



Time-Rock Chart and Correlation of Map Units for Northwest Oregon

2025

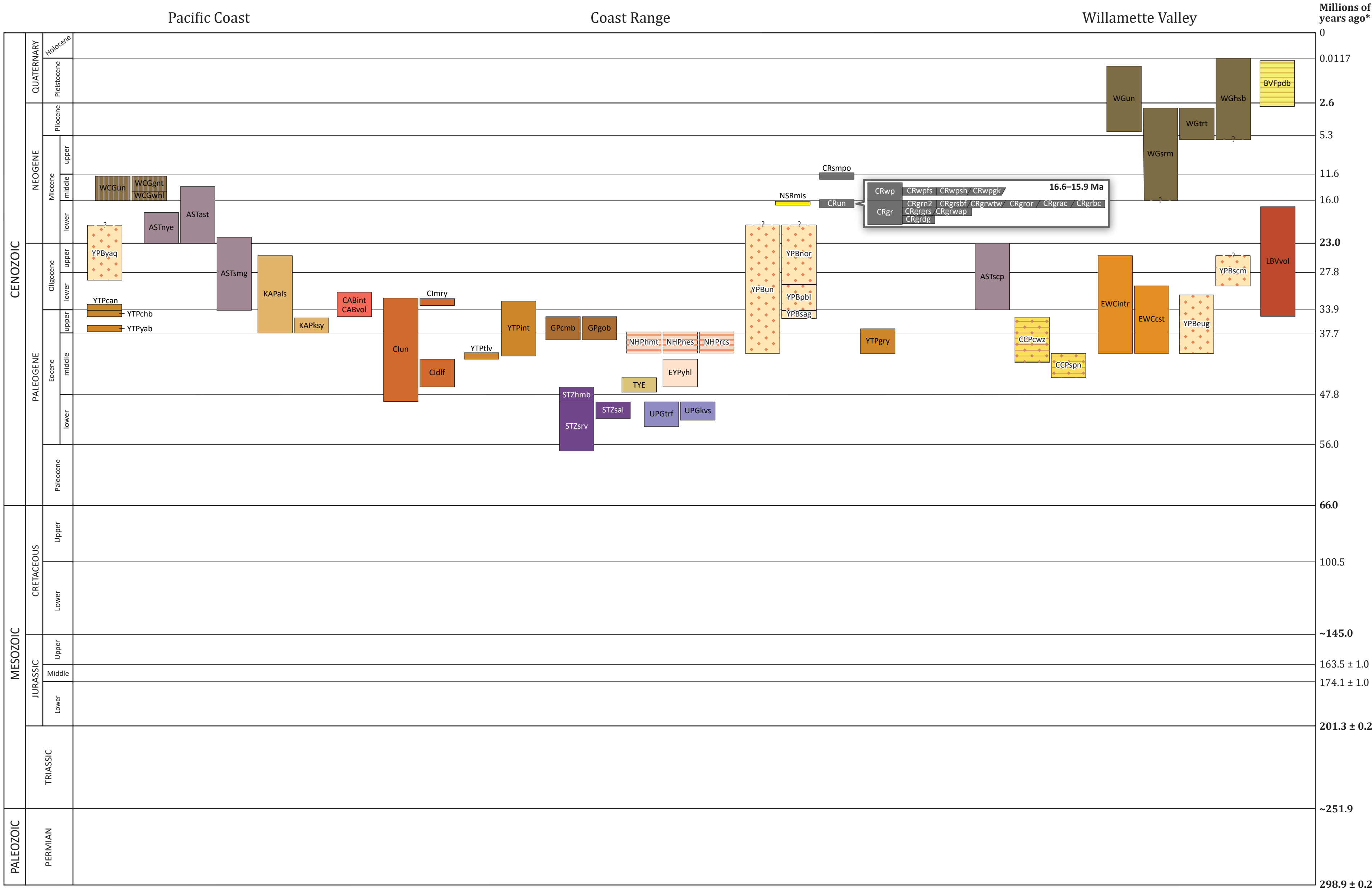
INTRODUCTION

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 Northwest region of the state of Oregon. As defined here, the Northwest region includes the area bounded by the Columbia River on the north, Interstate 5 on the east, the southern end of the Willamette Valley (latitude 44.1°N) on the south, and the Pacific Ocean on the west.

