

Geospatial competences for lifelong learning: connecting higher education, government and geospatial industry.

Prof. Dr. Rafael de Miguel González,
EUROGEO President and University of Zaragoza, Spain.

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Twelfth Session of the United Nations
Committee of Experts on Global Geospatial Information Management

**Geospatial information for landscape monitoring and management:
developing the role of higher education**



UN-GGIM |

United Nations Committee of Experts on
Global Geospatial Information Management



- European Association of Geographers
- Legally based in Belgium
- International NGO – established 1979 by the European Commission to network geographers
- A professional association for geographers, geo- scientists and related areas
- Developed further by the HERODOT (Bologna Process) Network for higher education in Europe
- Participatory Status, Council of Europe, 1989
- Special Consultative Status at United Nations, 2017





Advance the status of geography:

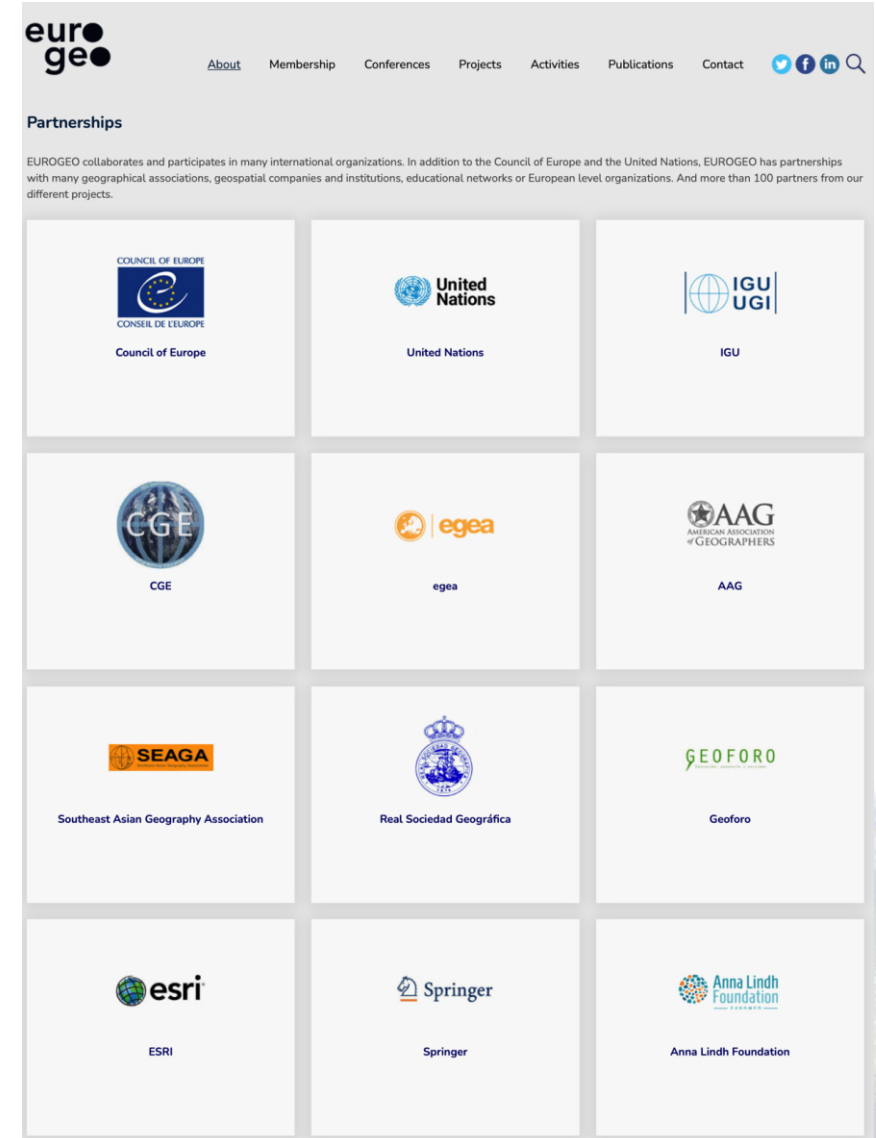
- Organise events / activities for members
- Produce publications
- Support geographers
- Identify and promote good practise
- Research, give advice on geography
- Lobby at national and international levels
- Make recommendations on policies





Partnerships

- INTERNATIONAL GEOGRAPHICAL UNION
- SEAGA
- AMERICAN ASSOCIATION OF GEOGRAPHERS
- GEOTECH CENTER
- NATIONAL GEOGRAPHICAL ASSOCIATIONS
- EUROPEAN ALLIANCE SOCIAL SCIENCES AND HUMANITIES
- ESRI
- EUGEO/EUROCLIO
- EUROGI
- SUSTAINABLE DEVELOPMENTS SOLUTIONS NETWORK
- GEOCONNEXION





Amazing achievements these 43 years

- Conferences: 32
- Membership: More than 6000 individual; organisations ≈ 300
- Projects ≈ 50
- Publications: EJG, KChG
- Activities, fieldtrips, training
- Academic reputation: IGU, AAG, EASSH
- Lobbying for Geography in Europe and beyond
- Dissemination: newsletters, social media, partnerships
- Awards: Geospatial World Forum; BELMA, EC Success story

Top score: YouthMetre, MYGEO, D3

Our aim: to protect geography and to promote the work of geographers



Developing a learning line on GIScience in education

5 Participating countries:

★ SUCCESS STORY

VIEW PROJECT MAP

DOWNLOAD AS PDF

GOOD PRACTICE EXAMPLE



Editorial Vicens Vives
en Red GH 1
(1.1 Geografia / 1.2 Historia)

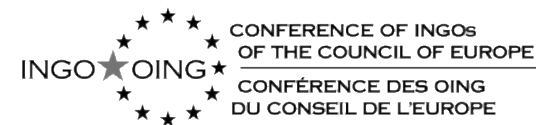
Title: en Red GH 1
(1.1 Geografia / 1.2 Historia)
Title English: Online GH 1
(1.1 Geography / 1.2 History)
Author: C. Gatell Arimont, R. de Miguel



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- Participatory Status, Council of Europe, 1989
 - Democracy, Human Rights, Rule of Law
 - INGO Conference: Commission on Education and Culture
 - Committee of migrations
 - CoE Landscape Convention

- Special Consultative Status at United Nations, 2017
 - Commission on Social Development (education)
 - UN-Habitat: New urban Agenda
 - UN-GGIM
 - UNEP



- Democracy, Human Rights, Rule of Law
- INGO Conference: Commission on Education and Culture
- Migrations Committee
- CoE Landscape Convention



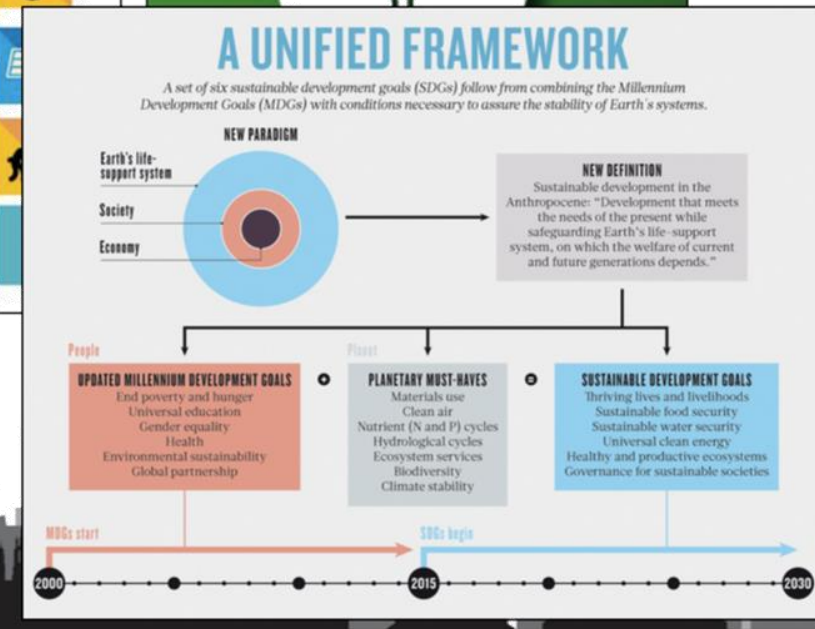


EUROGEO in the Policy arena (SDGs)

GOAL 1 END POVERTY
GOAL 2 END HUNGER
GOAL 3 WELL-BEING
GOAL 4 QUALITY EDUCATION
GOAL 5 GENDER EQUALITY
GOAL 6 WATER AND SANITATION FOR ALL
GOAL 7 AFFORDABLE AND SUSTAINABLE ENERGY
GOAL 8 DECENT WORK FOR ALL
GOAL 9 TECHNOLOGY TO BENEFIT ALL
GOAL 10 REDUCE INEQUALITY
GOAL 11 SAFE CITIES AND COMMUNITIES
GOAL 12 RESPONSIBLE CONSUMPTION BY ALL
GOAL 13 STOP CLIMATE CHANGE
GOAL 14 PROTECT THE OCEAN
GOAL 15 TAKE CARE OF THE EARTH
GOAL 16 LIVE IN PEACE
GOAL 17 MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS

