

Network of Academic SDIs and Open Science

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- *ICA Commission on Open Source Geotechnologies*



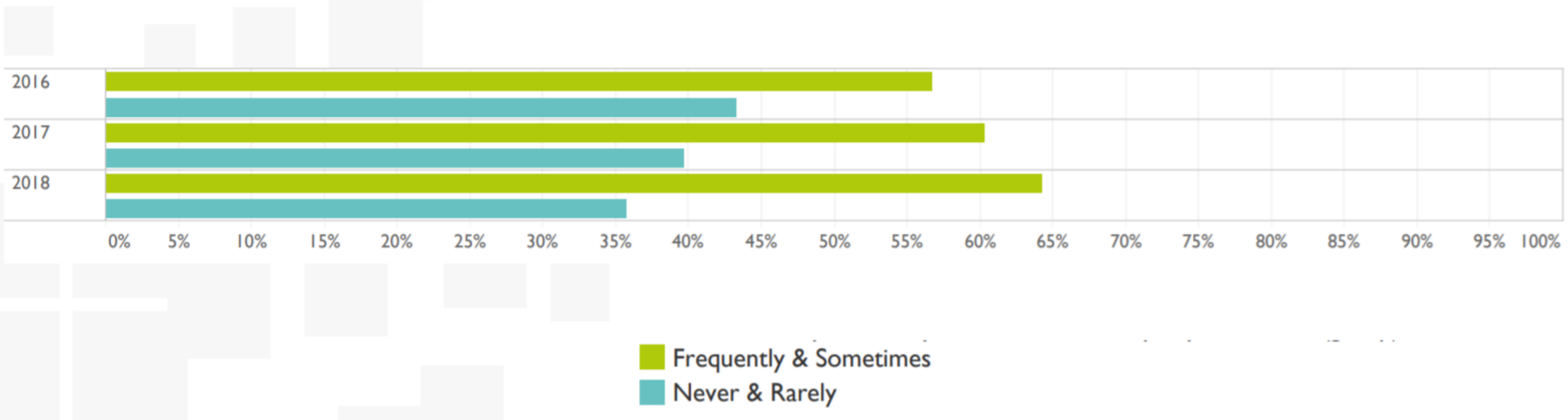
Open Science

- Open Science is the practice of science in such a way that others can collaborate and contribute, where **research data**, lab notes and other research processes are freely available, under terms that enable reuse, redistribution and reproduction of the research and its underlying data and methods

... and geospatial data?

