**Philippines - Typhoon SURIGAE** **– Impact prediction**

Blog post about the prediction model can be found here: <http://bit.ly/2fWF2jq>

The predicted impact of Typhoon SURIGAE is produced by a machine learning algorithm that was trained on 27 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 people affected and houses damaged.

**First run** The damage classification that can be used to identify the areas where damage has exceeded that of a one in 5 year return period windspeed: These information is used to activate the EAP. the those that need to be visited for further assessments or support first.

**Second run** The Priority Index is a 1-5 classification that can be used to identify the worst hit areas.

* For both model run the predictions are percentage of completely damaged houses per municipality. The absolute values of predicted percentage damages are model outputs and are not **sufficiently validated**, and should be used as a first estimate until actual damage assessment reports are available.

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) - ECMWF
* Typhoon path – ECMWF
* Rainfall forecast-NOAA
* Houses damaged - NDRRMC
* Rainfall historical - GPM
* Poverty - Pantawid pamilyang pilipino program (aggregated)
* Roof and wall materials
* New geographical features

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