

STATE OF OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES VICKI S. McCONNELL, STATE GEOLOGIST



Projection is Oregon Lambert, 1997, International Feet.



GEOLOGIC MERGE UNIT DESCRIPTIONS

Paleogene Marine Sedimentary Rocks Eocene Tyee Formation

Picket Peak Terrane Jurassic to Cretaceous Colebrook schist metamorphic rocks

serpentinite melange and ultramafic rocks Sixes Terrane

Jurassic to Cretaceous melange

Yolla Bolly Terrane Jurassic to Cretaceous melange, intrusive, metamorphic, and volcanic rocks Dothan Formation marine sedimentary rocks

Snow Camp Terrane Jurassic to Cretaceous Coast Range ophiolite Myrtle Group marine sedimentary rocks, unassigned melange and intrusive rocks

Rocks of the Klamath Mountains

Condrey Mountain Terrane Jurassic schist and serpentinite Sexton Mountain Terrane

Triassic to Jurassic Greenback melange unassigned marine sedimentary and volcanic rocks Sexton Mountain ophiolite

Jurassic Hunters Cove Formation Otter Point Formation and unassigned sedimentary rocks

Nevadan Intrusive Rocks

Jurassic to Cretaceous

Buckskin Peak plutons

Grayback plutons

Gold Hill plutons

Grants Pass plutons

Jacksonville plutons

Gold Beach Terrane

unassigned plutons and minor intrusions

Preliminary Geologic Compilation Map of the Southwest Portion of Oregon

2007

Western Klamath Terrane Triassic to Jurassic

Briggs Creek sub-terrane: amphibolite Dry Butte sub-terrane: meta igneous rocks Elk sub-terrane: Humbug Mountain Formation, ultramafic rocks and melange Rogue Valley sub-terrane: marine sedimentary rocks, mafic igneous rocks Smith River sub-terrane: Josephine ophiolite ultramafic rocks Illinois River plutonic complex: mafic intusive and metamorphic rocks Galice Formation: marine sedimentary rocks

unassigned mafic igneous and metamorphic rocks, melange

Applegate Terrane



Sedimentary Rocks of Western and Eastern Oregon

Quaternary Surficial Deposits stream alluvium, terraces, fans beaches, dunes, coastal terraces till, colluvium, laterite lake, marsh, playa, and pluvial lake deposits

landslide deposits Paleogene Sedimentary Rocks

Paleocene to Oligocene tuffaceous terrestrial sedimetary rocks Payne Cliffs Formation:terrestrial sandstone and conglomerate

Umpqua Group Paleocene to Eocene

Whitetail Ridge Formation sandstone and siltstone Tenmile Formation turbidites and sandstone Bushnell Rock Formation unassigned turbidites, sandstone, and conglomerate

Mitchell Group

Cretaceous Hornbrook Formation: marine sedimentary rocks



Oligocene to Miocene

Rocks of the Cascade Range

Late High Cascades Volcanics Mazama Volcano unassigned basalt to andesite flows basalt, basaltic andesite, and andesite volcanoes

Early High Cascades Volcanics Pliocene to Miocene Basalt to andesite flows and minor volcaniclastic rocks

Late Western Cascades Volcanics

mafic to felsic dikes and flows, volcaniclastic sedimentary rocks and tuffs

Little Butte Volcanics Oligocene to Miocene Heppsie Formation volcanic and volcaniclastic rocks

Wasson Formation volcanic and volcaniclastic rocks 🥖 unassigned volcanic and volcaniclastic rocks Roxy Formation volcanic rocks

Early Western Cascades Volcanics Eocene to Oligocene Colestine Formation volcaniclastic rocks and flows unassigned mafic to felsic dikes and flows

tuff of Bond Creek

Rocks of the High Lava Plains and Oregon Basin and Range

Quaternary Winema Volcanics Quaternary tuffaceous terrestrial sedimentary rocks

Winema Volcanic Field Pliocene

basalt to andesite volcanoes and flows

basalt to trachyandesite flows and vents tuffaceous sedimentary rocks and volcaniclastic rocks Yamsay Mountain Volcano

Early Winema Volcanic Field Miocene to Pliocene basalt to rhyolite flows vents, plugs, and dikes tuffaceous sedimentary rocks and volcaniclastic rocks

Neogene Sedimentary Rocks Miocene to Pliocene tuffaceous terrestrial sedimentary rocks High Lava Plains Volcanics Miocene to Pliocene basalt to rhyolite flows and dikes volcaniclastic rocks

Neogene Volcanic Rocks Miocene to Pliocene

basalt to rhyolite flows, dikes, and sills volcaniclastic rocks

Columbia River Basalt Group Miocene Steens Basalt

Paleogene Volcanic Rocks Eocene to Oligocene mafic to felsic flows and intrusions volcaniclastic rocks





Location and status of compilation mapping program. Southwest Oregon block of statewide digital compilation is shown in pink. Completed blocks are shown in shades of green; pending blocks are shown in shades of gray. Orange polygons are urban areas.

