

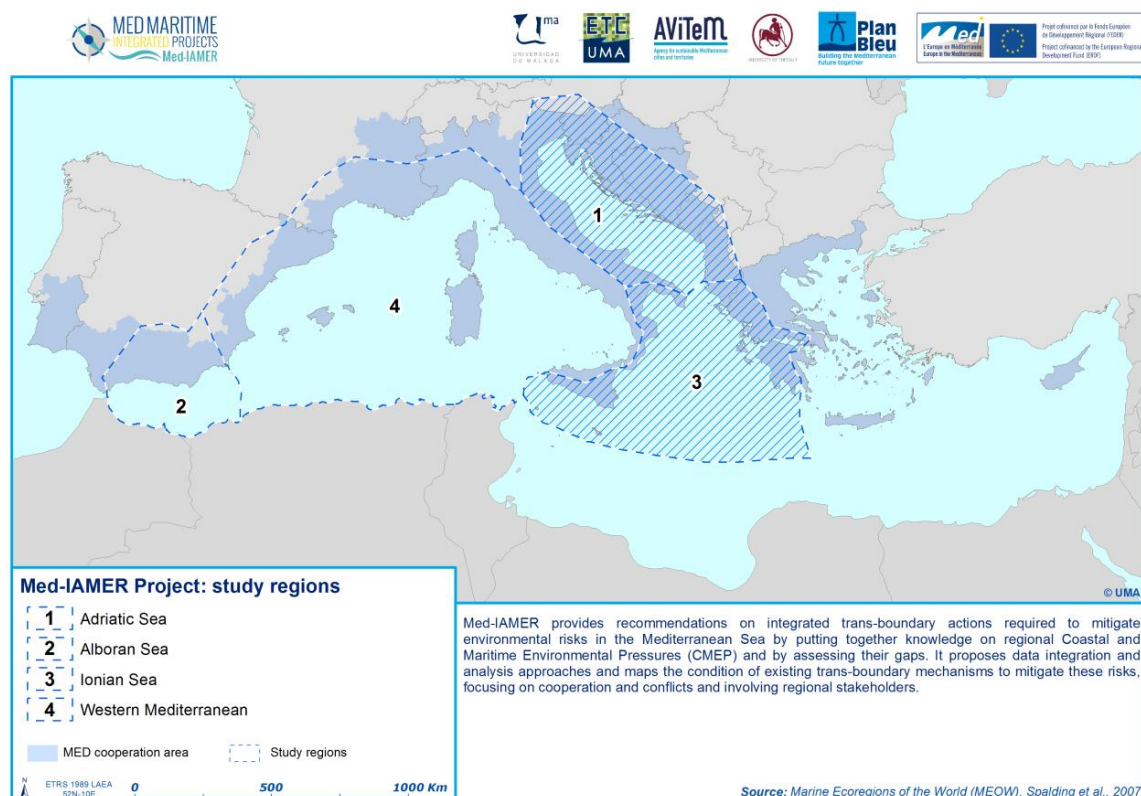
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Adriatic Ionian ecoregion (AIE) General Factsheet

Definition

The Adriatic-Ionian ecoregion includes both the Adriatic and the Ionian sea (with its boundaries described in the map below). The Adriatic Sea is a semi-enclosed basin with its northern part as the largest shelf area of the entire Mediterranean that is connected with the Ionian Sea (the deepest sea of the Mediterranean region) through the Otranto Strait between Albania and Italy's Salento Peninsula. The countries surrounding the Adriatic-Ionian ecoregion are Italy, Slovenia, Croatia, Montenegro, Albania and Greece.

Map of Adriatic-Ionian ecoregion boundaries



Justification of the choice

The landscape and environmental differences between the two coasts of the basin are important because of their geomorphological characteristics, the high pressure of urban development and demographic differences. The Italian coast, in fact, is affected by a high level of urbanization, which has assumed a continuous linear form with peaks around centers of production and areas of intense tourist development. Excessive pressure of productive use, localized demand and the consequent transformations of the coastal habitat have caused widespread congestion and a constant reduction of the natural environment. There are nonetheless, excellent environmental sites such as national and regional protected areas both in the north and the south of Italy.

The eastern Adriatic presents a continuity of landscape and environmental heritage, which is, however, now increasingly threatened by development processes, a lack of sewage and waste disposal systems

and constant atmospheric emissions of polluting substances deriving from transport and industrial processes and, in particular, combustible fuels for energy production are frequently detected in eastern Adriatic countries.

Overall, the ecoregion is a sensitive and vulnerable marine ecosystem facing numerous environmental challenges and is generally considered to be the most endangered region in the Mediterranean Sea. The area is home to some of the most significant treasures of world heritage, including the Venice Lagoon and the fortress city of Dubrovnik. At the same time its rocky coves, historical cities, and pristine beaches mark it as an economically significant region for tourism and recreation while fishing and aquaculture are considered as important activities. A number of acute problems that can be found in the region are mostly related to eutrophication, over-fishing, pollution, shipping, coastal development and tourism etc.

