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Geoscience Bulletin Board – 30 March 2020 – compiled by Elaine J. Hanford

Aftershocks hit Croatian capital after M5.5 EQ caused widespread damage

- <https://www.bbc.com/news/world-europe-51995861>
- <https://apnews.com/cef3127eedc7a57f45539ae777f26835>
- <https://earthquake.usgs.gov/earthquakes/eventpage/us70008dx7/executive>

M7.5 EQ in Kuril Islands – tsunami warnings issued then lifted

- <https://earthquake.usgs.gov/earthquakes/eventpage/us70008fi4/executive>
- <https://www.gulftoday.ae/news/2020/03/25/7-5-magnitude-quake-off-russia-kuril-islands>
- <https://sputniknews.com/russia/202003251078700599-videos-of-powerful-76-magnitude-earthquake-near-kuril-islands-emerge-online/>

M5.7 EQ near Salt Lake City occurred on fault along eastern base of Oquirrh Mountains

- <https://www.msn.com/en-us/weather/other/after-a-57-earthquake-utah-seismologists-investigate-a-virtually-unknown-fault/ar-BB11H0IP>

Mineral carbonation can “permanently” capture carbon – but is that a wise thing to do?

- <https://eos.org/articles/basalts-turn-carbon-into-stone-for-permanent-storage>

Four locked segments of Indian & Eurasian plates identified as most likely to produce large EQs

- <https://eos.org/articles/geodetic-data-pinpoint-earthquake-prone-regions-of-the-himalayas>

Ikaria wariootia – earliest Ediacaran bilaterian organism is ancestor of most familiar animals

- <https://phys.org/news/2020-03-ancestor-animals-australian-fossils.html>

Understanding why Yellowstone Caldera “breathes”

- <https://www.mbs.news/a/2020/03/the-yellowstone-breathes-but-why.html>
- <https://www.nationalgeographic.com/science/2020/03/chunk-yellowstone-size-chicago-has-been-pulsing/>

Paper: Ionospheric view of the 2011 Tohoku-Oki EQ – first 60 seconds of the rupture

- <https://www.nature.com/articles/s41598-020-61749-x>
- <https://www.nature.com/articles/s41598-018-30476-9>

Shungite deposits – 2 byo carbon-rich sedimentary rocks contain trace elements suggesting elevated oxygen levels

- <https://www.heritagedaily.com/2020/03/study-challenges-common-view-of-oxygen-scarcity-on-earth-2-billion-years-ago/126763>

Celebrating accomplishments of Alexander von Humboldt – coffee was “concentrated sunbeams”

- <https://www.smithsonianmag.com/smithsonian-institution/who-was-alexander-von-humboldt-180974473/>

Paper: 40 years of ice-core records of CO2

- <https://www.nature.com/articles/d41586-020-00809-8>

White Ridge Bike Trails showcase geology of New Mexico

- https://www.santafenewmexican.com/news/adventure/white-ridge-bike-trails-offer-fascinating-geology-otherworldly-views/article_a03f370a-6b0a-11ea-bd91-2ba7201598e7.html

Geology of the Driftless Area in Wisconsin and northern Illinois

- <https://www.swnews4u.com/local/public-safety/geology-kickapoo-was-topic-discussion/>

Radius Gold re-discovers silver mining camp in Chihuahua, Mexico – Plata Verde

- <https://www.juniorminingnetwork.com/junior-miner-news/press-releases/439-tsx-venture/rdu/74688-radius-gold-re-discovers-historic-silver-mining-camp-in-chihuahua-mexico.html>

Teaching geology in the time of coronavirus

- <https://www.ocregister.com/2020/03/18/csuf-professors-have-little-time-to-adjust-to-new-virtual-reality-amid-coronavirus-fears/>

Lessons learned and used to sink shafts into soft and medium-hard rock

- <https://im-mining.com/2020/03/24/herrenknecht-heralds-game-changer-shaft-sinking-soft-medium-hard-rock/>

In memoriam: Betty Blanton Moore (1936-2020)

- <https://obituaries.record-eagle.com/obituary/betty-moore-1078879002>

The Oceans as new frontier for development in Africa – summary of workshop in Nairobi, Kenya

- <https://indiaeducationdiary.in/the-oceans-as-africas-new-frontier-for-development/>

Landslides & fatalities in 2019

- <https://blogs.agu.org/landslideblog/2020/03/25/2019-fatal-landslides/>

Timing and speed of the end of Cretaceous extinction of the large dinosaurs

- <https://www.quantamagazine.org/pincelli-hull-explains-how-an-asteroid-killed-the-dinosaurs-20200325/>

