











### 1. Bathymetry

Isobaths have been obtained interpolating data provided by the Istituto Idrografico della Marina (Concession N. 1653) and multibeam data (see Tab. 1 of the main paper for sources).

-  Isobaths (10 meters interval)
-  Isobaths every (5 meters interval)
















### 2. Natural coastal types

Natural coastal types have been derived from orthophotos and perspective photos by Regione Liguria ([www.ambienteinliguria.it](http://www.ambienteinliguria.it)) and from the Italian Ministry of Environment ([www.minambiente.it](http://www.minambiente.it)).

-  Beach
-  Pocket beach
-  Estuary
-  Cliff (deep plunging)
-  Cliff (shallow plunging)
-  Rocky coast with stacks (deep plunging)
-  Rocky coast with stacks (shallow plunging)
-  Rocky coast with cave (shallow plunging)

### 3. Geomorphological elements

Geomorphological elements have been identified mainly on the basis of direct surveys and, in some case, with aerial and perspective photos provided by Regione Liguria. Larger scale morphological elements have been interpreted using bathymetric data.

-  Abrasion notch
-  Beachrock
-  Karst Littoral cave
-  Karst submerged cave
-  Pothole
-  Tidal notch
-  Toppling
-  Shore platform
-  Shelf break
-  Canyon
-  Drainage line
-  High
-  Matte channel
-  Rockfall
-  Slope rupture





### 4. Seafloor coverage (geological elements)

We defined sediment type and presence of bedrock / beachrock using Multibeam, SSS and our direct surveys. Where information was not available, we completed the map using information from literature (Diviacco, Tunesi, Ianniruberto & Piccione, 2000, Firpo et al., 1997, BIOMAR 1985; SEAWAY, 1988). Beachrocks were mapped using orthophotos.

-  Silts
-  Sandy silts
-  Silty sands
-  Sands
-  Boulders
-  Cobbles
-  Gravels
-  Sandy cobbles
-  High sed area
-  Exposed bedrock
-  Beachrock
-  Possible presence of rocky outcrops






### 5. Seafloor coverage (Biological elements)

Posidonia oceanica seagrass meadows, dead matte of P. oceanica, and the mix of P. oceanica, and dead matte have been mapped starting from the regional atlas by Diviacco & Coppo (2006) derived from previous works (Bianchi & Peirano, 1995) and Side Scan Sonar data. We updated the 2006 work by Diviacco & Coppo using Multibeam data and our direct surveys. The distribution of Coastal detritic bottoms ("Mediterranean animal communities of coastal detritic bottoms", EuNIS code A5.46) has been derived from direct surveys and Side Scan Sonar data.

-  Coastal detritic bottoms
-  Posidonia oceanica
-  Posidonia oceanica and dead matte
-  Dead matte




















### 6. Coastal and nearshore dynamics

The longshore solid transport and the solid input have been derived from literature (Fierro & Piacentino, 1969; Fierro, Berruolo, & Ferrari, 2010; Firpo et al., 1997). The limits of physiographic units have been derived from official data by Regione Liguria ([www.ambienteinliguria.it](http://www.ambienteinliguria.it)). Erosional or accretional trends of sandy beaches have been derived comparing the 1944 and 2003 coastlines mapped by Regione Liguria ([www.ambienteinliguria.it](http://www.ambienteinliguria.it))

-  Limit of Physiographic unit (barrier to longshore sediment transport)
-  Beach erosion
-  Beach progradation
-  Sediment input
-  Net longshore transport





### 7. Human influence on coastal and marine environments

Recent beach nourishments (2003-2007) have been obtained from official Regional data ([www.ambienteinliguria.it](http://www.ambienteinliguria.it)); anchoring, diving sites and shipwrecks have been obtained through direct surveys, aerial photos and bibliographic sources (BIOMAR, 1985; SEAWAY, 1988). The practice of the date mussel harvesting has been placed on the map according to bibliographical information (Parravicini et al., 2009; Parravicini, Thrush, Chiantore, & Morri, 2010; Rovere et al., 2008), while sewage pipes and other structures on the bottom have been digitized from Regional datasets ([www.ambienteinliguria.it](http://www.ambienteinliguria.it)).

