**Enquiry question 1: What are the processes operating within the hydrological cycle from global to local scale?**

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| **Topic** | **Article** | **Link** |
|  | **Geofile 393**: Groundwater |  |
|  | Increased deforestation can dramatically reduce Amazon’s drainage basins. (2015) | [Increased deforestation could reduce Amazon basin rainfall](https://news.agu.org/press-release/increased-deforestation-could-substantially-reduce-amazon-basin-rainfall/) |
|  | Changing Rainfall Patterns and its Effect on Agriculture | <http://www.sourcetrace.com/changing-rainfall-patterns-effect-agriculture/> |
|  | **Geofile 542**: Hydrographs and physical/human impacts |  |

**Enquiry question 2: What factors influence the hydrological system over short- and long-term timescales?**

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| **Spec Point** | **Article** | **Link** |
| 5.4a | **Geofile 339**: Drought in the Sahel |  |
|  | **Geofactsheet 226:** Drought |  |
|  | The interaction of El Niño, La Niña (ENSO) and the Indian Ocean Dipole on Australia | <https://www.munichre.com/australia/australia-risk-factors/natural-climate-variability/el-nino-la-nina/index.html> |
|  | A look at India's recurrent drought problem (2016) | <http://www.dw.com/en/a-look-at-indias-recurrent-drought-problem/a-19207766> |
|  | Why fresh water shortages will cause the next great global crisis (2015) | <https://www.theguardian.com/environment/2015/mar/08/how-water-shortages-lead-food-crises-conflicts> |
| 5.4b | **Geofile 339**: Drought in the Sahel |  |
|  | Guest post: Climate change is already making droughts worse (2018) | <https://researcher.watson.ibm.com/researcher/view_group.php?id=5047> |
|  | Will Africa’s Great Green Wall discourage migration to Europe? (2017) | <https://www.theguardian.com/global-development-professionals-network/2017/jul/19/will-africas-great-green-wall-discourage-migration-to-europe> |
|  | Australian droughts caused by manmade emissions (2014) | <http://www.climatechangenews.com/2014/07/18/australian-droughts-caused-by-manmade-emissions/> |
|  | Drought and the impact on the Sahel region | <https://history.libraries.wsu.edu/fall2014/2014/08/30/drought-and-the-effects-on-food-draft/> |
|  | Human activity contributes to severe drought, says university (2016) | <http://wwtonline.co.uk/news/human-activity-contributes-to-severe-drought-says-university#.WhSQPVVl_IU> |
| 5.4c | The disappearing wetlands in California’s Central Valley | <https://www.hcn.org/articles/the-disappearing-wetlands-in-californias-central-valley> |
| 5.5b | China and India’s race to dam the Brahmaputra river puts the Himalayas at risk | <http://theconversation.com/china-and-indias-race-to-dam-the-brahmaputra-river-puts-the-himalayas-at-risk-65496?utm_source=twitter&utm_medium=twitterbutton> |
|  | Bosnia’s hydropower gone sour | <https://www.bbc.co.uk/news/world-europe-45470309> |
|  | Houston fears climate change will cause catastrophic flooding: 'It's not if, it's when' (2017) | <https://www.theguardian.com/environment/2017/jun/16/texas-flooding-houston-climate-change-disaster> |
| 5.5c | Climate change is increasing flood risks in Europe | <https://www.theguardian.com/environment/climate-consensus-97-per-cent/2018/feb/08/climate-change-is-increasing-flood-risks-in-europe?CMP=Share_iOSApp_Other> |
|  | The thawing Arctic threatens an environmental catastrophe (2017) | <https://www.economist.com/briefing/2017/04/29/the-thawing-arctic-threatens-an-environmental-catastrophe?fsrc=scn/tw/te/bl/ed/skatingonthinicethethawingarcticthreatensanenvironmentalcatastrophe> |
|  | Floods in UK: More than 800 homes flooded as storms hit (2012) | <https://www.bbc.co.uk/news/uk-20488645> |
| 5.6a | Warming is accelerating global water cycle (2010) | <https://www.sciencenews.org/blog/science-public/warming-accelerating-global-water-cycle> |
|  | How will climate change impact on fresh water security? | <https://www.theguardian.com/environment/2012/nov/30/climate-change-water> |
| 5.6b | As Greenland Melts,  Where’s the Water Going? | <https://www.nytimes.com/interactive/2017/12/05/climate/greenland-ice-melting.html> |
|  | Climate change, dams, deforestation a vicious cycle for Amazon rivers, lakes (2016) | <https://phys.org/news/2016-03-climate-deforestation-vicious-amazon-rivers.html> |
|  | How will climate change impact on fresh water security? | <https://www.theguardian.com/environment/2012/nov/30/climate-change-water> |
| 5.6c | As El Niño gets stronger Australia gets hotter, drier and more ready to burn (2015) | <https://www.theguardian.com/environment/2015/oct/08/as-el-nino-gets-stronger-australia-gets-hotter-drier-and-more-ready-to-burn> |
|  | When the Indian Ocean and El Niño join forces, things can get hot and dry (2015) | <https://theconversation.com/when-the-indian-ocean-and-el-nino-join-forces-things-can-get-hot-and-dry-48969> |
|  | **Geofactsheet 365**: El Nino 2015-16 |  |
|  | 'Sea, ice, snow ... it’s all changing': Inuit struggle with warming world (2018) | <https://www.theguardian.com/world/2018/may/30/canada-inuits-climate-change-impact-global-warming-melting-ice?CMP=share_btn_tw> |
|  | Tourists told to stay away from Indian city of Shimla due to water crisis (2018) | <https://www.theguardian.com/world/2018/may/31/tourist-told-to-stay-away-from-indian-city-shimla-water-crisis?CMP=share_btn_tw> |

