATEMAP 2004.



Legend

Quaternary surficial deposits

- eolian deposits
- alluvium, fan, terrace and colluvium deposits
- landslides
- glacial deposits
- Missoula Flood deposits

Neogene Volcanic and Sedimentary rocks

- Pleistocene volcanic rocks
- Miocene Rattlesnake Tuff and associated sedimentary rocks
- Miocene continental sedimentary rocks undivided
- Miocene Dooley Mountain volcanic complex
- Miocene Lake Owhyee Volcanic Field rocks
- Miocene Strawberry Volcanics
- Miocene volcanic rocks undivided

Columbia River Basalt Group Rocks

- Powder River Volcanic Field
- Saddle Mountains Basalt
- Wanapum Basalt
- Grande Ronde Basalt
- Picture Gorge Basalt
- Imnaha Basalt
- undivided Columbia River Basalt

Paleogene Volcanic and Sedimentary Rocks

- Eocene-Oligocene Tower Mountain Volcanic Field rocks
- Eocene-Oligocene John Day-Clarno volcanic rocks
- Eocene-Oligocene John Day-Clarno volcaniclastic and sedimentary rocks
- Eocene-Oligocene John Day-Clarno volcanic and volcaniclastic rocks undivided
- Paleogene volcanic and intrusive rocks undivided
- Paleocene-Eocene continental conglomerate and marine sandstone

Mesozoic Sedimentary and Intrusive Rocks

- Cretaceous marine sedimentary rocks
- Jurassic-Cretaceous North Fork Stock
- Jurassic-Cretaceous Pedro Mountain Stock
- Jurassic-Cretaceous Sunrise Stock
- Jurassic-Cretaceous Lookout Mountain Stock
- Jurassic-Cretaceous Bald Mountain Batholith
- Jurassic-Cretaceous Wallowa Batholith
- Jurassic-Cretaceous intrusive rocks, undivided

Paleozoic and Mesozoic Exotic Terranes

- Paleozoic-Mesozoic Mountain Home Complex metamorphic rocks
- Paleozoic-Mesozoic Mountain Home Complex-intrusive rocks
- Wallowa Terrane; Triassic sedimentary rocks
- Wallowa Terrane; Permian-Triassic volcanic rocks
- Wallowa Terrane; Permian-Triassic intrusive rocks
- Wallowa Terrane; Permian-Triassic metamorphic rocks
- Baker Terrane; Paleozoic-Mesozoic sedimentary rocks
- Baker Terrane; Paleozoic-Mesozoic volcanic rocks
- Baker Terrane; Paleozoic-Mesozoic metamorphic rocks
- Baker Terrane; Paleozoic-Mesozoic intrusive rocks
- Baker Terrane; Paleozoic-Mesozoic melange
- Olds Ferry Terrane; Triassic-Jurassic sedimentary rocks
- Olds Ferry Terrane; Triassic-Jurassic volcanic rocks
- Olds Ferry Terrane; Triassic-Jurassic melange
- Grindstone Terrane; Paleozoic-Mesozoic melange

Explanation

The Regional Lithostratigraphic Map presented to the left is just one of many products that can be derived from the digital compilation map and database developed in this STATEMAP pilot project. No single map view can convey all of the data available. The insets below illustrate how the database was made and what kinds of maps can be produced. All insets show the same area at the same scale (1:100,000). The inset area is shown on the Regional Lithostratigraphic Map as a red box in the SW quadrant.

