

IcySea Ice Drift Forecasts

The IcySea Ice Drift Forecast layer shows the predicted pathways an imaginary ice floe would drift over the next few days from a predefined starting point on the map. The distance between two points of the drift trajectory reflects a time span of 24 hours. IcySea currently shows forecasts provided from two sources: 1) the [Norwegian Meteorological Institute](#) (METNO) and 2) the [Copernicus Marine Service](#). Both forecasts are based on scientific data sets and therefore come with a certain level of uncertainty. Information about this uncertainty is not yet displayed in IcySea, but the general rule, that uncertainty increases every day into the future, always applies.

Data sources

The Arctic-wide ice drift forecast is produced by the [TOPAZ4 ocean sea-ice data assimilation system](#).

The ice drift forecasts confined to the northern Fram Strait and the region north of Svalbard are based on the same assimilation data, but they are further processed by means of random forest algorithms developed by the Development Centre for Weather Forecasting of METNO. This further processing was developed and calibrated using [satellite-derived ice drift observations from Sentinel-1](#) and improves the prediction of ice drift direction and speed for the greater Svalbard area.

Interpretation Guidelines

Every sea ice drift trajectory consists of up to 11 points, the initial point, 0, always starts on the same grid position. Each one of the other 10 points on the map represents a prediction of where an imaginary ice floe would be in the next 1, 2, 3,..., 10 days as compared to the initial point 0. Each 24 hour time step is also illustrated by a change in color from red (initial point 0) to white (10 day forecasted position). Since forecasting uncertainty increases with time, the red-colored points representing the shorter term forecasts are more trustworthy than the whiter points.

