RESOURCE

Products

The RESOURCE project will generate the following main products:

- A pan-European map of groundwater resources. This is a multi-layer GIS file, providing information on hydrofacies, geologic age and parameters for aquifers and aquitards. The pan-European map is based on the INSPIRE shapefile 10x10 km cell-side grid defined for Europe (https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2).

- Georeferenced factsheets that summarize important findings.

- Georeferenced reports from selected pilot areas.

RESOURCE's products are listed and described in Tables 1 and 2. More details about their formats, attributes, etc. can be consulted in RESOURCE D2.2.

Table 1: spatial data that RESOURCE will deliver to EGDI updated with new information provided by the project between June and September 2020.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	Pan-European groundwater resources map	Multi-dimensional Grid	NetCDF	direct upload to EGDI database	EPSG: 3035	
2	Polygons defining the location of Pilot sites	Polygons	ESRI Shapefile	direct upload to EGDI database	EPSG:3035 and 3034	Some attributes of these products will be URL links to local or national databases, and/or to other webGIS portals (see RESOURCES D2.2).
3	Points marking the Location of the information provided in the factsheets	Points	ESRI Shapefile	direct upload to EGDI database	EPSG:3035 and 3034	
4	Metadata	N/A	N/A	Direct editing in MiCKA metadata catalogue	N/A	

Table 2: Documents and other (non-spatial) data that RESOURCE will deliver to EGDI updated with new information provided by the project between June and September 2020.

	Product	Formats	Availability to EGDI	Linked to spatial data or to a location	Other information
5	Reports on pilot studies and Factsheets	PDFs	Direct upload to EGDI document repository	Yes	EGDI users should be able to access these reports and factsheets directly from EGDI webGIS portal by clicking on the polygons defining the extents of the study areas.

1. VoGERA

Products

VoGERA will generate only reports. Consequently, VoGERA does not require the creation of a project vocabulary. The various products that VoGERA will deliver to EGDI are summarised in Tables 3 and 4.

Note that Metadata for reports are edited directly in EGDI document repository. That is, when VoGERA upload a document to EGDI document repository, they will be asked to provide metadata about it. No need to create metadata on these reports in MiCKA too.

Table 3: spatial data that VoGERA will deliver to EGDI. Latest update: June 2020

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	Location of pilot sites	Polygons	ESRI Shapefiles	direct upload to EGDI database	EPSG:3034	
2	Metadata	N/A	N/A	Direct editing in MiCKA metadata catalogue.	N/A	

Table 4: Documents and other (non-spatial) data that VoGERA will deliver to EGDI. Latest update: June 2020

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
3	Methodological reports	PDFs	Direct upload to EGDI document repository	All reports are applicable to all pilot sites, they should be linked to all of them.	Inside these reports, the sites will be mentioned and there will be some maps, but reports will not be necessarily linked to a specific pilot site EGDI users should be able to access these reports directly from EGDI webGIS portal by clicking on the polygons defining the extents of the study areas.
4	Common tool with a methodology for characterizing the vulnerability of shallow groundwater to deep industrial activities	Excel	The GIP-P and GARAH are discussing where will be the best place to archive this file to make it available to the public. Indeed, EGDI document Repository does not accept proprietary formats.	No	The tool already exists at BGS in the format of Excel. If this product has already a metadata record in the BGS, then it will have metadata record in MiCKA, since MiCKA harvest from the BGS catalogue.

HOVER

Products

HOVER will generate 35 products, including multilayer GIS data and reports from different parts of Europe. HOVER products are listed in Tables 5 and 6. Details on the products' formats, attributes, etc. are described in RESOURCE D2.2. HOVER does not require the creation of a project vocabulary.

Table 5: spatial data that HOVER will deliver to EGDI updated with new information provided by the project between June and September 2020.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	Thermal and natural mineral waters in Europe.	raster grid 1x1 km	NETCDF	direct upload to EGDI database	EPSG: 3035	
2	European exposure maps of selected elements (and indicators).	raster graphic	GeoTIFF	direct upload to EGDI database	EPSG: 3035	
3	Locations of pilot sites from Denmark, France, Latvia (and Ireland?)	points	ESRI shapefile or GeoPackage	direct upload to EGDI database	As requested by EGDI	This is a simple dataset, composed of points designating the location of the pilot area. Each point is linked to reports. This product will be integrated in "Pilot Sites" dataset (product N°20).
4	Conceptual models of nitrate transport in the unsaturated zone	Polygons	GeoPackage	direct upload to EGDI database	EPSG: 4326	
5	Georeferenced report on nitrate monitoring data	Polygons	GeoPackage	direct upload to EGDI database	EPSG: 4326	This product will be integrated in "Pilot Sites" dataset (product N°20).

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
6	Georeferenced reports on denitrification potential mapping	Polygons	GeoPackage	direct upload to EGDI database	EPSG: 4326	This product will be integrated in "Pilot Sites" dataset (product N°20).
7	Travel times for nitrate in the unsaturated zone	Raster	ESRI Grid (ASCII)	direct upload to EGDI database	EPSG: 4326	
8	Nitrate stored in the unsaturated zone	Multi-dimensional gridded data	Under discussion either NetCDF or WCS since the latter services may support functionalities that NetCDF will not.	It will depend on the format chosen	EPSG: 4326	HOVER will send examples of this dataset to the GIP-P to see which format is best for delivering these data.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
9	Maps, cross sections and (potentially) 3D representations	lines and/or polygons	GeoPackage or shapefile defining the extents and location of the maps, 3D representations and cross sections. HOVER does not know yet what kind of 3D representations are going to be provided. Possibly local 3D models. In any case, they will be generated using formats and standards compatible with EGDI3D database.	direct upload to EGDI database	As requested by EGDI	These files consist of polygons defining the extents of HOVER's WP6 pilot areas (approximately 10), as well as the extents of the models shown in 3D representations. Linear features will define the extents of cross sections. Maps, 3D representations and cross sections will be stored in EGDI document repository and should be linked to these spatial data (see next table)
10	Selected pilots' studies for ground water age	Polygons or georeferenced maps	ESRI shapefile or GeoPackage	direct upload to EGDI database	As requested by EGDI	This product will be integrated in "Pilot Sites" dataset (product N°20).
11	European Groundwater Vulnerability Map to Pollution (DRASTIC)	Raster	GeoTIFF	direct upload to EGDI database	EPSG: 3035	

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
12	European Groundwater Vulnerability Map to Pollution. INPUT DATA maps (DRASTIC)	Raster	GeoTIFF	direct upload to EGDI database	EPSG: 3035	This product consists of 7 raster maps (one per DRASTIC parameters).
13	Groundwater Vulnerability Map to Pollution in Pilot Areas (DRASTIC)	Raster	GeoTIFF	direct upload to EGDI database	EPSG: 3035	One GeoTIF per pilot area (11 pilot areas in total)
14	Groundwater Vulnerability to Pollution INPUT DATA Maps in Pilot Areas according to DRASTIC	Raster	GeoTIFF	direct upload to EGDI database	EPSG: 3035	7 GeoTIF files per pilot area (11 pilot areas in total)
15	Groundwater Vulnerability Map to Pollution in Pilot Areas (COP)	Raster	GeoTIFF	direct upload to EGDI database	EPSG: 3035	One GeoTIF per pilot area (5 pilot areas in total)
16	Groundwater Vulnerability to Pollution INPUT DATA Maps in Pilot Areas according to COP.	Raster	GeoTIFF	direct upload to EGDI database	EPSG: 3035	3 GeoTIF files per pilot area (5 pilot areas in total)
17	Vulnerability summary in Pilot Areas: Polygons map with the location of the case study	Polygons	GeoPackage	direct upload to EGDI database	EPSG: 3035	This product will be integrated in "Pilot Sites" dataset (product N°20).

