Very high resolution non hydrostatic LAMs on a operational Linux Cluster.

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A set of very high resolution non hydrostatic limited area models (LAMs) initialized
with different initial and boundary conditions are running daily at the Sardinian Mete-
orological Service of the Regional Environmental Agency (SAR-ARPAS). The setup
is applied with the aim to improve the operational short range weather forecast of the
Service with particular attention to intense, mostly rare and potentially severe, events.
The computational load of daily run and its post-processing has been addressed by a
cost effective Beowulf class II Linux Cluster: the system is discussed both from a mod-
elling and computational point of view. Simulations based on case studies have been
performed and preliminary results for high impact weather over the Sardinian area are
evaluated. For this cases the non hydrostatic models improve the weather forecasts to
respect the ECMWF-GCM and to the operational chain based on hydrostatic LAMs.