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Geoscience Bulletin Board – 11 March 2019 – compiled by Elaine J. Hanford

$5M appropriation approved for research & design of new icebreaker for the Great Lakes

New evidence along Alaska-Aleutian megathrust for frequency of tsunamis

US mines produced estimated $82.2B in minerals in 2018

Green icebergs caused by iron-oxide minerals
  • http://www.sci-news.com/othersciences/geophysics/green-icebergs-06963.html

Paleontological record reveals diversification following mass extinction event 250 myo
  • http://www.spacedaily.com/reports/Paleontology_Diversification_after_mass_extinction_999.html

Deadly tornadoes leave swath of destruction across Alabama
  • http://www.spacedaily.com/reports/Tornadoes_leave_swath_of_destruction_in_Alabama_killing_23_999.html
NASA lab shows how ingredients for life could have formed deep in the ocean 4B years ago
- http://www.terradaily.com/reports/Scientists_discover_how_surfaces_may_have_helped_early_life_on_Earth_begin_999.html

Teeth of megalodon shark evolved over millions of years into “ultimate cutting tools”
- https://www.sciencedaily.com/releases/2019/03/190304134221.htm

Fossilized mammal remains digested by crocodiles in Cayman Islands identified as new species
- https://www.sciencedaily.com/releases/2019/03/190304134218.htm

New method for determining EQ hazards by measuring rate of energy buildup & comparison with energy released through fault creep and earthquakes

91 - 200 meter-wide Asteroid 2019 DN makes not-super-close pass of Earth (13 lunar distances away)

Dinosaur tracks at Valley Forge
- https://wrex.com/category/2019/03/06/dinosaur-tracks-make-fresh-impression-at-valley-forge-park/

Bringing water resources education to county schools in Appalachia
- https://theappalachianonline.com/2019/03/03/program-brings-water-resources-education-to-county-schools/

Will a digital unconformity be similar to a geologic unconformity?
- https://www.linuxjournal.com/content/digital-unconformity

“Geological Orrery” - Considering planetary motions and relationships to climatic history of Earth

Photo-essay: How much snow has fallen in Crater Lake National Park this winter

Contemplating a potential major eruption at Yellowstone caldera
- http://blogs.discovermagazine.com/rockyplanet/2019/03/06/what-might-happen-if-yellowstone-were-really-heading-towards-an-eruption/

Louisville Zoo & Mega Cavern close after 3.4M EQ and discovery of a sinkhole
This fault line may have generated EQ that damaged the Colosseum in Rome

Kluane ice cave in the Yukon is no longer safe – may soon collapse

Laser imaging of shells reveal information for reconstruction of seasonal climate record
- Paper: https://www.nature.com/articles/s41598-019-39959-9

Is there an acceptable compromise between fracking and triggering small induced earthquakes?

Paper: Holes in the Bottom of the Sea: History, Revolutions & Future Opportunities

Earliest example of nest sharing discovered in 70 myo fossilized site
- https://www.science20.com/news_staff/70_million_years_ago_earliest_example_of_nest_sharing_discovered-236734

Magnetic field of Earth is not a stagnant entity – magnetic poles move and reverse
- https://www.livescience.com/64930-earths-magnetic-field.html

Ice-quakes are a regular occurrence on Antarctica
- https://www.livescience.com/64915-antarctica-has-ice-quakes.html

Rapid collapse of ice sheets unlikely to cause significant sea level rise

Hydrology embraces the balance of worldwide systems and local phenomena
- https://eos.org/agu-news/everything-is-connected

Horseshoe crabs are not crabs - they are an arachnid species

Celebrating Lou Henry Hoover (1874- 1944; wife of Pres. Herbert Hoover) graduated from Stanford with BA in geology
- https://www.hoover.org/research/celebrating-life-lou-henry-hoover

Preserving archival cave in the Philippines – speleothems record climate history
- https://news.stanford.edu/2019/03/07/rescuing-geologic-climate-records/

Large low-shear-velocity provinces in deep mantle are not well understood
Why did ice ages get longer in duration beginning about 700,000 years ago?

