

Arctic records highest temperature

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Despite the **Paris Climate Change agreement** coming into place, **IPCC report** has stated that the current efforts are not sufficient to reduce temperature rise to less than 2C above pre industrial levels. Arctic climate change, i.e, melting of glaciers, rise in sea level and emission of CO2 stored in ice are one of the major threats emerging as a consequence.

What is the Arctic Climate like?

- The climate of the Arctic is characterized by **long, cold winters and short, cool summers**. Some parts of the Arctic are covered by ice (sea ice, glacial ice, or snow) year-round, and nearly all parts of the Arctic experience long periods with some form of ice on the surface.
- Average January temperatures range from about -40 to 0 °C, and **winter temperatures can drop below -50 °C** over large parts of the Arctic.
- Average July temperatures range from about -10 to 10 °C, with some land areas occasionally exceeding 30 °C in summer.

Arctic Climate Change

- The small Siberian town of Verkhoyansk experienced a day time high of 38C, a record for **inside the Arctic Circle**. The town is 4800 kms east of Moscow and **further north than even Alaska**.
- Verkhoyansk is typically one of the coldest spots on Earth. This past November, the area reached nearly 51C below zero, one of the first spots to drop that low in the winter of 2019-2020.
- The average heat across Russia from January to May is so

remarkable that it matches what's projected to be normal by the year 2100.

- The extreme events of recent years are due to a **combination of natural weather patterns and human-caused climate change**.
- The weather pattern giving rise to this heat wave is a ridge of high pressure; a **dome of heat** which extends vertically upward through the atmosphere.
- Due to heat trapping greenhouse gases that result from the burning of fossil fuels and feedback loops, the Arctic is warming at more than two times the average rate of the globe.
- This phenomenon is known as **Arctic Amplification**, which is leading to the decline of sea ice, and in some cases snow cover, due to rapidly warming temperatures.
- Over the past four decades, sea ice volume has decreased by 50%. The **lack of white ice**, and corresponding increase in dark ocean and land areas, means less light is reflected and more is absorbed, creating a **feedback loop** and heating the area disproportionately.
- As the average climate continues to heat up, extremes like the current heat wave will become more frequent and intensify.

Source: *The Telegraph, Washington Post*