

Location of the Central Oregon compilation with respect to completed (NE, SE)

and pending (South, North, and West) compilation areas.

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Preliminary Geologic Compilation Map of the Central Portion of Oregon By Clark A. Niewendorp, Margaret D. Jenks, Mark L. Ferns, Paul E. Staub, Edward M. Taylor, Lina Ma, and Ian P. Madin This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program. Additional funding came from the State of Oregon, the USDA Forest Service, and the U.S. Bureau of Land Management.

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depicting the surface geology of the area. The data were derived from 46 source maps (see Figure 1 and Table 1) and include 1288 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 343 geologic merge units based on age, lithology, and stratigraphy. The map presented here is a further simplification of those 343 units. This map was compiled at a nominal scale of 1:100,000 on a mosaic of 1:100,000 digital raster graphics (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 at a scale of 1:175,000. The digital files used to prepare this map have been published separately as Oregon Digital Data Compilation, release 3 (OGDC-3) (Niewendorp and others, 2007), which also includes a Microsoft Access database summarizing all the unit descriptions by the orginal authors for each unique unit. For a discussion of the methodology used to create the digital compilation map of Oregon, see

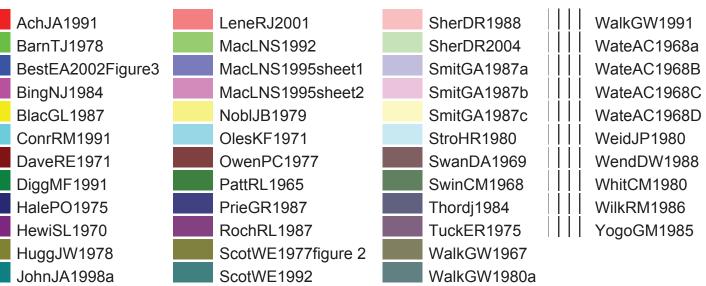
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Figure 1. Index map showing source map locations and map reference IDs. Reference ID







AchJA1991 Ach, J.A. 1991 Geologic map of the Sand Hollow quadrangle, Crook County, Oregon BestEA2002Figure 3 Bestland, E.A. 2002 Geologic framework of the Clarno Unit, John Day Fossil Beds National Monument, 1984 Geology of the northeast one-quarter of the Prineville quadrangle, north-central Oregon 1987 Geologic map of the Crescent Mountain area, Linn County, Oregon Conrey, R.M. 1991 Geology and petrology of the Mt. Jefferson area, high Cascade Range, Oregon Davenport, R.E. 1971 Geology of the Rattlesnake and older ignimibrites in the Paulina Basin and adjacent area, 1991 Geologic map of the Diablo Mountain Wilderness Study Area, Lake County, Oregon 1975 Geology of Green Ridge area, Whitewater River quadrangle, Oregon 1970 Geology of the Fly creek quadrangle and the north half of the Round Butte dam quadrangle, Huggins, J.W. 1978 Geology of a portion of Painted Hills quadrangle, Oregon 1998 Geologic map of the Frederick Butte volcanic center, Deschutes and Lake Counties, south-central Oregon 2001 Middle Cretaceous sedimentation and tectonics of the Mitchell Inlier, Wheeler County, MacLeod, N.S. 1992 Reconnaissance geologic map of the west half of the Crescent 1° by 2° quadrangle, MacLNS1995sheet1 MacLeod, N.S. 1995 Geologic map of Newberry Volcano, Deschutes, Klamath, and Lake Counties, Oregon MacLNS1995sheet2 MacLeod, N.S. 1995 Geologic map of Newberry Volcano, Deschutes, Klamath, and Lake Counties, Oregon 1979 Volcanic petrology of the Eocene Clarno Formation on the John Day River near Cherry 1971 Bedrock geology of the Mitchell quadrangle, Wheeler County, Oregon 1977 An examination of the Clarno Formation in the vicinity of the Mitchell Fault, Lawson Mountain and Stephenson Mountain area, central Oregon, Wheeler, Jefferson, and Crook Counties 1965 Geology of part of the northeast quarter of the Mitchell quadrangle, Oregon 1987 Geologic map of the Breitenbush River area, Linn and Marion Counties, Oregon 1987 Stratigraphic and geochemical evolution of the Glass Buttes complex, Oregon 1977 Quaternary glaciation and volcanism, Metolius River area, Oregon 1992 Geologic map of the the Mount Bachelor Volcanic Chain and surrounding area, Cascade 1988 Geology and Geothermal Resources of the Breitenbush-Austen Hot Springs Area, Clackamas and Marion Counties, Oregon 2004 Geologic Map of the Bend 30- x 60- Minute Quadrangle, Central Oregon 1987 Geologic map of the Seekseequa Junction and a portion of the Metolius Bench quadrangles, Jefferson County, Oregon 1987 Geologic map of the Eagle Butte and Gateway quadrangles, Jefferson and Wasco 1987 Geologic map of the Madras West and Madras East quadrangle, Jefferson County, Oregon 1980 Geology of the Clarno Formation in the vicinity of Stephenson Mountain, Jefferson, Crook and Wheeler Counties, Oregon Swanson, D.A. 1969 Reconnaissance Geologic Map of the East Half of the Bend Quadrangle, Crook, Wheeler, Jefferson, Wasco, and Deschutes Counties, Oregon

