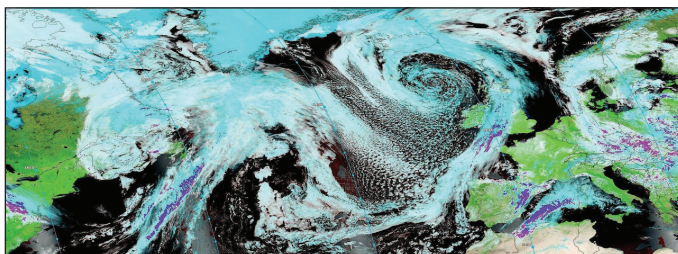# WAVES TO WEATHER

Collaborative Research Center

funded by **DFG** Deutsche Forschungsgemeinschaft

27 May 2013, MODIS

Our ability to predict the weather up to a week or more ahead saves our societies billions of Euros annually and protects human life and property.

Although forecast quality has been continuously improving, some weather situations in a chaotic atmosphere, are intrinsically hard to predict.

The aim of "Waves to Weather" is to deliver the underpinning science urgently needed to pave the way towards a new generation of weather forecasting systems.

The consortium consists of:

Ludwig-Maximilians University, Munich
Johannes Gutenberg University, Mainz
Karlsruhe Institute of Technology, Karlsruhe
Technische Universität München, Munich
Ruprecht-Karls University, Heidelberg
German Aerospace Center, Oberpfaffenhofen
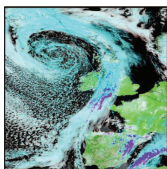Universität Hamburg, Hamburg

Speaker: **George Craig**, LMU, Munich
Deputy Speakers: **Volkmar Wirth**, JGU, Mainz
                  Peter Knippertz, KIT, Karlsruhe

Research in "Waves to Weather" is organized along three main axes:

Upscale error growth
How do kilometer-scale disturbances project coherently onto synoptic scales to create uncertainty?

Cloud-scale uncertainties
How do cloud processes interact with dynamics to accelerate error growth and create high impact weather?
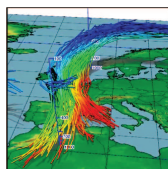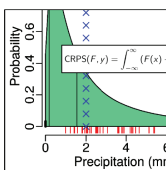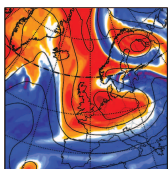

Predictability of local weather
How does the synoptic-scale flow constrain the local weather events where impact occurs?

Methods used in "Waves to Weather" include:

- Numerical models
- Advanced statistics
- Visualization methods

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