-  Anchoring
-  Beach nourishment
-  Coastal quarry
-  Commercial harbour
-  Date mussel harvesting
-  Diving site
-  Dumping site
-  Landing place
-  Shipwreck
-  Touristic harbour
-  Wastes
-  Groyne or Jetty
-  Shore-attached defences
-  Harbour
-  Pier
-  Protected estuary
-  Artificial structures on the bottom
-  Sewage pipes on the seafloor
-  Artificial bottom





### 8. Coastal occupation

The presence of coastal urbanization (houses, permanent instalments) and of infrastructures (roads or railways) has been visually assessed by means of orthophotos and perspective photos by Regione Liguria ([www.ambienteinliguria.it](http://www.ambienteinliguria.it)).

-  Coastal urbanization 50-100m from the modern shoreline
-  Coastal urbanization <50m from the modern shoreline
-  infrastructures 50-100m from the modern shoreline
-  infrastructures <50m from the modern shoreline


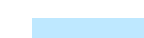








### 9. Protected areas

The presence of protected areas (marine Sites of Comunitary Interest and Marine Protected areas) has been downloaded from the Italian National Cartographic Portal ([www.pcn.minambiente.it](http://www.pcn.minambiente.it)).

-  No entry no take area - MPA zone
-  Integral reserve - MPA zone B
-  Buffer reserve - MPA zone C
-  Marine Site of Comunitary Interest






### On land geology (inset map)

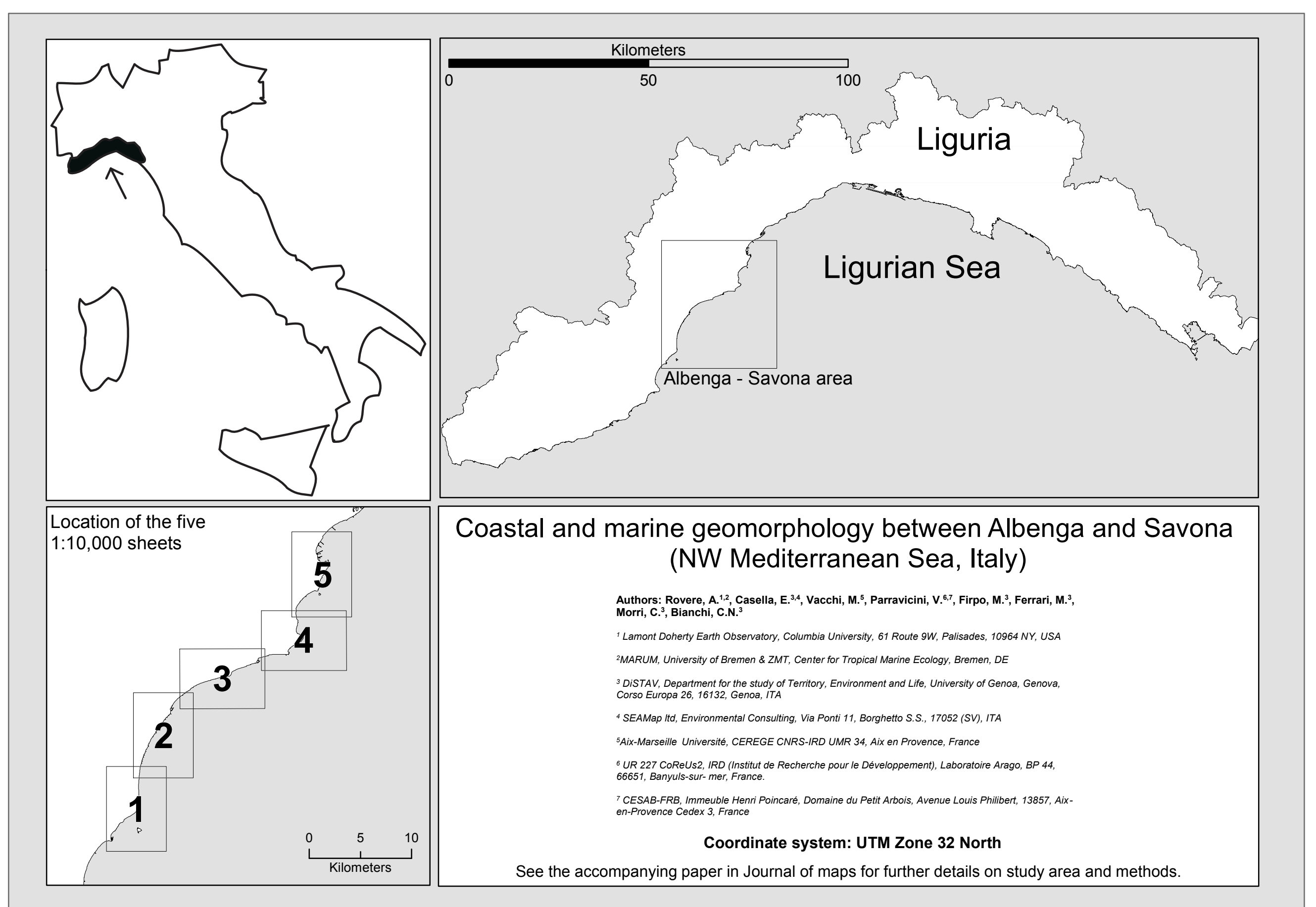
On land geology from 1:100,000 maps, digitized and simplified from the Italian Geological Society maps.

