Overview of INSPIRE and BASEMAPS compatibility

Process – 3 steps

- Step 1. First assessment to link BASEMAPS categories to INSPIRE themes
  - Selection of data based on
    - INSPIRE theme's general definition on the guidelines
    - Layers related to marine/coastal data provided by the countries in the geoportal per INSPIRE Theme
  - Table sent to Data MSP ESG

- Step 2. One country used as an example for further selection
  - Check the services that could be accessed and each layer for every dataset with relevant MSP information
  - Link selected layers with BASEMAPS dataset
    - Where those datasets and layers could be added on the current BASEMAPS structure?

Theme	dataset link	layer	translation	URL	metadata	service access	error msg/BASEMAPS	dowloadable option	
Administrative Unit	Administratīvo te	AU.AdministrativeBoundary		https://graf	https://	failed	Proxy server got bad address from rem	MULTIPLE LAYERS (6) -	available data incomplete, need to request full data. Same link to all datasets
		AU.AdministrativeResidence		https://graf	https://ins	failed	Internal server error (status code 500)		
		AU.Administrative Units		https://graf	https://ins	failed	Internal server error (status code 500)		
	LV Marine Area M	InstalationsManagementRestrictionOrRegulationZone		http://proxy	https://ins	failed	A subscription cannot be stored unles	YES - 1 link for all	service access failed, no legend on preview, not possible to know what data is about as many layers has same preview, including utility ser
		MaritimeManagementRestrictionOrRegulationZone		http://proxy	https://ins	failed	A subscription cannot be stored unless its event class already exists		
		CableManagementRestrictionOrRegulationZone		http://proxy	https://ins	failed	Proxy server got bad address from remote server (verify the server is running). (status code 504)		
		MilitaryManagementRestrictionOrRegulationZone		http://proxy	https://ins	failed	A subscription cannot be stored unless its event class already exists		
		CulturalManagementRestrictionOrRegulationZone		http://proxy	https://ins	failed	Proxy server got bad address from remote server (verify the server is running). (status code 504)		
		FishingManagementRestrictionOrRegulationZone		http://proxy	https://ins	failed	Proxy server got bad address from remote server (verify the server is running). (status code 504)		
	LV Marine Utility	UtilityNetwork		http://proxy	https://ins	failed	A subscription cannot be stored unles	YES (1)	service access failed, no legend on preview, not possible to know what data is about as many spatial data themes were listed
	LV Marine Water	Waterway Link		http://proxy	https://ins	failed	A subscription cannot be stored unles	NO	service access failed, no legend on preview, not possible to know what data is about as many layers has same preview, inluding utility serv
		Generic Transport Area		http://proxy	https://ins	failed	A subscription cannot be stored unless its event class already exists		
Agricultural and aquacult	Catch of commercially important fish species on the high seas - https://geolatvija.gov.l			https://dpps.viss.gov.l		added by	Fishing areas / Fisheries areas		
Area Management/Restr	Annex III. INSPIRE	Piekrastes un pārejas ūdensob ekti	Coastal and transitional wa	http://geose	https://ins	accessed	NO	MULTIPLE LAYERS (25)	repeated layers, all dowloadable resources are repeated for drinking water
		Notekūdeņu novadīšanas vieta	Sewage disposal sites	http://geose	https://ins	accessed	NO		repeated layers
	Gadījumi, kad vid	Gadījumi, kad videi nodarīts k itēj	Cases of environmental dam	http://geose	https://ins	accessed	NO	YES (2)	
	Kuģošanai ierobe	AM.CoastalZoneManagementArea		http://geose	https://ins	failed	A subscription cannot be stored unles	YES (1)	worked on the amSensitiveArea layer on Utility and government services INSPIRE theme
	Aglomerācijas (k	UWWTD Aglomerācijas	UWWTD Agglomerations	http://geose	https://ins	accessed	NO	YES (2)	
	Īpaši jutīgās terit	UWWTD Īpaši jutīgās teritorijas (k	UWWTD Particularly sensit	http://geose	https://ins	accessed	NO	YES (2)	downloadable resource has drinking water info
	Prioritārie zivju	Ezeru prioritārie zivju ūdeni	Priority fish waters of lakes	http://geose	https://ins	accessed	land	MULTIPLE LAYERS	downloadable resource has drinking water info
		Prioritārie zivju ūdeņi	Priority fish waters	http://geose	https://ins	accessed	land		downloadable resource has drinking water info
	Area prohibited for navigation (Navigation_infor poly			http://geose	https://ins	added by	Invalid request, check		
	Restricted area for diving; Forbidden area for diving (Conditions_for_sea_use_from_general_legislation					added by	Invalid request, check		
Energy resources	Licencing areas for hydrocarbon research and extraction					added by	Invalid request, check		
	Navigācijas aprīk	Navaid		http://proxy	https://ins	failed	A subscription cannot be stored unles	YES - 1 link for 4 gml, 1 layer	
	LV Marine Area M	InstalationsManagementRestrictionOrRegulationZone		http://proxy	https://ins	repeated	A subscription cannot be stored unles	YES - 1 link for all	repeated layers from other themes (Administrative units)
		MaritimeManagementRestrictionOrRegulationZone		http://proxy	https://ins	repeated			repeated layers from other themes (Administrative units)
		CableManagementRestrictionOrRegulationZone		http://proxy	https://ins	repeated			repeated layers from other themes (Administrative units)
		MilitaryManagementRestrictionOrRegulationZone		http://proxy	https://ins	repeated			repeated layers from other themes (Administrative units)
		CulturalManagementRestrictionOrRegulationZone		http://proxy	https://ins	repeated			repeated layers from other themes (Administrative units)
		FishingManagementRestrictionOrRegulationZone		http://proxy	https://ins	repeated			repeated layers from other themes (Administrative units)
Transport networks	Manevrēšanas ce	TaxiwayArea		http://proxy	https://ins	failed	A subscription cannot be stored unles	YES - 1 link for 4 gml, 1 layer	
	LV Marine Utility	UtilityNetwork		http://proxy	https://ins	failed	A subscription cannot be stored unles	YES (1)	repeated layers from other themes (Administrative units)
	Standarta instru	StandardInstrumentDeparture		http://proxy	https://ins	failed	A subscription cannot be stored unles	YES - 1 link for 3 gml,	downloadable info related to air data
	Peroni (INSPIRE d	ApronArea		http://proxy	https://ins	failed	A subscription cannot be stored unles	YES - 1 link for 2 gml,	downloadable info related to air data
	LV Marine Water	Waterway Link		http://proxy	https://ins	failed	A subscription cannot be stored unles	NO	
		Generic Transport Area		http://proxy	https://ins	failed	A subscription cannot be stored unless its event class already exists		
		Navigation_information_line				accessed	empty layer, check		
		Navigation_information_point				accessed	empty layer, check		
	Current situation	Navigation_information_poly				accessed	empty layer, check		

