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Geoscience Bulletin Board – 29 July 2019 – compiled by Elaine J. Hanford

Dendrochronology has many applications to dating sites and events

- <https://www.nationalgeographic.com/culture/archaeology/how-tree-rings-date-archaeological-site/>

Alexander R “Mac” McBirney (1924-2019) – igneous petrologist & volcanologist

- <https://eos.org/articles/alexander-r-mac-mcBirney-1924-2019>

New computational method for modeling large accumulations of subsurface salt with seismic imaging

- <https://www.brightsurf.com/news/article/072219488201/solving-the-salt-problem-for-seismic-imaging.html>

Solving the history and formation of Barringer Crater (i.e., Meteorite Crater) in Arizona

- <https://www.forbes.com/sites/davidbressan/2017/07/25/this-mineral-discovery-ended-an-age-old-debate-about-meteor-crater/#6b1cad3c6865>

Tunguska Events do not happen all that often

- <https://www.forbes.com/sites/davidbressan/2019/07/22/new-research-suggests-tunguska-like-events-happen-less-often-than-we-feared/#1a83630c46cd>

Local factors may play role in rate of melting of Ross Ice Shelf

- <https://phys.org/news/2019-07-robots-roaming-antarctic-reveal-ross.html>

- Paper: <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018JC014683>

Destructive free radicals in the marine environment may play beneficial role for these diatoms

- <https://phys.org/news/2019-07-toxic-chemical-marine-ecosystems-beneficial.html>
- Paper: <https://www.frontiersin.org/articles/10.3389/fmars.2017.00360/full>

Geological maps made the moon landings worthwhile

- https://www.business-standard.com/article/current-affairs/50-yrs-of-apollo-11-how-geological-maps-made-the-moon-landings-worthwhile-119072200086_1.html

Book Review: “Geology of the Blue Mountains – A Tourist’s Guide, A Geological Guide to Echo Point, Three Sisters Walk and Giant Stairway”

- <https://www.bluemountaingazette.com.au/story/6271668/tourists-guide-to-mountains-geology/>

Makrana marble used for Taj Mahal is now “Global Heritage Stone Resource”

- <https://www.hindustantimes.com/punjab/marble-used-for-taj-mahal-is-now-global-heritage-stone-resource/story-t67WWKE5kj05JL9o3qEdlO.html>

Presidential wannabe is geologist who laid off by oil industry in the 1980s – turned to brewing beer

- <https://finance.yahoo.com/news/meet-the-presidential-candidate-who-once-got-laid-off-and-what-it-tells-him-about-donald-trump-163048151.html>

Magma identified beneath “extinct” (i.e., dormant) Ciomadul volcano in Romania

- <https://www.nationalgeographic.com/science/2019/07/magma-found-simmering-under-extinct-volcano-what-that-means/>

ArcCrust model of geometry & thermal state of oceanic crust of High Arctic & Circum-Arctic Domain

- <https://eos.org/editor-highlights/revealing-the-arctic-crust>

Ocean eddies spin round & round in less than circular shape

- <https://eos.org/articles/whats-the-true-shape-of-an-ocean-eddy>
- Paper: <https://www.sciencedirect.com/science/article/pii/S0034425719301543>

Jets leave contrails across the sky – ships create ship tracks with exhaust plumes

- <https://eos.org/articles/algorithm-spots-climate-altering-ship-tracks-in-satellite-data>

Microdocodon gracilis – Mesozoic docodont had hyoid bones similar to modern mammals

- <http://www.sci-news.com/paleontology/microdocodon-gracilis-07423.html>

Fossil benthic foraminifera in southwestern Florida contain 2 to 3 myo micro-tektites

- <http://www.sci-news.com/space/microtektites-fossil-clams-07418.html>

Planetary geology: solar wind & meteoroids erode frost in lunar polar craters

- <http://www.sci-news.com/space/water-frost-lunar-polar-craters-07421.html>

Ridgecrest Earthquake – ground displacement – fiber optic network – aftershocks shifting toward Garlock fault filling the seismic gap between Garlock & 1872 Owens Valley rupture

- <https://www.cnet.com/news/nasa-california-earthquake-moved-the-ground-this-much/#ftag=CAD590a51e>
- <https://www.accuweather.com/en/weather-news/new-california-quakes-stir-fears-of-the-big-one-which-is-decades-overdue/70008909>
- <https://phys.org/news/2019-07-seismologists-ridgecrest-aftershocks-fiber-optic.html>
- <https://www.turnto23.com/news/local-news/aftershocks-around-ridgecrest-appear-to-be-headed-for-garlock-fault-could-cause-magnitude-8-quake>