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
18	European map that synthesizes the state of knowledge of each Member State on the presence of selected Emerging Organic Compounds in groundwater	Points	JPGs	direct upload to EGDI database	EPSG: 3035	HOVER will send an example to the GIP-P.
19	Number of studies and Total number of GW sites selected in D8.1	Polygons	ESRI shapefile	direct upload to EGDI database	EPSG 3857	Two shapefiles linked to report D8.1.
20	Pilots sites	Points and polygons	GeoPackage	direct upload to EGDI database	As requested by EGDI	This GeoPackage contains datasets 3, 5, 6, 10 and 17.
21	Metadata	N/A	N/A	Direct editing in MiCKA meta-database	N/A	

Table 6: Documents and other (non-spatial) data that HOVER will deliver to EGDI updated with new information provided by the project between June and September 2020.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
22	Database structure for storage of probably 10-15 environmental tracers (mainly isotopes)	Database (X,Y,Z), possibly in Excel format	direct upload to EGDI document repository	No	It consists of an Excel file, containing chemical analyses and calculations from specific locations. The format and availability of this database is still under discussion.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
23	Report on mineral and thermal waters in participating countries	PDF	Direct upload to EGDI document repository	No	
24	Reports on 4–6 pilot sites in Denmark, France, Latvia (and Ireland?)	PDF	Direct upload to EGDI document repository	Yes, to N°20	EGDI users should be able to access this and the other reports linked to spatial data directly from EGDI webGIS portal by clicking on the polygons/lines/points defining their location.
25	Description of conceptual models of nitrate transport in the unsaturated zone	PDF	Direct upload to EGDI document repository	Yes, to N°20	
26	Georeferenced report of nitrate monitoring (WP5 D52.2)	PDF	Direct upload to EGDI document repository	Yes, to N°20	
27	Georeferenced reports of denitrification potential mapping	PDF	Direct upload to EGDI document repository	Yes, to N°20	

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
28	Cross sections and maps linked to profile lines and pilot areas/polygons defined by of product N°10	JPG, PNG and PDF	Direct upload to EGDI document repository	Yes, to N°20	All WP6 partners shall be able to upload and show maps and cross sections of groundwater age distributions in aquifers or wells in their respective pilot area/s. These maps use different colour codes for different age intervals as described in HOVER D6.1b.
29	WP6 Reports	PDF	Direct upload to EGDI document repository	Yes, to N°9 and N°20	
30	Reports I and II on Comparison of internationally commonly applied index methodologies for assessing the vulnerability of the upper aquifer to pollution	PDF	Direct upload to EGDI document repository	No	
31	Report III on Vulnerability summary in Pilot Areas: pilot description and 2D schematic cross section in the assessment of aquifer vulnerability	PDF	Direct upload to EGDI document repository	Yes, to N°20	

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
32	Report IV on Vulnerability assessment of the upper aquifer to pollution	PDF	Direct upload to EGDI document repository	No	
33	Selected Pictures linked to product 19	JPG	Direct upload to EGDI document repository	Yes, to N°18	Selected pictures to be shown on the map depending on the zoom scale.
34	Report II Survey of research undertaken by European geoscience partners of GeoERA on contaminants of emerging concern in groundwater (D8.1b)	PDF	Direct upload to EGDI document repository	No	
35	Report III Direct upload to EGDI document repository	PDF	Direct upload to EGDI document repository	No	
36	Report IV describing new sampling analyses and interlaboratory tests directed towards potential hotspots for emerging contaminants transport (D8.3)	PDF	Direct upload to EGDI document repository	No	

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
37	Report V Development of monitoring recommendations: Concrete proposal and design for an EU wide monitoring program customized to emerging pollutants of high concern (D8.5)	PDF	Direct upload to EGDI document repository	No	
38	Deliverable D8.1	PDF	Direct upload to EGDI document repository	Yes, to N°19	

TACTIC

Products

TACTIC will generate 21 products, including multilayers pan-European maps and several reports. The various products and delivery formats are summarised in Tables 7 and 8. Details on the products' formats, attributes, etc. are described in RESOURCE D2.2.

Table 7: Spatial data that TACTIC will deliver to EGDI according to TACTIC D2.2 updated with information provided by the project in June 2020.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	Pilot study reports	several geometries	GeoPackage	direct upload to EGDI database	As requested by EGDI	The format of the spatial data comprised in this dataset is still under discussion. They will most likely be provided as GeoPackages though.
2	On-line dynamic sensor measurements of changes; e.g., changes of water table depth and electrical conductivity.	Points (X,Y,Z)	Undefined, possibly JSON or WFS/WCS	direct access via web services	As requested by EGDI	No need to harvest these data, they are updated automatically in EGDI.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
3	Groundwater table changes in Europe	Raster	NetCDF	direct upload to EGDI database	EPSG:4326	This product consists of several rasters. Each raster may cover several time periods. For example, a raster containing information on groundwater table changes for the period 1980–2000 and another for the period 2000-2020.
4	Water balance changes in Europe	Points or polygons	GeoPackage	direct upload to EGDI database	EPSG:4326	
5	Pan-European net precipitation maps	Raster	NetCDF	direct upload to EGDI database	EPSG:3857 and EPSG: 4326	Raster' cell size: 1–5 km^2
6	Recharge values at selected locations	Points or polygons	GeoPackage	direct upload to EGDI database	EPSG:3857 and EPSG: 4326	
7	Groundwater monthly average trends values and stabilities at points over two periods (1976-2019 and 1996-2019) (Static	Points	GeoPackage	direct upload to EGDI database	EPSG:3857 and EPSG: 4326	

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
8	Map displaying aquifer vulnerability to climate change	Raster	GeoPackage	direct upload to EGDI database	EPSG:3857 and EPSG: 4326	
9	Geological 3D model from Emilia Romana	3D models; XYZ points; 3D polylines ; 3D polygons ; 3D meshes (volumes)	ASCII format	Both direct upload to EGDI database and direct access via web services	EPGS: 5659	These data are already loaded in EGDI3D database
10	Pilots description and assessment report for sea/saltwater intrusion	Polygons	ESRI Shapefile	direct upload to EGDI database	EPGS: 4326	
11	Pilots description and assessment report for adaptation	Polygons	ESRI Shapefile	direct upload to EGDI database	EPGS: 4326	
12	Metadata	N/A	N/A	Both, direct editing in MiCKA and harvesting form CSWs.	N/A	For most products, metadata will be directly encoded in MiCKA. Some however will require harvesting from CSWs (see Table 11).

Table 8: Documents and other (non-spatial) data that TACTIC will deliver to EGDI according to TACTIC D2.2 and updated with information provided by the project in June 2020.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
13	Reports and Figures	PDFs	Direct upload to EGDI document repository	Yes, to product N°1	
14	Reports and files attached to product N°3 and N°4	PDF, JPG and TXT	Direct upload to EGDI document repository	Yes, to products N°3 and N°4	
15	Time variant recharge plots calculated by the different tools and methods	PDF or JPGs	Direct upload to EGDI document repository	Yes, to product N°6 locations	These plots should be displayed in EGDI map viewers when clicking on product 6. TACTIC also requires the possibility to download these plots in PDF format.
16	Plots showing time series of information and statistical information like trends.	PDF or JPGs	Direct upload to EGDI document repository	Yes, to product Nº6 locations	These plots should be displayed in EGDI map viewers when clicking on product 11. TACTIC also requires the possibility to download these plots in PDF format.
17	Images associated to the 2 periods (trends values and stabilities of trends for raw and denoised data)	PDF	Direct upload to EGDI document repository	Yes, to product N°7	
18	Journal papers	PDF	Direct upload to EGDI document repository	No	TACTIC will deliver the authors' PDF copies and DOIs.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
19	Report from all WP5 tasks (Technical note of the method to assess seawater intrusion & Guideline for WP5)	PDF	Direct upload to EGDI document repository	No	
20	Pilots description and assessment report for adaptation	PDF	Direct upload to EGDI document repository	Yes, to product N°14 locations	
21	Report from all the WP6 tasks (Development of climate change projections and adaptation scenarios & Guideline for WP6)	PDF	Direct upload to EGDI document repository	No	

EuroLithos

Products

EUROLITHOS will generate 9 products, providing information on dimension and ornamental stones, together with some documents and images. These products are listed and discussed in Tables 9 and 10.

