

RESILIENCE, RISK AND VULNERABILITY OF COASTAL AREAS IN ITALY

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| Country | Italy |
| Short description | Coastal areas suffer from specific pressures, due to the characteristics of the territories and seasonal factors that increase their vulnerability and related risks. Resident population and the intense tourist and commercial flows determine a strong anthropization of the territory associated to the intense seasonal flows, that call for a highly flexible systems planning. |
| Keywords | |
| <i>Thematic area</i> | <ul style="list-style-type: none"> • Human settlements and housing • Tourism • Transport • Water resources • Waste |
| <i>Characteristics of the reference area</i> | <ul style="list-style-type: none"> • Coastal |
| <i>Type of statistical product or activity</i> | <ul style="list-style-type: none"> • Indicator(s) • Linking data from several sources • Data analysis |
| <i>Adaptation approaches</i> | <ul style="list-style-type: none"> • “Grey” adaptation – technological and engineering solutions • “Blue” adaptation – solutions including water elements, like rivers, canals, ponds, wetlands, floodplains, water treatment facilities |
| <i>Concepts covered/measured</i> | <ul style="list-style-type: none"> • Exposure to hazard • Vulnerability • Adaptation measures |
| <i>Hazard type covered</i> | <ul style="list-style-type: none"> • Multiple hazards • Environmental degradation • Land degradation • Waste • Supply systems failure |

Description of the activity

The output of the activity is an integrated analysis of several indicators that evaluate the main drivers of the territorial risk in the Italian coastal areas, related to the vulnerability of communities, infrastructures, population.

Coastal municipalities and tourism

- Coastal municipalities in Italy are about 15%, located in 15 of the 20 Italian regions.
- 35% of Italy's resident population lives in coastal municipalities, where average population density is 360 inhabitants per km², compared to 198 nationwide.
- Coastal municipalities offer almost 57% of the bed places to accommodate tourists and record 53% of the total tourist nights spent (2019).

- Tourism pressure (number of nights spent in tourist accommodation per inhabitant) is more than twice as high as in non-coastal areas and tourism density (number of nights spent per km²) is five times higher. In 2019 69.4% of the nights spent in coastal municipalities are concentrated in the summer period (June-September), compared to 48.4% in the other Italian municipalities.

(FIGURE 1)

Commercial ports in coastal municipalities

- 11% of coastal municipalities have a main commercial port.
- In 2019, there are a total of 131 seaports transporting goods and/or passengers for commercial purposes (statistical ports), distributed along the Italian coast in 14 regions.
- There are 40 main ports, those carrying more than one million tonnes of goods per year or more than two hundred thousand passengers per year.
- In 2019, almost 483 thousand ships with a gross tonnage of almost 3 billion tonnes arrived in Italian ports. Of these, 40 thousand are passenger and cruise ships and 30 thousand are ships carrying specific type of cargo; the remainder are general cargo that can carry both cargo and passengers, such as ferries.

(FIGURE 2)

Municipal waste production

- In 2019, around 30 million tonnes of municipal waste were generated in Italy.
- Municipal waste per capita produced in coastal areas (543.7 kg per inhabitant) is much higher than in inland areas (482.7 kg per inhabitant).
- The performance of separate municipal waste collection is significantly worse in coastal areas, it represents 50.9% of the municipal waste generated (minus 16.6 percentage points compared to inland areas).

(FIGURE 3)

Urban water services

- Approximately 15% of water for public water supply is withdrawn in coastal municipalities (1.4 billion cubic metres in 2018).
- About 35% of the volumes of water supplied is provided in coastal municipalities, where 34% of the population lives. The daily volumes supplied in coastal municipalities are higher than the national figure: 219 litres per inhabitant per day, compared to 214 in non-coastal municipalities.
- In 2018, 40 municipalities, where 0.7% of the Italian population lives, have no public sewerage service. More than half of these cases (25) are coastal municipalities.
- The lack of public waste water treatment service affects 339 Italian municipalities, of which 83 are coastal municipalities, accounting for 1.3% of the total population (about 773,000 inhabitants).
- In the coastal municipalities there are 1,655 urban waste water treatment plants (18,140 in Italy as a whole); 33.5% are primary plants or Imhoff tanks, while in 66.5% of the cases they are equipped with at least secondary treatment.

(FIGURE 4)

