

UGM Climate Expert: Lenticularis Clouds Endanger Aviation

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Dr. Emilyya Nurjani as a climate expert of Universitas Gadjah Mada (UGM), revealed that there had occurred a phenomenon of unusual clouds that look like ufo or whirlwinds on several mountains in Java, such as Arjuno, Merapi, Merbabu, Lawu, and others. These clouds have recently been known as a type of lenticularis. Indeed, there is no relation between these unusual clouds phenomenon and a sign of upcoming disaster. Still, these clouds are unsafe for aviation activities because they can cause turbulence.

"These clouds are certainly unsafe for planes flying around them," she explained on Friday (6/11).

Emilyya added that lenticularis clouds were a common phenomenon. These clouds often appear or form in mountainous areas.

Emilyya also explained that orographic/elevation factors influence the formation of these clouds. Therefore, these clouds often occur in mountainous areas. Clouds normally appear on the windy side of mountains or the side facing the slopes (windward), but lenticularis clouds form on the leeward side. Hence, when the humid air mounts to the top of the mountain/hill, it cools and solidifies, resulting in clouds. Nevertheless, on the opposite side of the wind, evaporation occurs because the air decreases and becomes warm.



"From the surface, we can see that the clouds appear to be stagnant when air flows and the cloud-forming layers are too drained so that the lenticels will form one on top of the other. Sometimes this process continues into the stratosphere and looks like a UFO," she explained.

The lecturer at the Department of Environmental Geography, Faculty of Geography UGM, also added that there would occur a waveform of swirling whirlpool on the top of the mountain and the bottom. A part of increasing whirlpool forms is cold enough to produce rotor clouds. As is known, the air condition in these rotor clouds is very unstable and hazardous to planes flying around it. Unsafe conditions also apply to flights on the leeward side of mountains/hills as there is an immensely strong movement downward.

In addition, she also said that the appearance of lenticularis clouds would usually cause rain with medium intensity.

"Rains will fall, but it still has medium intensity because basically rain has been formed by water vapor on the windward side," she explained.

Author: Ika

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Translator: Natasa A

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