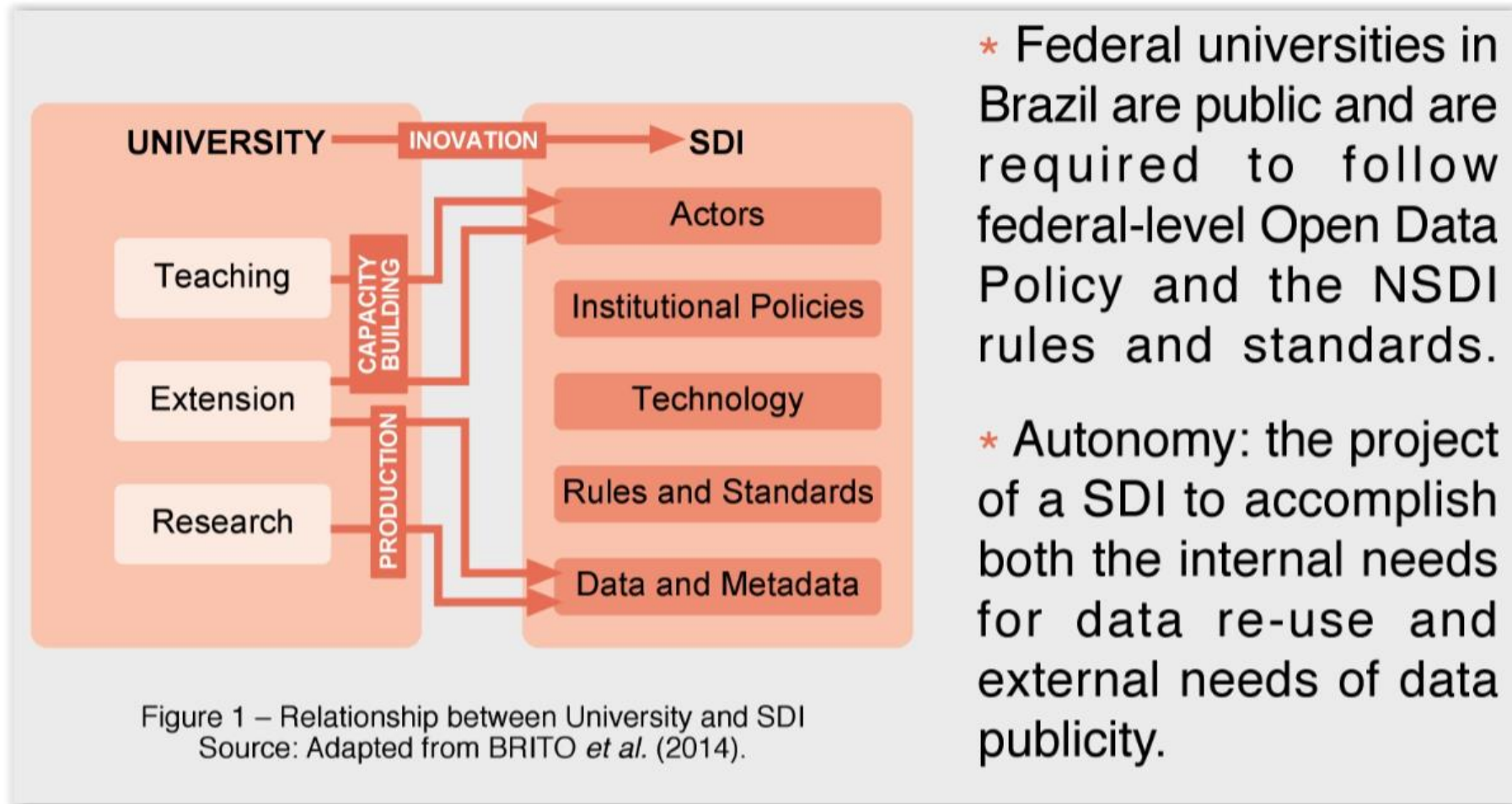
Open Science

Fig 1. How often researchers have made their data openly available



Source: State of Open Data 2018

Academic Spatial Data Infrastructure

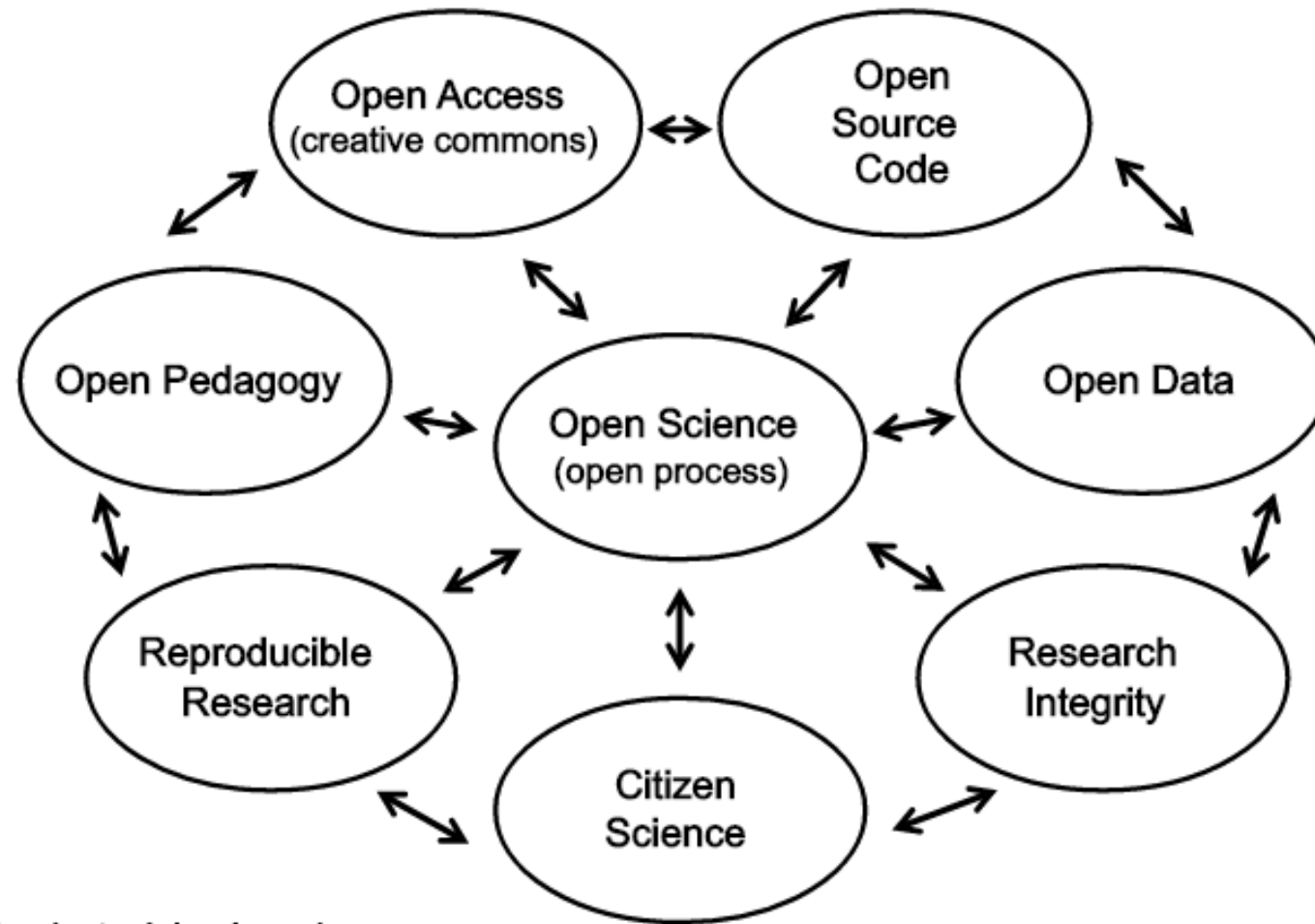


* Federal universities in Brazil are public and are required to follow federal-level Open Data Policy and the NSDI rules and standards.