-  E - Eluvium
-  Abd - Alluvial or beach deposits -
-  Oad - Older alluvial deposits - Holocene
-  AOr - Stratified alternance of sandy clays and sands - Pliocene
-  CFI - Limestones - Miocene
-  CBF - Sandstones, breccias or conglomerates - Oligocene Miocene
-  FMo - Polygenic conglomerates - Oligocene
-  FAI - Limestones - Eocene
-  FAs - Sandstones - Eocene
-  CUB - Limestones - Cretaceous
-  QMb - Quartzites - Cretaceous
-  CMe - Limestones - Cretaceous
-  CVt - Limestones - Giurassic
-  BMg - Breccias - Giurassic
-  CRI - Limestones - Giurassic
-  FRp - Dolomitic breccias -
-  DSp - Dolomitic limestones -
-  QPn - Quartzites - Triassic
-  FMP - Conglomerates - Permian
-  GLe - Gneissic granites - Permian
-  FEz - Andesites -
-  PMe - Porfiroids - Permian
-  SGo - Shists - Permian
-  FMU - Phyllads and micashists - Middle and Upper Carboniferous
-  GAI - Gneiss - Middle and Upper

### Surveys (inset map)

Direct and indirect surveys performed. Multibeam and Side Scan Sonar data have been provided by Regione Liguria and Provincia di Savona. Data in the white areas have been obtained from literature.

-  Spot SCUBA diving surveys
-  SCUBA diving transects
-  Snorkelling surveys
-  Multibeam bathymetry
-  Side Scan Sonar