OPEN-FILE REPORT 07-16

Preliminary Geologic Compilation Map of the Southwest Portion of Oregon

By Margaret D. Jenks, Stanley A. Mertzman, Thomas J. Wiley, Paul E. Staub, Marina Drazba, Lina Ma, Clark A. Niewendorp, and Ian P. Madin

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DISCUSSION

The compilation consists of a spatial database of geographic information system (GIS) files depicting the surface geology of the area. The data were derived from 66 source maps (see Figure 1 and Table 1) and include 1923 unique units defined by the various authors.

To help make sense of this large number of units, the authors have assigned each original unique unit to one of 828 geo-logic merge units based on age, lithology, and stratigraphy. The map presented here is a further simplification of those 828 units. This map was compiled at a nominal scale of 1:100,000 on a mosaic of 1:100,000 digital raster graphic (DRG) base maps. It is hard to make a visually meaningful plot of the geology on the original base map at any reasonable size, so the map presented here has a simplified base map and a scale of 1:200,000.

The GIS data used to produce this map will be published separately as DOGAMI publication Oregon Geologic Compilation Map, release 4 (OGDC-4) and will include a Microsoft Access database that contains unit descriptions by the original authors for each of the 1923 unique units. For a discussion of the methodology used to create the digital compilation map of Oregon, see Ferns and others (2006). Data for the northeast, southeast, and central portions of the compilation are available as OGDC-3 (Niewendorp and others, 2007).

REFERENCES

Ferns, M. L., and others, 2006, Oregon statewide geologic map data: A pilot project where digital techniques changed the geo-logic map compilation process and product, Oregon Department of Geology and Mineral Industries open-file report O-06-03, 4 p., poster.

Niewendorp, C. A., and others, 2007, Oregon Geologic Data Compilation, release 3, northeast, southeast, and central Oregon, Oregon Department of Geology and Mineral Industries digital data series OGDC-3, CD-ROM.

Figure 1. Index map showing source map locations and map reference IDs. Reference ID publications are given in Table 1.



Key (Reference IDs) for source index man

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AppIRN1950	DonaMM1993	JenkMDUnpub	PageNJ1981	WellFG1953
BacoCRUnpub	DonaMM1995a	JohaNP1972	PertRK1976	WellRE1975
BaldEM1971	DonaMM1995b	JohnMG1979	PeteNV1980	WileTJ1991
BaldEM1973	GrayF1980	KentRC1972	RampL1961	WileTJ1993a
BeauJD1976	GrayF1982	MartAB1989	RampL2004	WileTJ1993bplate1
BrikTH1983	HaddGH1959	MertSAUnpub	SherDR1992	WileTJ2006a
BrowME1982	HeriCW1981	MuntJK1969	SMITJG1982	WileTJ2006b
CornJH1971	HladFR1992	MurrRB2001	ThomTH1981	WileTJ2006c
CunnCT1979	HladFR1993	MurrRBUnpuba	TravPL1977	WileTJUnpub
DiggMF1991	HladFR1994	MurrRBunpubB	WalkGW1963	YuleJD1996plate10
DonaMM1991	HladFR1996	NiemAR1990	WalkGW1980b	YuleJD1996plate11
DonaMM1992	HladFR1998	OlivJA1981	WeisWK1984	YuleJD1996plate2
	HladFR1999	PageNJ1977	RampL1977	YuleJD1996plate8
			RampL1986	YuleJD1996plate9

Table 1. Source map references.

