



News Analysis (29 Mar, 2019)

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State of the Global Climate: WMO

World Meteorological Organization (WMO) has published the Statement on the State of the Global Climate on the sidelines of a high-level meeting on climate and sustainable development.

World Meteorological Organization (WMO)

- The World Meteorological Organization (WMO) is an intergovernmental organization with a membership of 192 Member States and Territories.
- It originated from the International Meteorological Organization (IMO), which was established after the 1873 Vienna International Meteorological Congress.
- Established by the ratification of the WMO Convention on 23 March 1950, WMO became the specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences.'
- WMO is headquartered in Geneva, Switzerland.

WMO's Findings

Climate indicators

- **2018: Fourth Warmest Year**
 - 2018 was the fourth warmest year on record.
 - The past four years—2015, 2016, 2017 and 2018—taken together are the four warmest years on record.
- **Greenhouse Gas Concentrations Continue to Rise**
 - **The levels of carbon dioxide concentrations have continuously increased in 2018.**
 - Increasing levels of greenhouse gases in the atmosphere are key drivers of climate change.

- The CO₂ levels were at 357 parts per million (PPM) in 1994 and reached 405.5 PPM in 2017.
- **Sea Level Rise Continues**
 - Mean Global Mean Sea Level for the period from January to July 2018 has been **2 to 3 mm higher than for the equivalent period in 2017.**
- **Ocean Heat Content at Record High**
 - More than 90% of the energy trapped by greenhouse gases, goes into the oceans. **Ocean Heat Content provides a direct measure of the energy that accumulates in the upper layers of the ocean.**
 - For each three-month period in 2018, the ocean heat content in the upper 700m and upper 2000m were either the highest or second highest on record.
- **Ocean Acidification**
 - In the past decade, the oceans absorbed around 25% of carbon dioxide emitted by humans. **Absorbed carbon dioxide reacts with seawater and changes the pH of the ocean. This process is known as ocean acidification.**
 - Observations in the open-ocean over the last 30 years have shown a clear trend of decreasing pH. There was a decrease in the surface ocean pH of 0.1 units since the start of the industrial revolution (1750).
 - Changes in pH are linked to **shifts in ocean carbonate chemistry that can affect the ability of marine organisms such as mollusks and reef-building corals, to build and maintain shells and skeletal material.**
- **Sea Ice Well Below Average**
 - **The extent of Arctic sea ice was below average throughout 2018 and was at record-low levels for the first two months of the year.**
 - The annual maximum occurred in mid-March at 14.48 million square km, third lowest on record and approximately 7% below the 1981-2010 average.
 - **Antarctic sea-ice extent was also well below average throughout 2018.** The annual minimum extent occurred in late February and the monthly average was 2.28 million square km, 33% below average.
- **Glaciers are retreating**
 - World Glacier Monitoring Service monitors glacier using a set of global reference glaciers with more than 30 years of observations between 1950 and 2018.
 - **Preliminary results for 2018**, based on a subset of glaciers,

indicate that the hydrological year 2017/18 was the 31st consecutive year of negative mass balance (mass balance is the gain or loss of ice from the glacier system).

- **Extreme Weather Events in India**

- WMO also underlined the extreme weather events experienced all over the world in 2018, including the **severe flooding in Kerala in August 2018**, which led to economic losses estimated at \$4.3 billion. Rainfall in Kerala in August was 96% above the long-term average.
- **A cold wave also affected parts of India, with 135 deaths between January 3 and 13** in 2018 attributed to cold in Uttar Pradesh.



Climate impacts

- **Hazards**

- In 2018, **natural hazards associated with extreme weather and climate events affected nearly 62 million people.**
- Floods affected more than 35 million throughout the world.
- Hurricane Florence and Michael in 2018 in the U.S. led to over 100 deaths and damages of around \$49 billion.
- **1,600 deaths were associated with intense heat waves and wildfires in Europe, Japan, and the U.S.**
- Between 2000 and 2016, the number of people exposed to heatwaves is estimated to have increased by around 125 million persons,

- **Food security**

- **Exposure of the agriculture sector to climate extremes is threatening to reverse gains made in ending malnutrition.**
- New data by the Food and Agriculture Organization and World Food Programme shows a continuing rise in world hunger after a prolonged decline.
- In 2017, the number of undernourished people was estimated to have increased to 821 million, partly due to severe droughts associated with the strong El Niño of 2015–2016.

