

CRITICAL RAW MATERIALS OFFSHORE OCCURRENCES OF EUROPE

Based on the 2023 CRM list of the European Commission



Funded by
the European Union

Scientific coordination

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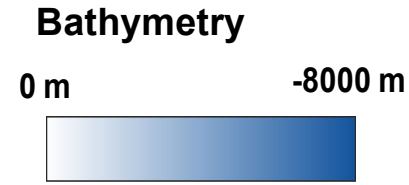
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Cartographic layout

Egidio Marino & Ana Lobato

Source of data (mineral occurrences)

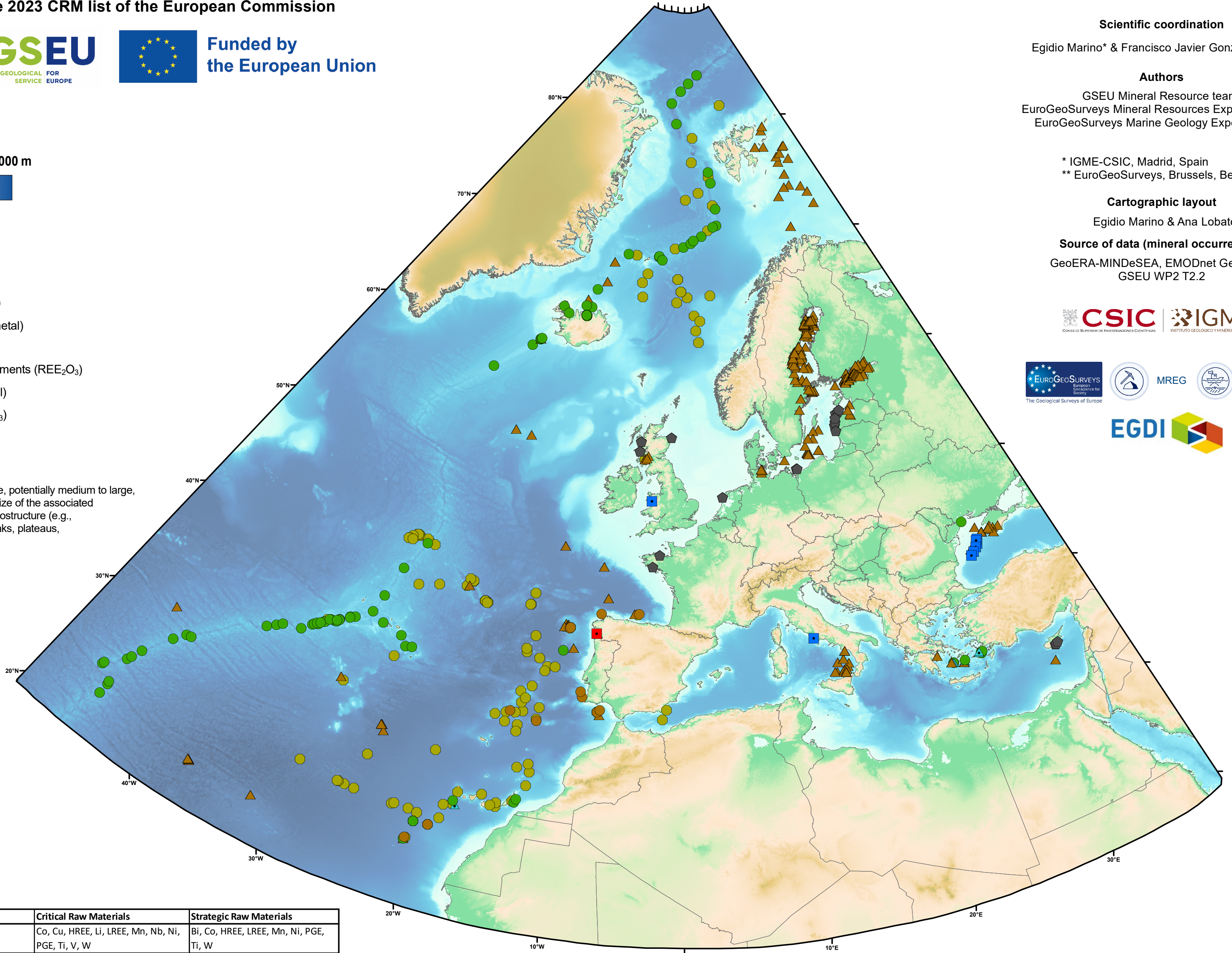
GeoERA-MINDeSEA, EMODnet Geology &
GSEU WP2 T2.2



- Commodity**
- ▲ Barite (BaSO₄)
 - Cobalt (metal)
 - Copper (metal)
 - ▲ Manganese (metal)
 - Phosphorous
 - Rare Earth Elements (REE₂O₃)
 - ◆ Titanium (metal)
 - Tungsten (WO₃)

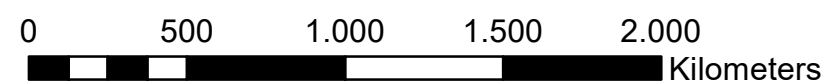
Size

□ Occurrence
(The deposit size, potentially medium to large, depend on the size of the associated favorable morphostructure (e.g., seamounts, banks, plateaus, abyssal plains))



Marine mineral deposits	Critical Raw Materials	Strategic Raw Materials
Ferromanganese Crusts	Co, Cu, HREE, Li, LREE, Mn, Nb, Ni, PGE, Ti, V, W	Bi, Co, HREE, LREE, Mn, Ni, PGE, Ti, W
Polymetallic Nodules	Bi, Co, Cu, HREE, Li LREE, Mn, Ni	Co, Cu, HREE, Li LREE, Mn, Ni
Polymetallic Sulphides	As, Bi, Cu, Ga, Ge, Sb	Bi, Cu, Ga, Ge
Phosphorites	F, HREE, LREE, P	HREE, LREE
Placers	HREE, LREE, PGE, Ta, Ti, W	HREE, LREE, PGE, Ti, W

Scale 1:50.000.000



Polyconic Projection, Centra l Meridia n : 16° E, FE = 0, L a titude of origin : 0, DAT U M WGS84

Version 3 - January 2024

WARNING:
The bathymetric data used for this Mineral Occurrences map of Europe was obtained by the GEBCO Compilation Group (2023) GEBCO 2023 Grid doi: 10.5285/f98b053b-0cbc-6c23-e053-6c86abc0af7b). Given the polymetallic nature of marine minerals deposits only is represented in the map the main commodity, having the potential to contain various Strategic and Critical Raw Materials.