



# RISC-KIT

RESILIENCE-INCREASING  
STRATEGIES FOR COASTS - TOOLKIT  
[WWW.RISCKIT.EU](http://WWW.RISCKIT.EU)

## **Risc-Kit guide – a web-based guide to facilitate learning and exchange about disaster risk reduction measures**

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**ECSA 2016, Bremen, 6. September 2016**

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# Agenda

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- 1. Introduction to RISC-KIT**
- 2. RISC-KIT End-User Day**
- 3. Structure of Guide**
- 4. Call for Case Studies**



## **RISC-KIT: Resilience-Increasing Strategies for Coasts – toolKIT (FP7): 2013-2017**

The main objective of the RISC-KIT-project is to develop methods, tools and management approaches to reduce risk and increase resilience to low-frequency, high-impact hydro-meteorological events in the coastal zone

**[www.risckit.eu](http://www.risckit.eu)**

# RISC-KIT Toolbox

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## **The RISC-KIT Tools:**

- 1. The Storm Impact Database**
- 2. The Coastal Risk Assessment Framework (CRAF)**
- 3. The Hotspot Tool**
- 4. The web-based management guide**
- 5. The multi-criteria analysis tool (MCA)**



# RISC-KIT Toolbox

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## The RISC-KIT Tools:

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# Background

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## Task:

- Highlight key principles in design and implementation of **DRR** (disaster risk reduction) plans and measures
- provide practical illustrations and examples of prevention, protection, mitigation, and preparedness measures
- Provide tools to aid the structural development of DRR plans

# RISC-KIT End User Day

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**Presentation and discussion of 5 different guides.**

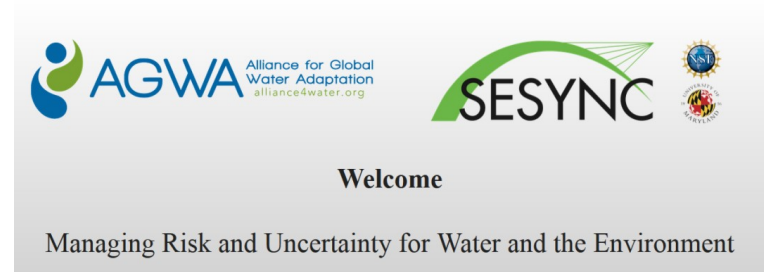
**3 different structures of a guide:**

- Module-based**
- Interactive**
- Map-based**



# Existing guides (I)

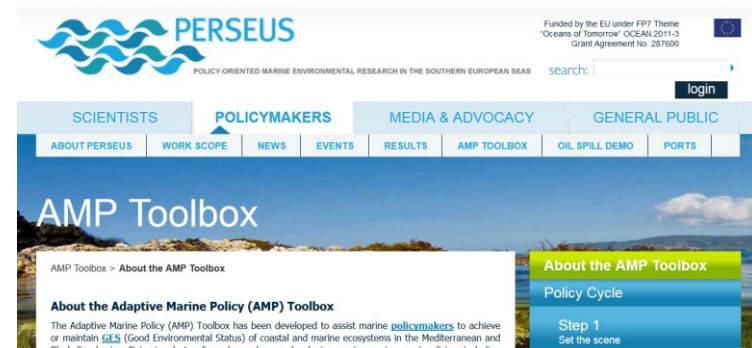
## AGWA: Managing Risk and Uncertainty for Water and the Environment



## Risk Management Strategies for Coastal Communities (US Army Corps of Engineers)



## Adaptive Marine Policy (AMP) Toolbox (PERSEUS)





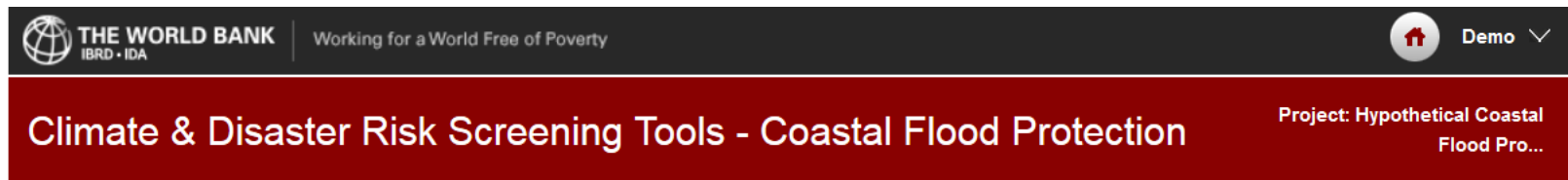
# Existing guides (II)

