

<https://www.lantmateriet.se/en/maps/lanmateriet-at-school/geoschool/>

as a primary or secondary school teacher get access to free teaching support that can be used in most subjects. Here you get lesson suggestions and access to a map application with data from Lantmateriet and several other authorities.

**To school staff**

Geoschool

Link tips

About Geoschool

Map tool with a background map

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**Use our services**

→ [Go to e-service](#)



#### Teach with GIS and geodata

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< Services

**Services for schools**

Level 1 (primary level) >

Level 2 (primary level) >

Level 3 (secondary stage I) >

Secondary stage II >

Tertiary education (university) >

## swisstopo teaching materials and services for schools

Free teaching materials and worksheets on map reading, treasure hunts, time travelling, geology and more for all educational levels.



Our range of educational material includes:

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# NSMA Activities and Services to Support the Usage of Geodata in Education and Capacities Development

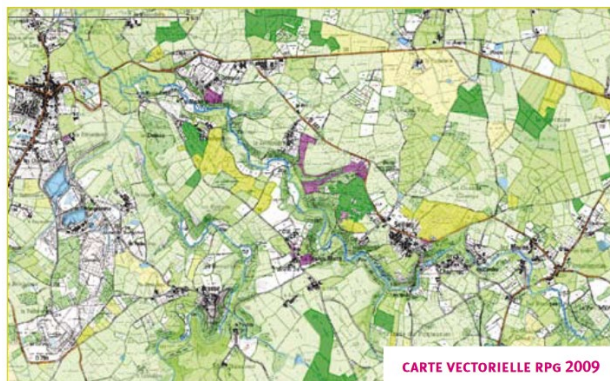
Bénédicte BUCHER, Univ. Gustave Eiffel, ENSG, IGN, LaSTIG

Workshop on Recruitment and Capacity Development  
Challenges in the Geospatial Domain, Ljubljana, 19 Nov 2024

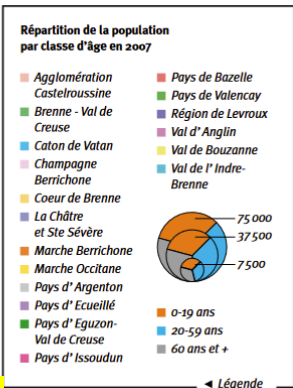
# Teaching what is “living in a low density area” through data (*a few maps below but more in the booklet*)



Land cover data showing that cultivated parcels get bigger, hedges disappear, creation of commercial zones



Farmers' data (to obtain CAP subsidies) shows the specific crops on each plot



demographic situation : very low density

Picking the appropriate data to study/teach a located phenomena :

- skills in State of the Art geodata technos
- talk to GI colleagues across corridor
- know local data authorities
- know data portals
- ... google, chatGPT,...

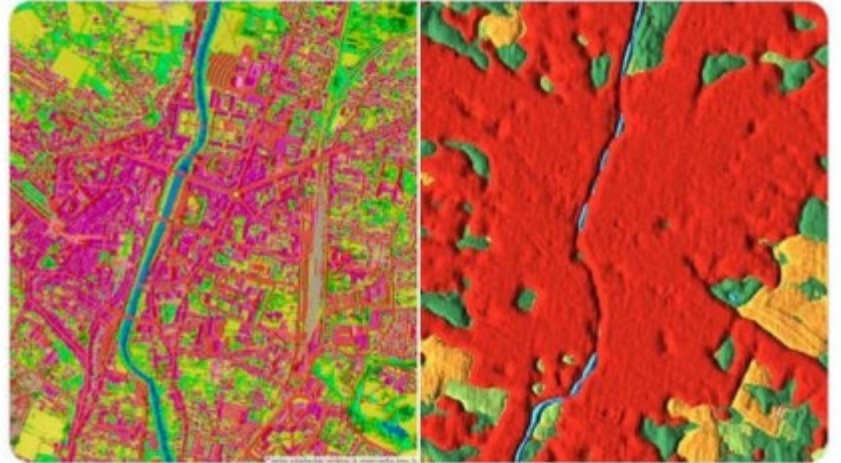


Figure 8: Comparison of Land cover products, produced through state of the art Artificial Intelligence and sensors, on a city in South of France, one from the national mapping agency and one from Google.

NMCAs engage with education communities from primary school to higher education through :

- Dedicated webpage
- Events, Lab trucks, games
- Licences, contracts,
- Services (to access data, create maps, create 3D models),
- Teaching materials