NOAA Ocean Podcast (transcript) – Meteotsunamis: State of the Science

- <https://oceanservice.noaa.gov/podcast/july19/meteotsunamis.html>

They decided Mount Lassen had lapsed into peaceful old mountain state – then it erupted in 1914

- <https://www.redbluffdailynews.com/2019/07/25/100-years-ago-mount-lassen-shows-no-more-signs-of-life/>

22 kg of lunar rocks changed understanding of how the Moon formed

- <https://www.sciencefocus.com/space/how-22kg-of-lunar-rocks-delivered-by-apollo-11-changed-our-understanding-of-how-the-moon-formed/>

“Terminator events” identified as tsunamis of activity on the Sun – abrupt end of a solar cycle

- <https://www.engadget.com/2019/07/25/solar-cycles-plasma-waves/>
- “Solar tsunami” paper: <https://www.nature.com/articles/s41598-018-37939-z>

Sir Anthony Laughton FRS awarded Honorary Doctorate of Science – pioneer of marine geology & oceanography – pioneered sonar based observations of ocean floor

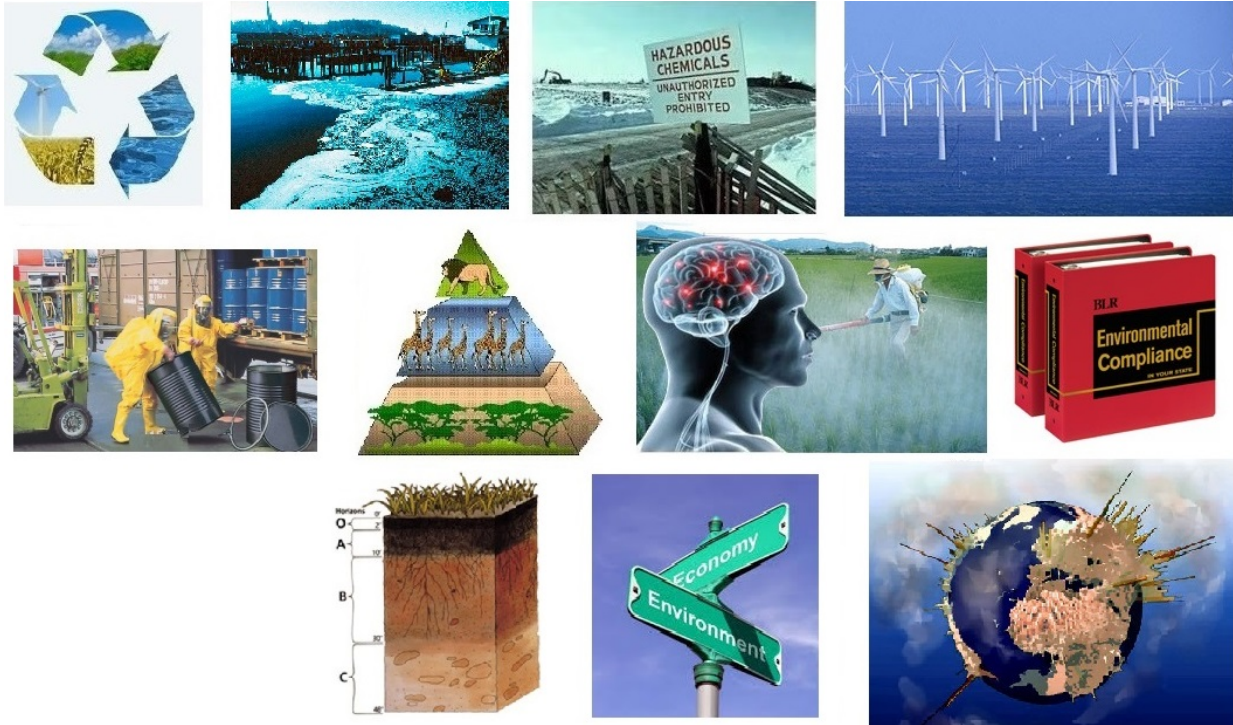
- <https://www.southampton.ac.uk/news/2019/07/anthony-laughton-doctorate.page>