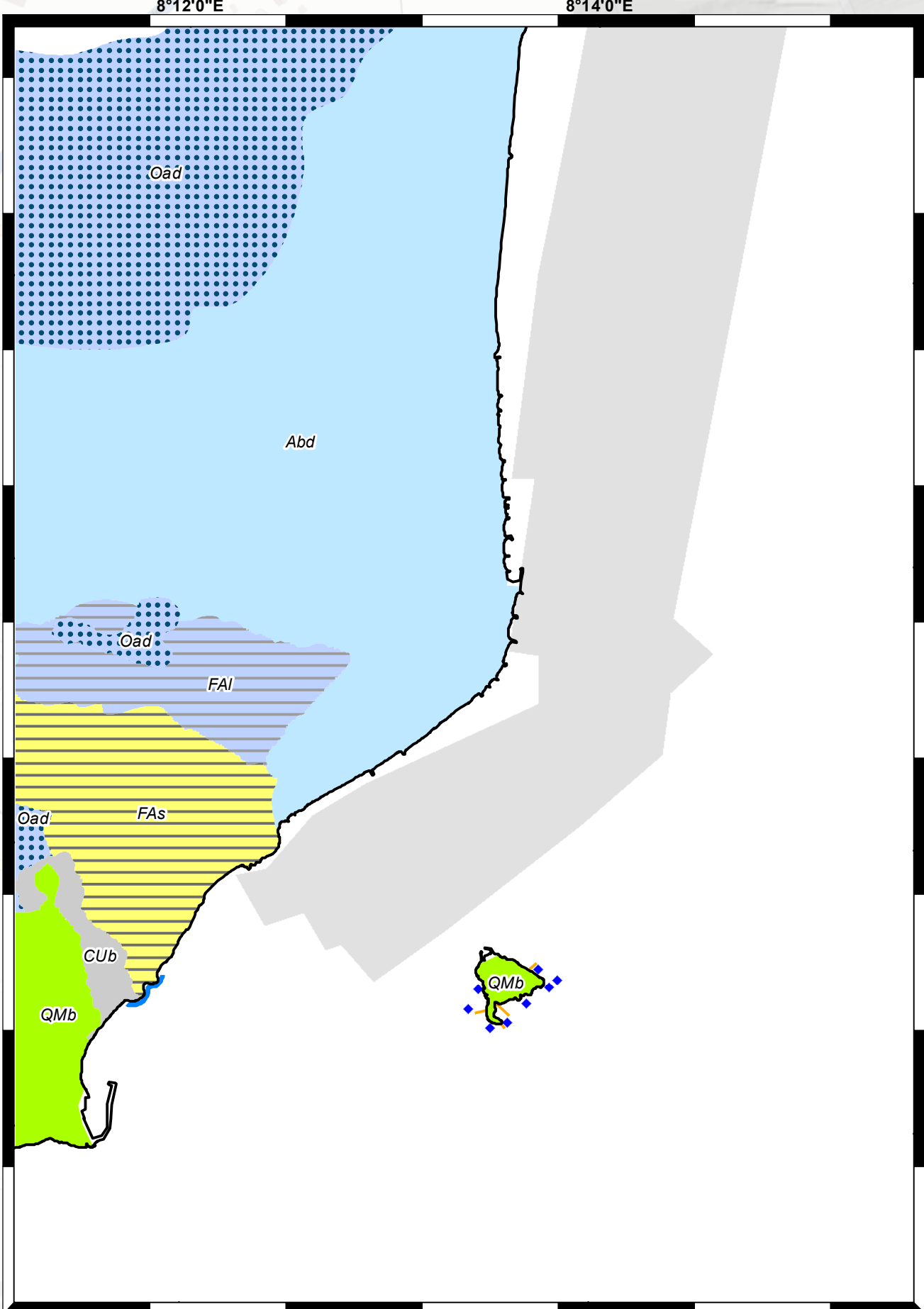
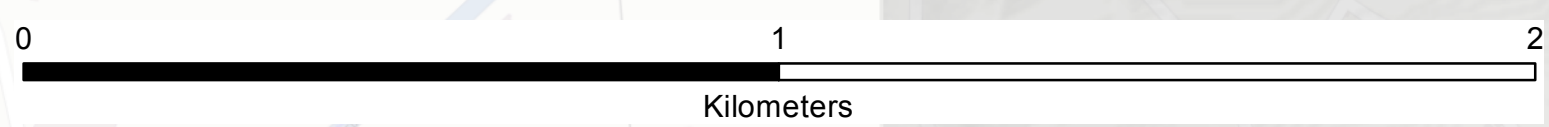