Table 9: Spatial data that EUROLITHOS will deliver to EGDI. Latest update May 2020.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	Geological provinces of ornamental stones.	Polygons	WMS and/or WFS	harvested via M4EU	EPSG:3034	All these products form part of the "Atlas of European Ornamental Stones".
2	Location of ornamental stones deposit, prospect, and occurrence.	Points and Polygons				
3	Location of mines (quarries)	Points				
4	List of unique and denominated stone types ("product name")	Code list (extends commodity type)	WFS – delivery by a data provider	direct upload to EGDI database (attributes linked to the spatial dataset)	Under discussion	This product will be linked to the project vocabulary of Minerals4EU. The definition of this product is not finalized yet.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
5	Project vocabulary	N/A	Excel files	Undefined	N/A	INSPIRE is not enough to define dimension stones. We need unique names that link each commodity to specific lithologies and locations. EuroLithos is in contact with GIP-P WP4 to see if a project vocabulary can solve that.
6	Metadata	N/A	N/A	Harvesting from CSW	N/A	

Table 10: Documents and other (non-spatial) data that EUROLITHOS will deliver to EGDI. Latest update May 2020.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
7	Guidelines for the Atlas of European Ornamental Stones (for external users) and a few other similar reports.	PDF	Direct upload to EGDI document repository	No	
8	Directory of ornamental stone properties: Descriptions, photos, analyses, and technical information.	Tables (text, URIs, structured data, etc.) and images.	Direct upload to EGDI document repository	Yes, via "unique stone name"	The information contained in this directory should be harmonized with information from other projects.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
9	Guidelines for using the directory of ornamental stone properties (how to input data)	PDF	Direct upload to EGDI document repository	No	

FRAME

Products

FRAME will generate 17 products on critical and strategic raw materials in Europe. Tables 11 and 12 contain a list of the products that FRAME will provide to EGDI.

Table 11: spatial data that FRAME will deliver to EGDI. Latest update June 2020.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	Critical and Strategic Minerals Map of Europe: Mineral occurrences/deposits spatial distribution on land and the marine environment.	Vector data: points and polygons.	WFS	M4EU harvesting	EPSG: 4258	Linked to MINDeSEA project.
2	Critical and Strategic Minerals Map of Europe: Metallogenetic map	Vector data: polygons	GeoPackage	Direct upload into EGDI database	EPSG: 4258	Linked to MINDeSEA project

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
3	Critical and Strategic Minerals Map of Europe: Potential/ prospectivity maps	Vector /Raster data: polygons/ Raster pixel based	GeoPackage	Direct upload into EGDI database	EPSG: 4258	
4	CRM in phosphate deposits and associated black shales: Update on "Mineral occurrences/d eposits spatial distribution"	Vector data: points	WFS	M4EU harvesting	EPSG: 4258	
5	Energy Critical Elements (Li, Co and graphite): Potential / prospectivity maps	Vector data: polygons	GeoPackage	Direct upload into EGDI database	EPSG: 4258	Data from academia (e.g. Articles, PhD thesis), which have not been validated by the Geological Surveys, will also be gathered in the framework of FRAME. They should also be available at EGDI. The GIP-P has agreed to store these data in a database, so they can be harvested by M4EU.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
6	Mineral Occurrences and Mines update for Nb-Ta mineralisation	Vector data: points	WFS	M4EU harvesting	EPSG: 4258	Data from academia (e.g. Articles, Phd thesis), which have not been validated by the Geological Surveys, will also be gathered in the framework of FRAME. They should also be available at EGDI. The GIP-P has agreed to store these data in a database, so they can be harvested by M4EU.
7	Mineral Occurrences and Mines update for historical mines (mining waste)	Vector data: points or polygons	GeoPackage	Under discussion	EPSG: 4258	points or polygons, including commodities in historical mines
8	Project vocabulary	Tables	EXCEL files	via GIP-P WP4	N/A	FRAME has identified some missing terms in INSPIRE for some mineral commodities. They are (together with Mintell4EU and MINDeSEA) working on a "theme" vocabulary.
9	Metadata	N/A	N/A	direct edition in EGDI metadata base	N/A	

Table 12: Documents and other (non-spatial) data that FRAME will deliver to EGDI. Latest update June 2020.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
10	Report: Methodology used for the identification and selection process of the CRM to be included in the metallogenetic map.	PDF	Direct upload to EGDI document repository	if specific locations are in Europe: Yes; Otherwise: No	
11	CRM in phosphate deposits and associated black shales: Metallogenetic studies	PDF	Direct upload to EGDI document repository	Yes	Georeferenced to the location of the study
12	CRM in phosphate deposits and associated black shales: New geological, chemical-mineralogical and geochronological data on selected deposits.	PDF	Direct upload to EGDI document repository	Yes	Georeferenced to the location of the deposits
13	Conflict minerals (Nb - Ta): Recommendations for future exploration in Europe	PDF	Direct upload to EGDI document repository	No	
14	Conflict minerals (Nb - Ta): Possibilities for relieving European import dependence	PDF	Direct upload to EGDI document repository	No	

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
15	Historical mine sites revisited: Potential target areas	PDF	Direct upload to EGDI document repository	Yes	Georeferenced to target areas
16	Historical mine sites revisited: case studies	PDF	Direct upload to EGDI document repository	Yes	Georeferenced to case study areas
17	Historical mine sites revisited: final report	PDF	Direct upload to EGDI document repository	Yes	

MINDeSEA

Products

MINDeSEA is producing 91 products on the principal types of mineral resources found on the seabed of European seas (e.g., hydrothermal sulphides, ferromanganese crusts, phosphorites, marine placers and polymetallic nodules). We list and describe all the products this project will deliver to EGDI in Tables 13 and 14.

Table 13: Spatial data that MINDeSEA will deliver to EGDI. Latest update: May 2020.

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
1	Bathymetry, AUV Bathymetry, Backscatter, Sub-bottom Profile (SBP), Seismic, Gravimetry and magnetometry, Dredge and ROV	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia, Bay of Biscay and the Iberian coasts, Mediterranean Sea

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
2	Bathymetry, AUV Bathymetry, Backscatter, Sub-bottom Profile (SBP), Seismic, Gravimetry and magnetometry, Dredge, ROV	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Sea and Arctic
3	Bathymetry, AUV Bathymetry, Backscatter, Sub-bottom Profile (SBP), Seismic, Gravimetry and magnetometry, Dredge, ROV	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Adriatic Sea and Aegean-Levantine Sea
4	Bathymetry, AUV Bathymetry, Backscatter, Sub-bottom Profile (SBP), Seismic, Gravimetry and magnetometry, Dredge, ROV	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic Ocean, Celtic Seas
5	Bathymetry, AUV Bathymetry, Backscatter, Sub-bottom Profile (SBP), Seismic, Gravimetry and magnetometry, Dredge, ROV	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Atlantic Iberian margins
6	Bathymetry, AUV Bathymetry, Backscatter, Sub-bottom Profile (SBP), Seismic, Gravimetry and magnetometry, Dredge, ROV	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Arctic and Norwegian Sea

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
7	Bathymetry, AUV Bathymetry, Backscatter, Sub-bottom Profile (SBP), Seismic, Gravimetry and magnetometry, Dredge, ROV	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Baltic Sea
8	Bathymetry, AUV Bathymetry, Backscatter, Sub-bottom Profile (SBP), Seismic, Gravimetry and magnetometry, Dredge, ROV	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Black Sea
9	Marine Mineral Areas exlored in European Seas (Map Service)	raster; vector	GeoPackage	direct upload to EGDI database. Also available from web services.	EPSG: 4326	European Seas: Adriatic, Atlantic, Arctic, Baltic, Black, Celtic, North, Mediterranean.
10	Mineral Potential and Prospectivity in European Seas (Map Service)	raster; vector	GeoPackage	direct upload to EGDI database. Also available from web services.	EPSG: 4326	European Seas (Adriatic, Atlantic, Arctic, Baltic, Black, Celtic, North, Mediterranean)
11	MINDeSEA_WP5_ IGME-Gr_MarinePlacers _poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Central and Eastern Mediterranean Sea, Adriatic, Ionian Sea, Aegean-Levantine Sea, Celtic Seas, North Sea, Baltic Sea