* Autonomy: the project of a SDI to accomplish both the internal needs for data re-use and external needs of data publicity.

IT NEEDS A COLLABORATIVE – BOTTOM-UP APPROACH!

Open Science Ecosystem



With thanks to John Jungck

DIMENSIONS OF OPEN



Science



Software



Data



Standards



Educational Resources



FINDABLE



ACCESSIBLE



INTEROPERABLE



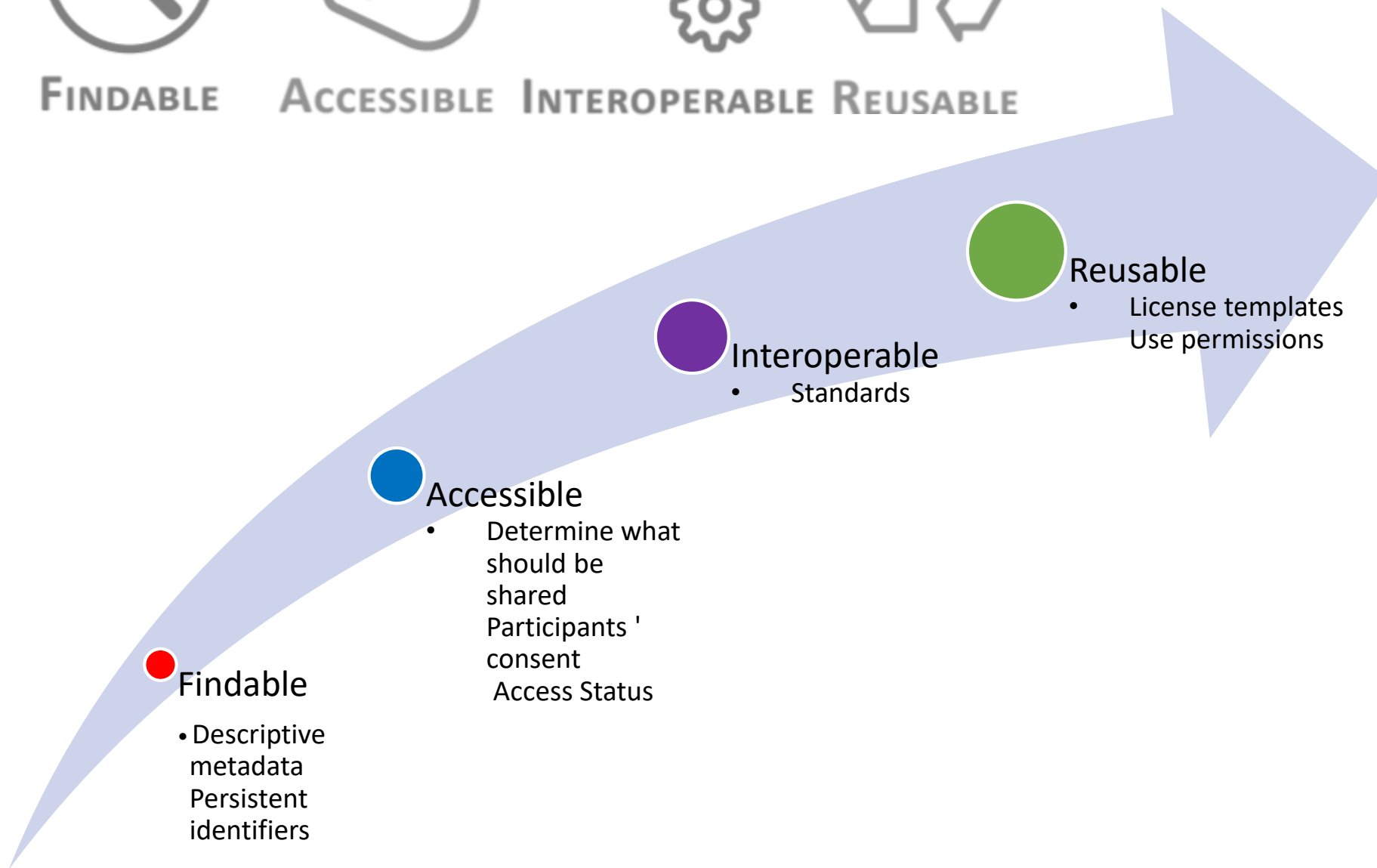
REUSABLE

F

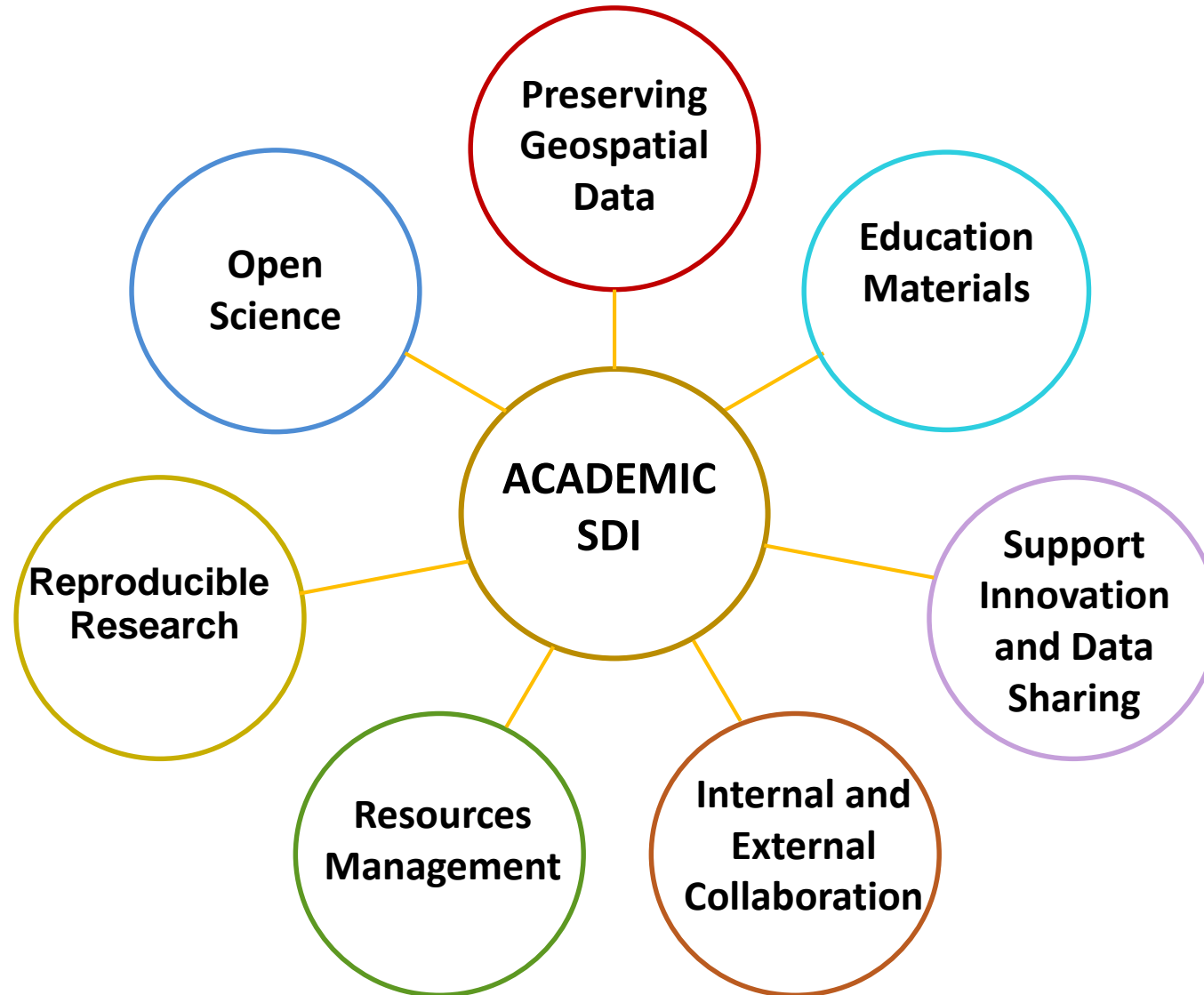
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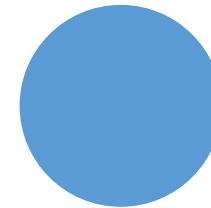


ACADEMIC SDI



- 1st phase – Academic SDI Concepts, Local User Needs Survey, Metadata Portal, Undergraduate Projects Portal (2015) – Federal University of Paraná – SDI Open 2015 (Rio)
- 2nd phase – National User Needs Survey, Geonode Portal (2016)
- 3rd phase – Reproducible Research and Academic SDI (Global Survey), Data integration strategies (including GNSS/Surveying data) (2016) – SDI Open 2017 (Washington)