Sheets: Problems | LV_INSPIRE | LV_BASEMAPS

B59 — High voltage cables

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
40	Nature protection	Ramsar sites	Latvia		0	0	0	0		LV		619		
41		UNESCO biosphere reserve	Latvia	protSite:psSiteS	0	1	0	0		LV		3049		
42		Marine national parks	Latvia		0	0	0	0		LV		479		
43		Important bird areas (IBA)	Latvia		0	0	0	0		LV		1529		
44		Harbour porpoise habitats	Latvia		0	0	0	0		LV		460		
45		Bird migration routes	Latvia	Bird migration routes	0	0	0	1		LV		3136		
46		Bird wintering grounds	Latvia		0	0	0	0		LV		379		
47	Military training	Military exercise areas	Latvia	Juras_planojumi_MSP02_10_3_1:Conditions_for_sea_use_from_general_legislation	1	1	0	0		LV		1541		
48		Radar areas / military observation areas	Latvia	Juras_planojumi_MSP02_10_3_1:Conditions_for_sea_use_from_general_legislation	1	1	0	0		LV		1558		
49		Sand and gravel	INSPIRE	Annex III. INSPIRE Dataset for Mineral resources Theme	1	1	0	1		LV		339		
50		Natural gas	Latvia	Maritime_Spatial_Plan_priorities	0	1	0	0		LV		2770		
51	Raw material extraction	Natural gas	Latvia	Maritime Spatial Plan priorities	1	1	0	0		LV		2115		
52		CO2 storage	Latvia		0	0	0	0		LV		1580		
53		Oil	Latvia	Juras_planojumi_MSP03_10_3_1:Licencing_areas	1	1	0	0		LV		2108		
54		Fracking	Latvia		0	0	0	0		LV		1591		
55	Scientific research	Measuring stations / networks	INSPIRE	LV Marine Area Management Restrictions Zoning (INSPIRE data)	1	1	0	1		LV		239		
56		Research areas	Latvia							LV		1602		
57		Telecommunication/data cables	Latvia	Cables	0	0	0	1		LV		3138		
58		Telecommunication/data cables	Latvia	Objects of infrastructure line	1	0	0	0		LV		2355		
59	Cables and pipelines	High voltage cables	Latvia	Objects of infrastructure line	1	0	0	0		LV		2360		
60		Pipelines	Latvia	Objects of infrastructure line	1	0	0	0		LV		2364		
61	Tourism and recreation	Latvia		Juras_planojumi_MSP02_10_3_1:Conditions_for_sea_use_from_general_legislation	0	0	0	0		LV		88		
62	Underwater cultural heritage	Latvia		Wrecks	1	0	0	0		LV		2351		
63														
64														
65														