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
12	MINDeSEA_WP5_IGME-Gr_MarinePlacers_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Central and Eastern Mediterranean Sea, Adriatic, Ionian Sea, Aegean-Levantine Sea, Celtic Seas, North Sea, Baltic Sea
13	MINDeSEA_WP5_IGME-Sp_MarinePlacers_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia, Bay of Biscay and the Iberian coasts, Western Mediterranean Sea, North Atlantic and Arctic, Norwegian Sea
14	MINDeSEA_WP5_IGME-Sp_MarinePlacers_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia, Bay of Biscay and the Iberian coasts, Western Mediterranean Sea, North Atlantic and Arctic, Norwegian Sea
15	MINDeSEA_WP5_IPMA_MarinePlacers_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Iberian coasts
16	MINDeSEA_WP5_IPMA_MarinePlacers_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Iberian coasts
17	MINDeSEA_WP5_LNEG_MarinePlacers_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Atlantic Iberian margins

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
18	MINDeSEA_WP5_LNEG_MarinePlacers_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Atlantic Iberian margins
19	MINDeSEA_WP5_GIU_MarinePlacers_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Black Sea
20	MINDeSEA_WP5_GIU_MarinePlacers_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Black Sea
21	Mineral Types (marine placer occurrence) in European Seas (Map Service)	raster; vector	GeoPackage	direct upload to EGDI database. Also available from web services.	EPSG: 4326	European Seas (Adriatic, Atlantic, Arctic, Baltic, Black, Celtic, North, Mediterranean)
22	MINDeSEA_WP4_IGME-Sp_Phosphorites_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia, Bay of Biscay and the Iberian coasts, Western and Ionian and the Central Mediterranean Sea
23	MINDeSEA_WP4_IGME-Sp_Phosphorites_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia, Bay of Biscay and the Iberian coasts, Western and Ionian and the Central Mediterranean Sea
24	MINDeSEA_WP4_BGR_Phosphorites_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Celtic Seas, North Sea, Baltic Sea, Adriatic Sea and Aegean-Levantine Sea)

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
25	MINDeSEA_WP4_BGR_Phosphorites_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Celtic Seas, North Sea, Baltic Sea, Adriatic Sea and Aegean-Levantine Sea)
26	MINDeSEA_WP4_LNEG_Phosphorites_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Atlantic Iberian margins
27	MINDeSEA_WP4_LNEG_Phosphorites_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Atlantic Iberian margins
28	MINDeSEA_WP4_GIU_Phosphorites_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Black Sea
29	MINDeSEA_WP4_GIU_Phosphorites_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Black Sea
30	MINDeSEA_WP4_IGEO_Phosphorites_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Norwegian Sea
31	MINDeSEA_WP4_IGEO_Phosphorites_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Norwegian Sea
32	MINDeSEA_WP4_IPMA_Phosphorites_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Iberian coasts

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
33	MINDeSEA_WP4_IPMA_Phosphorites_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Iberian coasts
34	MINDeSEA_WP4_USGS_Phosphorites_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Arctic
35	MINDeSEA_WP4_USGS_Phosphorites_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Arctic
36	MINDeSEA_WP4_VNIIO_Phosphorites_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Baltic Sea and Arctic
37	MINDeSEA_WP4_VNIIO_Phosphorites_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Baltic Sea and Arctic
38	Mineral-potential and Prospectivity European Seas (Map Service)	raster; vector	GeoPackage	direct upload to EGDI database. Also available from web services.	EPSG: 4326	European Seas (Adriatic, Atlantic, Arctic, Baltic, Black, Celtic, North, Mediterranean)
39	MINDeSEA_WP4_IGME-Sp_Crusts_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia, Bay of Biscay and the Iberian coasts, Western and Ionian and the Central Mediterranean Sea

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
40	MINDeSEA_WP4_IGME-Sp_Crusts_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia, Bay of Biscay and the Iberian coasts, Western and Ionian and the Central Mediterranean Sea
41	MINDeSEA_WP4_BGR_Crusts_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Celtic Seas, North Sea, Baltic Sea, Adriatic Sea and Aegean-Levantine Sea)
42	MINDeSEA_WP4_BGR_Crusts_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Celtic Seas, North Sea, Baltic Sea, Adriatic Sea and Aegean-Levantine Sea)
43	MINDeSEA_WP4_LNEG_Crusts_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Atlantic Iberian margins
44	MINDeSEA_WP4_LNEG_Crusts_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Atlantic Iberian margins
45	MINDeSEA_WP4_GIU_Crusts_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Black Sea
46	MINDeSEA_WP4_GIU_Crusts_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Black Sea
47	MINDeSEA_WP4_IGEO_Crusts_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Norwegian Sea

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
48	MINDeSEA_WP4_IGEO_Crusts_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Norwegian Sea
49	MINDeSEA_WP4_IPMA_Crusts_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Iberian coasts
50	MINDeSEA_WP4_IPMA_Crusts_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Iberian coasts
51	MINDeSEA_WP4_USGS_Crusts_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Arctic
52	MINDeSEA_WP4_USGS_Crusts_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Arctic
53	MINDeSEA_WP4_VNIIO_Crusts_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Baltic Sea and Arctic
54	MINDeSEA_WP4_VNIIO_Crusts_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Baltic Sea and Arctic
55	Mineral-potential and Prospectivity European Seas (Map Service)	raster; vector	GeoPackage	direct upload to EGDI database. Also available from web services.	EPSG: 4326	European Seas (Adriatic, Atlantic, Arctic, Baltic, Black, Celtic, North, Mediterranean)

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
56	MINDeSEA_WP6_IGME-Sp_Nodules_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia, Bay of Biscay and the Iberian coasts, Western and Ionian and the Central Mediterranean Sea
57	MINDeSEA_WP6_IGME-Sp_Nodules_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia, Bay of Biscay and the Iberian coasts, Western and Ionian and the Central Mediterranean Sea
58	MINDeSEA_WP6_BGR_Nodules_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Celtic Seas, North Sea, Baltic Sea, Adriatic Sea and Aegean-Levantine Sea
59	MINDeSEA_WP6_BGR_Nodules_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Celtic Seas, North Sea, Baltic Sea, Adriatic Sea and Aegean-Levantine Sea
60	MINDeSEA_WP6_LNEG_Nodules_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Atlantic Iberian margins
61	MINDeSEA_WP6_LNEG_Nodules_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Atlantic Iberian margins
62	MINDeSEA_WP6_SGU_Nodules_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Baltic Sea

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
63	MINDeSEA_WP6_SGU_Nodules_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Baltic Sea
64	MINDeSEA_WP6_GIU_Nodules_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Black Sea
65	MINDeSEA_WP6_GIU_Nodules_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Black Sea
66	MINDeSEA_WP6_IGEO_Nodules_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Norwegian Sea
67	MINDeSEA_WP6_IGEO_Nodules_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Norwegian Sea
68	MINDeSEA_WP6_IPMA_Nodules_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Iberian coasts
69	MINDeSEA_WP6_IPMA_Nodules_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Macaronesia and the Iberian coasts
70	MINDeSEA_WP6_USGS_Nodules_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Arctic

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
71	MINDeSEA_WP6_USGS_Nodules_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	North Atlantic and Arctic
72	MINDeSEA_WP6_VNIIO_Nodules_poly.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Baltic Sea and Arctic
73	MINDeSEA_WP6_VNIIO_Nodules_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Baltic Sea and Arctic
74	Polymetallic Nodules deposits in European Seas (Map Service)	raster; vector	GeoPackage	direct upload to EGDI database. Also available from web services.	EPSG: 4326	European Seas (Adriatic, Atlantic, Arctic, Baltic, Black, Celtic, North, Mediterranean)
75	MINDeSEA_WP3_NGU_SMS_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Norwegian and Icelandic Exclusive Economic Zones
76	MINDeSEA_WP3_GSI_SMS_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Irish and UK Exclusive Economic Zones
77	MINDeSEA_WP3_LNEG_SMS_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Portuguese Exclusive Economic Zone
78	MINDeSEA_WP3_IGME-Sp_SMS_pts.shp	vector	GeoPackage	direct upload to EGDI database	EPSG: 4326	Spanish Exclusive Economic Zone, Italian and Cypriot waters

