Project Title: Objective Identification of the North Australian Cloud Lines

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Synopsis: The North Australian Cloud Line (NACL) is used to describe a family of mesoscale cloud lines appearing over the Gulf of Carpentaria during periods of easterly flow. NACL can be of many types such as long thin lines of small cumuli, shallow convective clouds, or deep convective elements on the leading or trailing edges. Satellite imagery has been used to classify mesoscale cloud lines in the past, but its genesis, decay and overall climatology were limited due to coarser temporal and spatial resolution of the observations. In this project, you will develop and apply an objective identification algorithm to classify NACL using Himawari-8 satellite data available at 1 km resolution every 10 minutes over Northern Australia since July 2015. The frequency of occurrence, evolution, structure and duration of propagation of NACL will be evaluated during different seasons. The candidate should have a basic understanding of atmospheric processes and some knowledge of programming in MATLAB, Python, etc. is desirable.

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