



Do you know of a colleague and/or student who would be interested in receiving these Bulletin Boards? Please forward to them. A quick email to [Geosciences-BBoard@att.net](mailto:Geosciences-BBoard@att.net) with the word “subscribe” in the subject line and the email address will be added to the listing.

### Geoscience Bulletin Board – 28 October 2019 – compiled by Elaine J. Hanford

Plate tectonics theory changed earth science

- <https://eos.org/articles/podcast-plate-tectonics-the-theory-that-changed-earth-science>
- <https://science.howstuffworks.com/environmental/earth/geology/plate-tectonics.htm>

EQ statistics vary with fault length – fault length related to EQ nucleation dimension

- <https://eos.org/research-spotlights/earthquake-statistics-vary-with-fault-size>

Evidence of ancient microbes found in 375 myo Siljan crater in Sweden

- <https://www.iflscience.com/environment/signs-of-ancient-life-found-deep-within-europe-s-biggest-impact-crater/>
- Paper: <https://www.nature.com/articles/s41467-019-12728-y>

Wildfire smoke increases atmospheric instability in some valley – can prevent dispersion

- <https://eos.org/articles/wildfire-smoke-traps-itself-in-valleys>

*Sauromitholestes langstoni* - Best-preserved specimen of dromaeosaurid dinosaur found in Canada

- <http://www.sci-news.com/paleontology/nearly-complete-specimen-sauromitholestes-langstoni-07710.html>

Different groups of giant dinosaurs evolved different brain-cooling mechanisms

- <http://www.sci-news.com/paleontology/giant-dinosaurs-brain-cooling-mechanisms-07708.html>

Chemical signatures of primordial mantle found in kimberlites

- <http://www.sci-news.com/geology/chemical-signatures-earths-primordial-mantle-kimberlites-07726.html>

5 islands uncovered by melting glaciers in the remote Arctic

- [http://www.spacedaily.com/reports/Russia\\_discovers\\_five\\_Arctic\\_islands\\_uncovered\\_by\\_melting\\_ice\\_999.html](http://www.spacedaily.com/reports/Russia_discovers_five_Arctic_islands_uncovered_by_melting_ice_999.html)

Rapid crystallization may cause highly explosive and hazardous eruptions of basaltic magma

- [http://www.terradaily.com/reports/Rapid\\_crystallisation\\_of\\_magma\\_causes\\_explosive\\_volcanic\\_eruptions\\_999.html](http://www.terradaily.com/reports/Rapid_crystallisation_of_magma_causes_explosive_volcanic_eruptions_999.html)
- <https://www.newsweek.com/infamous-vesuvius-eruption-pompeii-explosive-1467197>
- Paper: <https://www.nature.com/articles/s41561-019-0468-6>

Predicted sea-level rise due to collapse of Antarctic ice may be overestimated

- [http://www.spacedaily.com/reports/Antarctic\\_ice\\_cliffs\\_may\\_not\\_contribute\\_to\\_sea\\_level\\_rise\\_as\\_much\\_as\\_predicted\\_999.html](http://www.spacedaily.com/reports/Antarctic_ice_cliffs_may_not_contribute_to_sea_level_rise_as_much_as_predicted_999.html)

Ocean acidity during K-Pg mass extinction revealed by foraminifera

- [http://www.terradaily.com/reports/Mystery\\_solved\\_Ocean\\_acidity\\_in\\_the\\_last\\_mass\\_extinction\\_999.html](http://www.terradaily.com/reports/Mystery_solved_Ocean_acidity_in_the_last_mass_extinction_999.html)
- Paper: <https://www.pnas.org/content/early/2019/10/15/1905989116>

Method for calculating snow depth in mountain ranges using satellite data

- <https://www.sciencedaily.com/releases/2019/10/191022121128.htm>
- Paper: <https://www.nature.com/articles/s41467-019-12566-y>

Formation of rare earth element (REE-rich) deposits in central Sweden

- <https://phys.org/news/2019-10-rare-earth-element-ree-rich-deposits.html>
- Paper: <https://www.nature.com/articles/s41598-019-49321-8>

“Slow-slip” EQs behave more like “regular” EQs

- <https://phys.org/news/2019-10-earthquakes-motion-slow-slip-events-destructive.html>

2018 M7.1 Anchorage EQ did not reactivate landslides triggered by 1964 M9.2 Great Alaska EQ

- <https://www.brightsurf.com/news/article/102319495191/ground-failure-study-shows-deep-landslides-not-reactivated-by-2018-anchorage-quake.html>

Orphan sulfur spikes in ice cores – notable spike in sulfur around 1450 AD – not Kuwea caldera

