NEXTGEOSS
Contributing to the Vision of GEO

Managing the knowledge created by the users trough Geospatial User Feedback system. The NEXTGEOSS use case

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EGU2020 Sharing online. Session ESSI2.1:
Metadata, Data Models, Semantics, and Collaboration

This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreements No 730329 and 641762

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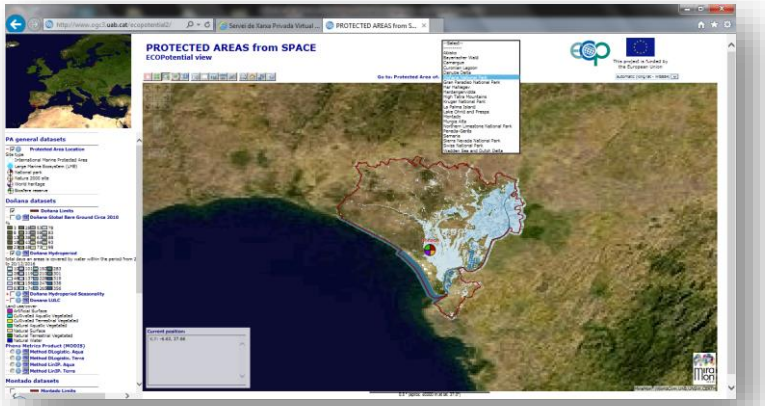
The Contentable of Content

- **The need:**
  web map browser user-created content
- **The context:**
  GUF and NiMMbus
- **The solution:**
  GUF and NiMMbus extensions



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The need: ECOPOTENTIAL project

- ECOPOTENTIAL was a Europe-funded H2020 project that focuses on serving protected areas. It combines Earth observations (remote sensing and in situ measurements), data analysis, and modeling of ecosystem conditions, to obtain an estimate of current and future ecosystem services.
- ECOPOTENTIAL considered cross-geosphere-biosphere interactions at regional to continental scales, and addresses long-term, large-scale environmental and ecological challenges.
- ECOPOTENTIAL focused its pilot activities and actions on a specific set of internationally recognized Protected Areas in Europe.

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The need: Protected Areas

+22

protected areas

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The need: EO imagery and products

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Responsibles_vs_PA_Storylines.xlsx - Microsoft Excel

Inicio Insertar Diseño de página Fórmulas Datos Revisar Vista Programador Acrobat

A11 M1 M4

COLOUR LEGEND:

- Pending to be assigned
- assigned/to be generated
- in process
- available on the FTP
- Products requested by the PA but that WP4 has not listed as a product
- Waiting for data policy
- Pending for a response of the PA

Change the the drop down list to see other information

Choose the information to be displayed : 1 Producer Partner

Storyline Code	PAs	SOIL					PHYSICAL LAND				LU/LC				BIOLOGICAL TERRESTRIAL														
		Surface Soil Moisture	Spectral Soil Quality Index (SSQI)	Soil Sealing (imperviousness)	Soil and rock type	Soil Crust	Surface Albedo	Land Surface Temperature (LST)	Digital Elevation Model (DEM)	Bare Ground circa 2010	Land cover/land use	Land Cover Change (LCC)	Corine Land Cover	Habitat Mapping	Leaf area index (LAI)	NDVI	Landscape (e.g. Fragmentation)	Forest biomass (shrub)	Tree Biomass --> FOREST BIOMASS	Forest disturbances (annual)	Herbaceous biomass	Gross Primary Production (GPP)	Vegetation wetness (Vegetation water content (VWC) or	Vegetation height and structure (e.g. Canopy Height Models (CHM))	Phenology (start and end of the season, length of the season)	Fire impact (forest canopy)	Fire ocurrence	NDMI /NDLI	Forest canopy density
M1 M4	Gran Paradiso	EURAC					FORTH	FORTH	EURAC	CREAF	UNSW			UNSW		EURAC					CSIR		CREAF-UAB						
M2	Northern Limestone	EURAC							CREAF-UAB UMWELT	CREAF	UNSW		CESBIO		-	CREAF-UAB		CESBIO		EURAC-CESBIO	CSIR	UFZ							
M7	Peneda - Gêres	EURAC								CREAF	UNSW	UNSW						CESBIO			CESBIO-CSIR		CESBIO						
M8 M9	Sierra Nevada	EURAC	BGU				FORTH	FORTH		CREAF	UNSW	UNSW-CNR	CESBIO	UNSW	CESBIO	UAB	CERTH	CESBIO		EURAC	CSIR	UFZ	UFZ	CESBIO	UFZ				
M2 M4	Bayerisher Wald	-						FORTH	CREAF-UAB	CREAF		USNW	CESBIO	UNSW	-	CREAF-UAB		-		EURAC	CSIR		CREAF-UAB	CERTH					
M5	Lakes Ohrid/Prespa	EURAC							CREAF-UAB	CREAF	UNSW	UNSW	CESBIO	UNSW			CERTH				CSIR	UFZ	CREAF-UAB						
M1 M2 M3 M4	High Tatra Mts.	-							CREAF-UAB UIB	CREAF			CESBIO	UNSW	-	CREAF-UAB				-	CSIR		CREAF-UAB						
M6	Swiss National Park - Davos									CREAF			CESBIO	UNSW	-	CREAF-UAB		CESBIO			CSIR	UFZ		CESBIO					
	Hardangervidda								CREAF-UAB UIB	CREAF		UNSW	CESBIO								CSIR				UFZ			CREAF-UAB UIB	
	Abisko																												
M2 M4 A4	Samaria	-					FORTH	FORTH	FORTH	CREAF	FORTH		CESBIO	FORTH	-	FORTH	CERTH						-						

Legend_Contacts | Responsibles (by PA and story) | Responsibles (by PA) | Details | Proposed Keywords | EODHAM

Listo 100%

300 completed requests

42 different products

24 different producers

Horizon 2020 research and innovation programme under grant agreements No730329 and 641762

GRUMETS METHODS & APPLICATIONS IN REMOTE SENSING & GIS

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The need: map browser entrance point

A single entrance point Earth Observation imagery and products in ECOPotential

--Select--

Abisko
Bayerischer Wald
Camargue
Curonian Lagoon
Danube Delta
Doñana National Park
Gran Paradiso National Park
Har HaNegev
Hardangervidda
High Tatra Mountains
Kruger National Park
La Palma Island
Lake Ohrid and Prespa
Montado
Murgia Alta
Northern Limestone National Park
Peneda-Gerês
Samaria
Sierra Nevada National Park
Swiss National Park
Wadden Sea and Dutch Delta

Gran Paradiso datasets

- Gran Paradiso Limits
- Gran Paradiso Habitat Map
- Gran Paradiso DTM

m: 0, 250, 500, 750, 1000, 1250, 1500, 1750, 2000, 2250, 2500, 2750, 3000, 3250, 3500, 3750, 4000, 4250, 4500, 4750

- Gran Paradiso Global Bare Grou
- Gran Paradiso Albedo (2015)
- Gran Paradiso Snow Cover Dur (01-10-2014)
- Gran Paradiso Wet Snow Map (14-06-2016)
- Gran Paradiso Soil Moisture (18-09-2016)
- Gran Paradiso NDVI Landsat (27-10-2016)

Pheno Metrics Product (MODIS)

- Method DLogistic. Aqua
- Method DLogistic. Terra
- Method LinIP. Aqua
- Method LinIP. Terra
- Gran Paradiso Mask