List of socio-economic drivers

Driver	Relevant contribution (%) to total GVA	Relevant contribution (%) to total employment	Intensity of environmental pressure (%)	Total %
Coastal and maritime Tourism	41,44	41,43	8,42	30,43
Maritime transport	26,56	11,69	17,89	18,71
Fisheries & aquaculture	16,11	20,82	14,74	17,22
Agriculture	4,22	24,72	8,42	12,45
Oil and gas	11,33	1,22	14,74	9,10
Other Industry (including desalination)	0,33	0,11	16,84	5,76
Energy networks	not available/ low contribution*	not available/ low contribution*	8,42	2,81
Renewable energy	0,00	0,00	6,32	2,11
Dredging	0,00	0,00	4,21	1,40
Total	100	100	100	100

*Although there are not any available data for energy networks, it can be generally estimated by related bibliography that their socio-economic contribution is low.

Source: EU/EUNETMAR, 2014; Own elaboration

In order to measure the drivers' socio-economic value, the percentage of their relevant contribution (percentage among the total of the 9 drivers excluding urbanization and climate change) to the GVA and employment according to the data provided by EU/EUNETMAR (2014) was estimated. Similarly, according to the produced matrix of drivers and pressures, an estimation of the relevant intensity of their environmental pressures was conducted by setting a score of 10 to pressures with significant importance and 5 to those with low importance. Their total

score stressing the environmental intensity was then calculated as a percentage among the 9 drivers. Finally, the total percentage including the socio-economic value and environmental pressure was summarized and re-measured in order to provide a total percentage of importance for each of the drivers. According to the results, the drivers with the highest priority for the Adriatic-Ionian ecoregion are coastal and maritime tourism (30,43%), maritime transport (18,71%) and fisheries and aquaculture (17,22%).

List of environmental/ human/ coastal and marine pressures

In order to identify the most important drivers and pressures in the ecoregion a set of criteria was established focusing particularly on the environmental and socio-economic aspects of the Adriatic-Ionian coastal and maritime environment.

Socio-economic driver	Associated pressures
Coastal and maritime tourism	<ul style="list-style-type: none"> Environmental impacts include: Waste disposal (sewage and solid waste) especially when tourism pressure is concentrated in specific geographic areas and limited time periods, Marine litter concentrated mainly in bay areas and coastal shallow waters, Physical alteration of coastlines and landscapes mainly through the construction of marinas and other infrastructure, Loss of biodiversity (species and habitats) and disturbance of coastal biota and as tourism and recreational activity is mainly located in fragile ecosystems. Cruises in the Mediterranean are also a source of considerable ecological problems including water and coastal pollution and the destruction of the seabed.
Maritime transport	<ul style="list-style-type: none"> Introduction of alien species; Pollution; Petroleum Hydrocarbon (oil), Polycyclic Aromatic Hydrocarbons and oily residue discharges from ships; Underwater noise; Physical alteration of coasts through sealing, construction of relevant infrastructure, material discharge derived from ports dredging.
Fisheries and Aquaculture	<ul style="list-style-type: none"> Removal/ overfishing of target species (some listed as endangered on the IUCN's red book) resulting changes in the size structure of their populations. Mortality of non-target populations of fish, seabirds, marine mammals and benthic marine life. Alterations to the seabed habitat and benthos communities and species through fishing practices such as trawling and dredging. Changes in the food web with impacts on the predators and prey of the species affected. Discharge of organic matter and the nutrients nitrogen and phosphorus through faecal material and uneaten feed with specifically adverse effects Release of chemicals including medicines on fish (antibiotics and biocides) Introduction of non native species - intentional and unintentional.

Socio-economic driver	Associated pressures
	<ul style="list-style-type: none"> ➤ Predation on and competition with native species (i.e. <i>Thalassoma pavo</i> and <i>caulerpa spp. vs posidonia spp.</i>, respectively) ➤ Changes to native communities (i.e. <i>Caulerpa taxifolia</i>). ➤ Alteration of coastal landscapes through the installation of facilities.
Urbanization	<ul style="list-style-type: none"> • Urbanization contributes to the release of organic matter in coastal and marine waters through direct point-source discharges or through river water run-off; • Urban waste water is also considered as a major source of heavy metals; • PCBs are also found in the vicinity of urban and industrial sites; • Urban wastewater is considered one of the most important contributors to eutrophication.
Climate change	<ul style="list-style-type: none"> • Increased rainfall will increase the input of inorganic and organic terrestrial material to coastal areas. • Sea level rise combined with increased temperatures will accelerate coastal erosion affecting underwater light in coastal water and altering coastal habitats. • Increase of storm events. • Several areas were identified potentially vulnerable to flooding.

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