- <http://blogs.discovermagazine.com/rockyplanet/2019/10/23/how-ice-cores-from-antarctica-can-make-or-break-mystery-eruptions/>
- Kuwea Paper: <https://www.nature.com/articles/s41598-019-50939-x>

Largest known caldera on Earth is in Philippines on Benham Rise – 93-mile diameter

- <https://www.techexplorist.com/philippines-earths-largest-known-caldera/27243/>

Role of landslide dams in deposition of carbon in marine sediments

- <https://blogs.agu.org/landslideblog/2019/10/23/wood-1/>

Scavengers feed on fallen whale carcass on the sea floor near Davidson Seamount (video)

- <https://kottke.org/19/10/watch-scavengers-devour-a-fallen-whale-carcass-on-the-sea-floor>

Komatiites and Ni-Cu-PGE deposits

- <https://www.geologyforinvestors.com/komatiites-and-ni-cu-pge-deposits/>

Book Review: “Rising from the Plains” – classic centered on life of geologist David Love in Wyoming

- <https://cowboystatedaily.com/2019/10/23/rising-from-the-plains-is-classic-wyoming-book/>

Melanterite – rare mineral discovered near Nepisiguit Falls in New Brunswick, Canada

- <https://www.cbc.ca/news/canada/new-brunswick/rare-mineral-melanterite-discovery-geology-1.5324704>

Cenozoic collision of African-Arabian and Indian tectonic plates with Eurasia

- <https://sciencetrends.com/late-paleogene-to-neogene-paleogeography-of-the-euxinian-part-of-paratethys-with-focus-on-crimean-caucasian-junction/>

Decoding rock record of 825 myo Yiyang deeply sourced high MgO basalts reflecting deep geodynamics

- <https://sciencetrends.com/decoding-ancient-deep-earth-geodynamics-using-high-mg-basalts-from-central-south-china/>

Evidence suggests mercury from volcanic eruptions played role in end-Triassic mass extinction

- <https://phys.org/news/2019-10-evidence-mercury-volcanoes-contributed-end-triassic.html>
- Paper: <https://advances.sciencemag.org/content/5/10/eaaw4018>

Locating air/fluid pressure-induced micro-seismic events

- <https://sciencetrends.com/location-estimation-of-air-fluid-pressure-induced-microseismic-events/>

Kölling model for pyrite & pyrite weathering on continental shelf

- <https://www.brightsurf.com/news/article/102419495281/the-shelf-life-of-pyrite.html>

What imperfect diamonds reveal about water hidden in deep Earth

- <https://www.sciencedaily.com/releases/2019/10/191024105827.htm>

Tour the Delaware Water Gap – US Army COE nearly caused it to disappear in 1970s

- <https://www.miamiherald.com/sports/outdoors/article236593478.html>

\*\*\*\*\*



## Environmental Science Bulletin Board – 28 October 2019 – compiled by Elaine J. Hanford

### Environmental impacts of Halloween

- <https://www.teenvogue.com/story/halloween-environmental-impact>
- <https://oceanconservancy.org/blog/2012/10/26/trash-or-treat-six-ways-to-have-a-trash-free-halloween/>
- <https://www.forbes.com/sites/briankateman/2019/10/22/buying-chocolate-for-halloween-the-production-of-cocoa-is-scarier-than-you-think/#1dd8b9e25bf8>
- [https://www.vice.com/en\\_us/article/yxnx8j/the-government-says-our-halloween-pumpkins-are-destroying-the-environment](https://www.vice.com/en_us/article/yxnx8j/the-government-says-our-halloween-pumpkins-are-destroying-the-environment)

### UT-Arlington received NSF grant to assess use of UAVs for natural disaster reconnaissance

- [https://www.eurekalert.org/pub\\_releases/2019-10/uota-upe101519.php](https://www.eurekalert.org/pub_releases/2019-10/uota-upe101519.php)

### Death toll rising from Legionnaires disease outbreak in North Carolina – 4 deaths & 141 confirmed cases exposed in hot tubs display at Mountain State Fair

- <https://www.charlotteobserver.com/news/state/north-carolina/article236399023.html>
- <https://abc11.com/health/4th-legionnaires-disease-death-reported-in-north-carolina/5630677/>

### US Army COE argues against further Dakota Access Pipeline study apposing American Indian tribes

- [https://bismarcktribune.com/news/state-and-regional/us-army-corps-of-engineers-argues-against-more-dapl-study/article\\_2a4d9ce0-3e0d-5ff0-9704-6e1fde424a01.html](https://bismarcktribune.com/news/state-and-regional/us-army-corps-of-engineers-argues-against-more-dapl-study/article_2a4d9ce0-3e0d-5ff0-9704-6e1fde424a01.html)