N°	Product	Type	format	Delivered by	Projection (delivery)	Geographic coverage and other information
79	European seafloor massive sulphite deposits (Map Service)	raster; vector	GeoPackage	direct upload to EGDI database. Also available from web services.	EPSG: 4326	European Seas (Adriatic, Atlantic, Arctic, Baltic, Black, Celtic, North, Mediterranean)
81	Project vocabulary	N/A	excel files	direct upload to EGDI database	N/A	MINDeSEA is creating a project vocabulary. They just established contact with GIP-P WP4 to start working on that.
82	Metadata	N/A	n/a	direct editing in MiCKA meta-database	N/A	

Table 14: Documents and other (non-spatial) data that MINDeSEA will deliver to EGDI according to GIP-P report D2.2.1 and information provided by the project between September 2019 and January 2020.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
83	Project reports	PDF	Direct upload to document repository	Yes	the report for each mineral occurrence should be linked to the location of the occurrence.
84	Models for the formation of European SMS deposits	PDF	Direct upload to document repository	Yes	
85	Potential for SMS mineral deposits	PDF	Direct upload to document repository	Yes	PDF containing maps of potential for SMS mineral deposits

86	Report highlighting the endowment and exploration potential of CRM associated with submarine ferromanganese crusts and phosphorites in Europe	PDF	Direct upload to document repository	No	
87	Literature review report on regulation, legislation and exploitation of ferromanganese crusts and phosphorites.	PDF	Direct upload to document repository	No	
88	Report of the polymetallic nodules prospect evaluation parameters	PDF	Direct upload to document repository	No	
89	Report of the polymetallic nodules prospect evaluation for European waters	PDF	Direct upload to document repository	No	
90	Literature review report of exploration for submarine mineral deposits around Europe	PDF	Direct upload to document repository	No	

| 91 | Collection of publications and other relevant documents used for the creation of MINDeSEA products | PDFs and DOIs | Direct upload to document repository | Yes | MINDeSEA is gathering a series of publications associated with MINDeSEA data. They will provide them to EGDI, distinguishing between publicly accessible documents and those that are not. These documents will be delivered as both PDFs and DOIs (PDFs will not be accessible by the public for restricted documents). |

Mintell4EU

Products

Mintell4EU will update the Electronic European Minerals Yearbook and the Mineral Inventory of Minerals4EU, as well as producing several reports. Mintell4EU is not creating a project vocabulary. The products Mintell4EU will deliver to EGDI are listed in Tables 15 and 16.

Table 15: Spatial data that Mintell4EU will deliver to EGDI. Latest update: May 2020

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	Update on minerals Inventory: Mineral occurrences	Points	PostGreSQL database delivered via ftp.	GeoZS	EPSG: 4258	
2	Update on minerals Inventory: Mines	Points	PostGreSQL database delivered via ftp.	GeoZS	EPSG: 4258	

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
3	Update of e-Minerals Yearbook	Statistical data (time series) per country	WFS plus others	GeoZS harvests data on resources, reserves, and exploration. BGS collects data on production and trade. All is consolidated into a database at BGS which is made available for EGDI through a WFS.	EPSG: 4258	The polygons will be colour-coded according to values in the e-Minerals Yearbook, e.g., yearly production of Cu.
4	EU Historic Mines	Points	GeoPackage	Direct upload to EGDI database	EPSG: 3034	Some mines included in this dataset may already be in the MIN4EU database.
5	Metadata	N/A	N/A	Direct editing in MiCKA meta-database	N/A	

Table 16: Documents and other (non-spatial) data that Mintell4EU will deliver to EGDI. Latest update: May 2020

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
6	Report describing the processes developed for updating the electronic European Minerals Yearbook. Guidances for data provides. UNFC report	PDFs	Direct upload to document repository	No	
7	UNFC case studies	PDFs	Direct upload to document repository	Yes	

GeoConnect³d

Products

GeoConnect³d is producing 20 products on geological structures and geological processes (geomanifestations). We describe them in Tables 17 and 18.

Table 17: Spatial data that GeoConnect³d will deliver to EGDI. Latest update: May 2020.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	Geological limits database	Vector	GeoPackages	Direct upload to EGDI database	EPSG:3035 and EPSG:3034	Geological limits include faults and other geological surfaces; e.g., unconformities, plate boundaries, etc. For faults, GeoConnect³d will use an updated HIKE's FDB.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
2	Geological units	Vector	GeoPackages	Direct upload to EGDI database	EPSG:3035 and EPSG:3034	
3	Geomanifestations (various data types)	Vector, Raster, Grids, JPG	Annotated 2D objects and photos; WMS might be used for some data (e.g., for seismic data).	Direct upload to EGDI database	EPSG:3035 and EPSG:3034	The database for geomanifestations will be developed by the GIP-P based on the data provided by GeoConnect^{3}d
	Traffic light maps derived from properties of 2D/3D models	Vector	Shapefiles or GeoPackages	Direct upload to EGDI database	EPSG:3035 and EPSG:3034	
5	2D structural/geological models	Vector	Shapefiles or GeoPackages	Direct upload to EGDI database	EPSG:3035 and EPSG:3034	
6	Buffer	Vector	Shapefiles	Direct upload to EGDI database	EPSG:3035 and EPSG:3034	This is a property of the geological limit that indicates the uncertainty. Buffers will be halos around the geological limits, with colouring fading outwards.
7	3D structural and geological models	3D Voxet models 2.5D grids	Possibly 3D shapefiles and other 3D and 2.5D formats supported by EGDI (Some models might be delivered as WMS).	Direct upload to EGDI database. Perhaps, some by direct access via web services.	EPSG:3035 and EPSG:3034	

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
8	Project vocabulary	N/A	Excel files	Direct upload to EGDI database	N/A	GeoConnect³D is working closely with HIKE and GIP-P WP4 on this issue. The vocabulary for the structural framework is well on track. A vocabulary will also be created for geomanifestations.
9	Metadata	N/A	N/A	Direct editing in MiCKA.	N/A	

Table 18: Documents and other (non-spatial) data that GeoConnect³D will deliver to EGDI. Latest update: May 2020.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
10	Evaluation of deep geothermal exploitation	Various formats	Direct upload to EGDI document repository	Yes	This product is still under discussion. It is going to be documents, like guide for users, etc. It may be included into the geo-manifestations.
11	Intra- and inter-thematic exchange logbook	PDF	Direct upload to EGDI document repository	No	
12	Report on fault property requirements	PDF	Direct upload to EGDI document repository	No	

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
13	Report and publication(s) on the two-step framework-geomanifestation methodology	PDF; DOIs	Direct upload to EGDI document repository	No	
14	Scientific publication on annotated R2R models	PDF; DOIs	Direct upload to EGDI document repository	Yes	
15	Report on ways to disclose essential subsurface data and information to different stakeholders	PDF	Direct upload to EGDI document repository	No	
16	Report on geomanifestations with their physical, spatial- and temporal (4D) analysis	PDF	Direct upload to EGDI document repository	Yes	
17	Scientific publication on geomanifestations	PDF; DOIs	Direct upload to EGDI document repository	Yes	
18	Report on lessons learnt from the Pilot areas	PDF	Direct upload to EGDI document repository	No	
19	Generic evaluation scheme for subsurface activities	PDF	Direct upload to EGDI document repository	No	
20	Links to blog posts with preview images	URLs, JPGs	Direct upload to EGDI document repository	Yes	

HIKE

Products

HIKE products consist of 2D polylines/polygons archived in the European Fault Database (FDB), 3D data and reports. We describe HIKE products in Tables 19, 20 and 21.