Thormahlen, D.J. 1984 Geology of the northwest on-quarter of the Prineville quadrangle, central Oregon 1975 Geology and Structure of the Brothers Fault Zone in the central part of the Millican SE quadrangle, Deschutes, Oregon 1967 Reconnaissance geologic map of the east half of the Crescent quadrangle, Lake, Deschutes, and Crook Counties, Oregon 1980 Mineral resources of the Lost Forest Instant Wilderness study area, Oregon 1991 Spatial digital database for the geologic map of Oregon 1968 Reconnaissance geologic map of the Eagle Rock quadrangle, Crook County, Oregon 1968 Reconnaissance geologic map of the Ochoco Reservoir quadrangle, Crook County, Oregon Waters, A.C. 1968 Reconnaissance geologic map of the Post quadrangle, Crook County, Oregon Waters, A.C. 1968 Reconnaissance geologic map of the Madras quadrangle, Jefferson and Wasco County, Weidenheim, J.P. 1980 The petrography, structure, and stratigraphy of Powell Buttes, Crook County, Central Oregon Wendland, D.W. 1988 Castle Rock: a Late Miocene eruptive center at the north end of Green Ridge, Jefferson White, C.M. 1980 Geology of the Breitenbush Hot Springs quadrangle, Oregon Wilkening, R.M. 1986 The geology and hydrothermal alteration of the Bear Creek Butte area, Crook County,

Jefferson County, Oregon

pluvial lake valley deposits

Geologic Merge Units

Quaternary Surficial Deposits — Pleistocene to Holocene lacustrine deposits landslide deposits mine tailings playa lake deposits

Late High Cascade Volcanics — Pliocene to Holocene Cascade Platform mafic lava flows Cascade Platform mafic vent complexes Mazama Volcano Mazama ash

Mt. Jefferson Volcano vents and flows Mt. Washington Volcano vents and flows Three Fingered Jack Volcano vents and flows Sisters Volcanic Center vents and flows Broken Top Volcano vents and flows

dacite to rhyolite flows basalt and basaltic andesite flows volcaniclastic deposits Early High Cascades Volcanics — late Miocene and Pliocene

basalt and basalt andesite flows Neogene Volcanic Rocks — Miocene to Pliocene andesite and dacite flows

rhyodacite and rhyolite flows basalt and basaltic andesite flows volcaniclastic rocks Neogene Sedimentary Rocks — Miocene to Pliocene Parkette Creek sedimentary rocks

Simtustus Formation Mascall Formation High Lava Plains Volcanic Province — Miocene to Pliocene andesite flows

dacite and rhyolite flows basalt and basaltic andesite flows volcaniclastic deposits

Harney Basin Volcanic Center — Miocene to Pliocene Rattlesnake Ashflow Tuff Devine Canyon Welded Ashflow Tuff

Dalles Group — Miocene to Pliocene Deschutes Formation sedimentary rocks

Deschutes Formation intrusive rocks Deschutes Formation vent complexes Deschutes Formation lava flows Deschutes Formation volcaniclastic rocks

Columbia River Basalt Group — Miocene Grande Ronde Basalt

Western Cascades Volcanics — Eocene to Miocene

andesite flows basaltic andesite flows volcaniclastic rocks

John Day/Clarno Group — Eocene to Oligocene Clarno Formation undifferentiated

Clarno Formation sedimentary rocks Clarno Formation basalt and andesite flows Clarno Formation dacite and rhyolite flows Clarno Formation volcaniclastic rocks John Day Formation undifferentiated John Day Formation sedimentary rocks John Day Formation basalt and andesite flows

John Day Formation volcaniclastic rocks Umpqua Group — Paleocene

marine sandstone and siltstone Mitchell Group — Cretaceous Hudspeth Formation

undifferentiated marine sedimentary rocks Gable Creek Formation

Baker Terrane — Paleozoic to Mesozoic melange metasedimentary rocks