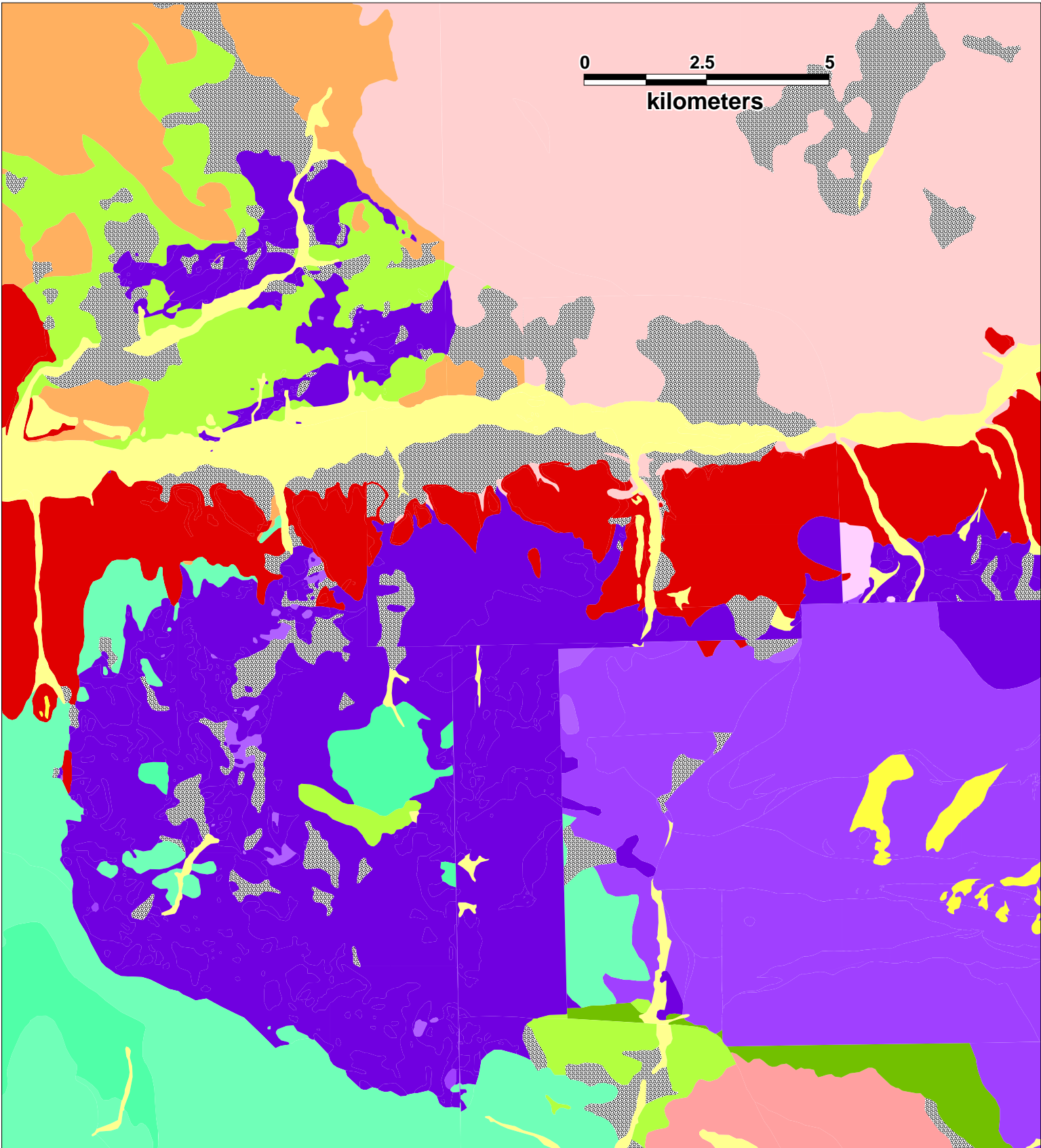
Source Maps

This inset shows the mosaic of source maps used to compile this area. Each color represents a different published or unpublished map, ranging from thesis maps to 1:250,000 scale USGS maps. All of the polygons and unit descriptions for each map were captured digitally, and then mosaicked to provide the best available mapping in any given area.



