Prelim Bits 24-06-2019

Record-Breaking Heat Waves

- Scott Power of the Australian Bureau of Meteorology conducted a study.
- It stated that by 2100, 'Record-Breaking Heat' will Be a New Normal for Every Year,
- The study investigated record-setting heat under two possible future scenarios:
    i. one with very high greenhouse gas emissions ("RCP8.5")* and
    ii. one where global warming is limited to below 2C ("RCP2.6")*.
- Under the high-emissions scenario,
    1. Tropical regions are likely to see the most record-setting heat.
    2. 58% of the world could see a new temperature record set.
    3. New heat records could be set every year in two-thirds of the world's least developed countries.
- **If the temperature rise is limited to 2°C,**
    1. only **14% of the world** would see **new record temperatures &**
    2. **only 3%** of the world's area will see such **record-smashing**.
- The past four years have been the warmest on record – with 2016 being the hottest year ever recorded.
- The study projected this record-setting trend i.e trend of temperatures exceedind the historical average for first time, will continue for at least the next 20 years and for longer.
- The world also saw its highest ever "minimum" temperature.
- During last summer's northern-hemisphere heatwave, temperature records were broken in cities across the world,
- Among the hottest on record globally — 53.9°C in Mitribah, Kuwait (2016) and 53.7°C in Turbat, Pakistan (2017).
- Pace of change- The more extreme these events are, the greater the potential to push ecosystems beyond their ability to cope.
- The findings reinforce the urgent need to reduce greenhouse gas emissions,
- The poorest countries are projected to witness the highest pace at which records are set.

- Approximately 68% of years of 21st century will see records set in the world's Least Developed Countries.
- Whereas this figure is only 54% in wealthier nations.
- Projections for India- In the high-emissions scenario, the likelihood of at least one high monthly record in any given year varies regionally from 60% to 70% (global average 58%)
    1. In the low-emissions scenario, it drops to approximately 15% over the whole country.
    2. The frequency will increase if greenhouse gas emissions continue to rise.
    3. The frequency will fall if large and sustained cuts are made to global greenhouse gas emissions.
- This month, **Delhi** reported its **highest ever temperature** of **48°C**
- **Churu** in Rajasthan **crossed 50°C.**

U.S. Pentagon emits more greenhouse gases

- A finding showed that **if the The U.S. Department of Defense (Pentagon)** was listed as a country, its emissions would **make it the world's 55th largest contributor** of greenhouse gases..
- Pentagon is the largest institutional consumer of fossil fuels in the world.
- It emits more greenhouse gases than Portugal or Sweden.
- It released about 59 million metric tons of carbon dioxide and other greenhouse gases in 2017.
- It consumed between 77% and 80% of all federal government energy consumption since 2001.
- Military weapons and equipment use so much fuel that that is gallons per mile.
- China is the world's largest emitter of carbon dioxide, , followed by the United States.
- Global temperatures are on course for a 3C to 5C rise this century.
- Overshooting a global target of limiting the increase to 2C or less.
- 4C of warming would increase more than five times the influence of climate on conflict.
- Failing to reduce greenhouse gas emissions will make the nightmare scenarios, perhaps even "climate wars" more likely.
- A case for decarbonizing the military - Over the past decade the Defense Department has reduced its fossil fuel consumption through actions that include using renewable energy.
- Cutting Pentagon greenhouse gas emissions will help save lives in the United

States and could diminish the risk of climate conflict.

Dalbergia sissoo (Indian rosewood/shisham tree)

- Shisham trees are found dying by experts are baffled.
- It is a **decidious tree** that is economically important for its value in forestry, agroforestry, and horticulture.
- It provides timber, fuelwood, fodder, has medicinal value, used extensively as an ornamental tree as well as for shading, erosion control, and soil fertility.
- Native to the Indian sub-continent and it has been introduced in various countries throughout the world.
- It survives in areas with a mean annual rainfall of 500-4500mm
- Its extensive root system makes it ideally suited for stabilizing and controlling erosion.
- The wood of Indian rosewood is highly durable with excellent finishing colour and smoothness.
- Scientists at the Forest Research Institute (FRI) identified a "fungus" could be the problem behind the dying of the tree.
- Conservation Status: Not Threatened
- Recently India has proposed to remove rosewood (Dalbergia sissoo) from Appendix II (Not threatened) of CITES
- Appendix II of CITES states that trade must be controlled to avoid utilisation incompatible with their survival.
- According to the India's proposal, Listing of Dalbergia genus may create unnecessary complications in the trade.
- Export market of rosewood handicraft, a thriving sector has nearly crashed since an international agreement came into effect in 2017, regulating the trade in all the 250 rosewood species (under Dalbergia genus).
- So India has proposed to remove rosewood (Dalbergia sissoo) from Appendix II of CITES.

Continental axis hypothesis

- It states that regions of the earth spread across,
    a. Latitudinal area (east-west) - more likely to witness greater development
    b. Longitudinal area (North-South) - comparatively lower development.
- This is because temparatures are largely similar across latitudes, which helps technology and ideas to spread among larger population.
- It also results in more cultural homogeneity.
- It is also known as "Continental orientation hypothesis."

Source: The Indian Express, Live Science, The Hindu