Curonian datasets

- Curonian Limits
- Curonian Lagoon DTM

m: 0, 25, 50, 75, 100, 100, 125, 150, 175, 200

- Curonian Lagoon LULC

Land use/cover
- Artificial Surface
- Cultivated Aquatic Vegetated
- Cultivated Terrestrial Vegetated
- Natural Aquatic Vegetated
- Natural Surface
- Natural Terrestrial Vegetated
- Natural Water

Pheno Metrics Product (MODIS)

- Method DLogistic. Aqua (2016)
  - *Day of maximum NDVI*
  - *Day of minimum NDVI*
  - *Maximum NDVI*
  - *Minimum NDVI*
- Method DLogistic. Terra
- Method LinIP. Aqua
- Method LinIP. Terra
- Curonian Mask

Danube Delta datasets

- Danube Delta Limits
- Danube Delta DTM

m: 0, 25, 25, 25, 50, 50, 50, 75, 75, 75, 100, 100, 100, 125

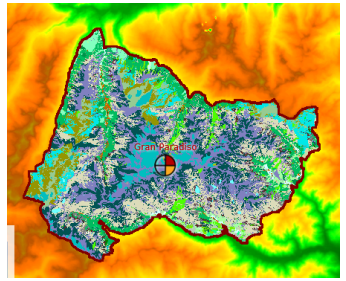
- Danube Delta Global Bare Grou
- Danube Delta Hydroperiod
- Danube Delta Inundation Map (01-08-2017)
- Danube Delta LULC

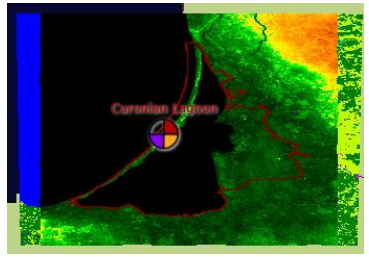
Land use/cover
- Artificial Surface
- Cultivated Aquatic Vegetated
- Cultivated Terrestrial Vegetated
- Natural Aquatic Vegetated
- Natural Surface
- Natural Terrestrial Vegetated
- Natural Water

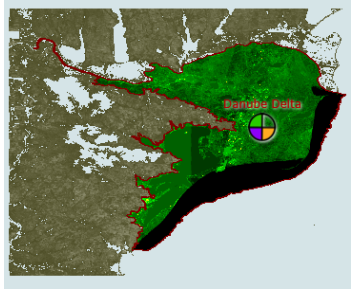
- Danube Delta NDWI Landsat (11-04-2017)

Pheno Metrics Product (MODIS)

- Method DLogistic. Aqua
- Method DLogistic. Terra
- Method LinIP. Aqua
- Method LinIP. Terra
- Danube Delta Mask







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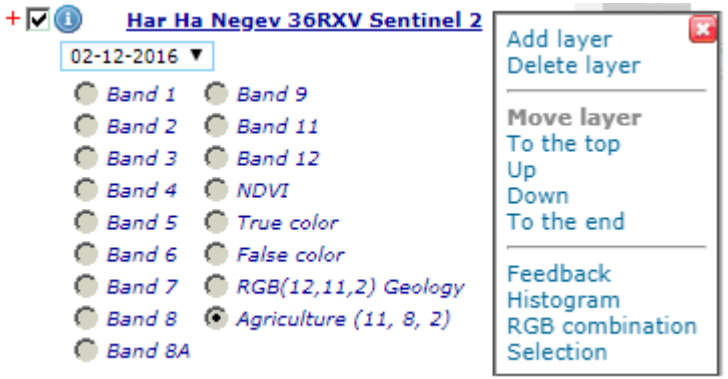
The need: *special* web map browser

Allows the user to define new RGB combinations, or compute new variables

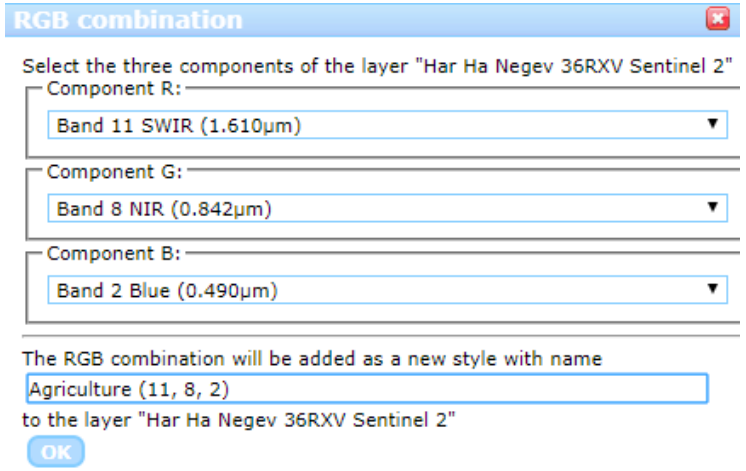


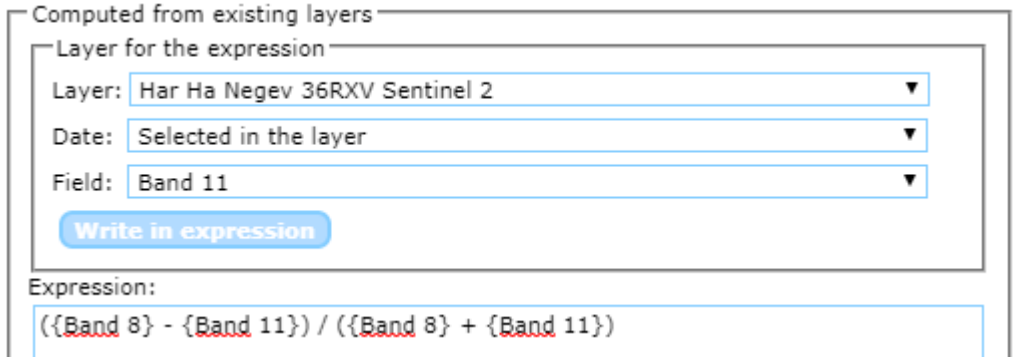
True color (Red, Green Blue)

False color (NIR, Red, Green)

Agriculture (SWIR, NIR, Blue)

NDWI (NIR, SWIR)





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The need: *special* web map browser