8°12'0"E

8°13'0"E

8°14'0"E

8°15'0"E



Albenga

Capo Lena

Vadino

Punta Murena

Alasio

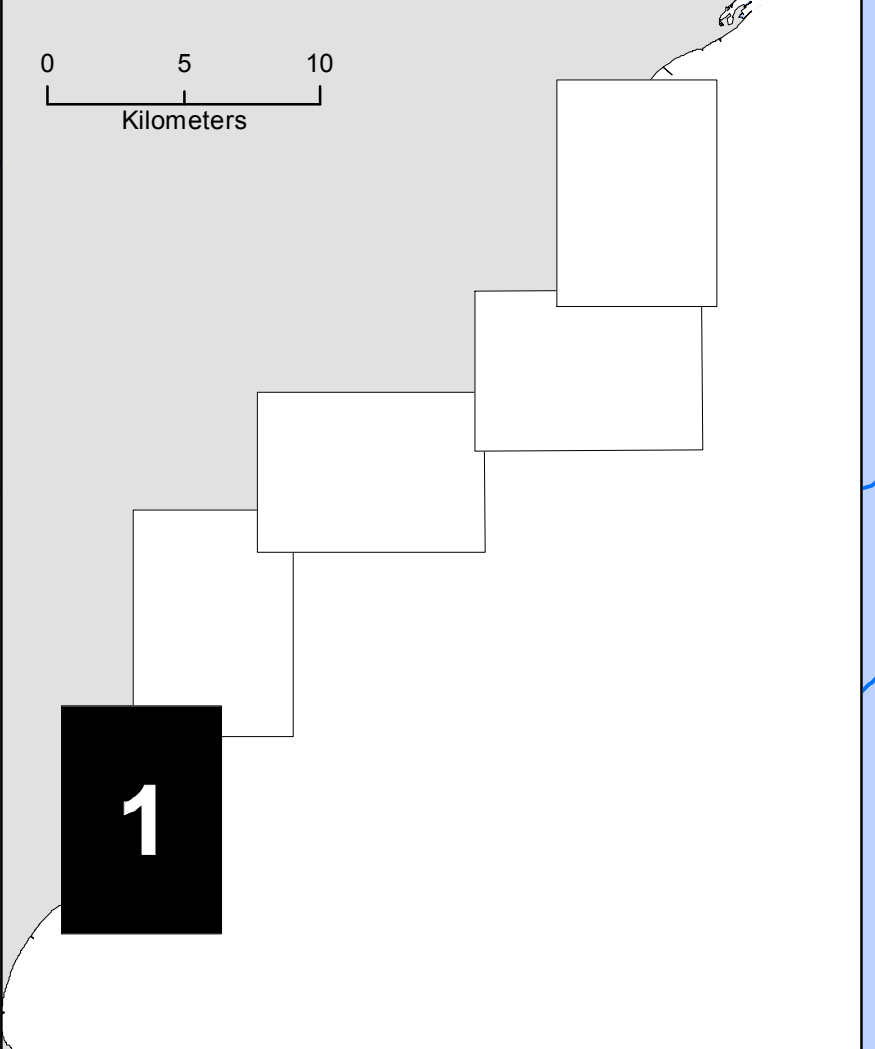
Capo S. Croce

Isola Gallinara

