Met Office

Case study:

Support to the Philippine Atmospheric, Geophysical and Astronomical Service Administration (PAGASA)

Enhanced preparedness and response in the Philippines

Challenge

The Philippines is situated on the typhoon belt in the north-west Pacific, which means that most of its islands experience periods of torrential rains, high winds and thunderstorms between June and November.

Typhoons are one of the most dangerous natural hazards to people. Every year, they cause considerable loss of life and immense damage to property. Typhoon Haiyan, which affected the Philippines in November 2013, was one of the strongest ever recorded.

Tackling these issues to ensure society is sufficiently resilient and prepared requires the development and delivery of effective weather and climate services. The Philippines Department of Science and Technology (DOST), which incorporates the National Met Service, the Philippine Atmospheric, Geophysical and Astronomical Service Administration (PAGASA) sought consultancy from the Met Office to support its weather information services to improve crisis preparedness and response to reduce vulnerability and economic loss in the Philippines.

Solution

Building on the close partnership with PAGASA, we produced an innovative service for DOST, transforming what was originally a science-based proposal into the delivery of a complete modelling, forecast, guidance and impacts service for the Philippines.

We enhanced relevant scientific and technological capabilities and provided support for:

- Numerical weather prediction services – providing data from the Met Office Unified Model to increase PAGASA's confidence in delivering a 5 day weather forecast for the Philippines region.
- Human resource development – raising in-country competence and compliance to standards and developing techniques to better disseminate weather warnings and information to stakeholders and the public.
- Seasonal forecasting – introducing new seasonal forecasting methods for longer-term planning purposes e.g. water supply. These sit alongside current techniques to test out different methods in order to better inform government stakeholders, private sector organisations and the public.

Benefits

The project resulted in PAGASA issuing improved warnings and more consistent communication of significant weather events to the Philippine Government stakeholders and population, ultimately helping to save lives.

In December 2014, the Met Office worked closely with PAGASA in providing high-resolution forecast data when Typhoon Hagupit developed to the east of the Philippines. Unlike Haiyan around a year earlier, there was far more forecast uncertainty. However, following the experience of Haiyan and the fact that Hagupit was at its strongest three days before landfall, authorities were well prepared and huge numbers of people were evacuated from vulnerable areas. Although sadly there was some loss of life, Hagupit was a far less deadly typhoon than some of its predecessors in the Philippines, which was in no small part due to preparations made in the week before its arrival.

"We would like to extend our sincerest gratitude for the valuable assistance that the Met Office officials and staff have given PAGASA – DOST during the passage of Typhoon Hagupit in the Philippines. The guidance documents and invaluable insights that you have provided were really very helpful that guided us to better understand Typhoon Hagupit's behaviour and validate our forecast. This heightened our capacity to assess the different models and provided the opportunity to enhance our capability in weather forecasting."

Dr Vicente B. Malano, Acting Administrator of PAGASA

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