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Geoscience Bulletin Board – 15 April 2019 – compiled by Elaine J. Hanford

New maps show seismic hazard zones in counties in California

- <https://www.nbcbayarea.com/news/local/New-Quake-Map-Shows--508291041.html>
- <https://www.nbcsandiego.com/news/local/San-Diego-New-USGS-Quake-Map-Hazard-Zones-California-508316891.html>
- Map Portal: <https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/>

Understanding how pyroclastic flows move over cushion of air that reduces friction

- <https://www.scientificamerican.com/article/deadly-volcanic-flows-glide-on-their-own-cushion-of-air/>
- <https://www.newsweek.com/pyroclastic-flow-volcanic-eruptions-surf-air-1388699>
- <https://www.newscientist.com/article/2198735-hot-rubble-from-volcanoes-races-over-land-on-a-carpet-of-air-bubbles/>

Geology professor receives top UW System teaching award – (my undergrad alma mater)

- https://www.gazettextra.com/news/education/uw-whitewater-geology-professor-wins-top-uw-system-award/article_b76fb280-37f0-5281-a5f8-2b6fde46b269.html

Aurania announces Kirus high-grade copper & silver is double in size

- <https://www.geologyforinvestors.com/auranias-kirus-copper-silver-target-doubles-in-size/>

This geologist works as a consultant in the wine industry

- http://www.vinography.com/archives/2019/04/ill_drink_to_that_geologist_br.html

Dakota County, Minnesota, verifying well locations for geologic atlas

- https://www.hometownsource.com/sun_thisweek/community/apple_valley/dakota-county-verifying-well-locations-for-geologic-atlas/article_1ee4f02c-5671-11e9-9f85-870b8367a7d3.html

Landslide alert issued with weather watches for flooding in Oregon

- <https://www.statesmanjournal.com/story/news/2019/04/09/oregon-landslide-alert-issued-alongside-weather-watches/3409237002/>

Geology class note dropped into Lake Perry in Kansas 26 years ago – found but not in Gulf of Mexico

- https://www.kmov.com/news/years-later-illinois-family-finds-kansas-class-project-along-riverfront/article_ff937ca0-5a3c-11e9-94d2-1bf341d5bc32.html

High-resolution airborne lidar data helps reveal history of New Madrid Seismic Zone

- <https://eos.org/articles/secrets-from-the-new-madrid-seismic-zones-quaking-past>

Large-scale glaciation during Neoproterozoic Era may have led to the Great Unconformity

- <https://eos.org/articles/did-global-glaciation-cause-the-great-unconformity>

Precariously balanced rock formation in Israel constrain magnitude of historical EQs

- <https://eos.org/articles/precariously-balanced-rocks-reveal-earthquake-history-in-israel>

Knowledge gap of full glacial-interglacial cycle was target of Cycles of the Sea-Ice Dynamics in the Earth system (C-SIDE) workshop

- <https://eos.org/meeting-reports/understanding-past-changes-in-southern-ocean-sea-ice>

Toward a better understanding of the Beaufort Gyre

- <https://eos.org/editors-vox/in-a-spin-new-insights-into-the-beaufort-gyre>

Sollasina cthulhu had 45 tentacles and crept along the ocean floor some 430 myo

- https://www.huffpost.com/entry/cthulhu-sea-fossil_n_5cad7dfce4b0e833aa330e5e

Tracking the biosignature of the oldest life forms on Earth

- http://www.spacedaily.com/reports/Tracking_records_of_the_oldest_life_forms_on_Earth_999.html

Ice melt from ice sheets & glaciers has caused sea levels to rise – estimated 27 mm over 5.5 decades

- <https://www.sciencedaily.com/releases/2019/04/190408114013.htm>

“Beyond EPICA – Oldest Ice” project to drill 1.5 myo ice core in Antarctica

- <https://www.sciencedaily.com/releases/2019/04/190409100032.htm>

Simulation of tsunami from December 2018 collapse of Anak Krakatau – potential for mega-quakes

- <https://www.bbc.com/news/science-environment-47875777>
- <https://phys.org/news/2019-04-armaggedon-earth-looming-tsunamis-mega-quakes.html>

Humans remain fascinated with the Chicxulub meteor impact and the demise of the dinosaurs