Table 19: spatial data that HIKE will deliver to EGDI. Latest update: July 2020

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	2D representations of faults	polylines	GeoPackage	direct upload to EGDI database and/or direct access via web services.	EPSG: 3034	Multiple representations based on depth, scale, etc. the users will be able to choose – this will be included in the attributes to filter. Fault's reference surface will be illustrated by colour codes based on the international stratigraphic timetable. Surface Faults' traces will be in black (see HIKE D5.1a).

2	Faults database: Structural elements	polygons	GeoPackage.	direct upload to EGDI database and/or direct access via web services.	EPSG: 3034	It consists of a combine dataset between GeoConnect3d and HIKE. It links to a semantic table. Sematic tables will be related to faults too. The GIS file will be deliverer without attributes. It is not a consistent product; it will depend on partners. There will be relations between faults, limits, and units (elements). Structural elements may be assigned to a specific (geological) time interval and hierarchically ordered into smaller (narrower defined) and larger-scale (broader defined) elements. A separate database will be made to define unit outlines and limits other than faults (both by GC3D). These features will be linked via semantic relationships

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
3	3D representation of Faults	3D surfaces	Plain structured ASCII or Tsurf format attached to the 2D polylines as zip files ready for downloading.	Direct upload to EGDI document repository or available from national servers (URL will be included in EGDI document repository and/or fault attributes)	EPSG: 3034	In principle, 3D representations will be only available for downloading, either from the document repository or from national servers of the survey that generate them. If EGDI agrees, it could be shown in EGDI3D viewer. However, it may not be possible, as the content of the 3D data is not going to be harmonised or standardized.
4	Project vocabulary	N/A	Excel files	Direct upload to EGDI database	N/A	HIKE is currently working closely with the GIP-P and other Geo-energy projects to create a project vocabulary.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
5	Metadata	N/A	N/A	direct editing in EGDI/MICKA metadatabase	N/A	Metadata will not be assigned to single objects, but to spatial representations of groups of objects within territories, regions, major tectonic units, or structural domains/sub-domains. Same metadata will therefore be assigned to groups of objects covering a certain area and having the same creator, data owner and contact. Metadata will be defined separately for each partner's dataset. Optionally the partners may decide to split their results into multiple packages/datasets with different metadata characteristics.

Table 20: Documents and other (non-spatial) data that HIKE will deliver to EGDI. Latest update: July 2020.

N°	Product	Format	Availability to EGDI	Linked to spatial data or to a location.	Other information
6	Reports on Hazard and impact assessment methodologies	PDFs	undecided. most likely, direct upload to EGDI document repository.	No	
7	HIKE's Knowledge SharePoint (KSP)	PDF, ZIP and DOI (See table 3).	direct upload to EGDI document repository.	Some (see Table 19)	HIKE's KSP will contain links to documents and data stored in websites located in external servers. it must allow searches and be able to establish interlinks among its different entries and, in some cases, links to spatial data shown at the European FDB. It should also permit uploading documents, as well as searching through documents and websites. Links and interlinks among the different entries and to the data plotted in EGDI map viewers must be defined by the GSOs that archive information in the KSP. HIKE's KSP will be handled by EGDI's document repository, which also includes metadata for each of its entries. For document links without DOI, HIKE might submit a PDF containing reference description and URL. The description could include a short abstract/summary (if available). A date is included to mark the latest validity of the reference URL (no guarantees that it will after)

Table 21: Documents and other data that will be available through HIKE's KSP. All data included in this table will be converted to either PDF, ZIP or DOI.

Documents available through HIKE KSP	Formats	Georeferenced	Comment
Literature and Reports	PDF, DOC, PPT, ODF, TIFF, PNG, JPG, URL, DOI	No	
Non-spatial datasets (analyses, properties, etc.)	PDF, DOC, PPT, ODF, URL, DOI, TIF, PNG, JPG, XLS, CSV, XLM, Zipped files, URL, DOI	Some	
Spatial datasets (maps, etc.)	GIS files and georeferenced files archived as XLS, CSV, XLM, URL, DOI	Yes	If the GIS files must be shown in EGDI map viewers, they must also be uploaded into EGDI central database.
Presentations, Posters, factsheets	PDF, DOC, PPT, ODF, TIFF, PNG, JPG, URL, DOI	No	
Contact information for experts	PDF, DOC, PPT, ODF, XLS, CSV, XLM, URL, DOI	No	
Policy, regulations, protocols, guidelines	PDF, DOC, PPT, ODF, URL, DOI	No	
Tools, models, methods	PDF, DOC, PPT, ODF, URL, DOI, XLS, CSV, XLM, Zipped files, URL, DOI	some	
Case studies	PDF, DOC, PPT, ODF, URL, DOI, Zipped files, URL, DOI	Yes, georeferenced to study areas	

Research questions	XLS, CSV, XLM	No	

3DGEO-EU

Products

3DGEO-EU will deliver 16 types of products on geological structures and natural hazards (see Tables 22 and 23). 3DGEO-EU is not creating a project vocabulary. They will use the one from HIKE, as 3DGEO-EU is sharing information with HIKE (there is a 3DGEO-EU – HIKE interface WP in 3DGEO-EU). Note that, in a later stage of the project, 3DGEOEU may decide to create their own version of a project vocabulary.

Due to the relationship between 3DGEO-EU and HIKE it may be useful, although not mandatory, to have HIKE FDB accessible via the 3DGEO-EU map viewer.

Table 22: spatial data that 3DGEO-EU will deliver to EGDI. Latest update: July 2020

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	2.5D Depth models	2.5D grids	CPS3 ASCII and ZMAP grids	Direct upload to EGDI database	EPSG: 23031	zmap-grids could be converted to arc-asc files
2	Harmonized cross-border velocity model	2.5D grids	CPS3 ASCII and ZMAP grids	Direct upload to EGDI database	EPSG: 23031	
3	Thickness maps of Cenozoic horizons	Raster graphics	ASCII files	Direct upload to EGDI database	EPSG: 3035	
4	Geological barrier between salt / fresh water	Raster graphic	ASCII grid	Direct upload to EGDI database	EPSG: 3035	

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
5	NLS3D_area	Vector	shapefiles (simple files without attributes)	Direct upload to EGDI database	EPSG: 23031, EPSG: 3035, EPSG: 25833	Polygons/ polyline/ points defining the extent/location of 3D models in 2D maps. The projection for the products located in the Pyrenees area is still undefined.
6	3D Structural model	3D	Gocad ASCII (TSurf)	Direct upload to EGDI database	EPSG: 23031 and 25833	Deliverables from the Germany–Poland region, North Sea region and, probably, from Pyrenees model data. The formats of the products "3D model of the Southwestern Pyrenees" (D6.2a) and "Major faults in the Southwestern Pyrenees model" (D6.2b) are still not fully clear. But they will either belong to No.7 or No. 1. The Pyrenees models might be provided in a projection different to the other products.
7	NLS3D_ZMAP	3D	ZMAP-ASCII	Direct upload to EGDI database	EPSG: 3035	3D Harmonized model of lithostratigraphic layers.
8	NLS3D_GIS	3D model spatial	ESRI-ASCII	Direct upload to EGDI database	EPSG: 3035	Same as NLS3D-ZMAP but in another ASCII format for use in GIS Software.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
9	Example of models containing uncertainty information	3D	PDF with documentation, 3D Model data, either using ASCII based Gocad file formats or VTK	Direct upload to EGDI database	EPSG: 23031, possibly local (no CRS)	These datasets will be accompanied by additional data on vertices or primitives, which could be scalars, vectors or tensors (4-componet or 9-component vectors).
10	Regional geological model with uncertainty	3D	Gocad TSurf format, Gocad 2D-Grid format or VTK format			3D Model of geological horizons and faults.
11	Project vocabulary	N/A	Excel files	Direct upload to EGDI database	N/A	3DGEO-EU will use HIKE's project vocabulary.
12	Metadata	N/A	N/A	Direct editing in MiCKA metadatabase	N/A	

Table 23: Documents and other (non-spatial) data that 3DGEO-EU will deliver to EGDI. Latest update: July 2020.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
13	State of the Art report on previous work and results in the Polish-German border region at national, interstate, and international level	PDF			

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
14	Explicative reports of spatial data, 3D models and uncertainty, and fact sheets	PDFs	Direct upload to document repository	Yes	These reports are supporting documents, which will be provided for several products (models, maps, or digital data). These documents will describe the models/data
	Final report including best practices/ lessons learned/recommendations	PDFs	Direct upload to document repository	No	
15	Reports on studied cases	PDFs	Direct upload to document repository	Yes	
16	Documentation of harmonization methods, workflows and results for different geological/geophysical datasets and levels of investigation	PDFs	Direct upload to document repository	No	

MUSE

Products

MUSE will generate several products, comprising spatial data and documents on shallow geothermal exploration and use from several cities of Europe. We describe these products in Tables 24 and 25. Some of MUSE's partners are discussing the possibility of also producing 3D data, although there has not be a decision on this issue yet. 3D datasets are therefore not included in table 24.

