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Geoscience Bulletin Board – 24 December 2018 – compiled by Elaine J. Hanford

Human consumption of chickens is changing the geological record

- <https://www.treehugger.com/animals/people-eat-so-much-chicken-it-will-affect-geological-record.html>
- Paper: <https://royalsocietypublishing.org/doi/10.1098/rsos.180325>

97 acre site in St Louis to be home to new National Geospatial Intelligence Agency facility

- <http://news.stlpublicradio.org/post/st-louis-transfers-land-federal-government-new-transformative-nga-facility#stream/0>
- <https://fox2now.com/2018/12/13/city-leaders-federal-government-to-hold-ceremony-to-celebrate-transfer-of-land-for-next-nga-site/>

Behind the scenes of restoring the skeleton of a *T. rex* for museum exhibit

- <https://www.nationalgeographic.com/science/2018/12/dinosaur-fossil-restoration-behind-the-scenes/>

Rol Peña (1941-2018) – Geologist, nationalist, revolutionary, Renaissance man, author of “Lexicon of Philippine Stratigraphy”

- <https://newsinfo.inquirer.net/1063641/rol-pena-geologist-poet-revolutionary-gone-in-a-blink>

Glaciologist perspective on new ICESat-2 data

- <https://www.techexplorist.com/uw-glaciologist-gets-first-look-nasas-new-measurements-ice-sheet-elevation/19453/>

Clive Oppenheimer – volcanologist

- <https://inews.co.uk/inews-lifestyle/people/volcano-volcanography-professor-most-dangerous-job-world/>

Two new Armenian postage stamps celebrate “Flora and Fauna of the Ancient World”

- <https://armenpress.am/eng/news/958215.html>
- <https://www.stamps.am/issues/dinosaurs>

Artistic representations of dinosaurs and other species

- <https://www.nationalgeographic.com/science/2018/11/how-dinosaurs-are-brought-back-to-life-through-art-paleontology/>
- Slide show: https://www.nationalgeographic.com/science/2018/11/how-dinosaurs-are-brought-back-to-life-through-art-paleontology/#/01_paleo_brianengh-themorrisonformationdry.jpg

Weather and submarine topography create 60-foot maverick waves on California coast

- https://www.dailyamerican.com/news/usa_today/pacific-storms-coastal-reef-create-mavericks--foot-surf-waves/article_ac7838d4-76f7-57d3-a425-ca2591e175a7.html
- <https://www.sanluisobispo.com/news/weather/weather-watch/article223165230.html>

New model of ice friction improves understanding of how glaciers flow

- http://www.spacedaily.com/reports/A_new_model_of_ice_friction_helps_scientists_understand_how_glaciers_flow_999.html

When did feathers evolve? Early pterosaurs had fuzzy fur and feathery fibers

- <https://www.bbc.com/news/science-environment-46572782>

New theory on what caused global cooling during the Mid-Pleistocene transition

- <https://phys.org/news/2018-12-drove-long-term-global-climate-shift.html>
- Paper: <https://www.nature.com/articles/s41467-018-07828-0>

Assuming GMST is a valid measurement, researchers now suggest “pause” in global warming did not really exist

- <https://phys.org/news/2018-12-global-real.html>
- Paper 1: <http://iopscience.iop.org/article/10.1088/1748-9326/aaf342/meta>
- Paper 2: <http://iopscience.iop.org/article/10.1088/1748-9326/aaf372/meta>

Volcanic lightning may be indicative of dangerous eruptions

- <https://www.nationalgeographic.com/science/2018/12/volcanic-lightning-can-help-warn-dangerous-eruptions-earth-geology/>

Complexity science may help identify “useful” information when interpreting climate history

- <https://www.sciencedaily.com/releases/2018/12/181214110758.htm>

Tweaking the variable in climate model changes predicted amounts of precipitation

- <https://phys.org/news/2018-12-variable-equation-climate-accurate-precipitation.html>

140 myo footprints of at least 7 dinosaur species discovered in Ashdown Formation in southern England

