

Climate change adaptation through ICZM in the Adriatic

Ivan Sekovski, PAP/RAC

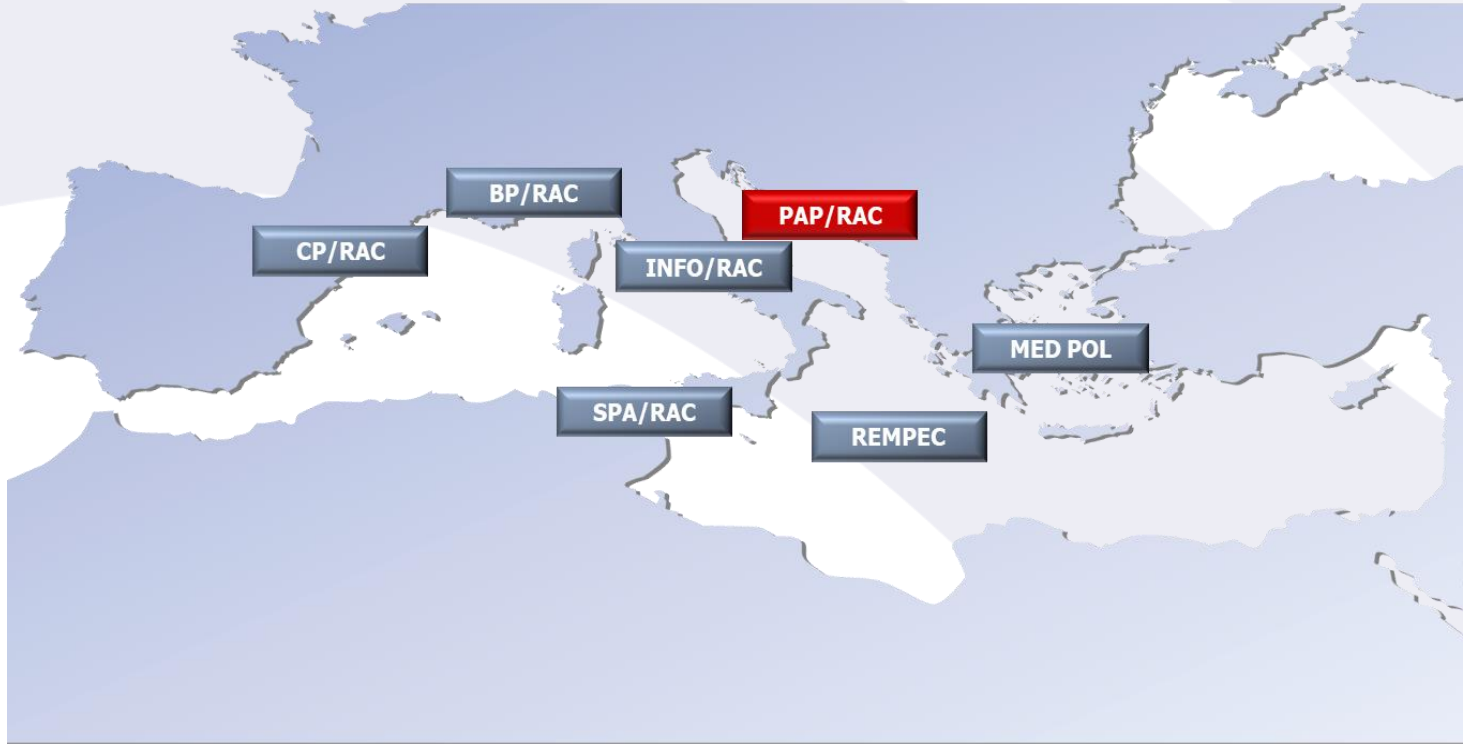
21th meeting of the Thematic Steering Group for Pillar 3 under the EUSAIR
12 November 2024



Mediterranean
Action Plan
Barcelona
Convention



PAP/RAC



- Established 1977
- One of the 7 regional centres of UNEP's Mediterranean Action Plan, focused on Coastal Management
- Key mission today is to support the countries in implementing the ICZM Protocol

ICZM Protocol



- First international legal basis for coastal management
- Entered into force in 2011
- Ratified by 13 Mediterranean countries + EU



ICZM Protocol and Climate Change



ARTICLE 5 OBJECTIVES OF INTEGRATED COASTAL ZONE MANAGEMENT

*(e) prevent and/or reduce the effects of natural hazards **and in particular of climate change...***

ARTICLE 8 PROTECTION AND SUSTAINABLE USE OF THE COASTAL ZONE

ARTICLE 18 NATIONAL COASTAL STRATEGIES, PLANS AND PROGRAMMES

ARTICLE 22 NATURAL HAZARDS

*(Parties) shall undertake vulnerability and hazard assessments of coastal zones and take prevention, **mitigation and adaptation measures to address the effects of natural disasters, in particular of climate change***

Policy tools for ICZM in the Mediterranean

Article 18: NATIONAL COASTAL STRATEGIES, PLANS AND PROGRAMMES

.. Each Party shall further strengthen or formulate a **national strategy for integrated coastal zone management** and **coastal implementation plans and programmes** ...

- First Coastal Plan according the ICZM Protocol developed 2015 and adopted in 2016.



