EU FP7 Project [603839] ASTARTE - "Assessment, STrategy And Risk Reduction for Tsunamis in Europe"

Newsletter

ISSUE No.1 *This is the publication of the ASTARTE project. It is published at every six months.* *April 2014*

IN THIS ISSUE...

"The experience from Japan raised serious questions on how to improve the resilience of coastal communities..."

***ASTARTE** aims:*

Assessment of generation mechanisms, evaluation of uncertainties, development of new numerical and experimental techniques for propagation, coastal amplification and inundation, networking in detection and warning, achievements on structural and social resilience against tsunamis with 26 partners from 16 countries.

The "TSUNAMI" challenge

Tsunamis are low frequency but high impact natural disasters. In 2004, the Boxing Day tsunami killed hundreds of thousands of people from many nations along the coastlines of the Indian Ocean. Tsunami run-up locally exceeded 35 m. Seven years later, and in spite of some of the best warning technologies and levels of preparedness in the world, the Tohoku-Oki tsunami in Japan dramatically showed the limitations of scientific knowledge on tsunami sources, coastal impacts and mitigation measures. The experience from Japan raised serious questions on how to improve the resilience of coastal communities, to upgrade the performance of coastal defenses, to adopt a better risk management, and also on the strategies and priorities for the reconstruction of damaged coastal areas. Societal resilience requires the reinforcement of capabilities to manage and reduce risk at national and local scales.

The screenshot (at left top) from the video of ANN recorded at the balcony of the Miyako City Mayor Office has reflected the devastating scale of the Great East Japan Earthquake and Tsunami on March 11, 2011. The tsunami overtopped the seawall and carried all size of debris with boats and even the cars.

The photo at the left bottom was taken by International Survey Team from Tohoku University, METU, KOERI, TUC (ASTARTE Partners) in May-June 2011.

ASTARTE project has started!

ASTARTE (Assessment, STrategy And Risk Reduction for Tsunamis in Europe), an international project on tsunamis funded by EC-FP7 (Contract No. 603839), has officially started in November 1, 2013. The project is organized to foster tsunami resilience in Europe, through innovative research on scientific problems critical to enhance forecast skills in terms of sources, propagation and impact. ASTARTE will apply lessons on coastal resilience learned from disaster surveys following tsunamis and hurricane surges. Within ASTARTE, we will acquire new information to complete the European knowledge base, and we will benefit from the strongest integration ever attempted in the field. This will involve close cooperation with coastal populations, civil protection, emergency management and other local organizations.

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Objectives of ASTARTE

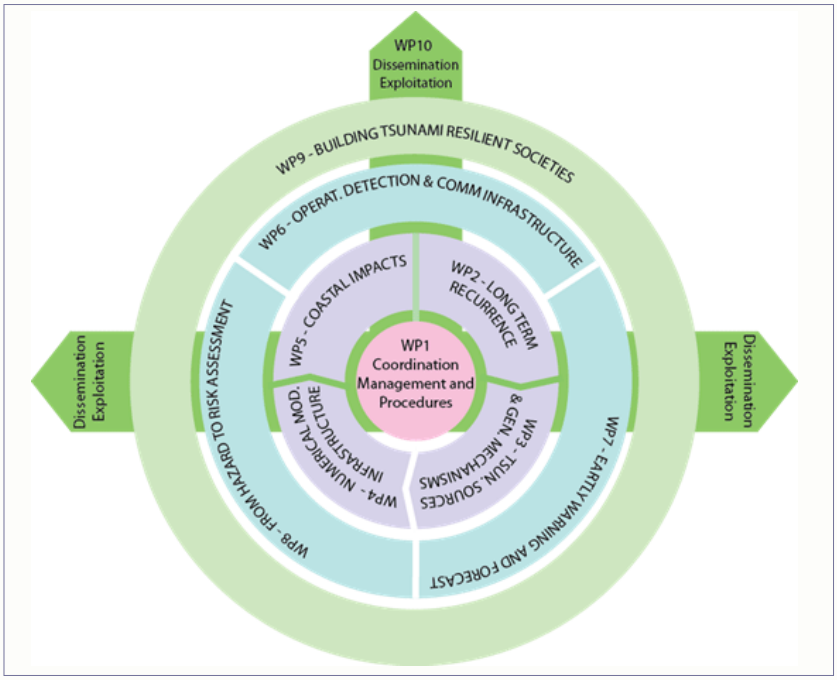
The ultimate goals of ASTARTE are to reach a higher level of tsunami resilience in the North-East Atlantic (NEAM) region, which includes the Mediterranean Sea, to improve preparedness of coastal populations and, ultimately, to help saving lives and assets. The main objectives are:

