

Why and how to gamify trees inventories. The Albiziapp Experimentation

ISPM Conference 2019 Espoo Finland: Let the people map

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ReVeRIES : <http://reveries-project.fr/>

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Projet
ANR-15-CE38-0004-01

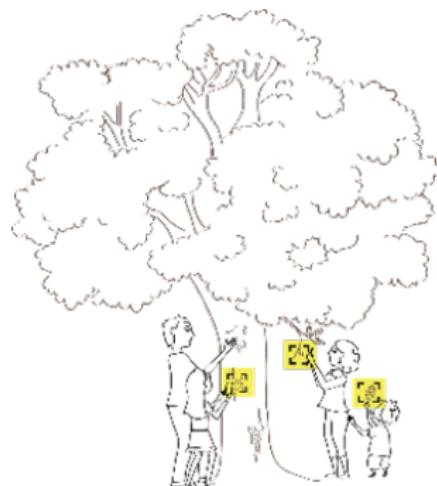


Overview

New trends in naturalist inventories

Trees in Open Street Map : benefits and drawbacks

Is gamification a solution ?



New trends in naturalist inventories

New trends of naturalist inventories

- More and more natural inventories and surveys but stable (lowering?) funding from State (at least in France)
- Increase of global education level
- New tools (smartphone / web 2.0 / cloud) from new actors (GAFAM)
- From mainly experts to amateurs
- From portals ("data warehouse") to applications
 - INPN : National Inventory of Natural Heritage
 - iNaturalist

Portal example : 2002 French INPN

<https://inpn.mnhn.fr/accueil/index>



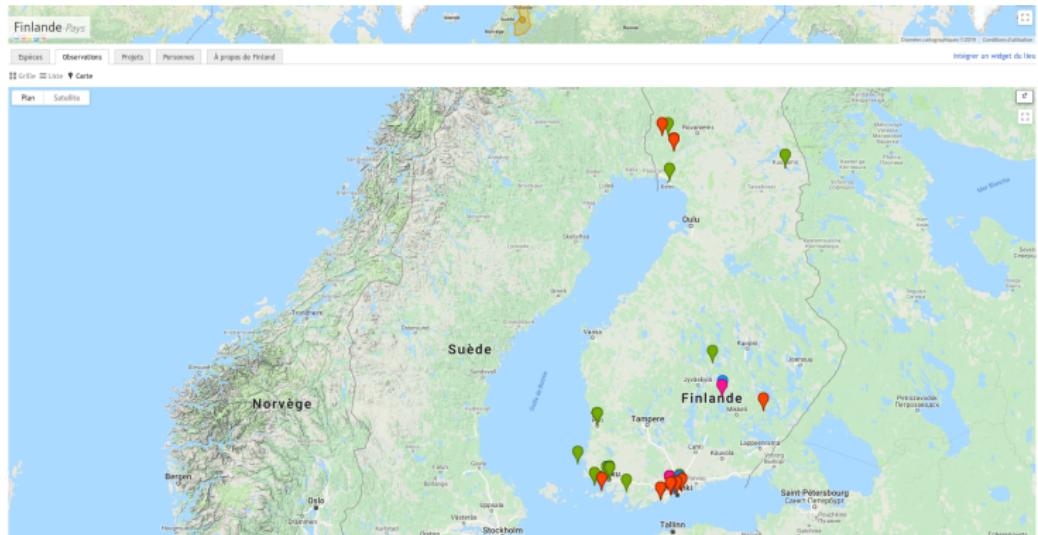
- 14 programs : from "Garden Biodiversity Observatory (OBJ)" to "Report Sightings of Terrestrial Platyhelminthes"
- What Contributors get in return : newsletters, performance ranking, access to their personal data, and sometimes the whole DB



Process relies on formal protocols to collect data

Plateform example : 2008 iNaturalist

<https://www.inaturalist.org/>



Finland : 105 contributors, 12571 observations

Worldwide : 600 000 contributors, 21 820 000 observations

Process relies on collecting a critical volume of data

New tools for plants identifications

Dichotomous keys :

