



2025

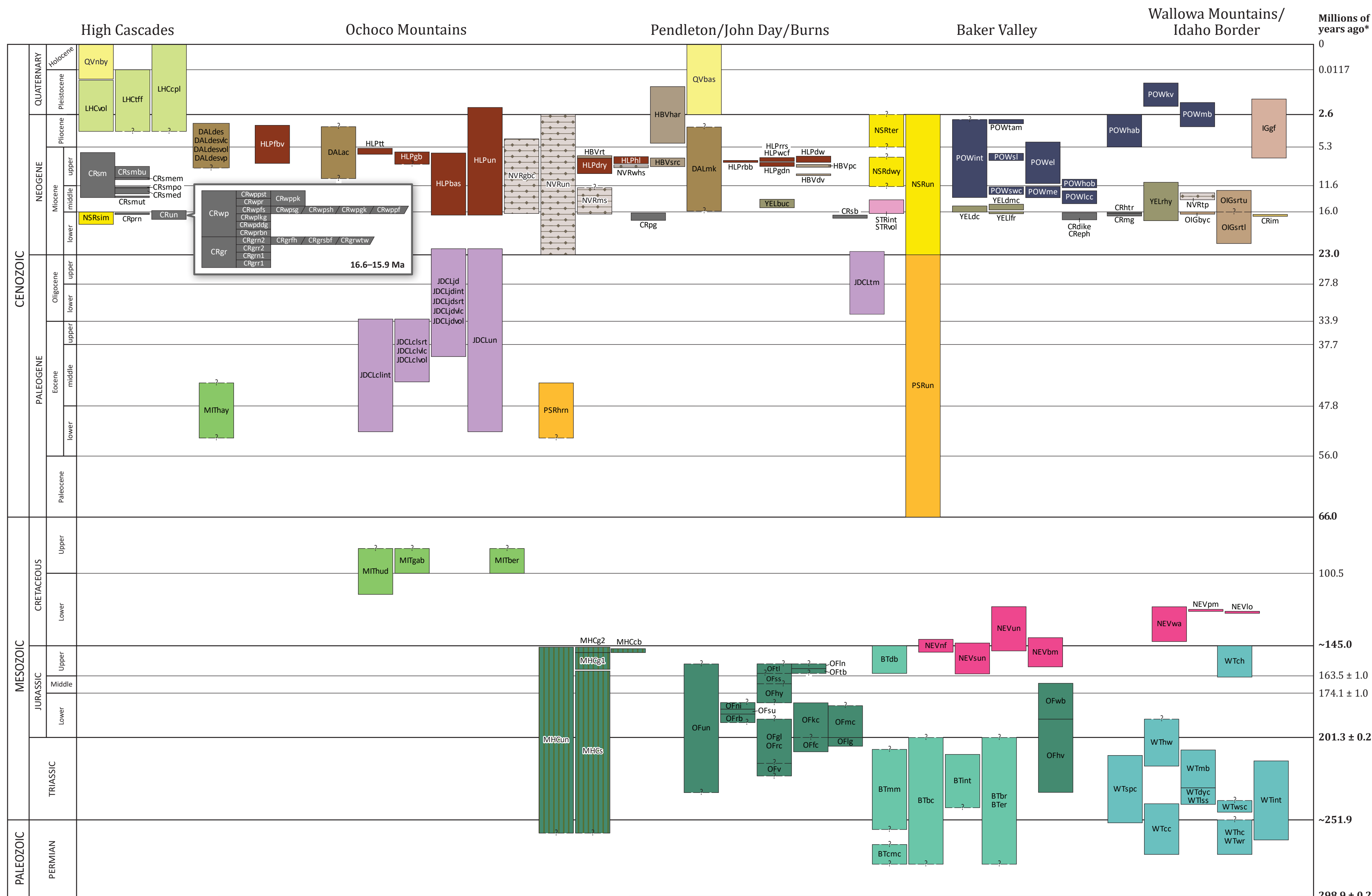
This time-rock chart illustrates the absolute ages, relative stratigraphic relations, and correlations of significant bedrock geologic map units found at the surface and in the subsurface in the Northeast region of the state of Oregon. As defined here, the Northeast region includes the area bounded by the Washington state border on the north, the Idaho state border on the east, U.S. Highway 20 on the south, U.S. Highway 97 on the west, and the Columbia River on the northwest.

Geologic map units are derived from the statewide Oregon Geologic Data Compilation (OGDC-8) and include formally recognized geologic groups, formations, and members, as well as some informal rock units. Each unit in OGDC-8 is assigned a unique "Compilation Unit Name" and abbreviated "Compilation Unit Label" that combines its higher-order "Terrane/Group" classification (in uppercase letters) with its lower-order formation classification (in lowercase letters). The terms used here for Compilation Unit Name and Terrane/Group are a mixture of formal stratigraphic names, informal stratigraphic names, and—especially for many young volcanic units—geographic

names of eruptive centers. Some informal names used here have wide currency and a form (geographic name combined with rank or descriptive term) reserved for formal names; their informal status is denoted by a lowercase rank or descriptive term followed by an asterisk, e.g., Herren formation*.