- **Mediterranean Climate Change Adaptation Award**, received at ECCA Lisbon 2019, in competition of 28 projects from 9 countries





January 2019 – June 2021
2 223 870,00 €

Expert partners



Local partners



Communication partner



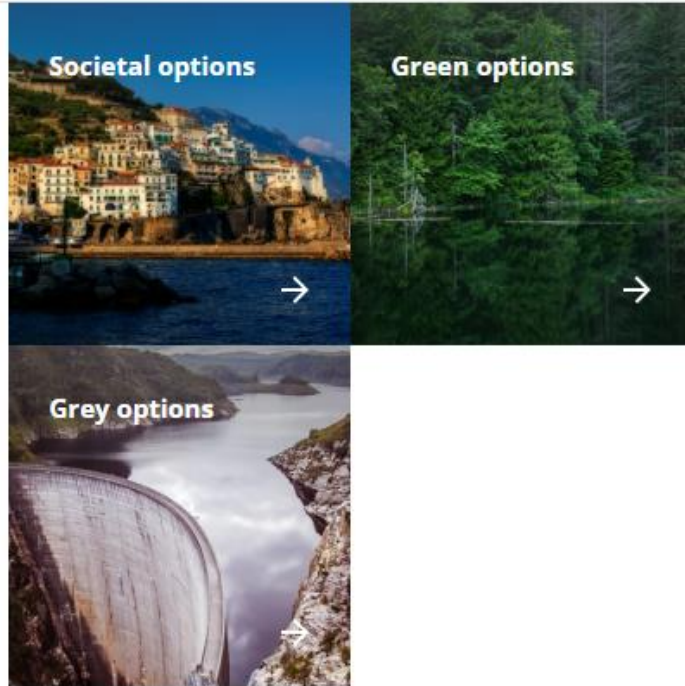
The **main goal** of the project was to contribute to safe and stable development on the Adriatic through the determination of concrete measures for adaptation to climate change



Mediterranean
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Convention



Adaptation options on the AdriAdapt platform



More than 40 adaptation options

SOCIETAL OPTIONS

GREEN OPTIONS

GREY OPTIONS

<http://adriadapt.eu>

11 case studies on the AdriAdapt platform

Managed retreat of the coastal state road Koper-Izola (Slovenia)

Restored coastal wetland in Škocjanski zatok (Slovenia)

Coastal Zone Management Plan for the city of Kaštela (Croatia)

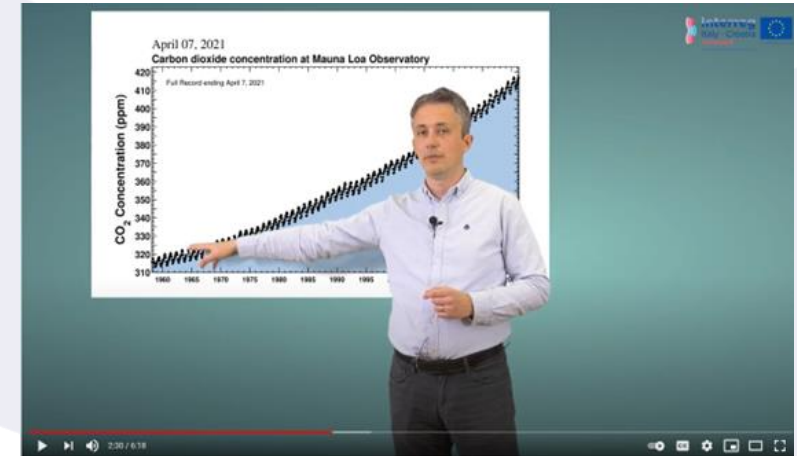
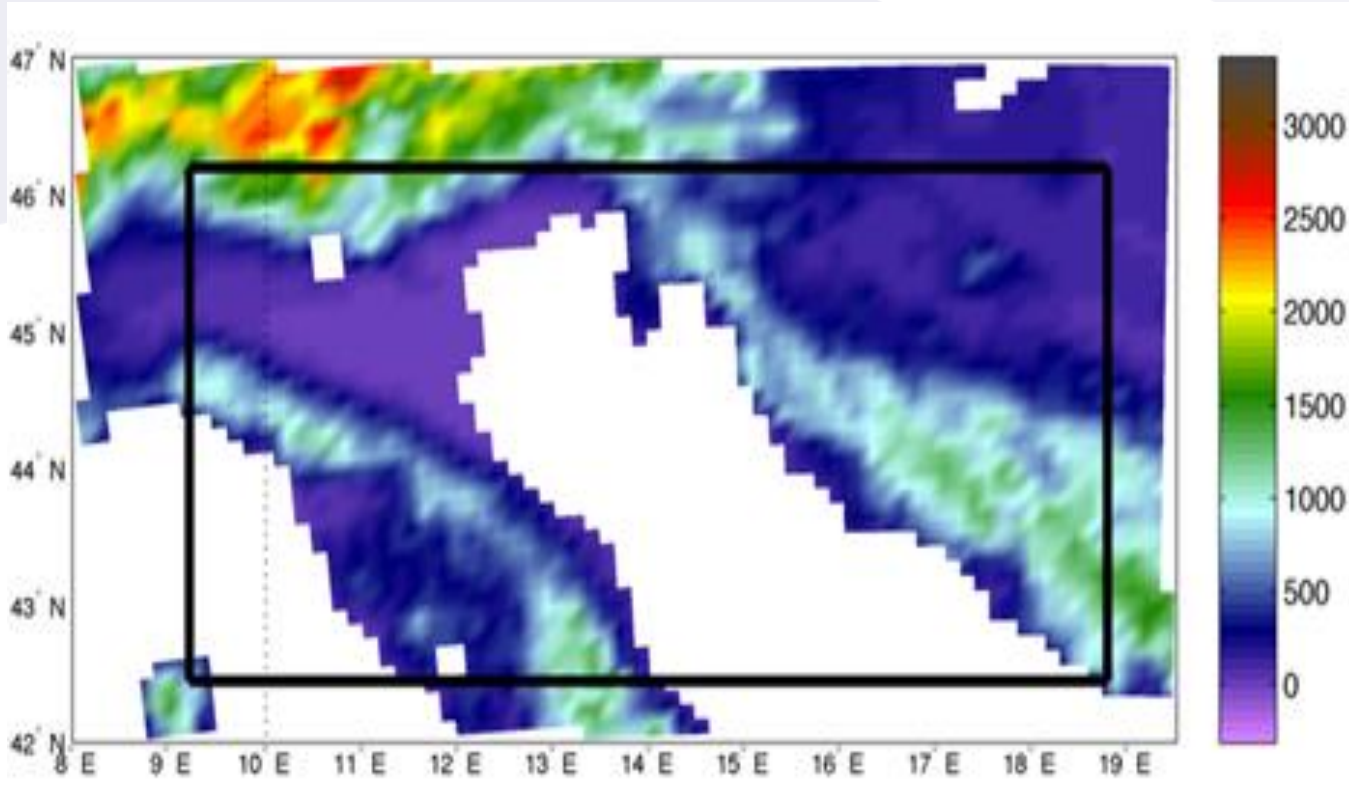
Dune restoration projects near Bevano river mouth and in Bellochio area (Italy)

.....