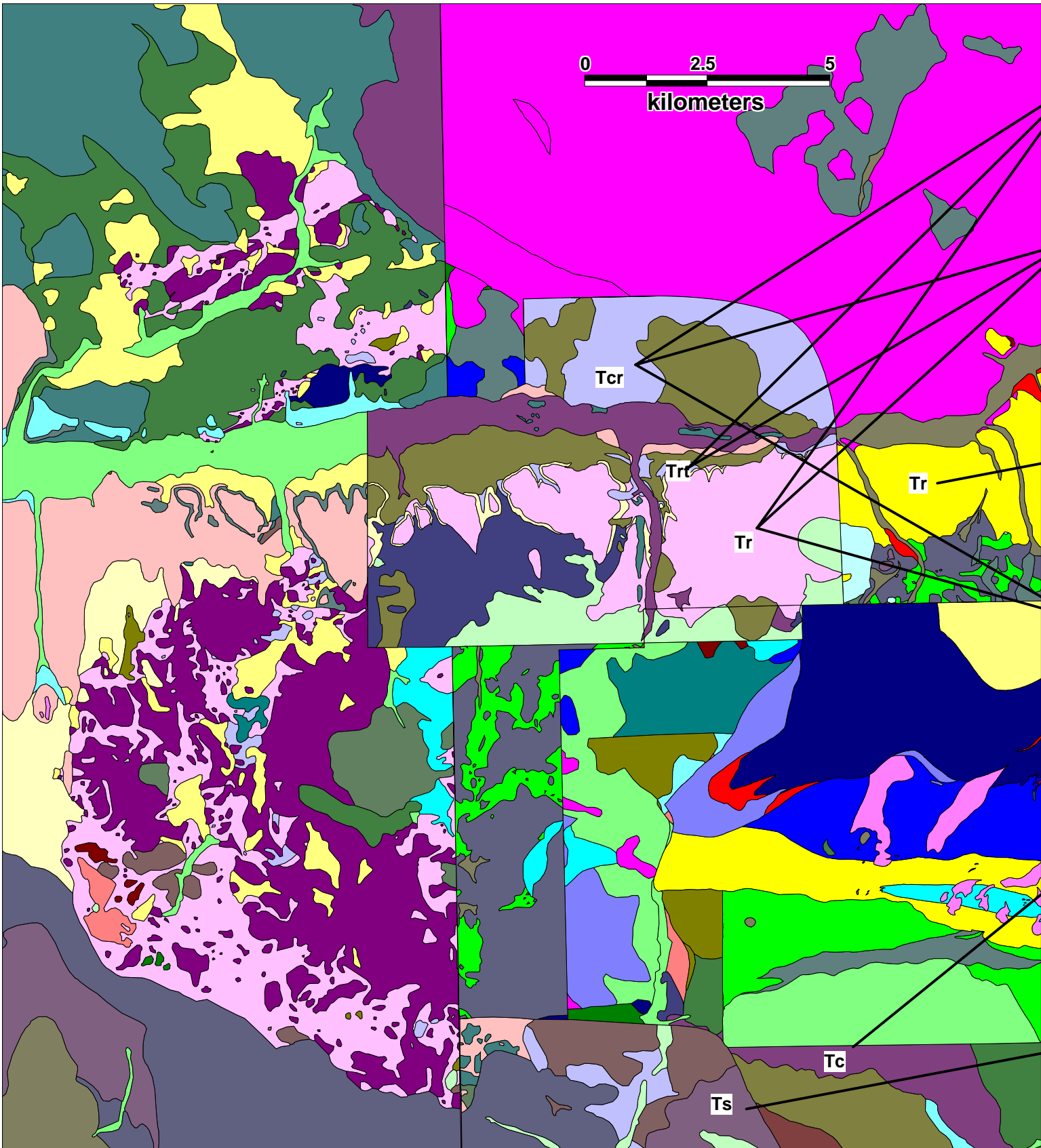
Thematic Map-Regional Lithostratigraphic units

The inset below covers an enlarged area of the map which shows regional lithostratigraphic units and is the most general and low-resolution way to look at the data. It has the fewest obvious boundary faults between source maps.



Original Source Map Units

The database contains all the original detail from each map chosen as the best available for a particular area. DOGAMI staff Geologists working in NE Oregon chose the original sources. This inset has the units color coded to correspond to the original author's unit designations in each of the source maps.



Age, dating info table

Map_unit_label	Map_unit_name	Minimum_stratigraphic_age
Tcr	Columbia River Group	nd
Tr	Rattlesnake Formation	Pleistocene
Tr	Rattlesnake Formation	nd

Lithology and mineralogy table

Map_unit_label	Map_unit_name	Map_subunit_name
Tcr	Columbia River Group	flows, basalt
Tcr	Columbia River Group	gravel
Tcr	Columbia River Group	tuff
Tr	Rattlesnake Formation	fanglomerate
Tr	Rattlesnake Formation	gravel
Tr	Rattlesnake Formation	tuff

Name, thickness, environment table

Map_unit_label	Map_unit_name	Maximum_thickness	Minimum_thickness
Tr	Rattlesnake Formation	100R	nd

Outcrop scale texture table (i.e bedding)

Map_unit_label	Map_unit_name	Map_subunit_name
Tcr	Columbia River Group	flows, basalt
Tcr	Columbia River Group	gravel
Tcr	Columbia River Group	tuff
Tr	Rattlesnake Formation	fanglomerate
Tr	Rattlesnake Formation	gravel
Tr	Rattlesnake Formation	tuff
MZP2m	Metamorphic rocks	meta-plutonic rocks, unspecified

Hand specimen scale texture table (i.e grain size)