Calculating aquifer support and reservoir model to the Macondo well - Deepwater Horizon spill event

- <https://eos.org/features/the-deepwater-horizon-disaster-and-modeling-under-pressure>

Turbidity currents transporting & burying microplastics in the deep ocean

- <https://phys.org/news/2020-03-underwater-avalanches-microplastics-deep-ocean.html>

Successful completion of patented FHOS for deep geothermal drilling

- <https://renewablesnow.com/news/strada-completes-tests-of-deep-drilling-geothermal-technology-692350/>

Change'e-4 lunar rover finds "layer-cake" geology on the far side of the moon

- <https://www.sciencenewsforstudents.org/article/rover-finds-layer-cake-below-ground-on-moons-farside>

JOIDES Resolution finds microbial community in lower crust

- <https://gizmodo.com/life-is-thriving-2-600-feet-beneath-the-seafloor-1842475769>

3 new species of Cretaceous pterosaurs identified in ancient river ecosystem in Africa

- https://www.eurekalert.org/pub_releases/2020-03/bu-ffg032420.php

Satellite imagery & AI technology being used to search for unexploded bombs from Vietnam War

- <https://www.foxnews.com/tech/satellite-images-artificial-intelligence-search-unexploded-bombs>
- Paper: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0229826>

Middle Eocene small horses got smaller & big tapirs got bigger

- https://www.eurekalert.org/pub_releases/2020-03/mh-shg032420.php
- Paper: <https://www.nature.com/articles/s41598-020-60379-7>

50,000-year-old rodent coprolites recovered from La Brea Tar Pits

- <https://www.sciencedaily.com/releases/2020/03/200320101634.htm>
- Paper: <https://www.nature.com/articles/s41598-020-61996-y>

"Wallace Line" being redrawn based on Christmas Island finds

- <https://www.sciencedaily.com/releases/2020/03/200323112053.htm>
- Paper: <https://www.sciencedirect.com/science/article/pii/S003101821930327X?via%3Dihub>

Slow slip events occur in "mash up" of different rock types

- <https://phys.org/news/2020-03-scientists-motion-earthquakes.html>
- Paper: <https://advances.sciencemag.org/content/6/13/eaay3314>

Collection of six ocean videos - relax and enjoy – my favorite: vibrant life in the deep sea

- <https://www.youtube.com/playlist?list=PL1CGd4Scv4GicuhR6JCSc4IQ4c9u2mzN>

Dineobellator notohesperus - Velociraptor cousin had strong grip

- <https://www.newscientist.com/article/2238740-velociraptor-relative-had-a-much-stronger-grip-than-its-cousins/>
- Paper: <https://www.nature.com/articles/s41598-020-61480-7>

Mount Merapi continues to erupt

- <https://www.msn.com/en-us/news/world/indonesian-volcano-spews-massive-ash-cloud/ar-BB11Mxtj>

Evidence documented for seasonal migrations of deep-sea fish

- <https://www.thenational.scot/news/18338092.researchers-find-evidence-great-migrations-deep-sea-fish-sharks/>

Seismometers detect less noise from human activity – less industry, traffic & movement of humans

- <https://gizmodo.com/seismometers-worldwide-detect-decrease-in-human-activit-1842526497>

Using GPS data to examine crustal deformation across continental China – tectonic implications

- <https://eos.org/research-spotlights/space-based-data-expand-understanding-of-crustal-deformation>

Tungurahua volcano in Ecuador “The Black Giant” showing signs of localized flank instability

- http://www.exeter.ac.uk/news/research/title_778855_en.html
- Paper: <https://www.sciencedirect.com/science/article/pii/S0012821X20300479>



Coronavirus statistics by country

- <https://www.worldometers.info/coronavirus/>

How to correctly calculate mortality rate for COVID-19 – revising inflated numbers downward

- https://www.americanthinker.com/blog/2020/03/is_coronavirus_less_fatal_than_early_predictions_suggested.html
- <https://www.powerlineblog.com/archives/2020/03/forecast-of-british-coronavirus-deaths-revised-um-downward.php>

In contrast, there is the “hockey-stick” approach to “predicting” fatalities from COVID-19

- <https://currently.att.yahoo.com/att/univ-washington-epidemiologists-predict-80-223530567.html>
- Paper:
http://www.healthdata.org/sites/default/files/files/research_articles/2020/covid_paper_MEDR_XIV-2020-043752v1-Murray.pdf