MUSE is also providing field data (PDF reports and to spreadsheets). These data should be linked with the locations from where they were collected and should be downloadable (if there is no copyright issues). That will be done by archiving the fieldwork data in EGDI document repository, from where a URI will be generated and included in the attributes of the shapefiles containing the fieldwork locations. Note that, for that to work, shapefiles must be uploaded in EGDI spatial database and have metadata in EGID metadata catalogue.

Table 24: Spatial data that MUSE will deliver to EGDI. Latest update: June 2020. Note that not all datasets will be generated for all study areas.

N°	Product	Data format	Format	Delivered by	Projection (delivery)	Other information
1	Annual thermal load - closed loop system	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
2	Average interval bulk thermal conductivity	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
3	Average interval subsurface temperature	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
4	Average interval temperature gradient	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
5	Heat transfer rate	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
6	Specific annual thermal load - closed loop systems	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
7	Specific thermal capacity - closed loop systems	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
8	Surface temperature	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
9	Thermal conductivity at a specific geological boundary	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	

N°	Product	Data format	Format	Delivered by	Projection (delivery)	Other information
10	Existing subsurface infrastructure	vector: polylines	GeoPackage	Direct upload to EGDI database	EPSG:3034	
11	Fault systems	vector: polylines	GeoPackage	Direct upload to EGDI database	EPSG:3034	
12	Flood risk	Vector: point, (perhaps, raster too)	GeoPackage	Direct upload to EGDI database	EPSG:3034	
13	Groundwater zones of problematic chemistry	vector: polygons, points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
14	Karstified zones possible	vector: polygons, points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
15	Landfills or contaminated areas	vector: polygons, points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
16	Location of existing geothermal installations	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
17	Location of existing other groundwater use	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	

N°	Product	Data format	Format	Delivered by	Projection (delivery)	Other information
18	Mining areas	vector: polygons, points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
19	Natural reserves and protection areas	vector: polygons	GeoPackage	Direct upload to EGDI database	EPSG:3034	
20	Observed ground stability problems	vector: polygons, points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
21	Overpressure or artesian groundwater zones	vector: polygons, points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
22	Water protection zones	vector: polygons	GeoPackage	Direct upload to EGDI database	EPSG:3034	
23	Zones influenced by landslides	vector: polygons, points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
24	Zones with restrictions to drilling	vector: polygons	GeoPackage	Direct upload to EGDI database	EPSG:3034	
25	In-situ Thermal conductivity of unconsolidated sediments	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
26	Interval thermal conductivities (TRT measurements)	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
27	Measured electrical conductivity	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
28	Measured groundwater depth	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
29	Measured groundwater level	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
30	Measured groundwater temperature	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
31	Observed hydraulic conductivity	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
32	Observed specific yield	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	

N°	Product	Data format	Format	Delivered by	Projection (delivery)	Other information
33	Thermal conductivity of hard rock samples	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
34	Thermal Response Tests	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
35	Decision support map for the use of shallow geothermal use	vector: polygons	GeoPackage	Direct upload to EGDI database	EPSG:3034	
36	Traffic light map closed loop system	vector: polygons	GeoPackage	Direct upload to EGDI database	EPSG:3034	
37	Traffic light map open loop system	vector: polygons	GeoPackage	Direct upload to EGDI database	EPSG:3034	
38	Depth of a geological boundary	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
39	Elevation of a geological boundary	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
40	Existing geological profiles and cross-sections	vector: polylines, points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
41	Geomagnetic characterization	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	
42	Lithology of a specific geological unit or boundary	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
43	Effective thermal diffusivity	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
44	Areas suited for groundwater disposal to surface waters or municipal drains	vector: polygons, points	GeoPackage	Direct upload to EGDI database	EPSG:3034	

N°	Product	Data format	Format	Delivered by	Projection (delivery)	Other information
45	Effective groundwater temperature at peak cooling season	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
46	Effective groundwater temperature at peak heating season.	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
47	Groundwater bodies suitable for Aquifer Thermal Energy Storage (ATES)	vector: polygons	GeoPackage	Direct upload to EGDI database	EPSG:3034	
48	Groundwater zones suitable for the use of open loop systems	vector: polygons	GeoPackage	Direct upload to EGDI database	EPSG:3034	
49	Hydraulic conductivity	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
50	Hydraulic transmissivity	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
51	Net aquifer thickness	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
52	Specific annual thermal load - open loop systems	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
53	Specific hydraulic productivity	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
54	Specific thermal capacity - open loop systems	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
55	Specific yield	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
56	Thermal productivity	Raster	GeoPackage	Direct upload to EGDI database	EPSG:3034	
57	Measured subsurface temperature profiles	vector: points	GeoPackage	Direct upload to EGDI database	EPSG:3034	

N°	Product	Data format	Format	Delivered by	Projection (delivery)	Other information
60	Pilot areas	vector: polygons	GeoPackage	Direct upload to EGDI database	EPSG:3034	
61	Project vocabulary	N/A	Excel file	Direct upload to EGDI database	N/A	MUSE is creating a project vocabulary, as many of the parameters included in their products are not defined in INSPIRE.
62	Metadata	N/A	N/A	Under discussion, possibly, direct edition at MiCKA.	N/A	

Table 25: Documents and other (non-spatial) data that MUSE will deliver to EGDI according to D2.2.1 and information provided by the project between April and October 2019.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
58	Report on Technical aspects of shallow geothermal energy use in urban areas.	PDFs	Direct upload to document repository	No	D 2.1
59	Reports on Management strategies and action plans for a sustainable and efficient use of shallow geothermal energy	PDFs	Direct upload to document repository	No	D 3.1, D 3.2
60	Reports on testing and implementation of developed methods and workflows in urban pilot areas across Europe	PDFs	Direct upload to document repository	No	D 4.1

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
61	Fact sheets	PDF	Direct upload to document repository	No	D 2.2, D 4.1
62	Short abstracts of papers and reports, containing important information for shallow geothermal exploration and use. Each of these abstracts should be searchable and linked to the pertinent URL or DOIs, as well as to the spatial data shown in the map viewers.	PDFs and DOIs	Direct upload to document repository	Some	D 1.4, D 1.5
63	Description of the data display associated to shallow geothermal energy use at EGDI	PDFs and DOIs	Direct upload to document repository	No	D 5.1, D 5.3, D 5.4
64	Stakeholder interaction and capitalization	PDFs and DOIs	Direct upload to document repository	No	D 5.7, D 6.1

HotLime

Products

HotLime will generate information on the potential of carbonate basins for deep geothermal energy from 11 case studies across Europe. HotLime will deliver several 2D and 2.5D vector and raster data, 3D surfaces and 3D models, as well as several reports. The latest information on the spatial and non-spatial data that HotLime will submit to EGDI is listed hereunder in tables 24 and 25.

Note that HotLime will only furnish 1 metadata file for each map series of a case study area, independently of how many single thematic maps are comprised in each series. That is so because the information included in the metadata will be the same for all maps produced from the same area. Thematic map series and 3D models with the same areal coverage, author, contact, etc. must be treated as one "product" for metadata purposes.