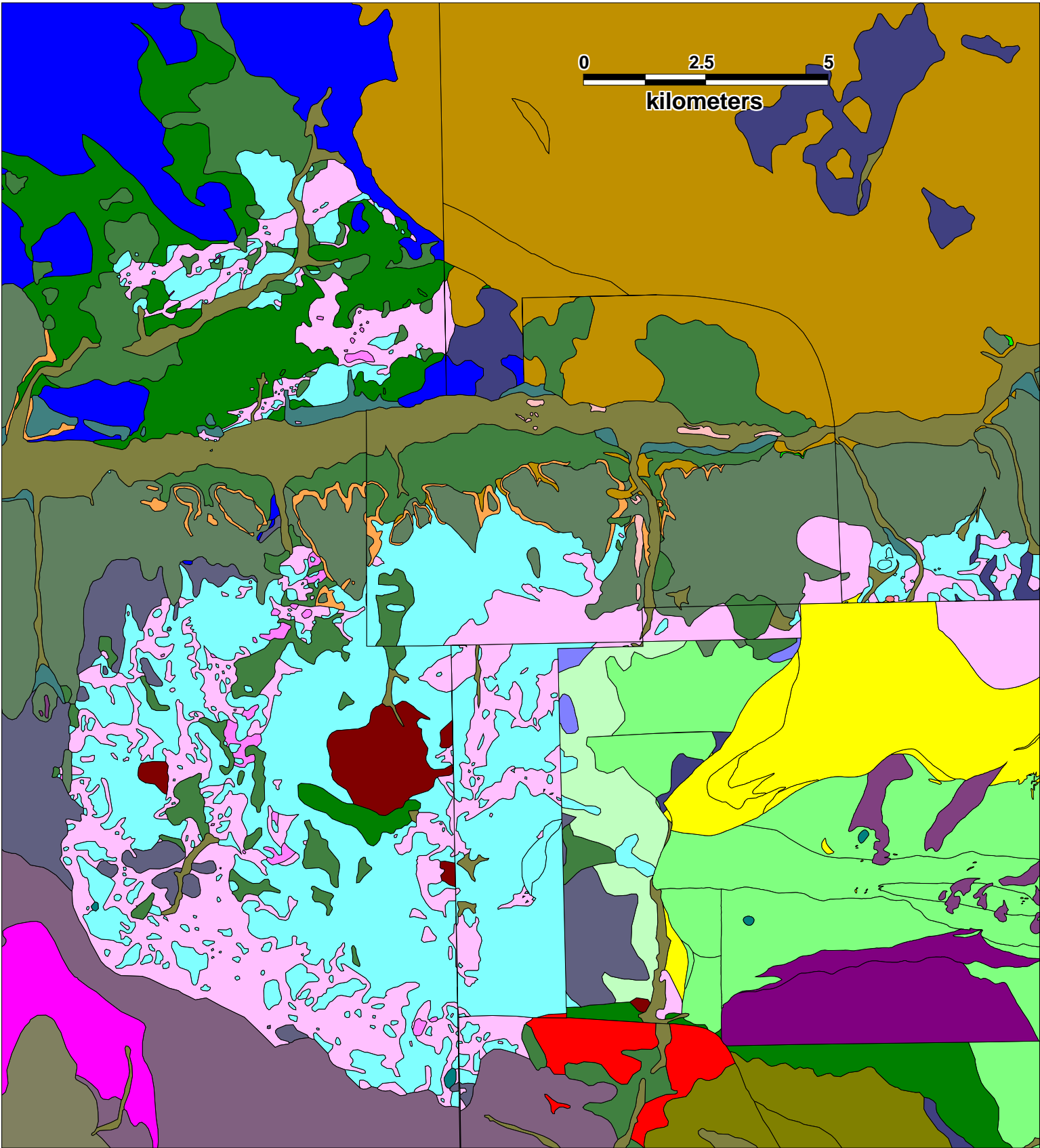
Map_unit_label	Map_unit_name	Map_subunit_name
Tc	Clarno Formation	breccia, mudflow
Tc	Clarno Formation	breccia, rhyolite
Tc	Clarno Formation	flows, andesite
Tc	Clarno Formation	flows, basalt
Tc	Clarno Formation	flows, rhyolite
Tc	Clarno Formation	tuff, ash-flow
Tc	Clarno Formation	tuff, unspecified

Rock color table

Map_unit_label	Map_unit_name	Map_subunit_name
Ts	Strawberry Volcanics	flows, basaltic andesite
Ts	Strawberry Volcanics	flows, rhyolite

Thematic Map-Geologic Merge Units

When all of the original source map polygons were mosaicked together, the resultant map and database had over 1700 units from the original source map unit names. DOGAMI staff assigned each of these units to a geologic merge unit, nominally at the formation level. Notice that there are considerably more boundary faults than with the more generalized regional lithostratigraphic unit map.



Thematic Map-Lithologic Units

The original geologic units were also sorted into lithologic merge units, which describe the dominant rock types in each geologic unit. Geotechnical engineers, forest and ecosystem managers will use this map more easily than the geologic units. There are generally much poorer matches across source boundaries for the lithologic units, in part because of the wide range in detail presented in source map descriptions.

