



## JOIN: Jülich OWS Interface

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A large amount of global and regional environmental data is being produced from processing, analysis and model calculations. Building operational services for analysis and interpretation of such datasets is becoming more and more challenging due to different data formats, data protocols, access restrictions, large number of data sources and ever increasing data sizes. We present a key step to build an “interoperable” global data network to effectively analyze and interpret such datasets.

The Jülich OWS Interface (JOIN) provides interoperable web services for modeling and emission data sets allowing for easy download and visualization of multi-dimensional atmospheric composition and emission data via the internet. The European project Monitoring of Atmospheric Composition and Climate (MACC) provides daily analyses and forecasts of the global and European atmospheric chemical composition using a comprehensive modeling and data assimilation system. These data are made available in the form of different catalogs either stored locally on the Jülich WCS server or accessed from other WCS servers from European and international partners. JOIN provides a user friendly interface for flexible selection of data sets delivered from WCS servers. The user can select a geographical region, time range and different variables from the selected dataset and then can download or visualize the data in the form of maps, vertical cross sections or time series. A special feature is the comparison of model results with observational data in near real-time (daily updates). Join uses standards like WCS, CF-netCDF and INSPIRE to test in a real-life environment. It is being implemented at present and put to regular use in the MACC project’s global boundary condition service at <http://macc.icg.kfa-juelich.de:50080/> for regional air quality models, or as a front-end to the TFHTAP multi-model experiment database at <http://htap.icg.kfa-juelich.de:50080/> hosted at IEK-8, Forschungszentrum Jülich, Germany.