- <https://www.nature.com/articles/d41586-019-01096-8>

Crater lake on Mt Ruapehu is heating up and seismic activity is increasing

- <https://www.newstalkzb.co.nz/news/national/scientists-monitoring-mt-ruapehu-as-crater-lake-heats-up/>

GEER report on the Palu landslides triggered by the September 2018 Mw7.5 EQ in Indonesia

- <https://blogs.agu.org/landslideblog/2019/04/10/palu-donggala-landslides-1/>
- GEER report:
http://www.geerassociation.org/component/geer_reports/?view=geerreports&id=88&layout=builder
- Report:
http://www.geerassociation.org/administrator/components/com_geer_reports/geerfiles/GEER_Palu_Version_1.pdf

GEER report on the December 2018 M4.4 Tennessee EQ

- http://www.geerassociation.org/component/geer_reports/?view=geerreports&id=89&layout=builder
- Report:
http://www.geerassociation.org/administrator/components/com_geer_reports/geerfiles/GEER%20report_M4_4%20Decatur%20TN%20EQ.pdf

If a tsunami hits the coast of Washington – RUN, don't walk

- <https://www.dailymail.co.uk/news/article-6903611/Washington-state-created-walk-time-maps-showing-long-flee-tsunami.html>

New model predicts where flooded fields best replenish groundwater in California

- https://www.eurekalert.org/pub_releases/2019-04/ssoe-wwf041019.php

Preliminary results of NASA Oceans Melting Greenland (OMG) mission

- <https://scitechdaily.com/nasas-omg-mission-raises-plenty-of-new-questions/>

“Fast negative breakdown” documents new phenomena triggering lightning in clouds

- <https://phys.org/news/2019-04-unusual-phenomenon-clouds-triggers-lightning.html>
- Paper: <https://www.nature.com/articles/s41467-019-09621-z>

More informative approach to naming plutonic rocks

- Paper: <https://www.geosociety.org/gsatoday/science/G384A/article.htm>

History of JOIDES and the benefits & potential of scientific ocean drilling

- Paper: <https://www.geosociety.org/gsatoday/science/G380A/article.htm>

Formation of copper ores may be dependent on microbial metabolism for mineral production

- <https://eos.org/articles/for-some-copper-deposits-microbes-make-minable-minerals>

Testing an old hypothesis on the formation of carbonate muds

- <https://eos.org/research-spotlights/old-idea-spurs-new-research-into-origins-of-carbonate-mudstones>

Earliest life may have originated in ponds rather than the ocean

- <https://phys.org/news/2019-04-earliest-life-arisen-ponds-oceans.html>

“Warm spot” is increasing in size in remote section of Yellowstone

- <https://mysteriousuniverse.org/2019/04/mysterious-growing-hot-spot-in-yellowstone-is-killing-trees-and-vegetation/>
- <https://www.iflscience.com/environment/entirely-new-thermal-areas-discovered-in-yellowstone/>

Movie review: “The Quake” – yet another earthquake disaster movie

- <https://www.flickeringmyth.com/2019/04/movie-review-the-quake-2019/>

Kiruna-type giant apatite-iron oxide ores may be of magmatic origin

- <https://www.sciencedaily.com/releases/2019/04/190412085223.htm>

Ice Ages could occur when tropical volcanic arc islands and continents collide

- <https://www.sciencedaily.com/releases/2019/04/190411115221.htm>

New outcrops are geologically important

- <https://www.westhawaii.com/2019/03/31/hawaii-news/volcano-update/new-outcrops-make-good-geology/>

During solar storms regional geology is important

- <https://www.nationalgeographic.com/science/2019/03/solar-storms-worse-damage-if-you-live-near-certain-rocks-geology/>

