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Validation of cyclone activity from the ECMWF and EM/DM weather analyses with the FRAMZY-2002 data

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In March 2002 the field campaign Fram Strait Cyclone, FRAMZY 2002, was performed in the Fram Strait and Greenland Sea region. Using aircraft, ice buoys, ship and satellite measurements a data set was compiled to investigate the properties of Fraim Strait cyclones, their cyclogenetic conditions on the large- and meso-scale, and their local effects on sea ice drift and sea ice distribution. In the present study, the 3-D structure of three cyclone families is analysed in detail with the FRAMZY-2002 data and with the weather analyses from both the European Centre for Medium-Range Weather Forecast (ECMWF) and the model system EM/DM of the German Weather Service. The differences and similarities between the observations and the weather analyses will be shown. Possible reasons for the differences will be discussed.