In the legend, map units are arranged alphabetically by their Compilation Unit Label for ease of reference with the chart. Colors correspond with each unit's Terrane/Group. On the chart, map units are arranged vertically by their age of deposition or emplacement, and horizontally from west to east within the Northeast region; because many units extend laterally over significant portions of the region, the units are not necessarily arranged in a strictly east-west pattern. Although the lateral stratigraphic relations among units are not easily represented in this format, the main purpose of this chart is to illustrate the absolute age spans and temporal relations among various map units in the Northeast region.

Note that Quaternary surficial deposits shown in white are not included on the time-rock chart below.



*International Chronostratigraphic Chart, International Stratigraphic Commission, v.2022/02, Time scale after Gradstein and others (2012) and Cohen and others (2013) <https://stratigraphy.org/ICSchart/ChronostratChart2022-02.pdf>

Cohen, K. M., Finney, S. C., Gibbard, P.L. and Fan, J.-X., 2013, The ICS International Chronostratigraphic Chart Episodes 36, p. 199-204.

Gradstein, F.M., Ogg, J.G., Schmitz, M.D., and Ogg, G.M., eds., 2012, *The Geologic Time Scale 2012*: Boston Elsevier, 1176 p.



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(arranged alphabetically by Compilation Unit Label)			
Compilation Unit Label	Compilation Unit Name	Terrane/Group	Bedrock Areal Coverage in Region (%)
B7bc	Badger Creek unit		
B7br	Burnt River Schist		
B7cmc	Canyon Mountain Complex		
B7db	Dixie Butte Meta-andesite	Baker terrane	3.7
B7ter	Elkhorn Ridge Argillite		
B7tnt	intrusive rocks of Baker Terrane		
B7tmm	Miller Mountain melange*		
C8dlke	dikes of Columbia River Basalt Group		
C8leph	early phase of Columbia River Basalt		
C8gr	Grande Ronde Basalt		
C8grfh	basalt of Fiddlers Hell		
C8grn1	N1 subunit of Grande Ronde		
C8grn2	N2 subunit of Grande Ronde		
C8grn1	R1 subunit of Grande Ronde		
C8grn2	R2 subunit of Grande Ronde		
C8grsf	Sentinel Bluffs Member		
C8grwtw	Winter Water Member		
C8htr	Hunter Creek Basalt		
C8im	Imnaha Basalt		
C8img	basalt of Malheur Gorge		
C8pg	Picture Gorge Basalt		
C8pnm	Prineville Basalt		
C8sb	Steens Basalt		
C8sm	Saddle Mountains Basalt		
C8smbu	Buford Member	Columbia River Basalt Group	47.7
C8smed	basalt of Eden		
C8smem	Elephant Mountain Member		
C8smo	Pomona Member		
C8smut	Umatilla Member		
C8un	Columbia River Basalt Group, undivided		
C8wp	Wapamuni Basalt		
C8wpdg	Basalt of Dodge		
C8wfp	Frenchman Springs Member		
C8wpgk	basalt of Ginkgo		
C8wplg	basalt of Lookingglass		
C8wppf	basalt of Palouse Falls		
C8wppk	basalt of Powatka		
C8wppst	Priest Rapids Member		
C8wpr	Raza Member		
C8wprbn	basalt of Rubenette Mountain		
C8wpsg	basalt of Sentinel Gap		
C8wpsk	basalt of Sand Hollow		
DALac	Alkali Canyon Formation		
DALdes	Deschutes Formation		
DALdesvkc	volcaniclastic rocks of Deschutes Formation	Dalles package	2.7
DALdesvol	volcanic rocks of Deschutes Formation		
DALdesvp	vents of Deschutes Formation		
DALmk	McKay Formation		
HBVdv	Devine Canyon Ashflow Tuff		
HBVhar	Harney Formation	Harney Basin volcanic field	5.4
HBVpc	Prater Creek Ashflow Tuff		
HBVrt	Rattlesnake Ashflow Tuff		
HBVsrc	Silvies River caldera		
HLPbas	basalt of High Lava Plains volcanic province		
HLPdry	basalt and andesite of Dry Mountain		
HLPdw	Drinkwater Basalt		
HLPfbv	Frederick Butte volcanic center		
HLPgb	olivine basalt of Gum Boot Canyon		
HLPgdn	soda rhyolite of Golden Ranch	High Lava Plains volcanic province	2.3
HLPli	basalt of Harney Lake		
HLPbbs	rhyoladite of Burns Butte		
HLPrrs	basaltic andesite of Rimrock Springs		
HLPtt	basalt of Twelvemile Table		
HLPun	High Lava Plains volcanic province, undifferentiated		
HLPwcf	basaltic andesite of Willow Creek Flats		
IGgf	Glenns Ferry Formation	Idaho Group	2.2
JDCLclnt	intrusive rocks of Clarno Formation		
JDCLclsr	sedimentary rocks of Clarno Formation		
JDCLclvc	volcaniclastic rocks of Clarno Formation		
JDCLclvol	volcanic rocks of Clarno Formation		
JDCLjd	John Day Formation		
JDCLjdnt	intrusive rocks of John Day Formation	John Day/ Clarno package	12.9
JDCLjdsr	sedimentary rocks of John Day Formation		
JDCLjdcv	volcaniclastic rocks of John Day Formation		
JDCLjdvol	volcanic rocks of John Day Formation		
JDCLtm	volcanic rocks of Tower Mountain		
JDCLun	John Day-Clarno package, undivided		
LHCcpl	lavas of Cascade platform	late High Cascade Volcanics	< 0.1
LHCff	tuffs of late High Cascade Volcanics		
LHClo	lavas of late High Cascade Volcanics		