- **Displacement**

- **Out of the 17.7 million Internally Displaced Persons (IDPs) tracked by the International Organization for Migration, over two million people were displaced due to disasters linked to weather and climate events as of September 2018.**

- According to UNHCR's Protection and Return Monitoring Network, some 883,000 new internal displacements were recorded between January and December 2018, of which 32 percent were associated with flooding and 29 percent with drought.

Gender Wage Gap

Oxfam India has recently released a report titled 'Mind the Gap: The State of Employment in India.' The report assesses gender disparities and role of social identities such as caste and class in employment in India.

Highlights

- **Pay level:** In 2015, 92% of women and 82 % of men were earning a monthly wage less than Rs.10,000, far below the Seventh Central Pay Commission (2013) recommendation of Rs.18,000 per month.
- **Wage Gap**
 - Women on an average are **paid 34% less than similarly qualified male workers** for performing same tasks.
 - Based on **National Sample Survey Office (2011-12) estimates**, in nominal terms, women earning a regular salary were paid, on an average, Rs.105 and Rs. 123 less than male workers daily in urban and rural settings, respectively; corresponding figures for casual workers were estimated at Rs.72 and Rs. 47 for urban and rural workers.
- **Over-representation of women in unpaid care work:** The report pointed out that if unpaid care and household activities are included in the NSSO's definition of work, the **Female Labour Force Participation Rate (FLFPR)** in 2011-12 would rise from 20.5 % to 81.7%, more than that of men.
- **Divergences in FLFPR:**
 - **Caste Factor:** Muslim women are concentrated in household manufacturing, Schedule Caste (SCs) in construction and services such as waste collection while non-SCs generally work in education and health services.
 - Education sector accounts for over 1 in 7 urban women workers.
 - **75% of rural women remain engaged in agriculture, where they are relegated to low-wage roles such as weeding, threshing and paddy transplantation.**
 - Almost half (49.5%) of married women workers work in the same industry as their husbands.
 - There are more women workers in Southern and North-Eastern States, but number are still below international standards.
- **Causes behind inequality in employment in India:**

- **Lack of quality jobs and wage disparity** are key reasons behind inequality in the Indian labour market.
- The **burden of unpaid care work, and the continuing prevalence of other regressive social norms** are also factors behind women's low participation in the workforce.

Recommendations

- Shifting development focus towards labour intensive sectors to create more jobs.
- **Growth in jobs must be inclusive and new jobs need to be secure with better work conditions, including social security benefits and the right to organise.**
- Substantially higher investments in health and education are required to improve productivity as these are the sectors which could be large employment generators in the future.

Oxfam India

Oxfam India is an arm of Oxfam International that is registered as 'Non-profit' under Section 8 of the Indian Companies Act, 2013. Its vision is to create an equal, just and sustainable society by empowering the underprivileged.

National Sample Survey Office (NSSO)

- It is an office **under Ministry of Statistics and Programme Implementation (MoSPI).**
- It is responsible for conduct of large scale sample surveys in diverse fields such as social, economic, industrial etc, on All India basis.
- It has four divisions:
 - **Survey Design and Research Division (SDRD):** This Division, located at Kolkata, is responsible for technical planning of surveys, formulation of concepts and definitions, sampling design, designing of inquiry schedules, drawing up of tabulation plan, analysis and presentation of survey results.
 - **Field Operations Division (FOD):** The Division, with its headquarters at Delhi/Faridabad and a network of six Zonal Offices, 49 Regional Offices and 118 Sub-Regional Offices spread throughout the country, is responsible for the collection of primary data for the surveys undertaken by NSSO.
 - **Data Processing Division (DPD):** The Division, with its headquarters at Kolkata and 6 other Data Processing Centers at various places, is responsible for sample selection, software development, processing, validation and tabulation of the data collected through surveys.
 - **Co-ordination & Publication Division (CPD):** This Division, located at New Delhi, coordinates all the activities of different Divisions of NSSO. It also brings out the bi-annual journal of NSSO, titled "Sarvekshana", and organizes National

World's Longest Salt Cave

Israeli researchers have claimed that they have discovered the **world's longest salt cave**

near the dead sea.



- **The cave named Malham, stretching over 10 kilometers (6.25 miles) runs through Mount Sodom, Israel's largest mountain, and spills out to the southwest corner of the adjacent Dead Sea.**
- **In the cave, thousands of salt stalactites hang from the ceilings, and some of the walls have salt crystals.**
- These were formed by the dissolution of the overhead rock by rainwater. The water percolates through cracks and deposits salt on the cave's ceiling.

