# Bob Smith's useful web site tools and information on the Yellowstone-Teton geologic system.

Compiled by Robert (Bob) B. Smith November 22, 2020

Bob Smiths University of Utah Seismology and Active Tectonics Research Group www.uusatrg.utah.edu/who.html www.uusatrg.utah.edu/

Bob Smiths Email addresses: robert.b.smith@utah.edu baerschmeid@gmail.com

No doubt this list is incomplete and links change frequently, thus if you find outdated, updated links or new ones, could you pass them me.

#### I. Books

Smith, R.B., and L. Siegel, 2000, Windows into the Earth: The geologic story of Yellowstone and Grand Teton National Parks, Oxford University Press, 202 pp.

Christiansen, R.L., 2001, The Quaternary and Pliocene Yellowstone Plateau volcanic field of Wyoming, Idaho, and Montana: U.S. Geological Survey Professional Paper: 729-G, 145 p., 3 plates, scale 1:125,000.

### II. General Yellowstone-Teton Geology and Geophysics Data

University of Utah Seismology and Active Tectonics Research Group: www.uusatrg.utah.edu/

University of Utah Seismograph Stations with real-time earthquake coverage of the Intermountain West quake.utah.ediu

Yellowstone Volcano Observatory volcanoes.usgs.gov/yvo/

USGS earthquake hazards and real time global seismic map with access to the western U.S. www.usgs.gov/natural-hazards/earthquake-hazards

USGS volcano program volcanoes.usgs.gov/index.html

NSF EarthScope Program with GPS and seismic measurements of the entire US earthscope.org

Plate Boundary Observatory, Data: Network of GPS, strainmeters, LiDAR data, etc. www.unavco.org/projects/past-projects/pbo/pbo.html USArray (United States array of seismographs): Data from transportable array: www.usarray.org/

SAGE/Gage (Seismological Facilities for the Advancement of Geoscience) SAGE is currently managed by the Incorporated Research Institutions for Seismology (IRIS) <a href="https://www.iris.edu/hq/">www.iris.edu/hq/</a>

Gage Geodetic Facility for the Advancement of Geoscience (GAGE), UNAVCO's service to the geodetic community "Enabling Discoveries in Multiscale Earth System Dynamics: Geodetic Facility for the Advancement of GEoscience (GAGE)" <a href="https://www.iris.edu/hq/workshops/2019/10/earth">www.iris.edu/hq/workshops/2019/10/earth</a> in 4d

#### III. Yellowstone-Teton Earthquake Data:

University of Utah Yellowstone-Teton real-time earthquake locations www.seis.utah.edu/req2webdir/recentegs/Maps/Yellowstone.html

QuakeWatch: Monitoring earthquakes and volcanos http://quakewatch.gvsdata.com/

Yellowstone earthquake station with links web site www.seis.utah.edu/helicorder/yell\_webi.htm

CISN Global real-time earthquake display, tailored to your interest. www.cisn.org/software/cisndisplay.htm

National Earthquake Information Center: earthquake.usgs.gov/earthquakes/map/

Earthquake Report – Independent earthquake reporting website earthquake-report.com/

Did You Feel It: Internet Public Reporting of Felt Earthquakes and Maps of Felt Reports. <a href="mailto:earthquake.usgs.gov/data/dyfi/">earthquake.usgs.gov/data/dyfi/</a>

Global earthquake monitor: ds.iris.edu/seismon/

Yellowstone consolidated University of Utah seismic station webicorders www.isthisthingon.org/Yellowstone/daythumbs.php

#### IV. Yellowstone-Teton Crustal Deformation from GPS, InSAR and LiDAR

Plate Boundary Observatory GPS data access www.unavco.org/data/gps-gnss/gps-gnss.html

Western U.S. GPS velocity viewer www.unavco.org/software/visualization/GPS-Velocity-Viewer/GPS-Velocity-Viewer.html

Real-time Yellowstone GPS data access: www.unavco.org/data/gps-gnss/real-time/real-time.html

LiDAR maps for Intermountain region from Open Topography (Yellowstone, Teton fault, and Wasatch, UT) portal.opentopography.org/datasetMetadata?otCollectionID=OT.052009.32612.1

Yellowstone GPS data viewer earthquake.usgs.gov/monitoring/gps/YellowstoneContin

#### V. Yellowstone-Teton Earthquake Hazard Information

U.S. Earthquake Hazard Maps <a href="https://www.usgs.gov/natural-hazards/earthquake-hazards/hazards/">https://www.usgs.gov/natural-hazards/earthquake-hazards/hazards/</a>

Teton County Earthquake Information: www.tetonwyo.org/409/Impacts-of-an-Earthquake maps.greenwoodmap.com/tetonwy/mapserver/

Wyoming and Teton Landslide Hazard Maps: www.wrds.uwyo.edu/wrds/wsgs/hazards/landslides/landslides.html

