



## **webODV - a tool for the online analysis of environmental data**

Sebastian Mieruch and Reiner Schlitzer

Alfred-Wegener-Institute, Bremerhaven, Germany

Ocean Data View (ODV) is a widely used software package for the analysis, exploration and visualization of oceanographic and other environmental data. ODV is free software and is used by about 10,000 researchers worldwide. It runs on Windows, Linux and Mac and supports (in addition to the ODV format) several data formats like ASCII text or NetCDF.

ODV is perfectly suited for working on a personal computer on local datasets (Internet connection is not required). However, the science data landscape changes. Today many large international and national projects assemble for instance community datasets (e.g. World Ocean Atlas, SeaDataNet, GEOTRACES), which reside on servers and are updated from time to time. Further, novel web technologies open opportunities to provide the analysis of data in an online environment bringing the user to the data and not vice versa.

In the framework of the SeaDataCloud (SDC) project an online version of the ODV software is being developed named webODV. webODV provides ODV functionality via a user-friendly web browser interface, which communicates via WebSockets with ODV instances on the server, which again have access to server based datasets. Neither local software must be installed, nor heavy data downloads are needed, while webODV can be used on any operating system and any devices (desktop, laptop, tablet, smartphone) as long as an Internet connection is available. This concept simplifies the access to complex datasets for scientists, policy makers and the public and increases the dissemination and usefulness of the data. webODV can be integrated into online workflows and can be used for collaborative work. It can be customized for special needs and can well support outreach, workshops and education activities, without demanding powerful end-user hardware.

webODV services are embedded in Docker containers and thus modular, flexible and easy to use on server or cloud systems. In this presentation we show:

- the basic concept of webODV
- the embedding into Docker containers
- the integration into the SDC project
- demonstrations of different services for data extraction, visualization and quality control
- how to include webODV into your server/cloud infrastructure