Interpreting only the last 2,000 years of climatic history of Earth

- <https://www.nature.com/articles/d41586-019-02179-2>

Chrysomallon squamiferum – scaly-foot snail first to be officially endangered by seafloor mining

- <https://www.nature.com/articles/d41586-019-02231-1>



Environmental Science Bulletin Board – 29 July 2019 – compiled by Elaine J. Hanford

Call for new approach to understand environmental risk due to humans as dominant force of change

- <https://phys.org/news/2019-07-approach-anthropocene.html>

Plans to enlarge the canal system between the Caspian & Azov Seas

- <https://jamestown.org/program/moscow-plans-to-expand-canal-system-between-caspian-and-azov-seas/>

In retrospect – two years after the London Bridge terrorist attack

- <https://jamestown.org/program/2-years-later-analyzing-the-2017-london-bridge-attack/>

Improved perspective on wolverines – amazing animals – had the amazing opportunity to see one in the wild (my backyard actually) when I lived in New Hampshire!

- <https://www.nationalgeographic.com/animals/2019/07/wolverines-battling-climate-change-shrinking-north-territory-feature/>

Response to over-tourism in Venice, Italy – law changed – fine & expulsion

- <https://www.msn.com/en-us/news/world/morning-coffee-results-in-a-dollar1000-fine-and-expulsion-from-venice/ar-AAECqL2>

3D printed houses – 12 hours to build 500-square-foot house – ARCS

- <https://patch.com/new-york/patchogue/3d-printed-home-built-patchogue-photos>

Are “smart cities” really better?

- <https://theconversation.com/new-wave-of-smart-cities-has-arrived-and-theyre-nothing-like-science-fiction-119855>

Overhaul of Grand Coulee Dam hydroelectric units as part of BPA hydropower network

- <https://www.seattletimes.com/seattle-news/bonneville-power-the-northwests-biggest-clean-energy-supplier-strains-to-keep-up-its-aging-hydro-system-and-restore-salmon/>

New Hampshire Supreme Court upholds rejection of Northern Pass hydropower transmission line

- <https://www.apnews.com/7e9bdde44e664084a9696e25ba64a647>

Google will purchase all power output from \$246M wind farm being build in Cherokee County, Iowa

- <https://www.agrimarketing.com/s/125092>

Resolving the question of why the thriving civilization in Malta collapsed 4,000 years ago

- <http://nautil.us/blog/why-a-thriving-civilization-in-malta-collapsed-4000-years-ago>

Tracking smoke from wildfires may help improve air quality forecasts & impact on weather

- <https://phys.org/news/2019-07-tracking-air-quality.html>

With greater demand for fresh water, Americans are drilling deeper than ever – not sustainable as groundwater is depleted

- <https://phys.org/news/2019-07-americans-drilling-deeper-fresh.html>

Investigating micro-plastics in drinking water – standardized testing methods & thresholds have yet to be identified

- <https://phys.org/news/2019-07-microplastics.html>

Investigating relationship between manganese & lead content in drinking water

- <https://phys.org/news/2019-07-lots-manganese-blame.html>

Paraguay still considering building canal similar to the Panama Canal – will be expensive & challenging

- <https://www.bloombergquint.com/business/south-america-s-new-panama-canal-to-pass-through-green-hell>

US Army COE closing Bonnet Carré spillway

- <https://www.apnews.com/e695f037450a4c9ba93fbb613b8a4f88>

US EPA water infrastructure loan program gets requests exceeding available \$6B

- <https://www.enr.com/articles/47237-epa-wifia-requests-dip-but-loan-amount-sought-exceeds-available-dollars>

Las Vegas looking for solutions to ease traffic congestion

- <https://lasvegassun.com/news/2019/jul/22/embracing-transportation-solutions-will-ease-las-v/>

Hoping unique levee in San Francisco Bay area will provide flood protection, wastewater treatment & wetlands restoration

- <https://www.marketplace.org/shows/marketplace-tech/nature-the-next-big-thing-in-climate-adaptation-technology/>

Trying to re-design cities to combat urban heat island impacts

- <https://www.fastcompany.com/90379081/cities-are-getting-hotter-but-we-can-redesign-them-to-keep-us-cool>

Volcanoes National Park in Hawaii

- <https://www.nationalgeographic.com/travel/national-parks/hawaii-volcanoes-national-park/>