**Enquiry question 3: How does water insecurity occur and why is it becoming such a global issue for the 21st century?**

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| **Spec Point** | **Article** | **Link** |
| 5.7a | Water shortages could affect 5bn people by 2050, UN report warns | <https://www.theguardian.com/environment/2018/mar/19/water-shortages-could-affect-5bn-people-by-2050-un-report-warns?CMP=share_btn_tw> |
|  | Access to drinking water around the world – in five infographics (2017) | <https://www.theguardian.com/global-development-professionals-network/2017/mar/17/access-to-drinking-water-world-six-infographics> |
|  | Mismatch between water demand and availability | <https://byjus.com/free-ias-prep/mismatch-between-water-demand-and-availability> |
|  | Rising Groundwater in Central London | <http://www.groundwateruk.org/Rising_Groundwater_in_Central_London.aspx> |
| 5.7b | **Geofactsheet 274:** A Tale of two seas- the Aral Sea |  |
|  | Restoring life to the Aral Sea's dead zone (2018) | <https://www.bbc.co.uk/news/business-44159122> |
|  | It's not perfect but implementing Murray-Darling plan in full can work (2018) | <https://www.theguardian.com/environment/2018/apr/06/its-not-perfect-but-implementing-murray-darling-plan-in-full-can-work> |
|  | Rising Groundwater in Central London | <http://www.groundwateruk.org/Rising_Groundwater_in_Central_London.aspx> |
| 5.7c | Mapped: How global warming and land-use change threaten water security worldwide | <https://www.carbonbrief.org/mapped-how-global-warming-land-use-change-threaten-water-security-worldwide?utm_content=bufferdc481&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer> |
|  | Access to drinking water around the world – in five infographics (2017) | <https://www.theguardian.com/global-development-professionals-network/2017/mar/17/access-to-drinking-water-world-six-infographics> |
|  | Restoring life to the Aral Sea's dead zone (2018) | <https://www.bbc.co.uk/news/business-44159122> |
|  | Rising Groundwater in Central London | <http://www.groundwateruk.org/Rising_Groundwater_in_Central_London.aspx> |
|  | Scientists examine threats to food security if we meet the Paris climate targets | <https://www.theguardian.com/environment/climate-consensus-97-per-cent/2018/apr/03/scientists-examine-threats-to-food-security-if-we-meet-the-paris-climate-targets> |
|  | Cape Town faces Day Zero: what happens when the city turns off the taps? (2018) | <https://www.theguardian.com/cities/2018/feb/03/day-zero-cape-town-turns-off-taps> |
| 5.8a | The dry facts: water is scarce because it is badly managed | <https://www.economist.com/leaders/2016/11/05/the-dry-facts?fsrc=scn/tb/te/bl/ed/> |
