UNITED NATIONS
WORLD GEOSPATIAL INFORMATION CONGRESS

Forum conducted by the UN-GGIM Academic Network

A Sustainable and Resilient World:
Capacity Building and Geospatial Research for Implementing the SDGs

11:00 - 12:00
Wednesday 21 Nov 2018
Deqing, China

Open Science and Education

Prof. Maria A. Brovelli (1) and Dr. Ivana Ivánová(2)
1 Politecnico di Milano (Italy) 2 Curtin University (Australia)
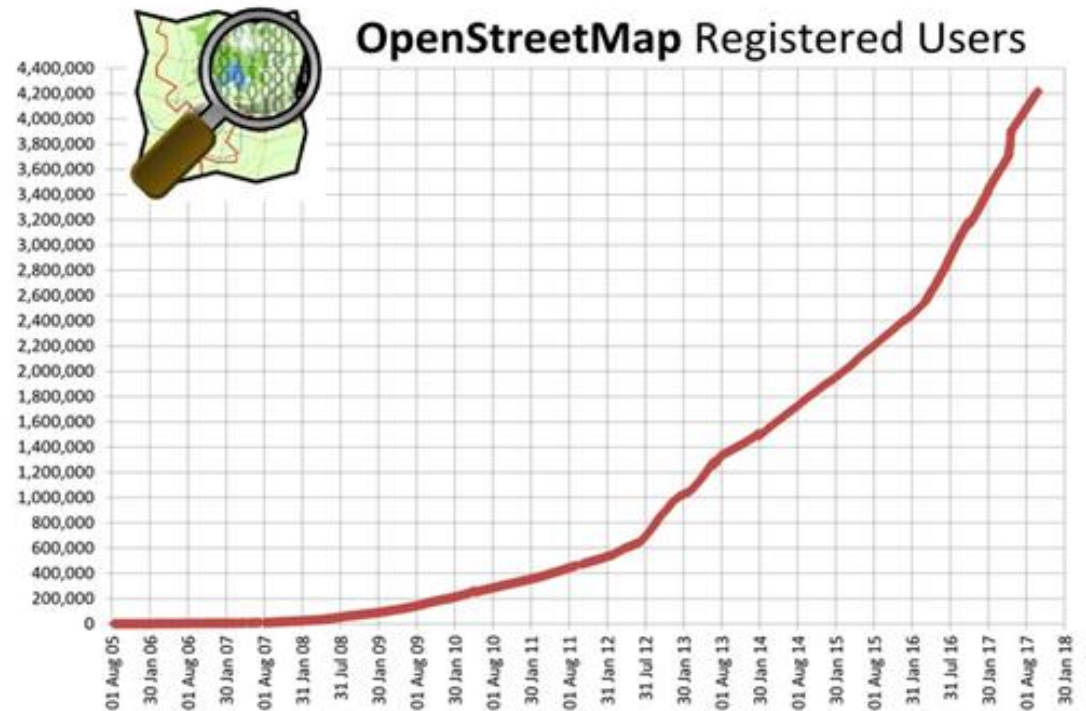
UN-GGIM | ACADEMIC NETWORK

unggim.academicnetwork.org

Open Data: OpenstreetMap (OSM)

The OSM project was born in 2004 to encourage the creation of geo data that is **free to use** and **shareable** with anyone **(licensed under the Open Data Commons Open Database Licens** (ODbL) by the OSM Foundation (OSMF).

OpenStreetMap Registered Users

OSM Ecosystem: community & technology

MapParty!

WALK, OBSERVE, DRAW, MAP ALONG THE VIA REGINA
FOR A CULTURAL, SENSORY AND PLAYFUL EXPERIENCE

OSM quality (examples)

- OSM Building footprints Lombardy (Italy): the spatial accuracy is comparable to the authoritative dataset at scale 1:5000
- Streets in Kenya, Tanzania, Uganda: comparison OSM and UNECA (United Nations Economic Commission for Africa); the latter dataset is based on the Digital Chart of the World

Country	OSM [m]	UNECA [m]	OSM/UNECA
Kenya	165842875	37107320	4,5
Tanzania	426683257	55336417	7,7
Uganda	148997450	18545031	8,0

GeoForAll - OSGeo initiative

- Central to "Geo for All" mission is the belief that knowledge is a public good and Open Principles in Education will provide great opportunities for everyone.