<http://adriadapt.eu>

Climate projections



<http://adriadapt.eu>

Guidelines and handbooks

GUIDEBOOKS

Enhancing resilience to climate change impacts in the Adriatic region (leaflet)

HANDBOOKS

Coastal Resilience Handbook for the Adriatic

HANDBOOKS

Towards the Adriatic climate-transition: A methodological framework for adaptation spatial planning process

[Click here to open.](#)

GUIDEBOOKS

Knowledge sharing and learning platforms

Description Participation in knowledge sharing and learning is now seen as essential to tackle climate change both locally and globally. Adaptation to climate change aims at managing climate risk to an acceptable level, taking

GUIDELINES

Guidelines for mainstreaming of climate change adaptation into coastal management along Adriatic coasts

[Click here to open.](#)

HANDBOOKS

Adaptation Handbook (from the CREATE project)

Adaptation Handbook



Coastal Resilience
Handbook
for the Adriatic



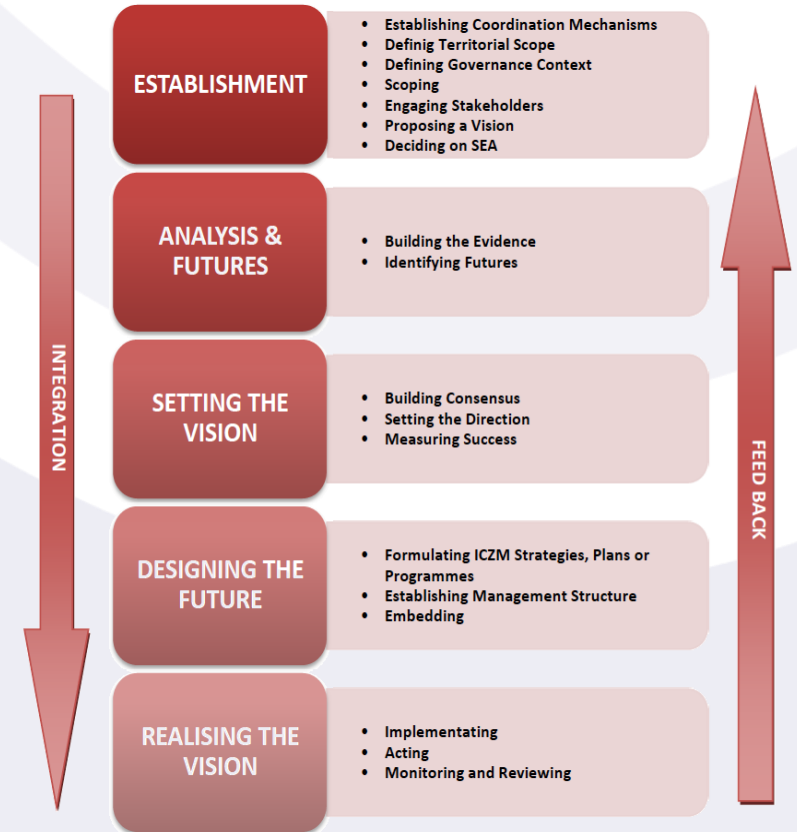
Integrated Adaptation Planning Tool



Five stages of the planning process for the local adaptation plan

[View All](#) →

ICZM Process



Planning process (example of Boka Kotorska Bay)

Expert knowledge



Highly participatory in nature!

Governance mechanisms

- ✓ Spatial development and transportation
- ✓ Water supply and wastewater
- ✓ Waste management; ✓ Sustainable tourism
- ✓ Marine environment; ✓ Governance

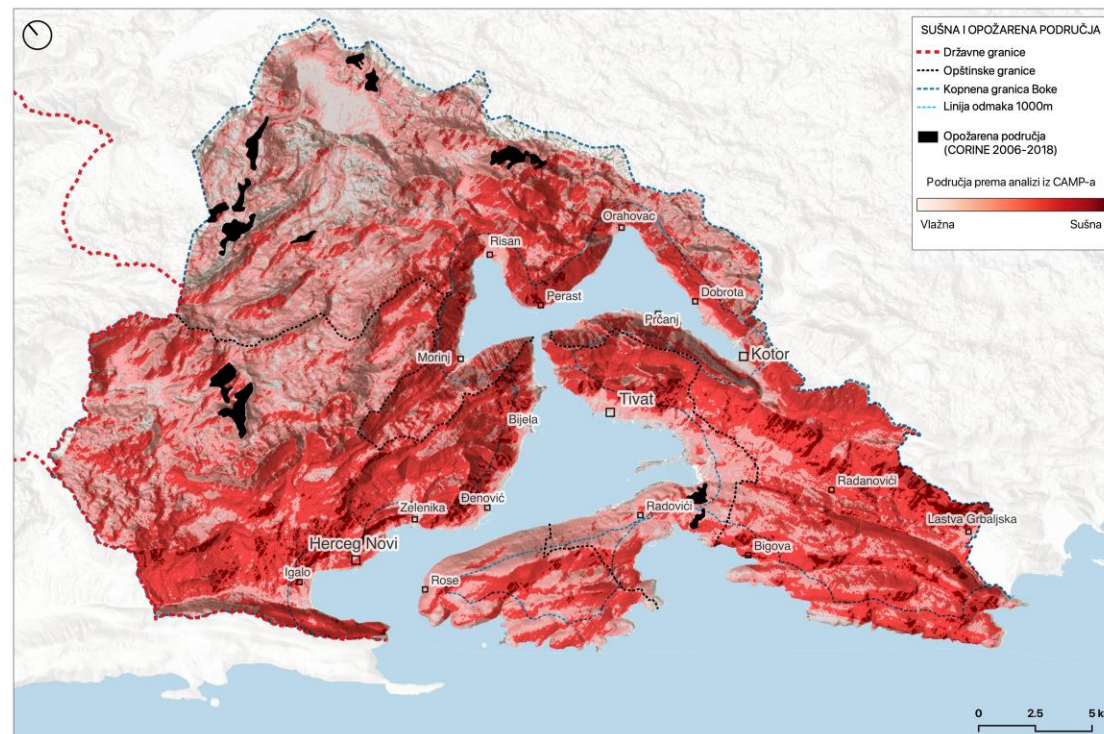
CLIMATE CHANGE



Climate conditions and projections in the area

By 2040, T will increase around 2°C during summer, number of heatwaves threefold and their longevity twofold