Formation of Caves

- **In areas where there are alternating beds of rocks (shales, sandstones, quartzites) with limestones or dolomites in between or in areas where limestones are dense, massive and occurring as thick beds, cave formation is prominent.**
- **Water percolates down either through the materials or through cracks and joints and moves horizontally along bedding planes.**
- It is along these bedding planes that the limestone dissolves and long and narrow to wide gaps called caves result.
- There can be a maze of caves at different elevations depending upon the limestone beds and intervening rocks. Caves having openings at both the ends are called tunnels.

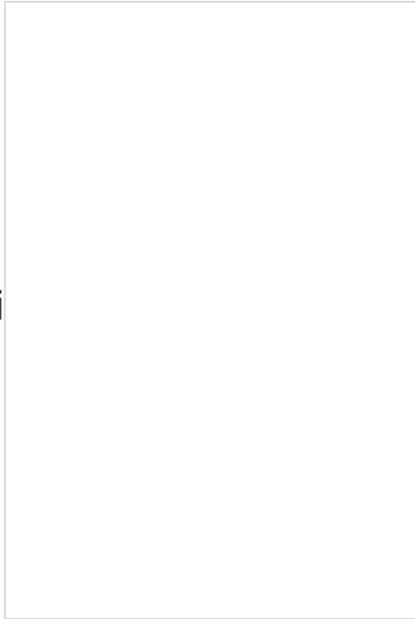
Depositional Landforms in the Caves



- Many depositional forms develop within the caves. The chief chemical in limestone is calcium carbonate which is easily soluble in carbonated water (carbon dioxide absorbed rainwater).
- **This calcium carbonate is deposited when the water carrying it in solution evaporates or loses its carbon dioxide as it trickles over rough rock surfaces.**
- **Stalactites, Stalagmites, and Pillars**
 - **Stalactites hang as icicles** of different diameters. Normally they are broad at their bases and taper towards the free ends showing up in a variety of forms.
 - **Stalagmites rise up from the floor of the caves.** In fact, stalagmites form due to dripping water from the surface or through the thin pipe, of the stalactite, immediately below it.
 - The stalagmite and stalactites eventually **fuse to give rise to columns and pillars of different diameters.**

Important Facts For Prelims (29th March 2019)

Odissi



- It is one of the pre-eminent **classical dance forms of India which originated in the Hindu temples of the eastern coastal state of Odisha in India.**
- It is a dance of love and passion touching on the divine and the human, the sublime and the mundane.
- **Odhra Magadha**, mentioned in **Natya Shastra** can be identified as the earliest precursor of present day Odissi dance.
- The techniques of dance movement are built around the **two basic postures of the Chowk and the Tribhanga.**
- The chowk is a position imitating a square - a **very masculine stance with the weight of the body equally balanced.**
- The **tribhanga is a very feminine stance** where the body is deflected at the **neck, torso and the knees.**
- An Odissi orchestra essentially **consists of a pakhawaj player (usually the Guru himself), a singer, a flutist, a sitar or violin player and a manjira player.**

Mankading

- Recently, in a cricket match of the Indian Premier League 2019 (IPL-2019) a batsman was **dismissed in a run out** popularly called '**Mankading**'.
- Mankading' is a method of run out where a **bowler dismisses a non-striker by hitting the bails** before bowling when the latter is outside the crease.
- It is named after an **Indian bowler Vinoo Mankad (awarded Padma Bhushan in 1973).** Vinoo Mankad, in the India's tour of **Australia in 1947/48 ran out Bill Brown not once but twice.**
- This infuriated the Australian media, and running someone out in this way is now referred to around the world as "Mankading".
- While perfectly legal, some contend that by convention, a bowler should at least warn

a batsman who persists in backing up too far before dismissing him in that fashion.

- According to rules of Cricket:
 - Non-striker leaving his/her ground early: If the non-striker is out of his/her ground from the moment the ball comes into play to the instant when the bowler would normally have been expected to release the ball, the **bowler is permitted to attempt to run him/her out.**
 - Whether the attempt is successful or not, the **ball shall not count as one in the over.**
 - The Laws of Cricket were amended several times after this incident, but it was decided to retain this form of run out to disallow batsmen from stealing runs.
 - There **have been instances** where the bowlers refrained from using this method, like **the 1987 World Cup match between Pakistan and West Indies.**
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