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Cumulonimbus Cloud Prediction Using Rapidly Developing Cumulus Area (RDCA) Products At Ambon Pattimura Airport

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In the last decade, air transportation has become the best solution to connect every province in Indonesia, which is an archipelagic country. The process of landing and taking off airplanes is highly dependent on weather conditions. Cumulonimbus (Cb) clouds are considered the most dangerous because they can cause extreme weather such as heavy rain, hail, lightning, and can even produce thunderstorms. The delivery of information regarding the potential growth of the Cb cloud needs to be optimized to support flight safety and minimize the impact it can cause. The use of remote sensing tools, such as weather satellites and radar, is believed to be able to overcome these problems. Weather radar has an important role in generating early warnings to assist in disaster risk reduction. However, it still has limitations, especially in the area of observation when compared to satellites that have a wider coverage area. The RDCA product from the Himawari satellite is useful for determining the location of cumulus clouds that have the potential to become Cb. This research will focus on utilizing RDCA to identify Cb clouds using spatial analysis results with radar data. Research on the accuracy and precision of RDCA in identifying Cb clouds is also definitely needed and is expected to become an operational product used by every weather forecaster.