

Mathematics of Planet Earth

Life on Earth is influenced by many geophysical processes such as:

♦ volcanic eruptions,

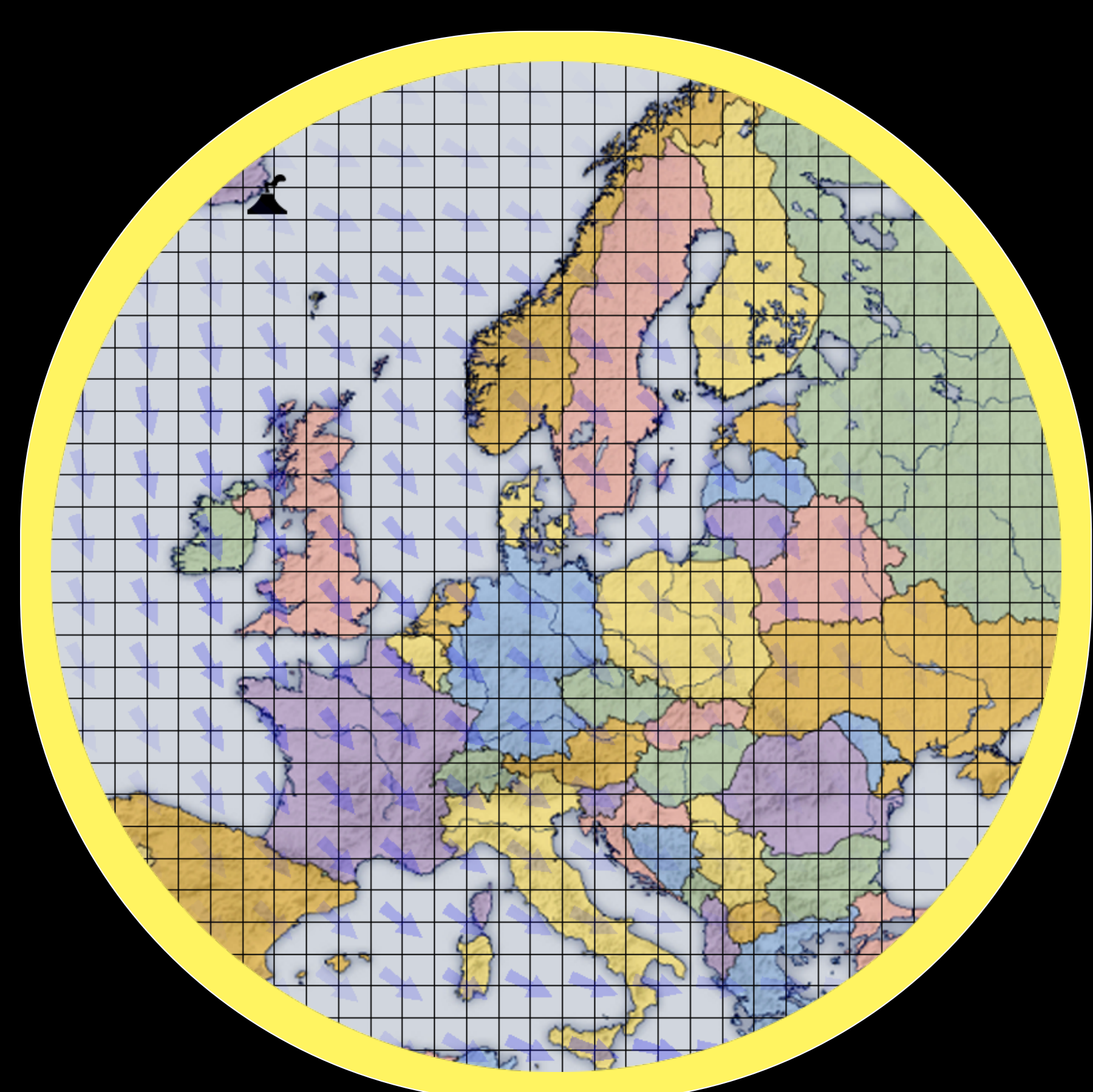
♦ melting of glaciers,

♦ earthquakes.

These processes can be described by mathematical equations. By solving these equations we are able to reproduce and evaluate them virtually in computer simulations. This capability is crucial to better understand our planet and to anticipate the coming changes.

