



Influence of climate changes on the blooms and toxin production of cyanobacteria in the lakes of Latvia (north-eastern Baltic Sea region)

Linda Briede (1), Ieva Barda (2), and Ingrida Purina (3)

(1) Latvian Institute of Aquatic Ecology, Experimental Hydrobiology, University of Latvia, Riga, Latvia (lindaabriede@gmail.com), (2) Latvian Institute of Aquatic Ecology, Experimental Hydrobiology, University of Latvia, Riga, Latvia, (3) Latvian Institute of Aquatic Ecology, Experimental Hydrobiology, University of Latvia, Riga, Latvia

Global climate changes have influenced lakes ecosystems resulting in prolonged vegetation season. Long term data shows the earlier warming of water in spring and later cooling in autumn. These modifications are promoting the changes of phytoplankton community from diatom and chrysophytes dominated communities towards cyanobacteria dominated communities. Cyanobacteria are well known as prokaryotic ancient organisms involved in the production of oxygen, however nowadays they are better known as producers of potent toxins. Long term dynamic of cyanobacterial communities were investigated in lakes Burtnieku and Aluksnes (northern Latvia). Most common cyanobacterial genus were Aphanizomenon, Anabaena, Microcystis, Planktothrix as well as Gloeotrichia known to produce hepatotoxins and neurotoxins. Seasonal toxin production of cyanobacteria was screened using ELISA kits in year 2015. Implications of prolonged cyanobacterial blooms and toxin production on lakes ecosystem are discussed.