The area of responsibility of the Darwin Volcanic Ash Advisory Centre lies within one of the most volcanically active parts of the world, encompassing Indonesia, Papua New Guinea and part of the Philippines.

Two recent eruptions of very different scale and consequence have underlined the challenges of VAAC operations. During the eruption of Merapi in 2010, a total of 106 Volcanic Ash Advisories were issued to the aviation industry. The first advisory was issued on the 25th of October in response to advice from the Centre for Volcanological and Geological Hazard Mitigation (CVGHM) in Indonesia to warn the aviation industry of an imminent eruption. Subsequent advisories regularly included western Java including Jakarta within the forecast ash area, with Bali, Cocos Island and Christmas Island included at various times.

The much smaller Bromo (Tengger Caldera) eruption of 28 January 2010 had an effect disproportionate to its size and proximal impact, due to the ash cloud vectoring directly over southern Bali, a popular tourist destination. Significant disruption to aviation resulted, although at least two airlines actually chose to fly through the ash-contaminated area, and the airport was not closed. The details of the risk management strategy of these airlines are not known to us.

In both cases, volcanic ash concentrations could not be credibly specified in real time, owing to a number of factors. A real-time operational exchange of meteorological and volcanological observations, building on the strong cooperation between Indonesia and Australia, will assist in the future.