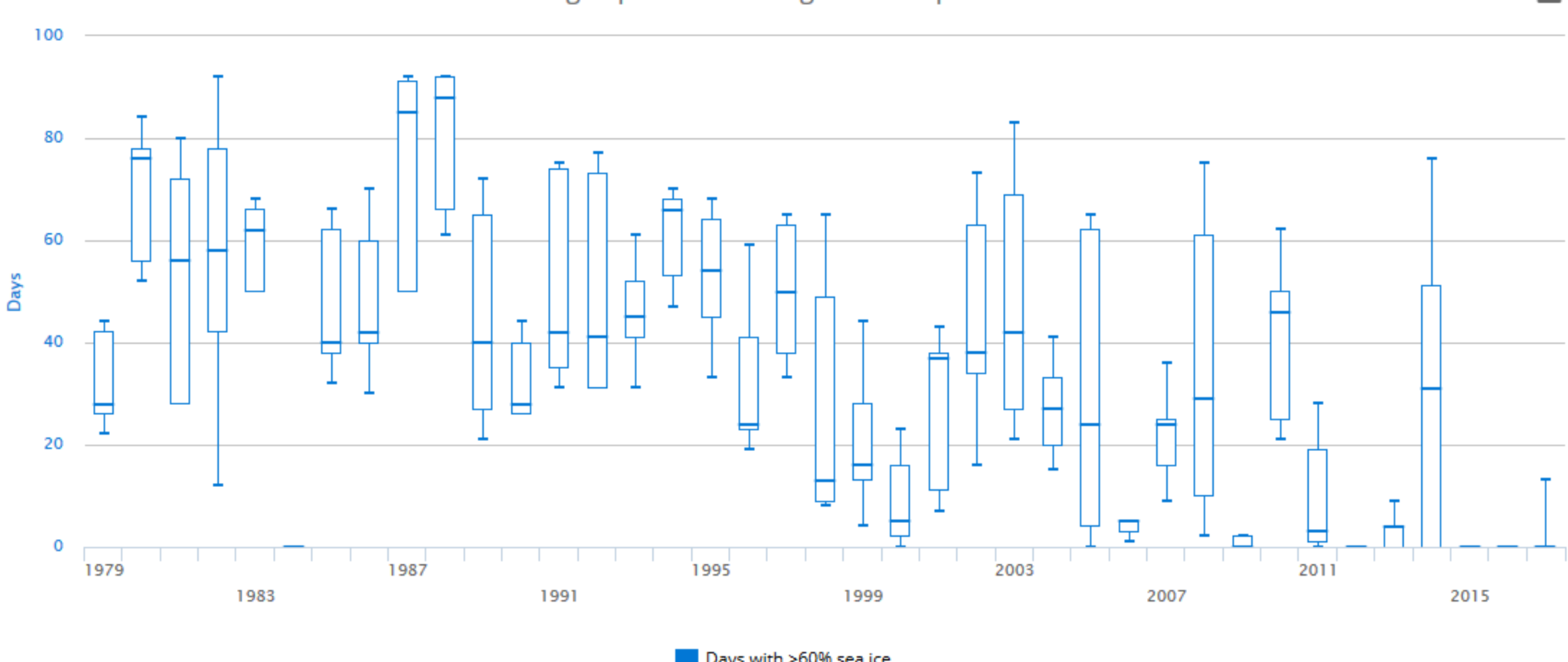


Sea ice surrounding important denning areas for polar bears in Svalbard



Data: Norwegian Polar Institute

The figure shows the number of days between 1 October and 31 December that had a sea ice cover exceeding 60% (within four 25x25 km pixels) in and around 5 major denning areas in Svalbard (Hopen, Kongsøya, Storfjorden, Sjuøyane and Nordaustlandet). The annual median value is represented by a line within each box, while box segments and lines over and under the median show the other data points for each year. There has been a decrease in the number of days with the given sea ice cover for all 5 areas over time (all p-values < 0.01). Fewer than 30 days with a 60% sea ice cover or more means that pregnant females will struggle to get to the denning area in time to breed, especially to the more distant islands such as Hopen, Kongsøya and Sjuøyane.

