

Measurement and prediction of heavy precipitation

Research stay at the University of Missouri

Associate Professor at Aalborg University (AAU) Søren Thorndahl has established a research collaboration with the University of Missouri, Columbia, Missouri, USA. The collaboration concerns measurement and prediction of heavy precipitation. As part of the collaboration, Søren Thorndahl will embark on a research stay in Missouri from August to December 2019.

Weather radar

The research collaboration builds on a research field about measurement of precipitation by means of weather radars. A weather radar can be used to measure where and when heavy precipitation occurs and thereby map risks of heavy precipitation. The ability to measure precipitation with high accuracy – especially over cities – is a key part of determining a change in precipitation caused by climate change, and a means to provide better climate-proofing for cities, thereby avoiding flooding and reducing contamination. Weather radar data is used to prepare statistics for where and how much it rained, which can be used for, e.g., dimensioning drainage systems. In addition, weather radar data can be used for monitoring where and how much precipitation is expected within a short time horizon. Both applications are important in terms being able to handle and protect ourselves against the increasing precipitation volumes caused by climate change.

Research collaboration

The University of Missouri is a leader in development and use of weather radars that can provide very high-resolution measurements in time and place. More specifically, the research collaboration will consist of development of methods for adjusting and quality assuring data, as well as development of calculation models that predict, at a given time horizon, how much precipitation to expect at a location in question.

The collaboration will contribute to AAU's internationalisation activities and help channel latest knowledge to Denmark, to the benefit of students at AAU and the water industry in general. The collaboration is expected to lead to the preparation of scientific articles as well as presentations at Danish and international conferences and meetings.