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**Geoscience Bulletin Board – 17 June 2019 – compiled by Elaine J. Hanford**

Relationship between continental arcs and the global carbon cycle over 750 million years

Using existing close-circuit television networks to monitor precipitation intensity
- [https://eos.org/research-spotlights/ordinary-security-cameras-could-keep-an-eye-on-rainfall](https://eos.org/research-spotlights/ordinary-security-cameras-could-keep-an-eye-on-rainfall)

Seasonal shifts in vocalizations of blue whales correlate with presence of icebergs

Smithsonian exhibit opens with dinosaurs and other fossils
- [https://eos.org/articles/dinosaurs-roar-again-now-including-a-focus-on-climate-change](https://eos.org/articles/dinosaurs-roar-again-now-including-a-focus-on-climate-change)

May ended wettest 12-month period in 125-year NOAA record keeping
- [https://www.huffpost.com/entry/noaa-record-wet-may_n_5cf95b42e4b0e3e3df172045](https://www.huffpost.com/entry/noaa-record-wet-may_n_5cf95b42e4b0e3e3df172045)

Massive ladybug swarm appeared on weather radar
- [https://www.huffpost.com/entry/ladybug-swarm-weather-radar_n_5cf8b151e4b0e3e3df153ad3](https://www.huffpost.com/entry/ladybug-swarm-weather-radar_n_5cf8b151e4b0e3e3df153ad3)

Explaining “transient lunar phenomena”
11 facts about the ocean


1.2 byo impact crater found off the coast of Scotland


Aristostomias scintillans – species of deep-sea dragonfish has transparent teeth


Fostoria dhimbangunmal – newly discovered Cretaceous species of 2-legged iguanodontian dinosaur


Mechanism for tidally induced earthquakes – mid-ocean ridge EQ linked with low tides

- [https://www.sciencedaily.com/releases/2019/06/190607091035.htm](https://www.sciencedaily.com/releases/2019/06/190607091035.htm)

Asian dust fertilizes the North Pacific Ocean

- Paper: [https://www.pnas.org/content/early/2019/06/04/1900789116](https://www.pnas.org/content/early/2019/06/04/1900789116)

500 years ago, Copernicus developed revolutionary ideas on a sun-centered cosmos


Tsunami that struck in 1394 had significant impact on human history

- [https://www.nationalgeographic.com/culture/2019/05/how-forgotten-600-year-old%20tsunami-changed-history/](https://www.nationalgeographic.com/culture/2019/05/how-forgotten-600-year-old%20tsunami-changed-history/)

Newly discovered hydrothermal vent field at the northern Gorda Ridge in the Pacific Ocean


Sulfur helped make Earth more habitable before oxygenation


1995 tsunami in Gulf of Elat-Aqaba is prelude to more similar events


Massive metallic mass discovered beneath lunar south pole

How fossils are dated


Drone & seismic analysis of the 2017 Nayong rock avalanche


Glaciers outliving those who predicted their doom


Models suggest faults linked through Imperial Valley in southern California – San Andreas through Imperial Fault to Cerro Prieto fault


Catalog of EQs in North Texas confirms continuing effects of O&G wastewater disposal


Plate tectonics & isostacy – another dire prediction of sea level spike due to manmade climate change


Baby pterodactyls had ability to fly from birth


Consequences of the Deepwater Horizon oil spill in the Gulf of Mexico


Quantifying subsurface uncertainties with integrated advanced technologies reduces exploration & field development risks


French court ordered return of 45 dinosaur & animal fossils to Brazil – pterosaur may be included

- [https://www.nature.com/articles/d41586-019-01781-8](https://www.nature.com/articles/d41586-019-01781-8)

Travels in Geology – Washington DC


Highest weather station in the world is now located on Mount Everest

- [https://www.digitaltrends.com/cool-tech/mount-everest-is-now-home-to-the-worlds-highest-weather-station/](https://www.digitaltrends.com/cool-tech/mount-everest-is-now-home-to-the-worlds-highest-weather-station/)

Satellite data provides more accurate information on impact of large earthquakes
Old core samples reveal unique character of magma that cooled beneath island of Bermuda
  • http://physicsbuzz.physicscentral.com/2019/06/below-bermuda-scientists-find-weirdest.html

Geo-archeological examination of ancient sunken forest rising from beach in Wales
  • https://www.atlasobscura.com/articles/ancient-sunken-forest-wales

Five areas to be designated National Geology Parks in Myanmar

AI to improves analysis of arrive-time of seismic waves & location of epicenters

Use of prevalent technologies & crowdsourced data may improve weather forecasting & atmospheric research

Norwegian Barents Sea oil spill risk governance framework needs considerable remodeling

MOSES Helmholtz Initiative will begin new measurement campaign to facilitate holistic study of hydrological extremes

