# 2013 Freshwater Eionet Workshop - 19/20 September 2013, Copenhagen

## Session 1: Use of the data, integration and DPSIR assessment, towards decentralised reporting system

## Document 1d: ArcGIS Online visualisation of spatial and tabular data of Water Directives and SoE data in the WISE map viewer by Miroslav Fanta, ETC/ICM

### Background

**Interactive WISE maps** (<http://www.eea.europa.eu/themes/water/interactive/water-live-maps/all-water-live-maps>)areannually updated and enlarged by ETC/ICM according to the EEA requests. Existing maps are grouped into several map viewers as follows:

* SoE Water quality in rivers and lakes:
  + Mean annual total ammonium in rivers by country, BOD in rivers by country and by national RBD, Density of WISE SoE River monitoring stations by national RBD
  + Total phosphorus in lakes, Nitrate in rivers, Orthophosphate in rivers
  + Overview of WISE SoE monitoring stations
* SoE Water quality in groundwater:
  + Nitrates, Nitrites, Ammonium in groundwater by country (and by WFD groundwater body - added in 2013)
* SoE Biological elements in Rivers and Lakes:
  + Macroinvertebrates in rivers, Macrophytes in lakes, Phytobenthos in rivers, Phytoplankton in lakes - all by country, by station
* SoE Water quantity:
  + Streamflow Stations, Total water abstractions, Total water use (6 maps together)
* State of bathing water
* UWWTD maps:
  + Agglomerations, big cities / big discharges, treatment plants, receiving areas + catchments of receiving areas, UWWTD compliance data
* GMES maps - Oceanographic variables:
  + Ocean salinity, ocean currents, ocean temperature
* WFD maps:
  + Ecological + chemical status of surface water bodies, WFD surface water monitoring stations
  + Chemical + quantitative status of groundwater bodies, WFD groundwater monitoring stations
* SoE TCM maps:
  + Orthophosphates, Oxidised Nitrogen, Chlorophyll A in seawater, Hazardous substances in biota
  + Marine waters influenced by river run-off and terrestrial inputs

In 2013, most of maps are transferred from the previous Flex environment into the ArcGIS Online environment. This change of software tools used for map production allows a wider variety of configuration of the final maps, easier management and update of maps. In addition, attribute information assigned to the interactively selected spatial objects can be displayed on the screen. For selected maps, a time slider is implemented to display data from various reporting periods one after another or fluent changes in data classification during specified periods.

We suppose that displaying of the attributes assigned to the entire dataset and filtering of data will be available in the future.

Map services used for the creation of these maps can in principle be used in many various ArcGIS Online map compositions, and, therefore, data coming from different sources can be combined.

### Related documents and links

* State of bathing water (published ArcGIS Online map without time slider)

<http://www.eea.europa.eu/themes/water/interactive/bathing/state-of-bathing-waters>

* SoE water quality in rivers and lakes (2012 map in Flex environment) <http://www.eea.europa.eu/themes/water/interactive/water-quality-in-rivers-and-lakes>

### Issues to be discussed

* Proposals for new combined maps in which data from different sources can be displayed
* Missing functionality in published ArcGIS Online maps (if any)
* Proposals for publication of new datasets (e.g. SoE groundwater quality - data aggregated by substance, station and year - not agreed by countries up to now)

### Questions to NRCs

1. Are you satisfied with the functionality and user-friendliness of the new ArcGIS Online maps?
2. Which functionalities do you like to have together with the maps in the future (e.g. download function)?
3. What are your user needs for an integrated map viewer across all WISE data flows?