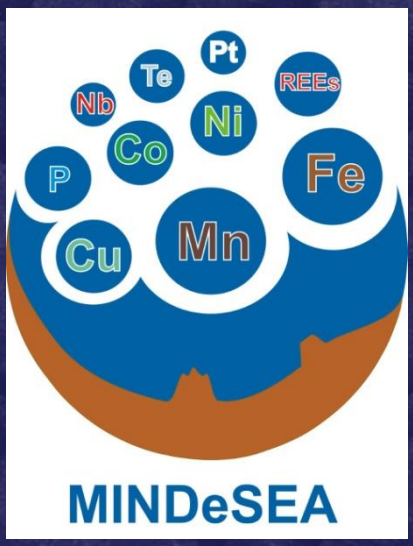
MINDeSEA

Seabed Mineral Deposits in European Seas: Metallogeny and Geological Potential for Strategic and Critical Raw Materials



Deliverable 3.2: WP3 Database and maps on hydrothermal mineralisation

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This project has been supported by the European Union's Horizon 2020 research and innovation programme, GeoERA (Grant Agreement Nº 731166, project GeoE.171.001).

Deliverable number	**Short Title**
3.2	Database and maps on SMS
Long Title	
Deliverable 3.2 – Database and maps on hydrothermal mineralisation	
Short Description	
This document presents a summary on the WP3 database and maps on hydrothermal mineralisation occurrences in pan-European seas	
Keywords	
Database, mineral occurrence map, seabed mapping, hydrothermal	
Authors / Organisation(s)	**Editor / Organisation**
Henrik Schiellerup (NGU)	NGU
File name	
MINDeSEA_D3-2_WP3- Database and maps on hydrothermal mineralisation.doc	
Deliverable due date	**Deliverable submitted date (WP leader)**
30 October 2021 (M40)	
Comments	

History				
Version	**Author(s)**	**Status**	**Date**	**Comments**
01	H. Schiellerup (NGU)	final	30 Oct. 2021	

Dissemination level		
PU	Public	X
CO	Confidential, for project partners, GeoERA and the European Commission only	

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D3.2. Database and maps on hydrothermal mineralisation

Summary:

GeoERA is a Co-Fund ERA-NET action under Horizon 2020, towards **"Establishing the European Geological Surveys Research Area to deliver a Geological Service for Europe"**. Its main objective is to contribute to the optimal use and management of the subsurface.

The project "**Seabed Mineral Deposits in European Seas: Metallogeny and Geological Potential for Strategic and Critical Raw Materials" (MINDeSEA)**, materialized in the frame of the GeoERA Raw Materials Theme (Grant Agreement Nº 731166, project GeoE.171.001), resulted from the collaboration between eight GeoERA Partners and four Non-funded Organizations at various points of common interest for exploration and investigation on seafloor mineral deposits.

This document reports a summary on the MINDeSEA database and maps of pan-European seafloor massive sulphides (SMS) and other hydrothermal mineralisations produced during the project life (July 2018 - October 2021).

The database compiles all existing and accessible data on SMS deposits and mineralisations in European waters, generating a harmonised dataset from known and sampled vent sites and sulphide mineral occurrences in terms of setting, morphology and chemical composition, including base and noble metals, as well as contained critical special metals, such as indium, tellurium, germanium and gallium. Free and open access to data and maps, under CCBY license, are available in the GeoERA and EGDI portals and visors.

The database on hydrothermal mineralisations contains 153 occurrences, 173 individual analysed samples, in 6 marine regions (Arctic Ocean, Bay of Biscay and Iberian Coast, Central-NE Atlantic Ocean, Macaronesia, Aegean Sea and Mediterranean Sea) and 8 EU countries (Cyprus, Spain, Greece, Greenland, Iceland, Italy, Norway, Portugal) and contiguous International Waters. 16 critical elements (Sb, Ba, Bi, Co, Ga, Ge, HREE, LREE, In, Nb, Sc, Ta, W, V, Li, Ti) and 4 strategic metals (Ni, Cu, Mo, Zn) are compiled in the database and mapped at a scale 1:250,000 (**Fig. 1**).