Table 26: Spatial data that HotLime will deliver to EGDI. Latest update: June 2020

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	Depth of top reservoir, including traces of principal faults at top of reservoirs	2D vectors (Polygons, polylines?); 2D/2.5D rasters	GeoPackages	Direct upload to EGDI database	EPSG: 3034	
2	Generalized permeability maps including traces of principal faults as linear areas of increased but not quantifiable permeability,	2D vectors (Polygons, polylines?); 2D/2.5D rasters	GeoPackages	direct upload to EGDI database	EPSG: 3034	
3	Temperature distribution at top of reservoir, including traces of principal faults at that depth	2D vectors (Polygons, points and polylines?); 2D/2.5D rasters	GeoPackages	direct upload to EGDI database	EPSG: 3034	

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
4	Temperature distribution maps for certain depths but varying for the case study areas according the depth interval covered, including traces of principal faults at that depth	2D vectors (Polygons, points and polylines?); 2D/2.5D rasters	GeoPackages	direct upload to EGDI database	EPSG: 3034	
5	Distribution of the calculated Heat in Place, resolution (cell size) not yet known, but varying within and among the case study areas	2D vectors (Polygons, points, and polylines?); 2D/2.5D rasters	GeoPackages	direct upload to EGDI database	EPSG: 3034	

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
6	Project vocabulary	N/A	Excel files	Direct upload to EGDI database	N/A	HotLime is working closely with HIKE and the GIP-P/WP4 to create a project vocabulary. Faults mapped and described in HotLime will be integral part of HIKE. The "HotLime Tectonic Boundary Objects" vocab will be shared with HIKE and GeoConnect3d via SKOS: inScheme entries. HotLime is working in close collaboration with HIKE on faults, also with GeoConnect3d, although less closely, as no specifics on their requirements for the vocab have been provided yet. Collaboration with MUSE is expected on the Technical Terms vocab.
7	Metadata	N/A	Formats required by the EGDI metadata profile.	Direct editing in EGDI metadata base.	N/A	HotLime is one of the testers of the present version of EGDI metadata catalogue.

Table 27: Documents and other (non-spatial) data that HotLime will deliver to EGDI.

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
8	Reports	PDF	Direct upload to EGDI document repository	Some yes, some not?	Reports will be text files with figures. All technical terms and geological terminology (concepts) in the reports should feature a hidden link leading to the respective concept in one of the vocabs: - Faults: Tectonic Boundary Objects - Tectonic domains / realms: Tectonic Units - Geological units appearing in the maps and cross-sections: Lithostratigraphic Units Technical terms / physical units etc.: Glossary on geothermal issues → N° 10 of this table (jointly prepared with MUSE)
9	Geological cross sections	various formats (PDF, Illustrator, ...)	Direct upload to EGDI document repository	Yes, to thematic maps	static, non-queryable representations available in various formats (PDF, Illustrator, ...)
10	Glossary of Technical Terms, Methodologies Applied and Definition of Physicochemical Units	?	Direct upload to EGDI document repository	No	Fundamentals and background information on terms and definitions of units used in HotLime. Terms (concepts) will be linked to other explanatory web thesauri (e.g., Wikipedia, MatWeb, engineersedge.com), and/or to other files of the (EGDI) document repository and literature accessible via the web (e.g. using DOIs).

Example of how HotLime envisages its portal to work within EGDI when users search for information

By selecting an area (e.g., a case study area) from the clickable HotLime map, EGDI zooms to that area (likewise when departing from the metadata catalogue via search of geographical criteria) and a pick list of topics available for the area pops up; e.g.:

- Depth of top of reservoir.
- Generalized lithology/facies map of the reservoir. This should be a toggleable (on/off) overlay to all other maps.
- Bulk permeability of reservoir.
- Temperature distribution at top of reservoir (See figure 3 of https://geoera.eu/wp-content/uploads/2020/02/HotLime-Midterm-Summary-Report.pdf for paradigms)
- Temperature distribution 1000 m below surface.
- Temperature distribution 2000 m below surface.
- Temperature distribution
- Geothermal base assessment of the reservoir (bulk Heat in Place).
- Cross sections of geological set up (depth, thickness, faulting) of the reservoir (See figure 2 of https://geoera.eu/wp-content/uploads/2020/02/HotLime-Midterm-Summary-Report.pdf for size and content of the cross-sections)
- 3D geological model of the geological situation of the reservoir (optional, preferably for small case study areas).

By selecting (ticking) the required portrayal, the map/cross section + a topographic overlay for orientation emerge and the corresponding legend pops up, including use limitations and a disclaimer, and, in case that two legends (e.g., global and regional) are available, a note on that and how to toggle.

 A cursor controlled query at a certain location of areal information should return the value of the displayed feature in a pop up (e.g. T [°C], at the selected point, the name of the lithostratigraphic unit *) at that point, the calculated Heat in Place [10X J] *) at that point, etc., whereby *) means a clickable "**read more**" leading to the respective entry in HotLime's knowledgebase via the URI. This is map specific as the according information is part of different maps of the map series.

A curser controlled query of linear features should return more information on (1) faults by returning a pop up with the name of the fault and a clickable "**read more**" leading to the respective entry in HotLime's knowledgebase via the URI, which must make the content of the vocabs visible to the user, or (2) a cross section line by returning the respective cross section in a new window.

The latter, (2), corresponds to the selection of a cross section from the pick list of topics available.

By selecting a 3D geological model, depending on the disclosure requirements of the author's institution, for open disclosure information a new window with the 3D geo-model of the area shall pop up (details and technical specifications pending), for classified information a note shall pop up stating that this 3D model is only available from the contact and under the conditions stated in the metadata, including the link (URI) for the straight redirection to the respective metadata set in the EGDI metadata catalogue. Note that only open-disclosure 3D models are considered for dissemination via EGDI. For all others (representing the basis for derivation of the maps prepared), the mode of access is described in the access restrictions and use limitations + contact for further information of the metadata.

GARAH

Products

GARAH will generate 18 spatial products and several reports, providing information on oil and gas resources in Europe. The various products that GARAH will submit to EGDI are listed in Tables 26 and 27.

Table 28: spatial data that GARAH will deliver to EGDI according to information provided by the project. Latest update: May 2020.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
1	Basin outline	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	
2	Formation outline	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	
3	Play outline	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	
4	Exploration wells	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	
5	Hydrocarbon fields	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	
5	2D Faults	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	Recommendation: crosscheck fault information with HIKE and 3DGEO-EU.
6	Geothermal gradients	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
7	Seafloor temperature (points)	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	
8	Gas hydrates below seafloor (points)	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	
9	Gas hydrates below seafloor	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	
10	Gas stability map	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	
11	2D Horizon interpretations	Vector	GeoPackage	Direct upload to EGDI database	EPSG:3034	
12	Fishing activities	Vector	Under discussion. Possibly, Shapefile.	Direct upload to EGDI database	EPSG:3034	
13	3D models	3D volumes	GARAH will generate the same types of 3D volumes than 3DGEO-EU (see Table 20).	Direct upload to EGDI 3D database	EPSG:3034	
14	3D surfaces (e.g., faults)	Grids	2.5D Grids (ASCII)	Direct upload to EGDI 3D database	EPSG:3034	These data will be generated with Petrel and deliver to EGDI as 2.5D ASCII grids.

N°	Product	Type	Format	Delivered by	Projection (delivery)	Other information
15	Metadata	N/A	N/A	Direct editing in MiCKA meta-database	N/A	
16	Project vocabulary?	Excel files	N/A	Direct upload to EGDI database	N/A	GARAH is discussing the pertinence of creating a project vocabulary. Recommendation: work closely with 3DGEO-EU, HIKE and the GIP-P on this matter. There may be some overlap among the concepts and parameters GARAH, 3DGEO-EU and HIKE are defining.

Table 29: Documents and other (non-spatial) data that GARAH will deliver to EGDI. Latest update: May 2020

N°	Product	Formats	Availability to EGDI	Linked to spatial data or to a location.	Other information
17	Reports	PDFs	Direct upload to EGDI document repository	some	The number of reports and their contents have not been defined yet.
18	database with chemical analyses	?	Direct upload to EGDI document repository	Yes?	More information needed from Garah on this product