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## Evaluating multi-task learning strategies for tropical cyclones intensity forecasting from satellite images

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Skillfully forecasting the evolution of tropical cyclones (TC) is crucial for the human populations in areas at risk, and an essential indicator of a storm's potential impact is the Maximum Sustained Wind Speed, often referred to as the cyclone's intensity. Predicting the future intensity of ongoing storms is traditionally done using statistical-dynamical methods such as (D)SHIPS and LGEM, or as a byproduct of fully dynamical models such as the HWRF model. Previous works have shown that deep learning models based on convolutional neural networks can achieve comparable performances using infrared and/or passive microwave satellite imagery as input. Recently, multi-task models have highlighted that jointly learning the future intensity and other indicators such as the TC size with shared network weights can improve the performance in the context of intensity estimation. This ongoing work aims to evaluate which tasks and architectures can lead to the best improvement for intensity forecasting.