ICES CM 2019/J:154

Regional changes in harmful algal events in the North Atlantic area over the last two decades documented using the HAEDAT database

Authors: E. Bresnan, P. Andersen, D. Anderson, S. Anglès, L. Arin, C. Belin, E. Berdalet, M. Branco, A. Cembella, D. Clarke, M. Delgado, K. Davidson, M. De Rijke, W. Eikrem, L. Fernández, M. Fernández-Tejedor , R. Fernández , E. Garces, M. Gordillo, H. Gudfinnsson, D. Jaén, B. Karlson, J. Kobos, A. Kremp, D. Kulis, M. Lemoine, L. Mamán, H. Mazur-Marzec, A. McKinney, C. H. McKenzie, S. Milligan, L. J. Naustvoll, A. Ocana, Y. Pazos, M. Poelman, P. Provoost, B. Reguera, A. René, N. Sampedro, R. Siano, J. Silke, A. Silva, S. Suikkanen, M. Vila, L. Viure, and H. Enevoldsen

Abstract

The International Council for the Exploration of the Sea (ICES) - Intergovernmental Oceanographic Commission of UNESCO (IOC) Working Group on Harmful Algal Bloom Dynamics (WGHABD) has entered data into the Harmful Algal Event (HAEDAT) database for the last 20 years. These entries report information about harmful algal events that result in management actions such as closures of shellfish harvesting areas or negative environmental impacts e.g. mortalities of marine mammals. These data, collected mainly from routine monitoring programmes, provide a wealth of information that is not routinely accessible for scientific assessment. WGHABD is producing a HAB status report based on the incidence of HAB events in the ICES area which will contribute to a Global HAB Status Report. These HAEDAT data reveal a regional distribution in harmful algal events in the North Atlantic area and changes have been observed over time. On the east coast of the USA and Canada, the majority of issues have been caused by paralytic and amnesic shellfish toxins. In contrast, diarrhetic shellfish toxins have been the dominant cause of problems in Europe while cyanobacteria events were restricted to the Baltic. Incidents of farmed/wild fish mortalities are more sporadically recorded. HAEDAT is an essential source of information to support investigation of environmental drivers such as climate change on the incidence of harmful algal events on a regional scale.

Keywords:

Harmful algal blooms, algal toxins, aquaculture, mass mortalities, HAEDAT, North Atlantic, Baltic

Contact author:

Eileen.Bresnan@gov.scot