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Geoscience Bulletin Board – 8 August 2022 – compiled by Elaine J. Hanford

Paleontology Field School in Glenrock, Wyoming

- https://today.cofc.edu/2022/07/28/no-bones-about-it-paleontology-field-school-is-way-cool/

PETM warming impact the Gulf of Mexico did not cause extreme conditions


PETM impacts on mid-latitude & hydroclimatic change in Spain


3 basic rock types: sedimentary, igneous & metamorphic

- https://www.worldatlas.com/geology/the-3-types-of-rocks.html
170-carat pink diamond discovered in Angola is Type IIA

Chandler Wobble reduces length of day on Earth by 1.59 milliseconds on 29 June 2022
  • https://www.popularmechanics.com/science/environment/a40773059/shortest-day-on-earth/

Fossil water & fossil aquifers – “If left untouched by human activities, paleowater would remain in equilibrium.” – recharges but not on human time scale
  • https://www.treehugger.com/what-is-fossil-water-6361463

Mark Twain (Samuel Langhorne Clemens) was fascinated by geology
  • https://www.wvik.org/2022-07-30/mark-twains-geology

700-meter-deep fjord in Norway is not that old – formed during Ice Age about 350,000 years ago
  • https://sciencenorway.no/geology-glaciers-ice-age/norways-largest-fjord-is-only-a-few-hundred-thousand-years-old/2056344

Magnet Cove in Arkansas is trove of rare minerals and great stories

Cone-building, explosive phreatic activity & lava flows at Wahapele vent on Hualālai in Hawaii
Saharan dust hampers tropical storm & hurricane development in the Atlantic but NOAA still expecting ‘above-normal’ Atlantic hurricane season


Ha’apai volcano on Hunga Toga-Hunga eruption released 160,900 tons of water vapor into the stratosphere and reaching up into the mesosphere

- [https://www.livescience.com/tonga-eruption-water-vapor](https://www.livescience.com/tonga-eruption-water-vapor)

Mitigating seismic risk – recommended revisions to code & standard development

- [https://www.structuremag.org/?p=21144](https://www.structuremag.org/?p=21144)

Solar storm that hit magnetic field of Earth on 3 August was rated a minor G-1 geomagnetic storm


Fossil Jurassic fish found on farm in England included *Pachycormus*

- [https://www.livescience.com/fossil-farm-fish-uk](https://www.livescience.com/fossil-farm-fish-uk)

Distribution of around 1,350 potentially active volcanoes

- [https://www.livescience.com/32421-where-are-most-of-earths-volcanoes.html](https://www.livescience.com/32421-where-are-most-of-earths-volcanoes.html)

2,000 km submarine cable offshoot will be first internet cable to Antarctica – is it really necessary?

Marking 94 years since St Francis Dam collapse – another Mulholland project of the 1920s


AMOC model may provide realistic cyclic behavior if Arctic salinity is included

- [https://eos.org/editor-highlights/arctic-salinity-pushes-the-amoc-swing](https://eos.org/editor-highlights/arctic-salinity-pushes-the-amoc-swing)

Visualizing the largest petroleum producers

- [https://www.visualcapitalist.com/visualizing-the-worlds-largest-oil-producers/](https://www.visualcapitalist.com/visualizing-the-worlds-largest-oil-producers/)

First recorded sighting of Greenland shark reported in the western Caribbean


The nature of super eruptions – pluton growth, magma accumulation followed by rapid eruption


Large sinkhole (104 feet in diameter) near copper mine in Atacama Desert in Chile


Digitized notebooks & reports featuring first-person accounts of glacial landscapes of the 19th & 20th centuries now publicly available through UC Boulder Collection


6-part series commemorating 50 years of Landsat


Global dataset for lakes and reservoirs
Global map of cargo ship pollution exhibits effects of fuel regulations
- Paper: https://www.science.org/doi/10.1126/sciadv.abn7988