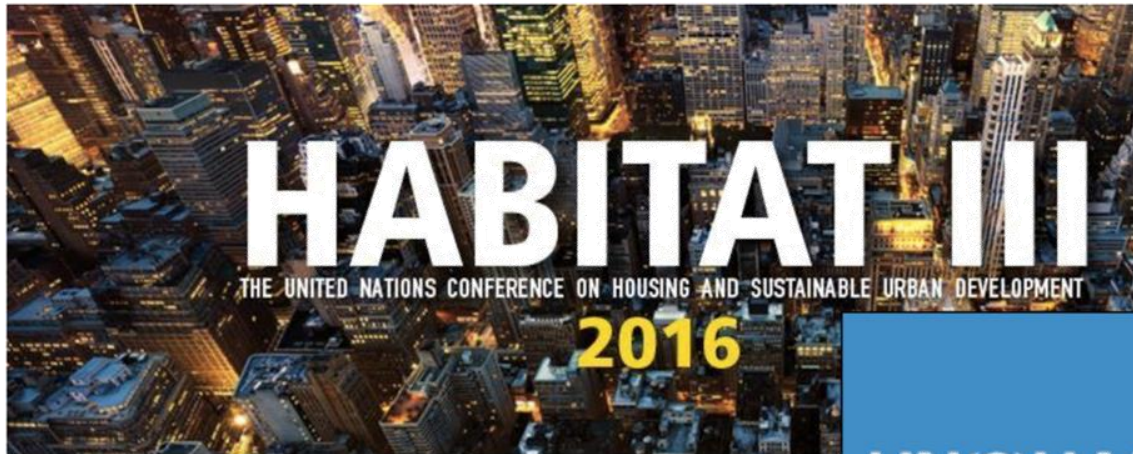


RIO+20
United Nations
Conference on
Sustainable
Development





EUROGEO in the Policy arena (SDGs)



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Geo for All - Making Geospatial education
and opportunities accessible to all



Image Credit: NOAA/NASA GOES Project



Vladimir Kolosov
 Jacobo García-Álvarez
 Michael Heffernan
 Bruno Schelhaas *Editors*

A Geographical Century

Essays for the Centenary of the International
 Geographical Union



Rafael de Miguel González
 and Karl Donert

Abstract

International geographic education emerged at the beginning of the nineteenth century, as a consequence of the progressive implementation of modern educational systems in European countries. This process coincided with the consolidation of geography as a scientific discipline and with the creation of different national geographical societies. The foundation of the IGU in 1922 fostered the diffusion of the concept of international understanding in educational curricula, first at the various International Geographical Congresses, and later with UNESCO's initiatives for the international teaching of geography, which led to the creation of the IGU Commission on Geographical Education in 1952. Source Books for Geography Teaching (1965 and 1982), International Charters on Geographical Education (1992 and 2016), Symposia of Commission on Geographical education, collaboration with other associations (like EUROGEO, AAG, SEAGA), international projects and publications, International Geo-

graphical Olympiads, etc., have contributed to the internationalisation of geographical education. Thus, geography educators worldwide can network, share experiences in curriculum, pedagogies and assessment, collaborate in good practices and instructional resources like geospatial technologies, or promote global understanding and a planetary citizenship seeking a sustainable development.

Keywords

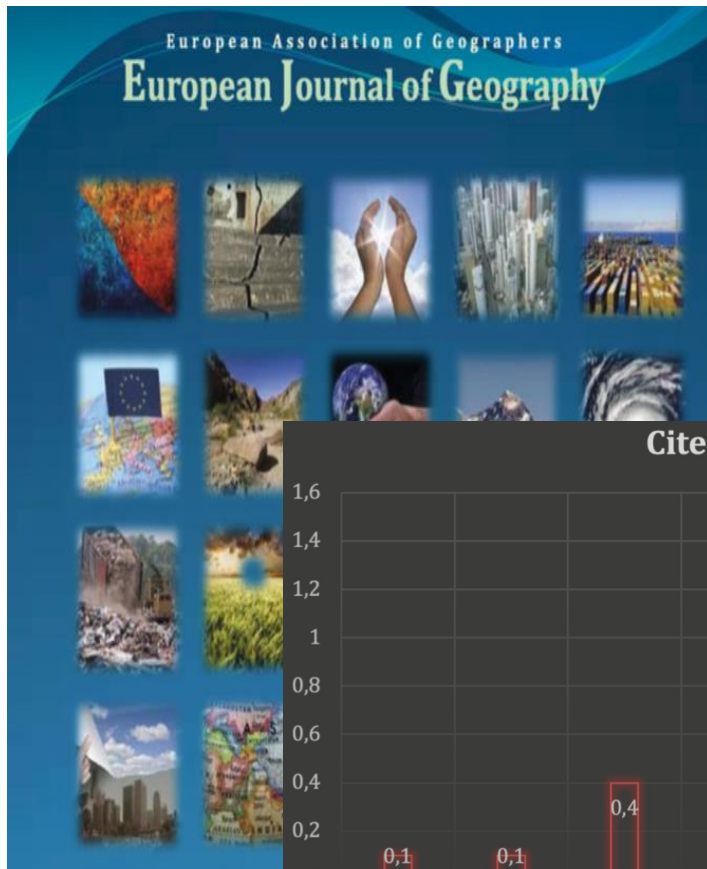
Geographical education · IGU-CGE · EUROGEO · International understanding · Curriculum · Source book · International charter

10.1 Introduction

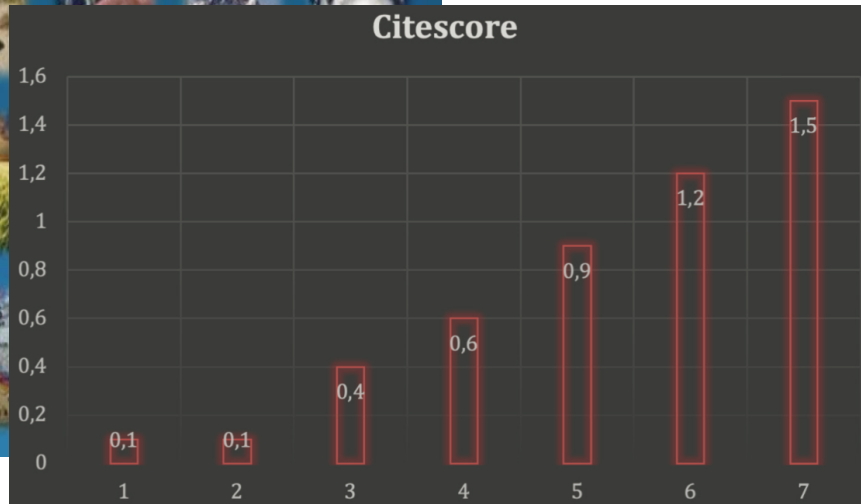
In 2022, we celebrate the centenary of the International Geographical Union (IGU). Geography is, of course, a much older discipline, dating back to the time of ancient civilisations but it is consolidation as a science coincides with the establishment of the universal education systems for the entire school population implemented in European countries during the nineteenth century. Since then, geography education has been conceived from a national perspective and was codified by different national geographical societies and geographical education associations. This trend continued until the end of the first half of the twentieth century.

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 European Association of Geographers (EUROGEO),
 Wardamme, Belgium



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CiteScore 2020

$$1.4 = \frac{221 \text{ Citations 2017 - 2020}}{153 \text{ Documents 2017 - 2020}}$$

Calculated on 05 May, 2021

CiteScoreTracker 2021

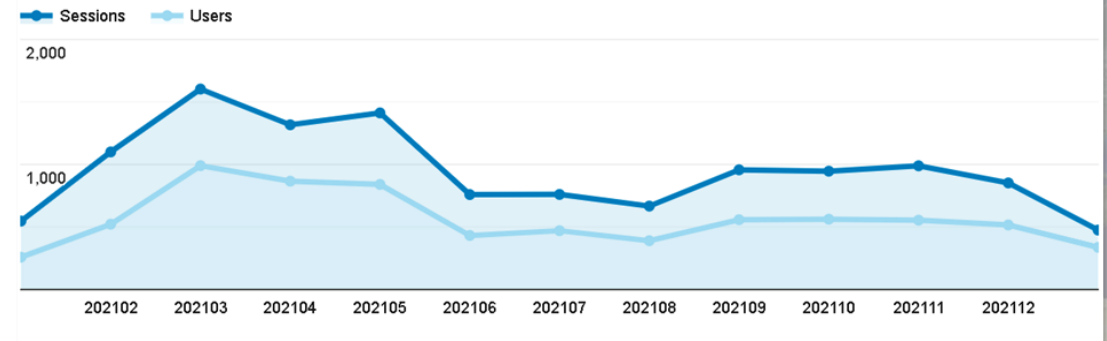
$$1.1 = \frac{154 \text{ Citations to date}}{134 \text{ Documents to date}}$$

Last updated on 05 January, 2022 • Updated monthly

CiteScore rank 2020

Category	Rank	Percentile
Social Sciences		
Geography, Planning and Development	#348/704	50th

EGJ Sessions and users over the past year/per month.



Web of Science



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(from Web of Science Core Collection)

You searched for: ALL FIELDS: (Key Challenges in Geography-EUROGEO)
[...More](#)

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Refine Results

Search within results for...

Sort by: Date Times Cited Usage Count Relevance More 1 of 2

Select Page Export... Add to Marked List

1. **Geospatial Technologies in Geography Education**
Edited by: Gonzalez, RD; Donert, K; Koutsopoulos, K
GEOSPATIAL TECHNOLOGIES IN GEOGRAPHY EDUCATION
Book Series: Key Challenges in Geography-EUROGEO Book Series Pages: 1-219 Published: 2019
Publisher: SPRINGER NATURE SWITZERLAND AG,
PICASSOPLATZ 4, BASEL, CH-4052, SWITZERLAND

