

## 12. CONCLUSION

This study establishes the concept of 60-year climate oscillations corresponding to the regular fluctuations of the populations and catches of the main commercial fish species. Analysing roughly 30-year alternation of the so-called "climatic epochs" characterised by the variation in the Atmospheric Circulation Index (ACI), the study revealed two ACI-dependent groups of major commercial species correlated positively with either "meridional" or "zonal" air mass transport on the hemispheric scale.

Climate periodicity serves as a basis for a predictive model of the population and catches of major commercial fish species. The model has two basic limitations.

- (1) It is applicable to the abundant fish species only (commercial catch > 1.0 - 1.5 million tons) yielded over large areas, such as North Pacific or North Atlantic as a whole;
- (2) The model is intended to analyse and forecast the long-term trends in the population of major commercial species with the assumption that general intensity of commercial fisheries will stay at its average level over the last 20 - 25 years.

The concept of generating forecasts of anthropogenic climate change and consequent changes in fish production is beyond the scope of this study. However, there is a clear link between fish production and climate, so projecting future climate changes is of importance. Not only can climate be used to forecast commercial fish yields, but also it may be possible to estimate general changes in biological production on the global scale. It is therefore important to maintain databases on routine fisheries data and climate indices in the long term, in order to track these critical processes.

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