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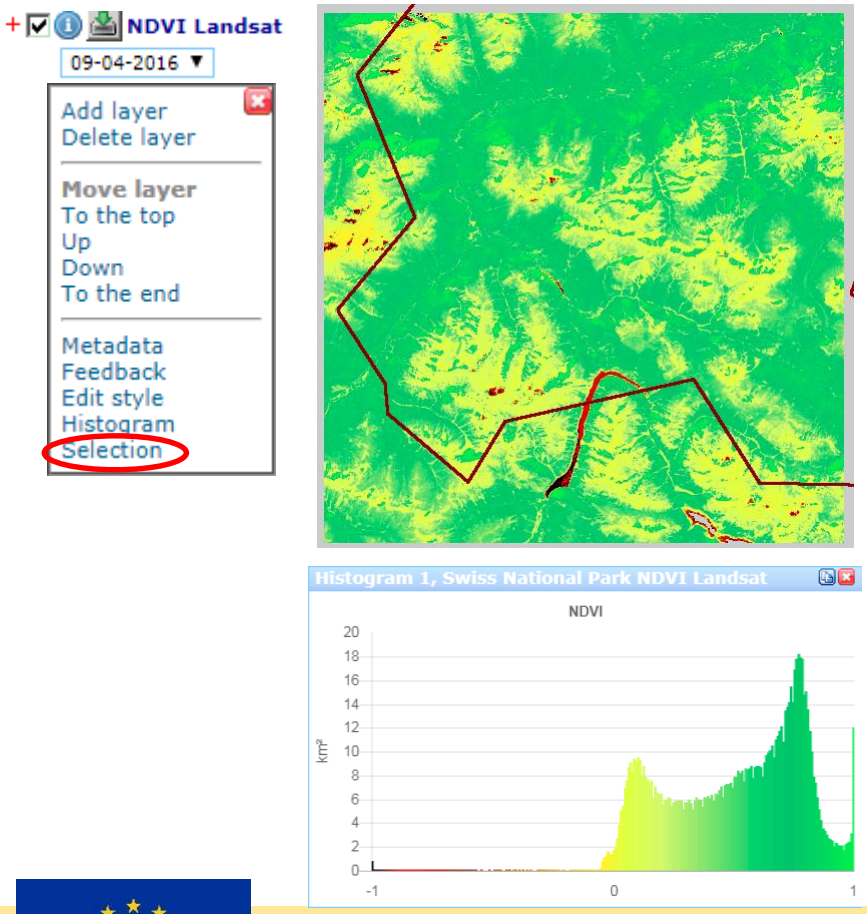
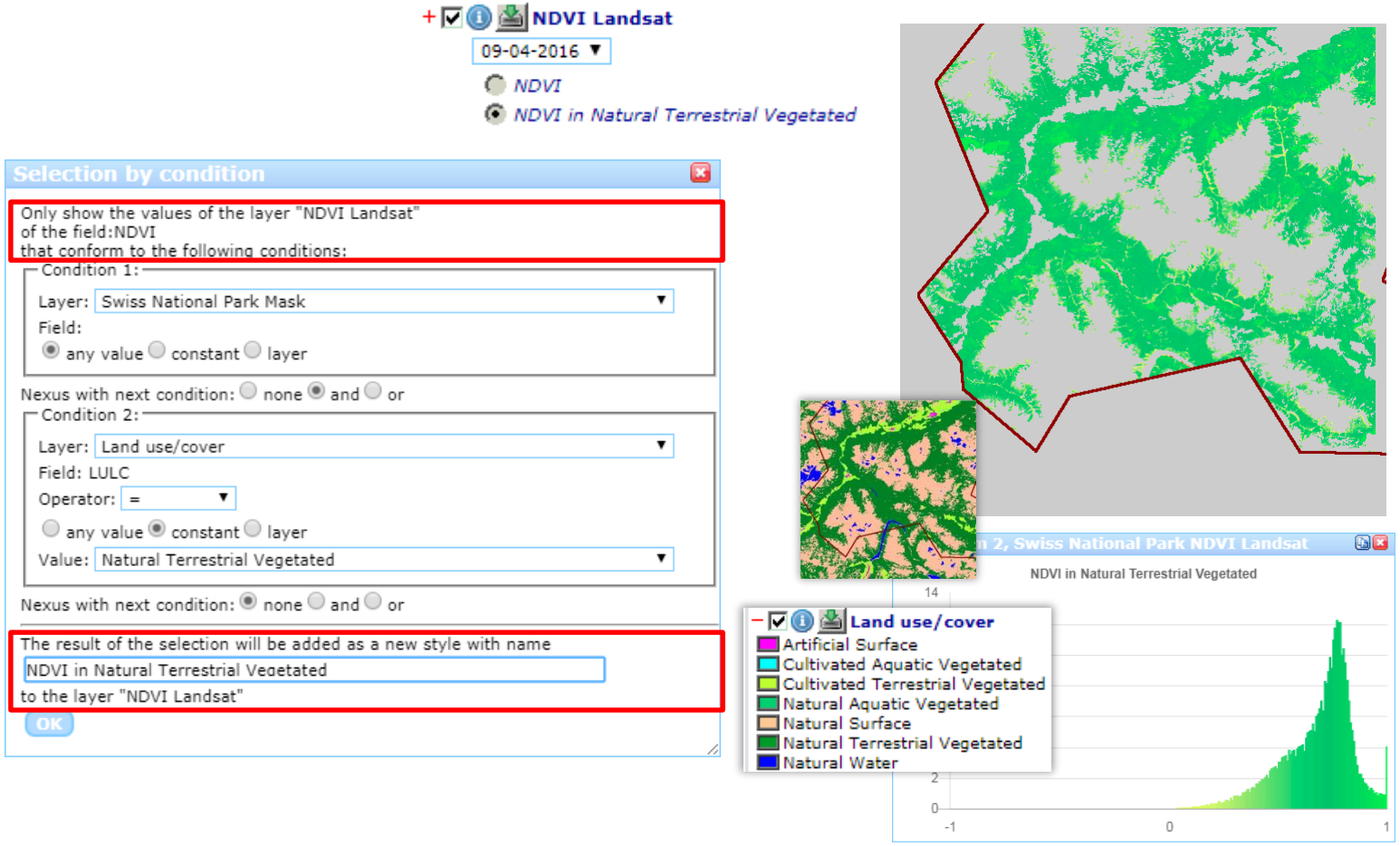
Or to create spatial filters on one dataset based on others





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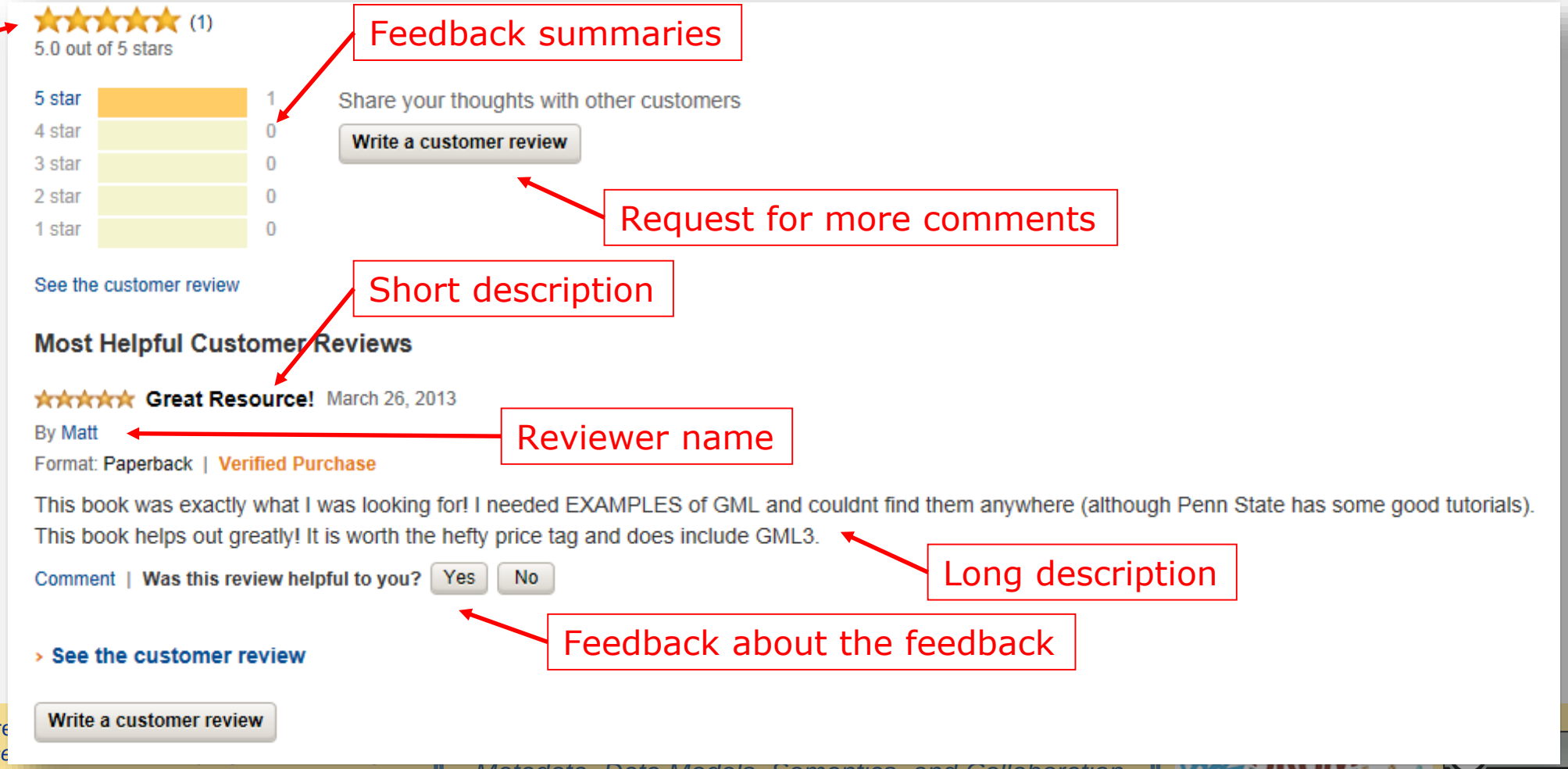
The context: user feedback