- Assessing long term recurrence of tsunamis;
- Improving the identification of tsunami generation mechanisms;
- Developing new computational tools for hazard assessment;
- Ameliorating the understanding of tsunami interactions;
- Enhancing tsunami detection capabilities, forecast and early warning skills in the NEAM region;
- Establishing new approaches to quantify vulnerability and risk and to identify the key components of tsunami resilience and their implementation in the NEAM region.

Methodology of ASTARTE

The methodology of ASTARTE is summarized in the figure to the right. ASTARTE consists of 10 work packages (WPs):

- WP1 is devoted to project coordination and management .
- WPs 2-5 focus on tsunami recurrence, generation mechanisms, numerical modeling and coastal impacts.
- WPs 6-8 focus on detection and communication infrastructures, early warning and forecast and risk assessment.
- WP9 aims at building tsunami resilient societies in Europe.
- WP10 is devoted to dissemination and exploitation of results.



Expected results from ASTARTE

- Improved knowledge on tsunami generation involving novel empirical data and statistical analyses so that the long-term recurrence and associated hazards of large events in sensitive areas of the NEAM can be established.
- Development of numerical techniques for tsunami simulation concentrating in real-time codes and novel statistical emulations.
- Refined methods for the assessment of tsunami hazard, vulnerability and risk.
- Better tools for forecast and warning for candidate tsunami watch providers (CTWPs) and national tsunami warming centers (NTWCs).

Announcements

Two Post-Doctoral positions at INGV (Rome) in

1) Seismic source numerical modelling
2) Probabilistic Tsunami Hazard Analysis (PTHA)

For detailed information on this announcement and more please visit:
http://www.astarte-project.eu

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Project and WP kick-off meetings

The kickoff meeting of the project was held on November 7-8, 2013 in Lisbon hosted by IPMA, which is the coordinator of the project. Kick-off meetings for most the WPs within ASTARTE took place early in 2014, on the following dates:

- WP 6-7 : Jan 21-22, Istanbul, Turkey
- WP 9 : Jan 23-24, Paris, France
- WP 2-3 : Feb 6-7, Rome, Italy
- WP 5 : February 10, Santander, Spain
- WP 8 : March 7, Bologna, Italy

What is going on?

November 1, 2013:
ASTARTE project officially starts!

February - April, 2014:
Fieldwork at Sines, Nice, Tangier, and Heraklion test sites has started.

April 27 - May 2, 2014
European Geosciences Union (EGU) General Assembly 2014, in Vienna, Austria (http://www.egu2014.eu)

April 30, 2014:
ASTARTE Scientific Steering Committee meeting (semi-annual project meeting) at EGU 2014 in Vienna, Austria.

May 1, 2014:
ASTARTE poster presentation entitled "Improving Tsunami Resilience in Europe" disseminates the goals of the project to the EGU 2014 audience.

Upcoming Events

July 28 - August 1, 2014
Asia Oceania Geosciences Society (AOGOS)
11th Annual Meeting, in Sapporo, Japan
(http://www.asiaoceania.org/aogs2014/)

August 24 - 29, 2014
2nd European Conference on Earthquake Engineering and Seismology, in Istanbul, Turkey
(http://www.2eceesistanbul.org)

October 6 - 8, 2014
International Workshop on Mega Earthquakes and Tsunamis in Subduction Zones: Forecasting Approaches and Implications for Hazard Assessment, in Rhodes island, Greece
(http://www.gein.noa.gr/metsz/)

