# Improvement of the Hazard Risk Assessment of Land-affecting Typhoon in the Western North Pacific using an Ensemble Prediction System Approach

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- solutions.
- In order to design a reliable structure for the parametric insurance real hazard frequency and intensity.
- problem, by analysing the ensemble of  $\sim 11,100$  model years.

sample size of "observed" TC events (Osinski et al. 2016).



for ECMWF EPS. From Osinski et al. (2016)

- Construct a physically consistent typhoon event set
- [20 members]).
- 2008, Kruschke 2015)
- using characteristics of observed TC events in reanalysis
- ICs events)
- 2. Verify against observations

### **References:**

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## **Summary and Future Work**

- high accuracy with low rate of Type-I and Type-II errors.
- prediction system approach.
- developed.

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The Logistic Regression Classifier can differentiate TC and non-TC events with

TIGGE pure EPS TC event set has similar climatology as the historical climatology of TCs, also increases available TC "observations by a factor of 80. A more robust TC hazard risk assessment can be produced using the ensemble

Future work will continue to include more TIGGE data, which would further improve the robustness of the typhoon hazard risk assessment. A compound SSI, SSI-wet, which includes wind and precipitation of TCs, will also be