



RATCOM: an early-warning pilot network for near-field tsunamis in the Ligurian Sea

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The RATCOM project (Réseau d'Alerte aux risques Tsunamis et submersions COtières en Méditerranée), a 2.5 year project that started in December 2008, is a multi-disciplinary initiative funded by French ministries and local authorities that intends to develop a robust and rapid near-field warning system for coastal submersions and tsunami risks. This demonstrator aims at monitoring the tsunami hazard of the Ligurian coastal area (Southeastern French to northwestern Italian and Corsican coastal areas) generated by either local earthquakes or submarine landslides.

The RATCOM system has an architecture able to manage a complete tsunami alert ranging from the detection of the ongoing event to the population warning. It is composed of two major functional components:

- an upstream component (ACRI-ST leader): the system relies on seismological and oceanographical data acquisitions that are automatically processed and compared to pre-computed scenarios in a data centre in order to provide in a short time an assessment of the tsunami threat (map of pre-established coastal points with a list of water heights and arrival times of the phenomenon at these points). Among these scenarios, the particular case of the collapse of the Nice airport embankment in 1979 that generated a tsunami is the object of a detailed study concerning the alert and the coastal impact.
- a downstream component (Thales Alenia Space leader): the rapid diffusion of the alert bulletin at a local scale is insured by a powerful and secured communication network (Secunet) further linked to larger alert systems including mass media for population warning: sirens, fixed and mobile phones call centres, satellite technologies (among which DVB-SH), radio, TV and electronic billboards.

This demonstrator therefore allows for developing acquisition and processing techniques relevant to early detection and alert of tsunami generated locally.

The final objective of RATCOM is to deploy a demonstrator, based on specific requirements and objectives in order to validate the solution according to different criteria: technological, functional and operational.