



## **An innovative technique to probe the middle and upper atmosphere**

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The middle atmosphere has gained more and more importance for the purpose of weather and climate prediction, since increasing evidence has indicated that the troposphere and stratosphere are more closely coupled than assumed before. Significant effort has been made towards a more comprehensive representation of the atmosphere to better capture the stratospheric variability as well as the stratospheric-tropospheric interactions, for example during Sudden Stratospheric Warming (SSW) events.

Despite these advances, it remains difficult to measure in the upper layers of the atmosphere. Over recent years, new developments in the field of low-frequency inaudible sound (infrasound) have led to an innovative method for evaluating numerical weather prediction models. In this presentation, the general technique is described and a case study is presented in which stratospheric forecasts of the European Centre for Medium-range Weather Forecasts (ECMWF) of the 2013 major SSW are evaluated.