Sea ice is pacemaker in abrupt climate change between 32,000 and 40,000 years ago

Volcanic dust in West Antarctic Ice Sheet suggests collapse during warm period about 130,000 years ago

Tracking changes in snowline to help predict melting of glacial ice

Dinosaurs thrived & appear to have been unaffected by long-term climate changes before asteroid strike
- https://www.sciencedaily.com/releases/2019/03/190306081711.htm

Putting ichthyosaurs in virtual water tanks to study how they swam
- https://www.sciencedaily.com/releases/2019/03/190306081714.htm

Sentinel-3 satellite will monitor ice in Antarctica
- http://www.spacedaily.com/reports/New_satellite_keeps_close_watch_on_Antarctic_ice_loss_999.html

Flash floods in southern Afghanistan are destructive & deadly
- http://www.terradaily.com/reports/At_least_20_killed_by_flash_floods_in_southern_Afghanistan_UN_999.html

Toward a better understanding of the global methane cycle
- http://www.spacedaily.com/reports/New_key_players_in_the_methane_cycle_999.html

Geology Camp for budding astronauts
- https://www.space.com/astronaut-training-geology-field-work.html

Encouraging Geo-tourism on Bonavista Peninsula in Newfoundland/Labrador, Canada

San Benito Geology: Part 6 – Piece by Piece, How San Benito County Came To Be
African Swine fever – a hemorrhagic disease like Ebola – continues to spread - efforts to contain it

- https://content.govdelivery.com/accounts/USDAOC/bulletins/23491f7

As Americans consume more stuff creating more waste – will we see the end of recycling?


Indoor chemical pollution in the home degrades fertility in both men and dogs

- https://www.sciencedaily.com/releases/2019/03/190304095949.htm
- Paper: https://www.nature.com/articles/s41598-019-39913-9

Measles – clusters of cases in the US – vaccine campaign in India – vaccine not linked to autism


Antibiotic resistance resulting from even low-level concentrations of pharmaceuticals from wastewater treatment plants


Perspective: The world is not all that fragile and will likely not end in 12 years


All that growth means more concrete – and much more impact on the global environment


Smallpox killed roughly 30% of those infected, more in newly exposed populations – Europeans weaponized disease against Native Americans – cowpox leads to Jenner’s vaccine


Vermont needs to prioritize to solve water problems


Lake Erie now has voter-approved Bill of Rights


US Army Corps of Engineers will once again study Buffalo Bayou & flooding issues


Australian dingo is unique species – not a breed of wild dog

- [https://www.sciencedaily.com/releases/2019/03/190305100635.htm](https://www.sciencedaily.com/releases/2019/03/190305100635.htm)

Federal Biomass & Research Development Board releases Bioeconomy Initiative for implementation

- [https://content.govdelivery.com/accounts/USDAOC/bulletins/2341d1c](https://content.govdelivery.com/accounts/USDAOC/bulletins/2341d1c)
- Initiative: [https://biomassboard.gov/pdfs/Bioeconomy_Initiative_Implementation_Framework_FINAL.pdf](https://biomassboard.gov/pdfs/Bioeconomy_Initiative_Implementation_Framework_FINAL.pdf)

Regional seminar “Caspian Sea – Sustainable Development and Management”

- [https://www.azernews.az/region/146758.html](https://www.azernews.az/region/146758.html)

Plastics – tracking chemicals, recycling or incinerating


Bone marrow transplant may have “cured” this man of HIV

- [https://www.huffpost.com/entry/london-patient-hiv-aids_n_5c7dea3ce4b0129e36be16fb](https://www.huffpost.com/entry/london-patient-hiv-aids_n_5c7dea3ce4b0129e36be16fb)

Nature Conservancy paid $14M for Shasta Big Springs Ranch – but eco project failed

- [https://www.huffpost.com/entry/california-salmon-farm-drought-nature-conservancy_n_5c7580c1e4b03a10c232c98e](https://www.huffpost.com/entry/california-salmon-farm-drought-nature-conservancy_n_5c7580c1e4b03a10c232c98e)

Fracking in Pennsylvania linked to increased hospitalizations for skin, genital & urinary issues


Exposure to DDT before puberty linked to increased breast cancer risk 40 years later

- [https://www.ehn.org/insecticide-linked-to-increased-breast-cancer-risk-40-years-after-exposure-2629636883.html](https://www.ehn.org/insecticide-linked-to-increased-breast-cancer-risk-40-years-after-exposure-2629636883.html)
- Paper: [https://academic.oup.com/jnci/advance-article/doi/10.1093/jnci/djy198/5299924](https://academic.oup.com/jnci/advance-article/doi/10.1093/jnci/djy198/5299924)

New USGS Report & Map assess risk of once-per-century geomagnetic superstorm on NE US power grid

What happened to the people who survived the 79 AD eruption of Mount Vesuvius?

