

INFORMED DECISIONS, COORDINATED ACTIONS

USING THE COPERNICUS EMERGENCY MANAGEMENT SERVICE TO DEAL WITH FLOODING SAVED THE REPUBLIC OF IRELAND MORE THAN €17M, SAYS **LEFTERIS MAMAIS**

The Republic of Ireland is certainly no stranger to rain. Its location ensures that it is regularly exposed to the influence of heavy storms from the North Atlantic, particularly in the winter. These storms originally form as hurricanes in the equatorial Atlantic, where the sea surface is warm enough to power them. The tail end of such hurricanes often hit Ireland, causing devastating floods.

This was exactly the case of the winter of 2015/16, the wettest one ever recorded, with rainfall totals 189% over the average. Following an exceptionally wet month of November 2015, the country was hit by a succession of Atlantic storms that resulted in severe flooding across virtually the whole country.

Preventing, reducing and mitigating the impacts of floods with an intensity, duration and geographical spread requires that all involved work seamlessly together and that all available sources of information are used effectively. Knowing what is happening, where and when is therefore of utmost importance. To obtain this level

of situational awareness, Ireland's National Directorate Fire and Emergency Management (NDFEM) chose to use the Copernicus Emergency Management Service (CEMS).

NDFEM obtained 107 maps showing the extent of the flooding, the first product being delivered on 10 December 2015, the last on 15 January 2016. A wide range of

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radar satellites was used including Sentinel-1, COSMO SkyMed, RadarSat-2 and TerraSar-X. These maps helped the authorities to obtain an accurate overview and, thanks to daily updates, an opportunity to continuously monitor the evolution of the flooding.

They also offered the chance to establish a common framework of reference, allowing NDFEM to communicate in an easily understandable manner with the political hierarchy, the response agencies,

the media and the citizens alike. This helped to build community resilience, organise better interventions and, eventually, minimise the economic and environmental impact of the floods.

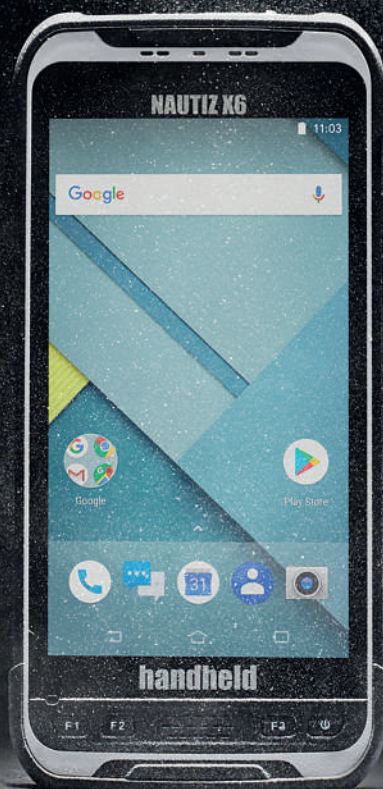
The use of Copernicus EMS flood delineation maps produced using Sentinel and other satellites resulted in an economic benefit of approximately €17.1m. This came through preventing damage and the associated welfare cares, savings from the acquisition of situational awareness and preventions of potential future damage, thanks to better preparedness.

Beyond numbers, the importance of improved interventions and preparedness becomes apparent when one considers that flooding is the most devastating and frequently occurring natural hazard across the world. Thus, the value of the flood delineation maps produced using satellite data is perhaps best encapsulated in the exclamation of the local authorities in Carrick-on-Shannon: "The information provided was gold!" This 'gold' can be accessed by countries experiencing large-scale flooding through the use of Copernicus EMS at no extra cost.

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