

# EuroSDR Knowledge Graph to consolidate Geospatial User Feedback about datasets in Europe

B Bucher, L Rowland, E Folmer, A Bouet, P Latvala, N Bus, P Di Donato, ...(EuroSDR Linked Data Technical Group)

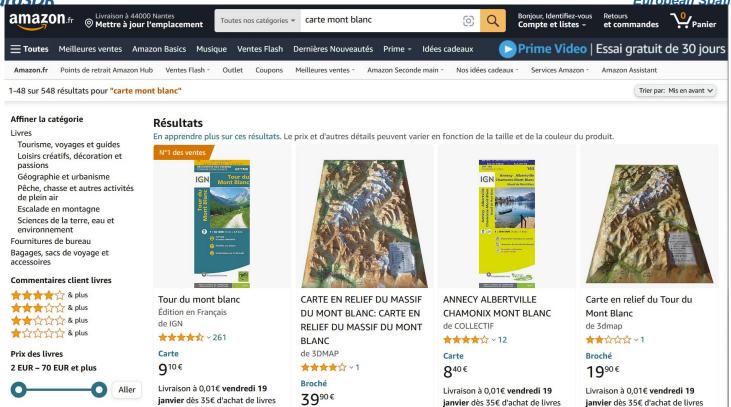
(Geo)Data Discovery Workshop, online, January 17th 2024



Context: users' feedback can help during the process of resource discovery and exploration



European Spatial Data Research

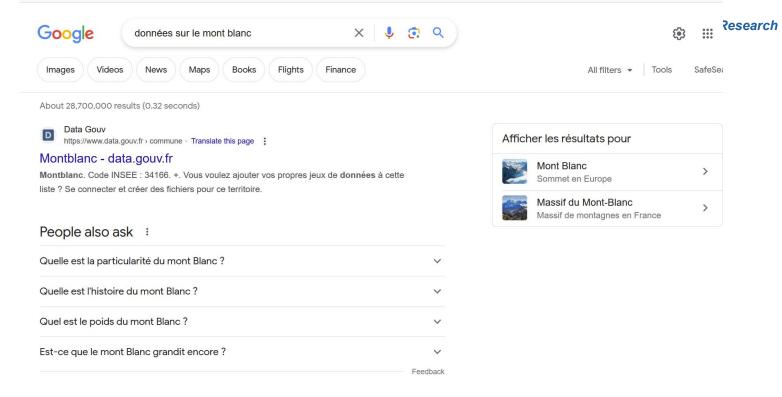




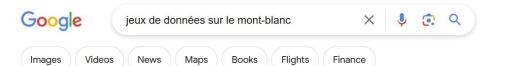


Google	carte du mont blanc	×	<b>•</b>	Q
https://boutiqu	ue.ign.fr > cartes-de-ra · Translate this page :			
3630ot - cha	monix - mont-blanc			
L'indispensable ca	arte de randonnée IGN 3630OT. D'une très gran	nde précision elle contient tou	as	
les détails existant €13.90	t sur le terrain : voies de communication.			
Danula alaa	and t			
People also	ask :			
Où se situe le M	ont Blanc sur la carte de France ?			~
0 1				
Quel pays appa	rtient le Mont Blanc ?			~
Quel est le dépa	artement du Mont-blanc ?			~
Quelle est l'altit	ude du Mont Blanc en 2023 ?			~
			Feedl	back









esearch

filters • Tools {

About 11,900,000 results (0.33 seconds)



#### Data Gouv

https://www.data.gouv.fr > commune · Translate this page

### Montblanc - data.gouv.fr

**Montblanc**. Code INSEE : 34166. +. Vous voulez ajouter vos propres **jeux de données** à cette liste ? Se connecter et créer des fichiers pour ce territoire.



### Université Savoie Mont Blanc

https://www.univ-smb.fr > listic > je... · Translate this page

### Jeux de données à télécharger

Jeux de données à télécharger · Champs de vitesse · Informations pratiques · Raccourcis · Contact. +33 (0)4 50 09 65 80. LISTIC, Polytech Annecy ...

