

## Phytoplankton community in Utö, northern Baltic proper on 20.7.2017

Sirpa Lehtinen, Marine Research Centre of the Finnish Environment Institute (SYKE)

Phytoplankton community in Utö, northern Baltic proper, is dominated by cyanobacteria *Aphanizomenon flosaquae* and *Dolichospermum* sp. Only some filaments of the hepatotoxin producing cyanobacterium *Nodularia spumigena* have been observed. These three species are able to N<sub>2</sub>-fixing, which may give them competitive advantage when there is plenty of phosphorus available in the sea water.

Dinoflagellates *Dinophysis* spp. and *Heterocapsa triquetra*, diatom *Chaetoceros* spp., and nanoflagellates including e.g. crypto-, prasino-, and prymnesiophytes were the other most common phytoplankton taxa (Fig. 1).

Surface temperature is ca. 15°C and chlorophyll a concentration ca. 5-6 µg/l in the northern Baltic proper, based on the Alg@line FerryBox data collected from the route of M/S Finnmaid.

### Data sources

Phytoplankton community is observed continuously using the Imaging FlowCytoBot (IFCB, <https://www.finmari-infrastructure.fi/?x118281=189689>), owned by the SYKE Marine Research Centre. IFCB is situated in the Utö Atmospheric and Marine Research Station of the Finnish Meteorological Institute (59° 46'50N, 21° 22'23E). Utö Island is located at the outermost edge of the Archipelago Sea, facing the Baltic proper (Fig. 2).

IFCB, Utö Atmospheric and Marine Research Station, and the Alg@line FerryBox network are parts of the Finnish Marine Research Infrastructure FINMARI (<https://www.finmari-infrastructure.fi/>).

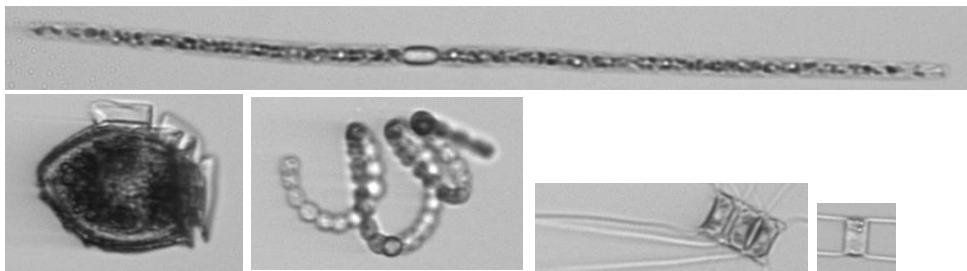


Fig. 1. Selected images taken by the Imaging FlowCytoBot (IFCB) on 20.7.2017 at Utö. Images from left to right: *Aphanizomenon flosaquae* (upper), *Dinophysis norvegica*, *Dolichospermum* sp., *Chaetoceros* cf. *wighamii*, *Chaetoceros* cf. *similis*.

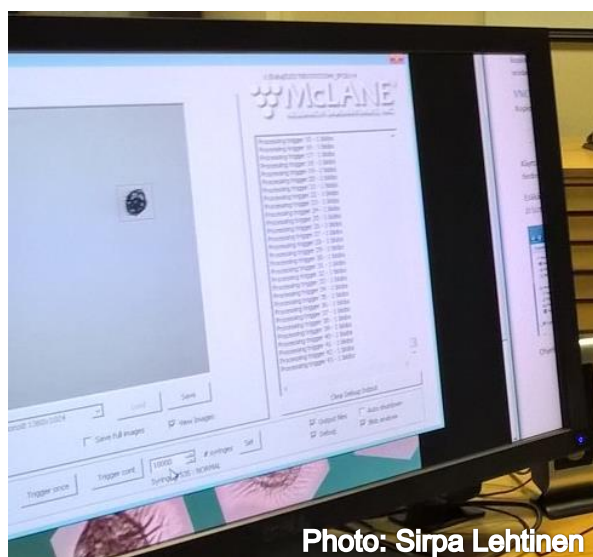


Photo: Sirpa Lehtinen

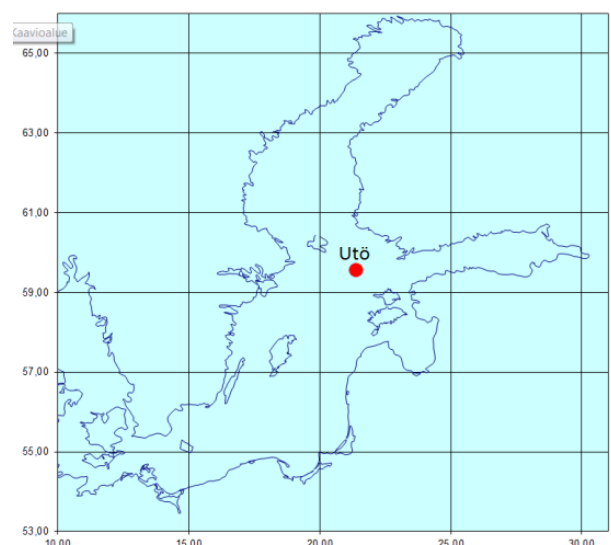


Fig. 2. Phytoplankton cells passing the flow-through system of the Imaging FlowCytoBot (IFCB) can be seen in real time in the Kumpula laboratory in Helsinki (left). IFCB is owned by the Marine Research Centre of the Finnish Environment Institute (SYKE), and it is situated in the Utö Atmospheric and Marine Research Station of the Finnish Meteorological Institute (FMI). Utö island is located at the outermost edge of the Archipelago Sea, facing the Baltic proper (right).