- <http://www.sci-news.com/paleontology/early-cretaceous-dinosaur-footprints-southern-england-06737.html>

Crittendenceratops krzyzanowskii – new genus & species of ceratopsid discovered in Arizona

- <http://www.sci-news.com/paleontology/crittendenceratops-krzyzanowskii-06729.html>

Fossil evidence suggests flowers originated in Early Jurassic more than 174 myo

- http://www.spacedaily.com/reports/Fossils_suggest_flowers_originated_50_million_years_earlier_than_thought_999.html

Possible explanation for variations in rates of evolution amongst species

- http://www.spacedaily.com/reports/Explaining_differences_in_rates_of_evolution_999.html

Seismic study estimates volume of water dragged to interior of Earth by subduction

- http://www.spacedaily.com/reports/Seismic_study_reveals_huge_amount_of_water_dragged_into_Earths_interior_999.html

Uranium-lead dating shows onset of Cambrian explosion occurred 538.8 myo

- <https://phys.org/news/2018-12-uranium-lead-dating-cambrian-explosion-younger.html>

Wrangell volcanic belt in Alaska has been persistently active since formation about 30 myo

- <https://phys.org/news/2018-12-unearts-age-alaska-wrangell-volcanic.html>

Questioning orthodoxy of vineyard geology - geology underpins so many things in our modern lives

- <https://www.decanter.com/magazine/wine-terroir-soil-taste-405096/>

“Biggest, most destructive geological events of 2018” – just everyday dynamic Earth activity

- <https://www.accuweather.com/en/weather-news/the-biggest-most-destructive-geological-events-of-2018/70006917>

Retaining wall failure in Surabaya, Indonesia

- <https://www.thestar.com.my/news/regional/2018/12/20/i-thought-it-was-an-earthquake-giant-sinkhole-opens-on-busy-surabaya-road/>
- <https://blogs.agu.org/landslideblog/2018/12/20/surabaya-1/>

New model suggests sea level during the Eemian period was caused by Antarctic ice

- <https://www.smithsonianmag.com/smart-news/past-global-flood-shows-antarticas-ice-more-fragile-than-we-thought-180971075/>

The super-volcano Campi Flegrei

- <https://www.lewrockwell.com/2018/12/martin-armstrong/naples-the-supervolcano/>

20,000 seismic events coincided with use of Oroville Dam spillway

- <https://sanfrancisco.cbslocal.com/2018/12/18/usgs-research-finds-20000-tiny-earthquakes-shook-oroville-dam/>

Geology has shaped life on Earth through time – and vice versa

- <https://theconversation.com/unpacking-the-history-of-how-earth-feeds-life-and-life-changes-earth-103162>

Diamonds are a geologist's best friend – yielding tiny inclusions from the mantle

- <https://www.sciencefocus.com/planet-earth/earths-hidden-ocean/>

Modeling the outer core of Earth using high-powered supercomputing techniques

- <https://phys.org/news/2018-12-reveals-fundamental-earth-outer-core.html>

Post-glacial rebound explains why sea level is rising faster in some locales than others

- https://www.eurekalert.org/pub_releases/2018-12/bc-lmd122018.php

Amber preserved newborns, egg shells and egg bursters

- https://www.eurekalert.org/pub_releases/2018-12/uoo-nit121918.php

Dinosaurs battled over-heating with nasal air conditioning

- https://www.eurekalert.org/pub_releases/2018-12/nyio-sfd121918.php

Roadside geology of West Virginia

- <https://www.newswise.com/articles/west-virginia-was-shaped-by-geology>

Massive cave discovered in Wells Gray Provincial Park near Vancouver, British Columbia