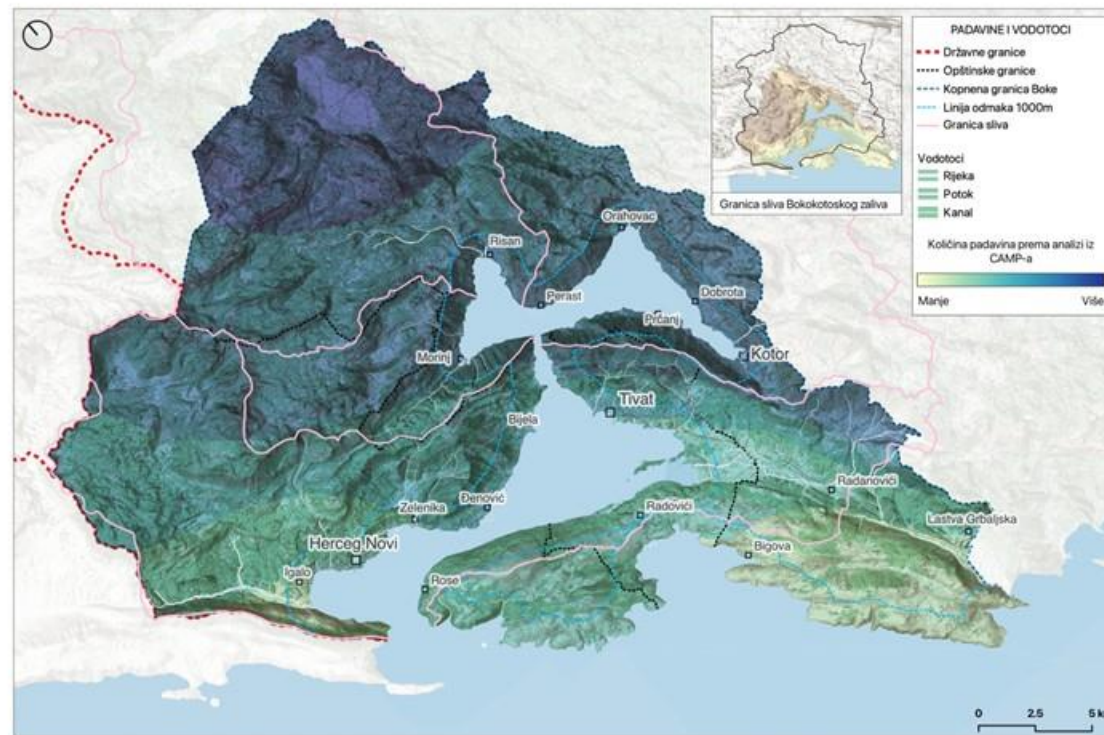
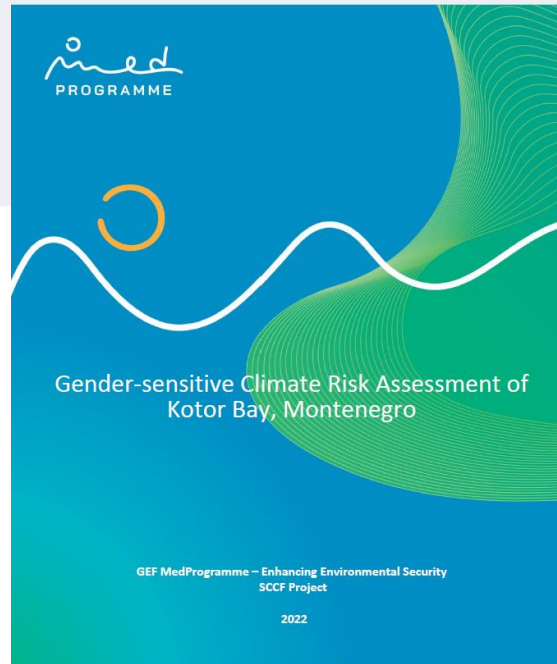
Number of consecutive dry day will increase 5 to 10%