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., Ortley member*.

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 Northwest region; because many units extend laterally over significant portions of the region, their horizontal positions in the chart are relative approximations. Although spatial and 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 Northwest region.



*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>

REFERENCES

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

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

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Data synthesis and updates to the Oregon Geologic Data Compilation are supported in part by a grant from U.S. Geological Survey (USGS) through the U.S. Geoframework Initiative component of the National Cooperative Geologic Mapping Program (NCGMP) under cooperative agreement G20A000419. Additional funds were provided by the State of Oregon through the Oregon Department of Geology and Mineral Industries (DOGAMI).

PLATE 2

(arranged alphabetically by Compilation Unit Label)

Compilation Unit Label	Compilation Unit Name	Terrane/Group	Bedrock Areal Coverage in Region (%)
ASTast ASTnye ASTscp ASTsmg	Astoria Formation Nye Mudstone Scappoose Formation Smuggler Cove formation*	Astoria package	8.1
BVFPdb	Portland Basin volcanoes	Boring volcanic field	0.1
CCPcwz CCPspn	Cowlitz Formation Spencer Formation	Coaledo-Cowlitz package	2.7
Cidlf Cimry Ciun	diabase of Lees Falls Marys Peak intrusions* Coastal intrusions*, undifferentiated	Coastal intrusions*	< 0.1
CABint CABvol	intrusive rocks of Coastal alkalic basalt* lavas of Coastal alkalic basalt*	Coastal alkalic basalts*	7.3
CRgr CRgrac CRgrbc CRgrdg CRgrgrs CRgrn2 CRgror CRgrsbf CRgrwap CRgrwtw CRsmpp CRun CRwp CRwpfs CRwpgk CRwpsh	Grande Ronde Basalt Armstrong Canyon member* Buttermilk Canyon member* Downey Gulch member* Grouse Creek member* N2 subunit of Grande Ronde Basalt Ortley member* Sentinel Bluffs Member Wapshilla Ridge member* Winter Water Member Pomona Member Columbia River Basalt Group, undivided Wanapum Basalt Frenchman Springs Member basalt of Ginkgo basalt of Sand Hollow	Columbia River Basalt Group	11.4
EWCCst EWCintr	Colestin Formation intrusive rocks of early Western Cascade volcanics	early Western Cascade Volcanics	< 0.1
EYPyh	Yamhill Formation	Elkton-Yamhill package	8.1
GPcmb GPgob	Cole Mountain basalt* Goble Volcanics	Goble package	0.8
KAPals KAPksy	Alsea Formation Keasey Formation	Keasey-Alsea package	4.0
LBVvol	lavas of Little Butte Volcanics	Little Butte Volcanics	< 0.1
NSRmis	Mist Formation	Neogene sedimentary rocks	0.2
NHPhtmt NHPnes NHPrcs	Hamlet formation* Nestucca Formation sandstone of Roy Creek	Nestucca-Hamlet package	6.9
STZhmb STZsal STZsrv	basalt of Hembre Ridge Salmon River Formation Siletz River Volcanics	Siletz terrane	8.9
TYE	Tyee Formation	Tyee package	23.0
UPGkvs UPGtrf	Kings Valley Siltstone sandstone of Trask River	Umpqua Group	0.6
WCGgnt WCGun WCGwhl	Gnat Creek formation* Whale Cove and Gnat Creek units, undivided sandstone of Whale Cove	Whale Cove-Gnat Creek package	0.5
WGhsb WGSrm WGtrt WGun	Hillshoro Formation Sandy River Mudstone Troutdale Formation Willamette package, undivided	Willamette package	0.7
YPBeug YPBnor YPBpbl YPBsag YPBscm YPBun YPByaq	*Eugene Formation Northrup Creek formation* Pittsburg Bluff Formation Sager Creek formation* Scotts Mills Formation Yaquina-Pittsburg Bluff package, undivided Yaquina Formation	Yaquina-Pittsburg Bluff package	11.2
YTPcan YTPchb YTPgry YTPint YTPtlv YTPyab	basalt of Cannery Hill basalt of Cascade Head Grays River Volcanics intrusive rocks of Yachats-Tillamook package Tillamook Volcanics Yachats Basalt	Yachats-Tillamook package	5.6



Expires: 04/27/2025

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