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## **Monitoring the changing energy content of a storm system through the observation of gravity waves in the strato- and mesosphere**

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Prediction of storm intensity and track is not only linked to the quality of the underlying model but also to the information concerning the initial state of the atmosphere and the storm system itself.

It is presented the idea that atmospheric waves which are emitted by a storm system and observed through remote sensing and in situ techniques in the strato- and mesosphere can help quantifying the changing energy content of a storm allowing a better mid-term storm forecast.

In a case study the possible effects of a low pressure front system on gravity wave signatures in the mesosphere is investigated. It is based on meteorological rocket measurements ("falling spheres") above Wallops Island (37°N, 75°W) providing highly resolved temperature data between 50km and 70km height.

In order to extent this case study to the Mediterranean region a balloon-based campaign is planned for 2011. The campaign concept will be presented.