Climate conditions and projections in the area

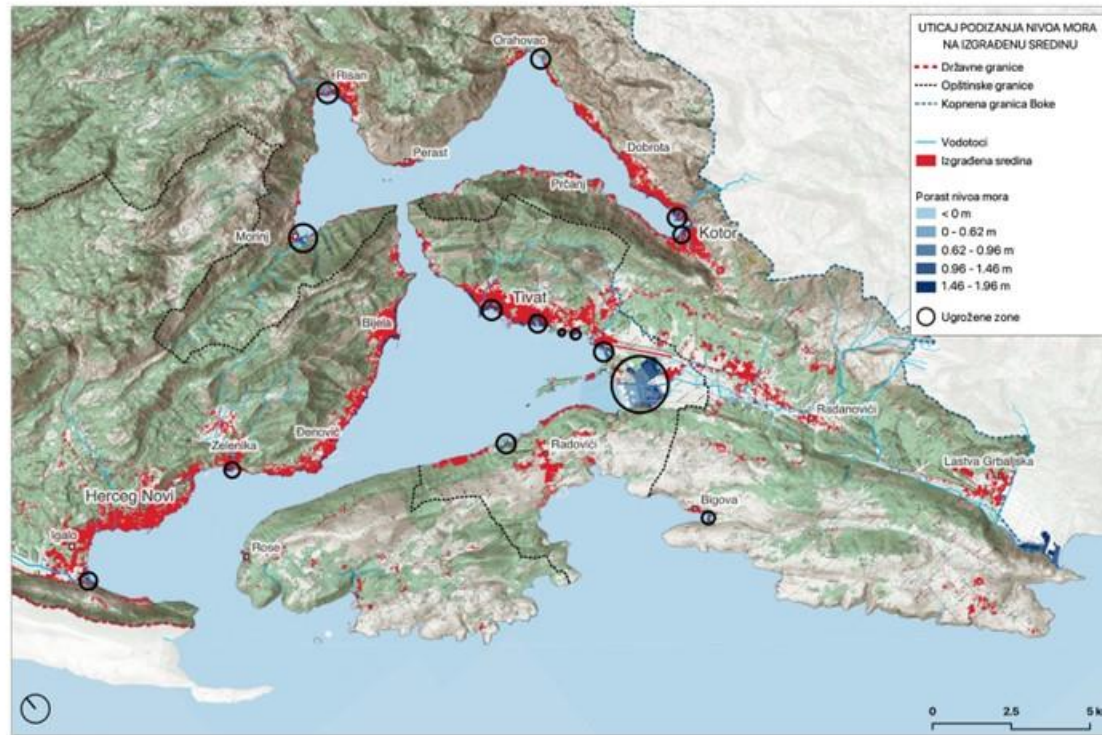
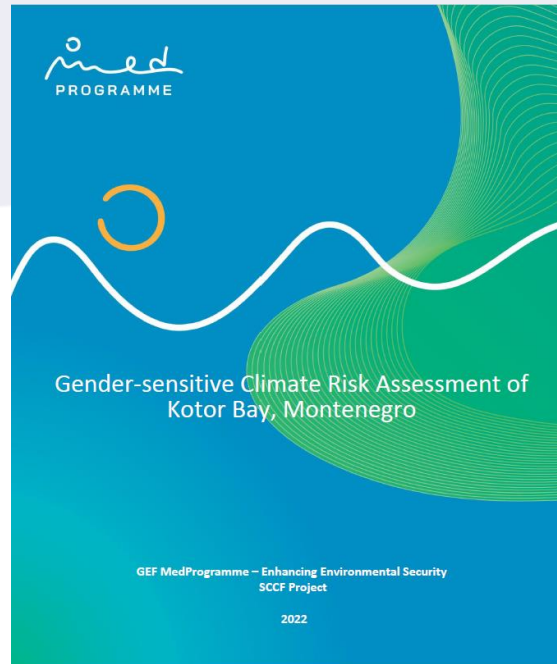
By 2040, total precipitation could decrease for about 5%.

However, an increase in autumn and winter flash floods is expected



Climate conditions and projections in the area

Sea level rise and storm surges will impact the urbanized areas at the coastline.



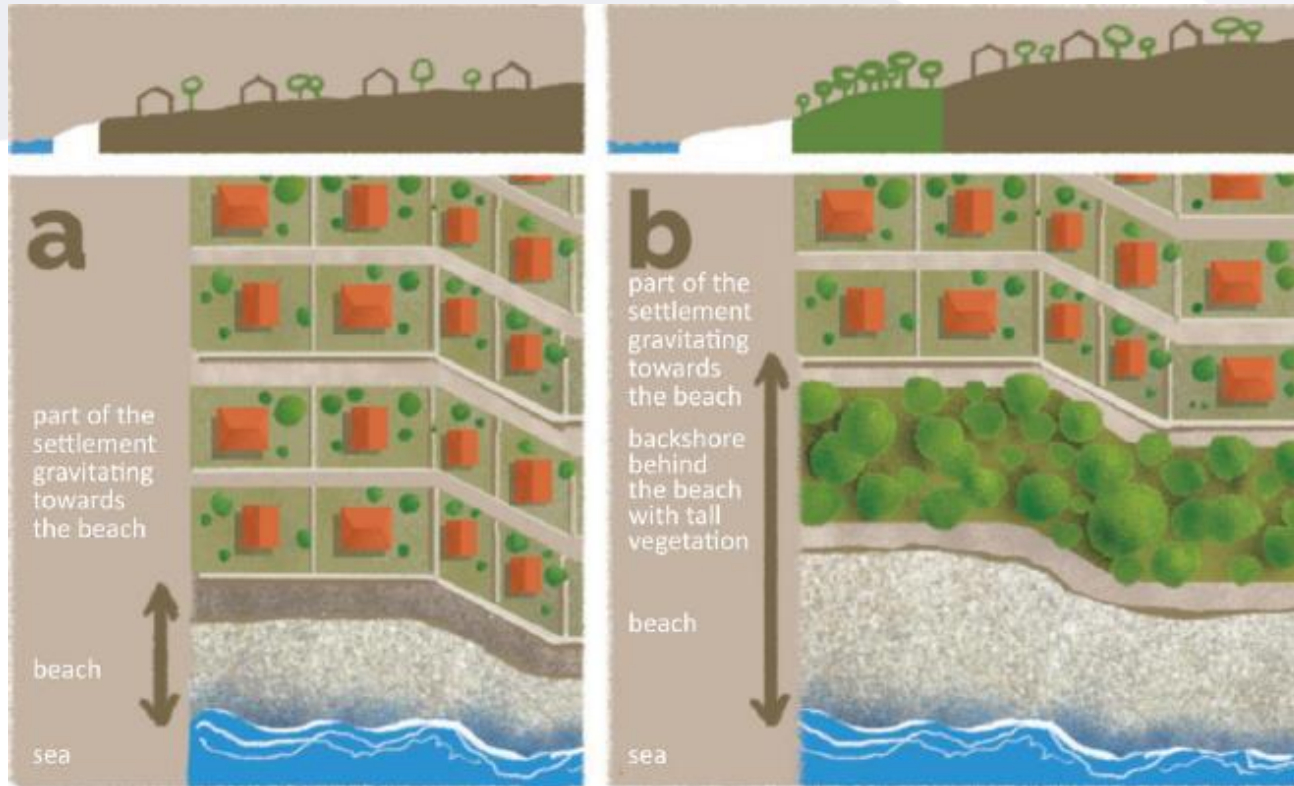
Climate change impacts in the area



Bokanews.me

Reccomendations for the adaptation measures

Implementation of the coastal setback zone



L. Duplančić



ARTICLE 8

Parties (shall) establish in coastal zones, as from the highest winter waterline, **a zone where construction is not allowed.**