- 4th phase – REDE IDEA (Brazilian Academic SDI Network)

ACADEMIC SDI



ACADEMIC SDI

Component	Feature	“Traditional” SDI	Academic SDI
People	Management	Governmental	Community
	Actors	Experts	Students and researchers
Institutions	Organization	Hierarchical	Collaborative
	Control	Centered	Decentralized
	Structure	Rigid	Dynamics
	Support	Legislation	Rules/Regimental
	Participation	Imposing	Volunteer
	Purpose	Decision-making	Teaching and research
	Imprint/Function	Benchmark	Training/Education
Data	Quality	Officially assured	Guaranteed by the community
	Spatial Domain	Local	Ubiquitous
Technology	Composition	Homogeneous	Heterogeneous
	Evolution	Limited by solution	Innofusion
Standards	Development	Top-Down	Bottom-Up
	Metadata	Complex	Summarized/Field-related

IT NEEDS A COLLABORATIVE – BOTTOM-UP APPROACH!

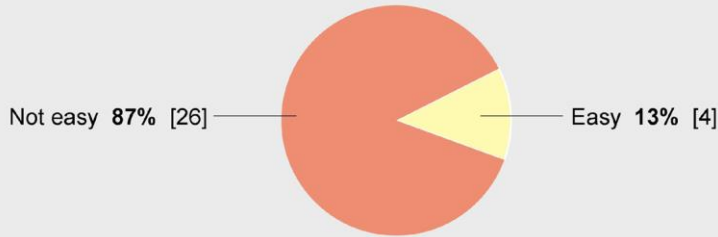
ASSESSING THE NEEDS OF THE UNIVERSITY USERS



* There were 30 respondents, most of them willing to share their research data under a creative commons license.