Analyze Results
 Create Citation Report

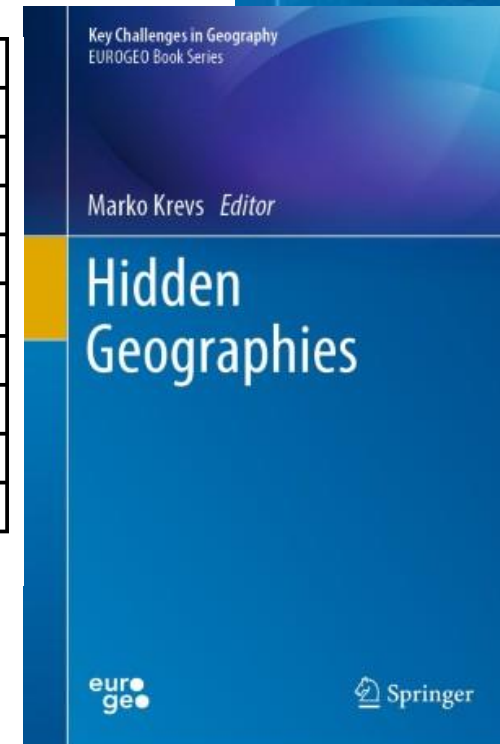
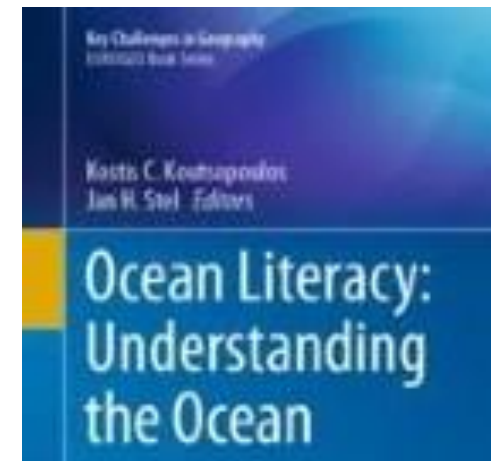
Times Cited: 0
(from Web of Science Core Collection)
Since 2013: 1





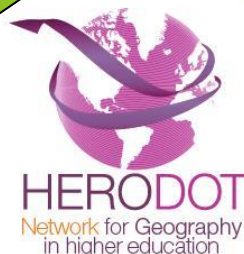
Book title	Downloads
Geospatial Challenges in the 21st Century	14,000
Aligning Geopolitics, Humanitarian Action and Geography in Times of Conflict	10,000
Geospatial Technologies in Geography Education	5,500
Smart Geography	9,000
Places of Memory and Legacies in an Age of Insecurities and Globalization	3,200
Frontier Making in the Amazon	2,000
Ocean Literacy: Understanding the Ocean	2,700
Hidden Geographies	2,400
TOTAL	50,000

Book Publishing 101 for Geographers



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HERODOT
Network for Geography
in higher education



(Donert, 2009)

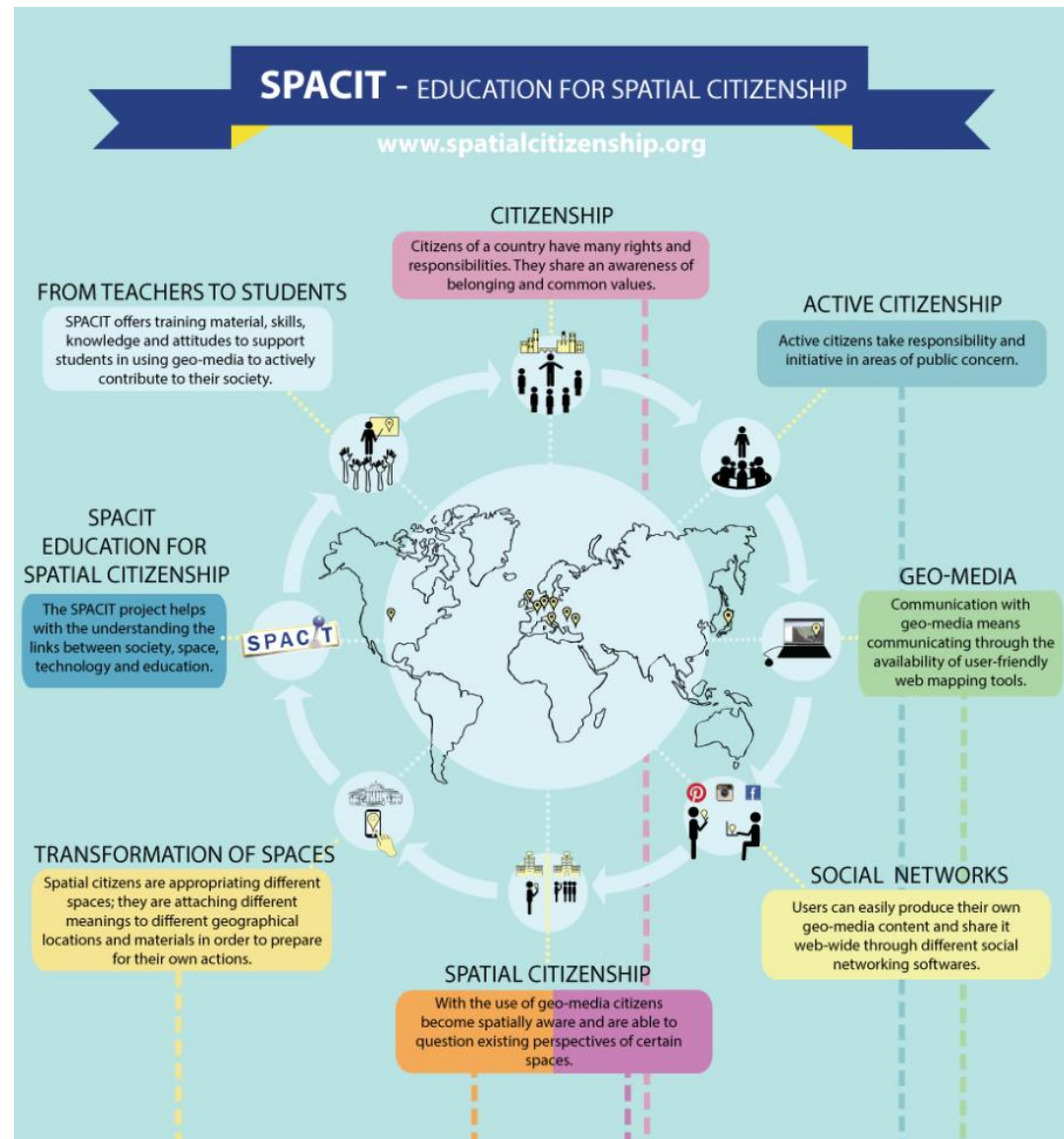
GEOGRAPHIC INFORMATION SYSTEMS IN HIGHER EDUCATION GEOGRAPHY: A BENCHMARK STATEMENT

Graduates completing postgraduate geography study programmes specialising in GISscience, should be familiar with the following concepts at an advanced level:

- knowledge of the concepts of GI Science;
- problem-oriented knowledge and skills in GI Science;
- the handling, management and manipulation of geographic information;
- the performance of complex spatial analysis and modelling;
- the visualisation and communication of spatial information; and
- management and coordination of GISscience & GISystems projects.



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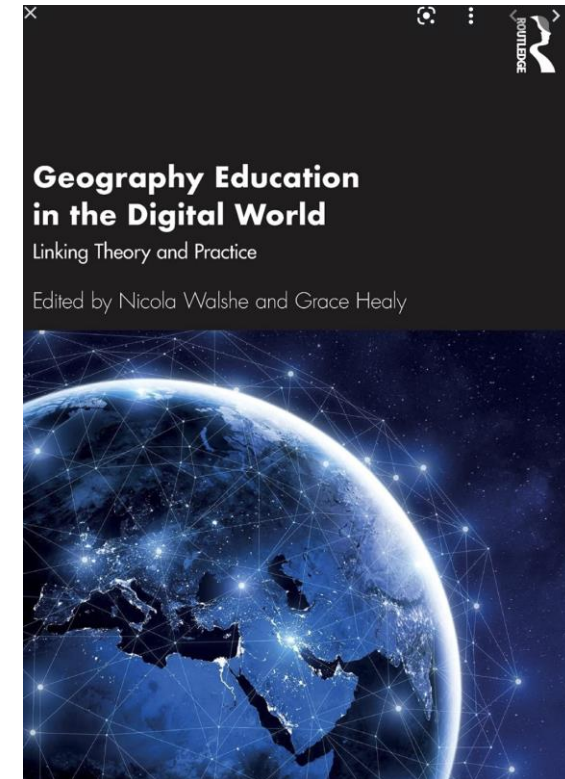
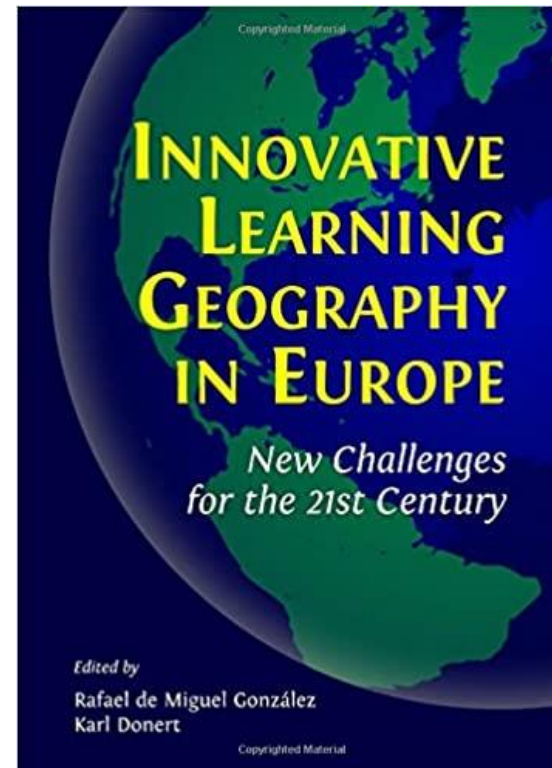
COMPETENCES TO HANDLE SPATIAL INFORMATION
COMPETENCE TO REFLECT, APPRAISE AND EVALUATE
COMPETENCE TO ACTIVELY COMMUNICATE AND PARTICIPATE



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digital-earth.eu



Level of learning over the secondary school curriculum
(K7-12)

Competency	K7-8	K9	K10	K11	K12
1	A	B	C	C	C
2	A	B	C	C	C
3	A		B	C	C
4	A	B	C	C	C
5	A	B	C	C	C
6	A		B	C	C
7	A		B	C	C
8		A	B	C	C
9			A	B	C
10	A		B	C	C



- Critically read, interpret cartographic and other visualisations in different media
- Be aware of geographic information and its representation through GI and GIS.
- Visually communicate geographic information
- Describe and use examples of GI applications in daily life and in society
- Use (freely available) GI interfaces
- Carry out own (primary) data capture
- Be able to identify and evaluate (secondary) data
- Examine interrelationships
- Extract new insight from analysis
- Reflect and act with knowledge