## 4. Coastlearn (EUCC): <http://www.coastlearn.org/>



## 5. WorldBank: Climate & Disaster Risk Screening Tools - Coastal Flood Protection:

<https://climatescreeningtools.worldbank.org/cfp/project-information?ref=cfp>



**RISC-KIT**

# Question to End-User

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***What would be most and least wanted elements of a web-based guide from your perspective?***

# Results

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## Most wanted:

- Case studies
- Step by Step guide
- Open source raw data
- List / description of DRR measures and plans

For it to be clear  
and easy to  
understand to the  
coastal practitioner

Providing the  
most relevant  
DRR

give a good  
case study  
repertory

oriented on  
practical life

Easy access to  
information of  
interest

Illustrations  
and maps

## Least wanted:

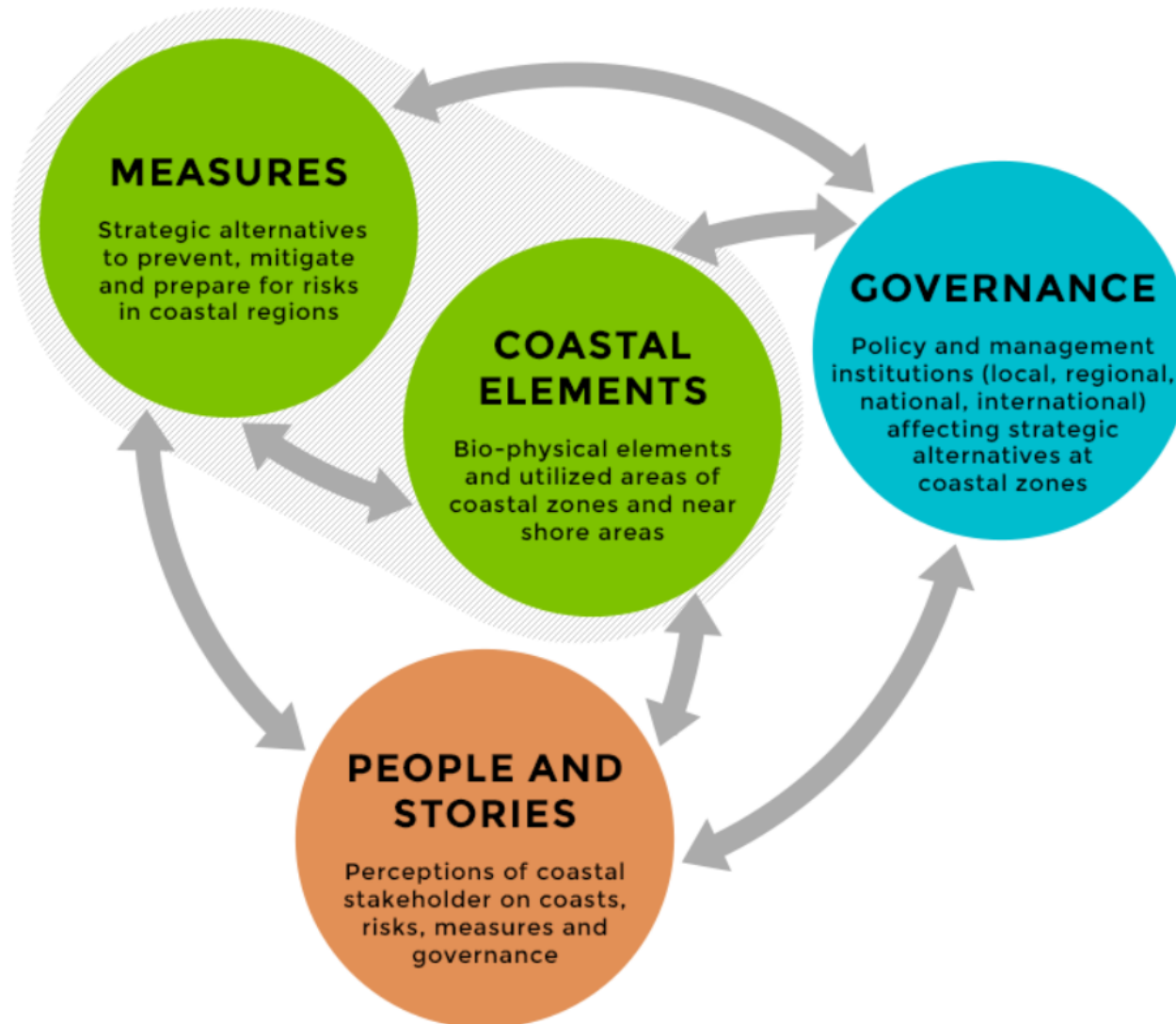
- Information about funding
- YouTube Videos