- Déclic botanique¹
- Clés de forêt (ONF)²

Automatic or semi-automatic
image analysis



(only iOS)

Usually, they also collect geospatial data

1. <https://www.kloranebotanical.foundation/fr/declic-botanique>

2. http://www.onf.fr/activites_nature/++oid++13ee/@display_advise.html

Trees in Open Street Map : benefits and drawbacks

Unique aspects of trees as at once natural and cultural objects

- Easy to map if isolated (POI)
- But diversity of spatial patterns : wood, hedge, urban tree row
- Static and permanent : if someone comes back, the tree can still be here
- Habitat of other species
- Economic resource (forestry, wood burning,..)
- Heritage resource (heritage trees, parks)
- "Baby seal" of the plant word
- People can interact with them on daily basis
- Without knowing their botanic or vernacular names

New considerations / social needs for tree inventory

- Landscape and ecology : agroforestry / greener cities / green infrastructure
- Health : allergens / Cooling down cities
- Indicators : tree as climate change indicator ("phenoclim project")

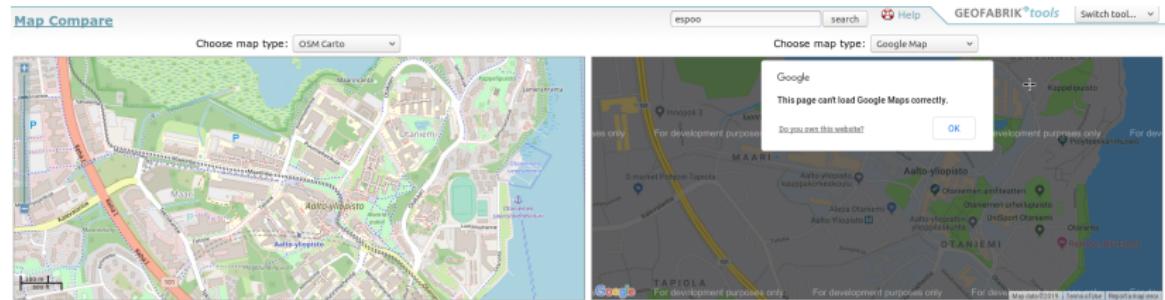


source : Treepedia³

3. <http://senseable.mit.edu/treepedia>

Open Street Map (OSM) : key points

OSM : geospatial data base, "community of communities", map the all world, ODbL licence, "Open google map", best VGI "success"



Software ecosystem : API, tiles servers, web mapping, desktop mapping, etc ..

Aalto University, Espoo, Finland

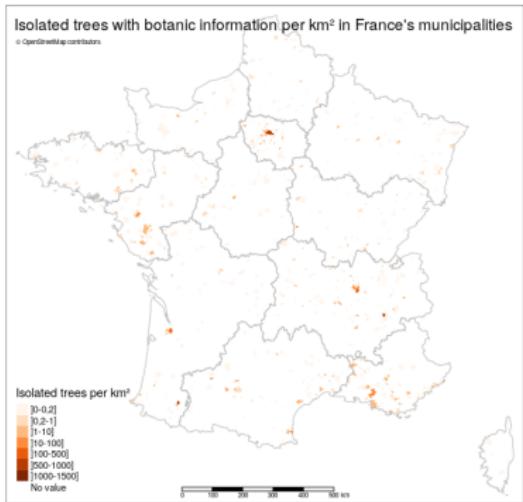
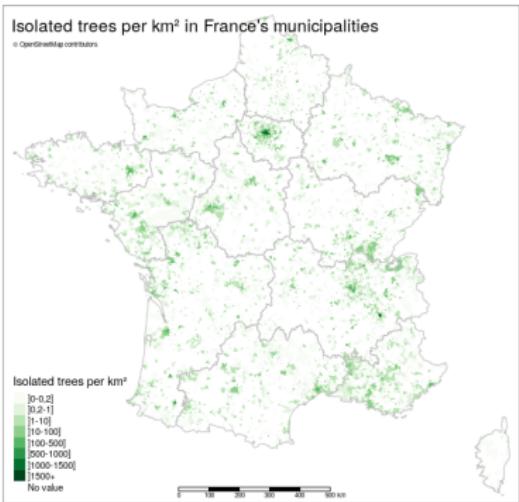


OSM, the best tool to foster participation

- World Wide project
- Platform
- Collaborative infrastructure : tools, feedback, data access, governance
- Support of OSM locals groups

But some limitations exist !