GI-Learner competencies

K7-8 K9 K10 K11 K12

1	Critically read, interpret cartographic and other visualisations in different media	<i>Read and interpret</i>	A	B	C	C
	A: Be able to read maps and other visualisations	Example: use legend, symbology ...				
	B: Be able to interpret maps and other visualisations	Example: use scale, orientation; understand meaning, spatial pattern and context of a map				
	C: Be critically aware of sources of information and their reliability	Example: critically evaluate maps identifying attributes, representations (e.g. inappropriate use of symbology, or stereotyping) and metadata of the maps				
2	Be aware of geographic information and its representation through GI and GIS.	<i>Understand</i>	A	B	C	C
	A: Recognize geographical (location-based) and non-geographical information	Example: describe GPS, GIS, Internet interfaces; be able to identify geo-referenced information				
	B: Demonstrate that geographical information can be represented in some ways	Example: employ some different representations of information (maps, charts, tables, satellite images...)				
	C: Be critically aware that geographic information can be represented in many different ways	Example: be able to evaluate and apply a variety of GI data representations				
3	Visually communicate geographic information	<i>Communicate / transmit</i>	A	B	C	
	A: Transmit basic geographic information	Example: produce a mental map, be aware of your own position				
	B: Communicate with geographic information in suitable forms	Example: basic map production for a target audience - using old and new media, Share results with target group				
	C: Be able to use GI to exchange in dialogue with others	Example: discuss outcomes like survey results/maps online or in class, referring to a problem in own environment				



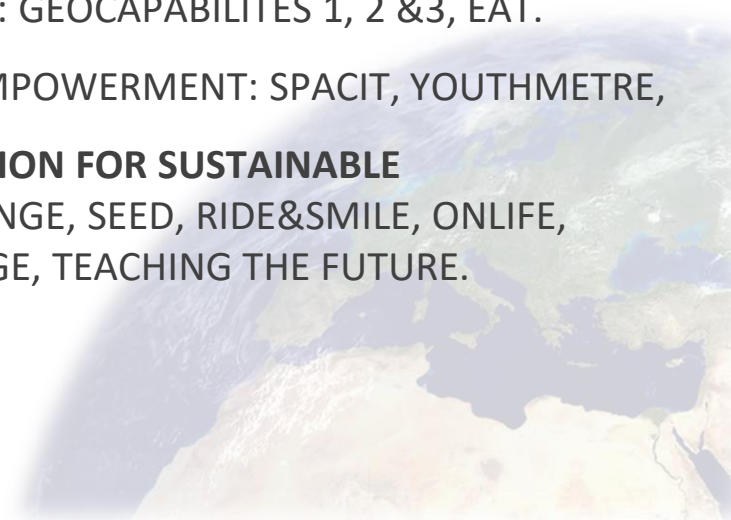


EUROGEO, GEO-PROJECTS AND INNOVATION IN EDUCATION

- ✓ **GEOGRAPHY HIGHER EDUCATION:** HERODOT, MYGEO, GEOLAND...
- ✓ **GEOGRAPHY SCHOOL EDUCATION:** SPACIT, I-GUESS, DIGITAL-EARTH.EU, SCHOOL ON THE CLOUD, GI-LEARNER, GI- PEDAGOGY, D3, GEOCAPABILITIES, EVALUE, BIOMAPS, V-GLOBAL, GEODEM...
- ✓ **GEOGRAPHY FOR EMPLOYABILITY, VOCATIONAL TRAINING, ADULT EDUCATION, NON-FORMAL EDUCATION:** GEOSKILLS+, YOUTHMETRE, GO-DIGITAL, SEED...
- ✓ **INTERNATIONAL AND EUROPEAN EDUCATION:** EURO.GEO, HERODOT, GEODEM, EVALUE.
- ✓ **DIGITAL GEOGRAPHY EDUCATION AND GEOSPATIAL EDUCATION:** IGUESS, DIGITAL-EARTH.EU, I-USE, MY STORY MAP, SCHOOL ON THE CLOUD, L-CLOUD, D3, GO- DIGITAL, BIOMAPS, HUMAN, V-GLOBAL, MYGEO.
- ✓ **SPATIAL THINKING:** GI-LEARNER, GI PEDAGOGY.
- ✓ **POWERFUL GEOGRAPHY:** GEOCAPABILITES 1, 2 &3, EAT.
- ✓ **SPATIAL CITIZENSHIP, EMPOWERMENT:** SPACIT, YOUTHMETRE,
- ✓ **GEOGRAPHICAL EDUCATION FOR SUSTAINABLE DEVELOPMENT:** SEACHANGE, SEED, RIDE&SMILE, ONLIFE, GEOLAND, SMART VILLAGE, TEACHING THE FUTURE.

Which competence fits better for different education level / topic?

<https://www.eurogeography.eu/projects/>

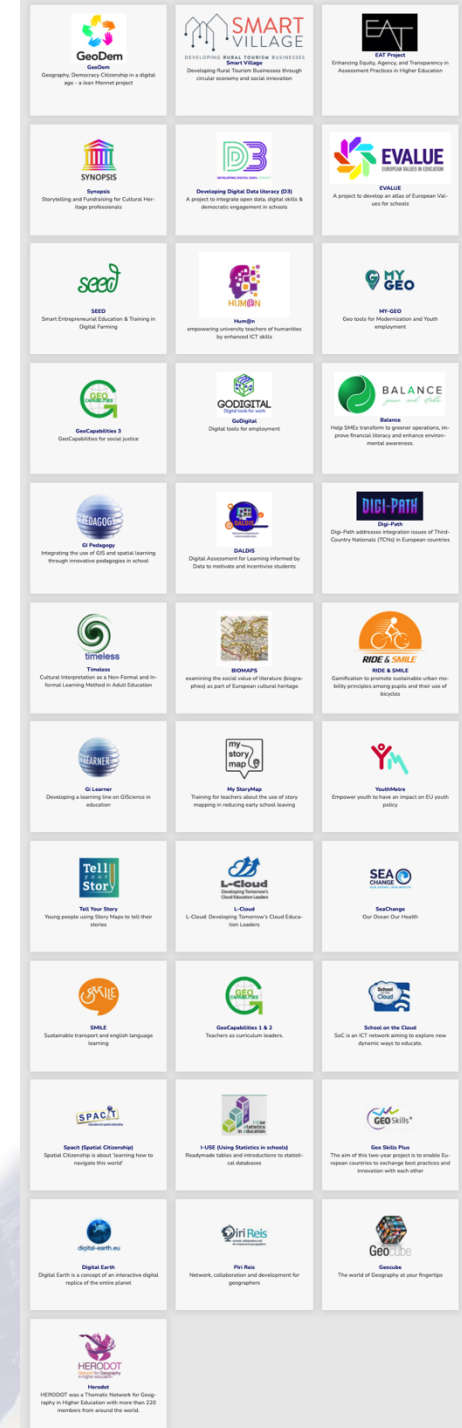




5 E'S: GEOGRAPHICAL & GEOSPATIAL EDUCATION FOR BRIDGING EUROPEAN CITIZENS

(De Miguel, 2020)

- Enhancing personal development
- Enabling digital skills
- Empowering youth people
- Engagement, participation for democracy and European citizenship
- Employability (fostering)





7 GEOGRAPHICAL COMPETENCES

- 1. SPATIAL THINKING I. LOCATE
Orientation, location, projections, scales
- 2. SPATIAL THINKING II. PROCESS
Obtaining, processing geographical information, fieldwork, GST
- 3. SPATIAL THINKING I. REPRESENT
Spatial visualization: text, figures, statistical, cartographical
- 4. GEOGRAPHICAL THINKING AND UNDERSTANDING I. DESCRIBE
Spatial description, geographical patterns and structures in the territory
- 5. GEOGRAPHICAL THINKING AND UNDERSTANDING II. EXPLAIN
Physical and human systems. Human-environment interactions.
Social and economic processes. Geographical organization and settlements.
- 6. SPATIAL CITIZENSHIP I. INTERPRET (KNOW, APPLY AND REASON)
Critical thinking, global understanding, spatial imbalances, social justice
- 7. SPATIAL CITIZENSHIP I. ACT.
Intervention, engagement, youth empowerment, social participation, SDG's



Trends in International Geography Assessment Study 2023

Applying

Items in this dimension require students to engage in applying knowledge of facts, concepts relationships, procedures and methods in contexts likely to be familiar in the teaching and learning of geography (e.g. global climate zones) or where the item stem contains the essential information the students need to familiarize themselves with a specific spatial example.

Cognitive Domain
Knowing
Applying
Reasoning

(Solem, Stoltman et al., 2018)

¹ Compare/ ² Contrast/ Classify	Identify or describe similarities and differences between physical and human environments and their interaction.
Relate	Relate knowledge of an underlying geographic concept to physical and human environments and their interaction.
Use Models	Use a diagram or model to demonstrate knowledge of geographic concepts, to illustrate a process, cycle, relationship, or system, or to find solutions to geographic problems.
Interpret Information	Use knowledge of geographic concepts to interpret relevant visual, verbal, numerical, textual and spatial information.



