

The sensitivity of Svalbard's marine ecosystem towards climatic change

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In this thesis, Dr. Węśławski has produced a synthesis of the 14-year-long research carried out by himself and the team he has been leading. In order to arrive at a balanced assessment of the effects on Svalbard's marine ecosystem that could result from predicted climatic changes, this thesis is based principally on a presentation of the structure and functioning of this ecosystem with respect to shelf waters, fjords and tidal waters. Dr. Węśławski has found that the ecosystem of the region's coastal waters is subject to substantial seasonal and long-term changes of almost the same intensity. While this variability is dependent on climatic and hydrological fluctuations, Svalbard's ecosystem appears to be flexible enough to buffer environmental changes – a sign of its stability.

Taking into consideration this stability, as well as the ecosystem's structure and the fairly small temperature rise forecast for the Svalbard region during the next 100 years, the author suggests that any changes may well be quantitative rather than qualitative and does not expect any radical shifts in Svalbard's ecosystem to occur.

Uncontrolled human activities could, however, be a threat, and in this context he proposes that certain preventive measures be undertaken, *e.g.* the protection of key and endangered species, the creation of protective zones and the introduction of monitoring.

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