Geological impact of the Middle Ordovician Decorah crater

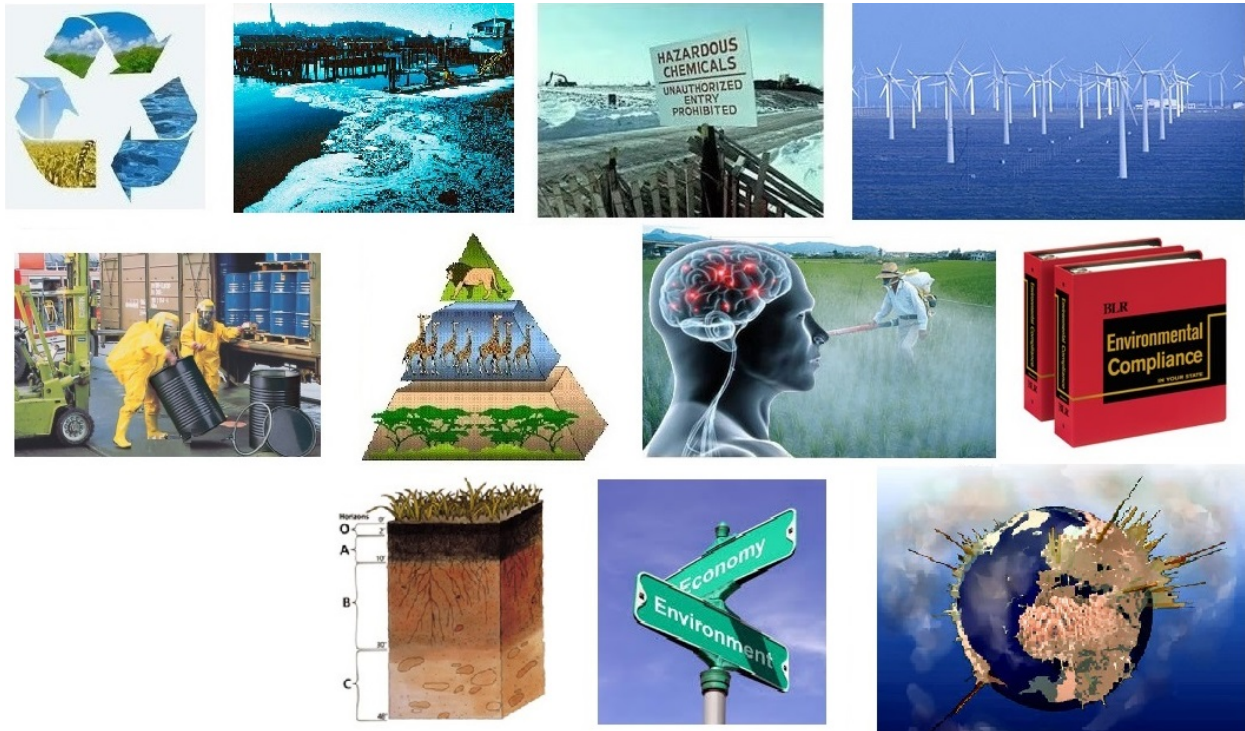
- <https://www.lutherchips.com/7035/features/the-geological-impact-of-the-decorah-crater/>

Environmental Evaluation Service in Chile gives approval for Los Andes Copper project at Vizcachitas

- <https://www.geologyforinvestors.com/los-andes-coppers-vizcachitas-project-receives-milestone-chilean-environmental-approval/>

Ancient “Texas Serengeti” had elephant-like animals, rhinos, alligators, antelope, camels, horse

- <https://news.utexas.edu/2019/04/11/ancient-texas-serengeti-had-elephant-like-animals-rhinos-alligators-and-more/>
- Paper: <https://palaeo-electronica.org/content/2019/2445-lapara-creek>



Environmental Science Bulletin Board – 15 April 2019 – compiled by Elaine J. Hanford

E. coli outbreak in five states – source not yet identified

- <https://www.usatoday.com/story/money/2019/04/10/e-coli-outbreak-sickens-96-people-across-five-states-11-hospitalized/3421039002/>

Book Review: “Falter” – how human extinction could play out

- <https://www.rollingstone.com/politics/politics-features/bill-mckibben-falter-climate-change-817310/>

Rapid urbanization increases pressure on rural water supplies across the world

- <https://phys.org/news/2019-04-rapid-urbanization-pressure-rural-globally.html>

Animals mete out justice against poacher in Kruger National Park

- <https://www.msn.com/en-us/news/world/suspected-rhino-poacher-killed-by-elephant-then-eaten-by-lions-in-south-africa-authorities-say/ar-BBVGBcT>

14 places around the world that are being ruined by tourism & tourists – (slide show)

- <https://www.msn.com/en-us/travel/article/14-places-around-the-world-that-are-being-ruined-by-tourism/ss-BBVy6P8>

USDA condemns Washington Post for “solar eclipse reporting” on modernizing meat inspections

- <https://www.fsis.usda.gov/wps/portal/fsis/newsroom/news-releases-statements-transcripts/news-release-archives-by-year/archive/2019/nr-040819-01>

17-foot long invasive Burmese python captured in Big Cypress National Preserve in Florida – carrying 73 developing eggs – sentinel male tracked with transmitted

- <https://www.bbc.com/news/world-us-canada-47851248>

Sustainable urban development is a myth but are floating cities fantasy or the future?

