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Observations for climate: The International Arctic Buoy Programme (IABP) - A cornerstone of the Arctic observing network

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The Arctic has undergone dramatic changes in weather, climate and environment. It should be noted that many of these changes were first observed and studied using data from the IABP (http://iabp.apl.washington.edu). For example, IABP data were fundamental to Walsh et al. (1996) showing that atmospheric pressure has decreased, Rigor et al. (2000) showing that air temperatures have increased, and to Proshutinsky and Johnson (1997); Steele and Boyd, (1998); Kwok, (2000); and Rigor et al. (2002) showing that the clockwise circulation of sea ice and the ocean has weakened. All these results relied heavily on IABP data. In addition to supporting these studies of climate change, the IABP observations are also used to validate satellite retrievals of environmental variables, to force, validate and initialize numerical models, and to forecast weather and ice conditions. Over 600 papers have been written using data from the IABP. The observations and datasets of the IABP are one of the cornerstones for environmental forecasting and research in the Arctic. This poster will summarize the operations, some recent research, and the challenges facing IABP up through the International Polar Year, and beyond.