

AdriaClim

Climate change information, monitoring and management tools
for adaptation strategies in Adriatic coastal areas

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D.5.7.1 A set of possible solutions and countermeasures as well as mitigation actions proposed to face critical issues that might threaten the application and implementation of selected adaptation measures

Dubrovnik Neretva County

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1. Introduction

Slano Bay is located about 25 km northwest of the city of Dubrovnik. The bay is part of the Ston basin, which is formed by mainland with the southern part of the Pelješac peninsula and the islands of Šipan and Jakljan. The mainland part of this basin consists of several bays, of which, after Ston Bay, Slano Bay is the largest. It is tucked into the mainland with its full length of about 2 kilometers, with a tight sea gate that protects it from the waves. The entrance to Slano Bay is located between Cape Donji (down) and Cape Gornji (up) about 320 m wide. After the narrow gate, Slano Bay widens sharply, which reduces the height and strength of incoming waves, and the surrounding hills protect the bay from winds.

2. Climate change in Slano Bay

Slano Bay, Dubrovačko Primorje Municipality, as well as the entire Adriatic coast, is exposed to climate change such as drought, forest fires, sea level rise, new species of marine organisms, etc. Some of the negative impacts can be mitigated by planning and building adequate infrastructure and developing a system for early detection and information of possible natural threats. Protection of natural resources and adapting sectoral development to the vulnerability of ecosystems is an important step towards climate change mitigation and adaptation.

To adapt to climate change, some of the main goals occurring from the vision are the following:

- reduce the vulnerabilities of natural systems and society to the negative impacts of climate change
- improve resistance and recovery capacity from the negative effects of climate change
- take advantage of the potential positive effects of climate change.

3. Selected adaptation measures and countermeasures

At this stage of the preparation of the Adaptation Plan it is not possible to propose a set of possible solutions, countermeasures, and mitigating actions. In the following, we present a proposal for adaptation measures to climate change in Slano Bay, arranged according to the proposed strategies. A set of possible solutions, countermeasures and mitigation actions proposed to deal with critical issues that could threaten the application and implementation of the selected adaptation measures will be presented subsequently.

3.1 Strategy 1 - Capacity building and multidisciplinary

- Strengthening capacity for understanding (education) and implementation of climate change adaptation measures
- Planting vegetation
- Digital and green technology

3.2 Strategy 2 - Conservation of natural resources and ecosystem services

- Developing techniques and tools for the exploitation of alien and invasive species and popularizing their use
- Development of conservation measures for the most vulnerable habitats that hold populations of economically important species

3.3 Strategy 3 - Adapting practices and monitoring of positive trends in fisheries, agriculture, and tourism

- Restoration of fish stocks
- Irrigation of agricultural land with rainwater and development of *drought warning systems*
- Stimulating the circular economy (aquaculture)
- Encouraging regenerative agriculture

3.4 Strategy 4 - Improving infrastructure

- Sustainable rainwater management (drilling, rainwater, torrential watercourse diversion)
- Adaptation of coastal infrastructure to sea level rise (climate change)
- Strengthening resilience and developing new energy production capacities
- Strengthening the resilience of tourist infrastructure to different weather conditions.
- Renewable energy sources

3.5 Strategy 5 - Improving spatial planning / coastal management

- Unique spatial planning database
- Development of climate change adaptation plans for specific areas
- Climate change monitoring and early forecasting system
- Integrated coastal zone management