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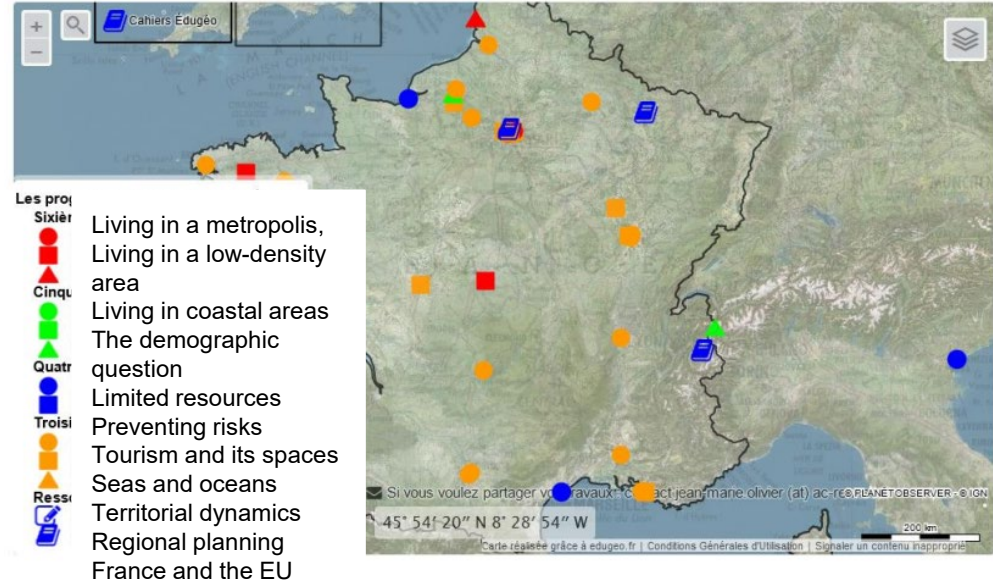


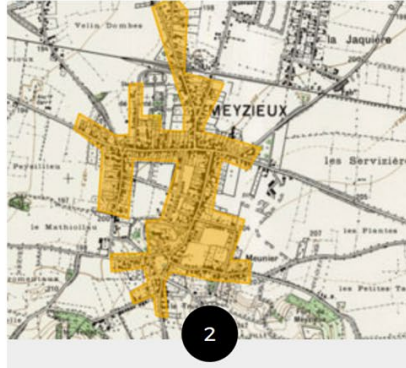
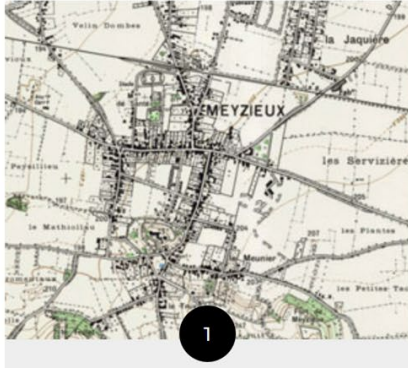
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Important to integrate  
within teaching activity :

- services **embedded**  
**in the digital**  
**workplace** of  
teachers and  
students
- **pedagogic material**  
**indexed by the**  
**official syllabus**





Using the service to :