- <https://www.bbc.com/news/world-47827136>

The world now has more grandparents than grandchildren – not necessarily a “bad” thing

- <http://www.bbc.com/capital/story/20190405-why-the-world-now-has-more-grandparents-than-grandchildren>

Tunnel-based hydropower project in Australia linking two reservoirs to cost estimated \$3.6B

- <https://www.enr.com/articles/46644-european-controlled-teams-land-two-big-australian-tunnel-projects>

Judge changes 2017 decision – now allows work to resume on Fargo-Moorhead flood control project

- <https://www.mprnews.org/story/2019/04/08/judge-oks-some-work-on-fargo-flood-control-project>

Do humans really need “artificial intelligence” to warn of impending natural disasters?

- <https://www.fastcompany.com/90328015/this-tech-tells-cities-when-floods-are-coming-and-what-they-will-destroy>

Improved models may improve predictions of volcanic hazards

- https://www.upi.com/Science_News/2019/04/09/Scientists-discover-causes-of-deadliest-volcanic-hazards/9121554818614/

Alaskan bill signed into law - \$150.3M for earthquake recovery & wildfire fighting

- <https://www.adn.com/politics/2019/04/08/dunleavy-signs-first-bill-sending-millions-to-alaska-earthquake-reconstruction-effort/>

14.2 tons of pangolin scales & 400 pounds elephant tusk ivory seized in Singapore

- <https://www.msn.com/en-us/news/world/dollar387-million-worth-of-pangolin-scales-seized-in-singapore/ar-BBVKZ1R>

Big cities & bright lights disorient birds & cause up to 1B deaths from building collisions each year in US

- <https://www.npr.org/2019/04/07/710847132/big-cities-bright-lights-and-up-to-1-billion-bird-collisions>

First-ever quantification of global damage caused by plastic pollution put at \$2.5T per year

- <https://www.treehugger.com/plastic/ocean-plastic-pollution-costs-planet-25-trillion-year.html>
- Paper: <https://www.sciencedirect.com/science/article/pii/S0025326X19302061>

Perspective: The potential of ocean protection & conservation

- <https://www.ehn.org/peter-dykstra-victories-for-the-ages-2633789644.html>

Toxic algae blooms in Lake Erie

- https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=298181&org=GEO&from=news

New species of extinct pig-footed bandicoot discovered in Australia

- <http://www.sci-news.com/paleontology/chaeropus-yirratji-bandicoot-07073.html>

Woolly mammoths and Neanderthals co-existed & both adapted to cold environments

- <http://www.sci-news.com/genetics/neanderthals-woolly-mammoths-cold-adaptation-genes-07078.html>

Microbes tracked into buildings can help break down harmful chemicals in household dust

- <https://www.sciencedaily.com/releases/2019/04/190410112738.htm>

Widely-used E319 food additive impairs immune response to the flu & reduces effectiveness of flu vaccine

- <http://www.sci-news.com/medicine/e319-immune-responses-influenza-infection-07071.html>
- Background: <https://www.bestfoodfacts.org/tbhq-what-is-it-and-is-it-dangerous/>

At least 53 invasive species identified in the Galapagos Islands – 10X previous estimates

- http://www.terradaily.com/reports/Galapagos_home_to_53_invasive_species_10_times_previous_estimates_999.html

Recovery from current mass extinction of species on Earth could take millions of years

- http://www.terradaily.com/reports/Earths_recovery_from_mass_extinction_could_take_millions_of_years_999.html

Traces of neonicotinoid pesticides impair ability of insects to spot predators & avoid collisions

- <https://www.sciencedaily.com/releases/2019/04/190410090336.htm>

Lead concentrations in topsoil significantly increase probability that 5-year old males will exhibit cognitive impairment – but not females

- <https://www.sciencedaily.com/releases/2019/04/190410112741.htm>

Flooding on Missouri Rivers may finally help lawmakers decide to stop subsidizing floodplain projects

