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# Recent advancements in volcanic ash detection and forecasting at VAAC Darwin: Science into Operations

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The function of the Volcanic Ash Advisory Centre (VAAC) Darwin is to support the volcanic ash safety risk assessments of all levels of the aviation sector by providing advice on the presence of volcanic ash in the atmosphere, the potential for aviation relevant volcanic activity to occur and the uncertainties and limitations associated with ash forecasts. The products and services provided by the VAAC are delivered through a diverse range of media to stakeholders spanning the aviation sector as well as scientific, government and media organisations. Volcanological observatories near active volcanoes are the first line of defence in the monitoring of volcanic activity. VAAC Darwin have implemented a number of new initiatives to improve communication with volcano observatories using popular and widely available social media platforms (WhatsApp, Twitter). VAAC Darwin primarily uses meteorological satellite systems for monitoring volcanic ash clouds and dispersion and trajectory models for forecasting the distal ash cloud. Recent advancements in volcanic ash detection using operational 10 minute imagery from the Japan Meteorological Agency's geostationary satellite, Himawari-8 will be discussed as well as current and future developments in dispersion modelling practices for improved distal ash forecasting.