|  | Water Cost Index | <https://researcher.watson.ibm.com/researcher/view_group.php?id=5047> |
| 5.8b | Day zero: How Cape Town stopped taps running dry (2018) | <https://www.theguardian.com/environment/video/2018/jun/05/day-zero-how-cape-town-stopped-taps-running-dry-video?CMP=share_btn_tw> |
|  | As sea levels rise, Bangladeshi islanders must decide between keeping the water out—or letting it in | <http://www.sciencemag.org/news/2018/03/sea-levels-rise-bangladeshi-islanders-must-decide-between-keeping-water-out-or-letting> |
|  | What is Water Security? Infographic | <http://www.unwater.org/publications/water-security-infographic/> |
|  | Restoring life to the Aral Sea's dead zone (2018) | <https://www.bbc.co.uk/news/business-44159122> |
|  | Cape Town faces Day Zero: what happens when the city turns off the taps? (2018)  Water Scarcity and refugee crisis | <https://www.theguardian.com/cities/2018/feb/03/day-zero-cape-town-turns-off-taps>  https://www.weforum.org/agenda/2019/06/water-scarcity-refugee-crisis-tech-solve-it/ |
| 5.8c | East Africa seeks more Nile water from Egypt (2017) | <http://news.bbc.co.uk/1/hi/world/africa/8682387.stm> |
|  | Death of the Nile (INFOGRAPHIC) | <https://www.bbc.co.uk/news/resources/idt-sh/death_of_the_nile> |
|  | Transboundary Waters | <http://www.unwater.org/water-facts/transboundary-waters/> |
|  | As sea levels rise, Bangladeshi islanders must decide between keeping the water out—or letting it in | <http://www.sciencemag.org/news/2018/03/sea-levels-rise-bangladeshi-islanders-must-decide-between-keeping-water-out-or-letting> |
|  | Egypt Warns Against Loss of Nile Water to Ethiopian Dam | <https://www.voanews.com/a/egypt-warns-against-loss-of-nile-water-to-ethiopian-dam/1674284.html> |
|  | The dam that divides Ethiopians (2009) | <http://news.bbc.co.uk/1/hi/world/africa/7959814.stm> |
|  | A heatmap of war over water (2014) | <https://www.popsci.com/article/science/where-will-worlds-water-conflicts-erupt-infographic> |
| 5.9a | Could Seawater Solve the Freshwater Crisis? | <https://news.nationalgeographic.com/news/2011/08/110804-fresh-water-crisis-desalination-environment-science/> |
|  | **Geofile 599**: River Management Schemes- Blessing or Curse? |  |
| 5.9b | Singapore Water management | <https://wwf.panda.org/?204587/Singapore> |
| 5.9c | Death of the Nile (INFOGRAPHIC) | <https://www.bbc.co.uk/news/resources/idt-sh/death_of_the_nile> |
|  | The Helsinki Rules on the Uses of the Waters of International Rivers | <https://www.thehinducentre.com/multimedia/archive/03021/The_Helsinki_Rules_3021443a.pdf> |

<https://www.bloomberg.com/news/articles/2019-03-07/why-making-seawater-drinkable-doesn-t-thrill-everyone-quicktake>- desalination