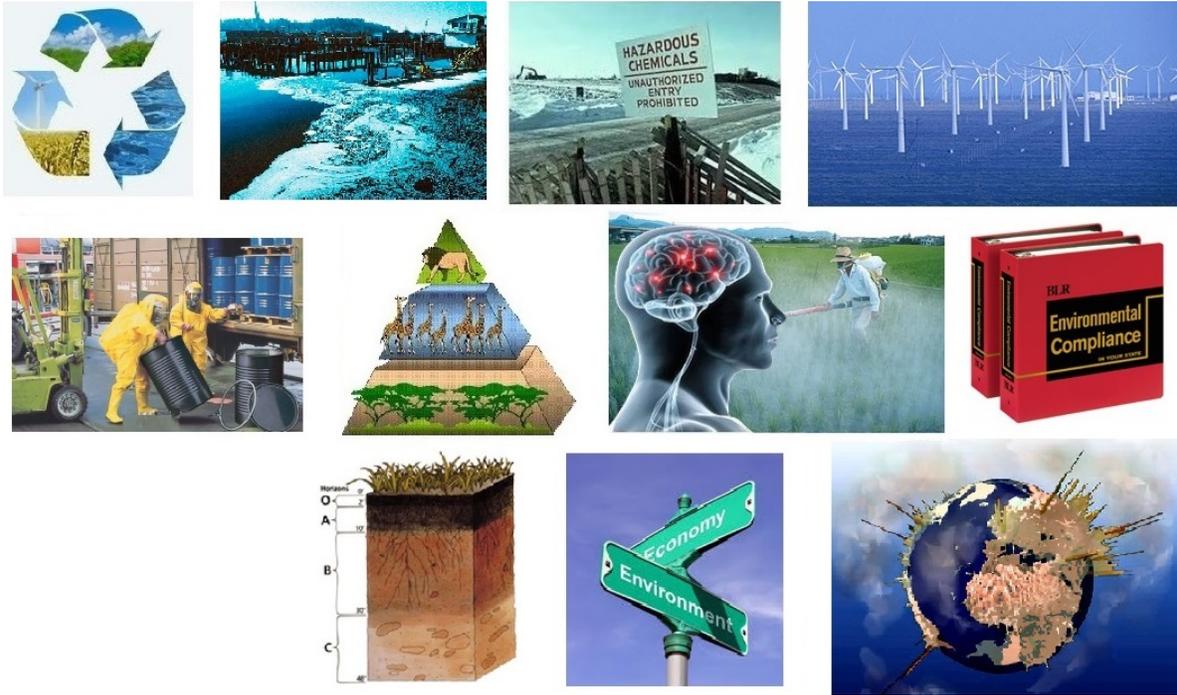
- <https://science.howstuffworks.com/environmental/earth/geology/gigantic-undiscovered-cave-found-in-british-columbia.htm>

Geology student dies from 1,600 foot fall while climbing Ben Nevis

- <https://www.telegraph.co.uk/news/2018/12/18/climber-died-1600ft-fall-ben-nevis-named/>

Comparing Vaca Muerta Shale in Argentina with US shale – fracking target

- <https://www.spe.org/en/jpt/jpt-article-detail/?art=4918>



Environmental Science Bulletin Board – 24 December 2018 – compiled by Elaine J. Hanford

National Bioengineered Food Disclosure Standard established

- <https://www.usda.gov/media/press-releases/2018/12/20/establishing-national-bioengineered-food-disclosure-standard>
- Rule: <https://www.federalregister.gov/documents/2018/12/21/2018-27283/national-bioengineered-food-disclosure-standard>

As human population increases, so too does the waste they generate

- <https://www.project-syndicate.org/commentary/plastic-pollution-sdg-waste-management-by-mahmoud-mohieldin-et-al-2018-12>
- Report download: <https://openknowledge.worldbank.org/handle/10986/30317>

First Nations communities leading effort to rescue last remaining caribou herds from extinction

- <https://www.theatlantic.com/science/archive/2018/12/heroic-measures-for-canadas-caribou/577789/>

Tourists may be passing pathogens to penguins in Antarctica

- <https://www.sciencemag.org/news/2018/12/tourists-may-be-making-antarctica-s-penguins-sick>

PSC requesting additional \$3.6M for Vogtle Nuclear Power Plant construction consultants

- <https://www.wabe.org/public-service-commission-staff-wants-more-money-to-vet-plant-vogtle-construction/>

Environmental assessment in progress for tunneling project in Chicago connecting to O'Hare International Airport from the Loop

