CONTACTS:
Dr Zoran Vojinovic, UNESCO-IHE Institute for Water Education, The Netherlands
z.vojinovic@unesco-ihe.org

www.pearl-fp7.eu/contact | info@pearl-fp7.eu

PEARLfp7 @PEARLfp7 PEARL - Preparing for Extreme And Rare events in coastaL regions

www.pearl-fp7.eu

pearl
Preparing for Extreme And Rare events in coastaL regions

PEARL PARTNERS

UNESCO-IHE Institute for Water Education
TUHH Technische Universität Hamburg-Harburg
DHI The expert in WATER ENVIRONMENTS
SINTEF
Université Nice Sophia Antipolis
KING'S College LONDON
Imperial College London
UNIVERSITY OF CAMBRIDGE
MAX-PLANCK-GESELLSCHAFT
CETAQUA
UNITED NATIONS UNIVERSITY
UNIVERSITY OF EXETER
ARTELIA
CISIG
WMO
IWA the international water association
hydsoft
satways
HydroLogic
TU Delft Delft University of Technology
ICHARM
1959
NATIONAL TAIWAN OCEAN UNIVERSITY

COVER PHOTO BY LIZ ROLL / FEMA

PEARL - Preparing for Extreme And Rare events in coastaL regions

PEARL collaborates with **RISC-KIT** and **ASTARTE**, two other projects under the EU Seventh Framework Programme, to harmonise activities and exchange lessons learned.

The project has received funding from the European Union's Seventh Framework Programme for Research, Technological Development and Demonstration (EU-FP7).

PEARL is a project aiming to develop adaptive risk management strategies for coastal communities against extreme hydro-meteorological events, minimising social, economic and environmental impacts and increasing the resilience of Coastal Regions in Europe.

PEARL's objectives are to:

- develop a holistic risk governance framework
- increase the understanding of dominant root causes of vulnerabilities and risks in coastal regions
- improve the comprehension of the co-evolution of disasters due to extreme hydrometeorological events
- develop new monitoring, modeling, forecasting and warning technologies tailored on the social, technical, institutional, organisational and economic realities of coastal communities
- provide the means to strengthen risk governance and empower all stakeholders
- build a pan-European knowledge to support capacity development for the delivery of cost-effective risk-reduction plans

PROJECT STRUCTURE

PEARL activities are organised in eight Work Packages

WP 1: Understanding formation of vulnerabilities and risk in coastal regions

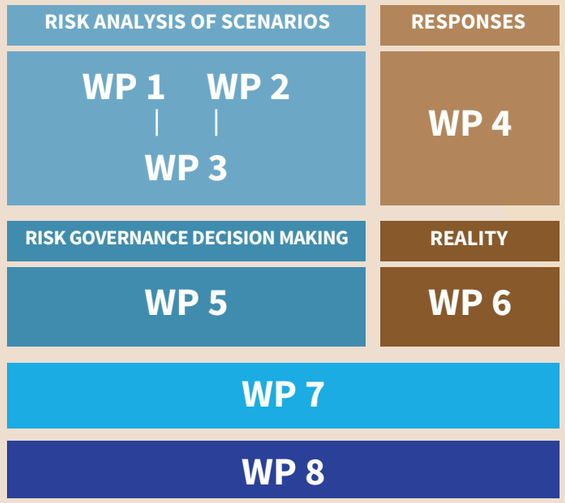
WP 1 develops the PEARL Risk and Root Cause Assessment (RRCA) approach, whose aim is to provide a framework for analysing the underlying factors of risk and vulnerability in coastal regions, particularly for smaller (but more common) local events.

WP 2: Understanding formation of hazards under extreme events

WP 2 intends to create a completely new methodology to analyse and model floods occurring from multiple sources, with the goal of supporting risk assessment for both long-term decisions as well as operational emergency/early warning planning.

WP 3: Holistic and multiple risk assessment

WP 3 broadens the focus of traditional risk assessment through the adoption of a holistic view recognising interactions and interrelatedness between different processes. To this aim, it incorporates social aspects and the understanding of the vulnerabilities of various community groups.



WP 4: Flood Early Warning Systems for coastal regions

WP 4 customises and establishes new methods for flood forecast and real-time data assimilation for early warning (especially for areas with combined flood risks), as well as uncertainty propagation and its impacts on decision making. Additionally, it seeks to improve both formal and informal dissemination of early warnings.

WP 5: Decision support and policy development for strengthening resilience of coastal regions

WP 5 builds a knowledge base of existing and new coastal flood management strategies and evaluation tools to later support policy-making and science-policy interfacing. The final goal is the development of an interactive web-based learning and planning platform to allow interaction with the key project products.

WP 6: Case studies

WP 6 enables the efficient management and conduction of data collection, scenarios development and results cross-linking in the case studies areas. Moreover, it evaluates the uptake of the PEARL methodology for holistic risk management and governance in coastal regions.

WP 7: Dissemination of project outputs

WP 7 implements a dissemination strategy for the project's results, outputs and case studies, especially targeting decision makers, practitioners, and public and private stakeholders. In particular, it provides an easy-to-access platform for capacity building and support to coastal flood management.

WP 8: Project management and coordination

Within a robust organisational framework, WP 8 supports collaboration, pursues science, society and gender issues, ensures timely delivery of outputs, takes care of financial viability and facilitates internal and external communication.

CASE STUDIES

EXPECTED OUTCOMES

Risk and Root Cause Assessment (RRCA) approach, which extends the existing FORIN methodology in: (a) Refining the scaled analysis of disaster cause; (b) Including response and reconstruction as periods generating impact, and (c) Integrating quantitative and discursive assessment of vulnerability.

Innovative flood modeling methodology, with an emphasis on floodings occurring from multiple sources. It matches two different approaches: (a) joining the existing commercial and public domain software packages, and (b) developing a completely new framework including all types of floods.

Holistic and multiple risk assessment framework, identifying the interconnected processes causing risk cascading effects. It also includes the analysis of factors shaping risk perceptions and their influence on community preparedness and the adoption of flood risk management strategies.

Early warning systems and technologies, i.e. the improvement of Common Alerting Protocol (CAP) and of Early Warning dissemination. They merge formal approaches for the transfer of information along the chain of command and informal approaches based on interaction among individuals.

Resilience strategies, including engineering, environmental, operational strategies and governance arrangements, associated with a wealth of new contextual information to help users identify what is relevant in their case.

Stakeholder Involvement in the development of risk management roadmaps. This applies the basics of collaborative modeling and Learning & Action Alliances (LAA): establishing facts, creating common images and shared ambitions, and developing action-oriented solutions.

Science-policy interface and outreach to enhance communities' involvement and collaboration on the flood risk management for Coastal Regions through a host of dissemination pathways.