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AIMS
Geographical Challenges towards the future
Human & Physical Landscape
Environmental Management

SKILLS
Manage info and data
Making sense
Making informed decision
Collection and manage info
Geography Patterns
Geography Information
Presentation information
Maps

VALUES
Care
Responsibility
Environmental Awareness
Appreciation

GEOGRAPHY PRACTICE / PEDAGOGY
Question (s/ing)
Feedback
Managing geographical information
Fieldwork
Investigation

CONCEPTS - Environment
Space
Place
Human vs Physical Relationship

CONCEPTS - Space
Location & Space
Relationship
Influence by time
Human vs Physical Interdependence (Space, Place, Time)

CONCEPTS - Time
Processes (Impact People)
Complexity
Opportunities and Challenges

CONCEPTS – Interdependence
Interdependence between human and environment
Place
System
Processes
Feedback
Regions
Social, Cultural, Economics, Environmental

CONCEPTS – Place
People
Differences
Interaction
Influence by Space
Meanings

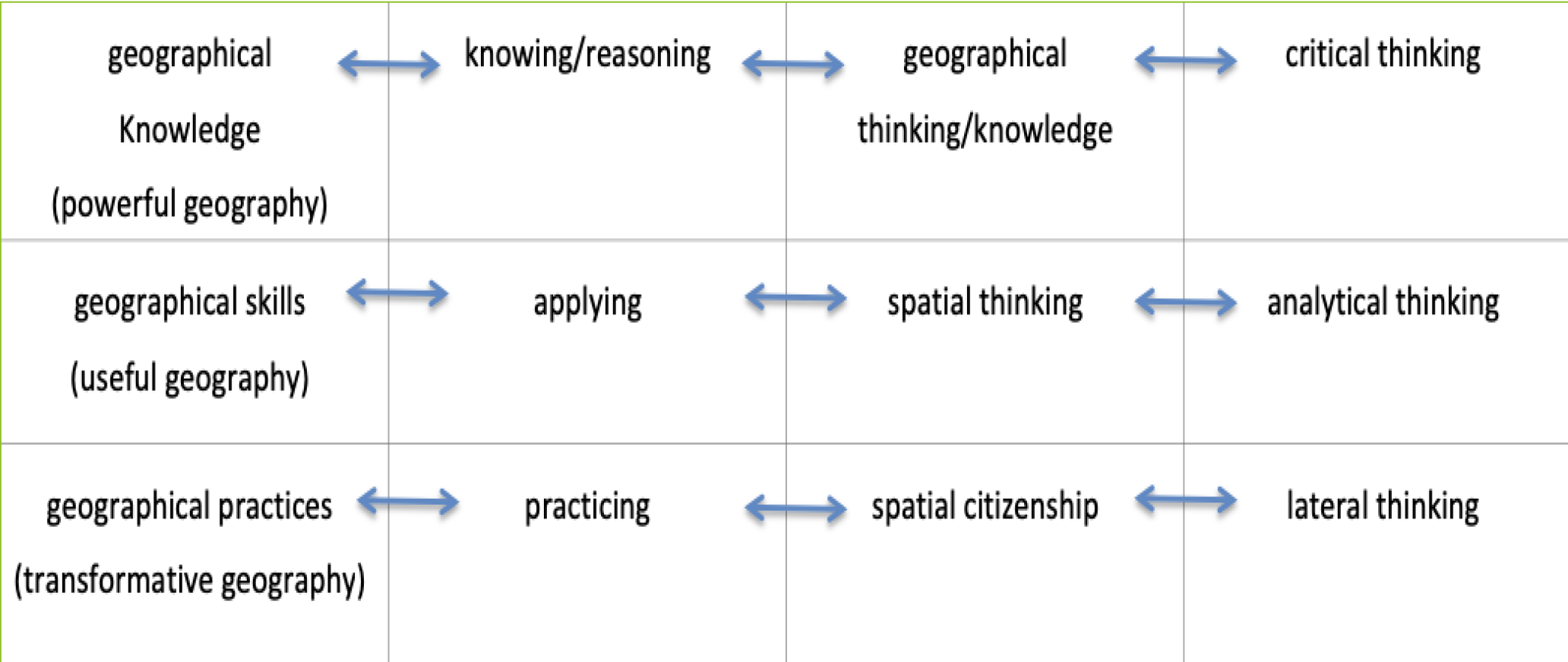
CONCEPTS - Scale
Local vs Global
Processes
Human vs Physical
Economics Activities

• Skills (GIS)			
○ Map Reading			
○ Geospatial technologies			
○ Remote sensing data / Statistical data			
○ Field method			
○ Photographs			
• Attitude and values			
21st Century Skills			
• Learning Skills			
○ Critical thinking			
○ Creative thinking			
○ Collaborating			
○ Communicating			
• Literacy Skills			
○ Information literacy			
○ Media literacy			
○ Technology literacy			
• Life Skills			
○ Flexibility			
○ Initiative			
○ Social skills			
○ Productivity			
○ Leadership			

Themes for
Geography Curriculum

(Chang, Kidman et al., 2019)

**INTEGRATED FRAMEWORK FOR GEOGRAPHY
EDUCATION: CURRICULUM, COMPETENCES AND
ASSESSMENT**



(De Miguel, 2021)

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Geography is the **most interdisciplinary subject in school**, allowing students to learn physical and social environment vocabulary, processing meaningful statistics, implement scientific methods, acquire personal and social (territorial) identity and citizenship, develop cultural awareness from natural and human landscapes, etc. Consequently, geography is the best subject to promote sustainable development (goals) education from a comprehensive approach: economic, social, political and environmental.



Table 1. Relationships between geography and SDG's

SUSTAINABLE DEVELOPMENT GOALS	GEOGRAPHICAL STUDY
SDG 1. NO POVERTY	SOCIAL AND ECONOMIC GEOGRAPHY
SDG 2. ZERO HUNGER	SOCIAL AND RURAL GEOGRAPHY
SDG 3. GOOD HELATH AND WELL-BEING	SOCIAL GEOGRAPHY
SDG 4. QUALITY EDUCATION	SOCIAL GEOGRAPHY
SDG 5. GENDER EQUALITY	SOCIAL GEOGRAPHY
SDG 6. CLEAN WATER AND SANITATION	HYDROGEOGRAPHY
SDG 7. AFFORDABLE AND CLEAN ENERGY	INDUSTRIAL GEOGRAPHY
SDG 8. DECENT WORK AND ECONOMIC GROWTH	ECONOMIC GEOGRAPHY
SDG 9. INDUSTRY, INNOVATION AND INFRASTRUCTURE	TRANSPORT AND ECONOMIC GEOGRAPHY
SDG 10. REDUCES INEQUALITIES	REGIONAL GEOGRAPHY
SDG 11. SUSTAINABLE CITIES AND COMMUNITIES	URBAN GEOGRAPHY
SDG 12. RESPONSIBLE CONSUMPTION AND PRODUCTION	ECONOMIC GEOGRAPHY
SDG 13. CLIMATE ACTION	CLIMATOLOGY
SDG 14. LIFE BELOW WATER	BIOGEOGRAPHY AND HIDROGEOGRAPHY
SDG 15. LIFE ON LAND	BIOGEOGRAPHY
SDG 16. PEACE, JUSTICE AND STRONG INSTITUTIONS	POLITICAL GEOGRAPHY
SDG 17. PARTNERSHIPS FOR THE GOALS	POLITICAL GEOGRAPHY



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The EU developed a
**NEW YOUTH
STRATEGY**

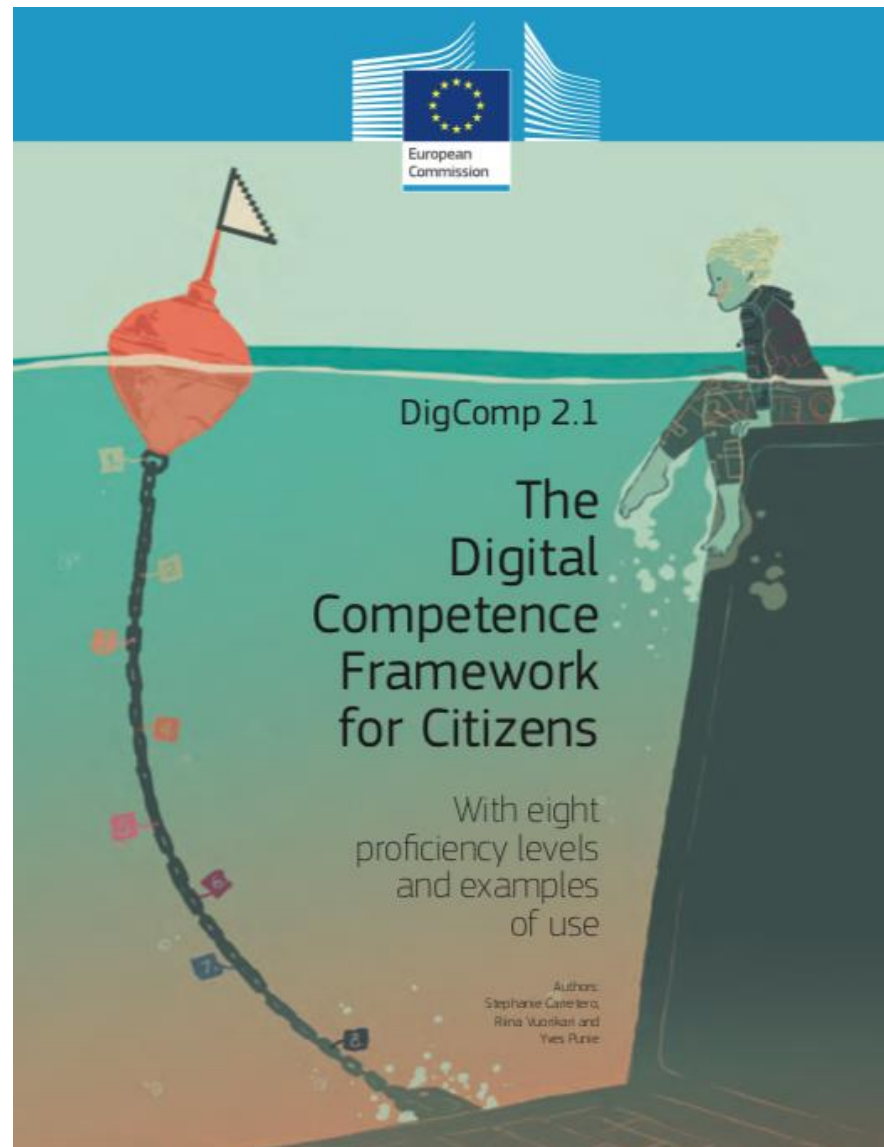
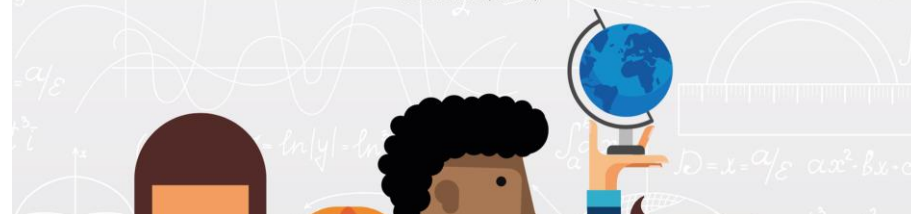