Putting down roots in earthquake country: www.utah.gov/beready/documents/roots\_earthquake\_low.pdf

Montana Bureau of Mines and Geology www.mbmg.mtech.edu/

Wyoming State Geological Survey www.wsgs.wyo.gov/default.aspx

Idaho State Geological Survey

#### VI. Yellowstone-Teton Volcano Hazard Information

USGS Volcano Hazards Program volcanoes.usgs.gov/

Smithsonian Institution Global Volcanism Program www.volcano.si.edu/

Volcano Watch volcanowatcher.wordpress.com/

Global Volcanism Program www.volcano.si.edu/index.cfm

#### VII. Global earthquake and geology sites

Global list of earthquake and volcano web sites: www.its.caltech.edu/~meltzner/seismolinks.html

The Savage Earth: www.pbs.org/wnet/savageearth/,

## VI. Yellowstone-Teton Geologic Maps, etc.

Yellowstone National Park NPS geology website for: www.nps.gov/yell/naturescience/index.htm

Grand Teton National Park NPS geology website for: www.nps.gov/grte/naturescience/geology.htm

Yellowstone Science, quarterly magazine www.nps.gov/subjects/yellowstonescience/index.htm

Teton region digital geologic map (ID I-2031) of the Teton region: pubs.er.usgs.gov/publication/i2031

Yellowstone Plateau Geologic Map pubs.usgs.gov/pp/pp729g/plate3.pdf

# VIII. Yellowstone-Teton Educational Web Sites on Plate Tectonics,

## **Earthquakes and Volcanoes:**

Unavco GPS geodetic data utilities, : www.unavco.org/software/geodetic-utilities/geodetic-utilities.html

American Museum of Natural History Yellowstone site, www.amnh.org/explore/videos/earth-and-climate/yellowstone-monitoring-the-fire-below/yellowstone-volcano

Interview with Bob Smith on Yellowstone, American Museum of Natural History, www.amnh.org/explore/videos/earth-and-climate/yellowstone-monitoring-the-fire-below/volcanic-witness-an-interview-with-bob-smith

The Dynamic Earth and Plate tectonics: pubs.usgs.gov/gip/dynamic/dynamic.html

The Worlds Deadliest Volcanoes

www.pbslearningmedia.org/resource/nvfb-sci-dvolcanoes/wgbh-nova-deadliest-volcanoes-full-length-broadcast/

National Geographic Yellowstone Has Bulged as Magma Pocket Swells www.nationalgeographic.com/news/2011/1/110119-yellowstone-park-supervolcano-eruption-magma-science/

Earthquakes, plate tectonics and space methods in Earth Sciences: ceo.scec.org/education/k12/learn/index.htm

Teton County Wyoming GIS interactive map server: maps.greenwoodmap.com/tetonwy/mapserver/

Glossary of earthquake terms wirefence.co.uk/earthquake-glossary/

Volcano teaching resources hawaiianshirtsonline.co.uk/volcano-resources/

# IV. National Park Service homepages:

Yellowstone National Park: www.nps.gov/yell/

Grand Teton National Park: www.nps.gov/grte/

Natural Resources Bibliography for National Parks. www.nps.gov/articles/natural-resource-bibliography.htm

University of Wyoming American Heritage Center, Yellowstone National Park Subject Guide: uwyo.libguides.com/ahcyellowstone

# V. Yellowstone-Teton Outreach and Educational Organizations

Teton Science Schools www.tetonscience.org/

Grand Teton National Park Foundation <a href="https://www.gtnpf.org/">www.gtnpf.org/</a>

Greater Yellowstone Coalition greateryellowstone.org/

Yellowstone Association yellowstone-association-and-yellowstone-park-foundation-to-merge/

Grand Teton National Park Association grandtetonassociation.org/

Yellowstone Forever www.yellowstone.org/ UW-NPW Research Station, Grand Teton National Park uwnps.org/

# VI. Website tools or free instruments for monitoring and accessing Yellowstone-Teton seismic and GPS data

Swarm, a program for real-time earthquake monitoring www.avo.alaska.edu/Software/swarm/

GPS data for real-time navigation and point positioning for Teton-Yellowstone region GPS, borehole seismic, strain, tilt etc. pbo.unavco.org/network/soh\_map

Earthquake Notification Service (subscribe to a real-time Internet earthquake alert system with earthquake maps, ground shaking) earthquake.usgs.gov/ens/

Volcano Notification Service volcanoes.usgs.gov/vns2//

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Valve: Yellowstone-Teton-Wasatch data visualization: seismic, GPS, weather, etc. data <a href="https://www.usgs.gov/">www.usgs.gov/</a>

Real-time earthquake data from the CISN global earthquake display: www.cisn.org/software/cisndisplay.htm

Quake Watch quakewatch.net/

Netquakes with public access to request a seismograph of your own earthquake.usgs.gov/monitoring/netquakes/

## VII. Links to Everything!

All My Faves www.allmyfaves.com/