

# Improvement and Implementation of the Probability-based Microwave Ring Rapid Intensification Index for NHC/JTWC Forecast Basins: A Year-1 Report

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The major proposed goal was to improve the probability-based tropical cyclone (TC) rapid intensification (RI) forecast method under our JHT FY-13 project by adding two additional 37 GHz predictors on top of the original the 37 GHz ring and three 85 GHz predictors. The final product is called the **probability-based microwave ring RI index (hereafter PMWRing RII)**. During Year-1 of the project, we have developed the algorithm using a historical dataset of multi-sensor microwave data and SHIPS RII data for Northern Hemisphere basins, including Atlantic (AL), Eastern & Central North Pacific (EP), North Western Pacific (WP), and North Indian Ocean (IO). The algorithm was implemented for real-time testing in NHC and JTWC for the 2016 AL, EP, WP and IO hurricane/typhoon season. Post-season evaluations will be presented in this talk to assess the performance of our real-time product for the 2015 & 2016 seasons. Our next step work will include development and implementation of the PMWRing RII for the Southern Hemisphere (SH).