

Kawai, H., and S. Shige, 2020: Marine low clouds and their parameterization in climate models. *J. Meteor. Soc. Japan*, **98**, 1097–1127. <https://doi.org/10.2151/jmsj.2020-059>.

Plain Language Summary: The first part of this review paper aims to provide readers with a broad range of meteorological backgrounds with basic information on marine low clouds and their importance in climate simulations. In the latter half of the paper, the concept of cloud parameterizations that determine cloud fraction and cloud water content in global climate models is introduced.

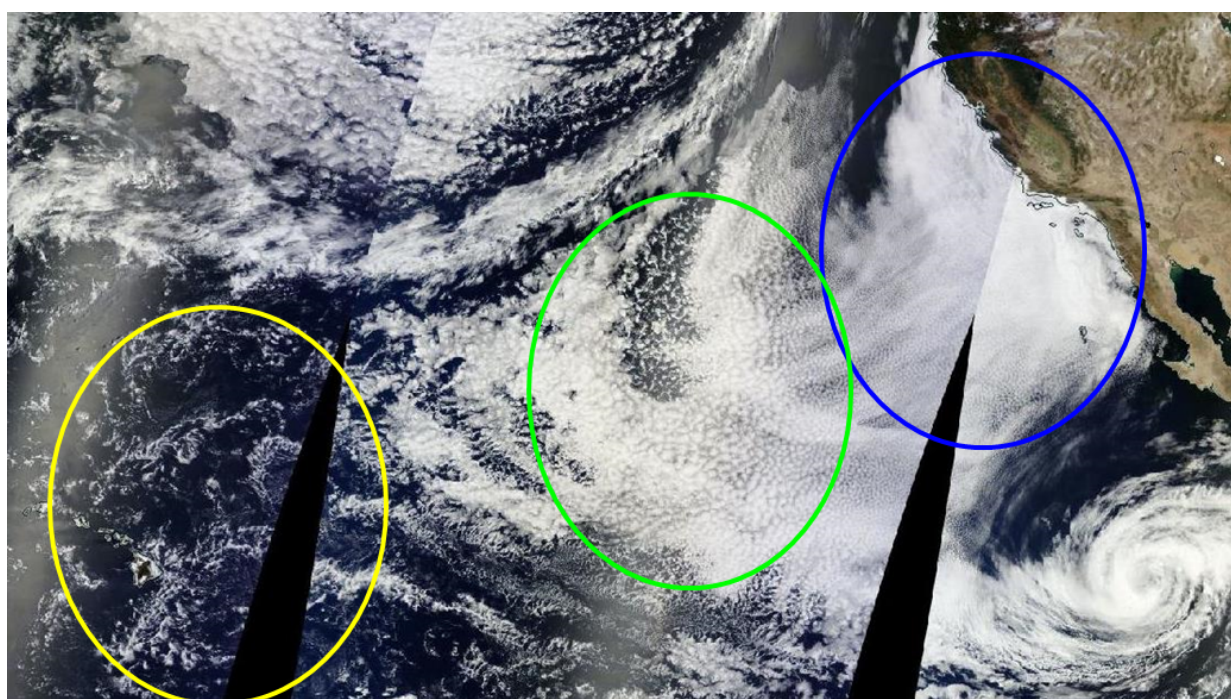


Figure 1. Visible image of marine low clouds, including stratus (blue circle), stratocumulus (green circle), and cumulus clouds (yellow circle), over an area from off the coast of California to Hawaii, acquired by MODIS on July 1, 2014. Source: NASA Worldview.

- Basic information on marine low clouds, including the global distribution and related physical processes, and the importance of such clouds in climate simulations are introduced.
- A concept of cloud parameterizations that determine cloud fraction and cloud water content in global climate models, which is sometimes called cloud “macrophysics”, is explained.
- Challenges related to cloud representation in global climate models that must be tackled in the next couple of decades are discussed.