### Modeling different rupture scenarios for M7.0 on Hayward Fault in San Francisco Bay area

- <https://newscenter.lbl.gov/2019/10/18/better-predicting-earthquake-damage-to-infrastructure-with-faster-computing/>

### Unregistered dam collapses at small gold mine in Krasnoryarsk region of Russia – 15 dead

- <https://www.msn.com/en-us/news/world/dam-collapse-at-siberian-gold-mine-leaves-at-least-15-dead/ar-AAJ1szE>

Indian Island returned to Wiyot Tribe in northern California – spiritual & physical center of universe

- <https://www.msn.com/en-us/news/us/california-tribe-regains-island-it-calls-center-of-universe/ar-AAJ77Nt>

Seattle, Washington, passes heating oil tax – believing in the myth of global warming – “tax is a sin”

- <https://www.yahoo.com/news/seattle-passes-heating-oil-tax-042749983.html>

Unilever to reduce plastic use by 50% by 2025 – paper-based packages & 100% recycled plastics

- <https://www.yahoo.com/news/dove-announces-plastic-free-soap-094119931.html>
- <https://www.unilever.co.uk/news/press-releases/2019/dove-makes-industry-leading-global-plastic-commitment.html>

Trying to create demand for lionfish – urge people to start eating them & combat invasive species

- <https://www.yahoo.com/news/highly-venomous-lionfish-menu-greece-142641645.html>

Britain still not fully honoring slaves and their role in the slave trade

- <http://theconversation.com/britain-is-still-failing-to-acknowledge-the-legacy-of-slavery-memorialising-its-victims-would-be-a-start-124911>

Air pollution in England triggers hundreds more heart attacks & strokes & acute asthma attacks

- <https://www.bbc.com/news/health-50119981>
- <https://www.yahoo.com/news/nhs-boss-announces-air-pollution-230100537.html>

Texas will vote on Prop 8: set aside \$800M from rainy day fund for flood mitigation efforts

- <https://www.texastribune.org/2019/10/22/flood-infrastructure-fund/>

Transportation infrastructure contributes estimated \$34.1B to US economy annually

- <https://transportationtodaynews.com/news/15731-transportation-infrastructure-contributes-34-1b-to-economy/>
- RTC Report: <https://www.railstotrains.org/resourcehandler.ashx?name=active-transportation-transforms-america&id=21449&fileName=Active%20Transportation%20Transforms%20America.pdf>

Plastic Health Summit 2019 – how plastics threaten future generations – have not been thoroughly tested

- <https://www.ehn.org/how-plastics-threaten-future-generations-2641002267.html>

Perspective: natural gas vs. renewable energy & gas industry talking points

- <https://www.ehn.org/natural-gas-vs-renewables-2640991454.html>

Carcinogenic chemicals in drinking water in Pittsburgh, Pennsylvania

- <https://www.ehn.org/there-are-concerning-carcinogens-in-western-pennsylvania-water-2641070249.html>

Neanderthals living in Northwestern Europe made “glue”

- <https://arstechnica.com/science/2019/10/neanderthal-glue-was-a-bigger-deal-than-we-thought/>

Deforestation in the Amazon linked to higher malaria rates

- <https://arstechnica.com/science/2019/10/in-the-amazon-deforestation-is-linked-to-higher-malaria/>

US EPA approved first-ever bee-distributed organic pesticide – “Vectorite” to fight *Clonostachys rosea*

- <https://arstechnica.com/science/2019/10/now-available-in-the-us-a-pesticide-delivered-by-bees/>

Freshwater cyanobacteria present in toxic algal blooms shift metabolic functions during the day

- [https://www.nsf.gov/discoveries/disc\\_summ.jsp?cntn\\_id=299409&org=GEO&from=news](https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=299409&org=GEO&from=news)

Much of Earth is still “wild” but threatened by fragmentation

- [http://www.terradaily.com/reports/Much\\_of\\_the\\_Earth\\_is\\_still\\_wild\\_but\\_threatened\\_by\\_fragmentation\\_999.html](http://www.terradaily.com/reports/Much_of_the_Earth_is_still_wild_but_threatened_by_fragmentation_999.html)

At least 55 elephants died in one month in Zimbabwe drought – lack of food & water

- [http://www.spacedaily.com/reports/Dozens\\_of\\_elephants\\_die\\_in\\_Zimbabwe\\_drought\\_999.html](http://www.spacedaily.com/reports/Dozens_of_elephants_die_in_Zimbabwe_drought_999.html)