JRC SCIENCE FOR POLICY REPORT

European Framework for the **Digital Competence of Educators**

DigCompEdu

Christine Redecker (Author)
Yves Punie (Editor)





1. Information and data literacy	<ul style="list-style-type: none"> 1.1 Browsing, searching and filtering data, information and digital content 1.2 Evaluating data, information and digital content 1.3 Managing data, information and digital content
2. Communication and collaboration	<ul style="list-style-type: none"> 2.1 Interacting through digital technologies 2.2 Sharing through digital technologies 2.3 Engaging in citizenship through digital technologies 2.4 Collaborating through digital technologies 2.5 Netiquette 2.6 Managing digital identity
3. Digital content creation	<ul style="list-style-type: none"> 3.1 Developing digital content 3.2 Integrating and re-elaborating digital content 3.3 Copyright and licences 3.4 Programming
4. Safety	<ul style="list-style-type: none"> 4.1 Protecting devices 4.2 Protecting personal data and privacy 4.3 Protecting health and well-being 4.4 Protecting the environment
5. Problem solving	<ul style="list-style-type: none"> 5.1 Solving technical problems 5.2 Identifying needs and technological responses 5.3 Creatively using digital technologies 5.4 Identifying digital competence gaps

Levels in DigComp 1.0	Levels in DigComp 2.1	Complexity of tasks	Autonomy	Cognitive domain
Foundation	1	Simple tasks	With guidance	Remembering
	2	Simple tasks	Autonomy and with guidance where needed	Remembering
Intermediate	3	Well-defined and routine tasks, and straightforward problems	On my own	Understanding
	4	Tasks, and well-defined and non-routine problems	Independent and according to my needs	Understanding
Advanced	5	Different tasks and problems	Guiding others	Applying
	6	Most appropriate tasks	Able to adapt to others in a complex context	Evaluating
Highly specialised	7	Resolve complex problems with limited solutions	Integrate to contribute to the professional practice and to guide others	Creating
	8	Resolve complex problems with many interacting factors	Propose new ideas and processes to the field	Creating





YouthMetre: Forward Looking Project



- YouthMetre creates a **‘forward-looking tool’** for youth participation
- based on Education, Training & Youth (ETY)
- identifying, testing, developing, assessing **new innovative approaches** in ETY
- innovation in **practices and policies** for Youth
- *Addresses Priority 7:*
- ***“Using e-participation as an instrument to foster young people's empowerment and active participation in democratic life”***
- Importance of **geospatial information, data and geography education** in non formal contexts (youth civil society organizations and youth grassroots organizations)











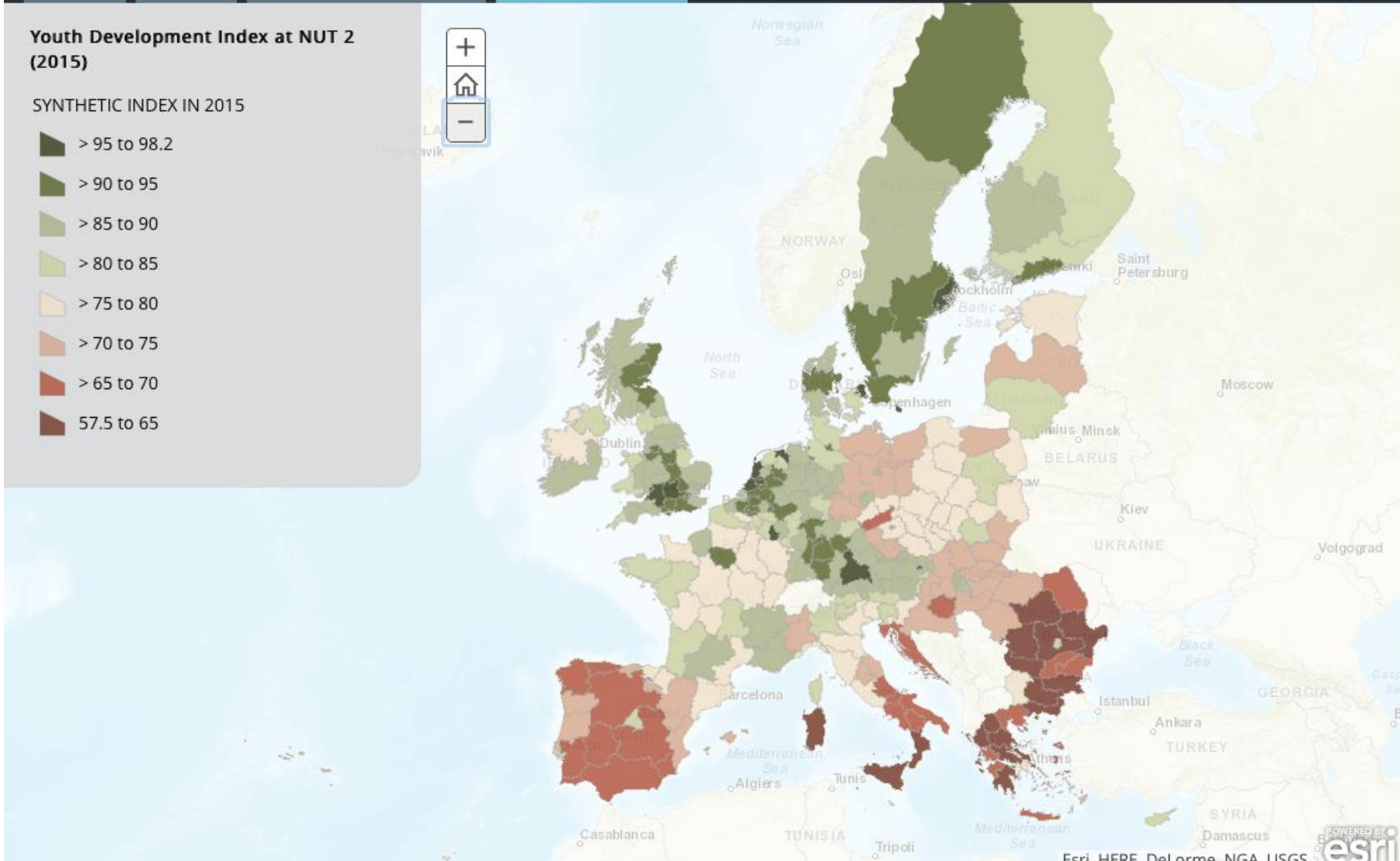
YOUTH DEVELOPMENT INDEX

[YDI 2006](#)[YDI 2015](#)[YDI VARIATION 2006-2015](#)[REGIONAL YDI 2015](#)

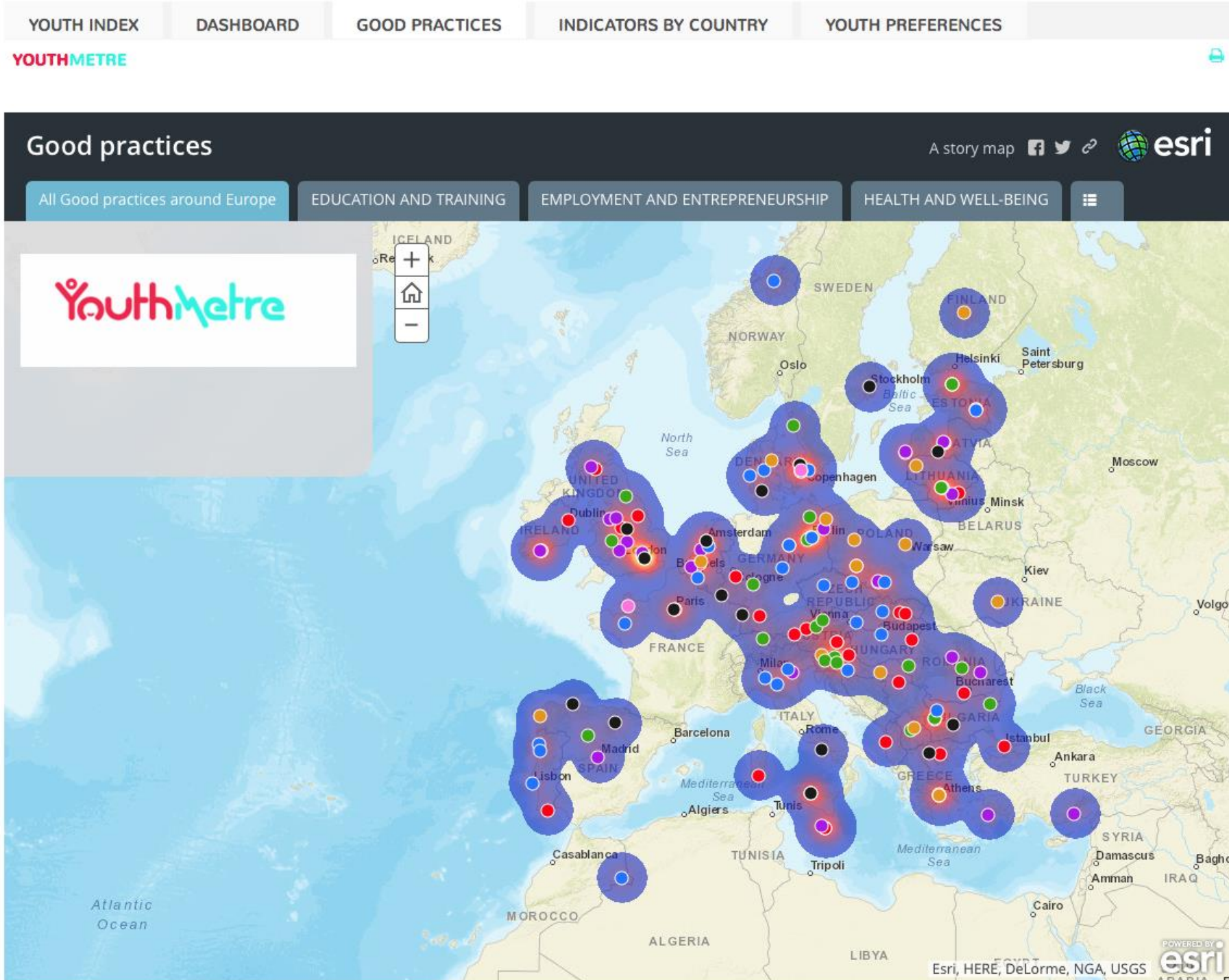
Youth Development Index at NUT 2 (2015)

