

Geoscience in Your State: Washington

Conservation is the study of the earth and the complex geologic, marine, atmospheric, and hydrologic processes that sustain it and the economy. Understanding the earth's surface and subsurface, its resources, history, and impacts allows us to develop sustainable policies for environmental health and safety, balance



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- 12.10 dependent employees (not included employees)
- 1.51 million plus the total population without
- 500 million value of value added production in 2017
- 1% total disease infections, including, HIV, TB, and malaria
- 1.54 million (15.42) years aged in 2017

- 300 million, like 5 world wine production in 2017
- Sold at good (reasonable) price, limited, good buy

• 12 (positive species per individual)	6.337
• 12 (all negative species per individual)	1.411
• 12 (all negative species per individual)	1.411
• 12 (all negative species per individual)	1.411
• 12 (all negative species per individual)	1.411

- 1500 g phosphate buffer per water volume
- 1200 g phosphate buffer per water volume
- 900 g phosphate buffer per water volume
- 600 g phosphate buffer per water volume
- 300 g phosphate buffer per water volume
- 150 g phosphate buffer per water volume
- 75 g phosphate buffer per water volume
- 37.5 g phosphate buffer per water volume
- 18.75 g phosphate buffer per water volume
- 9.375 g phosphate buffer per water volume
- 4.6875 g phosphate buffer per water volume
- 2.34375 g phosphate buffer per water volume
- 1.171875 g phosphate buffer per water volume
- 0.5859375 g phosphate buffer per water volume
- 0.29296875 g phosphate buffer per water volume
- 0.146484375 g phosphate buffer per water volume
- 0.0732421875 g phosphate buffer per water volume
- 0.03662109375 g phosphate buffer per water volume
- 0.018310546875 g phosphate buffer per water volume
- 0.0091552734375 g phosphate buffer per water volume
- 0.00457763671875 g phosphate buffer per water volume
- 0.002288818359375 g phosphate buffer per water volume
- 0.0011444091796875 g phosphate buffer per water volume
- 0.00057220458984375 g phosphate buffer per water volume
- 0.000286102294921875 g phosphate buffer per water volume
- 0.0001430511474609375 g phosphate buffer per water volume
- 7.1525575734375e-05 g phosphate buffer per water volume
- 3.57627878671875e-05 g phosphate buffer per water volume
- 1.788139393359375e-05 g phosphate buffer per water volume
- 8.940696966796875e-06 g phosphate buffer per water volume
- 4.4703484833984375e-06 g phosphate buffer per water volume
- 2.2351742416992187e-06 g phosphate buffer per water volume
- 1.1175871208496093e-06 g phosphate buffer per water volume
- 5.587935604248047e-07 g phosphate buffer per water volume
- 2.793967802124023e-07 g phosphate buffer per water volume
- 1.3969839010620115e-07 g phosphate buffer per water volume
- 6.984919505310058e-08 g phosphate buffer per water volume
- 3.492459752655029e-08 g phosphate buffer per water volume
- 1.7462298763275145e-08 g phosphate buffer per water volume
- 8.731149381637572e-09 g phosphate buffer per water volume
- 4.365574690818786e-09 g phosphate buffer per water volume
- 2.182787345409393e-09 g phosphate buffer per water volume
- 1.0913936727046965e-09 g phosphate buffer per water volume
- 5.456968363523482e-10 g phosphate buffer per water volume
- 2.728484181761741e-10 g phosphate buffer per water volume
- 1.3642420908808705e-10 g phosphate buffer per water volume
- 6.821210454404352e-11 g phosphate buffer per water volume
- 3.410605227202176e-11 g phosphate buffer per water volume
- 1.705302613601088e-11 g phosphate buffer per water volume
- 8.52651306800544e-12 g phosphate buffer per water volume
- 4.26325653400272e-12 g phosphate buffer per water volume
- 2.13162826700136e-12 g phosphate buffer per water volume
- 1.06581413350068e-12 g phosphate buffer per water volume
- 5.3290706675034e-13 g phosphate buffer per water volume
- 2.6645353337517e-13 g phosphate buffer per water volume
- 1.33226766687585e-13 g phosphate buffer per water volume