Punta Sciusciaù

Punta Falconara

Umberto I



1

8°12'0"E

8°13'0"E

8°14'0"E

8°15'0"E

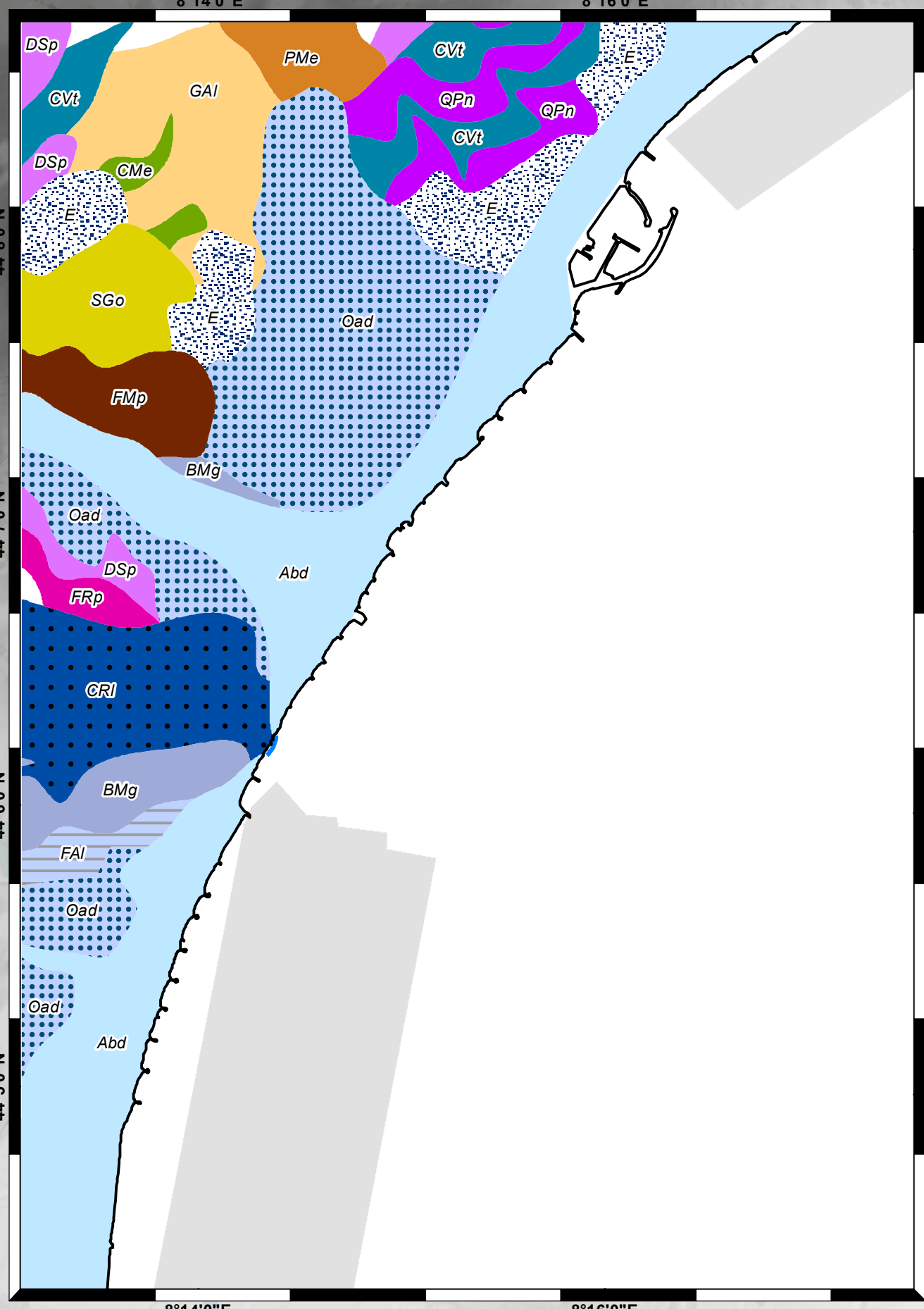
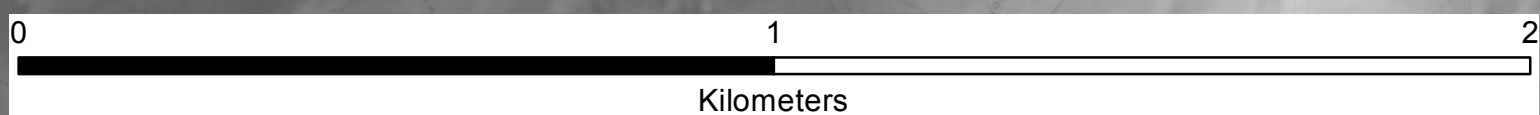