To help people find exactly the type of data they are looking for, feedback from other *users* can be very helpful and complementary to data producer's description



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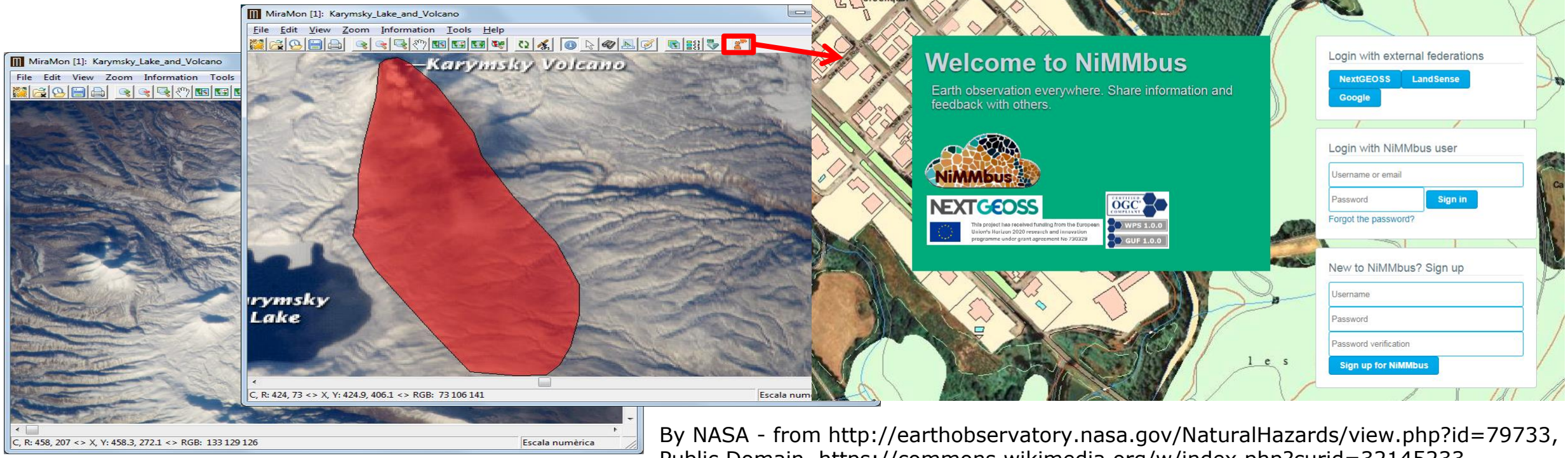
The context: *geospatial* user feedback

- User A is looking at a particular region of a dataset…
- …and sees something wrong…
- …and reports it to the portal

- User B can retrieve feedback on the dataset (only if affecting his/her extent (BBOX))



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The context: *standard* GUF

- **Conceptual Model**: OGC Geospatial User Feedback (GUF) Standard: Conceptual Model (15-097r1) http://docs.opengeospatial.org/is/15-097r1/15-097r1.html

- **Format encoding extensions**: OGC Geospatial User Feedback (GUF) Standard: XML encoding extension (15-098r1) http://docs.opengeospatial.org/is/15-098r1/15-098r1.html

- http://**schemas**.opengis.org/guf

Open Geospatial Consortium

Submission Date: 2015-12-10

Approval Date: 2016-05-25

Publication Date: 2016-12-22

External identifier of this OGC® document: http://www.opengis.net/doc/IS/guf-conceptual/1.0

URL for this OGC® document: http://docs.opengeospatial.org/is/15-097r1/15-097r1.html

Internal reference number of this OGC® document: 15-097r1

Version: 1.0

Category: OGC® Implementation Standard

Editor: Joan Masó and Lucy Bastin

OGC Geospatial User Feedback Standard: Conceptual Model

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http://docs.opengeospatial.org/is/15-097r1/15-097r1.html

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Document type: OGC® Standard
Document subtype: Conceptual Model
Document stage: Approved
Document language: English