DOGAMI Digital Data Series
Oregon Geologic Data Compilation, Release 8 (OGDC-8)

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(arranged alphabetically by Compilation Unit Label)				
Compilation Unit Label	Compilation Unit Name	Terrane/Group	Bedrock Areal Coverage in Region (%)	
Mitber	Bernard Formation			
Mitgab	Gable Creek Formation	Mitchell package	< 0.1	
Mithay	Hay Creek Formation			
MitHud	Hudspeth Formation			
Mtgc-1	Mountain Home complex* Group 1, deformed sediments of Willowhecker Road and near to gage	Mountain Home complex*	0.0	
Mtgc-2	Granary Butte stock			
Mtgc-3	Mountain Home complex* Group 3, undeformed			
Mtgc4n	Mountain Home complex*, undivided			
NSRdwy	Drewsey Formation			
NSRsim	Simstus Formation	Neogene sedimentary rocks	3.7	
NSRter	Neogene terrace deposits			
NSRun	Neogene sedimentary rocks, undifferentiated			
NVRbc	volcanic complex of Glass Buttes*			
NVRbs	MacCall Formation			
NVRms	Crater Peak Basalt*	Neogene volcanic rocks	1.1	
NVRns	*Neogene volcanic rocks, undifferentiated			
NVRns1	Trail at Wheeler Springs			
NEVbm	Bald Mountain Batholith			
NEVun	Nevadan intrusions, undifferentiated			
NEVlo	Lookout Mountain pluton	Nevadan intrusions	2.0	
NEVnf	North Fork stock			
NEVpm	Pedro Mountain stock			
NEVsn	Sunrise Butte stock			
NEVwa	Wallowa Batholith			
OFfc	Fields Creek Formation			
OFgl	Graylock Formation			
OFhv	Huntington Formation			
OFhy	Hyde Formation			
OFkc	Keller Creek Shale			
OFlg	Laycock Graywacke			
OFln	Lonesome Formation			
OFmc	Murderers Creek Formation			
OFni	Nicely Formation	Olds Ferry terrane	3.5	
OFrb	Robertson Formation			
OFrc	Rail Cabin Argillite			
OFss	Snowshoe Formation			
OFsu	Supplee Formation			
OFtb	Trowbridge Formation			
OFtl	Trowbridge and Lonesome Formations, undivided			
OFun	Olds Ferry Terrane, undivided			
OFv	Vester Formation			
OFwb	Weatherby Formation			
OIGbyc	Bully Creek Formation			
OIGrti	lower sedimentary rocks of Oregon-Idaho graben	Oregon-Idaho graben	0.3	
OIGstu	upper sedimentary rocks of Oregon-Idaho graben			
PSRhn	Herren formation*	Paleogene sedimentary rocks	0.2	
PSRun	Paleogene sedimentary rocks, undifferentiated			
POWcl	trachyandesite of Elgin basalt of Harper Basin			
POWhab	basanite of Horseshoe Basin			
POWint	intrusive rocks of Powder River volcanic field			
POWkv	Kiwitt volcanics*	Powder River volcanic field	3.0	
POWlcc	basalt of Little Catherine Creek			
POWmb	volcanic rocks of Malheur Butte			
POWme	dacite of Mount Emily			
POWsl	alkali basalt of Sugarloaf			
POWswc	andesite of Sawtooth Crater			
POWtam	andesite of Tamarack Butte			
QVbas	Quaternary basalt	Quaternary volcanics	1.0	
QVnby	Newberry Volcano			
STRint	intrusive rocks of Strawberry Volcanics	Strawberry Volcanics	5.0	
STRuol	Strawberry Volcanics, undifferentiated			
WTcc	Clower Creek Greenstone			
WTch	Coon Hollow Formation			
WTdcy	Doyle Creek Formation			
WTlc	Hunsaker Creek Formation			
WTlw	Hurval Formation			
WTint	intrusive rocks of Wallowa Terrane	Wallowa terrane	2.0	
WTlss	lower sedimentary series of Wallowa terrane			
WTmb	Martin Bridge Formation			
WTspc	Sparta complex*			
WTwr	Windy Ridge Formation			
WTswc	Wild Sheep Creek Formation			
YELbuc	Buchanan ashflow tuff*			
YELdc	Dinner Creek Ashflow Tuff			
YELdmc	Dooley Mountain complex*	silicic rocks of Yellowstone hotspot	1.0	
YELrhy	rhyolite of Yellowstone hotspot			
YELfr	Littlefield Rhyolite			