Weather patterns in upper atmosphere limited ozone depletion – ozone “hole” in 2019 smallest on record

- [http://www.spacedaily.com/reports/Ozone\\_hole\\_in\\_2019\\_is\\_the\\_smallest\\_on\\_record\\_since\\_its\\_discovery\\_999.html](http://www.spacedaily.com/reports/Ozone_hole_in_2019_is_the_smallest_on_record_since_its_discovery_999.html)

Lead pollution caused by Native Americans crushing galena for glitter paint during Mississippian period

- <https://www.sciencedaily.com/releases/2019/10/191021144740.htm>

Currently one-third of ocean is under protected status – more progress needed

- <https://phys.org/news/2019-10-scientists-tout-ocean-road.html>

Successful biological decontamination of organochlorine compounds in aquifer in Spain

- <https://phys.org/news/2019-10-successful-biological-decontamination-aquifer.html>

Using lead isotopes to track coal ash

- <https://phys.org/news/2019-10-isotopes-tool-tracking-coal-ash.html>

Environmental Group cites just a handful of multi-national corporations as source of most plastic waste

- <https://phys.org/news/2019-10-big-firm-products-worst-plastic.html>

FEMA says BRIC program will facilitate disaster mitigation and resilience

- <https://www.ttnews.com/articles/federal-officials-highlight-disaster-mitigation-program>

Warning issued on devastating impact of nitrogen pollution

- <https://scitechdaily.com/150-top-international-scientists-warn-of-devastating-impact-of-nitrogen-pollution/>
- Link to report: <https://papersmart.unon.org/resolution/node/286/>

Which countries produce the most waste?

- <https://www.msn.com/en-us/news/world/countries-that-produce-the-most-waste/ss-AAIPly5>
- Link to report: <https://openknowledge.worldbank.org/handle/10986/30317>

Toxic chemicals proliferate in almost 50,000 water utilities across the US

- <https://www.msn.com/en-us/news/us/millions-of-americans-are-drinking-water-that-is-contaminated-yet-legal-environmental-working-group-analysis/ar-AAJcU7K>
- EWG Tap Water Database: <https://www.ewg.org/tapwater/state-of-american-drinking-water.php>

Another \$1.2B to Louisiana for flood projects

- <https://www.yahoo.com/lifestyle/old-farmers-almanac-predicts-alarming-151500914.html>
- Watersheds in LA: <https://www.watershed.la.gov/>
- LWI: <https://www.doa.la.gov/OCDDRU/Action%20Plan%20Amendments/Mitigation/2019-09-25%20CDBG-MITAP-ACTION%20PLAN%20Posted.pdf>

Salt Lake City, Utah, breaks ground on \$528M water reclamation plant

- <https://fox13now.com/2019/10/22/slc-breaks-ground-on-new-wastewater-facility-a-half-billion-dollar-project-that-may-increase-rates/>
- <https://www.sltrib.com/news/politics/2019/10/22/salt-lake-city-breaks/>

Linking climate change to bridge aging – sounds more like lack of maintenance in clearing expansion joints of debris

- <https://phys.org/news/2019-10-climate-hasten-deterioration-bridge-infrastructure.html>

UN estimates would cost \$300B to pause global warming – need to regain biological function of soil

- <https://time.com/5709100/halt-climate-change-300-billion/>

Cruise passenger barred from cruising for life – violated rules – selfies are very risky

- <https://www.thesun.co.uk/travel/10146455/royal-caribbean-passenger-balcony-selfie/>

Since 1894, Judges in Yellowstone National Park “protect the park and its wildlife and resources”

- <https://www.usatoday.com/story/news/nation/2019/10/20/yellowstone-federal-judge-deals-bison-abuse-illegal-drone-flights-national-park-crime/1891828001/>

Story behind the boulders in Gifford Pinchot State Park near Rossville

- <https://www.ydr.com/story/opinion/2019/10/24/you-know-those-boulders-pinchot-park-heres-their-story/4085296002/>

Farmlands lost as Ubahu village in Nanka suffers another landslide

- <https://dailypost.ng/2019/10/24/landslide-hits-anambra-community-indigenes-lose-farmland/>

The social impact of landslides in Mexico

- <https://blogs.agu.org/landslideblog/2019/10/24/mexico-1/>

\*\*\*\*\*



**Coastal Zone Management Bulletin Board – 28 October 2019 – compiled by Elaine J. Hanford**

Global Airborne Observatory creating detailed maps of coral reefs

- <https://asunow.asu.edu/20190918-global-engagement-asu-researchers-greg-asner-robin-martin-saving-oceans-from-sky>