Open Geospatial Consortium

Submission Date: 2015-12-10

Approval Date: 2016-05-25

Publication Date: 2016-12-22

C® document: http://www.opengis.net/doc/IS/guf-xml/1.0

nal reference number of this OGC® document: 15-098r1

Version: 1.0

Category: OGC® Implementation Standard

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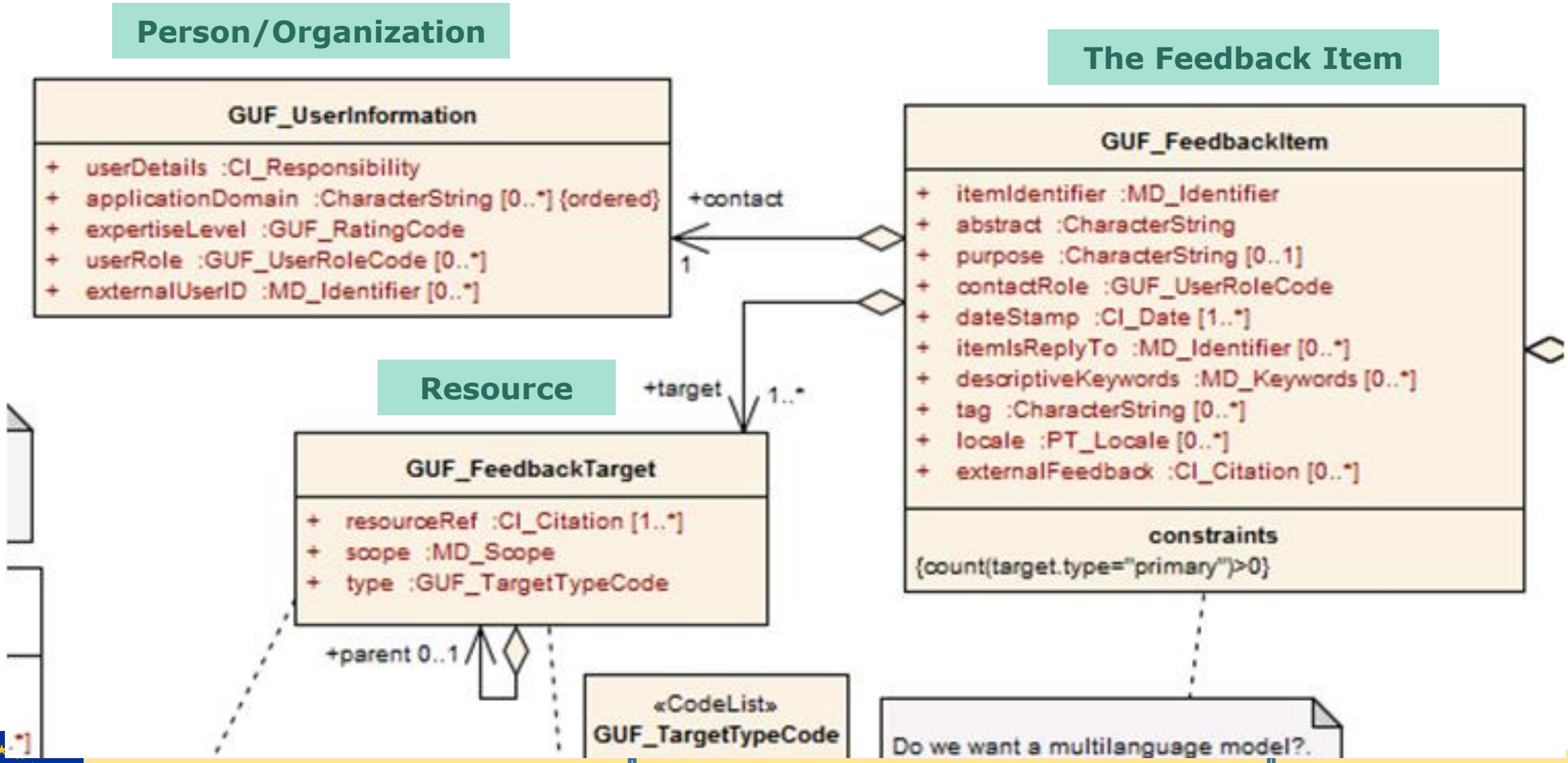
The context: Who? What? Where?



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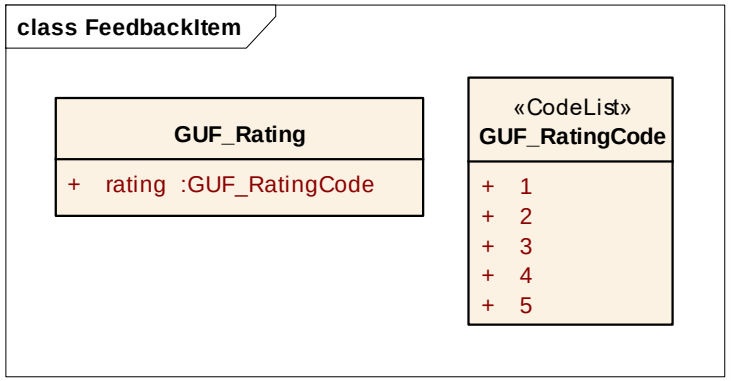
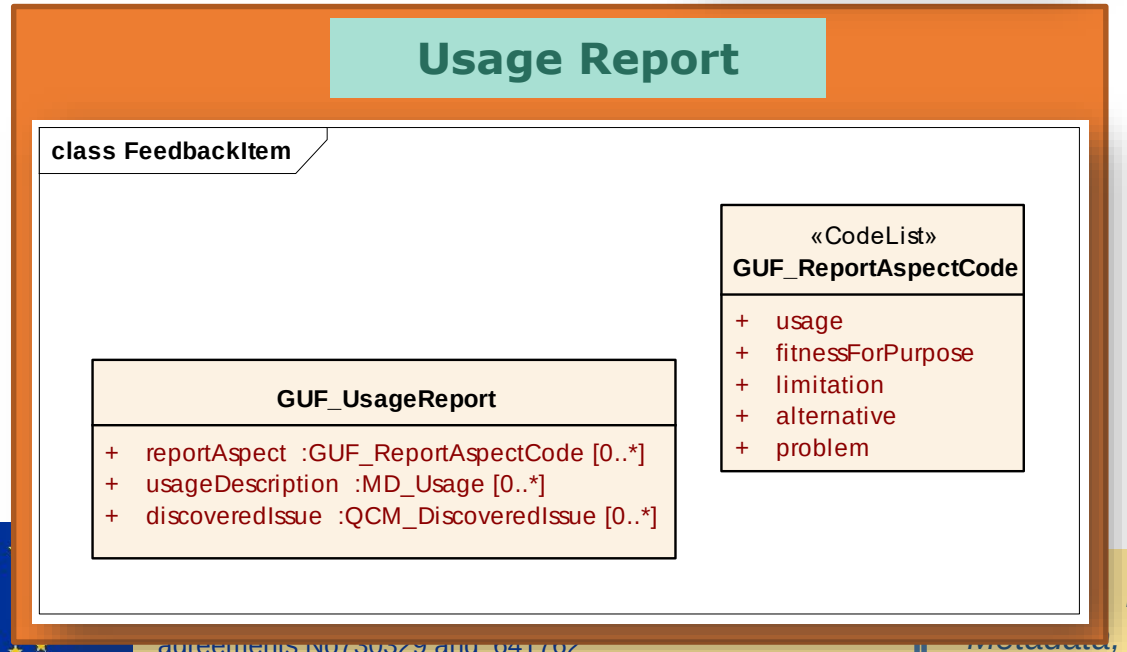
The context: Feedback item types (1/2)

