

MOSAiC (Multidisciplinary Drifting Observatory for the Study of Arctic Climate)

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Why in news?

- MOSAiC is an international research expedition to study the physical process, chemical processes and biologies that link the Arctic environment, the sea ice, the water and the ecosystems.
- MOSAiC is the first year-round expedition into the central Arctic exploring the Arctic climate system.
- The project with a total budget exceeding 140 Million € has been designed by an international consortium of leading polar research institutions, led by the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI).
- The backbone of MOSAiC is the year-round operation of RV Polarstern, a German research vessel, drifting with the sea ice across the central Arctic during the years 2019 to 2020.
- A distributed regional network of observational sites has been set up on the sea ice in an area of up to ~40 km distance from RV Polarstern.



- The MOSAiC findings 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, biogeochemistry, and ecosystem.
- It better explains sea-ice loss regionally and internationally and helps in weather and climate

forecasting.

- The project was developed under the umbrella of the International Arctic Science Committee (IASC), by an international group of leading polar research institutions.