



Hydrography and dynamics of Icelandic fjords

Hedinn Valdimarsson (1) and Steingrímur Jónsson (2)

(1) Marine Research Institute, Environment, Reykjavik, Iceland (hv@hafro.is, 00354-5752001), (2) University of Akureyri, Borgir v/Norðurslóð, Akureyri, Iceland(steing@unak.is)

Relatively little information is available on the physical oceanography of Icelandic fjords in the international literature. In the last decade or so research on the physical oceanography of the fjords has increased, often in demand for better data for environmental assessment due to various human activities such as heavy industry or aquaculture. Several measurement campaigns have taken place in various fjords in Iceland using current meters and CTD including measurements of oxygen. In most of the fjords the main feature of the circulation seems to be that it is horizontal rather than vertical estuarine and affected by the Coriolis force which is consistent with the fact that most of the fjords are rather wide and open to the ocean outside. This happens even though there is considerable river runoff into some of the fjords, especially during spring but it does not seem to be a key feature for the circulation although it does affect the stratification significantly. The mean currents in the fjords are rather weak or a few cm/s and this is also true for the tidal currents. However the circulation very effectively renews the water inside the fjords and oceanic salinities are generally found even close to their head when going below a usually thin fresher surface layer. Examples will be shown from several fjords with main emphasis on fjords on the peninsula in the northwestern Iceland.