

The **Forschungszentrum Jülich (FZJ) experimental water resources bulletin (eWRB)** gives a **regular seasonal update** on the **current state and the upcoming potential evolution of terrestrial near-surface water resources**. The eWRB is an open access research data product for an expert environmental sciences and stakeholder audience as well as the interested public.

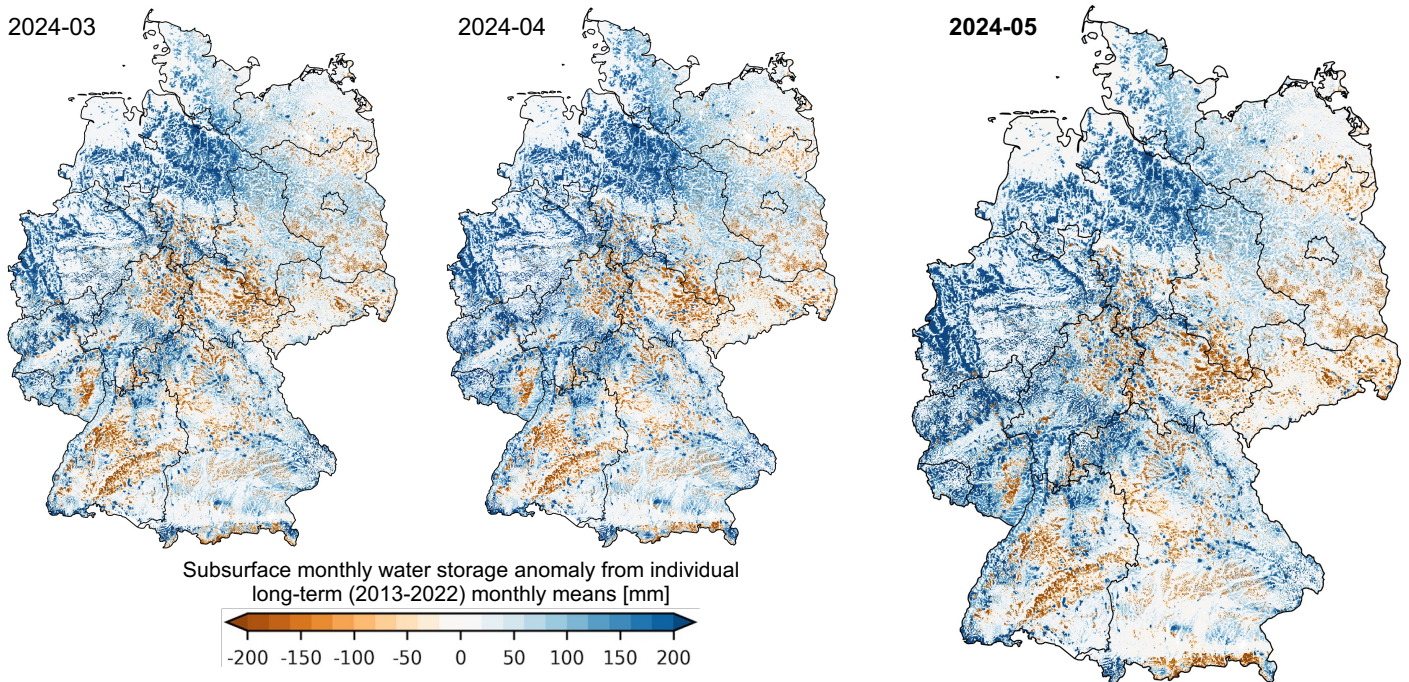


Fig. 1: Monthly anomalies of total subsurface water storage, i.e. shallow groundwater, for the past season with respect to long-term monthly means from 2013-2022 in mm water column. With the eWRB, the total subsurface water storage includes the shallow soil zone and groundwater to a depth of 60m. Data: Hindcasts from ParFlow/CLM simulations with ECMWF HRES atmospheric forcing.

State and possible developments: The replenishment of subsurface water storage continued during Spring. Positive total subsurface water storage anomalies are anticipated for Summer and Autumn, especially in the north-west of Germany. However, dry conditions might still persist in some regions, as indicated by a 50-member ensemble forecast initialized on 2024-06-01.

