



**Geospatial IG meeting
P9 Barcelona
5th April 2017**

research data sharing without barriers
rd-alliance.org

Welcome to Geospatial IG of Research Data Alliance

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Geospatial IG

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IG

Group details

Status: Recognised & Endorsed

Chair(s): Suchith Anand, Peter Baumann, Luciene Delazari, Andrea Perego, Chris Pettit

Case Statement: [Download](#)

The Geospatial Interest Group is a domain oriented interest group to coordinate and build synergies on topics related to geospatial data. Though there has been lot of developments and advances in geo data collection through mobile communications, sensor platforms, spatial search, and pervasive computing but still, the inter-disciplinary research needed to transform raw data into useful intelligence, to improve the planet's environmental, economic and societal well being, remains constrained by a range of barriers - disciplinary, organisational, historical, and a non-existent or non-rigorous approach to quantifying uncertainty in collected datasets.

Geospatial IG

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Group Email:

Secretariat Liaison:

TAB Liaison:

Public - accessible to all site users

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Meeting Agenda

Welcome & Updates on Geospatial IG - Suchith Anand (GODAN/University of Nottingham)

Updates on Capacity Development from IGAD meeting - Suchith Anand (GODAN/University of Nottingham)

Ideas/updates on Training programs for Geospatial Data Science - All

Coverage: Standards for Big Earth Data - Peter Baumann (Jacobs University)

Enabling the re-use of spatial information across domains - Andrea Perego (European Commission)

Copernicus EU Programme: User uptake and DIAS - European Commission

Joint W3C/OGC Spatial Data on the Web WG - Simon Cox (CSIRO)

Discussions on Geospatial Data Science - Vision 2030 - chaired by Suchith Anand (GODAN/University of Nottingham)

Discussions on new WG in Transport Data that is in progress - Beth Zeitler (Millennium Challenge Corporation, USA)

The Rise of OpenStreetMap as a World Mapping Agency - discussions chaired by Suchith Anand (GODAN/University of Nottingham)

NASA Europa Challenge 2017 and OpenCitySmart updates - Suchith Anand (GODAN/University of Nottingham)

Ideas for specific actions /new WGs in Geospatial IG - All

The Geospatial Interest Group will help to coordinate activities and promote good practices in areas including:

- geospatial data sharing policies;
- policies for documenting and sharing geospatial analytical models
- geospatial data management plans;
- quantify uncertainty in datasets;
- geospatial data re-use across domains, and cross-domain interoperability of location and place information.
- Build a global research agenda for Geospatial Data Science

Where are we now?

- We have over 100 members
- Expanding OpenCitySmart
- Working on Open Geospatial Science- Vision 2030
- Working to establish WGs to expand activities

We welcome ideas/inputs for collaborations

RDA groups which have synergies

- Metadata IG
- Metadata Standards Directory WG
- Data in Context IG
- Big Data Analytics IG
- Agriculture IG
- Urban Quality of Life Indicators WG
- Defining Urban Data Exchange for Science IG
- Publishing Data IG
- Data Citation WG

One example of synergies with other IGs

Capacity Development in the context of research data in agriculture

Interest Group on Agricultural Data (IGAD)

