

MED MARITIME INTEGRATED PROJECTS Med-IAMER

Western Mediterranean ecoregion (WME) Coastal and Maritime Tourism

Definition

Coastal tourism refers to land-based tourism activities including swimming, surfing, sunbathing and other coastal recreation activities taking place on the coast for which the proximity to the sea is a condition including also their respective services. Maritime tourism refers to sea-based activities such as boating, yachting, cruising, nautical sports as well as their land-based services and infrastructures (Ecorys, 2013).

Regional context

The three Western Mediterranean countries ecoregion (Italy, France and Spain) included in the WME constitute top tourism destinations at the Mediterranean and European levels, especially during summer time. This high touristic activity increases pressures on the environment particularly in highly populated coastal areas as well as areas lacking crucial infrastructure i.e. sewage systems, etc. In the future, population density and coastal and marine tourism are expected to increase drastically due to the attractiveness of the region and recent supportive policies, which would lead to increasing investments in coastal areas. This increase in investment is also linked to potential increases in environmental pressures on the region.

Spain, Italy and France are the top three Mediterranean holiday destinations. The following table provides insights into bed capacity and total tourist arrivals in the western Mediterranean side at NUTS3. The region's capacity for tourist accommodation reaches around 5 m. beds, which is one of the biggest offers in the whole Mediterranean (Eurostat, 2014).

Country	Number of Bed places (2011)	Tourist Arrivals (2013)
Spain	1 895 778	57 728 133
France	999 981	27 765 050
Italy	1 589 184	39 157 473
Total Western Mediterranean	4 484 943	124 650 656
Total Europe	28 633 487	876 690 229
West Med / Europe	15.7 %	14.2 %

The Mediterranean regions of these countries contribute to this situation at a significant level:

- In Spain, the 5 NUTS2 Mediterranean regions considered (Cataluña, Valencia, Balearic Islands, Murcia and Andalusia) represented 57% of the nights spent at tourist accommodation establishments in 2013.
- The 3 French Mediterranean regions (Languedoc-Roussillon, Provence Alpes-Côte d'Azur and Corsica) represent one quarter of the total national contribution.
- In Italy, the 7 Western Mediterranean regions considered (Liguria, Toscana, Lazio, Campania, Calabria, Sicily and Sardinia) account for 35% of total nights spent at tourist accommodation establishments in the country.