- Educational resources (189 to date):

"GIS at school" Guidebook for biology, geograpy, and science...

This guidebook was prepared as a final publication of the EduGIS Academy project...

📅 2018/06   🏷 Course Materials   👤 Get Interactive

"Introducing GIS" Tutorial with QGIS

A GIS tutorial that includes step by step instructions and video clips to help y...

📅 2018/06   🏷 Course Materials   👤 Get Interactive

A Gentle Introduction to GIS

A resource for learners and educators that tries to take a more gentle road to i...

📅 2018/06   🏷 Course Materials   👤 Get Interactive

‹ 1 2 3 21 ›

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

UN-GGIM | ACADEMIC NETWORK

unggim.academicnetwork.org

GeoForAll - OSGeo initiative

- Network of GeoForAll labs committed to the vision "to develop collaboration opportunities for academia, industry and government organizations in free and open source GIS software, FOSS, open data, open access (publications) and contribute to open education in the future" (as defined in the ICA-OSGeo MoU)
- currently around 120 labs – check at: https://www.osgeo.org/geo-for-all-labs/

GeoForAll - OSGeo initiative - example re-use

GeoForAll - OSGeo initiative - example re-use

UN Open GIS (OSGeo and GeoForAll)

UN Open GIS (OSGeo and GeoForAll)

Capacity Building for Spiral 2:

- In 2017 two online courses have been organized and concluded:

1. GeoAcademy QGIS
2. Boundless PostGIS

- Total participants: 61 in 2017 and more than 80 in 2018

Courses are organised by Politecnico di Milano using their Educational Platform (Beep) and taught by volunteers (professors and researchers) of GeoForAll.

UN Open GIS (OSGeo and GeoForAll)

OSGeo UN Open GIS Challenge

Proposals for developing open geospatial educational material for three challenges were invited.

Prize money of USD 3,000 for each challenge is sponsored by OSGeo and Boundless.

1) **Spiral 1** GeoPortal of UN Open GIS
2) **Spiral 3** GeoAnalysis for UN Open GIS
3) **Spiral 4** Open geospatial data and software for UN sustainable development goals

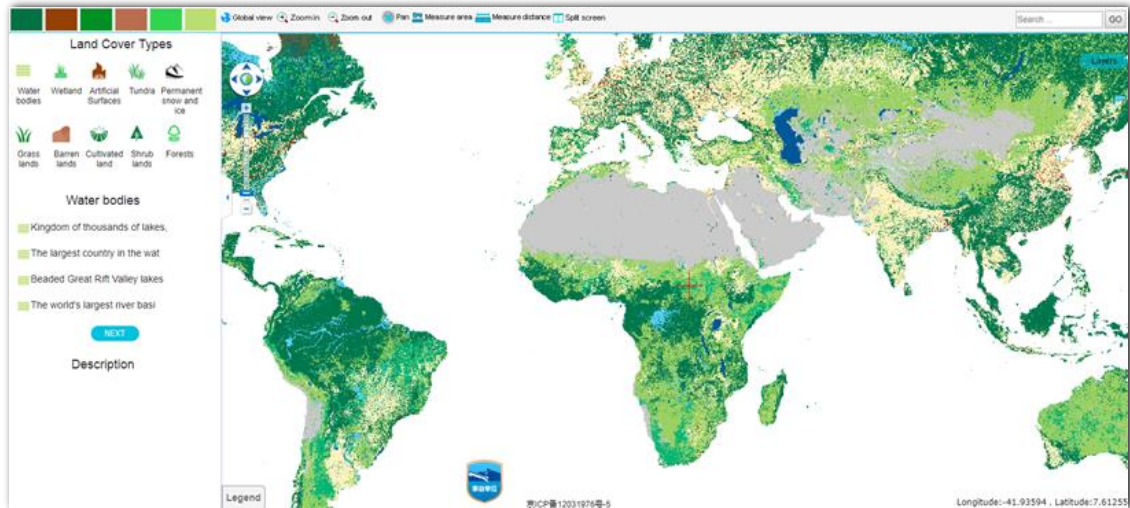The projects are almost at the end. Material will be published soon.