Barcelona, 3-4 April 2017

Common Needs

Developing a common curricula based on a modular approach on themes

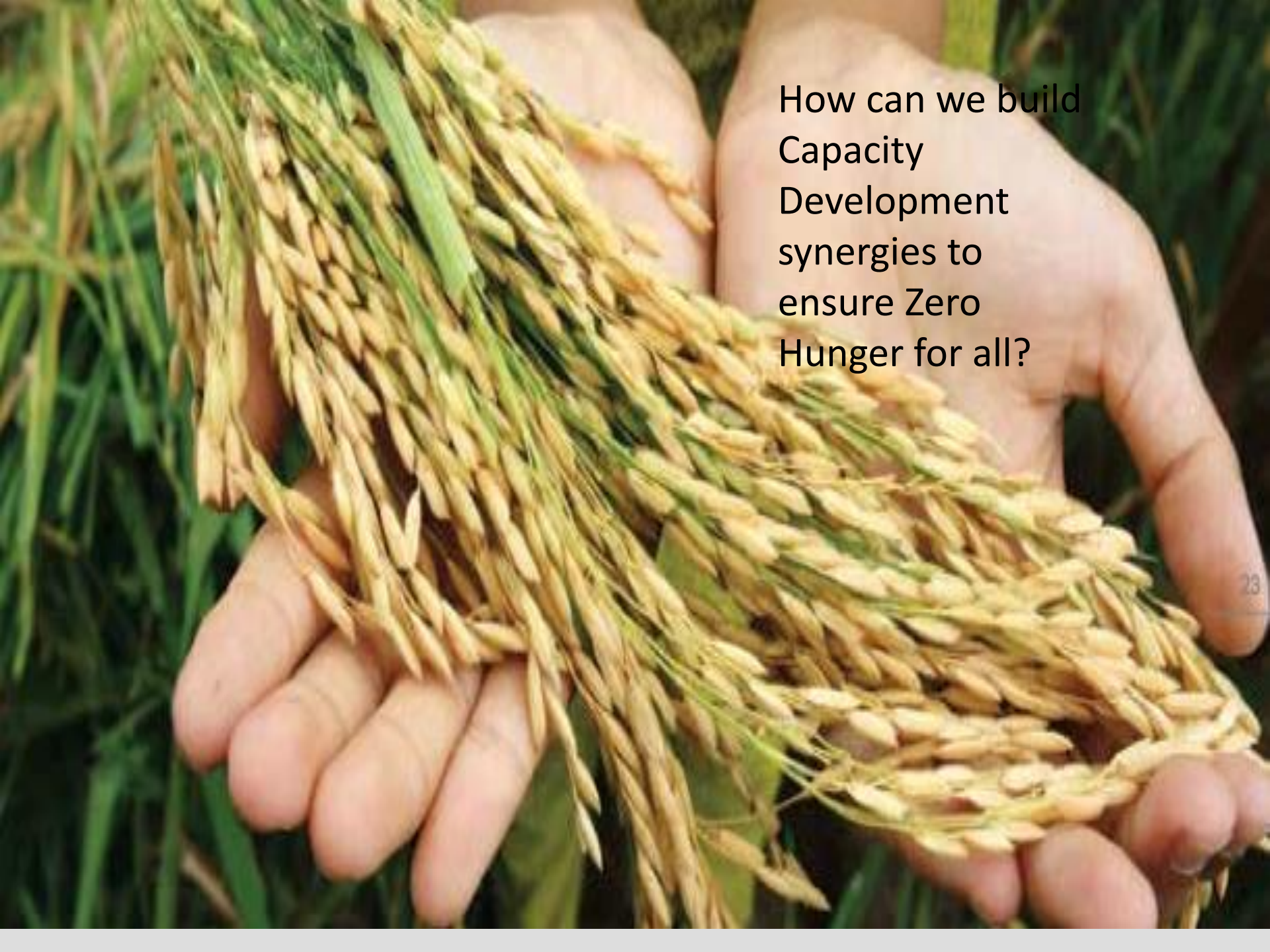
Increasing coherence on the delivery of training

Documenting lessons learnt

**IGAD/GODAN WG
on CD and Outreach**

Objectives

- 1) Promote large scale awareness of IGAD and WGs outputs among the IGAD community
- 2) Support IGAD and GODAN WGs to implement capacity development and outreach activities
- 3) Strengthen the collaboration between IGAD, GODAN and other key stakeholders (*we welcome you to join us!*) and develop synergies



How can we build
Capacity
Development
synergies to
ensure Zero
Hunger for all?

**Why don't we all work
together?**

For Geospatial Data Science training needs can be have the best of all worlds?



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Welcome to OSGeo-Live 10.0

[OSGeo-Live](#) is a self-contained bootable DVD, USB thumb drive or Virtual Machine based on [Ubuntu](#), that allows you to try a wide variety of open source geospatial software without installing anything. It is composed entirely of free software, allowing it to be freely distributed, duplicated and passed around.

It provides pre-configured applications for a range of geospatial use cases, including storage, publishing, viewing, analysis and manipulation of data. It also contains sample datasets and documentation.

To try out the applications, simply:

1. Insert DVD or USB thumb drive in computer or virtual machine.
2. Reboot computer. (verify boot device order if necessary)
3. Press "Enter" to startup & login.
4. Select and run applications from the "Geospatial" menu.



OSGeo-Live is an [OSGeo Foundation](#) project. The OSGeo Foundation is a not-for-profit supporting Geospatial Open Source Software development [education](#).