Perspective: Port of Alaska resiliency puzzle

- <https://www.freightwaves.com/news/commentary-port-of-alaskas-resiliency-puzzle>

Rubjerg Knude Fyr – Danish lighthouse moved 70 meters to save it from coastal erosion (video)

- <https://www.euronews.com/2019/10/22/danish-lighthouse-moved-to-save-it-from-coastal-erosion>

Louisiana seeking greater share of offshore O&G revenues for coastal projects

- [https://www.theadvocate.com/baton\\_rouge/news/politics/article\\_2163ce2e-f507-11e9-a651-a75ae39cf1b6.html](https://www.theadvocate.com/baton_rouge/news/politics/article_2163ce2e-f507-11e9-a651-a75ae39cf1b6.html)

Port Isabel, Texas, begins work on coastal park to honor former mayor

- <https://www.themonitor.com/2019/10/19/port-isabel-starts-work-coastal-park/>

Coastal Commission approves permit to dismantle SONGS facilities at San Onofre nuclear power plant

- <https://www.sanclementetimes.com/coastal-commission-approves-socal-edisons-permit-dismantle-songs-facilities/>
- <https://www.songscommunity.com/news/releases/crucial-milestone-achieved-for-decommissioning-san-onofre-nuclear-plant>



Funding awarded to 5 coastal councils for planning in coastal & estuarine areas of New South Wales

- <https://www.dredgingtoday.com/2019/10/22/new-south-wales-funding-awarded-to-councils-for-coastal-planning/>

Weather driven waves up to 20-foot forced closure of entrances to 3 river bars on Central Oregon coast

- <https://www.oregonlive.com/environment/2019/10/river-bars-at-several-coastal-oregon-ports-closed-coast-guard-warns-of-dangerous-weather.html>

Modeling potential costs of power from offshore wind in Oregon

- <https://www.greentechmedia.com/articles/read/what-will-it-take-to-build-offshore-wind-in-oregon>
- NREL Study: <https://www.nrel.gov/docs/fy20osti/74597.pdf>

New federal leases will be up for bid in New York Bight

- <https://www.nationalfisherman.com/mid-atlantic/german-utility-sets-sights-on-new-york-bight-offshore-wind/>

US Dept of Interior agencies BOEM & BSEE issued clarification of role in regulating workplace safety & health for offshore energy facilities

- <https://www.lexology.com/library/detail.aspx?g=078013e8-f3f6-47fe-bc85-c9b4d958e41a>

Conference emphasizes potential for offshore wind power sector in Poland

- <https://www.maritime-executive.com/article/poland-s-offshore-wind-sector-set-to-boom>

Budget amendment would create new Massachusetts State Office to study offshore wind infrastructure impacts on fisheries and marine mammals

- <https://www.southcoasttoday.com/news/20191021/straus-proposes-state-office-to-study-fisheries-and-offshore-wind>

Future of two offshore Kazakhstan mega-projects in Caspian Sea is uncertain

- <https://www.offshore-mag.com/field-development/article/14069120/majors-withdraw-from-two-offshore-kazakhstan-megaprojects>

Grants totaling \$264,000 include shorebird monitoring at Presque Isle State Park, sources of E. coli contamination in Lake Erie beaches, and restoration of stream through Millcreek Township

- <https://www.goerie.com/news/20191022/dep-awards-264000-for-lake-erie-coastal-zone>

New interactive data visualization & mapping tools available – NJFloodMapper & MJForestAdapt – to assist state & local coastal resilience planners

- <https://www.newswise.com/articles/rutgers-experts-can-discuss-njfloodmapper-and-njforestadapt>
- NJFloodmapper: <https://www.njfloodmapper.org/>
- NJForestAdapt: <https://njforestadapt.rutgers.edu/#/splash>

Disaster risk reduction in the Philippines – Status Report

- <https://reliefweb.int/report/philippines/disaster-risk-reduction-philippines-status-report-july-2019>
- Report:  
[https://reliefweb.int/sites/reliefweb.int/files/resources/68230\\_8philippinesdrmstatusreport.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/68230_8philippinesdrmstatusreport.pdf)

Coastal erosion & climate change prompt ban of private jetties in Victoria, Canada

- <https://www.abc.net.au/news/2019-10-17/private-jetty-ban-to-address-coastal-erosion-and-climate-change/11610786>

New York State to fund \$133M to rebuild infrastructure along Lake Ontario

- <https://www.wxxinews.org/post/cuomo-announces-133-million-rebuild-infrastructure-along-lake-ontario>