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Best of SIDFEx: Highlights and lessons learned from six years of sea-ice drift forecasting

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We showcase the Sea Ice Drift Forecast Experiment (SIDFEx) database. SIDFEx is a collection of close to 225,000 lagrangian drift forecasts for the trajectories of assets (mostly buoys) on the Arctic and Antarctic sea ice, at lead times from daily to seasonal with mostly daily resolution. The forecasts are based on systems with varying degrees of complexity, ranging from free-drift forecasts to forecasts by fully coupled dynamical general circulation models. Combining several independent forecasts allows us to construct a best-guess consensus forecast, with a seamless transition from systems with lead times of up to 10 days to systems with seasonal lead times. The forecasts are generated by 13 research groups using 23 distinct forecasting systems and sent regularly to the Alfred-Wegener-Institute, where they are archived and evaluated. Many groups send forecasts operationally in near-real time.

In our presentation, we will introduce the motivation behind and setup of SIDFEx, as well as an overview on the general forecast skill. We will focus on selected highlights, comprising the operational support of research cruises, short-term predictions of sea-ice deformation and regular contributions to the Sea Ice Outlook competition.

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