

WS Seasonal Forecasting

WS:	WP1 Weather	WP2 Power	WP3 Applications	Deliverable	#, Due	Collaboration
Seasonal forecasting (WP1)				Workshop / Paper	D1.5 / M19	Hydro TCP, Hydrogen TCP, Biomass TCP

Seasonal forecasts are growing in importance for the power grid planning, especially, where hydropower, storage and other technologies are involved. This topic is also interlinked to the uncertainty forecasting work stream and will focus on the communication between weather and energy community. Seasonal forecasts are a subset of weather forecasting, and are therefore managed by WP1. WP3 will interlink these communities and serve as a platform to establish new applications for the use of seasonal forecasting in the energy community and the transformation into a carbon free energy system.

D 1.5: Convene workshop and develop paper on seasonal forecasting, emphasizing hydro and storage (M19)

Data source SEASS ensemble mean from C3S ECMWF | Reference 1993-2016 | Run

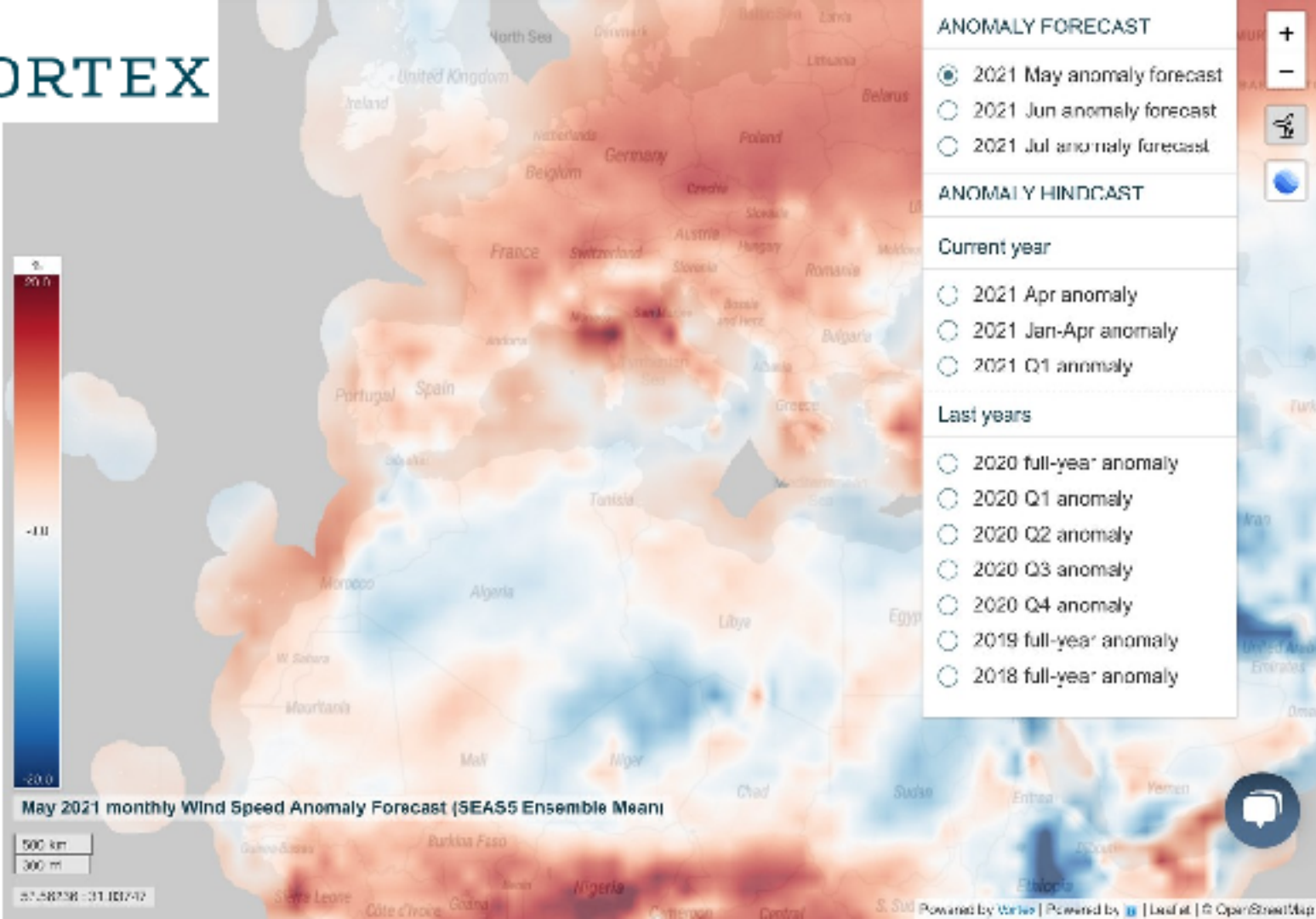
Background image: Vortex FdC

Wind Speed Anomaly @ 100m - [%]



Key Questions to be Addressed

- What is the temporal scope of look-ahead periods to be considered in this task?
 - Months-ahead, season-ahead, year-ahead, years-ahead?
- What types of seasonal and sub-seasonal forecasts related to electric grid system applications are currently available?
 - What look-ahead time scales?
 - What are the forecast variables and formats?
- What forecast methods are currently in use?
- What is the current-state-of-the-art for performance?
 - What are the appropriate metrics to assess performance?
 - What is the state-of-the-art performance level with respect to these metrics?
 - Are there patterns (look-ahead times, weather regimes etc.) in which methods produce the best results?
- What are the current and anticipated research issues?



Draft High-level Work Stream Plan

- **Months 1-12 (2022): Assemble Team & Gather Information**
 - Define temporal scope of the forecast look-ahead period to be considered
 - Assemble a (hopefully) diverse team (e.g. providers, users, researchers) of collaborators
 - Gather information about methods, uses, research activities, and forecast performance
- **Months 12-18 (1st Half 2023): Plan Workshop**
 - Identify topics to be addressed and speakers
 - Establish venue, develop logistics and disseminate info to potential attendees
- **Month 19 (Summer 2023): Conduct Workshop**
- **Months 19-30 (Summer 2024): Prepare, submit, and publish journal article**
 - Present information at broadly attended technical conference(s) or workshop(s)
 - Prepare journal article from project team contributions, 2023 workshop & conference presentations
 - Submit article and work it through the publication process

Desired Additional Contributors

- Representatives from collaborating TCPs (i.e. Hydrogen, Hydro, Biomass)
- Forecast Providers that produce operational seasonal-scale forecasts
- Electric-system-related users of sub-seasonal/seasonal forecasts
- Current/former participants in seasonal-scale forecast research projects
- Persons familiar with the assessment of forecast performance/value for electric system applications
- Other Electric system stakeholders with an interest in this topic