- <https://www.bloombergquint.com/business/elon-musk-s-chicago-tunnel-moves-closer-to-reality#gs.PwoazzU>

Mountain Valley project construction at 70% but Atlantic Coast pipeline permit vacated

- <https://www.wdbj7.com/content/news/Mountain-Valley-projects-70-percent-completion-by-end-of-year-502711541.html>
- <https://www.reuters.com/article/us-dominion-us-pipeline-natgas/u-s-court-vacates-atlantic-coast-natgas-pipe-permit-dominion-to-appeal-idUSKBN1OC2S7>

US DOE announces \$100M Energy-Water Desalination Hub to address water security issues

- <https://www.energy.gov/articles/department-energy-announces-100-million-energy-water-desalination-hub-provide-secure-and>

Virulent Newcastle disease confirmed in commercial chicken flock in Riverside County, California

- https://www.aphis.usda.gov/aphis/newsroom/stakeholder-info/sa_by_date/sa-2018/sa-12/commercial-vnd

2018 National Geographic photo contest – amazing scenes both good and bad

- <https://www.nationalgeographic.com/photography/contests/photo-contest-2018/gallery/winners-all/1/>

Saving the Dead Sea from pollution & tourism? Economic, ecological & geopolitical problem

- <https://www.nationalgeographic.com/environment/2018/12/israel-jordan-dying-dead-sea-pollution-tourism/>

State energy specialist encouraging radon tests in areas affected by Anchorage EQ

- <https://www.seattletimes.com/nation-world/energy-specialist-urges-radon-tests-after-alaska-earthquake/>

New OEM “playbook” for EQ hazard preparedness & response in Oregon

- <https://www.seattletimes.com/nation-world/oregon-gets-a-new-playbook-for-responding-to-an-earthquake-2/>

Bringing 30 icebergs to London – “Ice Watch” - sustainability?

- <https://frieze.com/article/was-olafur-eliasson-bringing-30-icebergs-london-sustainability-own-goal>

Zoos have responsibility to protect animals from hazards

- <https://www.wired.com/story/even-zoos-are-learning-the-art-of-doomsday-prepping/>

Perspective: Urban Ecology: A bright future for sustainable cities – but is “green” sustainable?

- <https://therevelator.org/urban-ecology-sustainable-cities/>

Worried about CO2 emissions? 8% of global emissions come from cement industry

- <https://www.bbc.com/news/science-environment-46455844>

Opioid epidemic is humanly caused – fentanyl surpasses heroin in deadly overdoses

- <https://www.npr.org/sections/health-shots/2018/12/12/676214086/fentanyl-surpasses-heroin-as-drug-most-often-involved-in-deadly-overdoses>
- Report: https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_09-508.pdf

Choice becomes addiction and consequences follow: Vaping among youth is now epidemic

- <https://www.npr.org/sections/health-shots/2018/12/18/677755266/surgeon-general-warns-youth-vaping-is-now-an-epidemic>
- <https://www.nytimes.com/2018/12/18/health/vaping-nicotine-teenagers.html>

Nations agree to monitor activity but do not set more ambitious reduced CO2 emissions goals

- <https://www.npr.org/2018/12/15/677109487/nations-agree-on-rules-to-put-paris-climate-agreement-into-action>
- http://www.terradaily.com/reports/Nations_agree_milestone_rulebook_for_Paris_climate_treaty_999.html

Humans are in the midst of a plastic pandemic – 300M tons brand new plastic each year

- https://www.huffingtonpost.com/entry/plastic-waste-science-solutions_us_5c12b3e5e4b0860b8b5c863c
- <https://www.treehugger.com/plastic/eu-announces-new-rules-reduce-single-use-plastics.html>
- <https://www.treehugger.com/plastic/missing-plastic-debate.html>
- <https://www.treehugger.com/plastic/can-bottled-water-companies-switch-fully-recycled-bottle.html>
- <https://www.teenvogue.com/story/how-to-fight-the-global-plastics-problem?verso=true>
- <https://www.teenvogue.com/story/you-cant-just-clean-up-the-plastic-in-the-ocean?verso=true>
- <https://phys.org/news/2018-12-oceans-garbage-prompt-war-plastics.html>