Taking into account, *inter alia*, the areas **directly and negatively affected by climate change and natural risks**, this zone may not be less than 100 meters in width

Reccomendations for the adaptation measures

Coastal afforestation and protection of coastal forests



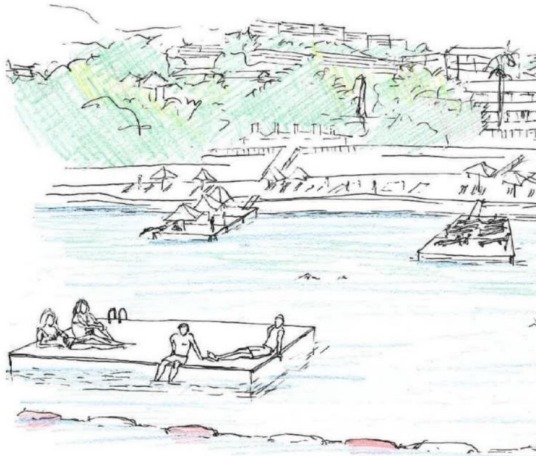
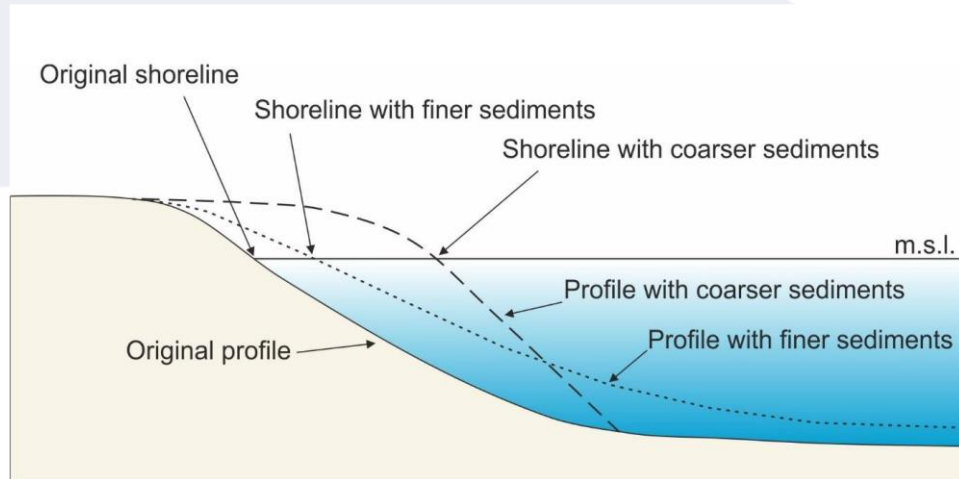
I. Belamarić



[Get Wild](#)

Reccomendations for the adaptation measures

Adaptation of beach areas with minimal environmental impact



<https://www.wwfadria.org>

Reccomendations for the adaptation measures

Measures for flood protection

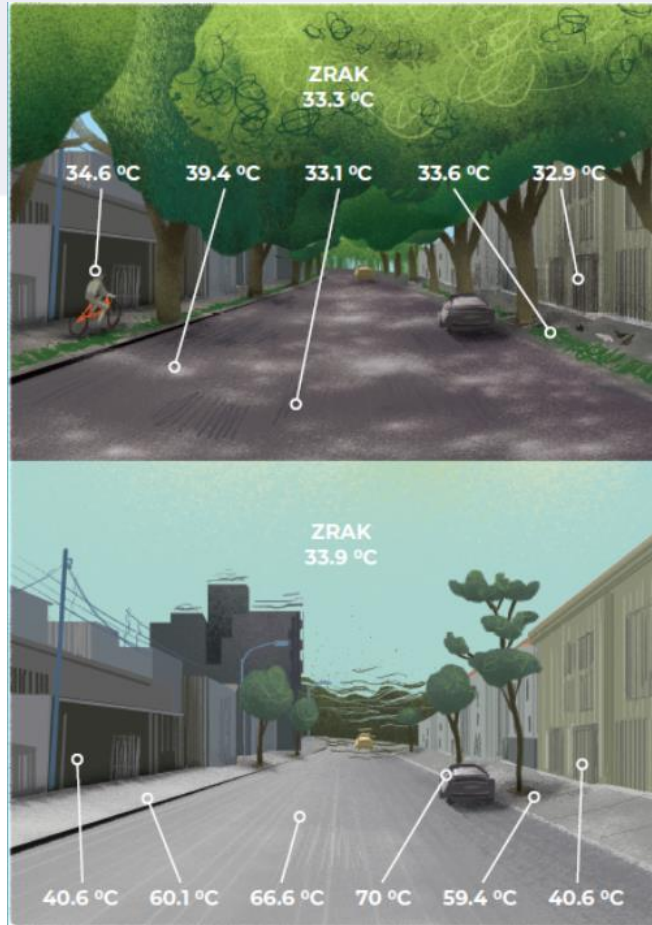
- ✓ Regulation, cleaning and maintenance of flood channels
- ✓ Maintenance and construction of flood and erosion protection facilities
- ✓ Afforestation of degraded areas in the hinterland



I. Sekovski

Reccomendations for the adaptation measures

Measures for urban greening



- ✓ Preserve existing and create new green areas
- ✓ Greening of grey infrastructure
- ✓ Green roofs and walls
- ✓ Reduction of impermeable surfaces
- ✓ Better management of green areas



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Reccomendations for the adaptation measures