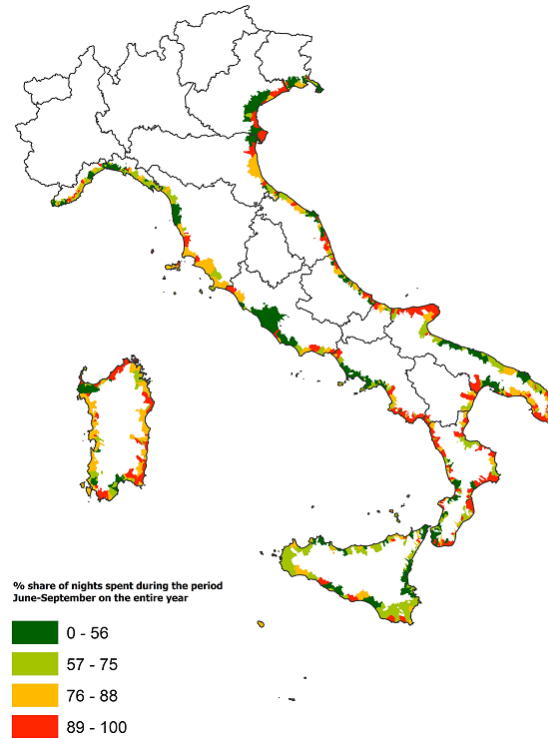
Protected natural areas

- In about 25% of the surface of the coastal municipalities are present terrestrial protected areas of the Natura 2000 Network in 2019.
- Within the 1,165 coastal municipalities, more than two out of three fall (even partially) within the terrestrial areas of the Natura 2000 Network, with a total extension of 14,246 square kilometres belonging to the coastal area and 44,192 to the non-coastal municipalities, for a total of 58,438 square Kilometers of protected areas, equal to 19.3% of Italian territory.

(FIGURE 5)

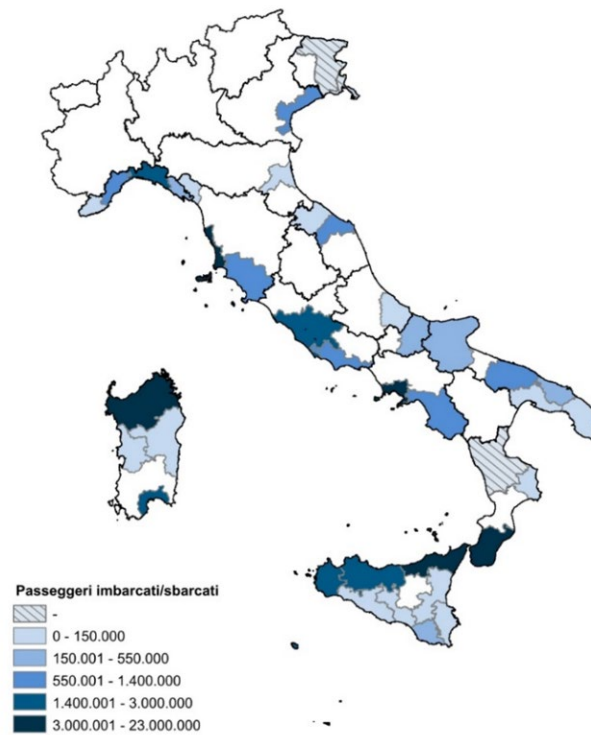
Example of the statistical output

FIGURE 1. Nights spent in tourist accommodation establishments located in coastal municipalities in the period June-September - Year 2019 (% share on the entire year)



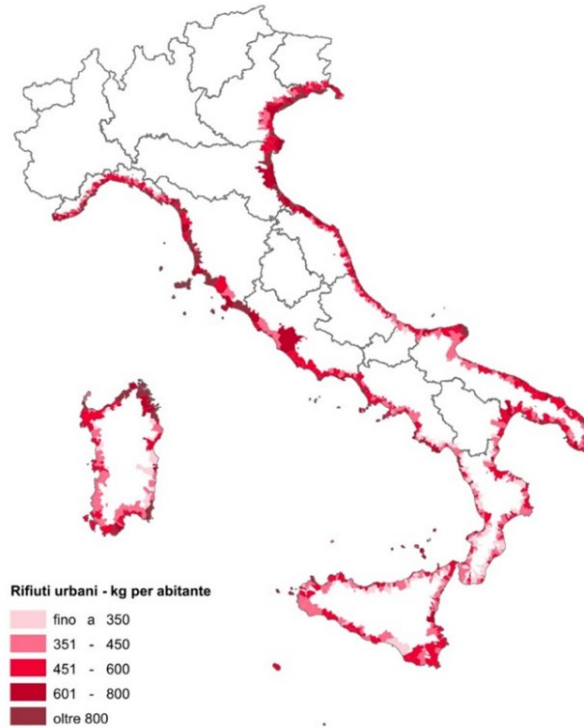
Source: Istat, Occupancy of tourist accommodation establishments

FIGURE 2. Passengers embarked and disembarked in ports per province - Year 2019



Source: Istat, Maritime transport statistics

FIGURE 3. Municipal waste production in coastal municipalities - Year 2019 (kilograms per inhabitant)



Source: Italian Environmental Agency, Ispra

FIGURE 4. Coastal municipalities by presence of public sewerage and urban waste water treatment service - Year 2018



Source: Istat, Urban Water Census

FIGURE 5. Natura 2000 areas (Sites of Community Importance and Special Protection Areas) in coastal municipalities. Year 2019 (square kilometres)



Source: Ministry of Ecological Transition

More details

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| Data sources used | Istat, Occupancy of tourist accommodation establishments Istat, Maritime transport statistics Istat, Urban water census Ispra Ministry of Ecological Transition |
| Frequency | Regular data collection and statistics production are provided by the Istat Surveys; one time analysis but may have future developments |
| Coverage (national/subnational) | Subnational |
| Link with results and more information | https://www.istat.it/en/archivio/255680 https://www.istat.it/en/archivio/252831 |