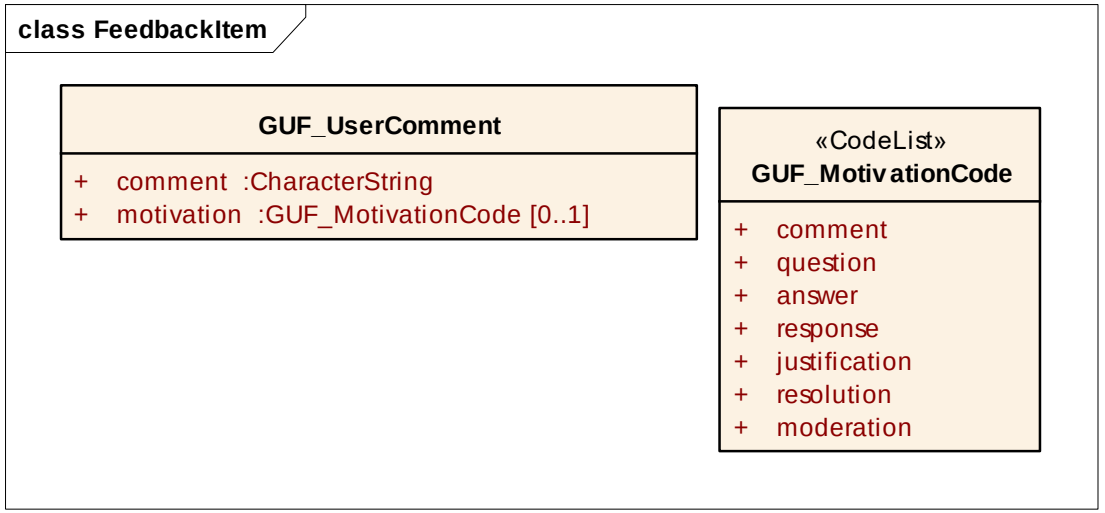
Rating

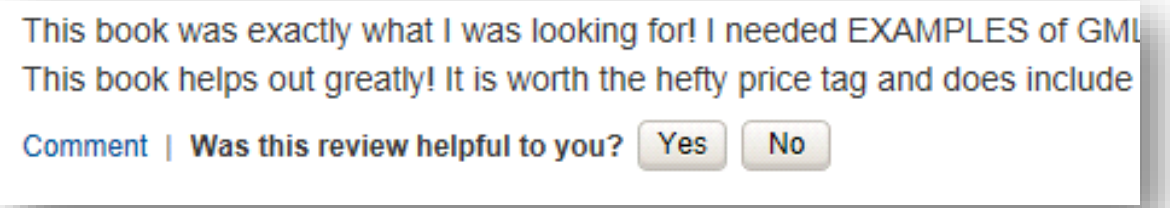


Usage Report

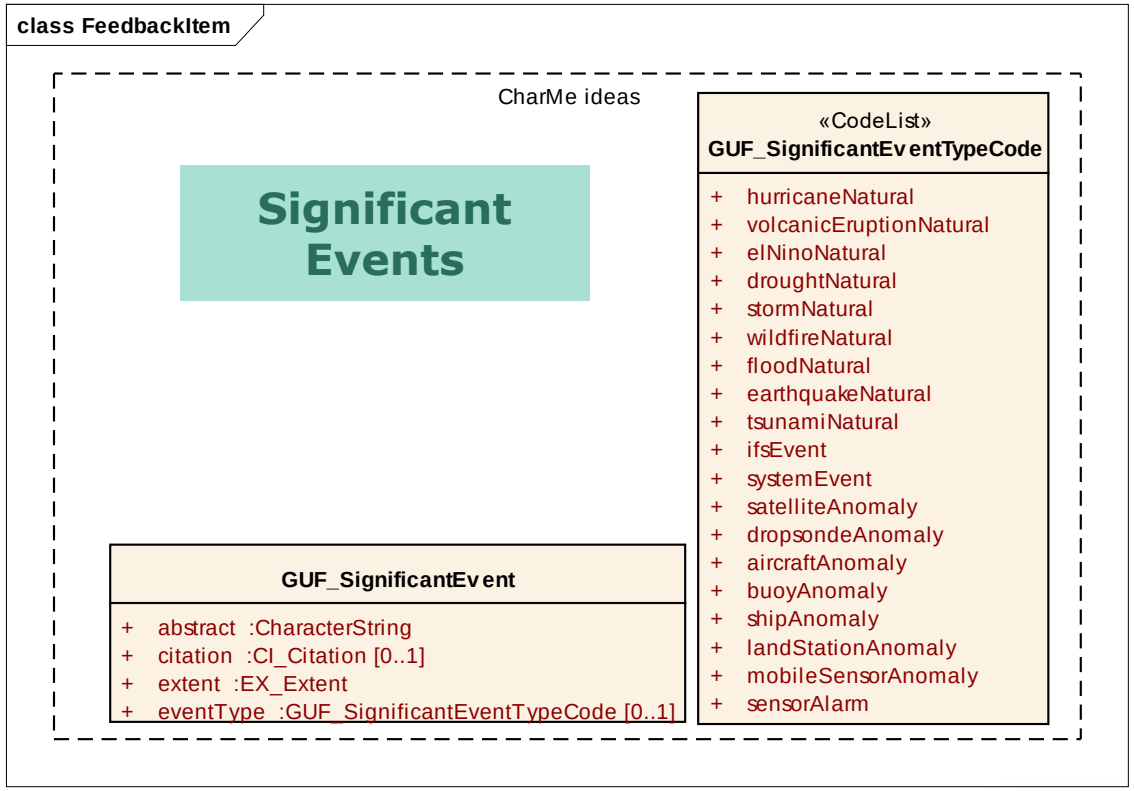


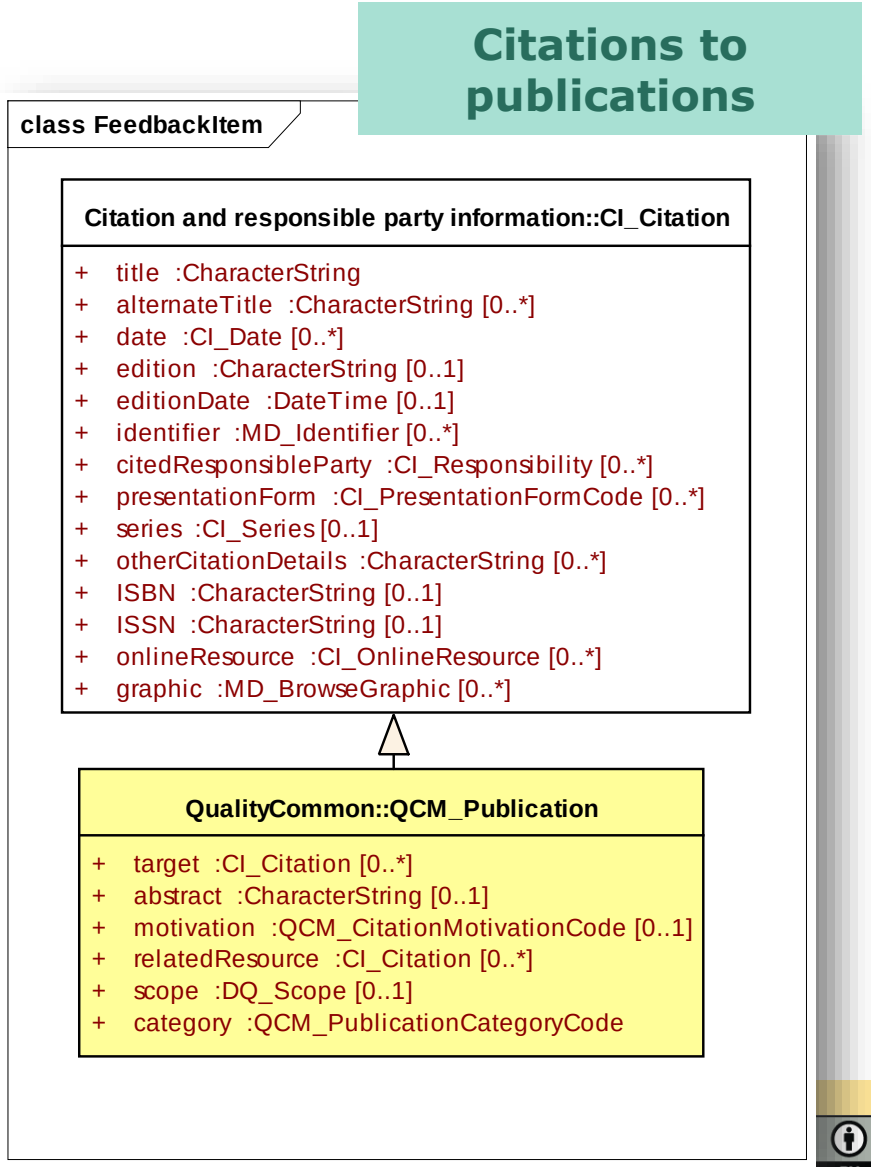
Comments

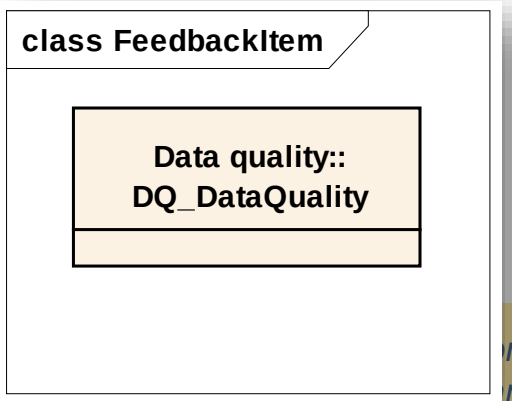




The context: Feedback item types (2/2)