Volcanic sulfur dioxide emissions from Taal Volcano in Batangas have increased
- https://www.manilatimes.net/2022/08/04/news_regions/taal-volcano-gas-emission-up-again-phivolcs/1853264

Fagradalsfjall volcanic eruption in Iceland – noxious gases emitted
- Drone images: https://petapixel.com/2022/08/05/pilot-risks-his-drone-capturing-icelands-new-volcanic-eruption/

Potential danger of Mauna Loa – the largest active volcano
- Paper: https://www.nature.com/articles/s41598-021-89203-6

Rapid revegetation reduced suspended sediment load after Fukushima decontamination
- https://www.eurekalert.org/news-releases/960670
- Paper: https://www.nature.com/articles/s41893-022-00924-6
Iron ore in Uganda


Utah Geological Survey & BLM release new app on where to find rocks, minerals & fossils – encourages more to dig up more rocks, minerals and fossils – rockhounding permits may be required

- App: https://geology.utah.gov/apps/rockhounder/

Great Salt Lake has dried up before & will likely do it again – it is a large playa lake

- https://www.spacedaily.com/reports/Utahs_Great_Salt_Lake_is_disappearing_999.html

Impact of aerosols on cloud cover

- Paper: https://www.nature.com/articles/s41561-022-00991-6.epdf

Growth of Ordovician trilobite Triarthrus eatoni may have resembled modern marine crustaceans

- https://www.terradaily.com/reports/Trilobites_growth_may_have_resembled_that_of_modern_marine_crustaceans_999.html

Rock slide on 15 July cut off access along Selway River Road in Idaho – continues to slough

Physiologic dive capacity of Weddell seal moms limited during lactation for pups
- Paper: https://www.nature.com/articles/s41467-022-31863-7

Deep-sea worm looks like pom-pom or luminous lump of spaghetti
- https://www.mbari.org/spaghetti-worm-sighting/
- You-tube: https://www.youtube.com/watch?v=5Xs8-BqbaFo

Micro-seismic activity increases at Santa Bárbara volcano in the Azores - V2 alert possible reactivation

Cascading geological processes – heavy rain, landslides debris flows, mud floods – caused floods in Baling, in SE Kedah, Malaysia
- https://www.thesundaily.my/home/baling-floods-caused-by-cascading-geological-processes-ketsa-NG9549719

Getech signed multi-year US$1.1M contract for Globe platform & next generation tool that models 400 my evolution of Earth

Experts say powerful Midland earthquake unlikely to threaten Dreher Shoals Dam facility on Lake Murray – 650B gallons of water

Declining water levels in Lake Powell behind Glen Canyon Dam expose “mud bergs,” deltas, canyons & other features
Calculating rate of retreat of glacier edges in Keai Fjords National Park on Kenai Peninsula, Alaska

- https://www.eurekalert.org/news-releases/960524

Modeling suggests natural processes in lakes release less methane than previously thought


Developing avian hip bones pass through ancestral dinosaurian conditions


First winter storm warning of the season issued for Brooks Range and portion of Alaskan North Slope


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Humans playing God – first ever “synthetic embryo” reigniting fierce ethical debate

- [https://theconversation.com/worlds-first-synthetic-embryo-why-this-research-is-more-important-than-you-think-188217](https://theconversation.com/worlds-first-synthetic-embryo-why-this-research-is-more-important-than-you-think-188217)

History of DDT dumping in the ocean off the California Coast between Los Angeles & Catalina Island – massive number of barrels and poured directly into the ocean from tank barges (Site #2)

- Site #2: [https://www.epa.gov/ocean-dumping/southern-california-ocean-disposal-site-2-investigation](https://www.epa.gov/ocean-dumping/southern-california-ocean-disposal-site-2-investigation)

Former workers arrested after hacking into hundreds of nuclear radiation monitors in Spain

Wildfires are detonating remnant WWI ordnance – more than 500 have exploded in Slovenia