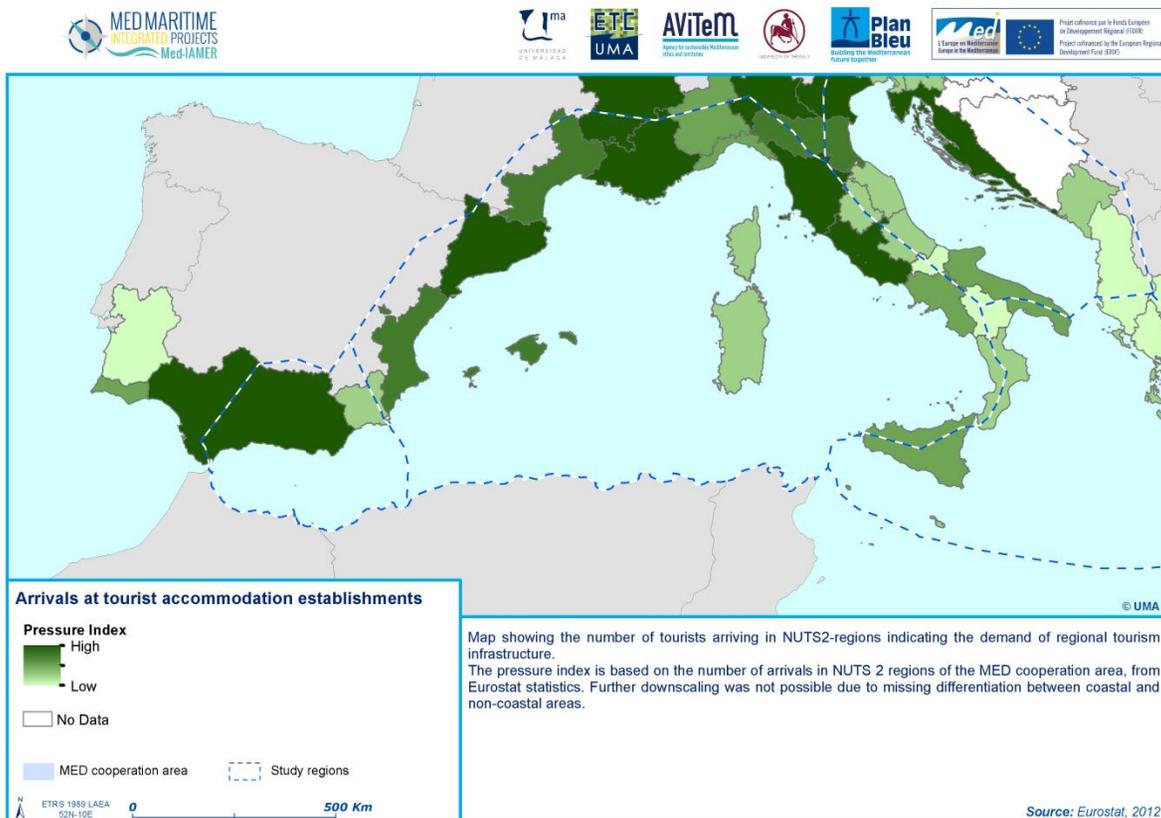
In terms of coastal pressure generated from touristic activity, the Languedoc-Roussillon (L-R) and Provence Alpes-Côte d'Azur (PACA) regions in France have the highest number of beds per kilometer of

coast (density) in the region. At present, coastal tourism is the driving force for the development of the PACA region that used to be previously a sparsely populated region. Nevertheless, in this region, the accommodation offer is dominated by secondary homes. In addition, the high density of recreational boats in the region is permanently present during the whole year while only being used for a limited number of days per year. In the Languedoc-Roussillon region however, the accommodation offer is targeting tourists.

In Corsica, mass coastal tourism is not being encouraged mainly due the local conservation efforts of the value of the natural resources in the region.

Highlighted features

The following map shows the number of arrivals at tourist accommodation establishments per NUTS2 in the WME. The map illustrates the most frequented touristic regions and shows the different densities within the national occupancy data (see table above). Furthermore, the



map allows the transboundary comparison of the information, where the high density of tourism in regions such as Andalusia, Catalonia, Provence Alpes Côte d'Azur, Tuscany and Lazio is clearly highlighted at the ecoregional level.

Data/Indicator used

Number of arrivals per NUTS2 region. Eurostat - Number of arrivals at tourist accommodation establishments by NUTS2 regions (2012).

Gaps

At the regional level, touristic data in general is available at NUTS2 level, with the exception of bed-places that is available at NUTS3 level. Therefore, touristic centers are not represented specifically, but aggregated to its corresponding administrative level. This undermines the analysis of specific areas with high tourist concentration density.

Eurostat data are only available at NUTS2 level, though differentiated between coastal and non-coastal regions. Data are usually presented on a yearly basis, not making possible a regional analysis of reasonability as this information is more collected on a local level. Nevertheless, such information is very important, and therefore recommended to be used whenever it is available and accessible.

Limits of methodology

The present indicator only shows the total number of visits. Med-IAMER is currently developing an improved indicator representing touristic offer in terms of bed places per square kilometer. After validation, this indicator and its corresponding map will be included in the final version of the factsheets to show the localized pressure of touristic establishments.