Additional data quality reports

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The context: NiMMbus modular solution

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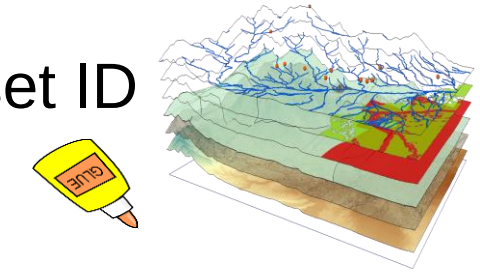
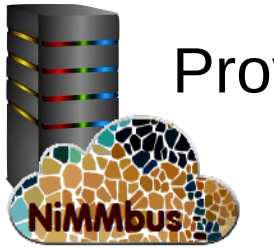
Dataset ID



API

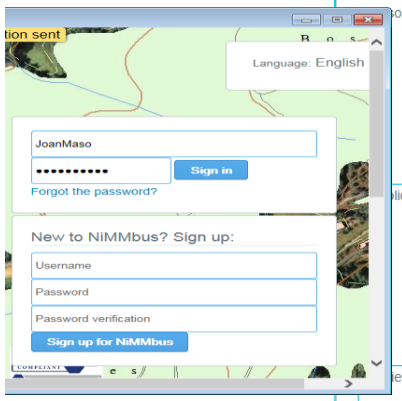


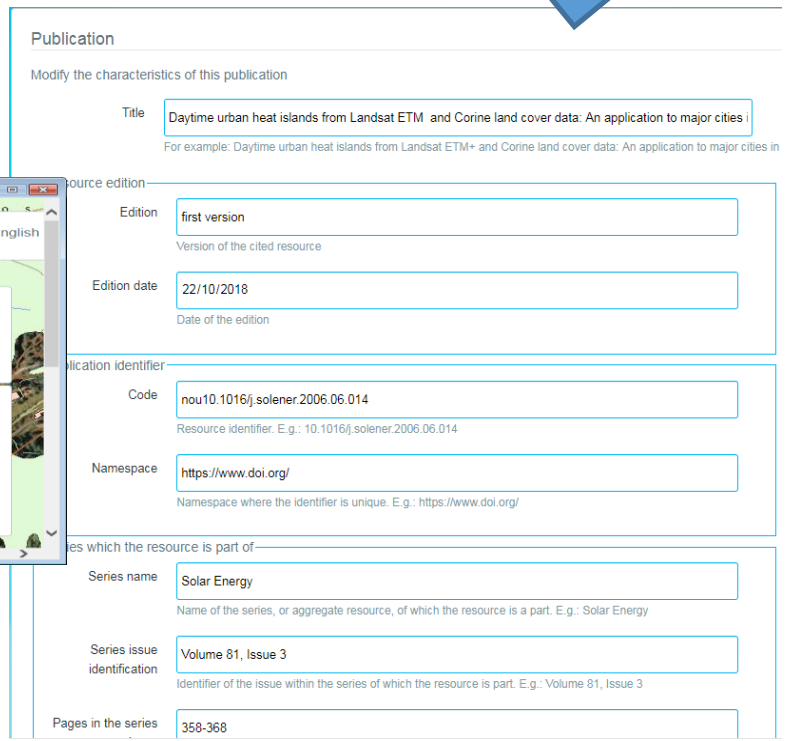
Provides storage

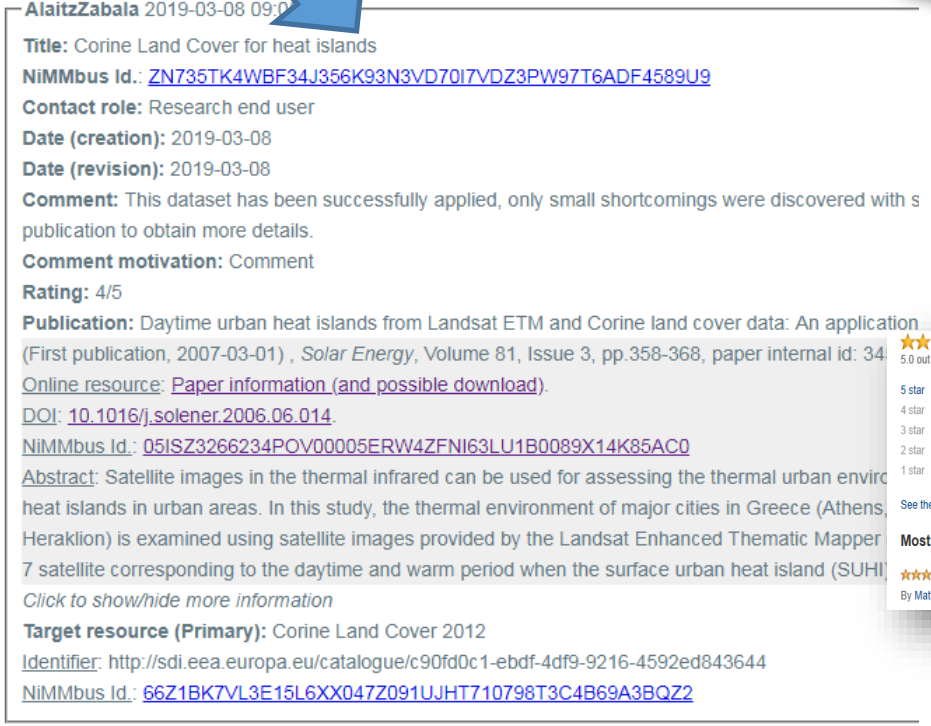
API

Informed browsing

Data input portal







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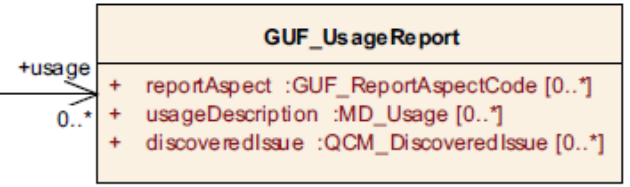
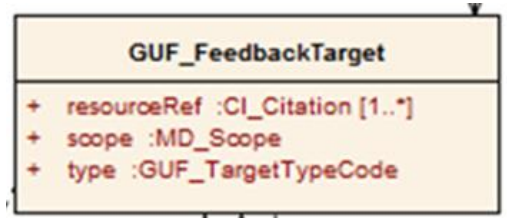
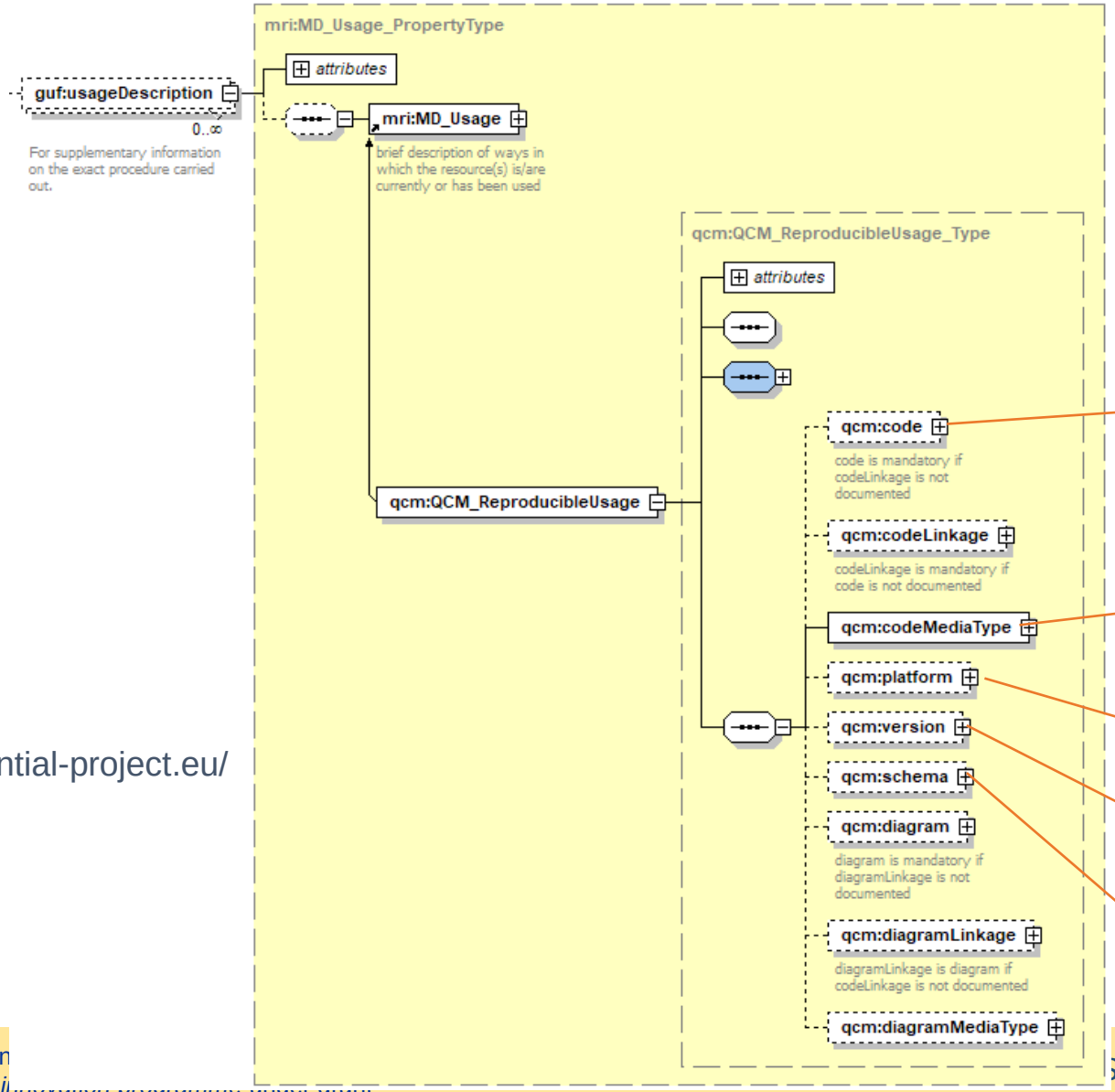
The solution: GUF / NiMMbus extension







EXAMPLE

JSON code

application/json

https://github.com/joanma747/MiraMonMapBrowser

6.0

config-schema.json#/definitions/estil

EXAMPLE

Cit. title: Sentinel L2A
Cit. code: AbiskoSentinel2Level2a
Cit. code space: http://maps.ecopotential-project.eu/
