Nowcasting: Advances and Applications

Baines Wing, University of Leeds
Wednesday 28 February 2024, 1.30pm – 5.30pm

Abstract

Nowcasting is the process of obtaining current observations of the atmosphere and using them to generate rapid, short-term predictions of the future atmospheric state. It requires analysis of real time observations (e.g. weather radars, automatic weather stations and satellites) and the application of predictive techniques to forward propagate these observations. The speed and practicality of nowcasting means that it plays a crucial role in early warning systems of natural hazards around the world.

The emergence of data science techniques is starting to have a large influence on advancement in nowcasting, with machine learning approaches now playing a pivotal role in pushing the frontiers. Communication technologies also offer opportunities for rapid collection of data and redistribution of alerts to users, within minutes.

In this fast-moving area of meteorology, the time is right to bring together scientists working on related problems in different sectors and with different tools. There will be particular value in sharing knowledge around the application and benefits of nowcasting from industry organisations outside of research. This meeting, therefore, brings together experts, researchers and end-users to discuss the latest advancements as well as the practical application of nowcasting across a range of use cases. It will provide attendees with an understanding of both what is required by users and what is currently possible with the latest observations and data science.

Meeting Organiser – Joey Smith

Time	Session	Speaker
13:30	**Registration & Refreshments**	
13:50	**Welcome and Nowcasting Introduction**	Joey Smith
14:00	**Nowcasting – Opportunities and Challenges**	Estelle De Coning
14:30	**Nowcasting Advances for Africa: Estimating the Likelihood and Impact of Convective Storms**	Seonaid Anderson
15:00	**A Review of Developments in AI Nowcasting**	Claire Bartholomew
15:30	**Refreshment Break**	
16:00	**Warning for Impactful Rainfall: Recent Developments in Science and Operations at the UK Met Office**	Katie Norman
16:30	**The Application and Challenges of Using Nowcasts in Operational Flood Forecasting and Warning**	Neil Ryan
17:00	**Panel Discussion**	
17:30	**Meeting Close**	

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