Technological hazard: Big Tech using new algorithmic recommendation-based model of content distribution – “the end of social media as we have known it”

- [https://every.to/p/the-end-of-social-media](https://every.to/p/the-end-of-social-media)

Bacteria that cause melioidosis identified in sampling of soil & water in Gulf Coast Region

- [https://www.cdc.gov/media/releases/2022/p0727-Melioidosis.html](https://www.cdc.gov/media/releases/2022/p0727-Melioidosis.html)

78% of best-selling brands of bottled water in France contaminated with microplastics

- [https://www.insidehook.com/daily_brief/health-and-fitness/bottled-water-study-microplastics](https://www.insidehook.com/daily_brief/health-and-fitness/bottled-water-study-microplastics)
- [https://www.agirpourlenvironnement.org/campagne/alerte-aux-microplastiques/](https://www.agirpourlenvironnement.org/campagne/alerte-aux-microplastiques/)

The largest city on Earth – by area it is New York City (3,353+ square miles - includes metro population - NY, NJ, PA) – by population it is Tokyo (37.2M)


Across the US some endangered species are recovering while others are in decline


What is the carrying capacity for people on Earth? Estimates range from 1B to 1T – but “Overshoot Day” gets earlier each year meaning cannot “sustainably” support even the current 8B population

What the 1972 “Limits to Growth” report got right – the predicament of mankind – the “pollution curve” in 1972 was wrong as humans generate more & more waste & pollution each year


Human Impacts Database on water, energy flora & fauna, atmospheric and biogeochemical cycles

Massive mountain of e-waste just keeps on growing – marketing & planned obsolescence at fault

Biden following in Fauci’s footsteps: vaxxed, boosterized, covid, took Paxlovid & now rebounded but not always wearing a mask and not making public info on where he contracted the virus

Polio in New York State in County with 60% vaccination rate – but the media is hyping Monkeypox


• https://www.sciedaily.com/releases/2022/08/220803112602.htm

• Paper: https://www.cell.com/patterns/fulltext/S2666-3899(22)00157-X

• Website: http://www.anthroponumbers.org/catalog/


• https://arstechnica.com/science/2022/08/ny-county-with-polio-has-pitiful-60-vaccination-rate-1000s-may-be-infected/
San Francisco, California, declares state of emergency - Monkeypox primarily affecting gay men  

Doing their best to make Monkeypox a pandemic – only 6600 cases (no deaths) in US population of 332.4M & only 26,000 cases (10 deaths) in world pop of 8B – when will the new lockdowns & forced vaxxing begin?  
- Map: https://www.cdc.gov/poxvirus/monkeypox/response/2022/us-map.html

“the pox is not endemic in people or animals in the United States or Europe—yet” - wishful thinking as Monkeypox has been in US since before 2003  
- https://currently.att.yahoo.com/att/cm/may-too-stop-monkeypox-becoming-020221631.html  
- https://www.science.org/content/article/concern-grows-human-monkeypox-outbreak-will-establish-virus-animals-outside-africa  
- CDC report: https://www.cdc.gov/poxvirus/monkeypox/outbreak/us-outbreaks.html

Covid vaccines were overplayed and known to not work (i.e., prevent infection) – “50% of people who died from omicron surge were older, vaccinated” – many people fired & in military dismissed for not being vaxxed  

Acid mine drainage (AMD) impacting 1300 miles of streams in Ohio – turn iron oxide into paint?