- 6.66133833437925e-14 g phosphate buffer per water volume
- 3.330669167189625e-14 g phosphate buffer per water volume
- 1.6653345835948125e-14 g phosphate buffer per water volume
- 8.326672917974062e-15 g phosphate buffer per water volume
- 4.163336458987031e-15 g phosphate buffer per water volume
- 2.0816682294935155e-15 g phosphate buffer per water volume
- 1.0408341147467577e-15 g phosphate buffer per water volume
- 5.2041705737337885e-16 g phosphate buffer per water volume
- 2.6020852868668942e-16 g phosphate buffer per water volume
- 1.3010426434334471e-16 g phosphate buffer per water volume
- 6.5052132171672355e-17 g phosphate buffer per water volume
- 3.2526066085836177e-17 g phosphate buffer per water volume
- 1.6263033042918089e-17 g phosphate buffer per water volume
- 8.131516521459044e-18 g phosphate buffer per water volume
- 4.065758260729522e-18 g phosphate buffer per water volume
- 2.032879130364761e-18 g phosphate buffer per water volume
- 1.0164395651823805e-18 g phosphate buffer per water volume
- 5.0821978259119025e-19 g phosphate buffer per water volume
- 2.5410989129559512e-19 g phosphate buffer per water volume
- 1.2705494564779756e-19 g phosphate buffer per water volume
- 6.352747282389878e-20 g phosphate buffer per water volume
- 3.176373641194939e-20 g phosphate buffer per water volume
- 1.5881868205974695e-20 g phosphate buffer per water volume
- 7.9409341029873475e-21 g phosphate buffer per water volume
- 3.9704670514936737e-21 g phosphate buffer per water volume
- 1.9852335257468369e-21 g phosphate buffer per water volume
- 9.926167628734184e-22 g phosphate buffer per water volume
- 4.963083814367092e-22 g phosphate buffer per water volume
- 2.481541907183546e-22 g phosphate buffer per water volume
- 1.240770953591773e-22 g phosphate buffer per water volume
- 6.203854767958865e-23 g phosphate buffer per water volume
- 3.1019273839794325e-23 g phosphate buffer per water volume
- 1.5509636919897162e-23 g phosphate buffer per water volume
- 7.754818459948581e-24 g phosphate buffer per water volume
- 3.8774092299742905e-24 g phosphate buffer per water volume
- 1.9387046149871452e-24 g phosphate buffer per water volume
- 9.693523074935726e-25 g phosphate buffer per water volume
- 4.846761537467863e-25 g phosphate buffer per water volume
- 2.4233807687339315e-25 g phosphate buffer per water volume
- 1.2116903843669657e-25 g phosphate buffer per water volume
- 6.058451921834828e-26 g phosphate buffer per water volume
- 3.029225960917414e-26 g phosphate buffer per water volume
- 1.514612980458707e-26 g phosphate buffer per water volume
- 7.573064902293535e-27 g phosphate buffer per water volume
- 3.7865324511467675e-27 g phosphate buffer per water volume
- 1.8932662255733837e-27 g phosphate buffer per water volume
- 9.466331127866919e-28 g phosphate buffer per water volume
- 4.7331655639334595e-28 g phosphate buffer per water volume
- 2.3665827819667297e-28 g phosphate buffer per water volume
- 1.1832913909833648e-28 g phosphate buffer per water volume
- 5.916456954916824e-29 g phosphate buffer per water volume
- 2.958228477458412e-29 g phosphate buffer per water volume
- 1.479114238729206e-29 g phosphate buffer per water volume
- 7.39557119364603e-30 g phosphate buffer per water volume
- 3.697785596823015e-30 g phosphate buffer per water volume
- 1.8488927984115075e-30 g phosphate buffer per water volume
- 9.244463992057537e-31 g phosphate buffer per water volume
- 4.6222319960287685e-31 g phosphate buffer per water volume
- 2.3111159980143842e-31 g phosphate buffer per water volume
- 1.1555579990071921e-31 g phosphate buffer per water volume
- 5.7777899950359605e-32 g phosphate buffer per water volume
- 2.8888949975179802e-32 g phosphate buffer per water volume
- 1.4444474987589901e-32 g phosphate buffer per water volume
- 7.2222374937949505e-33 g phosphate buffer per water volume
- 3.6111187468974752e-33 g phosphate buffer per water volume
- 1.8055593734487376e-33 g phosphate buffer per water volume
- 9.027796867243688e-34 g phosphate buffer per water volume
- 4.513898433621844e-34 g phosphate buffer per water volume
- 2.2569492168