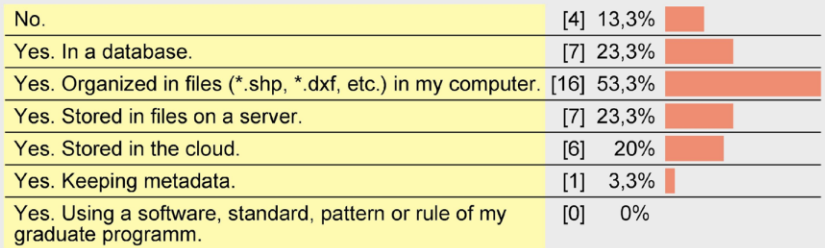
DATA ACQUISITION

01. How do you consider the spatial data acquisition stage in the research process?



STORAGE AND MANAGEMENT




10. Do you use some method to catalogue and store your geospatial data during the research?



ASSESSING THE NEEDS OF THE UNIVERSITY USERS






DATA SHARING

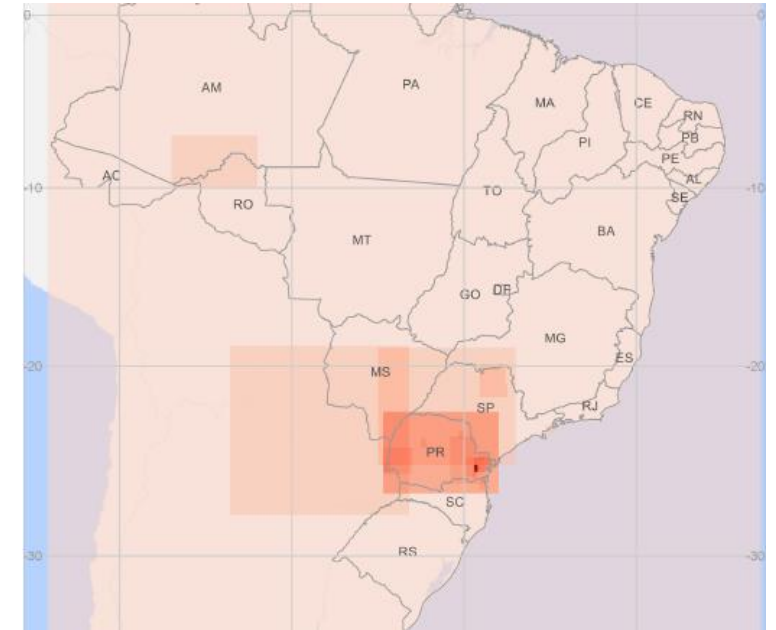
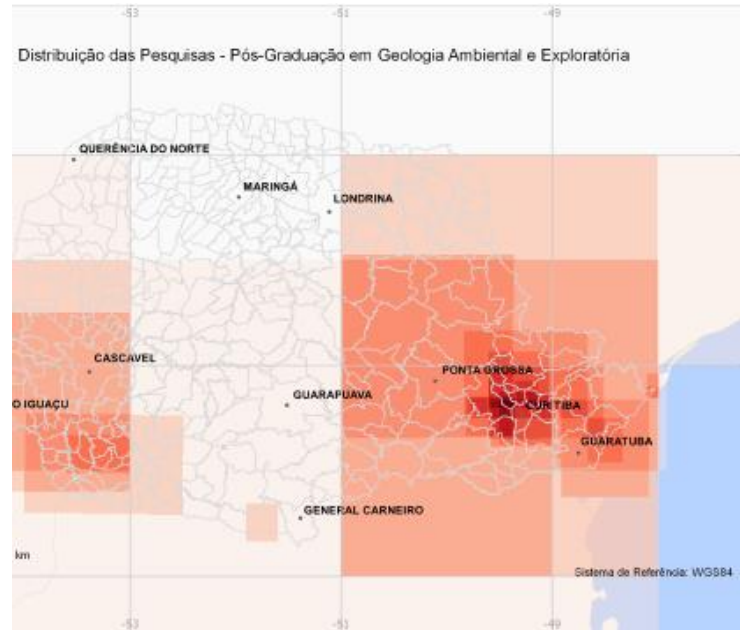
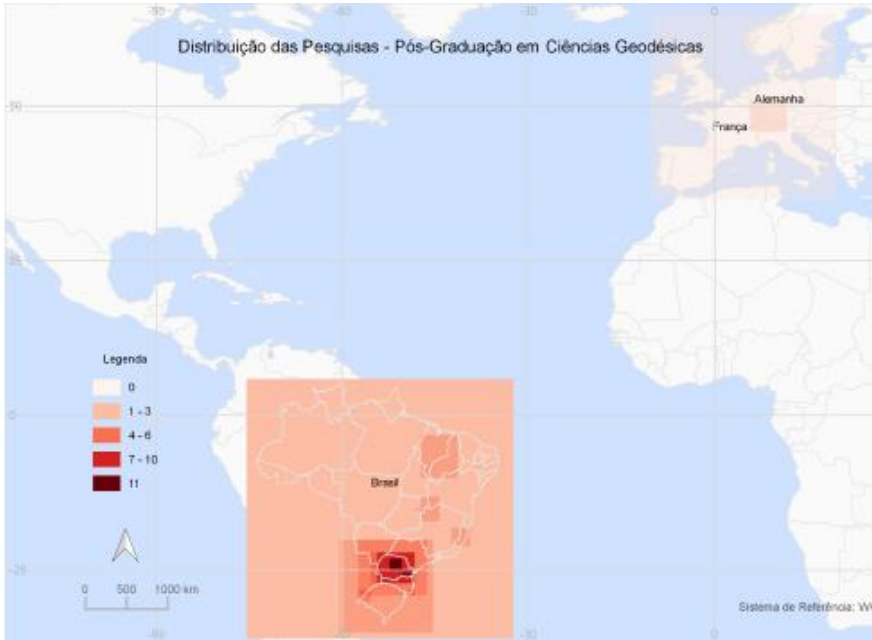
15. Would you see some restriction on publish the derivative geospatial data separated from the original data repassed by other institutions?