“Water battery” beneath the Alps to generate pumped storage hydropower - $2B cost & 14 years

Putting “water balloons” underground to generate power in Denmark
• https://www.pv-magazine.com/2022/08/01/storing-renewables-in-soil-mounds-via-water-balloons/

Marking 94 years since St Francis Dam disaster – advocates still push for memorial

Experts warn Zaporizhzhia Nuclear Plant in Ukraine “is completely out of control” – need to stabilize to avoid nuclear accident

Big Game Conservation Partnership to sustain working ranches & wildlife habitat in Wyoming
• https://www.farmers.gov/blog/new-partnership-in-wyoming-rewards-landowners-stewarding-wildlife-habitat

Update: permitting reform may be applied to Mountain Valley Pipeline

Update: Joint stipulation in Federal Court for Ormat Geothermal Plant planned in Western Nevada
History of failed efforts to complete a high-speed rail in the US with 3 projects in process

Mitigating seismic risk – recommended revisions to code & standard development
- https://www.structuremag.org/?p=21144

2019 GAO report vastly underestimate scale & scope of risks from flooding of contaminated industrial sites

Visualizing the timeline for the domestication of animals
- https://www.visualcapitalist.com/the-domestication-of-animals/

To paraphrase Gilbert White: Natural events are acts of God – disasters are acts of man that have $72 Billion price tag in first half of 2022
- https://www.terradaily.com/reports/Natural_disaster_losses_hit_72_bn_in_first_half_2022_Swiss_Re_999.html
- https://us2.campaign-archive.com/?e=a5a261f976&u=7c733794100bcc7e083a163f0&id=d1390d5d78

Don’t like the hot weather? Just wait...Farmer’s Almanac predicting “glacial, snow-filled” winter across much of northern tier of the US – NOAA disagrees
• NOAA prediction: https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=5

Reports of restoring vital function to dead pig organs raises bioethical questions
• https://www.nature.com/articles/d41586-022-02112-0#ref-CR1

Conservation efforts in Nepal have helped tiger population rebound from 121 (2009) to 355 in 2022
• https://www.terradaily.com/reports/Nepal_tiger_population_roars_back_after_conservation_drive_999.html

Coyotes are very well adapted to living with humans – appreciate them from a distance
• https://theconversation.com/coyotes-are-here-to-stay-in-north-american-cities-heres-how-to-appreciate-them-from-a-distance-186893

Vogtle Nuclear Power Plant Unit 3 gets verification from inspectors that it is properly build – may begin loading radioactive fuel – cost of Units 3 & 4 escalated to more than $30B

Scotts Bluff National Monument – portal to the West

Glen Canyon Dam has “antique plumbing” causing water delivery problem downstream & is only 50 feet above loss of hydropower
• https://www.eenews.net/articles/drought-and-old-pipes-could-slow-colorado-river-to-a-trickle/

US Forest Service issues Record of Decision for Uinta Basin Railway Project as part of approval process

Outsourcing trash from America is not a solution – global waste streams send waste someplace else – call for US to ratify the Basel Convention

$1M program in Richmond is now worthless as 250 e-bikes no longer operational

“Several thousand gallons” of liquid containing hexavalent chromium spill

Droughts across India could affect rice across the world
• https://thelogicalindian.com/trending/rice-is-now-30-more-costlier-high-export-demand-crop-crisis-36816

Mexico created a “constitutional right” to water – but when there is little water is available?

China plans to begin adding $22B in UHV power lines to State Grid
• https://www.bnnbloomberg.ca/china-state-grid-will-start-work-on-22-billion-of-uhv-power-lines-1.1801234

US Senate approves rollback of Biden infrastructure permitting rules in the enforcement of NEPA

Just when I got my new artificial turf installed in my small front lawn, they call out that it is not “green” – but no sand was placed as a base & I no longer have to water, mow, fertilize, weed, it is visually pleasing and I’m reusing the topsoil that was removed – even the bunnies don’t mind going to the hay barn

Consumers losing interest in EVs
• https://www.msn.com/en-us/money/other/people-suddenly-losing-interest-in-electric-cars/ar-AA10m4gC

Coastal Zone Management Bulletin Board – 8 August 2022 – compiled by Elaine J. Hanford
100 bottlenose dolphins herded onshore of Skálafjørðurars Island murdered with knives, spears or other sharp weapons – condemned by wildlife organizations – excess blubber sent to incineration center