8°14'0"E

8°15'0"E

8°16'0"E

8°17'0"E



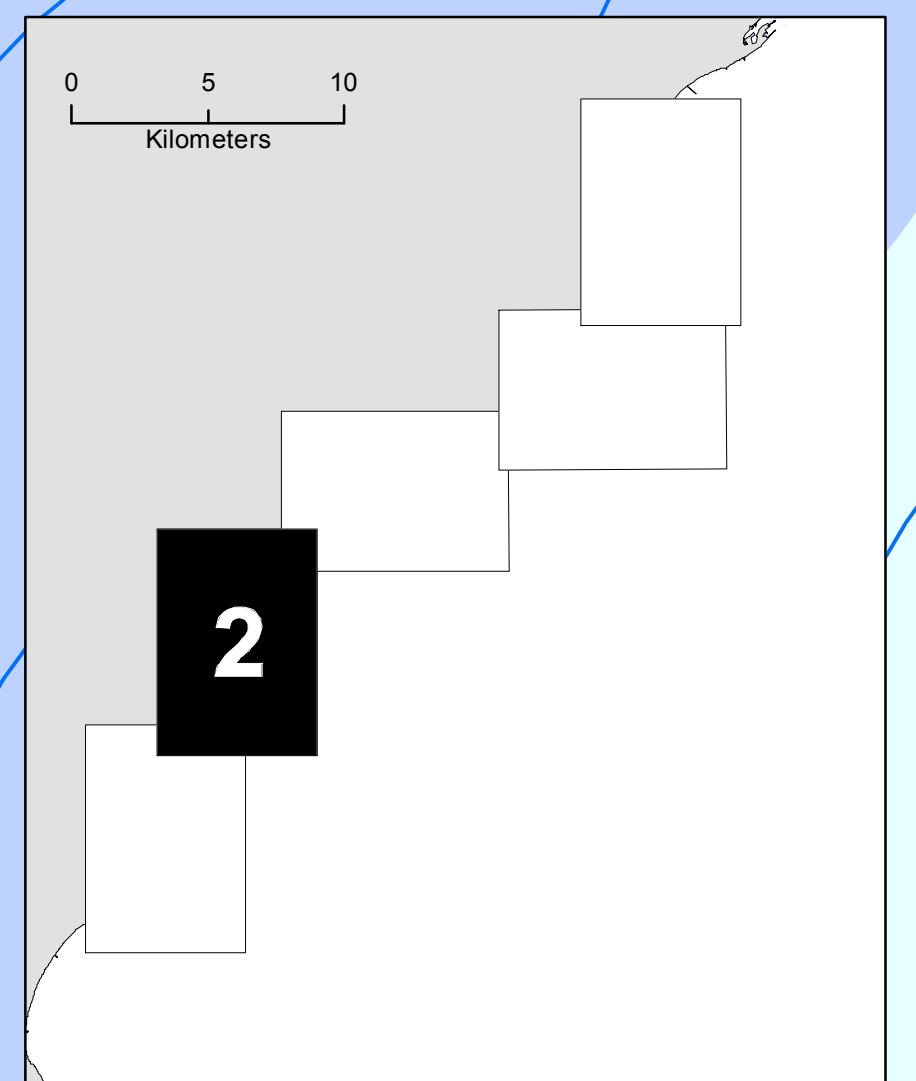
Loano

Borghetto S.S.