No.	[24]	80%	
Yes. Derivative geospatial data.	[3]	10%	
Yes. Original geospatial data.	[3]	10%	

GEOPORTAL

19. If was created a geoportal for the Earth Sciences Sector of Federal University of Paraná (UFPR), in your opinion, what it must contain?

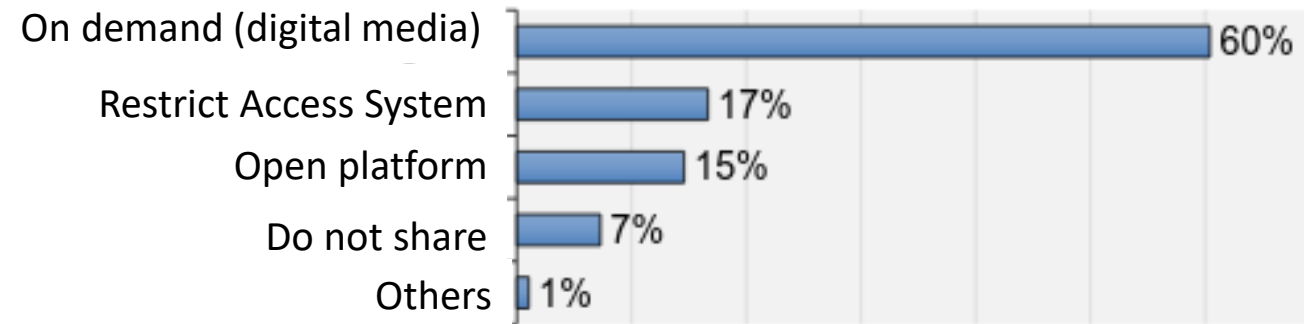
Efficient search engine.	[17]	56,7%	
Geospatial data download.	[14]	46,7%	
Bibliographic related information.	[11]	36,7%	
Map based search.	[10]	33,3%	
Geoservices like WMS and WFS.	[10]	33,3%	



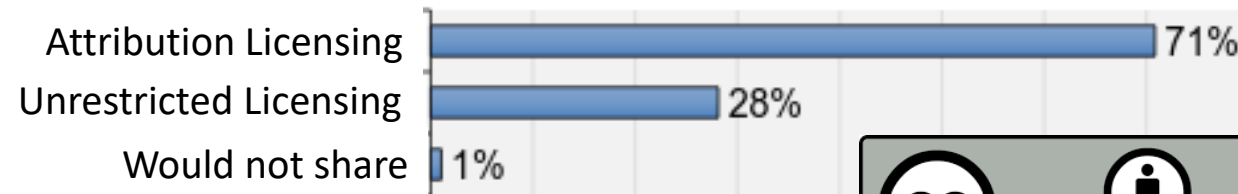
FIRST METADATA PORTAL

NATIONAL USERS

Current Data Sharing Situation



99% would agree do share data under...



