Beitrag ID: **9** Typ: **Presentation**

Forecast system for urban air quality in the city of Hamburg, Germany

Donnerstag, 8. Juni 2023 13:30 (15 Minuten)

Air quality in urban areas is an important topic not only for science but also for the concerned citizen as the air quality affects personal wellbeing and health. At Hereon in the project SMURBS (SMART URBAN SOLUTIONS) a model to forecast urban air quality at high spatial and timely resolution was developed (CityChem) with the aim to carry out exposure studies and future scenario calculations and provide current air quality information to the citizen at the same time. The daily model output is presented in the 'Urban Air Quality Forecast'Tool, which is based on an ESRI and ArcGIS application. The tool helps citizens and decision makers to investigate forecasted 24 hour pollutant data for 7 pollutants including NO_2, NO, O_3, SO_2, CO, PM10, PM25 along with the AQI Index. The model output is generated in the form of network Common Data Form (netCDF) files which are brought into the GIS environment using ArcGIS API for JavaScript. The netCDF files are converted into multidimensional rasters to display air pollutants information over a 24-hour period. These rasters are then shared as web services over Hereon's Geohub Portal from where they are consumed to be visualized over the Urban Air Quality Forecast Tool. The data on the tool is updated daily via cron jobs which run the complete implemented workflow of fetching the newly generated model outputs and updating shared web services. This tool offers many different opportunities to investigate the current air quality in Hamburg.

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Sitzung Einordnung: Talks