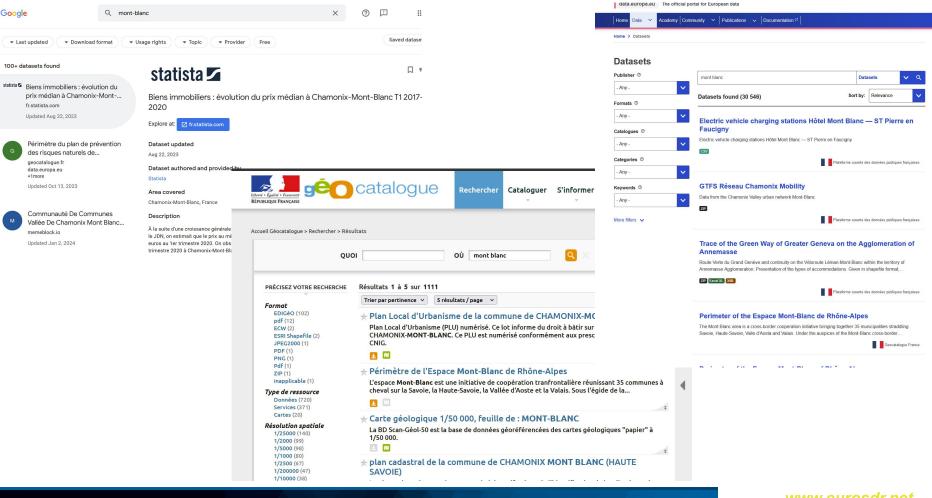


#### ign.f

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### Découverte du pays du Mont-Blanc

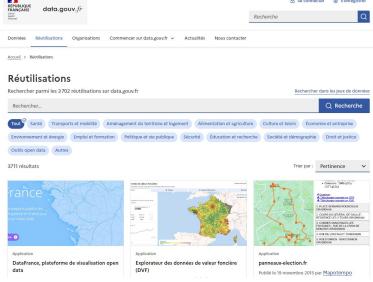
Notre offre de cartes et de guides autour du massif du Mont-Blanc  $\cdot$  3630OT - CHAMONIX - MONT-BLANC  $\cdot$  3630OTR - CHAMONIX - MONT-BLANC RESISTANTE  $\cdot$  60172 - RELIEF ...

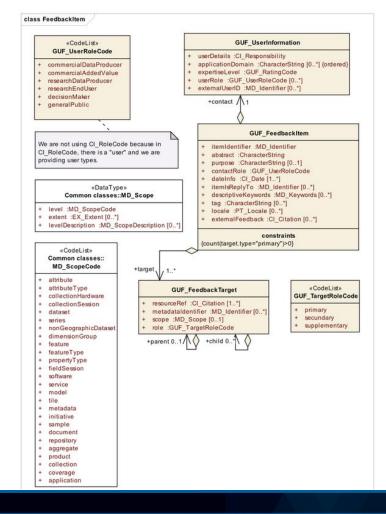




## Current ways to express and manage geodata users' feedback

- > raise update alert
- > user conferences and web forums
- > reusage sections on open data portals
- > data papers (scientific context)





"Geospatial User Feedback is metadata that is predominantly produced by the consumers of geospatial data products as they use and gain experience with those products. The standard allows for documenting feedback items such as ratings, comments, quality reports, citations, significant events, etc. about the usage of the data. Feedback items can be aggregated in collections and summaries of the collections can also be described. This standard complements existing metadata conventions whereby documents recording dataset characteristics and production workflows are generated by the creator, publisher, or curator of a data product."

Masó, J.; Bastin, L.; Thum, S., Nüst, D., OGC Geospatial User Feedback Standard: Conceptual Model, Ver. 1.0, 15-097r1; Open Geospatial Consortium: Wayland, MA, USA, 2016



Contribution: evaluate benefit of KG technologies in our domain, by prototyping a management of users' feedback

Hereafter: conceptual analysis of categories of knowledge and contributors



## Can Knowledge Graph technologies

manage GUF statements

to improve geodataset discovery?



### EuroSDR KG prototype:

# Focus on specific data, specific links, specific experiences



### Focus on data produced by LMA





· Hydrographie (éléments avant trait à l'eau)

espace naturel ou un lieu habité);
• Occupation du sol (végétation, estran, haie)

· Lieux nommés (lieu ou lieu-dit possédant un toponyme et décrivant un

RAPPORTS DE CONTRÔLE





# Focus on data produced by LMA and links between them



has equivalent product for buildings in France



· Administratif (limites et unités administratives)

espace naturel ou un lieu habité);
• Occupation du sol (végétation, estran, hair

· Lieux nommés (lieu ou lieu-dit possédant un toponyme et décrivant un

Bâti (constructions) ;
 Hydrographie (éléments avant trait à l'eau)



can be integrated through the 'codeINSEE' attached to communes in BDTopoeurosdr.net