Problems LV_INSPIRE **LV_BASEMAPS**

Findings

- Step 1
    - Many overlaps between INSPIRE Themes (AM)
    - Land based data (INSPIRE is broader than MSP)
    - Content or geographical extension is not always very clear from the INSPIRE description in the geoportal (e.g. fishing areas)
- Step 2
    - Many WMF/WMS not accessible
    - Some empty datasets - Layers not included in the Geoportal
    - Datasets with few/no marine information (e.g. mineral resources)
    - Frequent update of datasets and metadata links, and new data – how to address future updates on data? (geoportal)
    - Repetition of layers in the dataset's services and downloadable data, and between different datasets on different Themes (geoportal)
    - **Few INSPIRE data could actually be added on BASEMAPS from this analysis (2 out of 56 datasets)**

Process – 3 steps

- Step 3. Provide guidance on MSP data in INSPIRE
    - Clearly define what MSP information should be included for each INSPIRE Theme
    - Further link BASEMAPS categories to INSPIRE themes based <u>exclusively</u> on the guidelines
    - Data that fall under those MSP definitions was flagged for some countries, used as examples

B39 | Feature catalogue - spatial object types

	A	B	C	D
1	**Thematic data specifications**			
2	***Energy Resources (ER theme)***			
3		**Definition**	Energy resources including hydrocarbons, hydropower, bio-energy, solar, wind, etc., where relevant including depth/height information on the extent of the resource.[Directive 2007/2/EC]	
4		**Descriptio**	Energy Resources in INSPRE covers **historic, current and future energy resources and the entire lifecycle of energy resources**, irrespective of its viability in terms of economic, social and technological aspects. It takes into account resources that are depleted due to exploitation in the p	
5			At a high level, and within the INSPIRE context, Energy Resources are features defining an inferred or observable spatial extent of a resource that can be, or has been, used as a source of energy [DER 2011].	
6			The central concept of this theme is to provide a means for distributing and exchanging information on the spatial extent and type or classification of previous, current or potential sources of energy. Knowing the spatial representation and location of energy resources will allow	
7			There are different approaches to describe spatial features representing various types of Energy Resources. On the one hand the occurrence of Energy Resources can be considered as discrete, well-defined features, on the other hand properties of Energy Resources, and in par	
8		**Scope**	The Energy Resources theme covers the mapping of historic, current and future energy resources alongside their primary characteristics. **The concept of this theme is to provide focus to the resource aspect and the extent and distribution of the resources whilst also a**	
9			Energy res	Primary energy is either extracted or captured directly from natural resources (such as coal, crude oil, wind or solar radiation)
10				Secondaryenergy(Energy Carriers) is the result of a conversion of primary or secondary energy types
11				this theme addresses each of the subcategories of primary energy resources: **non-renewable resources, renewable resources and waste.**
12			Given that Nuclear fuels (Uranium and Thorium) are excluded from the energy resource types (see 2.2.3) and are modelled within the Mineral Resources data specification, this data specification addresses only the fossil fuel element of the non-renewable resources.	
13			Limits to t	Consideri	Secondary Energy Types e.g. electricity, are not included within this theme.
14				Energy use e.g. petrol consumption is not included within this theme.
15				Smart grids have been assessed but regarded as not relevant for this theme
16				Storage of energy resources based on natural constructions (lakes for hydro, or empty natural reservoirs) have been assessed but regarded as not relevant for this theme
17				Underground Coal Gasification (UCG) has not been explicitly defined within this theme since all coal resource areas are potentially UCG sites.
18			the follow	Uranium and Thorium as energy resource types are modelled within the Mineral Resources data specification. These elements are exploited together with other minerals and therefore more relevant to the Mineral Resources Data Specification.
19				The technical constructions for abstraction, transport and treatment, these are largely covered by Production and Industrial Facilities.
20				Basic data for wind and temperature distributions are modelled within the Atmospheric Conditions data specification
21				Hydro-power plants are a candidate type inherited from the Annex I Hydrography specification. It was decided that this feature is not within the scope of this theme.
22				Aerothermal energy resource is covered by the Atmospheric Conditions theme.
23				Although an energy resource type of biogas can be derived from a landfill feature type (currently modelled within Production and Industrial Facilities), biogas is retained within the Energy Resources code lists in order that it is possible to define a
24		**Codelist**	Energy Resources Base	
25				ClassificationAndQuantificationFrameworkValue
26			FossilFuel	Different sublevels within a resource for distinguishing real from potential or expected amount of fossil fuel resources
27			FossilFuel	Types of fossil fuels.
28			Renewabl	Types of renewable and waste resources.
29			VerticalRe	Values indicating the reference level of the vertical extent.
30			Energy Resources Coverage	
31			Geotherm	Types of potential geothermal energy
32			HydroPotentialValue	
33			SolarPotentialValue	
34			TidalPotentialValue	
35			WindPotentialValue	
36			Energy Resources Statistics	
37			EnergyPro	A codelist of energy product values

