PLANKTON BIODIVERSITY IN THE BELGIAN PART OF THE NORTH SEA

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Planktonic organisms are indispensable for the functioning of marine food webs and are considered as one of the major drivers of global biogeochemical cycles. Because of their short life cycles, these organisms respond rapidly to environmental changes and consequently their abundance and species composition are indicators for the health of the pelagic ecosystem. The planktonic community is composed of numerous organisms from distinct taxonomic groups and their sizes range from about 0.2 µm up to 2 mm. The traditional sampling techniques, such as the WP2 net, filtering, and microscopic identification and counting, are still conducted. These are now complemented by new continuous sampling technologies such as the real-time high resolution underwater camera (VPR) and the Imaging Flow Cytometer which is connected to the continuous water flow system of our RV Simon Stevin. Furthermore, the (semi-) automated data processing software associated with these and other new technological developments (Zooscan and Flowcam) reduce the processing time of samples substantially. Combining these biological sensors, nearly the full size spectrum of phyto- and zooplankton is covered. Additionally, the phytoplankton fluorescence and productivity can be studied using the Fast Repetition Rate Fluorometer (FRRF). This talk illustrates how the Flanders Marine Institute and LifeWatch infrastructure study and quantify the plankton communities in the Belgian part of the North Sea.