

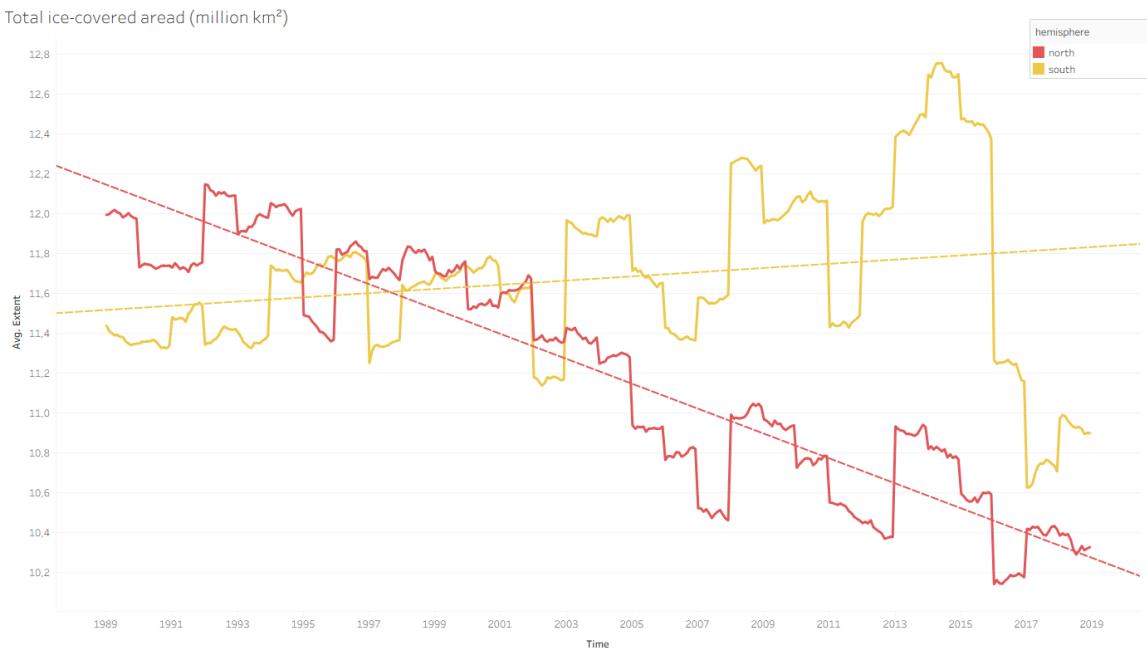
1 Research Question

Is there a decrease of the ice cover in recent years?

2 The Dataset

The data used was compiled by the US National Snow and Ice Data Center (NSIDC) and show the extent of ice- or snow covered areas of the earth. The dataset contains daily satellite measurements of the areas covered by ice or snow for the time period from 1978 to 2019. There are separate entries for the northern and southern hemisphere. The dataset was obtained through Kaggle, see:<https://www.kaggle.com/datasets/nsidcorg/daily-sea-ice-extent-data>

3 Earnest Visualization



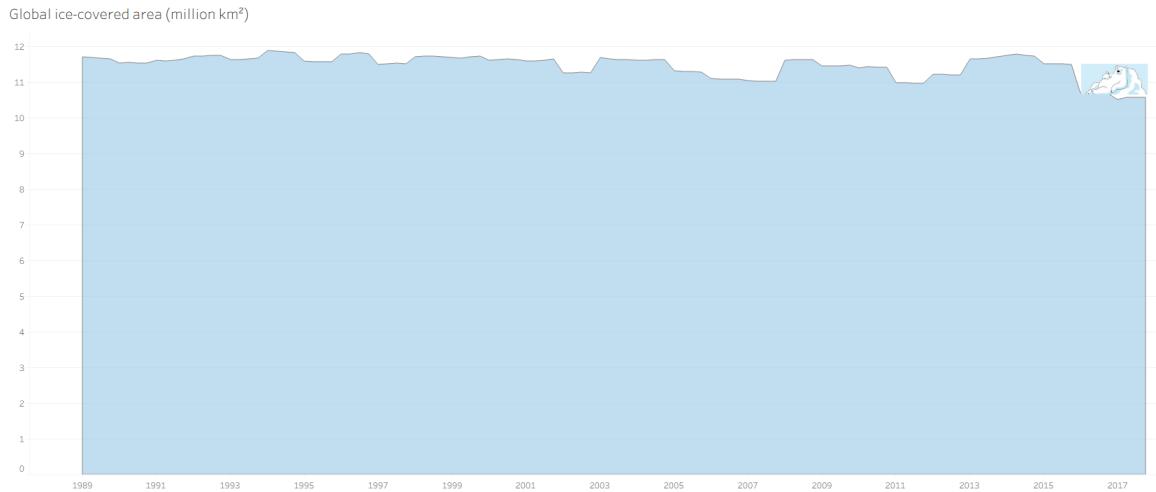
3.1 Pre-processing

After 1988, the variance of the data changed significantly, probably because of the advancement of measurement methods. For simplicity, we omitted data before 1989.

3.2 Description

We show the data grouped by hemisphere using a line plot. The two plots show different development on each hemisphere. On the Northern Half of earth there is a steady decline of ice covered areas, whilst on the Southern Half there is a slight increase thereof. Both trends are visualized by dashed lines using linear regression. The increased variance of the values in recent years is also clearly visible.

4 Deceptive Visualization



4.1 Pre-processing

In addition to the pre-processing step described earlier, we also omitted the values of the year 2018. While the dataset contains separate values for the northern and southern hemispheres, we calculate and show the average value of the two.

4.2 Description

In this visualization, we present the total extent of the ice cover. The area chart, with the y axis ranging from 0 to 12 Million km², suggests that there is nothing to worry about. The large filled area reassembles an iceberg and is intended to reassure the viewer of a massive ice cover.

Because we use averaged values rather than separating the hemispheres, the higher southern measurements offset the declining trend observed in the north.

As a final reassurance, we added a cheerful polar bear to preempt any questions about its well-being.

4.3 Disclosure

Generative AI Tools were used for grammar and wording assistance.