Using drones to help count koalas in Australia – algorithm processes infrared readings
• http://www.spacedaily.com/reports/Drones_help_scientists_count_koalas_in_Australia_999.html

Northern spotted owls are declining in numbers in the Pacific Northwest
• https://www.sciencedaily.com/releases/2019/03/190305153659.htm

Exploring 450 years of forest fire history in Alaska
• https://www.sciencedaily.com/releases/2019/03/190305153656.htm

First measurement of “human footprint” on Antarctica

Biologists at University of Utah experimentally trigger adaptive radiation in host-specific parasite species
• https://www.eurekalert.org/pub_releases/2019-03/uou-ube022819.php

Took the death of 21 horses before they admitted “something is drastically wrong” & closed Santa Anita

Three river otters stolen from Animal Edventures Sanctuary in North Carolina

Approval given for construction of $680M natural gas pipeline from Oklahoma to the Gulf Coast

US Army Corps of Engineers intends to issue crucial permit for proposed Rosemont Mine in Arizona

$300M more to be thrown into $2.75B Fargo-Moorhead flood diversion project

USDA & FDA formal agreement to regulate cell-cultured food products from livestock & poultry
• https://content.govdelivery.com/accounts/USDAOCS/bullins/234e727

PG&E does not want to pay claims for California wildfires – files bankruptcy – wants to pay $235M bonuses as worker “incentives”

Discovering how to save the rarest fish on Earth – the Devils Hole pupfish
• https://www.nationalgeographic.com/animals/2019/03/endangered-devils-hole-pupfish-breeding-breakthrough/

San Bernardino County, California, bans non-CORE renewable energy projects on 1M+ acres private land
• https://pv-magazine-usa.com/2019/03/01/san-bernardino-county-bans-large-scale-solar-wind-in-some-areas/

Can NYC management of wastewater & waste provide lessons for China?
Coastal Zone Management Bulletin Board – 11 March 2019 – compiled by Elaine J. Hanford 11

Storm driven waves surge over lighthouse on Malta (video)

Brine discharge impacts from the Carlsbad Desalination Plant in southern California
  • Paper: https://www.mdpi.com/2073-4441/11/2/208/htm

Antibiotic-resistant bacteria found in marine life in Puget Sound – looking at cause & prevalence

Temporary oceanfront setback rule appears to be working in North Carolina
  • https://www.coastalreview.org/2019/03/living-shoreline-permitting-made-easier/
  • https://www.coastalreview.org/2019/03/temporary-oceanfront-setback-rule-in-works/

NRDC releases Best Management Practices for Right Whales during offshore energy projects
Hawaii will continue to consider potential impacts & response to possible rise in sea level
• http://www.hawaiinewsnow.com/2019/03/05/sea-level-rise-threatens-coastal-communities-hawaii-state-struggles-find-solutions/

Pew Charitable Trust efforts to protect & restore oyster and seagrass habitats

Audubon of Western Everglades notes lower shorebird count this year on Marco’s Beaches
• https://www.coastalbreezenews.com/articles/shorebird-count-lower-this-year-on-marco-s-beaches/

NCCF in final stage of restoring North River Wetlands Preserve as part of larger Coastal Plain restoration
• https://www.coastalreview.org/2019/03/north-river-preserve-temporarily-closed/

Perspective: Keep college graduates in New England to further develop offshore energy

5 ways marine life affects life on land
• https://news.globallandscapesforum.org/32886/5-ways-that-life-underwater-affects-life-on-land/

Conflict over marine & coastal resources as commercial land development encroaches
• https://www.bangkokpost.com/news/special-reports/1637870/keeping-the-seafood-supermarket-above-water

Collaborative study of tar balls along Orange Beach in Alabama

Algae responsible for toxic red tides in Florida survive in both high and low CO2 concentrations
• https://www.eurekalert.org/pub_releases/2019-03/fsu-rtr030419.php

Interview with Dr. Catherine Courtney addressing climate change coastal impacts

Using Google Earth to map mangroves in the Galapagos
• https://sciencetrends.com/using-google-earth-to-map-the-distribution-of-mangroves-in-the-galapagos/
Sand dredged by US Army Corps of Engineers from Waukegan Harbor used along Evanston shoreline


US BOEM pausing review process for application to conduct seismic O&G surveys in the Atlantic


Coastal shipping in China begins to suffer from over-capacity


Consideration given to building second super-tanker berth at Ingleside, Texas, crude export terminal


As sea-level rises, coastal wetlands harbor more carbon in soil

- [https://www.sciencedaily.com/releases/2019/03/190306131401.htm](https://www.sciencedaily.com/releases/2019/03/190306131401.htm)