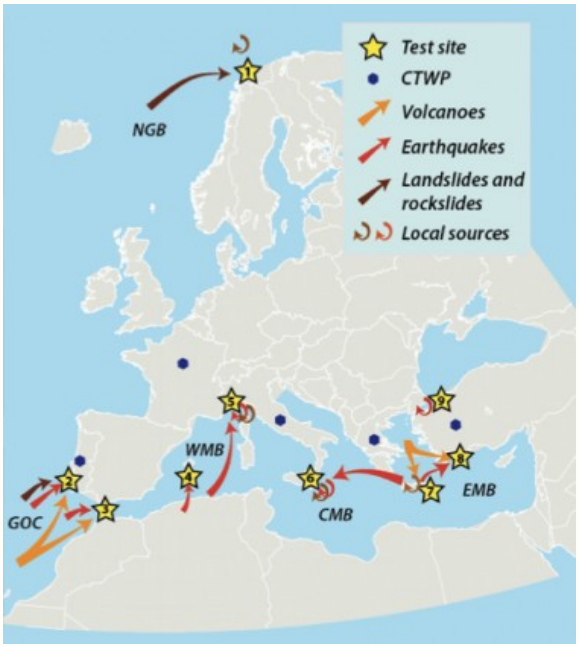
October 16 - 18, 2014
1st ASTARTE Annual Meeting, in Siracusa, Italy

All ASTARTE presentations (or abstracts) can be found at:
http://www.astarte-project.eu

Test sites

Locations of the ASTARTE test sites were chosen to be representative in terms of potential tsunami sources, vulnerability and diversity of landscapes and socio-economic elements. The selected test sites are:

- LYNGEN — Norwegian coast, NE Atlantic;
- SINES — Portuguese coast, NE Atlantic;
- TANGIER — Moroccan coast, Strait of Gibraltar, NE Atlantic;
- COLONIA SANT JORDI — Baleares coast, Western Mediterranean;
- NICE-ANTIBES — French coast, Western Mediterranean;
- SIRACUSA — Sicily coast, Ionian Sea;
- HERAKLION — Cretan coast, Eastern Mediterranean;
- GULLUK BAY — Turkish coast, Eastern Mediterranean;
- HAYDARPASA — Turkish coast, Marmara Sea.



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Completed deliverables

Deliverable No	Deliverable title	WP No	WP title	Delivery date
D1.1	Project Website	WP 1	Coordination Management and Procedures	Month 1
D10.34	ASTARTE Newsletter	WP 10	Dissemination and Exploitation of Results	Every 6 months
D9.2	Review of the existing work on tsunami resilient societies and identification of key indicators and gaps	WP 9	Building Tsunami Resilient Societies	Month 6

Related ongoing EC projects

Project name & logo	Project title	Duration	Website
MARsite	New Directions in Seismic Hazard Assessment through Focused Earth Observation in the Marmara Supersite	3 years (2012-2015)	http://marsite.eu/
MERMAID	Innovative Multi-purpose offshore platforms: planning, design and operation	4 years (2012-2015)	http://www.mermaidproject.eu/
MIDAS	Managing Impacts of Deep-seA reSource exploitation	3 years (2013-2016)	http://eu-midas.net/
MULTIWAVE PROJECT	MULTIWAVE Rogue Waves Research Project	4 years (2012-2016)	http://www.ercmultiwave.eu/
NEAR-to-WARN Project for Tsunami	Near-Field Tsunami Early Warning and Emergency Planning	2 years (2012-2013)	http://www.neartowarntsunami.com/
pearl Preparing for Extreme And Rare events in coastaL regions	Preparing for Extreme And Rare events in coastaL regions	4 years (2014-2018)	http://www.pearl-fp7.eu/
RAPSODI	Risk Assessment and design of Prevention Structures fOr enhanced tsunami DIsaster resilience	2 years (2013-2015)	http://www.ngi.no/en/Project-pages/RAPSODI/
REAKT	Strategies and Tools for Real Time Earthquake Risk Reduction	3 years (2011-2014)	http://www.reaktproject.eu/
RISC-KIT	Resilience-Increasing Strategies for Coasts - toolKIT	3.5 years (2013-2017)	http://www.risckit.eu/
STREST	Harmonized approach to stress tests for critical infra-structures against natural hazards	3 years (2013-2016)	http://www.strest-eu.org/

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***"Life is like the ocean. It can be calm or still, and rough or rigid. But in the end, it is always beautiful."* Justice Cabral**