Spatial {Query} Lab

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FOSS4G ACADEMY CURRICULUM

FOSS4G GEOACADEMY CURRICULUM

Thirty-five (35) FOSS4G University-level **lectures** and **labs** are maintained and made available for download from the Spatial {Query} Lab on behalf of the [GeoAcademy](#). The lectures focus on a vendor-agnostic set of theories and principles. The labs focus on the use of [QGIS](#), [GRASS](#), and [Inkscape](#).

These lectures and labs are freely available for you to use and are released under the [Creative Commons Attribution 3.0 Unported license](#). The lectures and labs are aligned to the [Geospatial Technology Competency Model](#) and all labs focus on the use of Free and Open Source GIS Software (FOSS4G).

The components of the lectures and labs are listed on this page to make it easy to download and use. All of the labs are also available on [GitHub](#).

Note: The lectures are currently only viewable on line as HTML. Downloadable source files are coming soon.

[GST 101 – Introduction to Geospatial Technology \(QGIS\)](#) – Updated to QGIS 2.8 – **Now with lectures!**

[GST 102 – Spatial Analysis \(QGIS\)](#) – Updated to QGIS 2.8 – **Now with lectures!**

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[GST 104 – Cartographic Design \(QGIS and Inkscape\)](#) – Updated to QGIS 2.8 and Inkscape 0.91 – **Now with lectures!**

[GST 105 – Introduction to Remote Sensing \(QGIS and GRASS\)](#) – Updated to QGIS 2.8 and GRASS 6.4.3

ATTRIBUTION FOR DEVELOPMENT

The development of the original documents was funded by the Department of Labor (DOL) Trade Adjustment Assistance Community College and Career Training (TAACCCT) Grant No. TC-22525-11-60-A-48; The National Information Security, Geospatial Technologies Consortium (NISGTC) is an entity of Collin College of Texas, Bellevue College of Washington, Bunker Hill Community College of Massachusetts, Del Mar College of Texas, Moraine Valley Community College of Illinois, Rio Salado College of Arizona, and Salt Lake Community College of Utah. This work is licensed under the [Creative Commons Attribution 3.0 Unported License](#). To view a copy of this

Why this is needed?

GODAN AgriGIS Hands on workshop and ThinkTank @RCMRD, Nairobi, Oct 2016



GODAN AgriGIS Workshop and ThinkTank @RCMRD, Nairobi, Oct 28-29, 2016



Posted: **October 22, 2016**

 0

AgriGIS Workshop and Think Tank Meeting

Location: Regional Centre for Mapping of Resources for Development (RCMRD), Nairobi, Kenya.

Date: 27th to 28th October, 2016

The University of Nottingham, the Regional Centre for Mapping of Resources for Development (RCMRD), the Global Open Data for Agriculture and Nutrition (GODAN), and Crops for the Future (CFF) have organized a two-day AgriGIS Workshop and Think Tank meeting to be held at RCMRD, Nairobi, Kenya from 27- 28th October, 2016.

Background

Geospatial science has a major role to play in securing both food and nutritional security in agricultural systems, particularly to address the UN Sustainable Development Goal (SDG) 2 to 'End hunger, achieve food security and improved nutrition and promote





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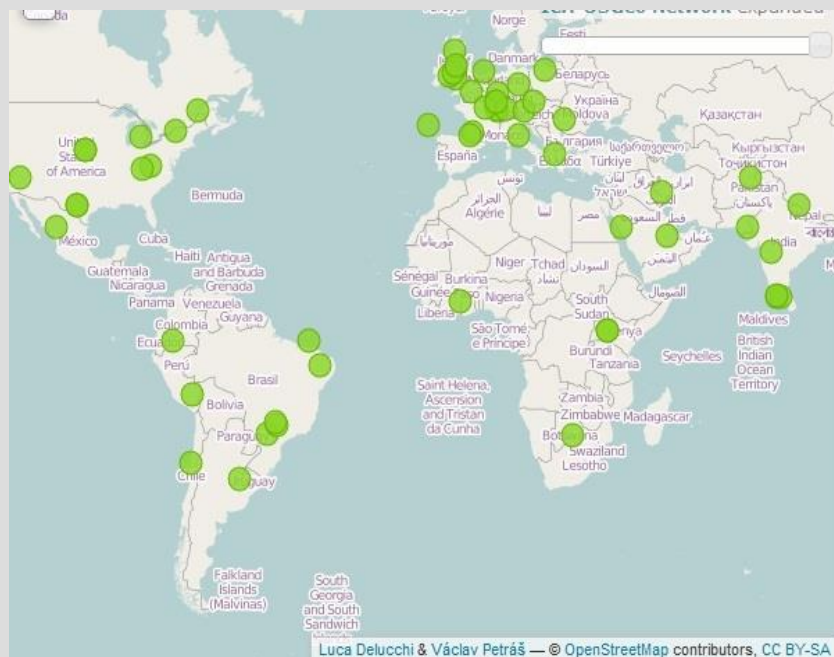
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Vision 2030 for Geospatial Data Science