What you eat has an environmental impact on the world

- <https://www.bbc.com/news/science-environment-46459714>

“Love Canal” was just the tip of the pollution iceberg in New York

- <https://www.stargazette.com/story/news/local/watchdog/2018/12/19/new-york-hudson-river-pollution-toxic-love-canal-brownfields-superfund/2303791002/>

More AC in India will make the world a hotter place

- http://www.energy-daily.com/reports/Making_the_world_hotter_Indias_expected_AC_explosion_999.html

If you like cucumbers & pickles then cucurbit downy mildew is cause for concern

- <https://www.npr.org/sections/thesalt/2018/12/14/672229450/scientists-are-fighting-for-the-stricken-pickle-against-this-tricky-disease>

“Supercolony” of penguins discovered on Danger Islands off the north coast of Antarctica

- <http://www.whoi.edu/news-release/unknown-supercolony-Adelie-Penguins-Discovered-in-Antarctica>

Some families have a genetic pre-disposition to cancer – triggered by environmental causes

- <https://www.ehn.org/pittsburgh-cancer-air-pollution-2623207335.html>

“Better living through chemistry” was Dupont’s slogan – but we are now enduring the consequences

- <https://www.ehn.org/sicker-fatter-poorer-invisible-pollutants-and-the-tipping-point-for-endocrine-disruption-2622696987.html>

“Dry cleaning” is not dry but does involve toxic chemicals that pose significant health risks

- <https://theconversation.com/what-is-green-dry-cleaning-a-toxics-expert-explains-99830>

Human population growth in Florida threatens wildlife corridor & the Everglades

- <https://fcir.org/2018/12/14/people-pour-into-floridas-four-corners-can-wildlife-and-the-everglades-survive/>

Nuclear power plant experienced an unplanned shutdown in Port Gibson, Mississippi

- <https://www.clarionledger.com/story/news/2018/12/18/nuclear-power-plant-shuts-down-mississippi-entergy-port-gibson-ms/2349439002/>

Canada not performing environmental review of most new oil sands projects

- <https://thenarwhal.ca/canada-wont-perform-an-environmental-review-of-most-new-oilsands-projects-heres-why/>

German F&A Ministry strikes deal with food industry to process healthier food: less sugar, salt & fat

- <https://www.dw.com/en/german-food-industry-to-cut-sugar-salt-and-fat-content/a-46796812>

Book Review: “City Unseen: New Visions of an Urban Planet” with 2.5B more people by 2050

- <https://e360.yale.edu/features/from-high-above-a-new-way-of-seeing-our-urban-planet>

Increased human-polar bear interactions and more attacks in the Arctic

- <https://e360.yale.edu/features/as-polar-bear-attacks-increase-in-warming-arctic-a-search-for-solutions>

Humans must breathe the pollution they put into the air & suffer the consequences

- <https://madrascourier.com/environment/are-you-breathing-poison/>

Crises created when population of immigrants/refugees is too large

- <https://www.npr.org/2018/12/18/677325140/trinidad-faces-humanitarian-crisis-as-more-venezuelans-come-for-refuge>

Permit for large hog farm in Fillmore County, Minnesota, denied due to potential groundwater pollution

- <https://www.desmoinesregister.com/story/money/agriculture/green-fields/2018/12/18/catalpa-ag-denied-permit-large-hog-farm-near-iowa-minnesota-border/2351291002/>

Species at the extremes of the food chain evolve more rapidly

- http://www.terradaily.com/reports/Species_at_the_extremes_of_the_food_chain_evolve_faster_study_says_999.html

Thrill-seeking tourism increases risk – managing such tourists is challenge for authorities

- <http://geographical.co.uk/nature/tectonics/item/3048-volcano-tourism>
- Paper: <https://rgs-ibg.onlinelibrary.wiley.com/doi/epdf/10.1002/geo2.67>

Improving predictive models for harmful algal blooms may lead to better farming practices

