

FINSKEN, Sea level scenarios Status report and plans for 2002

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1. Progress and results during 2001

The analyses of the observed variations of sea level during the 20th century and the trends were completed and the results published (Johansson, M., Boman, H., Kahma, K.K. & Launiainen, J. 2001. Trends in sea level variability in the Baltic Sea. *Boreal Env. Res.* 6:159-179). Based on these analyses, the work for developing future scenarios of sea level was started. So far, a method for calculating scenarios of the mean sea level on the Finnish coast has been developed and some preliminary scenarios calculated, based on scenarios for the global mean sea level rise, land uplift and the NAO index.

The scenarios are based on the global mean sea level scenarios of the Third Assessment Report of the IPCC, which in turn are based on the emission scenarios of the SRES. So far, only mean, maximum and minimum scenarios have been considered, but it is possible to consider different emission scenarios separately.

Studies for the scenarios of sea level probability distributions and maxima were also started, based on extrapolation of the trends observed during the 20th century.

2. Plans for 2002

The scenarios for mean sea level will be further refined, including an updated scenario for the NAO index. These scenarios, as well as updated values for the land uplift on the Finnish coast, will be published as scientific papers. It is also possible to calculate different scenarios using different SRES driving scenarios.

Some scenarios for the probability distributions and the extreme values will be developed. So far, the factors affecting this short-term variability have not yet been identified, and thus it is not possible to develop scenarios based on different climate scenarios. Instead, the scenarios developed will be based on extrapolation of the present trends in these short-term variations. The emphasis will be on the occurrence and probability of high sea levels, usually being the most important issue in practical applications.

3. New publications

Posters:

Johansson, M., Boman, H., Kahma, K. and Launiainen, J. 2000. Trends in sea level variations in the Baltic Sea (poster abstract). *Man and the Baltic Sea. Third Environment Symposium of the Maj and Tor Nessling Foundation.* 2-3 October 2000, Helsinki, Finland.

Kahma, K. K., Boman, H., Johansson, M. and Launiainen, J., 2001. North Atlantic Oscillation and sea level variations in the Baltic Sea. *ICES Symposium, Hydrobiological Variability in the ICES Area, 1990-1999.* 8-10 August 2001, Edinburgh, Scotland.

Kahma, K., Johansson, M. & Boman, H., 2001. Relative land uplift in the Baltic Sea and the North Atlantic Oscillation. Paper presented in: *IAG International symposium on Recent Crustal Movements SRCM'01.* 27-31 August 2001, Helsinki, Finland.