The Diamet Project as a Context for Delivering School Science

H.M. Reid (1), I.A. Renfrew (2), G. Vaughan (3), and C. Dearden (3)

(1) Glasgow Science Centre, United Kingdom , (2) University of East Anglia, United Kingdom, (3) University of Manchester, United Kingdom

Forecasting high winds and heavy rain accurately is a high priority for national weather services. One of the most challenging tasks is to predict localised regions of severe weather within larger-scale storm systems. The synoptic-scale storm may be reasonably well forecast, but pin-pointing the smaller regions of intense rainfall or severe winds that are of greatest impact on society is much more difficult.

The DIAMET project aims to address this challenge by: improving our understanding of diabatic processes and how these affect storm development, as well as improving our representation and prediction of such weather systems in numerical weather prediction systems. DIAMET is part of the Natural Environment Research Council's (NERC's) Storm Risk Mitigation research programme. The project has used a research aircraft to fly directly into storms and collect observations as well as a variety of numerical modelling and data assimilation methodologies.

This major research project on storms also presents a fantastic opportunity for school science engagement. The project's Impact Plan has funded the production of 2 professionally-produced educational videos about (i) the science of weather forecasting and (ii) the science basis of the DIAMET Project. The videos contain footage from the Met Office and the research aircraft, as well as interviews, graphics and to-camera explanations. They are freely available on the project website alongside information, resources and activities to support teachers in the delivery of science at Key Stages 3 and 4. We are now actively promoting this material through conferences, the Royal Meteorological Society and specialist educational websites.

Topics include: change of state, latent heat, the particle model and uses of the Electromagnetic Spectrum. There is also an opportunity for pupils to investigate some of the DIAMET data and draw conclusions about the meteorological conditions.