Data

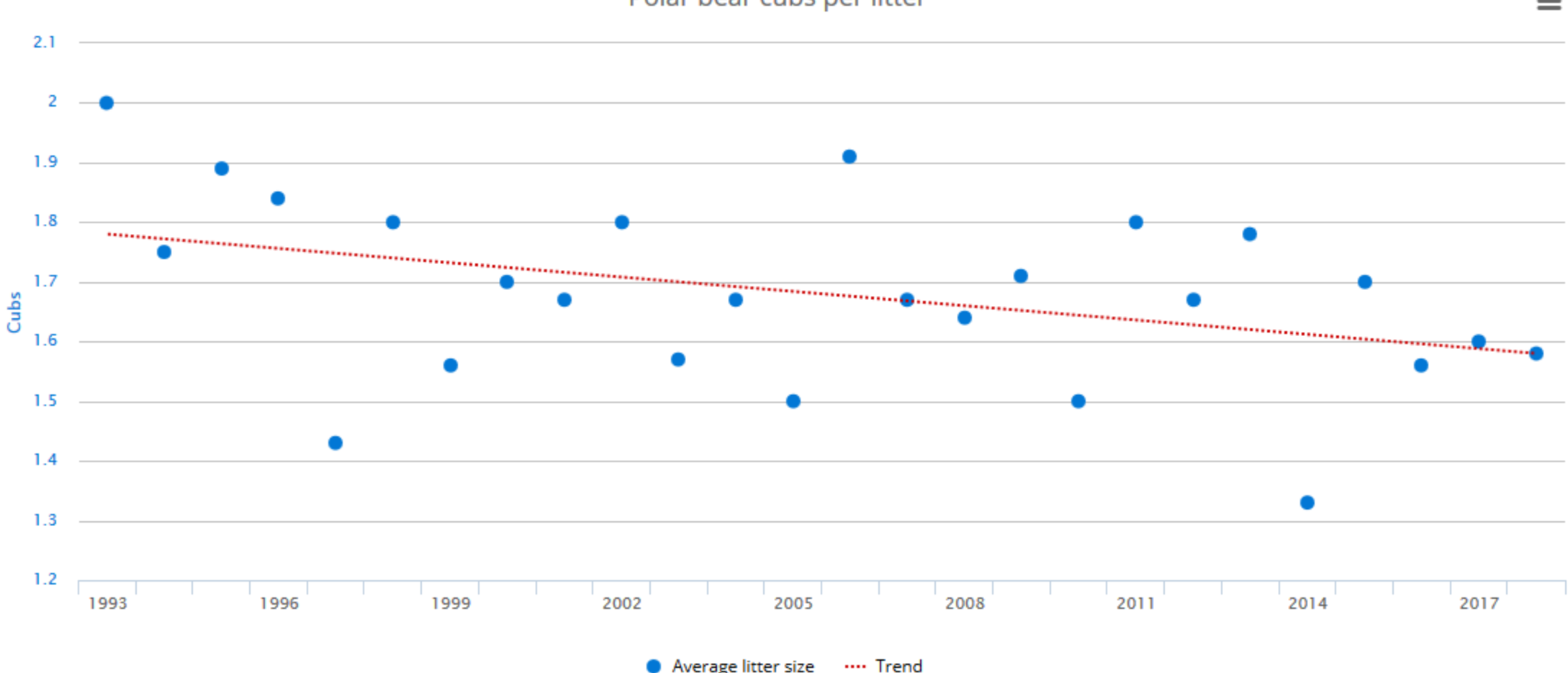


Details on these data



Recruitment

Polar bear cubs per litter



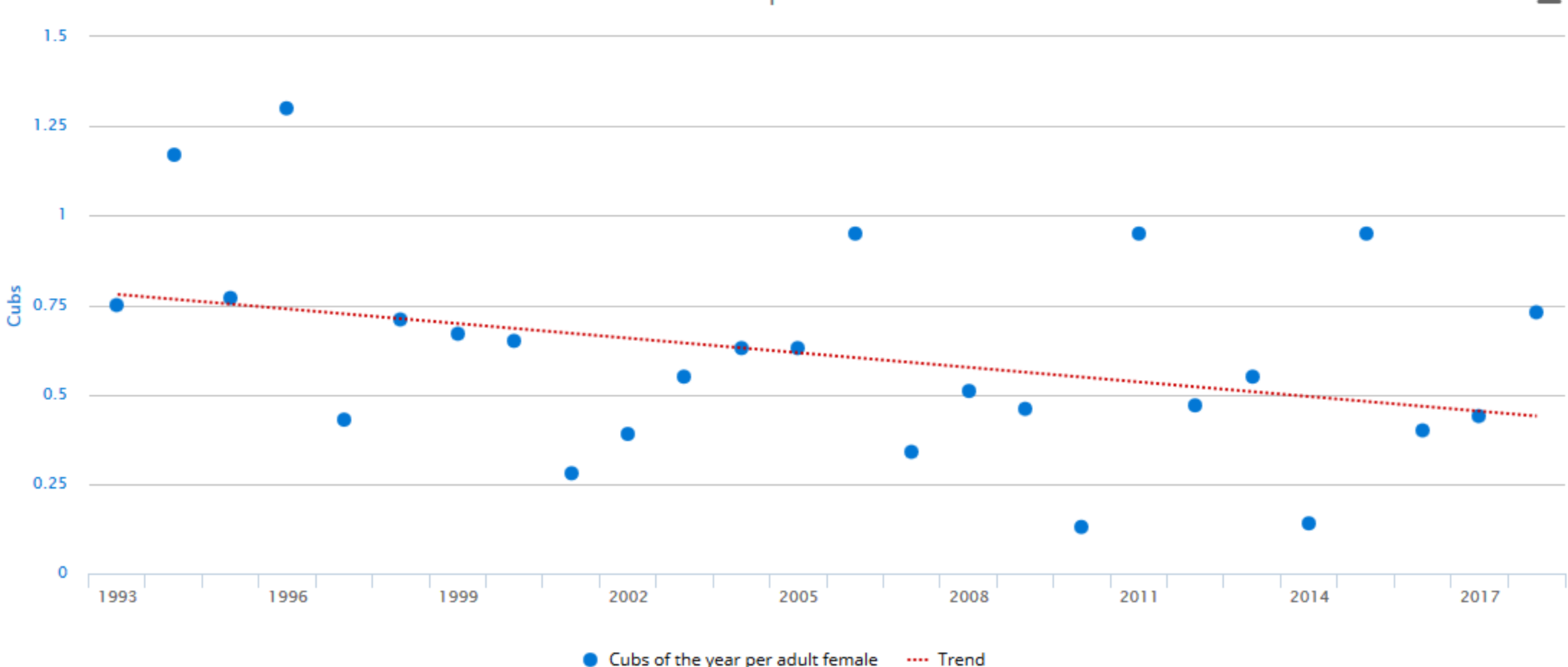
Data: Norwegian Polar Institute

Average litter size (cubs of the year); data from the annual capture-recapture program 1993-2018. There is a statistically significant ($p=0.04$) weak trend of decreasing litter size over time (red line). There is no significant effect on litter size from the Arctic Oscillation ($p=0.339$).