Humans ignore the fact that barrier islands are temporary constructs in Nature – developers continue to build & people continue to buy regardless of consequences

- https://e360.yale.edu/features/outer-banks-climate-change-flooding

Construction of $31B “Ike Dike” will take decades and the price will increase


Joint fellowship grants will support study of habitat & availability of Coastal Plain Swamp Sparrow in North Carolina


Cedar Island Oyster Sanctuay now in phase 2 of growth in Pamlico Sound


Completion (for now) of dredging & restoration of West Grand Terre Island in Louisiana


Final Report on South Atlantic Coastal Study by US Army COE – cost $18.4M

New technology showed coastal waters in San Diego fail public health safety standards likely contaminated by sewage from Mexico more often than previously thought – but Mayors want to return to old testing method to keep beaches open – will put health & safety of beachgoers at risk


Déjà vu all over again -- Imperial Beach & Coronado shorelines closed due to Tijuana sewage spill


Drought contingency plan will limit water use for farmland in central & coastal Texas


Hard to find new property insurance in midst of current Atlantic Hurricane Season – damage remains from prior hurricanes


Spike maps show true scale of coastal population in the US and around the world

- [https://vigourtimes.com/amazing-spike-maps-that-will-change-the-way-you-see-earth/](https://vigourtimes.com/amazing-spike-maps-that-will-change-the-way-you-see-earth/)

Sightings of humpback whales increasing along the Jersey Shore & of sharks along the East Coast

- [https://www.popsci.com/science/great-white-shark-population-increase/](https://www.popsci.com/science/great-white-shark-population-increase/)
Important step in reintroduction of sea otters to the Oregon Coast

NOAA wants to expand 10 knot speed limit zones to protect right whales along Southeast US Coast

Port of New York & New Jersey adding “container imbalance fee”

Sargassum is smothering beaches & shorelines across the Caribbean – likely fed by nitrogen fertilizers and sewage waste - “choking tourism” as rotting clumps of seaweed release hydrogen sulfide

Port Miami Tunnel contributes to economy
- [https://www.miamitodaynews.com/2022/08/02/portmiami-tunnel-blazes-trail-to-future/](https://www.miamitodaynews.com/2022/08/02/portmiami-tunnel-blazes-trail-to-future/)

Cheapest & most efficient squid aquaculture system designed near Okinawa – filed a provisional patent
- [https://www.spacedaily.com/reports/Researchers_design_the_cheapest_and_most_efficient_squid_aquaculture_system_to_date_999.html](https://www.spacedaily.com/reports/Researchers_design_the_cheapest_and_most_efficient_squid_aquaculture_system_to_date_999.html)

Perspective: Sediment plays crucial role in preserving California beaches
History of DDT dumping in the ocean off the California Coast between Los Angeles & Catalina Island – massive number of barrels and poured directly into the ocean from tank barges (Site #2)

- Site #2: https://www.epa.gov/ocean-dumping/southern-california-ocean-disposal-site-2-investigation

Land iguana (*Conolophus subcristatus*) reproducing on Galapagos Island after being reintroduced


Great Barrier Reef coral comeback


Germany urges Turkey to respect sovereignty of Greek Islands

- https://www.oilgasdaily.com/reports/Berlin_urges_Ankara_to_respect_Greek_islands_sovereignty_999.html

Marsh dwelling sea anemones are sensitive to toxic chemical pollution & phototoxicity


Perspective: What’s wrong with new Harbor Bridge design in Corpus Christi?


Legal complexities in aftermath of August 2020 ammonium nitrate explosion in Port of Beirut

- https://www.gulftoday.ae/opinion/2022/08/05/legal-entanglements-of-beirut-blast
“Dead zone” in Gulf of Mexico measured at below-average extent of 3,275 square miles – NOAA had forecasted ‘average-size’ of 5,364 square miles