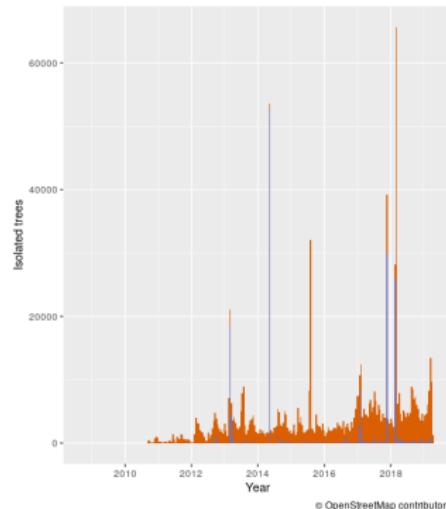
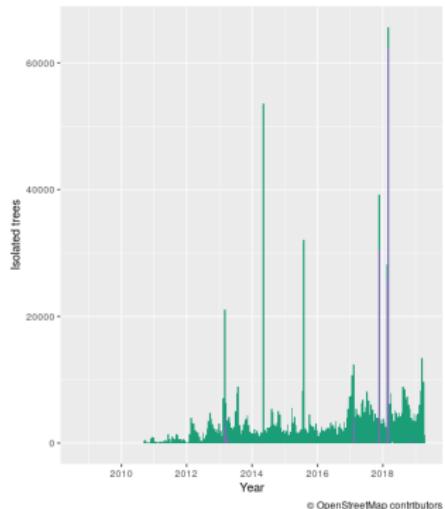
OSM : 900 000 isolated trees in France



Urbain area : 5,5 trees/km²
Rural area : 1,29 trees/km²

0,30 trees/km²
0,004 trees/km²

OSM Data Base : Hybrid of professional and amateur contributions



Is gamification a solution ?

"Albiziapp" a dedicated web application for smartphone / PC

<https://albiziapp.reveries-project.fr/#albiziapp>

Do game mechanics encourage contributions to inventories and help users learn botany ?

Development of :

- Simplified user interface
- Direct interaction with OSM DB
- Botanic tools
- Game functionalities :
 - Missions with Points, Trophies, Badges
 - Depending on identification accuracy, number, speed and diversity of observations

Albiziapp screen



Observation screen

[Retour](#)

Espèce : Acer campestre

Genre : Acer

Nom commun : Érable champêtre

Degré de confiance de l'observateur : Confiant

Dernière modification par : tjliveau



[Retour](#)



Vous pouvez modifier le relevé ou bien confirmer que les informations sont correctes

[Modifier](#) [Confirmer](#) [Voir](#)

Si aucun arbre n'est présent, vous pouvez tagger ce relevé douteux

Supprimer le relevé, cette opération est définitive!

[Supprimer](#)

Historique

Albiziapp and OSM

- Albiziapp is open source⁴
- All the data analysis/visualisations can be reproduced/verified by the OSM community⁵
- Documented in the OSM wiki⁶
- Participation in OSM's locals groups

First monitored experiment : June 29th in Saint-Etienne, France

Goal : understanding the impact of gamification on the way people inventory trees

4. <https://github.com/REVERIES-project>

5. <https://github.com/REVERIES-project/arbresosm>

6. <https://wiki.openstreetmap.org/wiki/User:Defuneste>

Thanks for your attention !



<https://defuneste.github.io/Albiziapp-blog/>



<https://www.facebook.com/albiziapp.reveries>

