Integration of EO and model data for the monitoring of volcanic plumes critical to aviation: the Mt Etna case of 12 March 2021

Summary

The main objective of the Pilot is to integrate multi-source data (i.e., ground-based EO, satellite EO, model data, volcanic observatory data) and prototype such a system with tailored and aviation-specific information. To this extent, the main outcome is to showcase the need of such an approach through a visualization platform.

Sponsor		Project	Soluti
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Taxonomy Disasters and Geohazards (assess and monitor volcanic activity)

User profile

a) VAACs: institution with the mandate from ICAO to disseminate information on atmospheric volcanic ash clouds.

b) ENAC-Watch Office: department of the Italian Civil Aviation Authority that is responsible for the Italian airspace.

Service description

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Customer experience Both VAAC (Toulouse, London, Montreal, and Washington) and Italian Civil Aviation Authority representatives pointed out the importance of this integrative approach for aviation and that the developed methodology offers a solution for a future system to mitigate aviation hazards. Particularly interesting and innovative are the ash vertical distribution and the provision of user-friendly tailored products.

One should be very careful when communicating sensitive information related to aviation operations (e.g., the example of the La Palma eruption in May 2021).

Need

Common space for the visualization of the data products in a user-centric manner and real-time data delivery during volcanic hazards.

Challenges

Considering the hazardous nature of volcanic eruptions, real-time data provision is the key challenge and this is what makes the difference with respect to the currently used tools.

Results

Demonstration of the service/platform for a Mt Etna eruption in 12 March 2021.

Benefits:

- One single place with information about 4d ash distribution
- Availability of tailored products
- User friendly visualization



References

Learn more about the service: <u>https://explorer.e-shape.adamplatform.eu/</u> (login protected)

Learn more about e-shape: www.e-shape.eu

A question? Contact the Helpdesk: https://helpdesk.e-shape.eu