Headlines continue to hype the numbers as more US cases rather than US mortality rate is less than 2%

- <https://www.msn.com/en-us/news/us/the-us-now-leads-the-world-in-confirmed-coronavirus-cases/ar-BB11LIDh>

COVID-19 policy based on real science is better than policy based on assumptions and politics

- <https://www.newscientist.com/article/2238019-even-the-best-science-doesnt-have-the-final-word-on-covid-19/>

Convalescent plasma transfusion may be beneficial in recovery from COVID-19

- <https://www.msn.com/en-us/news/us/a-new-report-raises-hope-that-the-blood-of-recovered-patients-can-help-treat-severe-coronavirus-cases/ar-BB11Opje>

Drugs being tested for effectiveness in fighting COVID-19

- <https://www.clinicaltrialsarena.com/analysis/coronavirus-mers-cov-drugs/>
- <https://www.sciencemag.org/news/2020/03/who-launches-global-megatrial-four-most-promising-coronavirus-treatments>

Reality check on number of cases and mortality – developing herd immunity – “crisis” may soon be over

- <https://www.msn.com/en-us/news/opinion/trumps-desire-to-reopen-the-country-by-easter-may-not-be-far-fetched/ar-BB11NC7i>

Gender gap – COVID-19 appears to be more virulent & deadly for men than women

- <https://www.msn.com/en-us/health/medical/why-is-coronavirus-so-much-more-deadly-for-men-than-for-women/ar-BB11vVvt>

Distribution of COVID-19 testing across the US

- <https://www.msn.com/en-us/news/us/one-map-shows-how-many-coronavirus-tests-each-us-state-has-done-so-far/ar-BB11BKx2>

Consider evolution when modeling or predicting a pandemic

- <https://www.sciencedaily.com/releases/2020/03/200302153551.htm>

COVID-19 not mutating quickly – limited number of genetic variations - might respond to single vaccine

- <https://www.msn.com/en-us/health/health-news/scientists-say-the-coronavirus-is-not-mutating-quickly-and-might-respond-to-a-single-vaccine/ar-BB11EJmL>

COVID-19 has natural origin – no evidence of being made in a laboratory or otherwise engineered

- <https://www.sciencedaily.com/releases/2020/03/200317175442.htm>
- Paper: <https://www.nature.com/articles/s41591-020-0820-9>

Anecdotal evidence suggests hydroxychloroquine & azithromycin (Z-pac) may subdue COVID-19 infections

- <https://www.medicinenet.com/script/main/art.asp?articlekey=229156>
- <https://www.biospace.com/article/hydroxychloroquine-and-z-pak-may-be-effective-treatment-for-covid-19/>
- <https://medicalxpress.com/news/2020-03-antimalarial-drug-standard-coronavirus.html>

Nevada Governor plays politics barring doctors from saving lives

- <https://www.nationalreview.com/corner/nevada-governor-bars-use-of-malaria-drug-for-coronavirus/>

Paul R. Ehrlich on the pandemic, planetary reckoning & a path forward – a learning opportunity

- <https://www.ehn.org/pandemic-population-covid-19-2645518249.html>

Comparing typical natural disaster response to COVID-19 response

- <https://www.ttnews.com/articles/experts-offer-best-practices-coronavirus-response>

Perspective – Western culture does not embrace the lessons of history

- <https://przekroj.pl/en/society/storm-before-the-calm-kacper-poblocki>

Sustainable agriculture reflected in river water quality in Cuba – less fertilizers

- <https://eos.org/articles/sustainable-agriculture-reflected-in-cubas-water-quality>

New management practices need to respond to prolonged flooding on lower Mississippi River

- <https://eos.org/features/high-water-prolonged-flooding-on-the-deltaic-mississippi-river>

Webcams allow us to view animals around the world – penguins, raptors, bears, sheep, otters...