- 1) display a 1947 map,
- 2) delineate built up area

- 3) overlay the drawn area with the latest map to see the urban sprawl

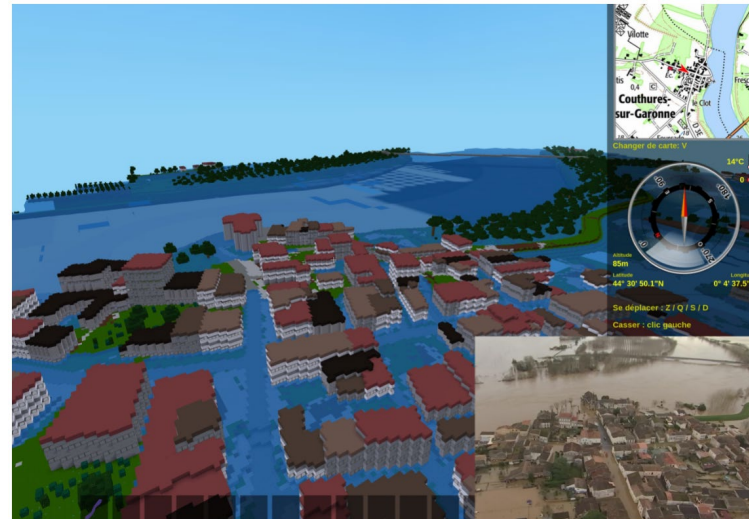


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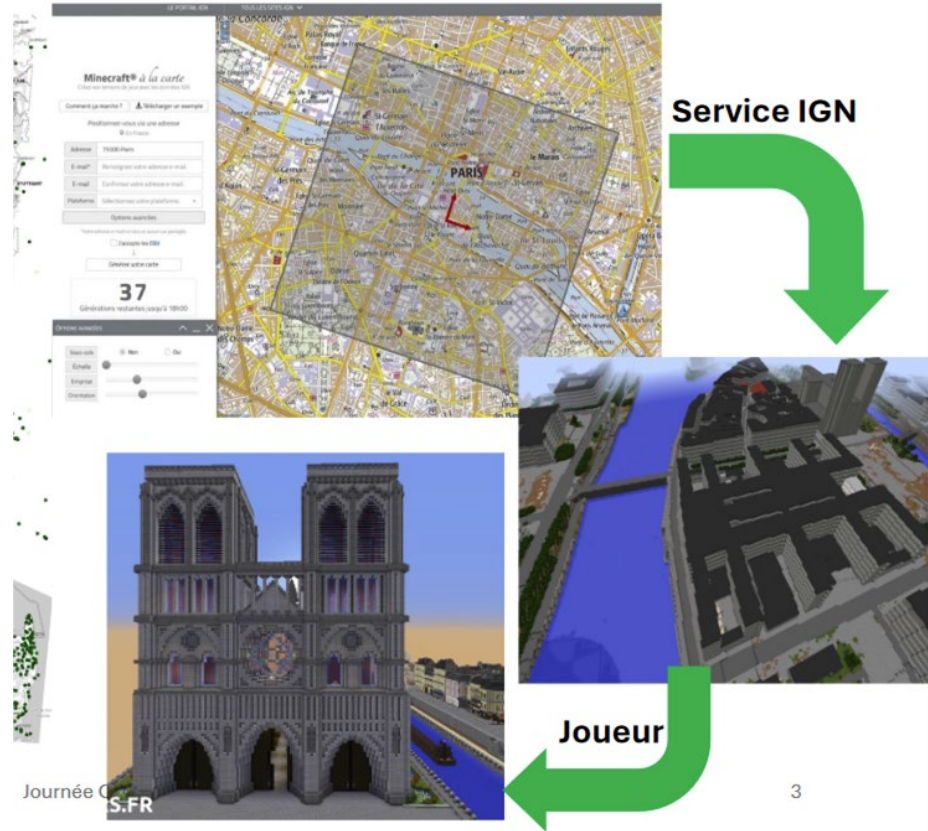


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# Minecraft maps Services

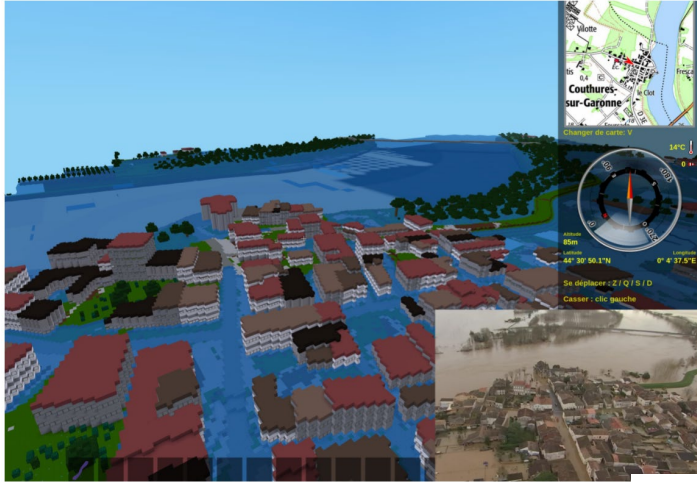


- A user selects an area
- The NSMA service generates a Minecraft Map based on the geographical data of that area
- The user/player can enrich the raw geometries



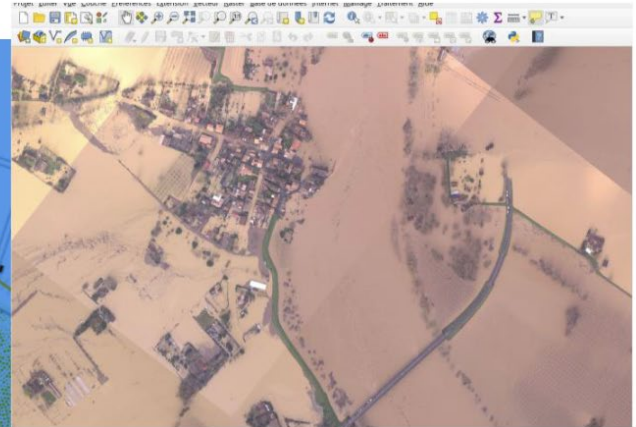
- The user/player can insert new features like solar panels

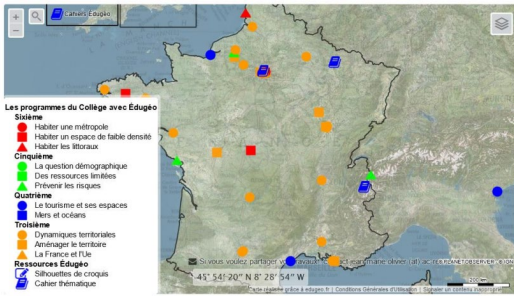




- The user/player can simulate a flood ... and compare with the orthophoto of an actual flood

© IGN-F





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Still national initiatives and infrastructures  
Yet teaching does not stop at borders ...

How to achieve **more open** infrastructures to facilitate the usage of the **most appropriate data**, through what kind of **geo-pedagogy** (story maps, notebooks, games, ...) ?



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Contacts for more information, demos : [benedicte.bucher@ign.fr](mailto:benedicte.bucher@ign.fr) , [romain.vialle@ign.fr](mailto:romain.vialle@ign.fr) , [yelise.akol@ign.fr](mailto:yelise.akol@ign.fr)