

## **Wintertime pan-Atlantic extremes in Europe and North America**

**Gabriele Messori (Uppsala University, Sweden)**

### *Abstract*

There is a growing awareness of the relevance of so-called compound extremes, namely multiple extremes that are connected by a systematic co-occurrence in space and/or time.

This interest stems from the high-impact nature of many compound extremes.

In this presentation I will consider the case of concurrent wintertime cold spells over North America and wet and windy weather over Europe - spatially compounding extremes which have occurred ostensibly frequently in recent years. I will first provide a statistical analysis of cold spells over North America and wet and windy extremes over Europe, showing that their co- occurrence is unlikely to be a result of random variability. Next, I will argue that we can identify recurrent large-scale atmospheric anomalies which provide favorable conditions for these spatially compounding pan-Atlantic extremes.