

**Plenary Talk** PV I Mon 9:00 ELP 6: HS 3+4  
**The role of the North Atlantic Ocean for European Climate**  
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The role of the North Atlantic ocean circulation in shaping European climate variations has hardly been overestimated in scientific or popular scientific discussions alike. In this contribution, I will examine the

complex dynamics of the Atlantic Meridional Overturning Circulation (AMOC) and its pivotal role in the Earth's climate system for both the current and the potential future evolution of European climate. I will put these in context of our fundamental understanding as well as recent advances. I will further discuss the role of the North Atlantic circulation in the discussion of the concept of tipping points in the climate system.