Cell A4: Expected MSP information: protected areas related to nature conservation and archaeological, cultural, ecological, landscape, environmental and geological sites. Examples of legislation under protected sites are: Habitats Directive, Birds Directive, WFD, World Heritage Convention, Ramsar Convention, Barcelona Convention, Helsinki Convention, OSPAR Convention, national laws of each European countryand EU and international sector policies

	A	B	C	D	E	F	G	H
1	INSPIRE: Protected sites - DATA SETS							
2	Technical guideline: https://inspire.ec.europa.eu/id/document/tg/ps							
3	Definition: Area designated or managed within a framework of international, Community and Member States' legislation to achieve specific conservation objectives [Directive2007/2/EC]							
4	Expected MSP information: protected areas related to nature conservation and archaeological, cultural, ecological, landscape, environmental and geological sites. Examples of legislation under protected sites are: Habitats Directive, Birds Directive, WFD, World Heritage Convention, Ramsar Convention, Barcelo							
5	Note: Latvia added layers of protected areas in Transport network							
6	Denmark	Estonia (3	Finland (6	Germany	Latvia (15)	Lithuania	Poland (3	Sweden (20)
7	DK INSPIR	Eesti kesk	Luonnons	Natura 200	Valsts aizs	Annex I	Obszary c	Skyddade områden, fågeldirektivet (Natura 2000, SPA)
8	DK INSPIR	Eesti kultu	Natura200	INSPIRE P	LV Marine Area Ma	Rejestr za	Skyddade områden, Art- och habitatdirektivet (Natura2000, SCI, SAC)
9	DK INSPIR	Eesti Natu	Erityislaei	Baudenkn	LV Specially prote	Rejestr za PS	Biotopskydd beslutade av Skogsstyrelsen
10	DK INSPIRE PS Habita	Pohjanma	UNESCO-V	LV Marine Utility N	Rejestr za	Skyddade områden, biosfärsområden
11	DK INSPIRE Beskytte	Åland - Na	Unbeweg	LV Natura2000 (da	Rejestr za	Skyddade områden, biotopskyddsområden
12	DK INSPIRE PS Prote	Nurmekse	Schutzgeb	LV Marine Water T	Zabytki ni	Skyddade områden, Byggnadsminnen och kyrkliga kulturminnen INSPIRE
13	DK INSPIRE PS Rams	Lieksan ra	Ensemble	10-gadigo pavasar	Zabytki ni	Skyddade områden, djur- och växtskyddsområden
14	Fredede og bevaring	Åland - Fo	INSPIRE H	10-gadigo jūras vē	Zabytki ni	Skyddade områden, marina områden i Sverige enligt Ospar
15	INSPIRE - Fredede Fo	Valtakunn	INSPIRE S	100-gadigo pavasa	Światowe	Skyddade områden, marina områden i Sverige enligt Helcom (MPA)
16		Muinaisjä	INSPIRE A	100-gadigo jūras v	Światowe	Skyddade områden, Fornlämningar INSPIRE
17		Suojeltu r	Man-and-	200-gadigo jūras v	Pomniki H	Sveriges zonindelning för luftkvalitet
18			Vogelschu	200-gadigo pavasa	Pomniki H	Skyddade områden, interimistiska förbud
19			Naturschu	Aizsargājamās dab	Rejestr za	Skyddade områden, Världsarv INSPIRE
20			FFH-Gebie	TADT dabas piemir	ekli (data)	Skyddade områden, kulturreservat
21			Biosphäre	Mikroliegumu robežas (data)	Skyddade områden, nationalparker
22			INSPIRE Schutzgebiete Land Bremen	Skyddade områden, naturminnen
23			Denkmalbereiche Stadt Münster	Skyddade områden, naturreservat
24			Vogelschutzgebiete Deutschland	Skyddade områden, naturvårdsområden
25			Naturparke Deutschland	Skyddade områden, RAMSAR
26			FFH-Gebiete Deutschland	Skyddade områden, vattenskyddsområden
27			Ramsar-Gebiete Deutschland	
28			Landschaftsschutzgebiete Deutschland	
29			Naturschutzgebiete Deutschland	
30			Nationalparke Deutschlands	
31			Schutzgebiete - IUCN - HabitatSpeciesManagementArea	
32			ATKIS - Basis-DLM	
33			INSPIRE Datensatz - Baudenkmale im Landkreis Vorpommern-Greifswald	
34			Bauliche Gesamtanlagen	
35			Landkreis Mainz-Bingen: Digitale Denkmalliste	
36			Biosphärenreservate nach nationalem Recht	
37			Naturschutzgebiete und Pflegezonen des BR Flusslandschaft Elbe M-V	