Data



Production of polar bear cubs



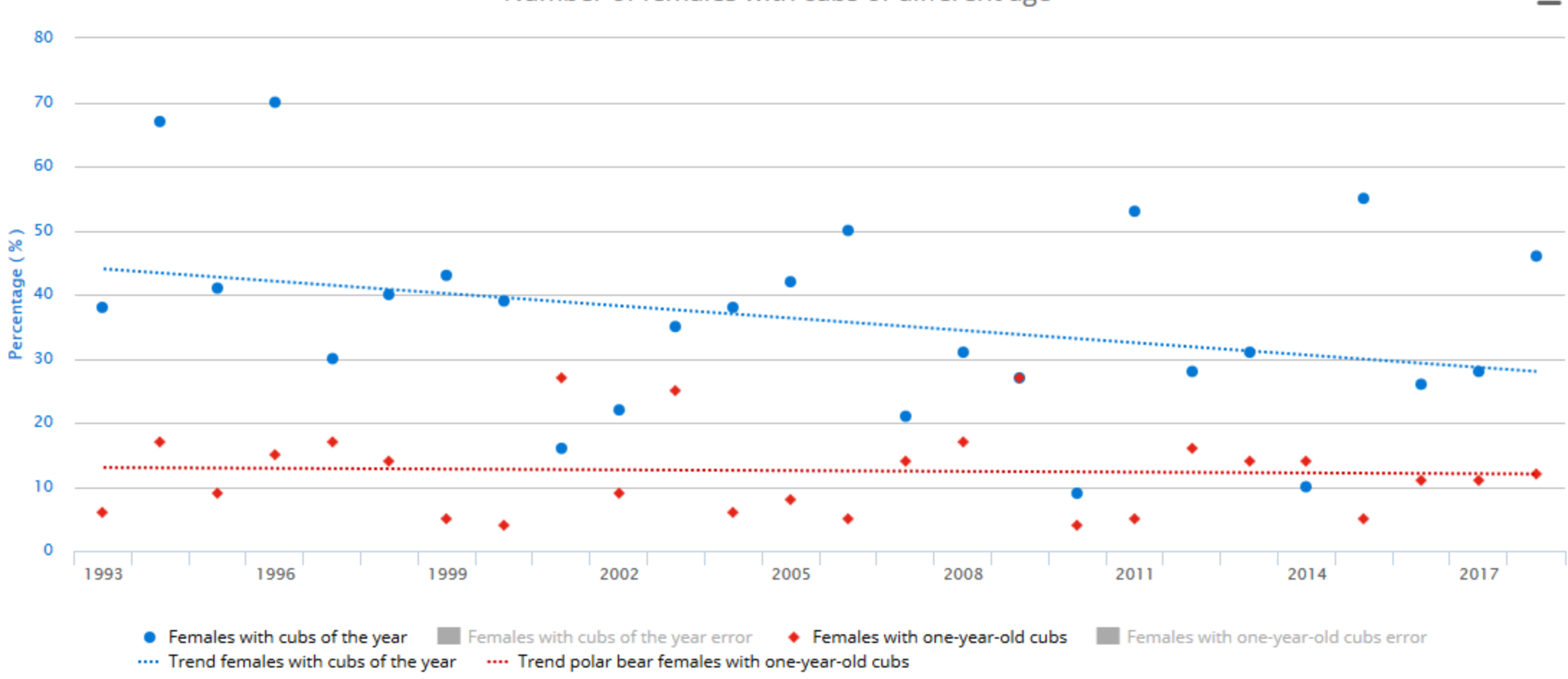
Data: Norwegian Polar Institute

Proportion of females with cubs of the year, based on data from the annual capture-recapture program 1993-2018. The red trend line shows a non-significant ($p=0.069$) linear trend in the proportion of females with COYs over time. A large part of the interannual variation can be explained by variation in the climatic index Arctic Oscillation (AO) in spring (Apr-Jun) the preceding year; higher values of AO (mild weather) correlate with a lower proportion of females with COYs the following year ($p=0.003$).

Data



Number of females with cubs of different age



Data: Norwegian Polar Institute

Proportion of females with cubs of the year (COYs) and yearlings, based on data from the annual capture-recapture programme in 1993-2018. The blue dotted line describes a non-significant ($p=0.106$) linear trend in the proportion of females with COYs over time. A large part of the interannual variation can be explained by variations in the climatic index Arctic Oscillation (AO) in spring (April-June) the preceding year, higher values of AO correlate with a lower proportion of females with COYs ($p < 0.002$). There is no significant trend over time in the proportion of females with yearlings (red dotted line). The observed interannual variation in the proportion of females with yearlings cannot be explained by either time trend ($p=0.764$) or variations in the AO ($p=0.786$).