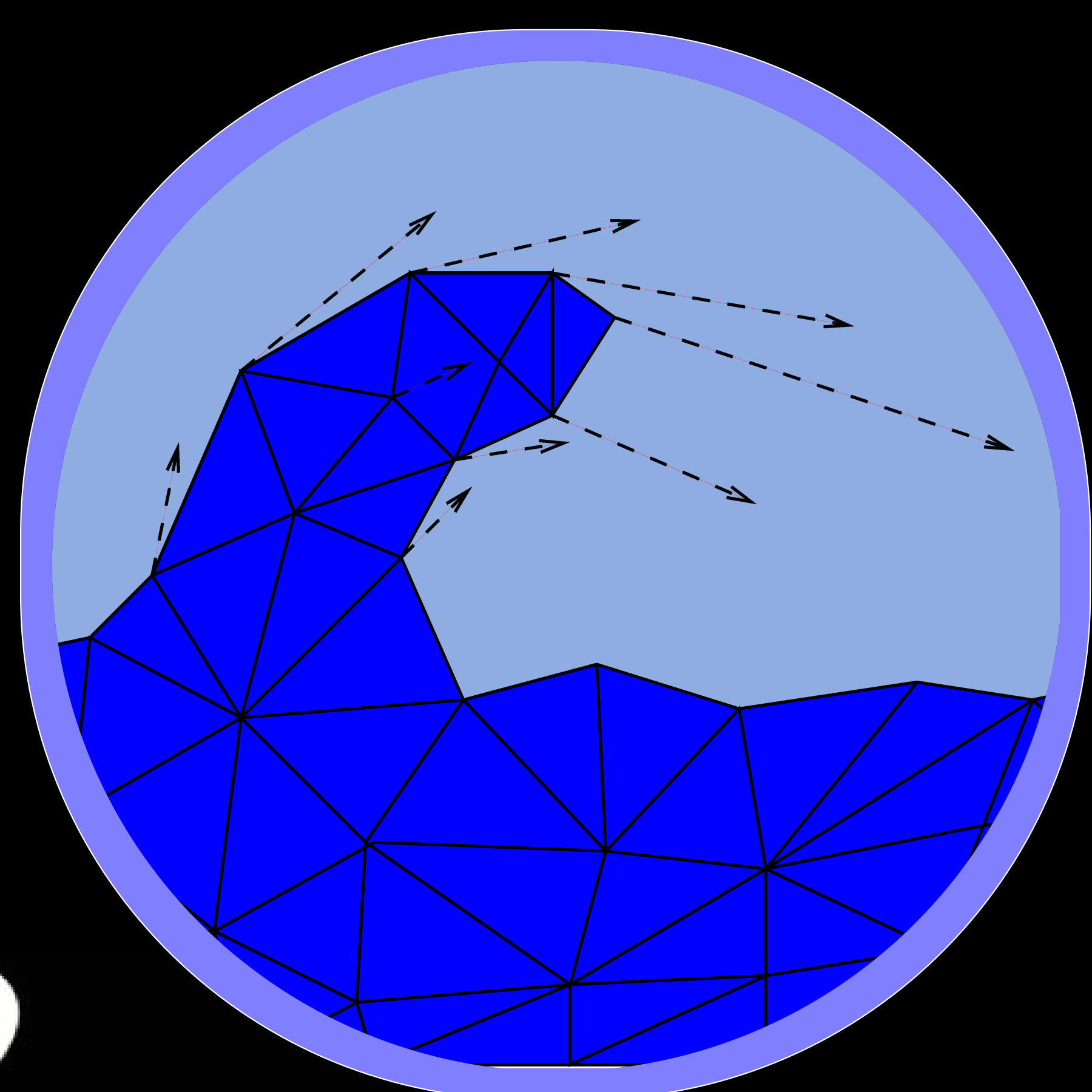


Along with several hands-on modules this exhibition features three multimedia exhibits, which aim to show the role of mathematics to study different processes. All modules were developed for the worldwide initiative "Mathematics of Planet Earth" in 2013.



Dune Ash is an interactive exhibit that explains how to simulate the transport of an ash cloud after a volcanic eruption in Europe. You can place a volcano at any location in Europe, select a wind field and then observe the spread of the ash cloud, that is calculated in real time.

The future of glaciers is a short film that shows how mathematicians and glaciologists work together to simulate the future evolution of glaciers. After the film, you can choose a future climatic scenario and see the evolution of the great Aletsch glacier in the 21st century.



TsunaMaths is an interactive module that explains how tsunamis arise and how they can be predicted by computer simulations. The module also offers a collection of simulations and background information on the history of devastating tsunami disasters.



Mathematics
of Planet Earth



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