- https://www.huffpost.com/entry/animal-livestream-webcam-coronavirus-social-isolation_n_5e738e2bc5b63c3b648bf16b

Vinyl – the plastic found in almost everything

- <https://www.treehugger.com/plastic/vinyl-plastic-found-almost-everything.html>

Bringing back the wolves – a very good thing for the environment

- <https://www.ehn.org/yellowstone-wolves-recovery-2645548172.html>

Perspective: ending the attack on science & truth

- <https://www.ehn.org/science-saves-lives-2645550063.html>

Finding a little mouse at 22,000 feet atop dormant Lulllaillaco volcano in the Andes

- <https://www.forbes.com/sites/ericmack/2020/03/23/little-mouse-caught-on-top-of-a-volcano-sets-a-new-record/#477858f42774>

New USGS map shows relative risks of landslides due to hurricane precipitation in Puerto Rico

- <https://www.usgs.gov/news/new-usgs-map-can-help-puerto-rico-deal-risk-landslides-after-hurricanes>
- Report: https://pubs.usgs.gov/of/2020/1022/ofr20201022_pamphlet.pdf
- Map: https://pubs.usgs.gov/of/2020/1022/ofr20201022_sheet.pdf

Third-hand tobacco smoke is threat to public health

- <http://www.sci-news.com/medicine/third-hand-tobacco-smoke-08250.html>

NASA has 3-D portrait of methane concentrations and sources around the globe

- <https://phys.org/news/2020-03-d-view-methane-tracks-sources.html>

Reported fatal case of Hantavirus in China

- <https://currently.att.yahoo.com/att/xandr/hantavirus-kills-man-china-heres-113606804.html>

Top 15 State Parks in the US includes Ha Ha Tonka in MO, Makoshika in MT & Iao Valley in HI

- <https://www.tripsavvy.com/top-us-state-parks-4797006>

Can India solve the problems of air pollution in our lifetime?

- <https://www.ipsnews.net/2020/03/air-pollution-problem-can-solve-lifetime/>

Union for the Mediterranean calls for action on water scarcity as population rapidly grows

- <https://www.neweurope.eu/article/union-for-the-mediterranean-calls-for-regional-action-to-tackle-water-scarcity/>
- <https://ufmsecretariat.org/world-water-day-water-scarcity/>
- Report download: <https://ufmsecretariat.org/climate-change-report/>
- Report: https://ufmsecretariat.org/wp-content/uploads/2019/10/MedECC-Booklet_EN_WEB.pdf

Assessing environmental radioactivity in Africa through IAEA training on sample collection & pretreatment

- <https://www.iaea.org/newscenter/news/enhancing-capacity-to-assess-environmental-radioactivity-in-africa-through-iaea-training-on-sample-collection-and-pre-treatment>

Book Review: “The Story of More” on the unsustainability of modern life

- <https://blogs.agu.org/mountainbeltway/2020/03/25/the-story-of-more-by-hope-jahren/>

Utah residents still reporting damages following 5.7M earthquake near Salt Lake City

- <https://www.claimsjournal.com/news/west/2020/03/25/296190.htm>

Haiti still struggling a decade after major earthquake

- <https://internationalbanker.com/finance/haiti-is-still-struggling-10-years-on-from-its-devastating-earthquake/>

Mix of naturally-occurring contaminants in groundwater may increase health risks in North Carolina

- https://www.eurekalert.org/pub_releases/2020-03/du-ccm032420.php

Excreted pharmaceutical drugs & metabolites may impact water quality

- https://www.eurekalert.org/pub_releases/2020-03/acs-ppi032020.php

Investigating why females live longer than males in many mammalian species

- https://www.eurekalert.org/pub_releases/2020-03/uob-siw032420.php

New simple model reflects seasonal variations in urban heat islands

- https://www.eurekalert.org/pub_releases/2020-03/du-nmh032420.php

Burying or incinerating garbage boosts airborne bacteria & antibiotic resistance

- <https://phys.org/news/2020-03-garbage-boosts-airborne-bacteria-antibiotic.html>

Assessing the global problem of poor sanitation

- <https://phys.org/news/2020-03-global-problem-poor-sanitation.html>
- Paper: <https://www.frontiersin.org/articles/10.3389/fenvs.2020.00001/full>

Potential long-term benefits of Montreal Protocol in preserving atmospheric ozone

- <https://phys.org/news/2020-03-international-ozone-treaty-southern-hemisphere.html>

LA has the Owens Valley Project & Aqueduct – NY has the Catskill Aqueduct

- <https://www.msn.com/en-us/news/world/vintage-photos-show-how-one-of-the-worlds-greatest-engineering-feats-was-created-in-1915-to-bring-water-to-new-york-city/ss-BB11afL7>

OpenET – new online water-tracking system using satellite-based data will be available in 2021

- https://www.capitalpress.com/ag_sectors/research/western-water-data-coming-to-new-online-platform/article_c80fb280-6ea9-11ea-9a8e-a7d1a85f00b4.html