Open Innovation
Open Science
Open to the World

— a vision for Europe

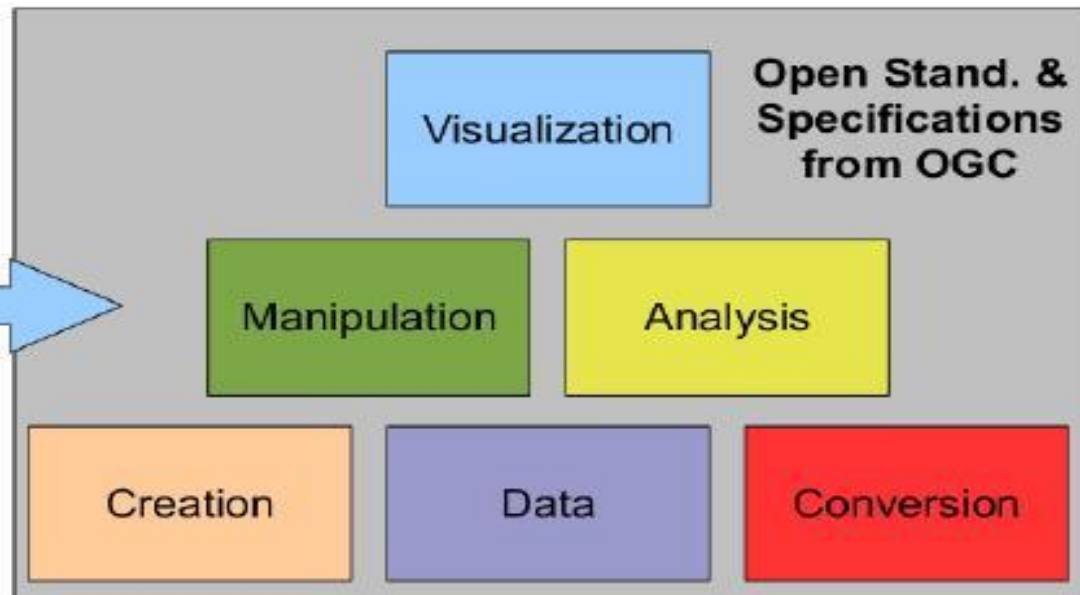
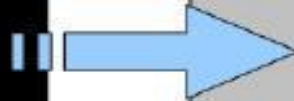
Research and Innovation

Open Geospatial Labs are being established worldwide to scale up research and teaching globally as part of the ICA-OSGeo MoU

Science is NOT a Black Box

Today's Toolkit

**Monolithic
Black Box**



Open Geospatial Science builds upon the idea of Open science that scientific knowledge of all kinds are able to be develop more rapidly and in a more productive manner if openly shared (as early as is practical in the discovery process).

The key ingredients to make Open Geospatial Science possible is Open Principles (open source geospatial software, open data, open standards and open access to research publications) .

Aim – Build strong foundations for Open Geospatial Science

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A special issue of *ISPRS International Journal of Geo-Information* (ISSN 2220-9964).

Deadline for manuscript submissions: **closed (30 January 2015)**

Special Issue Editors

Guest Editor

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E-Mail: suchithanand76@gmail.com

Guest Editor

Prof. Dr. Thierry Badard

Log on

Open Geospatial Data, Software and Standards

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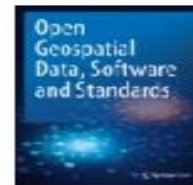
Now accepting submissions

Open Geospatial Data, Software and Standards is accepting submissions; please use the online submission system to submit your manuscript. If you are submitting a manuscript to a particular Special Issue, please refer to its specific name in your covering letter. For all enquiries about the journal, please contact: editorial@opengeospatialdata.com.

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Aims & scope



Open Geospatial Data, Software and Standards provides an advanced forum for the science and technology of open data, crowdsourced information, and sensor web through the publication of reviews

and regular research papers. The journal publishes articles that address issues related, but not limited to, the analysis and processing of open geo-data, standardization and interoperability of open geo data and services, as well as applications based on open geo-data. The journal is also meant to be a space for theories, methods and applications related to crowdsourcing, volunteered geographic information, as well as Sensor Web and related topics.