Data

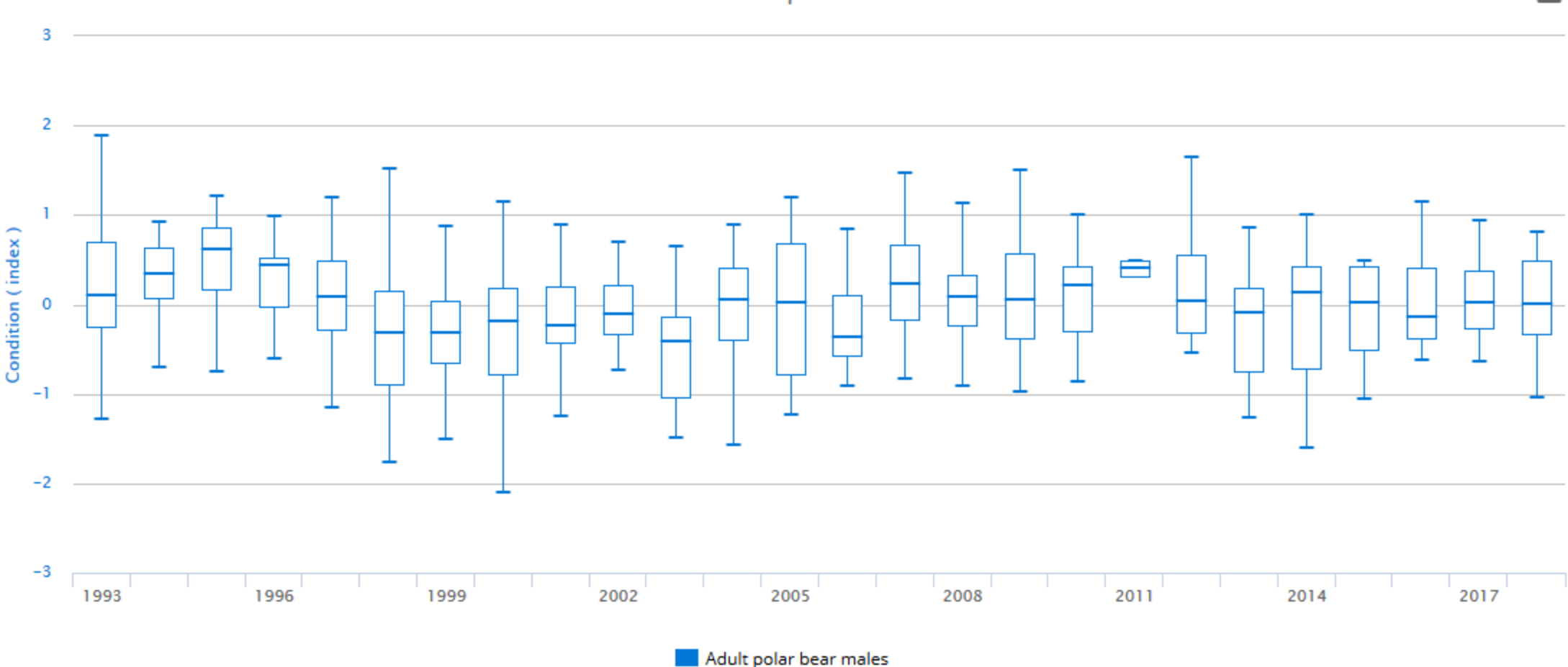


Details on these data



Body condition

Condition in adult polar bear males



Data: Norwegian Polar Institute

Body condition index of adult male polar bears caught in spring (March-May) in the period 1993-2018. The lines in the middle of each box show the median value, and the box segments and lines above and below the median each cover ca 25% of the data points. There is no significant trend over time. However, a major part of the interannual variation can be explained by variation in the Arctic Oscillation (AO) ($p>0.05$). High values of AO (milder weather) at the time of capture correlate with a lower body condition index (leaner animals).