- <https://news.osu.edu/building-a-better-weapon-against-harmful-algal-blooms/>

Infamous “Earth rise” photo taken 50 years ago by astronaut William Anders – lunar crater named for him

- <https://www.nature.com/articles/d41586-018-07799-8>

Why do Indonesians still live in disaster-prone areas? Disharmony between humans & nature

- <https://theconversation.com/why-do-people-in-indonesia-still-live-in-disaster-prone-areas-105868>



Coastal Zone Management Bulletin Board – 24 December 2018 – compiled by Elaine J. Hanford

US Marine Corps estimates \$3.6B needed to repair coastal damage from Hurricane Florence at Camp Lejeune, North Carolina

- <https://www.apnews.com/e9fa8b76535a42c9bde51aa36dece748>

Using prescribed burns in attempt to save the coastal marsh in Louisiana

- <https://www.nola.com/expo/news/erry-2018/12/50bbc09d612507/fire-emerges-as-ally-in-fight.html>

Perspective: Is a new water park really needed on the Texas Gulf Coast?

- <https://www.caller.com/story/opinion/2018/12/14/texas-coastal-bend-needs-real-water-park-like/2310748002/>

Proposed US Army COE 71-mile Texas coastal barrier emphasizes that “eminent domain would only be employed as “a last resort”

- <https://www.chron.com/local/article/Proposed-coastal-barrier-will-only-enforce-13459349.php>

US Army COE & Texas GLO will consult officials & experts to refine Coastal Texas Study

- <https://communityimpact.com/houston/clear-lake-league-city-nassau-bay/development-construction/2018/12/18/officials-will-consult-international-local-experts-to-refine-texas-coastal-barrier-plan/>

FERC releases EIS for Annova LNG facility at Port of Brownsville, Texas – open for public comment

- <https://www.chron.com/business/energy/article/FERC-releases-environmental-impact-statement-for-13466722.php>
- <https://annovalng.com/annova-lng-achieves-significant-regulatory-milestone/>
- Draft EIS: <https://www.ferc.gov/industries/gas/enviro/eis/2018/12-14-18-DEIS/volume-I.pdf>
- Draft EIS Appendices: <https://www.ferc.gov/industries/gas/enviro/eis/2018/12-14-18-DEIS/volume-II.pdf>

Largest offshore wind sale finalized off coast of Martha's Vineyard, Massachusetts

- <https://www.popularmechanics.com/science/energy/a25605212/offshore-wind-auction-marthas-vineyard/>

Photo-essay: increased population of goliath grouper attracting more humans to reefs of Florida

- <https://www.hakaimagazine.com/videos-visuals/swimming-with-super-grouper/>

Following major hurricanes – Coastal communities are building back BIGGER, not smarter

- <https://e360.yale.edu/digest/after-major-hurricanes-communities-are-building-back-bigger-not-smarter>

Oil companies prepare to drill offshore in Gulf of Ob in northern Russia

- <https://thebarentsobserver.com/en/industry-and-energy/2018/12/big-oil-comes-icy-arctic-bay>

Rethinking & assessing the risk of tsunami damage to coastal bridges

- http://www.terradaily.com/reports/Paradigm_shift_needed_for_designing_tsunami_resistant_bridges_999.html

Building high-rises on shaky ground along Larnaca seafront of Cyprus – detailed geological/geotechnical studies mandated due to high potential for liquefaction

- <https://cyprus-mail.com/2018/12/20/fears-over-building-high-rises-on-shaky-ground-along-larnaca-seafront/>

AI & satellite imagery used to detect recession of mudflats & other intertidal zones

- <https://newsroom.unsw.edu.au/news/science-tech/mudflats-and-other-intertidal-ecosystems-are-shrinking>

Chile investigating delivery of Iranian crude oil as possible source of noxious fumes that impacted residents in maritime ports in Hualpen & Talahuano

- <https://www.reuters.com/article/us-chile-environment-oil/chilean-prosecutors-allege-possible-iranian-oil-link-to-intoxications-idUSKBN1OG1XQ?il=0>