“The Lion King” was inspired by Hell’s Gate National Park in the Great Rift Valley of Kenya

- <https://www.nationalgeographic.com/travel/destinations/africa/kenya/see-lion-king-inspiration-hells-gate-national-park/>

Death rate increasing for adults aged 25-44 – uptick in suicides, homicides & drug overdoses

- <https://www.msn.com/en-us/health/health-news/death-rates-increasing-for-us-adults-aged-25-to-44-cdc/ar-AAEMNyf>

Fantasy goal: feeding 10 billion people on Earth without destroying the planet

- <https://www.nationalgeographic.com/environment/2019/07/how-to-feed-the-world-without-destroying-the-planet/>
- World Resources Report: https://wrr-food.wri.org/sites/default/files/2019-07/WRR_Food_Full_Report_0.pdf
- FAO Report: http://www.fao.org/fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Briefs-Flyers/HLPE_Report_14-Executive-Summary-A5_WebRes_DEF.pdf

Risks associated with drinking water from plastic bottles left in extreme heat

- <https://www.nationalgeographic.com/environment/2019/07/exposed-to-extreme-heat-plastic-bottles-may-become-unsafe-over-time/>

Once almost extinct, California Condor population reaches 1,000 chicks

- <https://www.npr.org/2019/07/21/743901094/once-nearly-dead-as-the-dodo-california-condor-comeback-reaches-1-000-chicks>

Spate of recent refinery explosions raise warning about hydrogen fluoride

- <https://www.npr.org/2019/07/19/742367382/refinery-explosions-raise-new-warnings-about-deadly-chemical>

Zany acorn woodpeckers

- <https://www.treehugger.com/animals/zany-swinging-lives-acorn-woodpeckers.html>

PFAS chemical move more freely from mother to fetus if mother has gestational diabetes

- https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=298915&org=GEO&from=news

Impacts of mice & their eradication seen with satellite imagery

- <https://arstechnica.com/science/2019/07/a-plague-upon-your-land-mouse-damage-visible-from-space/>

Can people be prevented from abandoning exotic pets that threaten biodiversity as invasive species?

- https://www.eurekalert.org/pub_releases/2019-07/uob-ppf072519.php

Youtube videos hijack scientific terms to gain “credibility” & influence viewers

- https://www.eurekalert.org/pub_releases/2019-07/f-tgo072219.php
- Paper: <https://www.frontiersin.org/articles/10.3389/fcomm.2019.00036/full>

California governor pledges \$1B over next decade for reliable access to drinking water – water systems contaminated by agricultural runoff – pesticides & fertilizer & dairy waste & arsenic

- <https://www.sfchronicle.com/politics/article/Gavin-Newsom-signs-1-billion-clean-water-package-14120132.php>

FEMA official endorses new disaster mitigation program - BRIC

- <https://www.ttnews.com/articles/fema-official-touts-disaster-mitigation-program-us-chamber-commerce>

Environmentalists want presidential candidates to focus on clean water – will they listen?

- <https://www.apnews.com/ba1b875a83db40bd9e8f798b1dd820c4>

Game Wardens struggle to enforce regulations on antler hunting during shed season

- <https://www.nationalgeographic.com/animals/2019/07/catching-antler-thieves/>

Lion population less than half what it was 25 years ago – historic range also greatly reduced

- <https://www.nationalgeographic.com/animals/2019/07/lion-numbers-halved-since-original-lion-king/>

US Army COE plans structural controls (dams & flood wall) to reduce flood threat in Omaha, Nebraska

- <https://www.apnews.com/c9f2d62380aa4630b9523246155f8aeb>
- https://www.omaha.com/news/plus/first-look-at-omaha-flood-study-two-dams-flood-wall/article_7c04e942-0d97-5f42-8f53-4a891b711f10.html

US National Park system estimates \$12B infrastructure deferred maintenance backlog

- https://www.upi.com/Top_News/US/2019/07/26/US-national-parks-face-12-billion-infrastructure-backlog/4461563856684/?sl=2

\$150M 3RPORT tunnel to reduce amount of raw sewage flowing into rivers in Fort Wayne, Indiana

- <https://www.news-sentinel.com/news/local-news/2019/07/25/fort-waynes-150-million-tunnel-is-making-progress-with-a-long-way-still-to-go/>

Desalination plants in southern California – expensive but not solving the problem