Related Pressures

Coastal tourism, through transit/transport and out-of-home stays, is a significant source of pressure on natural resources in the WME, the following being some of the major pressures considered in Med-IAMER:

Physical damage to the seafloor

A specific pressure of coastal tourism is the physical damage to the seafloor generated by beach nourishment needed to maintain beaches functionality. This source of pressure alters marine water quality and disturbs benthic communities. Recreational boating activities cause damage to habitats and species, particularly due to collisions and underwater noise. Furthermore, important damages result from boat anchors, especially in sites containing meadows or coralligenous formations in addition to pollution from oil, wastes and wastewater discharges; release of antifouling substances; and the voluntary or involuntary introduction of non-indigenous species stuck to the hulls of the boats or hanging to their anchors (UNEP/MAP/Plan Bleu 2014).

Marine litter

Shoreline and recreational activities also generate approximately 50 percent of the marine litter in the Mediterranean, with smoking-related activities representing 40% of total marine litter. The production of wastewater and solid waste in tourist areas often exceeds the carrying capacity of local infrastructures as a result of high seasonal demand.

The pollution generated from the different sources of marine litter negatively affects water quality in beach areas and drinking water supplies, with human health severe implications in specific situations (UNEP/MAP 2009).

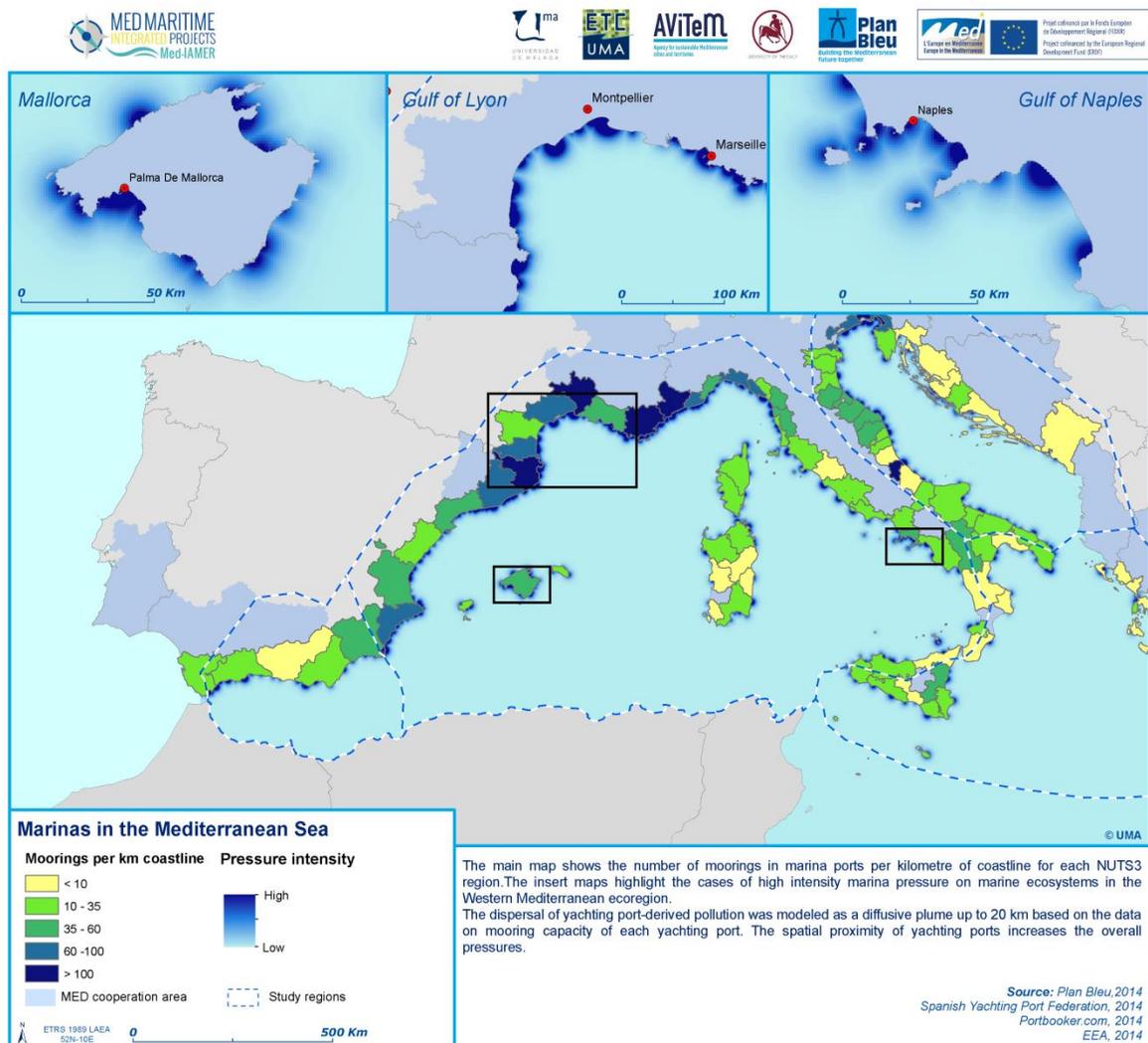
It is worth mentioning that cruises in the Mediterranean are a major source of considerable ecological pressure including marine litter (ARLEM, 2013). On average basis, a single cruise line produces around 50 tons of solid waste per year, 7.5 mil of liquid waste, 800,000 lt of waste water from sanitary installations and 130,000 lt of waste water from food catering.