ence ID	First Author	Publication Date	Publication Title	Originator
N1950	Appling, RN	1950	Economic geology of the Brattain mining area, Paisley, Oregon	University of Oregon
RUnpub	Bacon, CR	unpublished	Geologic map of Mount Mazama and Crater Lake caldera, Oregon	U.S. Geological Survey
M1971	Baldwin, EM	1971	Geology of the Powers quadrangle, Oregon	Oregon Dept. of Geology
M1973	Baldwin, EM	1973	Geology and mineral resources of Coos County, Oregon	Oregon Dept. of Geology
D1976	Beaulieu, JD	1976	Land use geology of western Curry County, Oregon	Oregon Dept. of Geology
1983	Brikowski, TH	1983	Geology and petrology of Gearhart Mountain: a study of calc-alkaline volcanism east of the Cascades in Oregon	University of Oregon
E1982	Brownfield, ME	1982	Geologic map of the Langlois quadrangle, Oregon	Oregon Dept. of Geology
11971	Cornell, JH	1971	Geology of the northwest quarter of the Canyonville quadrangle, Oregon	University of Oregon
T1979	Cunningham, CT	1979	Geology and geochemistry of a massive sulfide deposit and associated volcanic rocks, Blue Creek District, southwestern Oregon	Oregon State University
-1991	Diggles, MF	1991	Geologic map of the Diablo Mountain Wilderness Study Area, Lake County, Oregon	U.S. Geological Survey
M1991	Donato, MM	1991	Geologic map showing part of the May Creek Schist and related rocks, Jackson County, Oregon	U.S. Geological Survey
M1992	Donato, MM	1992	Preliminary geologic map of the Carberry Creek quadrangle, Oregon and California	U.S. Geological Survey
M1993	Donato, MM	1993	Preliminary geologic map of the Squaw Lakes quadrangle, Oregon and California	U.S. Geological Survey
M1995a	Donato, MM	1995	Preliminary geologic map of part of the Ruch quadrangle, Jackson County, Oregon	U.S. Geological Survey
M1995b	Donato, MM	1995	Preliminary geologic map of the southeastern part of the Tallowbox Mountain quadrangle, Jackson County, Oregon	U.S. Geological Survey
980	Gray, F	1980	Geology of the igneous complex at Tincup Peak, Kalmiopsis Wilderness Area, southwestern Oregon	U.S. Geological Survey
982	Gray, F	1982	Geologic map of the Wild Rogue Wilderness, Coos, Curry, and Douglas Counties, Oregon	U.S. Geological Survey
H1959	Haddock, GH	1959	Geology of the Cougar Peak volcanic area, Lake County, Oregon	Washington State University
/1981	Hering	1981	Geology and petrology of the Yamsay Mountain complex, south-central Oregon: A study of bimodal volcanism	University of Oregon
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R1992	Hladky, FR	1992	Geology and mineral resources of the Shady Cove quadrangle, Jackson County, Oregon	Oregon Dept. of Geology
1993	Hladky, FR	1993	Geology and mineral resources map of the McLeod quadrangle, Jackson County, Oregon	Oregon Dept. of Geology
81994	Hladky, FR	1994	Geologic map of the Lakecreek quadrangle, Jackson County, Oregon	Oregon Dept. of Geology
R1996	Hladky, FR	1996	Geology and mineral resources map of the Grizzly Peak quadrangle, Jackson County, Oregon	Oregon Dept. of Geology
R1998	Hladky, FR	1998	Geology and mineral resources map of the Rio Canyon quadrangle, Jackson County, Oregon	Oregon Dept. of Geology
R1999	Hladky, FR	1999	Geology and mineral resources map of the Brownsboro guadrangle, Jackson County, Oregon	Oregon Dept. of Geology
DUnpub	Jenks, MD	unpublished	Geologic compilation map of part of the Upper Klamath Basin, Klamath County, Oregon	Oregon Dept. of Geology
P1972	Johannesen, NP	1972	The geology of the northeast quarter of the Bone Mountain quadrangle, Oregon	University of Oregon
G1979	Johnson, MG	1979	Preliminary geologic map of the metavolcanic and associated rocks in part of the Canyonville, Days Creek, and Glendale quadrangles, Oregon	U.S. Geological Survey
21972	Kent, RC	1972	The geology of the southeast quarter of the Bone Mountain quadrangle, Oregon	Portland State University
81989	Martin, AB	1989	Geology of the Gold Note Mine, a volcanogenic massive sulfide deposit in the Klamath Mountains, southwest Oregon	University of Idaho
Unpub	Mertzman, SA	unpublished	Geologic mapping of the High Cascade Mountains, south-central Oregon	Franklin and Marshall College
(1968	Muntzert, JK	1968	Geology and mineral deposits of the Braltain District, Lake County, Oregon	Oregon State University
32001	Murray, RB	2001	Geologic map of the Richter Mountain quadrangle, Douglas and Jackson Counties, Oregon	Oregon Dept. of Geology
BUnpubA	Murray, RB	unpublished	Compilation and synthesis of geologic mapping for the upper Illinois River basin, Josephine and Curry Counties, Oregon	Oregon Dept. of Geology