- <https://grist.org/article/are-desalination-plants-the-solution-to-water-scarcity-not-yet-experts-say/>
- <https://www.wired.com/story/desalination-is-booming-as-cities-run-out-of-water/>

Hordes of grasshoppers have descended upon Las Vegas

- https://start.att.net/news/read/article/cnn-hordes_of_grasshoppers_have_invaded_las_vegas-cnn2/category/news

Supreme Court allows Pentagon funds to be used to construct Border Wall - will improve National Security

- https://start.att.net/news/read/article/the_associated_press-high_court_allows_use_of_pentagon_funds_for_border-ap/category/news



Coastal Zone Management Bulletin Board – 29 July 2019 – compiled by Elaine J. Hanford

Mansions in coastal protection zone in Connecticut may be eligible for disaster aid

- <https://www.courant.com/news/connecticut/hc-news-connecticut-coastal-mansions-disaster-aid-20190722-khyeagmenzpbnt4mems4ue5sa-story.html>

More than 2,200 acres added to Buckridge Reserve in North Carolina – home to rare, threatened and endangered species

- <https://www.coastalreview.org/2019/07/state-adds-2224-acres-to-buckridge-reserve/>

This computer model may be better at predicting coastal flooding & managed retreat & resettlement

- <https://www.wired.com/story/epic-floods-and-the-fate-of-coastal-cities/?verso=true>
- NOAA Report:
https://tidesandcurrents.noaa.gov/publications/Techrpt_090_2018_State_of_US_HighTideFlooding_with_a_2019_Outlook_Final.pdf

Brief history of the coastal town of Blaine, Washington

- <https://www.whatcomtalk.com/2019/07/22/blaine-a-short-history-of-a-coastal-town/>

Sonar data used to image shipwreck of WWII freighter

- <https://www.coastalreview.org/2019/07/sonar-data-used-to-image-shipwreck/>
- Okeanos Explorer mission: <https://oceanexplorer.noaa.gov/technology/development-partnerships/ex1904/welcome.html>

Orange County Superior Court Judge orders removal of long-disputed seawall at Laguna Beach home

- <https://www.latimes.com/socal/daily-pilot/news/story/2019-07-18/o-c-judge-sides-with-coastal-commission-orders-laguna-beach-homeowners-to-tear-down-controversial-seawall>

Despite beaches being closed by toxic algae bloom – Mississippi still encouraging tourists

- <https://www.wlbt.com/2019/07/20/coastal-mississippi-open-business-despite-algae-bloom-concerns/>

Re-testing shows fecal bacteria below “alert levels” along coast of Alabama

- <https://www.al.com/news/2019/07/2-alabama-coastal-sites-show-elevated-fecal-pollution-retesting-underway.html>

Wisconsin Sea Grant hires coastal engineering outreach specialist to address erosion & flooding issues

- <https://www.seagrants.wisc.edu/news/sea-grant-announces-new-coastal-engineer/>

Pawleys Island Town Council to re-evaluate beach re-nourishment project without US Army COE

- <https://coastalobserver.com/council-starts-considering-beach-work-without-corps/>

Delaware draft regulations called too restrictive – or is it too lax to protect coastal environment?

- <https://www.delawarepublic.org/post/dnrec-s-coastal-zone-regulations-appear-please-no-one>

Coastal lawsuit strategy in Plaquemines Parish called “ill-advised”

- <https://louisianarecord.com/stories/512613876-pelican-institute-s-baehr-condemns-ill-advised-coastal-lawsuit-strategy>

Coastal cities being called upon by financial credit rating institutions to produce climate plans

- <https://news.bloombergenvironment.com/environment-and-energy/creditors-start-asking-coastal-cities-for-their-climate-plans>

US Army presented 53 recommendations to local governments asking for cut back on dense development & human activity that is encroaching on MOTSU military operations along Cape Fear Estuary

- <https://portcitydaily.com/local-news/2019/07/14/what-motsu-wants-u-s-army-presents-53-recommendations-for-local-governments/>

30 of the dirtiest beaches in the US

- <https://www.msn.com/en-us/travel/news/theres-poop-in-the-water-at-americas-dirtiest-beaches-is-yours-on-the-list/ar-AAEJyTB>

Hong Kong wants more space – plans to create new island “Lantau Tomorrow”

- <https://www.msn.com/en-us/news/world/pressed-for-space-hong-kong-will-create-new-land/ar-AAENlgS>