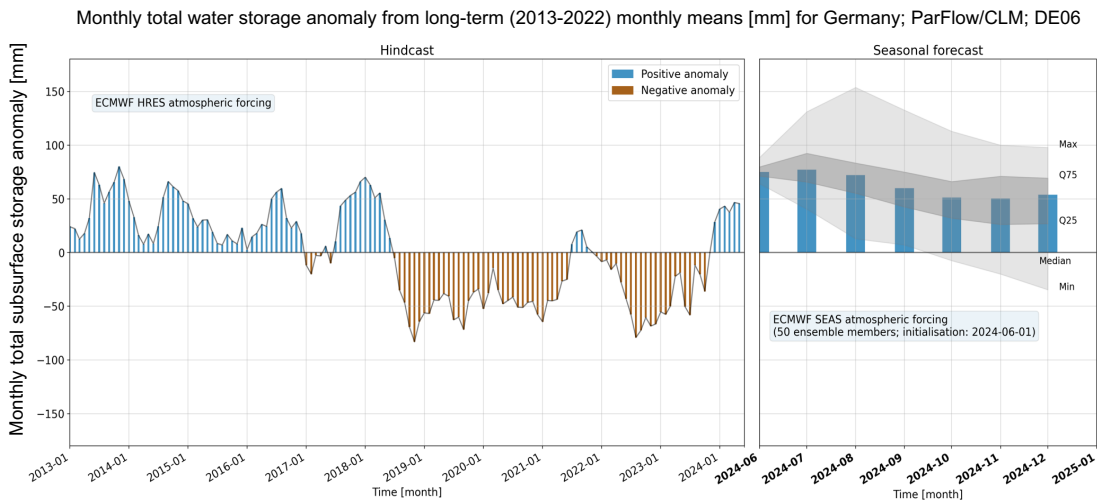


Fig. 2: Past evolution of monthly total subsurface water storage anomalies as spatial means for Germany from 2013-Jan to 2024-May as simulated at 611m resolution with the ParFlow/CLM (www.parflow.org) integrated hydrological model based on daily forecasts driven by ECMWF HRES deterministic atmospheric forcing ("hindcast"), and 7-months forecast from 2024-Jun to 2024-Dec based on ECMWF SEAS 50-member ensemble ("seasonal forecast").

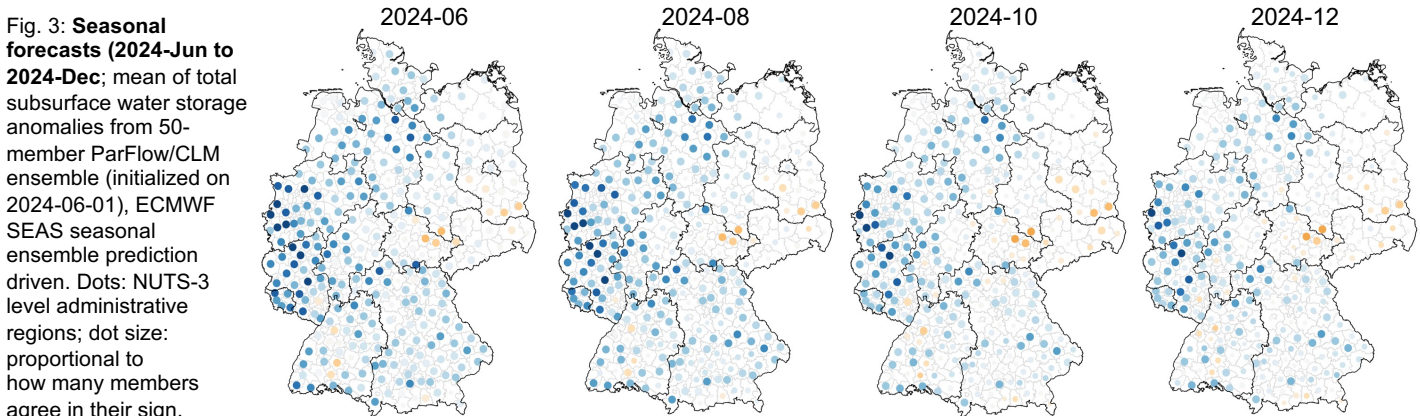


Fig. 3: Seasonal forecasts (2024-Jun to 2024-Dec; mean of total subsurface water storage anomalies from 50-member ParFlow/CLM ensemble (initialized on 2024-06-01), ECMWF SEAS seasonal ensemble prediction driven. Dots: NUTS-3 level administrative regions; dot size: proportional to how many members agree in their sign.

FZJ Experimental Water Resources Bulletin for Germany, usage conditions and disclaimer

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Updates

The FZJ Water Resources Bulletin information products are prototypical scientific products, that are part of a knowledge transfer towards practical real-world applicability. The forecast products are generated in a quasi-operational mode, i.e., they are not part of an official forecasting service. Nevertheless, the FZJ Water Resources Bulletin project team attempts to provide a forecast at the beginning of each meteorological season, within reason.

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