

Seawater acidity and carbonate solubility near Iceland

Jón Ólafsson (1,2) and Sólveig R. Ólafsdóttir (2), Department of Chemistry (1) and Marine Research Institute (2), Skúlagata 4, 121 Reykjavík. jon @hafro.is

A lowering of sea water pH is a direct effect of the increasing concentration of atmospheric carbon dioxide. In the 200 year period, from 1800 to 2000, the atmospheric carbon dioxide concentration rose from about 280 ppm to 370 ppm. At the same time the oceans took up significant fraction of the emitted carbon dioxide and consequently the pH of Atlantic Water near Iceland has lowered 0.1 unit. This is a significant change which affects the sea water calcium carbonate solubility. The rates of these changes are increasing. The processes involved and the conditions near Iceland will be dealt with and the sensitivity of the marine ecosystems considered.