### Collaborative production of a KG about digital assets in Europe





Linking Data in Europe Linked data group

FAQ Tools

Upload file/image Special pages Recent changes

Page Discussion

### EuroSDRKG

#### EuroSDR Knowledge Graph

summaries and agenda of group calls and webinar

#### Contents [hide]

- 1 Objectives and related projects
- 2 Core KG model (topicality, dataproducts, datasets and their relationships
- 2.1 existing models outside the GI community
- 2.2 series: linking sibling GI assets in time
- 2.3 Linking Geodatasets and statistical surveys coverage
- 2.4 Linking Geodatasets and Statistical surveys through integration process
- 2.5 Core KG model to describe topicality
- 3 Procedure to create the KG
  - 3.1 2.1 Creation of a node that corresponds to your dataset
  - 3.2 2.2.A Transforming existing metadata into RDF DCAT records and load them on the triple store
  - 3.3 2.2.B Manually generating a RDF description of a digital asset and loading it to a new node
  - 3.4 2.2.C Batch generation
- 4 KG Use cases
- 4.1 Use Case 1 pan-European LD Discoverability
  - 4.2 Use Case 2 evaluating a dataset for an original (different) purpose
  - 4.3 Use Case 3 publish linked metadata to enhance discoverability across places, across authorities
- 5 Listing ressources that should be referenced in the KG
  - 5.1 1-a Use cases that will foster the design of the KG
  - 5.2 1-b Digital assets related to Adresses
  - 5.3 1-c Digital assets related to Buildings
  - 5.4 1-d Digital assets related to DEM (or DSM?)
  - 5.5 1-e Digital assets related to Vegetation

#### Objectives and related projects [edit]

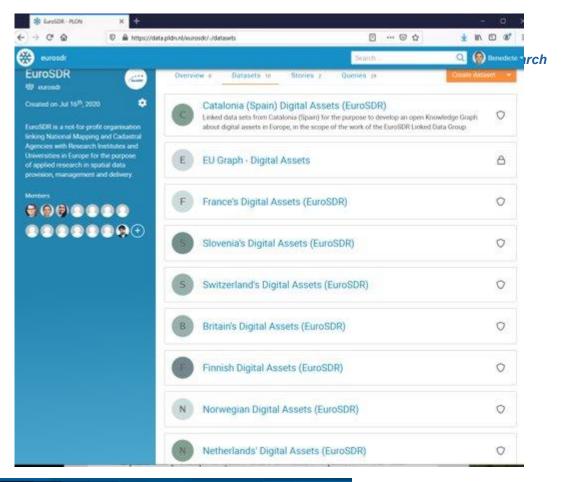
The group targets the creation of an open KG about digital assets in Europe that have a spatial component (datasets mainly but we need to be open), without limitati

- 2022-2024 (Starting late summer 2022): project Linking data in Europe will start for 2-years related to this KG. It is a follow up to an initial activity described below
- 2019-2021: First initiative targeted the creation of a community as well as work on the creation of the KG components related to dataproducts and datasets (but creation (see below). An important methodological aspect is to little by little support the creation and edition of nodes and links by the experts who knows best the regular basis until december 2021, thanks to the mailing list of the group, please check on the main page or get back to benedicte bucher @ ign fr

Core KG model (topicality, dataproducts, datasets and their relationships [edit]

# At national, regional, potentially local levels:

- Assets are referenced through a URI and linked metadata
- Assets seldom are linked data themselves



### At national, regional, potentially local levels:

- Assets are

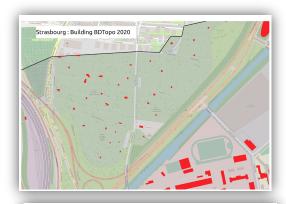
\* 10 00 00 F ... 0 0 A https://data.pldn.nl/eurosdr/-/datasets eurosdr e Q ( Benedicte \* rch EuroSDR Created on Jul 16th, 2020 Catalonia (Spain) Digi 0 A KG so what ... need to use it More than 1 year spent on identifying use cases that would be convincing and elevant to all categories of actors: standards, linked data and KG, data product, 0 data users, SDI scientists, .. 0 mined data Norwegian Digital Assets (EuroSDR) 0 themselves Netherlands' Digital Assets (EuroSDR)



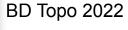
A EuroSDR KG to manage users feedback in order to improve dataset accessibility and usability:

Focus on specific kinds of feedbacks

# Focus on scientific usages that requires are reading detailed documentation



**BD Topo 2020** 



Feedback from examining the dataset #DS1 and reading the detailed product specification #BDTopo:
Between 2010 and 2022, the threshold for buildings has shifted, some buildings have a different source for geometry (walls and not roofs)





Focus on Interconnecting data to build territorial digital twins



© CSTB

Feedback from integrating a BIM model, with an ad hoc 3D model, with #BDTopo, #INSEE, generating a 3D rendering, supporting queries, ...



User with KG expertise: harmonise the KG, creates more links thanks to external vocabularies. ..:

KG curation / moderation interface

Interface to register a product

EuroSDR Knowledge Graph:

Description of Data products

Descriptions of Software

Geospatial User FeedBack

Interface to search for relevant Geospatial User Feedback

> Everyone (users, providers, etc)

Data providers, Metadata experts, Developers of new data ...

Interface to enrich a product description (load metadata from ISO 19139 or manual enrichment) Interface to write and publish a Geospatial User Feedback

> Users of data, of APIs, of metadata,

> > ...

Lots of small developments needed to interface representative contributors/users with the KG ...



## Pending

- Mid-term report publication, and git platform
- Hiring an internee or sub-contracting to develop the prototype interfaces
- Organise a hackathon event (France, 2024)



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