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Vertical and horizontal resolution, hydrostatic and non-hydrostatic dynamics

Monday, 19 April 2021 12:45 (1 hour)

During this presentation, we will discuss two of the questions faced by numerical weather prediction scientists as forecast models reach horizontal resolutions of 6 to 2 km:

- Do we need to abandon the primitive equations for a non-hydrostatic system of equations?
- Do we still need a deep convection parametrisation?
- and we will show what answers to these questions are given by very high resolution simulations of the IFS.

By the end of the presentation, you should be able to:

- discuss the limits of the hydrostatic approximation for numerical weather prediction
- explain the dilemma of parametrizing deep convection versus permitting explicit deep convection at resolution in the grey zone of convection

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