- https://www.stltoday.com/news/local/metro/as-missouri-s-rivers-rise-lawmakers-may-stop-subsidizing-risky/article_f1ac5c6f-a908-5d69-9d50-5ee6c05cbbd5.html
- Missouri Senate Bill # 108: <https://www.senate.mo.gov/19info/pdf-bill/perf/SB108.pdf>

Lessons learned from Hurricane Harvey for Houston-Galveston area flood resiliency plans

- <https://www.sciencedaily.com/releases/2019/04/190410095942.htm>

Massive solar storm could have severe impact on modern technology-based society

- <https://www.sciencedaily.com/releases/2019/03/190311152744.htm>

One Belt, One Road (OBOR) program in China

- <https://www.eurasiareview.com/10042019-china-mobilizing-vast-resources-from-public-budgets-and-private-enterprises-for-one-belt-one-road-program-analysis/>

Radioactive fallout from nuclear testing & Chernobyl may be released as glaciers melt

- <https://phys.org/news/2019-04-siren-nuclear-fallout-embedded-glaciers.html>

Estimate of damages from fine particulate matter (PM2.5) air pollution

- <https://phys.org/news/2019-04-particulate-air-pollution.html>
- Paper: <https://www.pnas.org/content/early/2019/04/02/1816102116>

Falling levels of air pollution result in decline of heavy wintertime tule fog in California Central Valley

- https://www.eurekalert.org/pub_releases/2019-04/uoc--flo040919.php

The drugs you use impact your health – prolonged use of cannabis has been found to alter activation levels and patterns in brain functioning activation

- <https://sciencetrends.com/meta-analysis-of-functionality-in-current-and-abstinent-cannabis-users/>

Intense exploitation of land for settlement, agriculture & forestry results in loss of nature & species richness

- https://www.eurekalert.org/pub_releases/2019-04/hcfe-hmn041019.php

Toward a better understanding of phosphorus and the phosphorus cycle

- <https://sciencetrends.com/natural-nanoparticles-fedex-for-phosphorus-transport/>

Past disturbances of biomes provide palaeoecological data on forest continuity, species diversity, and human impacts

- <https://sciencetrends.com/forest-hotspots-of-high-conservation-interest-using-the-past-as-a-guide-for-management/>

Colorado wants to increase water storage capacity – new reservoirs & dams planned for Front Range

- <https://www.enr.com/articles/46660-new-reservoirs-dams-planned-for-colorado-front-range>

Still promoting the myth of “sustainability” – promoting value of “green buildings”

- <http://concreteproducts.com/news/11622-research-probes-public-attitudes-to-green-building-value-proposition.html#.XK9fUHdFyUk>

2017 Census of Agriculture data now available

- <https://content.govdelivery.com/accounts/USDAOC/bulletins/23da384>

Canis rufus (Red wolves) are a unique highly imperiled species – Mexican wolves (*Canis lupus baileyi*) are a unique subspecies of Grey wolves

- <https://www.nationalgeographic.com/animals/2019/04/mexican-gray-wolf-and-red-wolves-are-unique/>

Giant purple squirrels? Yes, native to India

- <https://www.nationalgeographic.com/animals/2019/04/indian-giant-squirrels-colors-camouflage/>

Hunters sentenced for illegally killing bear in Colorado – only took head & hide – lied & left meat to rot

- <https://www.msn.com/en-us/news/crime/father-and-son-pay-steep-price-for-illegal-bear-kill/ar-BBVQyLS>

Maine PUC gives approval for 145-mile transmission line – environmental concerns remain

- <https://www.apnews.com/f306bab9616647c0aad97237516ff6ca>

What do California towns do after wildfires? Rebuild, of course, with fire resistance (not fire-proof) in mind

- <https://www.enr.com/articles/46681-california-towns-rebuild-after-wildfires-with-resilience-in-mind>

Largest bat house colony in the world is in Gainesville, Florida

- <https://www.msn.com/en-us/travel/tripideas/what-its-like-to-visit-the-largest-bat-house-colony-in-the-world/ar-BBVP7Vf>



Coastal Zone Management Bulletin Board – 22 April 2019 – compiled by Elaine J. Hanford

Climate change? – but this is how barrier islands have always evolved

- https://www.eurekalert.org/pub_releases/2019-04/vcu-sgn040919.php

Evacuation from 2020 Tokyo Olympic sailing venue would be difficult in event of tsunami