Land Cover Validation Capacity Building (ISPRS)

Capacity Building for High-Resolution Land Cover Intercomparison and Validation (2018)

Funded as one of the ISPRS Education and Capacity Building Initiatives 2018, the project aims to create computer-aided teaching and learning material about the intercomparison/validation of global land cover maps and to organize three workshops, two of which are held in developing countries (Tanzania and Kenya). The training material for validation with QGIS can be downloaded here, and the training material on how to use the Land Cover Collector application can be downloaded here. Principal investigators are Politecnico di Milano and the National Geomatics Center of China. The development of the Land Cover Collector application was supported by Italian Ministry of Education, University and Research (MIUR) thanks to the URBAN GEO BIG DATA project.

http://geomobile.como.polimi.it/website/

Land Cover Validation Capacity Building (ISPRS)

Educational Repository Material (ISPRS)
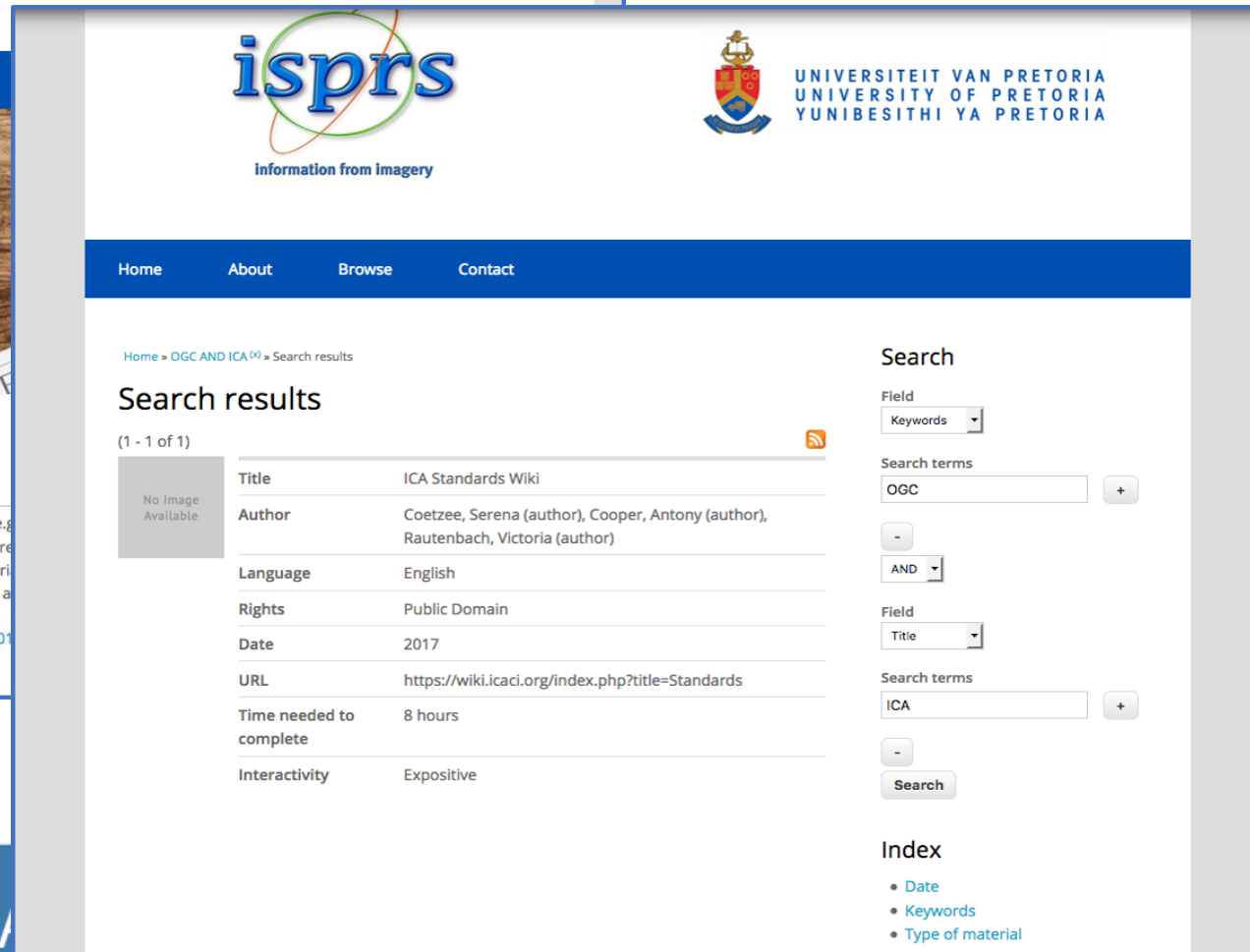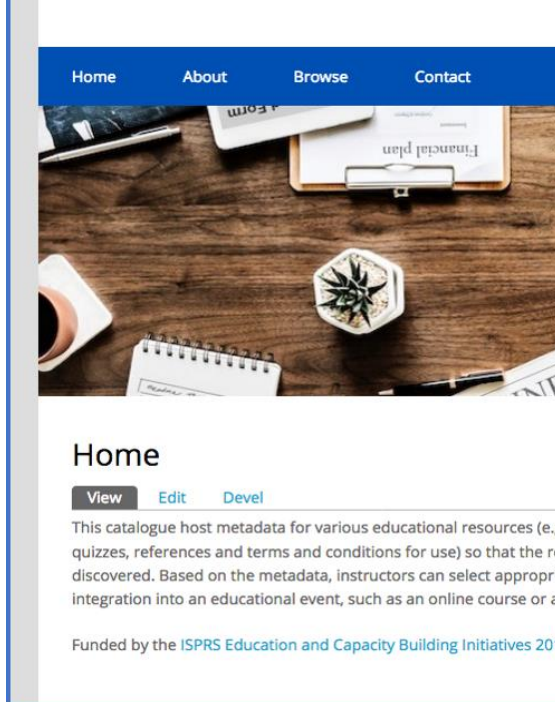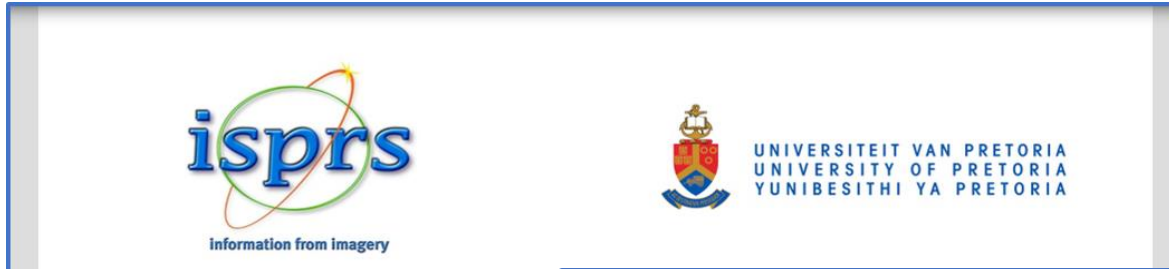
Capacity Building is crucial for achieving SDG

Role of Academia in 'geo' is well defined and established – to achieve SDGs:

- Embrace collaboration and sharing of educational resources

- Make use of efficient, tailor-made ad-hoc, education on SDGs and the means to achieve SDGs

Thank you!

maria.brovelli@polimi.it

ivana.ivanova@curtin.edu.au