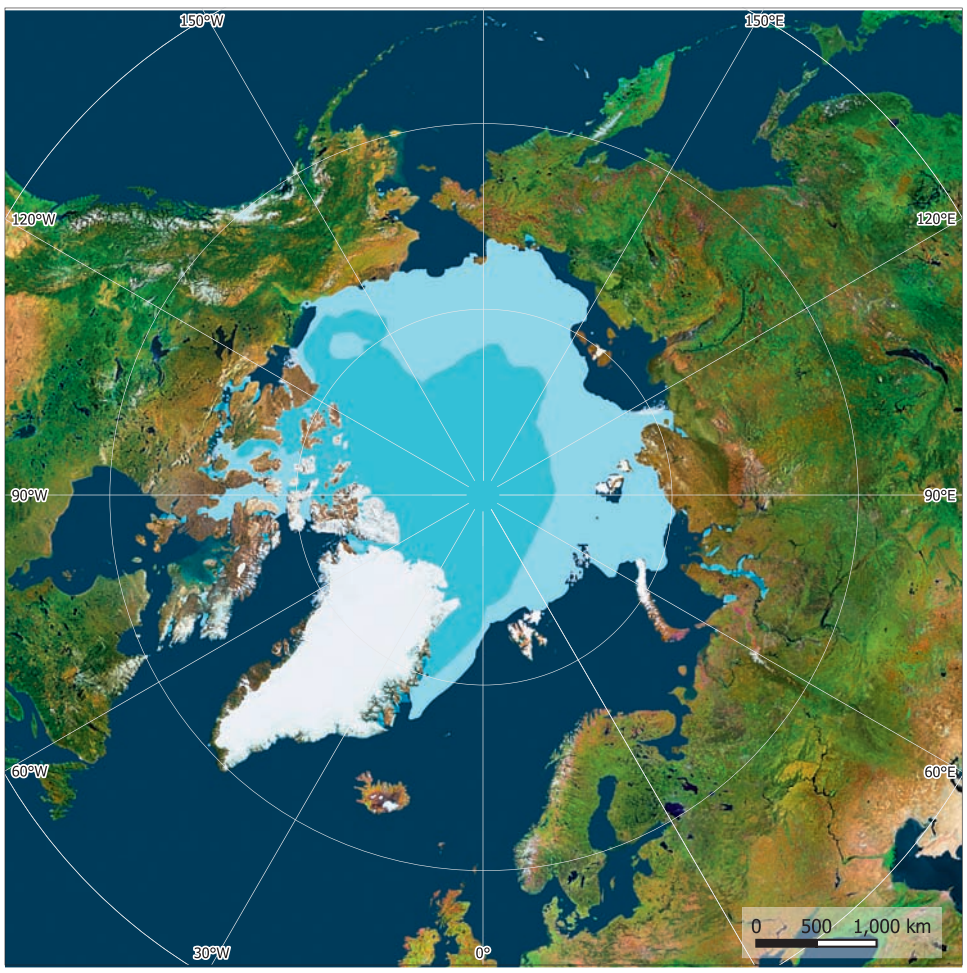
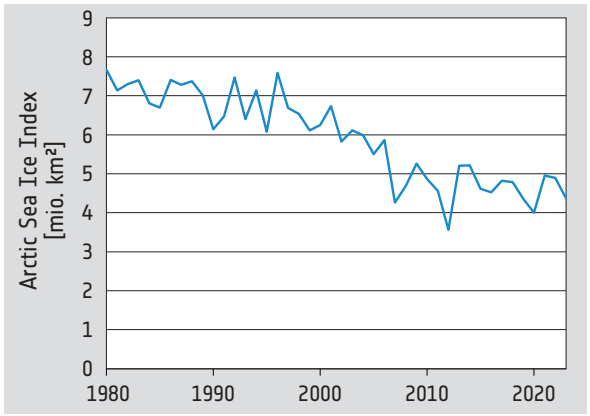
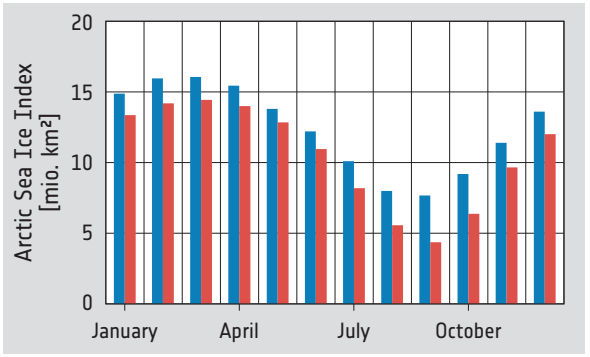


