

**PARALLEL SESSION C: IMPACTS AND APPLICATIONS**  
**C2: REGIONAL ATMOSPHERIC AND OCEAN CIRCULATION SYSTEMS**

**Mistral and Tramontane in MedCORDEX Simulations: Present Day and Future Climate**

**Anika OBERMANN**

Goethe-Universität Frankfurt - Germany

The Mistral and Tramontane are mesoscale winds in the Mediterranean region that travel through valleys in southern France. The cold and dry Mistral blows from the north to northwest, and travels down the Rhône valley, between the Alps and Massif Central. The Tramontane travels the Aude valley between the Massif Central and Pyrenees. Over the sea, these winds cause deep-water generation, and thus impact the hydrological cycle of the Mediterranean Sea.

The occurrence and characteristics of Mistral and Tramontane depend on the synoptic situation, the channeling effects through mountain barriers, and land and sea surface characteristics. We evaluate Mistral and Tramontane wind speed and direction patterns in several regional climate models from the MedCORDEX framework with respect to these challenges for modeling.

Furthermore, time series of Mistral and Tramontane days events in historical and projection runs are derived from sea level pressure patterns. The development of Mistral and Tramontane days per year and the average length of such events is studied, as well as the development of wind speeds.

Anika Obermann<sup>1</sup>, Bodo Ahrens<sup>1</sup>

<sup>1</sup>Goethe-Universität Frankfurt