



Understanding extreme weather caused by convective storms in south-east Asia

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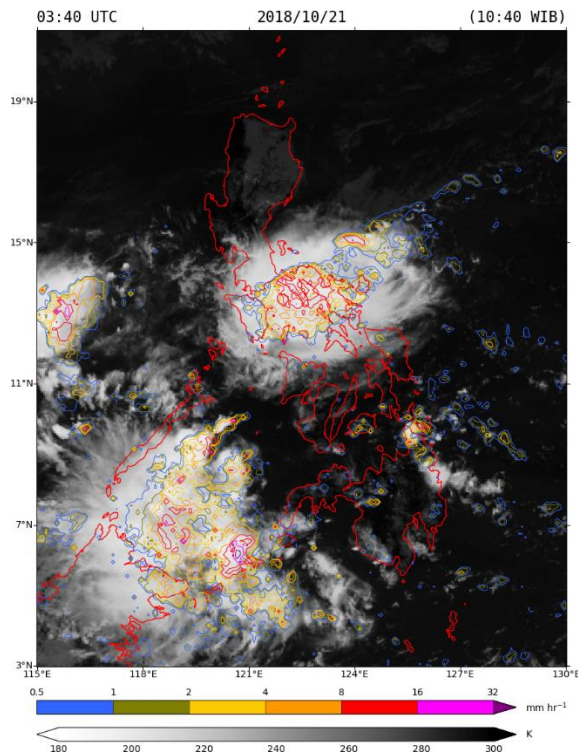


Figure 1 Satellite imagery and precipitation (coloured contours) of storms over the Philippines and Indonesia.

Mesoscale convective systems (MCSs) are intense thunderstorms which can cause extreme rainfall, resulting in life-threatening flash floods and landslides. Recent work at the University of Leeds has allowed us to identify MCSs over south-east Asia using satellite observations. This has provided us with a comprehensive data set of such storms, a valuable resource which is yet to be exploited fully. Having identified a high-impact storm from the data set as a case study, you will produce plots of the storm's structure as it moves over a highly populated area. From these we hope to improve our understanding of high-impact weather by deducing information about the physical mechanisms of the development of the storm, including how it relates to larger-scale weather features occurring at the time. If there is time, you will compare several case studies over a given location, to understand whether there are particular atmospheric conditions typically associated with severe storms. Some experience of a programming language such as Python within a Linux environment would be useful for this project.