



Real-time analysis of natural catastrophic events: loss assessment, GIS visualization and communication

Aurelien Boiselet, Quentin Henaff, Robin Locatelli, and Vincent Feraud
Axa, Paris, France (aurelien.boiselet@axa.com)

Following the XL Group acquisition, AXA became the P&C Commercial Lines leader of the insurance industry. Within this business, natural catastrophes represent a major risk. As an example, in 2017, the 330 natural catastrophes registered reached 38% of the total economic loss (US\$134 billion vs. US\$ 353 billion) *. Therefore, it appears essential for AXA to develop methodologies and tools (i) to detect and capture, as soon as possible, natural catastrophic events occurrence to proactively support our impacted customers by managing claims handling teams, and (ii) to estimate their impact on AXA losses.

To do so, the AXA P&C Group Insurance Office developed a web GIS platform. Within this process, events' footprints are automatically generated from external data (from different institutions - e.g. USGS, NOAA, JTWC, Metoffice, JBA) and internal models (e.g. parametric for hurricanes, topography-based for flood, etc.). They are then processed and integrated in the internal GIS tool, and confronted to AXA worldwide exposure. Using the OASIS capability (www.oasislmf.org) and vulnerability functions developed from past disaster events analysis, financial impacts are computed for each primary peril (e.g. wind, earthquake and flood). Finally, automatic reports are generated and sent to AXA entities, including detailed statistics on loss spatial distribution to support AXA claims management teams.

*source: Impact Forecasting, Aon Benfield's