GEONODE PORTAL

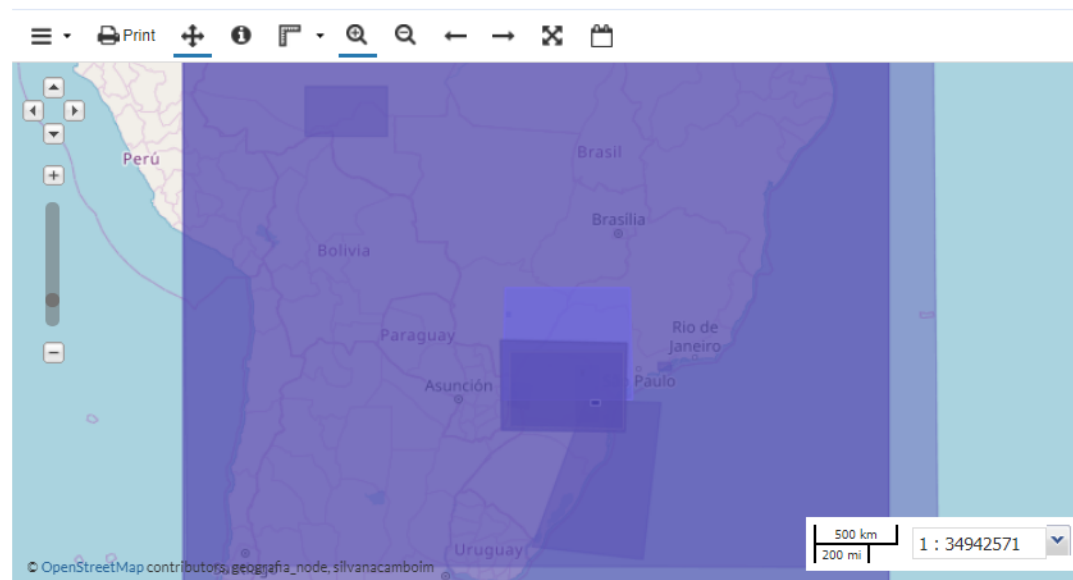


www.idea.ufpr.br

GEONODE PORTAL



PPG Geografia - Teses e Dissertações



Informações

Compartilhar

Classificações

Comentários

Título PPG Geografia - Teses e Dissertações

Baixar o Mapa

Detalhe dos metadados

Visualizar mapa

Camadas do mapa

Este mapa usa as seguintes camadas:

PPG - Beisek, A. - 2013
PPG - Belem, A. - 2013
PPG - Cavalcante, M. - 2012
PPG - Feiber, S. - 2013
PPG - Ferreira, A. - 2013
PPG - Garcia, D. - 2013
PPG - Gavriloff, A. - 2013
PPG - Haak, L. - 2013
PPG - Jarentchuk Jr., O. - 2013
PPG - Jorge, F. - 2009
PPG - Loch, F. - 2013
PPG - Marangon, F. - 2013
PPG - Meneguzzo, I. - 2013

GEONODE PORTAL

The screenshot displays the Geonode Portal interface. At the top, a green header bar contains navigation links: 'Dados', 'Mapas', and 'Sobre'. A search bar with the text 'Search' and a magnifying glass icon is present, along with a logo labeled 'IDEA'. Below the header, a toolbar includes icons for 'Map', 'Print', 'Identify', 'Query', 'Measure', and 'Edit'. The main content area shows a map of a campus area with various buildings, roads, and green spaces. On the left, a 'LAYERS' panel lists several data layers, all of which are checked:

- UFPR CampusMAP Árvore isolada
- UFPR CampusMAP Construção
- UFPR CampusMAP Delimitação Física
- UFPR CampusMAP Caixa d'água
- UFPR CampusMAP Edificações
- UFPR CampusMAP Poste
- UFPR CampusMAP Edificação de Saúde
- UFPR CampusMAP Estufa
- UFPR CampusMAP Trecho de drenagem
- UFPR CampusMAP Hidrologia Vala
- UFPR CampusMAP Elemento Industrial
- UFPR CampusMAP Calçada
- UFPR CampusMAP Contorno Central

The map itself shows a detailed view of the campus, including buildings, roads, and green spaces. A scale bar at the bottom right indicates a distance of 100 meters. The map is titled 'Mapa Topográfico do Centro Politécnico'.

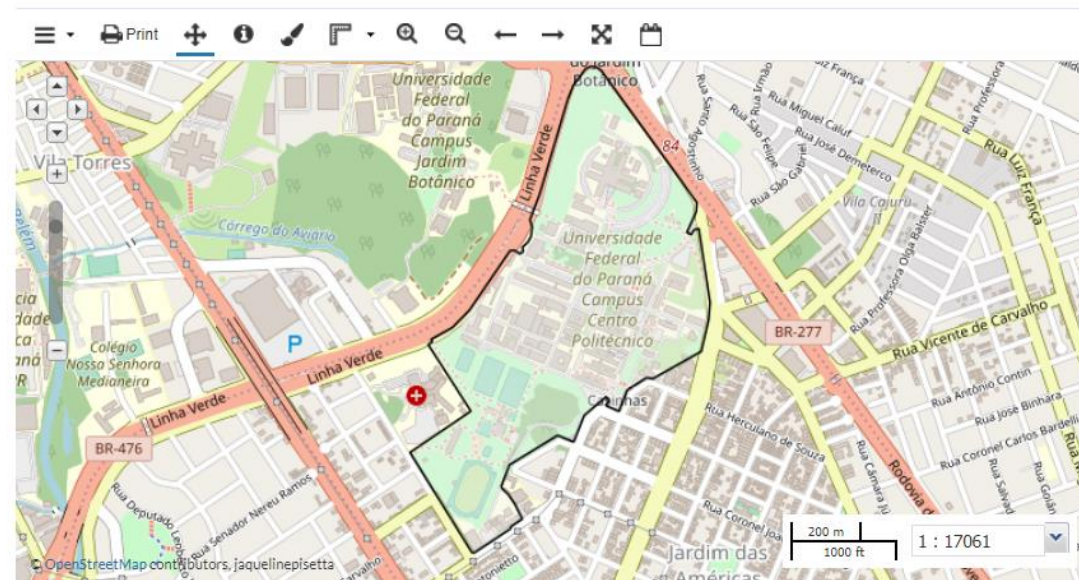
www.idea.ufpr.br

Campus data from www.campusmap.ufpr.br

GEONODE PORTAL



UFPR CampusMAP Limites do Campus Centro Politecnico



Informações Atributos Compartilhar Classificações Comentários

Título UFPR CampusMAP Limites do Campus Centro Politecnico
Licença License Creative Commons
Resumo

Baixar Camada

Detalhe dos metadados

Editar Camada

Baixar metadados

Legenda

☐ Single symbol

Mapas que usam esta camada

Lista de mapas que estão usando esta camada:

[Mapa Topográfico do Centro Politécnico](#)

Criar um mapa usando esta camada

Clique no botão abaixo para gerar um novo mapa com base nesta camada.