- <http://mainichi.jp/english/articles/20190408/p2a/00m/0na/014000c>

Many coastal homes are unprotected from hurricanes & homeowners do not intend to retrofit

- <https://phys.org/news/2019-04-coastal-homes-unprotected-hurricanes-homeowners.html>

Industrialization, rapid urbanization & changing sea level endanger Gulf of Thailand

- <https://www.france24.com/en/20190408-against-tide-thai-floating-temple-defies-coastal-erosion>

Mangroves & seagrasses provide the greatest coastal habitat value as nurseries

- <https://wydaily.com/local-news/2019/04/07/study-confirms-and-ranks-nursery-value-of-coastal-habitats/>

Sharks prevent recovery of floating body in Hawaiian waters

- https://www.heraldcourier.com/news/shark-prevents-recovery-of-body-from-coastal-hawaii-waters/article_fcaa3a40-be3d-5139-83f0-dedd09de1909.html

Confirming cause of 2.4M earthquake off the Donegal coast

- <https://www.irishmirror.ie/news/irish-news/what-caused-earthquake-in-donegal-14267376>

Coastal Commission to hear rehabilitation plan for Venice Pier

- <https://www.smdp.com/coastal-commission-to-hear-venice-pier-rehabilitation-this-week/174145>

California Senate Bill 576 “Climate Change Impact Plan” regarding coastal climate adaptation, infrastructure & readiness

- <https://patch.com/california/orange-county/umberg-s-climate-plan-passes-committee-natural-resources>

Fiber rolls are not aesthetically pleasing to the eye, but help retard dune erosion

- <https://www.npr.org/2019/04/09/711097302/as-dunes-disappear-fiber-rolls-protect-cape-cod-homes-from-coastal-erosion>

Increased penalties for endangered species protection & now incentives for protection zones

- <https://www.marconews.com/story/news/2019/04/09/marco-council-look-into-program-incentivizing-starter-burrows-owls/3398289002/>

Salt water encroachment on coastal Senegal is causing flooding & killing crops

- <https://www.citylab.com/environment/2019/04/climate-change-rising-sea-levels-west-africa-coastal-cities/586651/>

Land subsidence (due to geologic & human activity) causing coastal issues on Chesapeake Bay

- https://www.bayjournal.com/article/new_data_from_vims_finds_sea_level_rise_is_accelerating_in_bay
- Sea-level report card: https://www.vims.edu/bayinfo/bay_slrc/index.php

Rhode Island to help fund 4 offshore wind projects

- <https://www.offshorewind.biz/2019/04/09/rhode-island-bankrolls-ready-4-offshore-wind/>

Invasive reed *Phragmites australis* may actually be beneficial to coastal marshes

- https://www.gloucestertimes.com/opinion/column-faced-with-eroding-coastline-invasive-plant-could-be-an/article_68e61671-69e5-5f5d-88d6-0f5d151503c6.html

The high seas have significant impact on coast waters & vulnerable coastal communities

- <https://reliefweb.int/report/world/out-sight-out-mind-why-high-seas-matter-vulnerable-coastal-communities>
- Ocean ecological connectivity video: <https://www.youtube.com/watch?v=d5goMDRxKq4>
- Fisheries on the high seas video: <https://www.youtube.com/watch?v=RhcrETMv8u0>

Increasing concern & attention on coastal erosion at Queen Elizabeth Park in Wellington, New Zealand

- <http://www.scoop.co.nz/stories/AK1904/S00262/greater-wellington-acts-on-coastal-erosion.htm>

Lakeshore flood advisory was issued for Lake Michigan as 8 – 11 ft waves rolled in

- <https://www.msn.com/en-us/weather/topstories/epic-waves-hammer-chicago-lakefront-the-lake-is-really-dangerous/ar-BBVQv4K>

Miami-Dade commission gives approval for construction of new cruise ship terminal at Port Miami

- <https://www.miamiherald.com/news/business/tourism-cruises/article228991794.html>

“Green concrete” is being used to protect coastlines in Ireland

- <https://sociable.co/science/green-concrete-ecological-engineering-helping-protect-coastlines/>

\$14B upgrades to levees has not stopped deltaic subsidence – New Orleans at risk

- <https://www.scientificamerican.com/article/after-a-14-billion-upgrade-new-orleans-levees-are-sinking/>