3UnpubB	Murray, RB	unpublished	Compilation and synthesis of geologic mapping for the Williams Creek basin, Josephine and Jackson Counties, Oregon	Oregon Dept. of Geology
R1990		-	Geology and oil, gas, and coal resources, southern Tyee Basin, Southern Tyee Basin, southern Coast Range, Oregon	0 1 0,
	Niem, AR	1990		Oregon Dept. of Geology
1981	Oliveira, JAL	1981	The stratigraphy, petrology, and paleomagnetics of the Moss Flat area, Lake County, Oregon	University of Nevada Reno
J1977	Page, NJ	1977	Preliminary reconnaissance geologic map of the Wimer quadrangle, Oregon	U.S. Geological Survey
J1981	Page, NJ	1981	Geologic map of the Kalmiopsis Wilderness Area, Oregon	U.S. Geological Survey
(1976	Perttu, RK	1976	Structural geology of the northeast quarter of the Dutchman Butte quadrangle, southwest Oregon	Portland State University
/1980	Peterson, NV	1980	Preliminary geology and geothermal resource potential of the Lakeview area, Oregon	Oregon Dept. of Geology
.1961	Ramp, L	1961	Geologic map of Babyfoot-Little Chetco area, Curry County, Oregon	Oregon Dept. of Geology
1977	Ramp, L	1977	Geology, mineral resources, and rock material of Curry County, Oregon	Oregon Dept. of Geology
.1986	Ramp, L	1986	Reconnaissance geologic map of the Marial guadrangle, southwestern Oregon	U.S. Geological Survey
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.2004	Ramp, L	2004	Geology and mineral resources of Josephine County, Oregon	Oregon Dept. of Geology
R1992	Sherrod, DR	1992	Geologic map of the west half of the Klamath Falls 1 by 2 degree quadrangle, south-central Oregon	U.S. Geological Survey
1982	Smith, JG	1982	Preliminary geologic map of the Medford 1 by 2 degree quadrangle, Oregon and California	U.S. Geological Survey
H1981	Thomas, TH	1981	Geology and mineral deposits of the Coyote Hills Mining District, Lake County, Oregon	Oregon State University
.1977	Travis, PL	1977	Geology of the area near the north end of Summer Lake, Lake County, Oregon	University of Oregon
W1963	Walker, GW	1963	Reconnaissance geologic map of the eastern half of the Klamath Falls (AMS) quadrangle, Lake and Klamath Counties, Oregon	U.S. Geological Survey
W1980b	Walker, GW	1980	Preliminary report on the geology of the Lakeview uranium area, Lake County, Oregon	U.S. Geological Survey
N1984	Weissenburger, KW	1984	Lakeview uranium area, Lake County, Oregon; constraints on genetic modelling from a district-scale perspective	Stanford University
1953	Wells, FG	1953	Geology of the Galice quadrangle, Oregon	U.S. Geological Survey
1975	Wells, RE	1975	The geology of the Drake Peak rhyolite complex and the surrounding area, Lake County, Oregon	University of Oregon
1991	Wiley, TJ	1991	Geology and mineral resources map of the Boswell Mountain quadrangle, Jackson County, Oregon	Oregon Dept. of Geology
1993a	Wiley, TJ	1993	Geology and mineral resources map of the Cleveland Ridge quadrangle, Jackson County, Oregon	Oregon Dept. of Geology
1993bplate1	Wiley, TJ	1993	Preliminary geologic map of the Medford East, Medford West, Eagle Point, and Sams Valley quadrangles, Jackson County, Oregon	Oregon Dept. of Geology
2006a	Wiley, TJ	2006	Preliminary geologic map of the Wimer and McConville Peak quadrangles, Jackson and Josephine County, Oregon	Oregon Dept. of Geology
2006b	Wiley, TJ	2006	Preliminary geologic map of the Sexton Mountain, Murphy, Applegate, and Mount Isabelle 7.5' quadrangles, Jackson and Josephine County, Oregon	Oregon Dept. of Geology
2000b 2006c	Wiley, TJ	2006	Preliminary geologic map of the Gold Hill and Rogue River 7.5' quadrangles, Jackson and Josephine County, Oregon	Oregon Dept. of Geology
unpub	Wiley, TJ	unpublished	Preliminary geologic map of the Medford 30x60 minute quadrangle, Oregon and California	Oregon Dept. of Geology
01996plate10	Yule, JD	1996	Geologic and tectonic evolution of Jurassic marginal ocean basin lithosphere, Klamath Mountains, Oregon	California Institute of Technolo
01996plate11	Yule, JD	1996	Geologic and tectonic evolution of Jurassic marginal ocean basin lithosphere, Klamath Mountains, Oregon	California Institute of Technolo
1996plate2	Yule, JD	1996	Geologic and tectonic evolution of Jurassic marginal ocean basin lithosphere, Klamath Mountains, Oregon	California Institute of Technolo
01996plate8	Yule, JD	1996	Geologic and tectonic evolution of Jurassic marginal ocean basin lithosphere, Klamath Mountains, Oregon	California Institute of Technolo
	, -	1996	Geologic and tectonic evolution of Jurassic marginal ocean basin lithosphere, Klamath Mountains, Oregon	California Institute of Technolo