Understanding & preparing for wildfire season – heavy wildfire season predicted

Redlichia rex - giant new species of trilobite found on Kangaroo Island in South Australia
  • https://www.sciencedaily.com/releases/2019/06/190613095148.htm
  • http://www.sci-news.com/paleontology/redlichia-rex-07290.html

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Water cycle diagrams give false sense of water security – majority showed no human interaction

Some members of US EPA Science Advisory Board disagree with WOTUS policy
- [https://www.eenews.net/stories/1060500465](https://www.eenews.net/stories/1060500465)

Congressional hearing focused on importance of global biodiversity – witnesses & documents

Have humans played a role in intensity of hurricanes? – could not find “coherent response across the models”

Accumulated mutations create cellular mosaic amidst the 40 trillion cells in your body

Carnival Cruise Lines fined $20M for environmental crimes
Estimates of how much plastic you eat each year – 70,000+ miniscule pieces
- https://www.huffpost.com/entry/microplastic-food-bottled-water_n_5cf93154e4b0e3e3df16ab9d

2020 Presidential candidates are not really talking about toxic water crisis in the US
- https://www.huffpost.com/entry/pfas-water-crisis-2020-democrats_n_5ce6d95ae4b0cce67c873f3f

30 facts about the boreal forest

Perspective: swine flu outbreak is wakeup call to change agriculture & human diets

Keweenaw Bay Indian community wants to set its own water quality standards

Perspective: Why re-branding "climate change" is very wrong

Measles cases number more than 1,000 as anti-vaxxers hold another rally in New York City

A question of ethics – call for new restrictions on use of fetal tissue in medical research

Perspective: genetically engineering has not made food better

Global water usage over past 3+ decades show water scarcity - demand puts river basins at risk

Enzymes discovered in giant ocean viruses
- https://www.sciencedaily.com/releases/2019/06/190605154233.htm

Very large hypoxic “dead zone” forecast for the Gulf of Mexico in 2019

Climate change could make Siberia more habitable
Justinianic Plague (541-750 AD) in the British Isles revealed by ancient genomes – killed 25% of humans
  - https://www.sciencedaily.com/releases/2019/06/190605114620.htm

International survey finds number of honey bee colonies fell by 16% in winter of 2017-2018
  - https://www.sciencedaily.com/releases/2019/06/190605100318.htm

In Focus: US Bureau of Reclamation – FY2020 Appropriations
  - https://www.seattle.gov/transportation/magnoliabridgeplanning

And you thought Facebook was just on the internet? Partnering in $416M solar farm in West Texas
  - https://www.apnews.com/ba24e751ff1047cd8312124801f5c7eb

Ammonia fertilizer industrial sector methane emissions have been vastly underestimated
  - https://www.sciencedaily.com/releases/2019/06/190606183254.htm
  - Paper: https://www.elementascience.org/article/10.1525/elementa.358/

Photo-essay: Zero Carbon Masterplan for “Housing Sociale” in Milan, Italy

African swine fever detected on farm near Saigon – 160 pigs culled

Updated framework predicts risk of pathogens to endangered species
  - Paper: https://royalsocietypublishing.org/doi/10.1098/rsos.181043

Good health is about making choices – 33 most dangerous things strongly linked to cancers

USDA proposes changes to NEPA procedures to modernize management of forests & grasslands
  - Fact sheet: https://www.fs.fed.us/emc/nepa/revisions/includes/docs/NEPARuleFactSheet.pdf
  - Comment: https://www.fs.fed.us/emc/nepa/revisions/index.shtml

Proposing new oil pipeline to transport Bakken crude oil to Oklahoma

Proposed $803M petrochemical expansion in La Porte – would add many jobs to economy
Research aimed at reducing fresh water use by power plants
• https://www.eurekalert.org/pub_releases/2019-06/wvu-wrt061019.php

Explanations for extent of flooding in Mississippi River Basin – persistent rains & man-made structural "controls" of dams, levees and spillways

DDT was banned 50 years ago but as persistent organic pollutant (POP) is still found in Canadian lakes

Sleep issues tied to poor mental health in survivors of natural disasters

Water hemp – broadleaf weed common to corn & soybean fields across Midwest – now also resistant to multiple herbicides including Group 15s

Fluvial geomorphology & analysis of sediments aids understanding of dynamics of Cuyahoga River and others

“X Day” will mark the earthquake of a century in Tokyo – not “what if” but when

“They’re wrong about everything” including preaching doomsday for glaciers in Glacier National Park
• https://townhall.com/tipsheet/mattvespa/2019/06/11/oh-so-thats-why-those-glaciers-will-be-gone-in-2020-signs-have-been-removed-a-n2547957

Would floating cities help people “adapt” to sea level rise? – “seasteads”