- 17th state to join, joining by the 28th and not 4 years earlier (1820)
- 5th most abundant state (1820)
- 5th most religious state (1820)
- 5th most populous state (1820)
- 5th most police state (1820)
- 3rd most economically active state, and not only because of 18th century (1820)

- 1. [Download the sample project](#) [43]
- 2. [Install the tool, and the sample project](#) [43]
- 3. [Configure the tool to run](#) [43]
- 4. [Configure the tool to run](#) [43]
- 5. [Configure the tool to run](#) [43]
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- 12,118 geoscience employees (excludes self-employed)¹
- 1.53 billion gallons/day: total groundwater withdrawal³

- \$901 million: value of nonfuel mineral production in 20174
- 132 total disaster declarations, including 78 fire, 28 flood, and 16 severe storm disasters (1953-2017)?
- \$34.4 million: NSF GEO grants awarded in 201714...

Read more in this Geoscience in Your State Factsheet...

Agencies Working on Geoscience Issues in Washington

Washington Department of Ecology

<https://ecology.wa.gov/>

Ecology is Washington's environmental protection agency. The mission is to protect, preserve, and enhance Washington's land, air, and water for current and future generations.

Washington Division of Geology and Earth Resources

<https://www.dnr.wa.gov/geology>

The Washington DNR, of which DGER is a division, informs the public, government, and industry about the consequences of geologic events and about the nature of the land. DNR monitors, assesses, and researches the causes of earthquakes, landslides, and volcanoes--critical information for both government and private sector planners working to reduce the human and financial effects of natural disasters.

Washington Emergency Management Division

<https://mil.wa.gov/emergency-management-division>

During state emergencies, EMD manages the State Emergency Operations Center located on Camp Murray, near Tacoma, and coordinates the response to ensure help is provided to those who need it quickly and effectively.

Maps & Visualizations



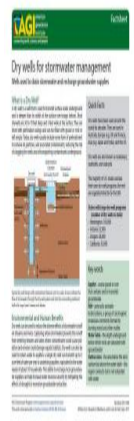
Interactive database for geologic maps of the United States

U.S. Geological Survey

The U.S. Geological Survey hosts the National Geologic Map Database (NGMDB). This interactive tool serves as a national archive for high-quality, standardized geologic maps created by the U.S. Geological Survey and state geological surveys. The MapView section of the NGMDB displays geologic maps...

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Case Studies & Factsheets



Dry wells for stormwater management

What is a Dry Well? A dry well is a well that is used to transmit surface water underground and is deeper than its width at the surface (see image, below). Most dry wells are 30 to 70 feet deep and 3 feet wide at the surface. They are lined with perforated casings and can be filled with gravel or...

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Webinars & Forums

New England Commercial Value - 2024



Ocean Acidification Impacts on Fisheries

This webinar addresses how geoscience helps us to understand ocean acidification, ocean acidification's impacts on marine life, and what states and municipalities can do to reduce the fishery-related economic impacts of ocean acidification.

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