



THORPEX and Extra-tropical Dynamics: Some Core Issues.

H. C. DAVIES

ETH, IACETH, Zurich, Switzerland (huw.davies@env.ethz.ch)

THORPEX is an international research programme whose scope is global and that aims to accelerate improvements in the accuracy of 1-day to 2-week high impact weather forecasts. The programme's priorities are :- to address the global-to-regional influences on the evolution and predictability of weather systems (including the exploitation of ensemble technique); to design and deploy effectively observing systems allied to the sophisticated assimilation of the observations; and to promote the effective societal, economic and environmental benefits of improved forecasts.

In this presentation the focus is on specific aspects of extra-tropical atmospheric flow dynamics that are both central to the programme and that can help underpin advances in prediction. In particular attention is directed at (a) the dynamics of jet streams, (b) synoptic and sub-synoptic flow features that can perturb the jet and serve as far-upstream precursors of extreme weather events, (c) the diagnosis and attribution of forecast errors, and (d) the contribution of weather systems to sub-seasonal and seasonal forecasts.