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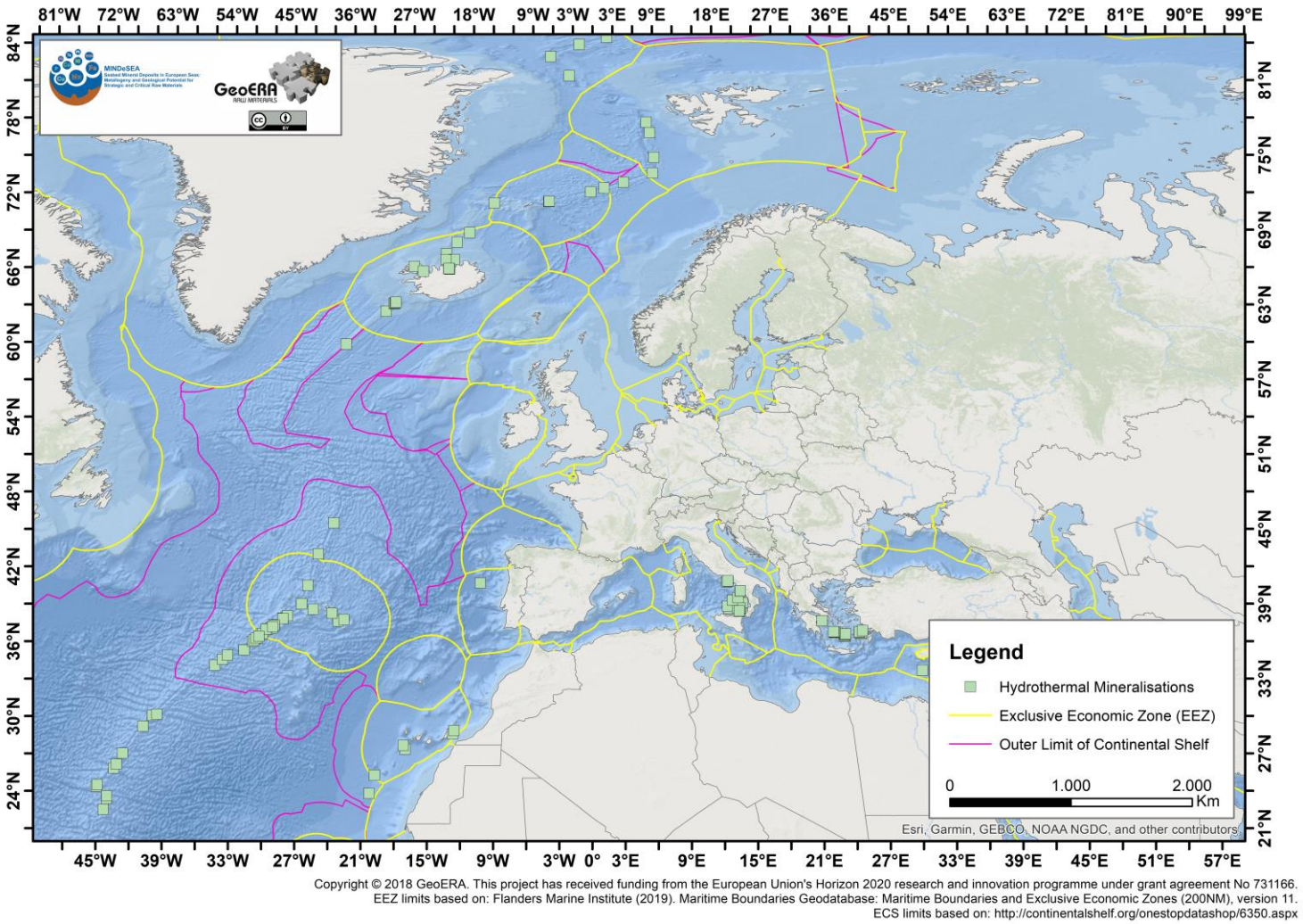

Figure 1: *MINDeSEA compilation map for hydrothermal mineralization in pan-European seas. Last update: October 2021.*

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