The predicted DAMAGE of Typhoon GONI and VAMCO is produced by a machine learning algorithm that was trained on TWENTY SEVEN past typhoons. It uses base line data for the whole country, combined with impact data of windspeeds and rains, and trained on counts by the Philippine government on completely damages houses.

The model run be used to identify the worst hit areas: those that need to be prioritized for further assessments or support first.

* The model give a prediction of the percentage of completely damaged (completely damaged houses versus all houses)

The absolute number of completely damages houses **is insufficiently validated** at the moment, and should just be used for further trainng and ground-truthing.

Data sources:

* Administrative boundaries (P\_Codes) - Philippines Government; Published by GADM and UN OCHA (HDX)
* Census 2015 (population) - Philippine Statistics Authority; received from UN OCHA (HDX)
* Avg. wind speed (km/h) and Typhoon path – [Digital Typhoon](http://agora.ex.nii.ac.jp/digital-typhoon/summary/wnp/k/202022.html.en)
* Duration of exposure for high wind speed
* Houses damaged – NDRRMC
* Rainfall 6hr maximum and 24 hr maximum – [NOAA](https://nomads.ncep.noaa.gov/)
* Poverty - Pantawid pamilyang pilipino program (aggregated)
* Roof and wall materials
* geographical features
* Number of buildings in storm surge prone areas
* Number of Buildings in Landslide prone areas

Algorithm developed by 510.global the data innovation initiative of the Netherlands Red Cross.