Strategic resettling of herds of reindeer, horses, bison & musk oxen could settle permafrost thaw

- <https://eos.org/articles/reindeer-could-trample-permafrost-thaw>

Everglades have changed dramatically over 15,000 years of human habitation

- <https://eos.org/features/lost-in-the-everglades>



Coastal Zone Management Bulletin Board – 30 March 2020 – compiled by Elaine J. Hanford

Ports seek \$Bs in government funding as revenues from business plummet during COVID-19 panic

- <https://www.ttnews.com/articles/ports-seek-emergency-aid-business-plummet>

South Beach Re-Nourishment Project on-going – sand dredged from Caxambass Pass

- <https://www.coastalbreezenews.com/articles/beach-goers-share-sand-with-beach-renourishment-activities/>

Scallop catch in Maine declines for second year in a row under rotational management system

- <https://www.pressherald.com/2020/03/22/maine-scallops-continue-downward-trend-after-years-of-growth/>

Offshore wind industry almost ready for first zero-subsidy projects

- <https://www.rechargenews.com/circuit/financiers-must-be-reassured-offshore-wind-can-still-guarantee-a-good-return/2-1-778801>

New rules and guidelines for consuming oysters intended to reduce cases of Vibrio illness

- <https://www.coastalreview.org/2020/03/new-oyster-rules-aim-to-reduce-vibrio-cases/>

Floating solar power company has learned from aquaculture industry

- <https://www.pv-magazine.com/2020/03/23/floating-pv-learning-from-aquaculture-industry/>

The importance of estuaries

- <https://www.coastalbreezenews.com/articles/the-importance-beauty-of-our-estuaries/>

Some, but not all, California beaches are closed

- <https://www.presstelegram.com/2020/03/24/some-beaches-stay-open-others-shut-down-why-coastal-closures-are-varying-during-coronavirus-response/>

Global offshore wind capacity hit new record of 6.1GW in 2019

- <https://reneweconomy.com.au/global-offshore-wind-capacity-hits-29gw-after-record-2019/>

Need for good practice for offshore verification and assurance in O&G industry – increased risks

- <https://www.offshore-mag.com/production/article/14170377/agreement-needed-on-good-practice-for-offshore-verification-and-assurance>

Growing support for subsea power development & resident autonomous underwater vehicles

- <https://www.offshore-mag.com/regional-reports/article/14172673/growing-support-for-subsea-power-development>

Moving sea ice transports pollution

- <https://www.futurity.org/arctic-sea-ice-pollution-2312452/>

Report identifies 4 coastal areas with poorest water quality in City of Cape Town

- <https://www.iol.co.za/capeargus/news/city-of-cape-towns-report-shows-four-coastal-areas-with-poorest-water-quality-45393348>
- Report: <http://resource.capetown.gov.za/documentcentre/Documents/City%20research%20reports%20and%20review/Know%20Your%20Coast%202019.pdf>

Innovative stormwater treatment projects in Bethany Beach to reduce runoff pollution into Anchorage Canal which flows to Little Assawoman Bay

- <https://www.doverpost.com/news/20200323/solution-to-pollution-in-bethanys-anchorage-canal>

Lawsuit filed against Frontier Logistics for ongoing plastic pollution of Charleston Harbor

- <https://www.southernenvironment.org/news-and-press/press-releases/groups-file-lawsuit-against-frontier-logistics-over-plastic-pollution>

Plastic trash kills half a million hermit crabs on remote islands each year

- <https://therising.co/2020/03/22/plastic-trash-killing-hermit-crabs/>
- Paper: <https://www.sciencedirect.com/science/article/pii/S0304389419316577>

Plan for development of 30-acre South Quay land parcel on East Providence Harbor at Bold Point

- <https://www.ecori.org/government/2020/3/23/plans-conflict-to-develop-south-quay-on-waterfront>

Patuxent River which flows to Chesapeake Bay is “sick with pollution” resulting from urbanization and overdevelopment

- https://www.washingtonpost.com/local/fred-tutman-sees-himself-as-the-voice-of-the-patuxent-and-he-says-the-river-has-a-warning-for-us/2020/03/17/7ddfca8e-67e6-11ea-9923-57073adce27c_story.html
- Report: https://dnr.maryland.gov/waters/cbnerr/Documents/publications/PatuxentRiverKeeper_2007.pdf

Coastal development and direct impact on Pakistan

- <https://dailytimes.com.pk/578677/coastal-development-and-its-direct-impact-on-pakistan/>