Measures for urban greening



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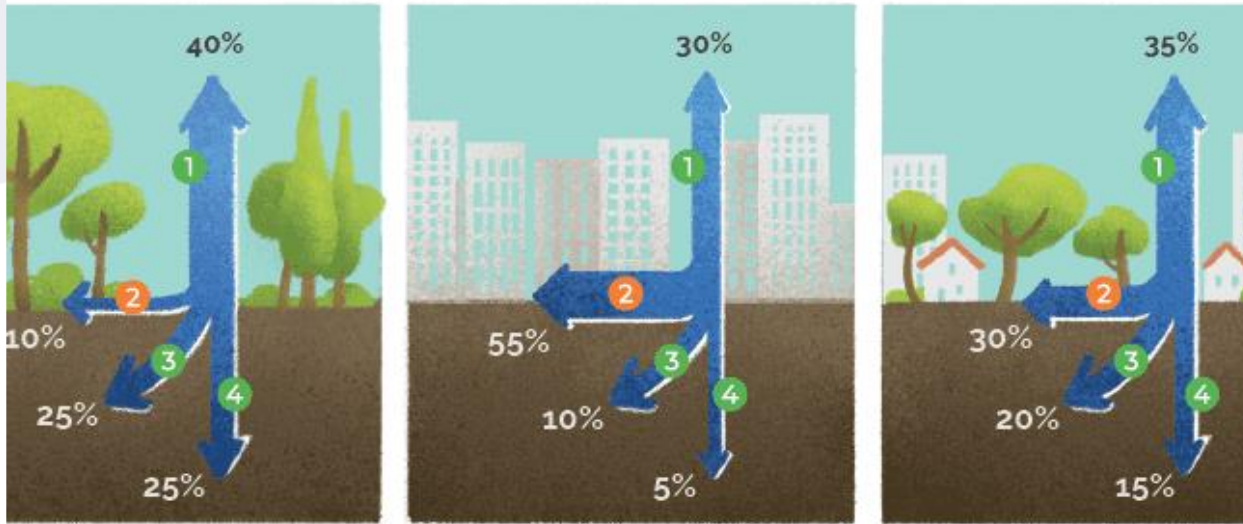
- ✓ Preserve existing and create new green areas
- ✓ Greening of grey infrastructure
- ✓ **Green roofs and walls**
- ✓ Reduction of impermeable surfaces
- ✓ Better management of green areas



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Reccomendations for the adaptation measures

Water-sensitive urban designs



L. Duplančić



I. Sekovski

Reccomendations for the adaptation measures

Adaptation measures related to marine enironment

- ✓ Controlled capture of certain species that are new to the Adriatic Sea
- ✓ Adaptation measures in mariculture sector
- ✓ Protection of benthic communities



*Blue crab in a trap - source:
<https://www.zastita-priode-dnz.hr>*



Eco-friendly buoy- from Interreg SASPAS project

Climate action through Marine Spatial Planning (MSP)

MSP Process



CLIMATE ACTION

[Introduction](#) [Contents](#) [Placing Along the MSP Process](#) [Other Tools & Practices](#)

Too few marine spatial plans include climate change or consider adaptation and mitigation in planning objectives. We urgently need to include climate action in all plans and promote viable long-term actions that will contribute to mitigation goals and carbon neutrality. It is a major challenge for us internationally, but one we can face together.

Taking climate action is key to sustainable planning and management of the Mediterranean sea (a region that is a hot spot for climate change). The impacts of climate change on the Mediterranean coastal and marine ecosystems on top of pressures of human activities, like tourism, shipping, oil and gas exploitation, fisheries and aquaculture call for better planning from beginning to end.

Among its objectives, the [Protocol on ICZM in the Mediterranean](#) (and its [Common Regional Framework for ICZM](#)) stresses the importance of preventing and reducing the effects of natural hazards and climate

<https://msp.iczmplatform.org/core-themes/climate-action/>

Interreg CREATE project

Systematically **analyze and collect** acquired knowledge, data, tools and platforms from the previous program period, and **communicate and make it available** to planners, stakeholders and decision makers, with the aim of reducing vulnerability and increasing the capacity to adapt to climate change.



Thursday CREATivE talks

Thematic Webinars on adaptation planning and implementation

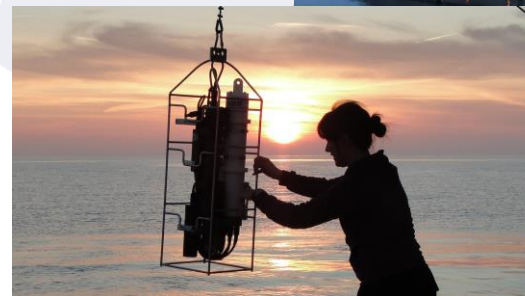
Every second Thursday of a month

10/11/2022	Financing Adaptation
01/12/2022	Adaptation in coastal planning
12/01/2023	Nature Based Solutions
09/02/2023	Maritime Spatial Planning
09/03/2023	Monitoring and Assessment
13/04/2023	Synergies between Mitigation and Adaptation
11/05/2023	Communicating climate change
28/06/2023	Governance for Climate change



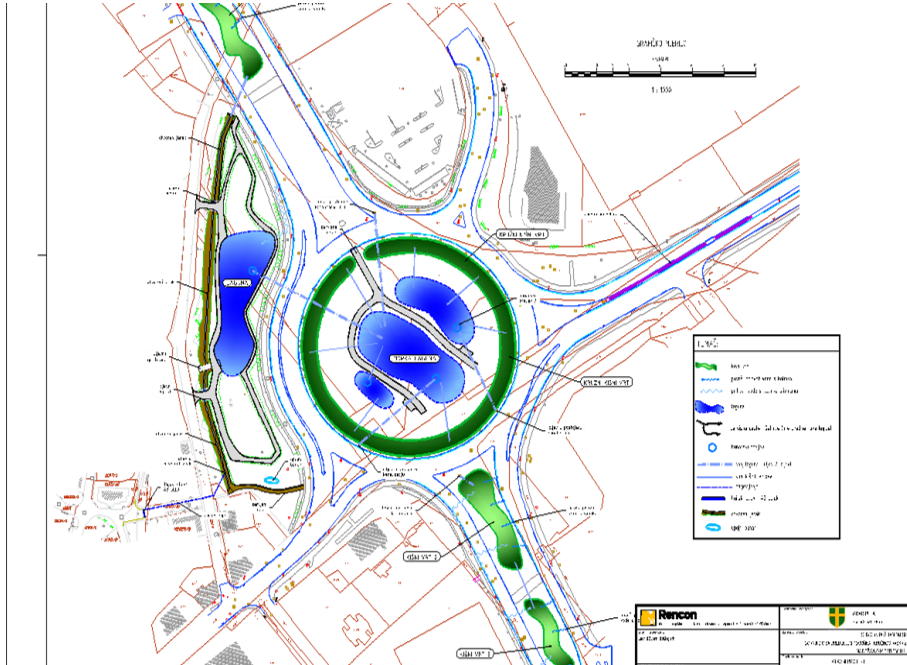
Recordings on the YouTube channel:
@createclimateresponses