Ebola outbreak in Democratic Republic of the Congo crosses border in Uganda – many outbreaks treated locally and undetected by public health infrastructure
• https://www.nature.com/articles/d41586-019-01864-6
• https://www.sciencedaily.com/releases/2019/06/190613143545.htm

Complex $300M stormwater project in Denver is controversial

Impacts of drought on the Australian Outback
• http://earth.nautil.us/feature/390/the-last-drop-of-water-in-broken-hill
New scheme to poach tropical birds – hatch the eggs & pass live birds off as captive-bred
• https://www.nationalgeographic.com/animals/2019/06/hyacinth-macaw-egg-laundering-for-pet-trade/

Operation Blizzard - 4,000 reptiles rescued in biggest global raid at airports, breeding facilities & pet stores
• https://www.nationalgeographic.com/animals/2019/06/largest-reptile-raid-ever/

Photo essay & video: The Grey Wolf
• https://www.nationalgeographic.com/animals/mammals/g/gray-wolf/

US military not wasting a lot of effort on designing for “climate change”

$200M Waterway Protection Tunnel to address overflow of rainwater & wastewater in Louisville, Kentucky
• WPT Project: https://www.louisvillemsd.org/tunnel

Salmonella resistant to antibiotics of last resort detected in the US
• https://www.sciencedaily.com/releases/2019/06/190613144315.htm

US ICE detains 5,200 for exposure to measles and/or mumps – numbers increasing
Coastal Zone Management Bulletin Board – 17 June 2019 – compiled by Elaine J. Hanford

Connections among heavy rainfall, storm water discharges & increases in bacteria well documented

Concrete mat to be used to reduce erosion potential by breaking up waves at North Harbor
- [https://www.itemlive.com/2019/06/06/developers-taking-a-different-approach-on-lynnway-seawall/](https://www.itemlive.com/2019/06/06/developers-taking-a-different-approach-on-lynnway-seawall/)

Magnolia, Washington, residents prefer most expensive option to replace 90-year old bridge
- Planning Study: [https://www.seattle.gov/transportation/magnoliabridgeplanning](https://www.seattle.gov/transportation/magnoliabridgeplanning)

8,000-mile “dead zone” – hypoxia in the Gulf of Mexico

10 coastal resorts undertaking conservation efforts

NSW issued warning for high risk of rip currents along coastal areas in Tampa Bay
3.5M visitors to National Park Service lands on North Carolina boost economy
   • NPS economic contributions: https://www.nps.gov/subjects/socialscience/vse.htm

Drone video of coastal erosion on Herschel Island Qikiqtaruk Territorial Park, Yukon Territory

Nantucket Coastal Conference to focus on coastal resilience & hazard planning & marshes & banks
   • https://www.capecod.com/newscenter/the-nantucket-coastal-conference-later-this-month/

Coastal Inundation Dashboard – online tool to assist with preparation for coastal flooding
   • Dashboard: https://tidesandcurrents.noaa.gov/inundationdb/

Tracking dissolved organic matter that supports coastal aquatic food webs
   • https://eos.org/research-spotlights/tracking-dissolved-organic-matter-in-coastal-ecosystems

California Coastal Commission rethinking removal of 150-foot revetment along Carlsbad

Alabama WFF adds coastal zone to alligator season
   • https://yellowhammernews.com/wff-adds-coastal-zone-to-alligator-season/undefined

Portions of Nassau Sound closed for bird nesting season
   • https://www.news4jax.com/weather/environment/coastal-wildlife-areas-closed-for-bird-nesting-season

Two coastal restoration scientists arrested on federal charges of theft of proprietary Basin Wide Model
   • https://www.businessreport.com/newsletters/feds-indict-coastal-researchers-for-stealing-water-institute-trade-secrets

NRDC environmental advocate & legislative director named to California Coastal Commission
   • https://capitolweekly.net/nrdc-environmentalist-named-to-coastal-commission/

Coastal Zone Conversion Permit Act clarifies rules for new industry on Delaware coast
   • https://www.delawarepublic.org/post/new-coastal-zone-rules-clarify-conditions-potential-new-industry

Black Sea fleet coastal defense troops hold live-fire drills in Crimea
   • http://tass.com/defense/1063104

New model predicts impact of invasive lionfish on coral reefs
   • https://www.sciencedaily.com/releases/2019/06/190606183240.htm
Port Prince Rupert in British Columbia to expand & become 2\textsuperscript{nd} busiest in Canada

Large hypoxic "dead zone" forecast for Chesapeake Bay following above-average river flows

Coastal residents fear onslaught of monsoons

Kemah police chief missing after going overboard on fishing boat near Texas City dike

Lakefront properties along Lake Erie losing their beaches to erosion

Erosion caused by Hurricane Florence exposed explosives buried on Browns Island, North Carolina