Target type: primary

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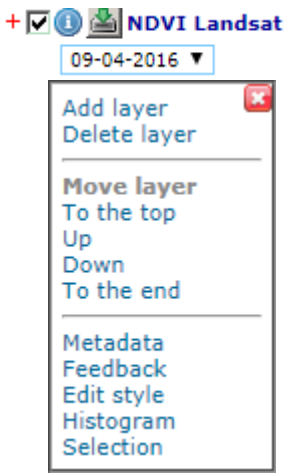
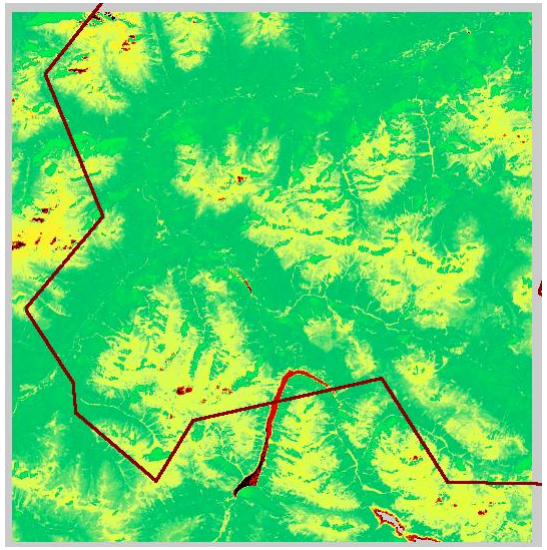
agreements No730329 and 641762

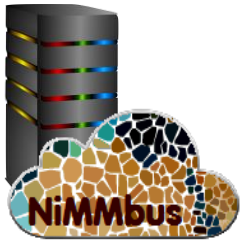
The solution: GUF / NiMMbus extension





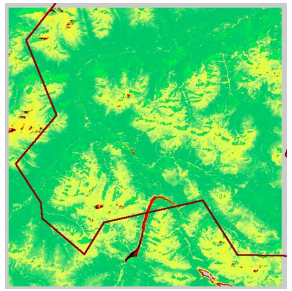
Dataset ID

API

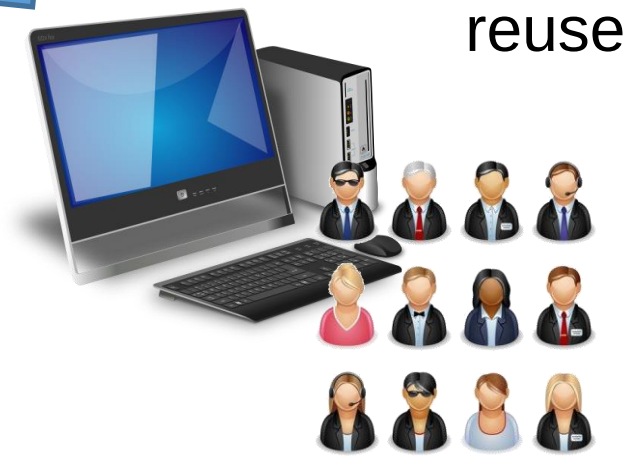


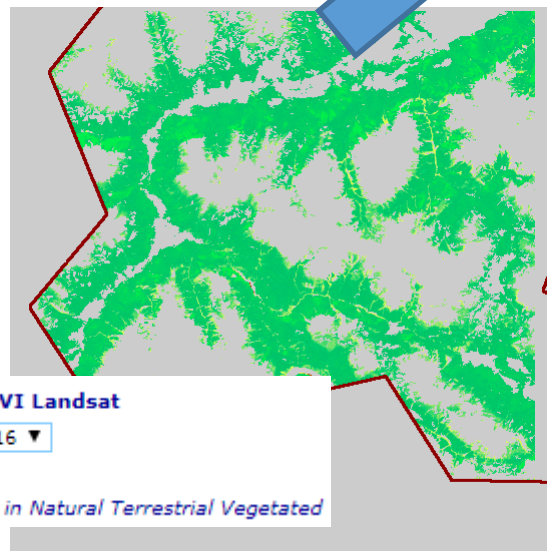
API

Dataset ID



Others user: explore and reuse





Usage description and publish

This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreements No730329 and 641762

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Contributing to the Vision of GEO

Questions?

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EGU2020 Sharing online. Session ESSI2.1:
Metadata, Data Models, Semantics, and Collaboration

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Any feedback?

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