SYNTHETIC INDEX IN 2015

-  > 95 to 98.2
-  > 90 to 95
-  > 85 to 90
-  > 80 to 85
-  > 75 to 80
-  > 70 to 75
-  > 65 to 70
-  57.5 to 65



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Kinder- und Jugendparlament Charlottenburg-Wilmersdorf

Suche:

Schriftgröße ändern:



Teacher training modules

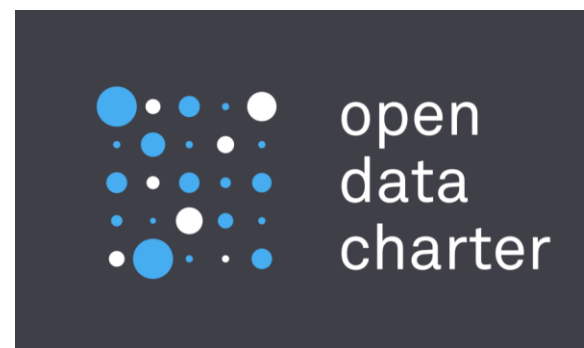
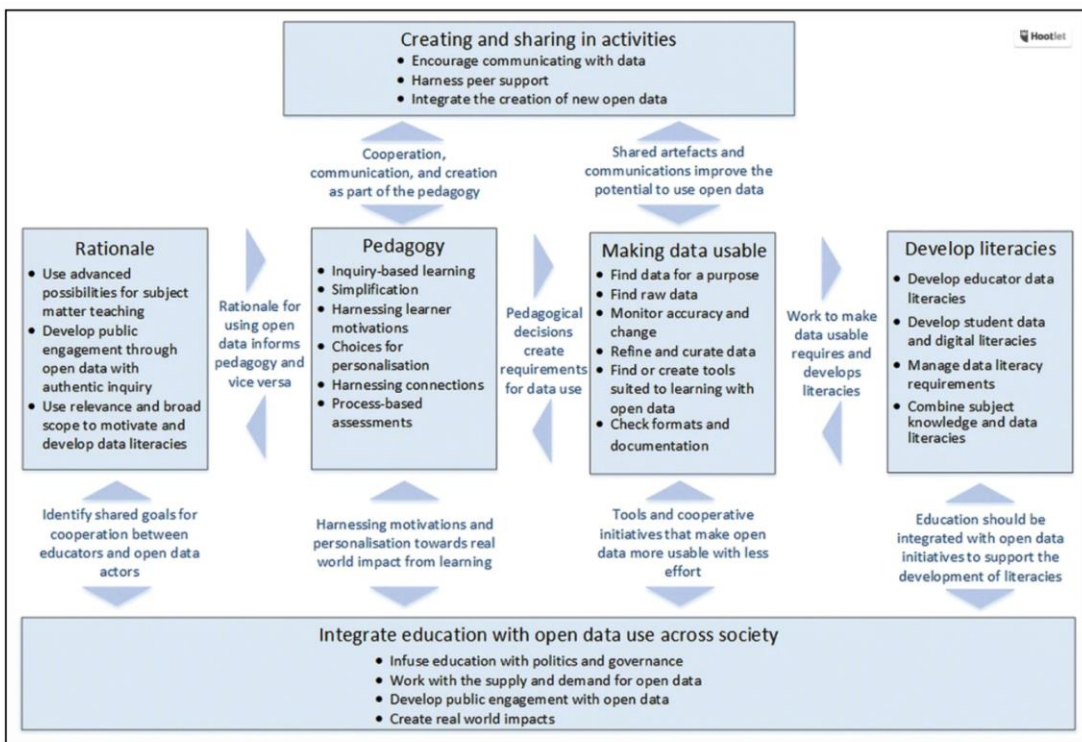
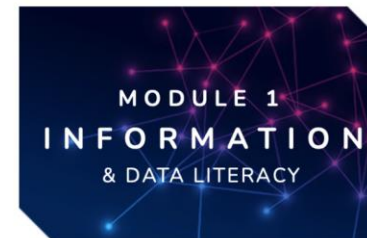
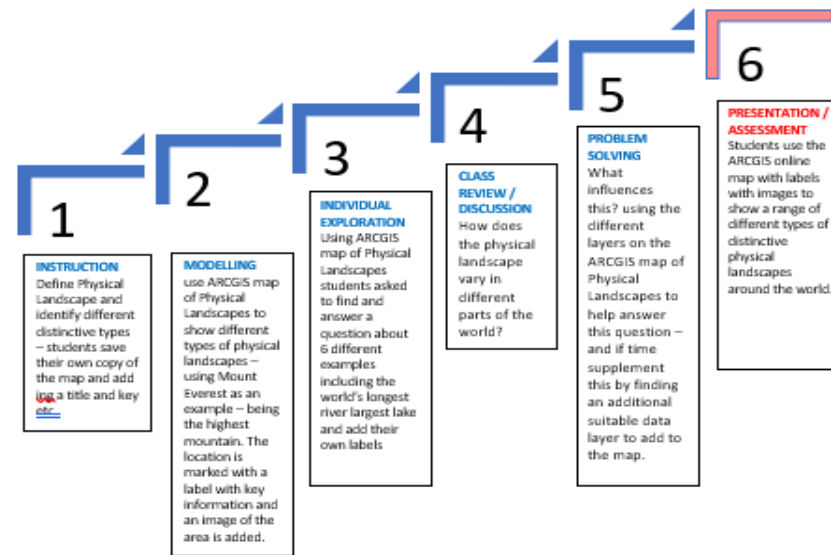






Figure 4. Conceptual Framework to support greater use of open data in learning (Coughlan, 2019)


euro geo



VIGNETTE Physical Landscapes

Step	Identify a topic / story that is going to be told / explored using GIS	Other
	Teaching WITH GIS	
	How does the physical landscape vary in different parts of the world?	
	What influences this?	
	Curriculum context: Secondary Geography – Introduction to the Physical Environment	
	Target age group: 11 – 13yrs, 14-15yrs.	
LOs	Learning objectives	
	<ul style="list-style-type: none"> Retrieve prior learning about different types of physical environment that exist Describe the location of specific examples of landscapes and explain links between them Describe, explain and evaluate possible influences on this location and distribution. Link to SDGs. 	
	  	

 = checking understanding

Home ▾ Physical Landscapes of the world 

Open in new Map Viewer New Map ▾ Create Presentation

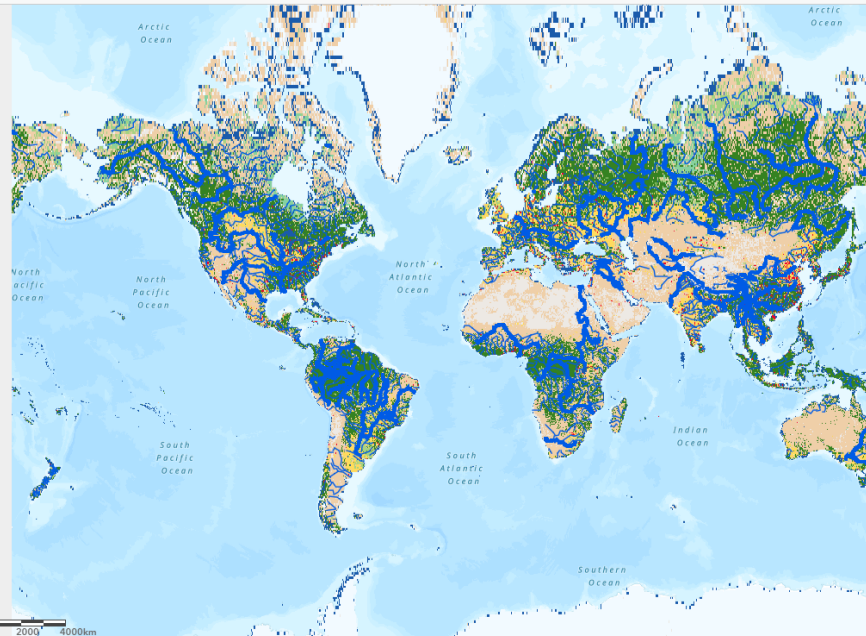
Details Add ▾ Basemap Analysis Save ▾ Share Print ▾ Directions Measure Bookmarks Find address or place