<https://www.youtube.com/@createclimateresponses/videos>



CREATE A3 Adaptation Award

Water-sensitive urban designs – Pula rain gardens (Croatia)



Nature-based Solutions for Adaptation in Different Coastal Typologies in the Mediterranean

- A) Transitional coasts
- B) Semi artificial coasts
- C) Entirely artificial coasts
- D) Semi natural coasts

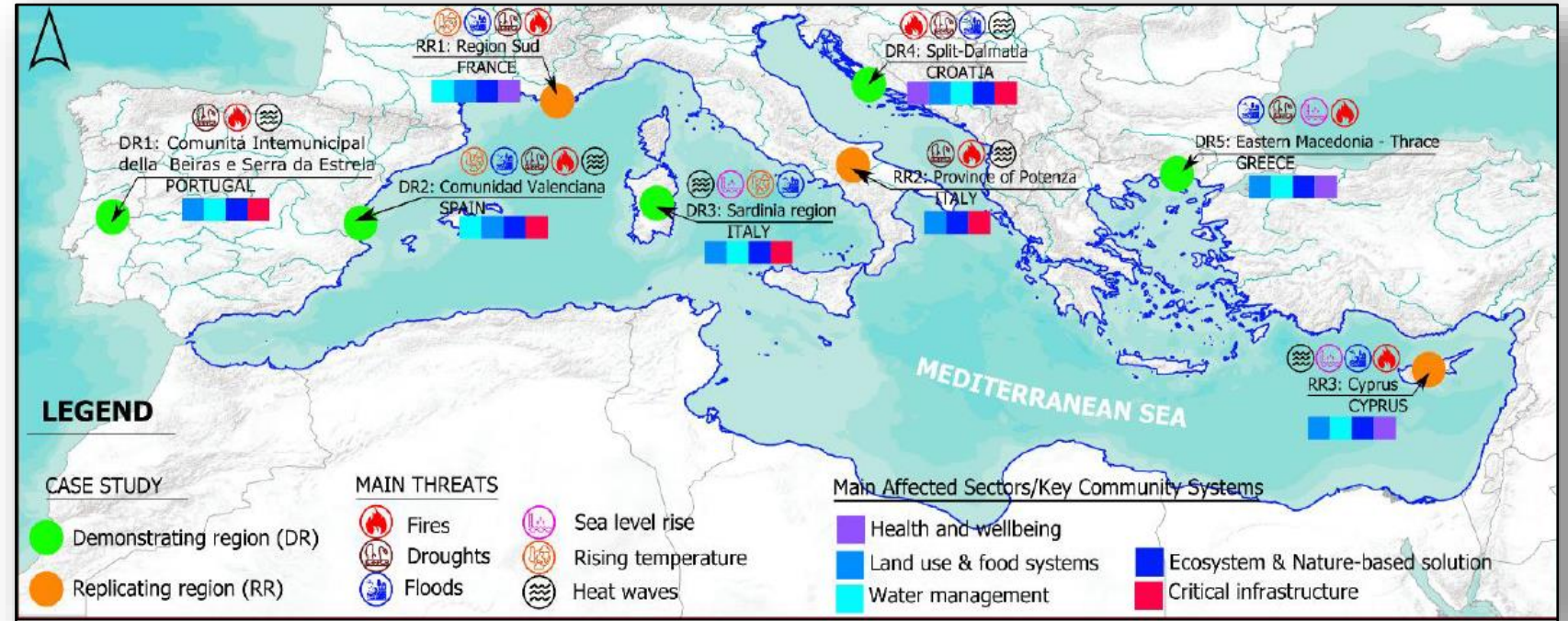


Nature-based Solutions for Adaptation in Different Coastal Typologies in the Mediterranean

COASTAL TYPE / ELEMENT	NATURE-BASED SOLUTION	TARGETED CHALLENGE
<ul style="list-style-type: none"> DUNE AQUIFER ENTIRELY ARTIFICIAL MODERATELY ARTIFICIAL WETLAND FOREST - WOODLAND TRANSITIONAL LOW DENSITY URBANISED CLIFF MARINE 	<ul style="list-style-type: none"> 1 RECOGNITION - AREA PROTECTION 2 ECOSYSTEM RESTAURATION 3 ESTABLISHMENT OF A NEW ECOSYSTEM 4 ANCIENT TREE PROTECTION 5 INTENTIONALLY UNMANAGED AREAS 6 SOLUTIONS FOR RAINWATER 7 PLANTATION OF AUTOCHTONOUS VEGETATION 8 INNOVATIVE SOLUTIONS IN AGRICULTURE 9 MONITORING (SOCIETAL) 10 ADVOCATING - EDUCATING (SOCIETAL) 11 LAND-USE CHANGE CONTROL (SOCIETAL) 	<ul style="list-style-type: none"> biodiversity loss torrential flooding brownfields erosion sea-level rise protection of specific ecosystems pollinator crisis healthy food heat islands



Nature-based Solutions and PAP/RAC





Thank you for your attention!

UNEP MAP PAP/RAC

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