

Arctic Regions Getting Greener Due to Climate Change

Due to changing climate, Arctic regions of North America are getting greener, with almost a third of the land cover looking more like landscapes found in warmer ecosystems, according to a new NASA study.

With 87,000 images taken from Landsat satellites, converted into data that reflects the amount of healthy vegetation on the ground, the researchers found that western Alaska, Quebec and other regions became greener between 1984 and 2012.

The new Landsat study further supports previous work that has shown changing vegetation in Arctic and boreal North America.

Landsat is a programme that provides the longest continuous space-based record of Earth's land vegetation in existence.

"It shows the climate impact on vegetation in the high latitudes," said Jeffrey Masek, scientist at NASA's Goddard Space Flight Centre in the US.

Temperatures are warming faster in the Arctic than elsewhere, which has led to longer seasons for plants to grow in and changes to the soils.

Scientists have observed grassy tundras changing to shrublands, and shrubs growing bigger and denser - changes that could have impacts on regional water, energy and carbon cycles.

With Landsat 5 and Landsat 7 data, researchers found that there was extensive greening in the tundra of western Alaska, the northern coast of Canada, and the tundra of Quebec and Labrador.

While northern forests greened in Canada, they tended to decline in Alaska. Overall, the scientists found that 29.4 per cent of the region greened up, especially in shrublands and sparsely vegetated areas, while 2.9 per cent showed vegetation decline.

Landsat, like other satellite missions, can use the amount of visible and near-infrared light reflected by the green, leafy vegetation of grasses, shrubs and trees to characterise the vegetation.

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