How do the fire detection products of MODIS and VIIRS compare in their observation of Indonesian volcanic activity?

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The Suomi National Polar-orbiting Partnership (S-NPP) satellite was launched in 2011 to provide a continuation in the environmental satellite data record following from the MODIS instruments. Given the thermal-infrared detection capabilities of the sensors on-board these spacecraft, the data they collect has utility in observing the varying nature of thermal emissions from active volcanoes. In the case of MODIS, a Thermal Anomalies/Fire product is available and, building on the algorithm this uses, a similar product has been developed using infrared data obtained with the S-NPP satellite's Visible Infrared Imaging Radiometer Suite (VIIRS). Due to the similarity of these algorithms, any differences in their detection capabilities will be due to differences in pixel size (1000 m for MODIS compared with 750 m at nadir for VIIRS) and scanning technique, and also due to the methods of data processing applied. Much work has been conducted on comparing the fire detection capabilities of these algorithms, showing increased fire detections for VIIRS as compared with MODIS, but little work has focused on comparing these products in terms of their observations of volcanic activity. Such comparison is conducted here and initial results, focusing on Indonesian volcanoes that have been active since 2011, confirm an improved performance in terms of VIIRS detections, although there are exceptions. Interestingly, comparing VIIRS detections with the fire radiative power values (available within the MODIS fire product) does not result a direct relationship and additionally, it does not appear that any particular volcanic activity type is detected more regularly by one or other sensor. These, and other observations, will be presented and explored.