Using Citizen Science in Meteorological Hazard Events. The snowfall event in Catalonia 26-28/02/2018

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SITUATION

Catalonia (32 * 10^3 km²) is located in north-east of the Iberian Peninsula, between the Pyrenees and the Mediterranean Sea. It has a complex topography and it's latitudinal position (polar and tropical influences) means that there are a variety of subclimes. A total of 948 city councils are in the territory, and the total estimated population in 2017 is around 7.5 million inhabitants.

THE NETWORK

The Weather Observers Network (in Catalan, Xarxa d’Observadors Meteorològics, XOM) is currently formed by a group of spotters. The group is divided in two classes, depending on the provided weather information, meteorological surveillance, and meteorological observation.

THE 26-28/02/2018 SNOWFALL IN CATALONIA

The snowfall event of 26th to 28th of February 2018 in Catalonia was located in the north of the Pyrenees, specifically in the province of Girona and the city of Barcelona. The event began on the 26th of February with a cold front that brought snowfall to the region. The snowfall continued throughout the day, reaching its peak in the evening of the 26th. On the 27th, the snowfall persisted, but at a lower intensity. The event came to an end on the 28th, with the snowfall decreasing significantly.

APLICATIONS OF THE DATA

- Support for surveillance and forecasting tasks [ref01] [ref02]
- Characterization of the climate (monthly and annual newsletters, press releases, maps) [ref03]
- Automatic data validation stations
- Validations of modeling and remote sensing products [ref04]

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REFERENCES


Strengths
- Good timely and spatial monitoring in meteorological hazard events
- Improves forecasting
- Collects lots of snow depth
- Good graphic visualization (in red towns, in blue counties)
- Pictures improve the information
- The detail provides extra information
- Citizen Science allows you to have information that can not be obtained automatically

Weaknesses
- Areas little covered
- Encourage to introduce more pictures
- Measure the final snow depth
- More notifications in other hazard events (rain, fog, wind,...)
- To validate the data we need to restrict the introduction data only to registered and formatted collaborators
- The notification details must be reported

Last 26th to 28th of February 2018 a snowfall took place in Catalonia because a very cold air from European continent crashed with on Atlantic deep atmospheric depression. Monday 26th started with one first snowfall, Thursday 27th the cold air caused snowfall up to sea level, and Wednesday 28th it has the most important general snowfall since 2010. During these days 554 notifications were recorded in all counties of Catalonia. It has been the weather situation of danger that recorded more notifications in the Citizen Science of XOM.