Capo Santo Spirito

Città di Sassari

Ceriale



8°14'0"E

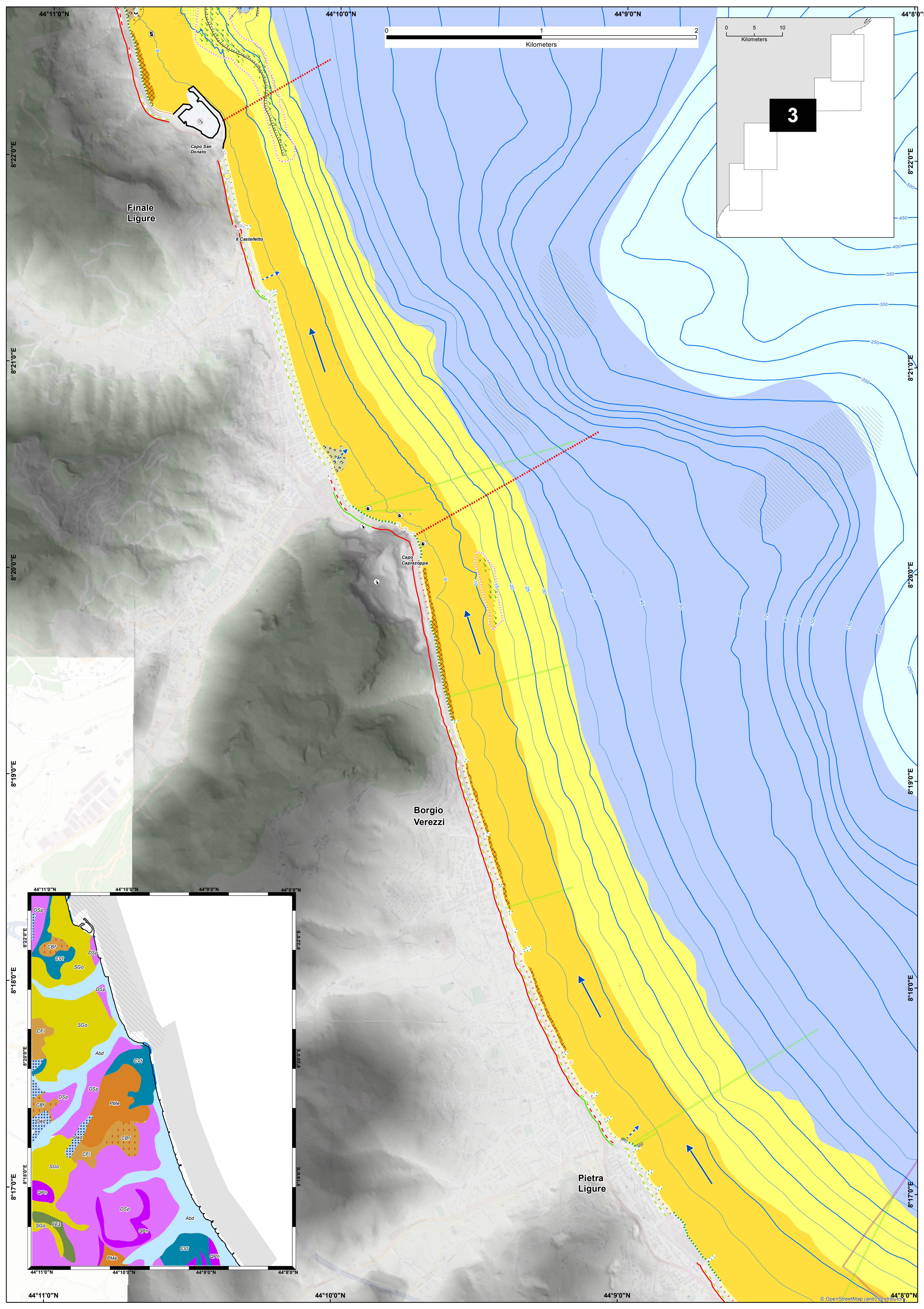
8°15'0"E

8°16'0"E

8°17'0"E

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Finale Ligure

Capo San Donato

Il Castelletto

Capo Caprazoppa

Borgo Verezzi

Pietra Ligure