# Our ideas

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- **Less (text) is more**
- **Pictures and illustrations are important**
- **Maps are an attractive element**
- **Appealing layout of website is wanted**

# Structure of Guide



# Coastal elements

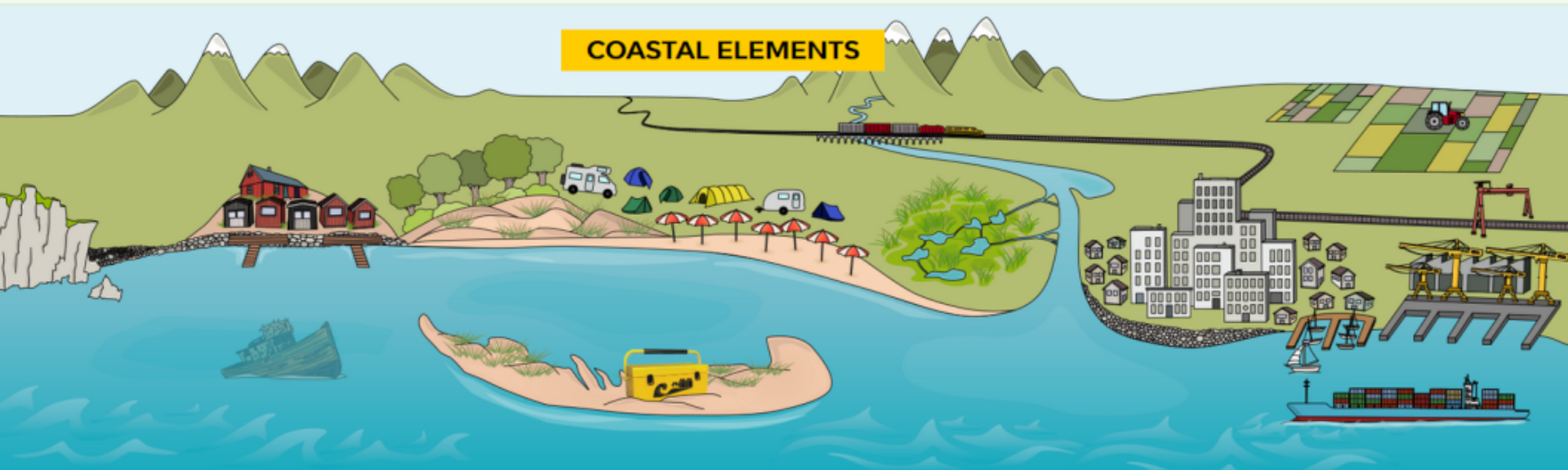
**RISC-KIT**

COASTAL ELEMENTS & MEASURES

GOVERNANCE

PEOPLE & STORIES

✓ Operating in maintenance mode.



**START YOUR SEARCH BY CHOOSING A COASTAL ELEMENT**



ECSCA 2016, 6. September 2016



## SANDY BEACHES & DUNES

ADAPTIVE MANAGEMENT

ARTIFICIAL REEFS

BEACH SCRAPING

DUNE FENCING

DUNE REHABILITATION

BEACH NOURISHMENT

GROYNES

### GENERAL INFORMATION

**Sandy shorelines** are some of the most extensive intertidal systems worldwide, representing both excellent recreational assets and buffer zones against the sea. Despite their initial barren and sterile appearance, many sandy littoral localities might even be considered as highly productive.

There are several conspicuous parts to a beach that relate to the processes that form and shape it. The part mostly above water (depending



# Measures

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## List of ca. 70 measures

- **Divided by coastal elements** (Sandy beaches, Towns, Coastal Infrastructure, ...)
- **Divided by Prevention, Protection, Mitigation, Preparedness**
- **divided by Hazard** (Riverine or slow rise floods, Flash floods, Estuarine floods, Coastal floods or storm surges, Urban floods, Erosion)





## SANDY BEACHES & DUNES

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## BEACH NOURISHMENT



EROSION



PREVENTION MEASURE

PRIMARY MEASURE

PROPOSED MEASURES IN RISC-KIT

SOFT ENGINEERING MEASURE



HOLD THE LINE



Beach nourishment describes a measure where sediment that is lost due to longshore drift or erosion on a beach is replaced from material outside of the eroding beach. This results in a wider beach that can reduce storm damages and coastal erosion. Beach nourishment is typically a repetitive measure, since it does not remove the physical forces causing erosion, but is a measure that mitigates the effects of erosion.

