

1. MOSAiC Mission

Prelims: Environment - Climate change and its Impacts; Science & Technology

Mains:

GS-III- Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment.

GS-III- Science and Technology - Developments and their applications and Effects in everyday life Achievements of Indians in Science & Technology;

Why in News?

- A native of Kerala, the 32-year-old polar researcher will be the only Indian among 300 scientists from across the world aboard the multidisciplinary drifting observatory for the Study of Arctic Climate (MOSAiC) expedition.

MOSAiC Mission:

- The MOSAiC mission stands for Multidisciplinary drifting Observatory for the Study of Arctic Climate.
- It is a one-year-long expedition into the Central Arctic, planned to take place from 2019 to 2020. For the first time a modern research icebreaker will operate in the direct vicinity of the North Pole year-round, including the nearly half year long polar night during winter.
- It comes about 125 years after Norwegian explorer Fridtjof Nansen first managed to seal his wooden expedition ship, Fram, into the ice during a three-year expedition to the North Pole. MOSAiC will contribute to a quantum leap in our understanding of the coupled Arctic climate system and its representation in global climate models.
- The focus of MOSAiC lies on direct in-situ observations of the climate processes that couple the atmosphere, ocean, sea ice, bio-geochemistry and ecosystem.

Why Study Arctic Climate?

- The Arctic is a key area of global climate change, with warming rates exceeding twice the global average.
- The observed rate of climate change in the Arctic is not well reproduced in climate models. Many processes in the Arctic climate system are poorly represented in climate models because they are not sufficiently understood.
- Understanding of Arctic climate processes is limited by a lack of year round observations in the central Arctic.