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Open Geospatial Science and Vision 2030

http://www.geoconnexion.com/uploads/publication_pdfs/uk_v15i18-058-059-Op951AF3.pdf



Vision 2030

Geospatial Data Science should always be open

It should be fully build on Open Principles

Transparency of research is fundamental (no black boxes or proprietary barriers).



Unique convergence of three key developments that made Open Geospatial Science possible

sci·ence [sahy-uhns] [Show IPA](#)

noun

1. a branch of knowledge or study dealing with a body of facts or truths systematically arranged and showing the operation of general laws: *the mathematical sciences.*
2. systematic knowledge of the physical or material world gained through observation and experimentation.
3. any of the branches of natural or physical science.
4. systematized knowledge in general.
5. knowledge, as of facts or principles; knowledge gained by systematic study.

EXPAND

Ability for showing the operation of general laws is fundamental for scientific research

Geospatial Standards (for ex. OGC spec.)

OGC®
Open Geospatial Consortium, Inc.

Standards

- OpenGIS® Standards
 - Catalogue Service
 - CityGML
 - Coordinate Transformation
 - Filter Encoding
 - Geographic Objects
 - Geography Markup Language
 - Geospatial eXtensible Access Control Markup Language (GeoXACML)
 - GML in JPEG 2000
 - Grid Coverage Service
 - KML
 - Location Services (OpenLS)
 - Observations and Measurements
 - Sensor Model Language
 - Sensor Observation Service
 - Sensor Planning Service
 - Simple Features
 - Simple Features CORBA
 - Simple Features OLE/COM

Open Data

data.gov.uk ^{BETA}
Opening up government

OpenStreetMap
The Free Wiki World Map

Search Where am I?

examples: 'Alkmaar', 'Regent Street, Cambridge', 'CB2 5AQ', or 'post offices near Lünen' [more examples...](#)

OpenStreetMap is a free worldwide map, created by people like you.

The data is free to download and use under its open license. Create a user account to improve the map.

Maturity of open source software (for ex. OSGeo stack)

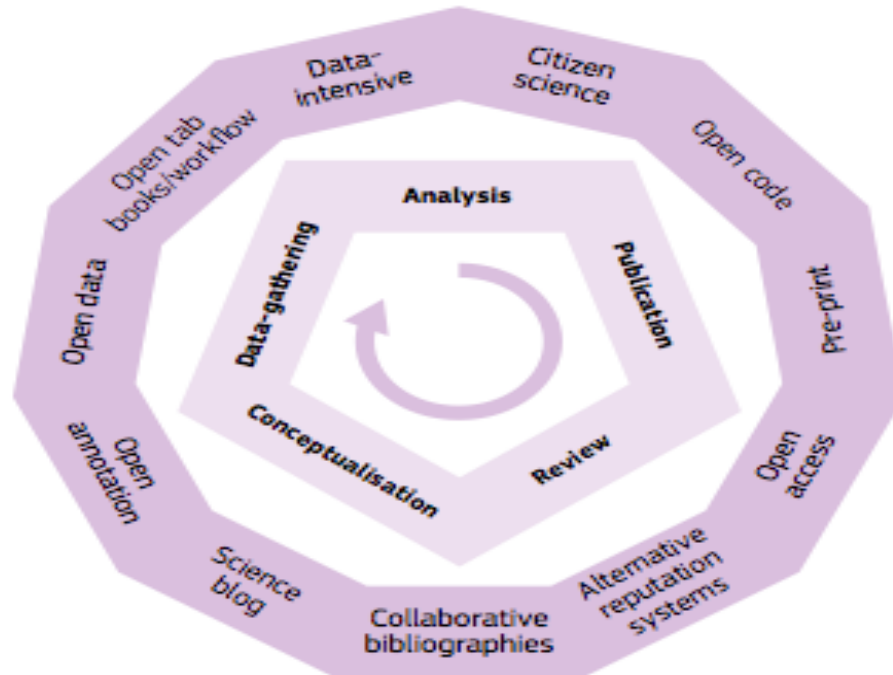
OSGeo Projects

- Web Mapping
 - deegree
 - Mapbender
 - MapBuilder
 - MapGuide Open Source
 - MapServer
 - OpenLayers
- Desktop Applications
 - GRASS GIS
 - OSSIM
 - Quantum GIS
 - gvSIG
- Geospatial Libraries
 - FDO
 - GDAL/OGR
 - GEOS
 - GeoTools
 - MetaCRS
- Metadata Catalog
 - GeoNetwork
- Other Projects
 - Public Geospatial Data Education and Curriculum