These threats are expected to increase in the future, as a consequence of the expected growth of the cruise sector in this region. As part of EU's Blue Growth strategy, the coastal and maritime tourism sector has been identified as an area with special potential to foster a smart, sustainable and inclusive Europe (Stelzenmuller et al. 2013). The boosting of this sector would not be produced without

consequences on the environmental quality of the region.

Highlighted features

The map shows the number of mooring capacity per km of coastline within the coastal NUTS3 regions. The indicator produced measures the intensity of marina activities in the region providing a proxy on the potential pressure resulting from the growth of marinas in the WME. Additionally, the map includes a layer of potential pressure level by yachting port intensity. The maps above show specific regions highlighting high intensity marina pressure in the WME. At the regional scale, the highest intensity can be observed all along the French Mediterranean coast as well as in Catalonia and Southern Valencia (Spain).



Data/Indicator used

Location and capacity of yachting ports were developed based on an existing dataset produced by Plan Bleu, updated and enhanced with data collected from the Spanish yachting port federation, and current mooring data from the dedicated web portal Portbooker.com. The coastline is taken from the European Environment Agency.

The dispersal of yachting port-derived pollution was modeled as a diffusive plume based on the data on mooring capacity of each yachting port. The spatial proximity of yachting ports increases the overall pressures.

Gaps

N/A

Limits of methodology

The diffuse plume represents diverse aspects of pollution both by actual boating (oils spills, marine litter) and by boat maintaining activities (cleaning, painting, etc.). The distance of the potential pressure may vary with the type of boat and the local environmental condition, and the biodiversity hosted in the region which may be included in the future as an improvement of the model.

List of proposed indicators

The following table lists the indicators developed and mapped within Med-IAMER on the impacts of tourism on coastal (land) and marine environments. All maps, identified by the indicator ID, can be found at the project's web page: <http://www.medmaritimeprojects.eu/section/med-iamer-redirect/outputs>

ID	Indicator description
TO01	Density of tourism capacity: Number of beds per km2 in coastal areas
TO02	Density of tourism capacity: Number of establishments per km2 in coastal areas
TO03	Arrivals at tourist accommodation establishments
TO04	Number of moorings in yachting harbours per km of coastline (NUTS3 regions)
TO05	Density of tourism demand: Nights per km2 in coastal areas
TP04	Marine exposure due to port activity: cruise transport
ML01	Marine litter by population influence

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