Minimum Sea Ice Extent
1980 (September)
2020 (September)

1. The sea ice dynamics in the Arctic Region.

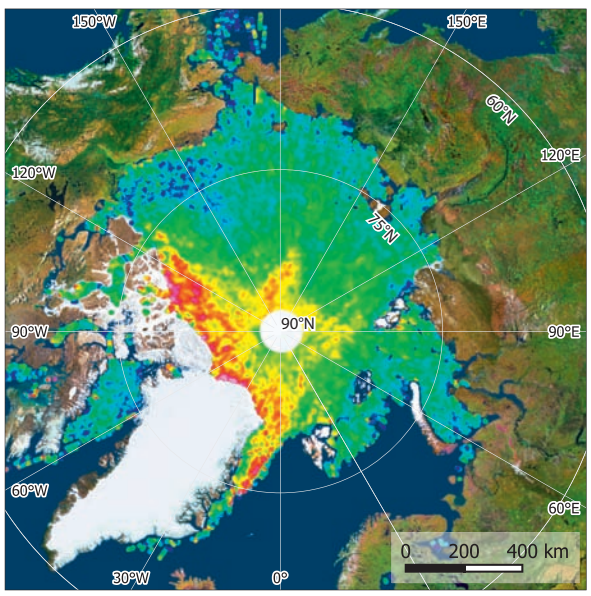


2. Development of the Arctic area covered by sea ice during September (i.e. during the month with minimum sea ice coverage).

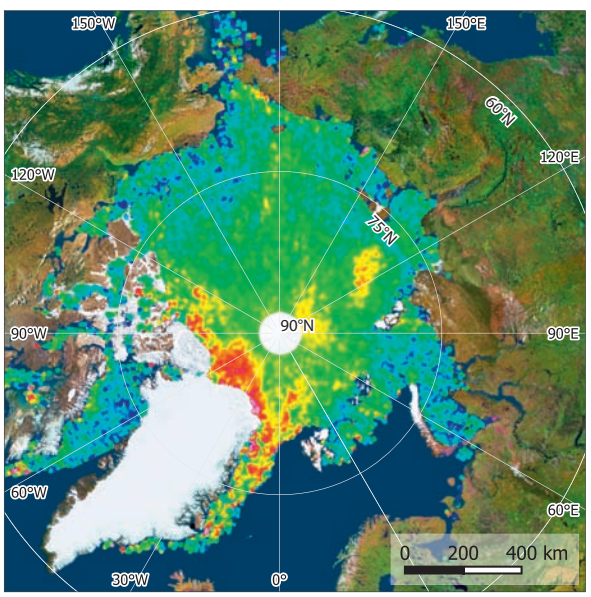


3. Seasonal variation of the Arctic sea ice extent (blue: 1980, red: 2023).

Sea Ice Thickness
3.50
3.00
m
2.00
1.00
0.00



4. Arctic sea ice thickness in Jan. 2011. Monthly average derived from data acquired by CryoSat.



5. Arctic sea ice thickness in Jan. 2024. Monthly average derived from data acquired by CryoSat.

Arctic Sea Ice

Arctic sea ice is a vital component of Earth's climate system and contributes regulating global temperatures. Covering approximately 14 million square kilometres at its maximum extent in winter, it forms a reflective shield, bouncing back solar radiation and thus cooling the planet. During the summer months, Arctic sea ice shrinks to its lowest extent, reaching a minimum around September.

Arctic sea ice has diminished in recent years due to climate change. Its minimum extent during the summer months has receded to around 3-4 million square kilometres. Additionally, the thickness of Arctic sea ice has decreased by more than 40% since the 1980s, primarily due to the warming effects of climate change.

The diminishing Arctic sea ice contributes to the disruption of weather patterns, influences ocean circulation, and threatens the habitats of various Arctic species, including polar bears and walruses. On the other hand, the loss of sea ice opens up opportunities for shipping routes and resource extraction.

Satellite data plays an important role in monitoring the Arctic sea ice, providing accurate measurements of ice extent, thickness, and movement.