Project in incubation

How do we reach here? We need your help

Figure OS.1: Open Science – opening up the research process



Source: <http://ec.europa.eu/research/consultations/science-2.0/background.pdf>

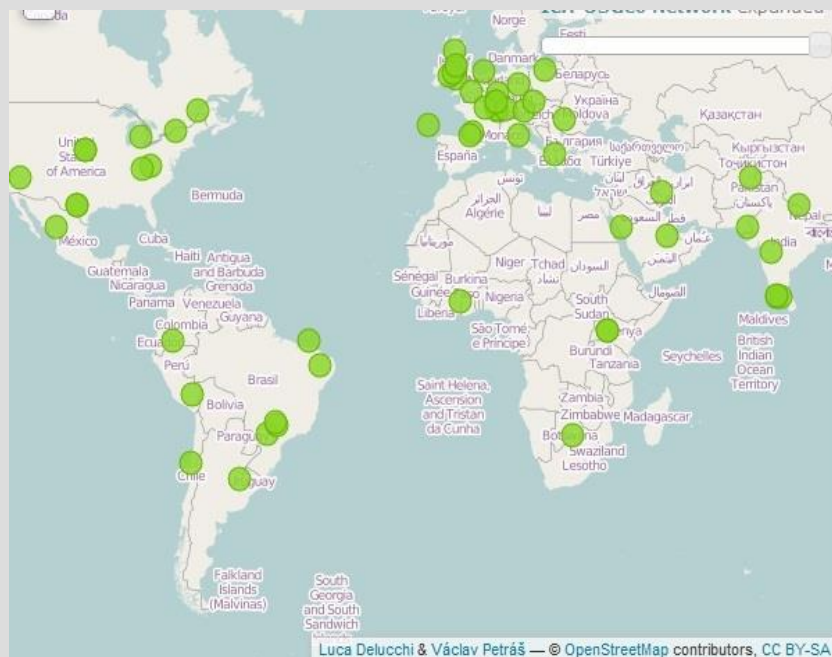
Contribute your ideas to

https://wiki.osgeo.org/wiki/Open_geospatial_science_-_vision_2030



We welcome the global community to contribute for Vision 2030
for Open Geospatial Science

https://wiki.osgeo.org/wiki/Open_geospatial_science_-_vision_2030



Open Innovation
Open Science
Open to the World
— a vision for Europe

Research and Innovation

The Rise of OpenStreetMap as a World Mapping Agency

How will OSM look in 2030?

What are the opportunities?

What are the barriers?

How will it contribute to economic development in the poorest regions of our world?

What role will digital natives play in widening participation, diversity, inclusiveness?

NASA Europa Challenge 2017 and OpenCitySmart updates

GODAN Local Farming

Global Open Data
for Agriculture & Nutrition

CHALLENGE 2017

Bringing

GeoInnovation

FOR Solving

Participate & Help
find Solutions to

**ZERO
HUNGER** aim!



GOAL 2

ZERO HUNGER



Yes!



? IDEAS

Everyone is an Innovator

Hunger
Poverty
Innovation

www.godan.info



A woman stands in front of her roadside stall where she sells grains in Monrovia.

How can we use Geotechnologies to help the small hold farmers? From better informed market prices to better local weather information to connecting directly with markets to reducing food wastage



eLocust3D

An app to help FAO



The goal of this application is to help FAO providing support to national locust operators in Africa and Middle East.

Desert locusts are a huge problem for the population and due to their ability to change their behaviours and habits.

These locusts are hard to limit as they form swarms and move rapidly (about 20km/h). Moreover, they can consume (in 1km² swarm) as much food as 35.000 people eats in a single day.

NICOLA DORIGATTI, NICOLA MENECHINI

SOURCE CODES

THE SOURCE CODE OF THE ANDROID WORLDWIND SDK CAN BE FOUND AT:

NASA World Wind Europa Challenge 2014

For this specific project, both the Desktop and Android **WorldWind SDK** have been used as starting point; the desktop code has been improved in order to allow the creation on the fly of mobile friendly map data (compressed tiles), while the **android SDK** has heavily changed in order to allow a lot of more functionalities and bug fixes.

Video



