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How are we prepared for the next explosive eruption in Iceland?

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The most recent explosive eruption in Iceland occurred in 2011 at Grímsvötn volcano. Since then, the Icelandic Meteorological Office has improved the monitoring network, data integration, forecasting capabilities and operational response. The radar network will be the primary source of information on volcanic ash detection, providing input data to the VESPA (Volcano Eruption Source Parameters Assessment) system for a rapid estimate of plume height with a vertical resolution of up to 500 m. Calibrated streaming cameras will supplement this information by providing height estimates with a temporal frequency of 5 minutes and under optimal conditions provide a resolution of up to the order of tens of meters. Additional estimates of plume heights will come from satellite images received in near real time over the EUMETCAST satellite data dissemination service. Plume height and mass flow rates as evaluated by VESPA will be used to initialize the tephra dispersal system which will execute the NAME model over the national domain. A newly interactive portal aimed at a wide variety of end users from specialists to the general public allows the model results to be visualized and queried for georeferenced details. The model results are pushed through an internal system and made available to the forecasters on duty in near real time, within 10 minutes of the run start, for the issuance of the first two SIGMET (Significant Meteorological Event) messages while waiting for the L-VAAC official forecasts. Model results are also provided on IMO's website. Plume heights and additional information on the ongoing eruption will be distributed through VONAs, sent out by specialists on duty, and available on IMO's web-site in real time. In this presentation the operational framework of this integrated response, highlighting the expected timeline will be presented with an emphasis on testing and practicing and future steps.