Beach nourishment is the mechanical re-placement of sand in the coastal zone to maintain sand in the littoral system. It stabilizes the shoreline and supports the flood and/or erosion protection of the coast. Beach nourishment has been widely practised in Europe in the last decades. For example the first beach nourishment carried out in Germany took place in 1951, in Italy in 1969, and in the Netherlands in 1970 (see H. Hanson et al. 2002).

Instead of using hard constructions to hold the shoreline, the concept of beach nourishment is based on the concept of 'working with nature'. This is an approach where natural dynamics are being used with less impact to the environment. It may also increase the recreational value of the coastal zone.



Example from Bulgaria: Duration of positive effect is limited

TECHNICAL FEASIBILITY

RISC-KIT





PREVENTION MEASURE  
PRIMARY MEASURE  
PROPOSED MEASURES IN RISC-KIT  
SOFT ENGINEERING MEASURE



HOLD THE LINE



Beach nourishment is a coastal management system. It stabilizes the beach by adding sand. It has been widely practiced in Germany. Germany took place in the 1980s.

Instead of using hard structures, beach nourishment focuses on the concept of 'working with nature'.

This is an approach where natural dynamics are being used with less impact to the environment. It may also increase the recreational value of the coastal zone.

**Example from Bulgaria: Duration of positive effect is limited**

TECHNICAL FEASIBILITY

The sustainability of this approach depends heavily on the nourishment material. It should fit to the composition of the original beach material (mainly grain size) and the local process and beach movements. Mostly the material is

Beach nourishment describes a measure where sediment that is

DURATION OF POSITIVE EFFECT IS LIMITED



Academic  
Bulgaria

„Beach nourishment is not a new method, but it hasn't been applied in this region since the 80s, so the beaches almost lost their capacity. Nowadays, their width is much decreased due to the erosion. Submerged breakwaters and the existing structures functioned well in the beginning of their operation when they were built, but nowadays their effect is almost negative because they stop the sediment transport that is predominantly from north to south, which is the natural way of beach nourishment. So, most of the beach is deprived of sediments.“



replaced from a wider erosion. Beach it does not measure that

the littoral beach nourishment carried out in ).

d on the concept



# Governance

RISC-KIT

COASTAL ELEMENTS & MEASURES

GOVERNANCE

PEOPLE & STORIES

▶ INTERNATIONAL LEVEL

▶ EU LEVEL

▶ NATIONAL LEVEL



Bangladesh



Belgium



Bulgaria



France



Germany



Great Britain



Italy



Portugal



Spain



RISC-KIT

# Governance - National and local level

RISC-KIT

COASTAL ELEMENTS & MEASURES

GOVERNANCE

PEOPLE & STORIES

▶ INTERNATIONAL LEVEL

▶ EU LEVEL

▶ NATIONAL LEVEL

## PORTUGAL

### POLICY FRAMEWORK

Civil protection is generally defined through the General Law for Civil Protection (Law 27/2006), the National Civil Protection Authority Law (Law-Decree 75/2007), the Law Decree establishing the Integrated System for Relief and Protection Operations (SIOPS) (Law-Decree 134/2006) and the Law defining the organisation of Civil Protection at local level (Law 65/2007).

While civil protection appears well-defined and structured, **there is no general notion of disaster risk reduction (DRR)** in Portugal. There is no specific DRR policy devoted to coastal DRR. Risk reduction measures are included in the Coastal Zone Spatial Plans (POOCs), the Portuguese programme on Integrated Operations towards the Renewal and Enhancement of the Coastal Zone, in the strategic plans of the coastal agencies (Polis Litoral), as well as in conservation plans and other documents.

### LOCAL GOVERNANCE

Ria Formosa (Portugal)

### PUBLIC ADMINISTRATION

Portugal is divided into 18 districts and 2 autonomous regions. Regional (district) level administrators are appointed by the national



# Call for Case Studies

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**Information of CASE STUDIES of the implementation of innovative, cost-effective, ecosystem-based DRR measures are very welcome!**



# Thank You

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**Websites:**

**[www.risckit.eu](http://www.risckit.eu)**

**[www.coastal-management.eu/](http://www.coastal-management.eu/)**

**Mail: Nico.Stelljes(at)ecologic.eu**