Sheet tabs: ... | Overall | Administrative Units | Agricultural and aquaculture fa | Restriction Regulation Zones | Energy resources | Transport networks | Environmenta monitoring facilit | Protected sites | Land use | Utility a ...

Findings

- Step 3
  - What should be included in each Theme is not always straight-forward (no check list, but a more specific guidance)
  - Overlapping themes (AM) – "fuzzy boundaries"
    - Repeated datasets in different themes for the countries (AM in PS,TG)

Final product of the process

INSPIRE: Agricultural and aquaculture facilities - DATA SETS
Technical guideline: https://inspire.ec.europa.eu/id/document/tg/af
Definition: The scope of —Agricultural and Aquaculture Facilities‖ thematic working group refers to all the physical instruments and constructions with permanent or semi-permanent emplacement (inland or outland) that are related to Agricultural and Aquaculture Activities (under the NACE Classification –level A -—Agriculture, forestry and fishing‖).
Expected MSP information: physical instruments and constructions with permanent or semi-permanent emplacement that are related to Aquaculture Activities. Catching, hunting, fishing or collection of natural resources (vegetables or animal) on their natural environment could be included under this scope when supported by relevant physical instruments and constructions, but always constraining the information to them as required on Data Specifications. Entities referring extended areas should be considered under most appropriate themes as (AM, SU or CP).
Notes: No fishing data on the countries data sets

Spreadsheet (left panel):

	A	B
1	*Trackability table*	
2	**BASEMAPS**	
3	**Themes**	**Subcategories**
4	Administrative borders	
5	Aquaculture	
6		
7	Fishing areas	
8		
9		
10	Installations and infrastructures	
11		
12		
13	Maritime transportat	
14		
15		
16	Nature protection	
17		
18		
19	Military training	
20		
21		
22	Raw material extraction	
23		
24		
25	Scientific research	
26	Cables and pipelines	
27	Tourism and recreation	
28		
29		
30	Underwater cultural heritage	

BASEMAPS / INSPIRE table (overlay):

BASEMAPS Themes	Annex	INSPIRE (https://inspire-geoportal.ec.europa.eu/theme_selection.html?view=qsTheme) Themes
Administrative borders	I	Administrative units
Aquaculture	III	Agricultural and aquaculture facilities
	III	Land use
	III	Area management/restriction/regulation zones and reporting units
Fishing areas	III	Agricultural and aquaculture facilities
	III	Statistical Units
	I	Cadastral Parcels
	III	Land use
	III	Area management/restriction/regulation zones and reporting units
Installations and infrastructures	III	Energy resources
	III	Production and Industrial Facilities
	III	Land use
	III	Buildings
	I	Transport networks
Maritime transportation	I	Transport networks
	III	Land use
	III	Area management/restriction/regulation zones and reporting units
Nature protection	I	Protected sites
	III	Area management/restriction/regulation zones and reporting units
Military training	III	Land use
	III	Utility and Government Services
	III	Area management/restriction/regulation zones and reporting units
Raw material extraction	III	Area management/restriction/regulation zones and reporting units
	III	Mineral resources
	III	Production and Industrial Facilities
	III	Land use
Scientific research	III	Environmental monitoring facilities
Cables and pipelines	III	Utility and Government Services
Tourism and recreation	III	Land use
	III	Area management/restriction/regulation zones and reporting units
Underwater cultural heritage	I	Protected sites
	III	Land use
	III	Area management/restriction/regulation zones and reporting units