Crie um mapa

www.idea.ufpr.br

OPEN CARTOGRAPHIC SYMBOLS



Labgeolivre-UFPR / Open_Carto_Symbols

Watch 0 Star 0 Fork 2

Code Issues 0 Pull requests 0 Projects 0 Wiki Security Insights Settings

Repositório para o compartilhamento de símbolos cartográficos

Edit

Manage topics

7 commits

1 branch

0 releases

2 contributors

GPL-3.0

Branch: master

New pull request

Create new file

Upload files

Find File

Clone or download

Labgeolivre-UFPR Merge pull request #2 from flaviasilveira/master

Latest commit 2b59426 now

Símbolos não testados

commit symbols

19 days ago

Símbolos testados

commit symbols

19 days ago

.gitattributes

Initial commit

21 days ago

LICENSE

Initial commit

21 days ago

README.md

Update README.md

21 days ago

README.md

Edit

Open_Carto_Symbols

Automatic application (plugin
QGIS) + GitHub share (Open
Cartographic Styles)

https://github.com/Labgeolivre-UFPR/Open_Carto_Symbols

REDE IDEA – ACADEMIC SDI NETWORK

It was created in 2017, in order to promote and propagate the importance of the development of a spatial data infrastructure in academic institutions, being a platform for dissemination of works already developed, as well as exchange of experiences.

Meetings

- Geonordeste – Salvador/BA (2017)
- Congresso Brasileiro de Cartografia – Rio de Janeiro/RJ (2017)
- Geoinfo – Salvador/BA (2017)
- X Colóquio Brasileiro de Ciências Geodésicas – Curitiba/PR (2018)
- I Simpósio Brasileiro de Infraestrutura de Dados Espaciais (2018)

REDE IDEA – WEBSITE



HOW TO JOIN – GEONODE TIPS – PUBLICATIONS - LINKS

REDE IDEA PAPER

**TEMPO TÉCNICA TERRITÓRIO**
TIME TECHNIQUE TERRITORY

Atual Arquivos Sobre ▾

[Início](#) / [Arquivos](#) / [v. 9 n. 2 \(2018\)](#) / [Artigos](#)

FORMAÇÃO E PERSPECTIVAS DE CONSTRUÇÃO DE UMA REDE DE IDES ACADÊMICAS NO BRASIL (REDE IDEA)

Patricia Lustosa Brito
Ivanildo Barbosa
Departamento de Geografia - Universidade de Brasília
Jugurta Lisboa Filho
José Augusto Sapienza Ramos
Rafael Sanzio Araújo dos Anjos
Silvana Camboim

UnB - Departamento de Geografia
UnB - Department of Geography
Centro de Cartografia Aplicada e Informação Geográfica
Center of Applied Cartography and Geographic Information

Revista Nacional Bilingue Cartográfica - Geográfica
National Bilingual Cartographic - Geographic Review

Tempo - Técnica - Território
Time - Technique - Territory



REDE IDEA – 19 PARTICIPANTS



SO FAR...


- Regular meetings
- Growing number of interested institutions
- First Brazilian Symposium on SDI (10 years of NSDI) – The network was recognized as the interlocutor of academic actors in the National Cartography Commission
- Discussing expand to Latin America – Geo4All Iberoamerica
- Consensus on publishing campus-related data
- Discussion on specific metadata (if needed)

CHALLENGES

- Increase cooperation and research in the SDI topic.
- Integration with Open Data portals/official repositories.
- Improve technological infrastructure (institutional support).
- Develop additional mechanisms for sharing data
- One of the most difficult aspects of sharing-symbology (SLD is still not enough).
- Semantics and vocabularies.
- Incorporate Collaborative Mapping Initiatives (Youth Mappers, ...)
- Improve regulation to make data sharing mandatory (?)
For thesis and dissertations (respecting previous licenses)
- Keep the academics motivated to continue collaborating- show the benefits.



• WHERE ARE WE GOING?

- Open Science and FAIR principles are becoming widely adopted
 - Are SDIs in the academic sector the way to Open Geospatial Data?
 - How Academic SDIs can work together and influence other fields?
 - How NSDIs and Academic SDIs can collaborate?
 - Challenges: keep the usability and usefulness for the non-specialists, get out of a specific niche and keep position as interlocutors when the subject are open maps!
- 



More info:

www.labgeolivres.ufpr.br/redeidea

www.idea.ufpr.br

www.osgeo.org/initiatives/geo-for-all

<https://opensourcegeospatial.icaci.org//>

Obrigada!/Thank you!
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