About Content Legend

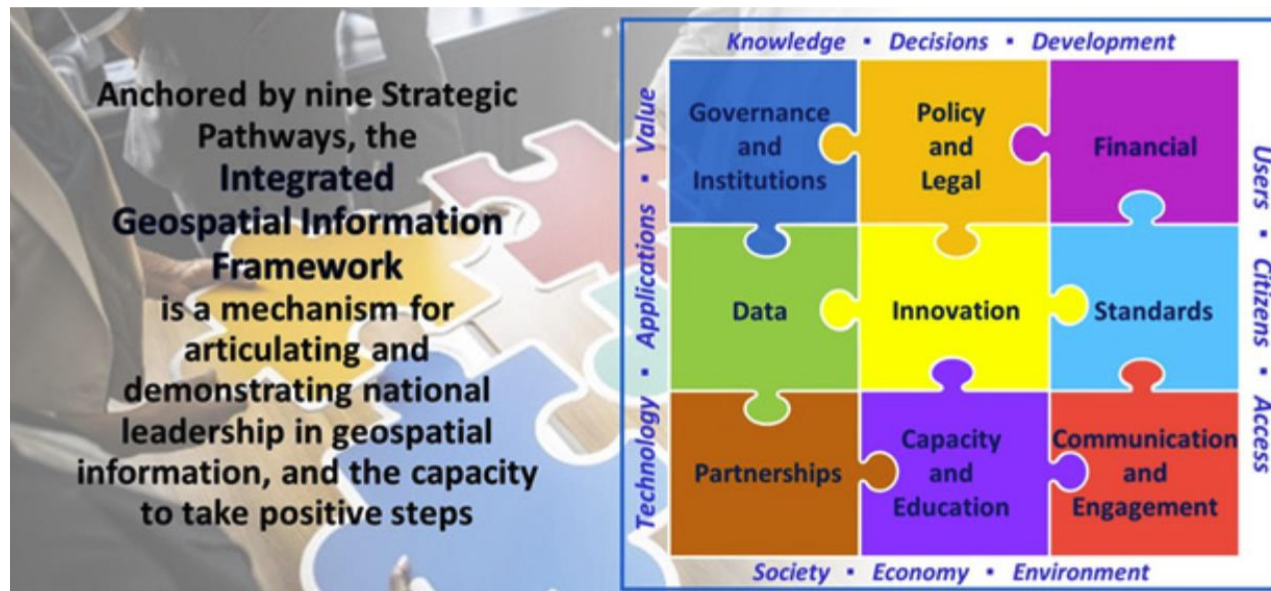
Contents

- World Mountain Ranges
- Rivers World Natural Earth
- World Major Rivers
- World Cities
- Human Development Index (2019)
- World Biomes - Elementary
- World Imagery (Wayback 2014-02-20)
- Esri 2020 Land Cover

No Data
 Water
 Trees
 Grass
 Flooded Vegetation
 Crops
 Scrub/Shrub
 Built Area
 Bare Ground
 Snow/Ice



0 2000 4000km



ONLINE GUIDE TO THE ROLE OF STANDARDS IN GEOSPATIAL INFORMATION MANAGEMENT

Aligning frameworks and pedagogies in school and higher education to the Revised Guide to the Role of Standards in Geospatial Information Management

GEOSPATIAL TECHNOLOGIES AS AN ONLINE RESOURCE FOR ALL
“Geo-Enabling the Global Village: No one should be left behind”, the second UNWGIC



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[MY GEO PROJECT](#)

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Geo Tools for Modernization and Youth Employment

[My GEO Project](#)



[Intellectual Outputs](#)



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MOOC for teachers

Aim: promoting modernization of methods and tools for teaching and learning through the use of GIS

Online course, favoring the acquisition of key competences related to the use of GIS in higher education courses

Including examples on use of GIS

Portfolio GIS: Mooc for students

Aim: fostering the ability of students to demonstrate the skills acquired in the use of GIS applications → labour market

Based on what companies want/need

Each competency → part of the MOOC



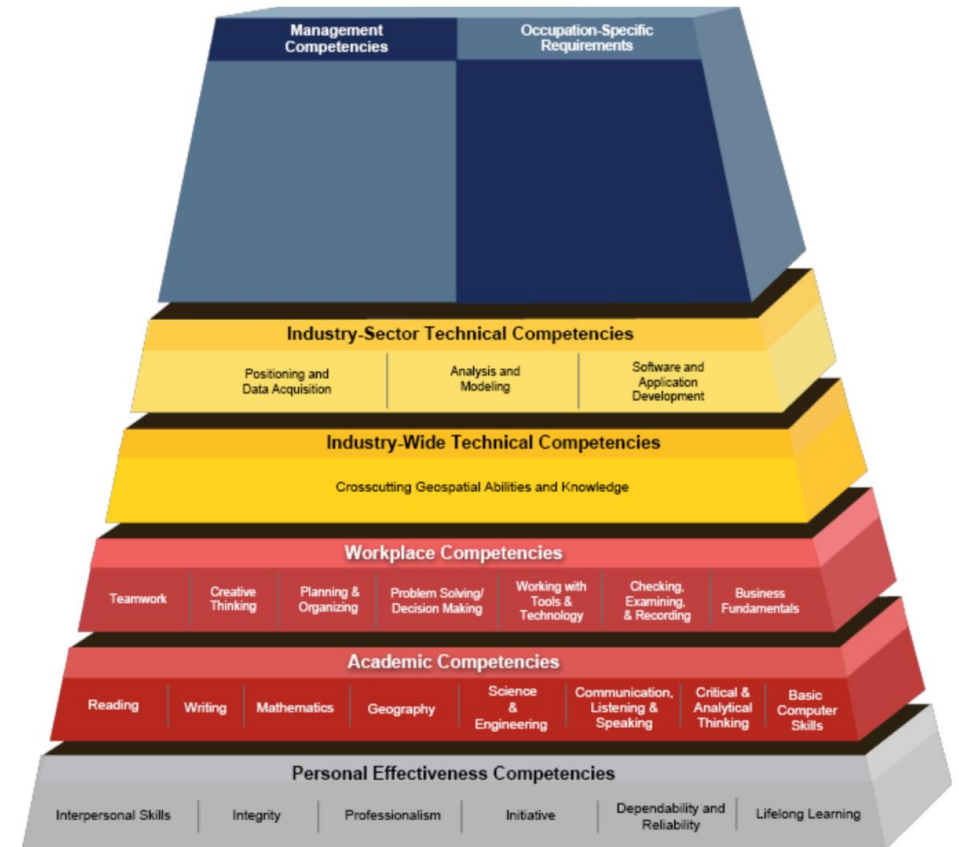
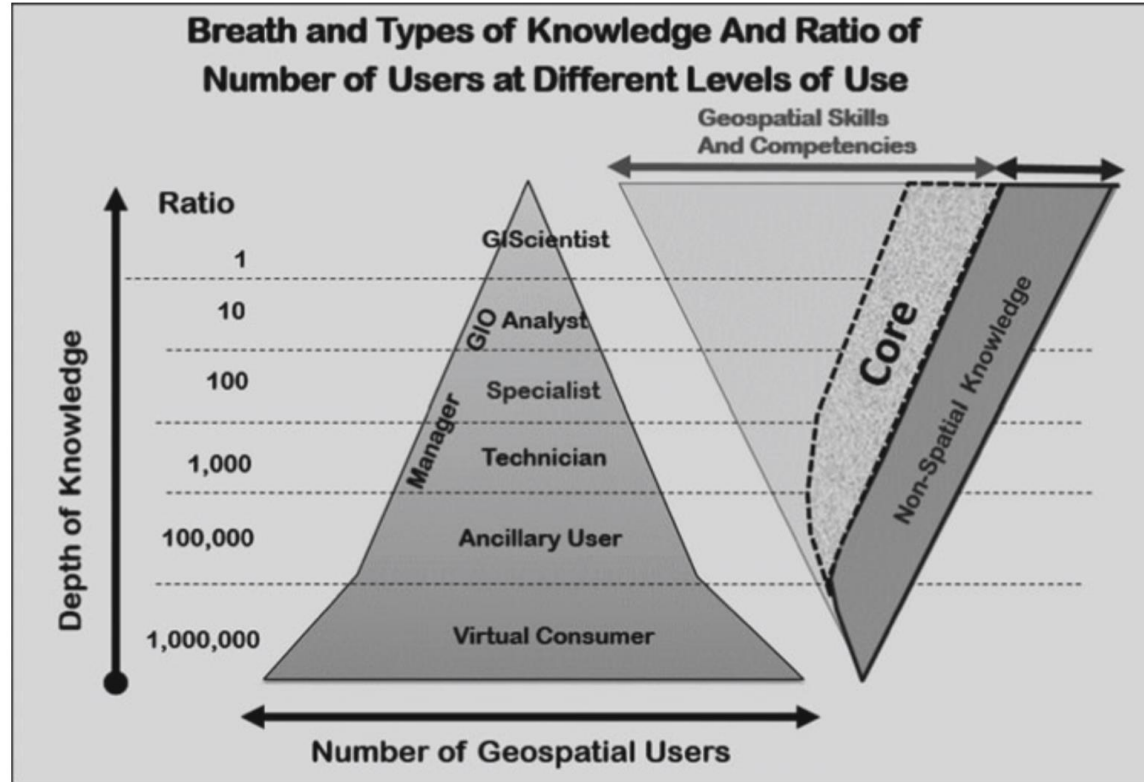


European mobility

- Formalisation of MY GEO MOBILITY training methodology students aimed at acquiring GIS related skills via international mobility in companies
- Tested in 2 cycles of each 8 students (2 of 4 univ each),
300 h internship in companies of consortium
- Contains set key competencies acquired in mobility, methodology for 'on the job' training, and assessment



Geospatial Technology Competency Model



SURVEY MY GEO PROJECT

MY GEO ("Geo tools for Modernization and Youth Employment", 2018-1-IT02-KA203-048195) is an European project that aims to improve the capabilities of graduate students for their incorporation to the geospatial industry. In this way, the project is working on the identification of a set of key competences related to the use of geo-information tools (GIS), in particular the most relevant for the labor market, in order to implement a training course. This project also seeks to define a "learning line" and a competences assessment framework, allowing to measure the impact of this training on learners' knowledge and competences, according to the industry needs.

In this context, MY GEO project will appreciate your collaboration for the identification of the key competences that students should acquire in order to increase their employability. Taking your answers in consideration, the project will create a MOOC addressed to students interested in the acquisition of more accurate skills and competences, as requested by companies in their job demands.

Thanks a lot for your collaboration and your time. Average time to answer this survey: 3 minutes.

Dr. Rafael de Miguel González
Professor of Geography, University of Zaragoza (Spain)
President of EUROGEO

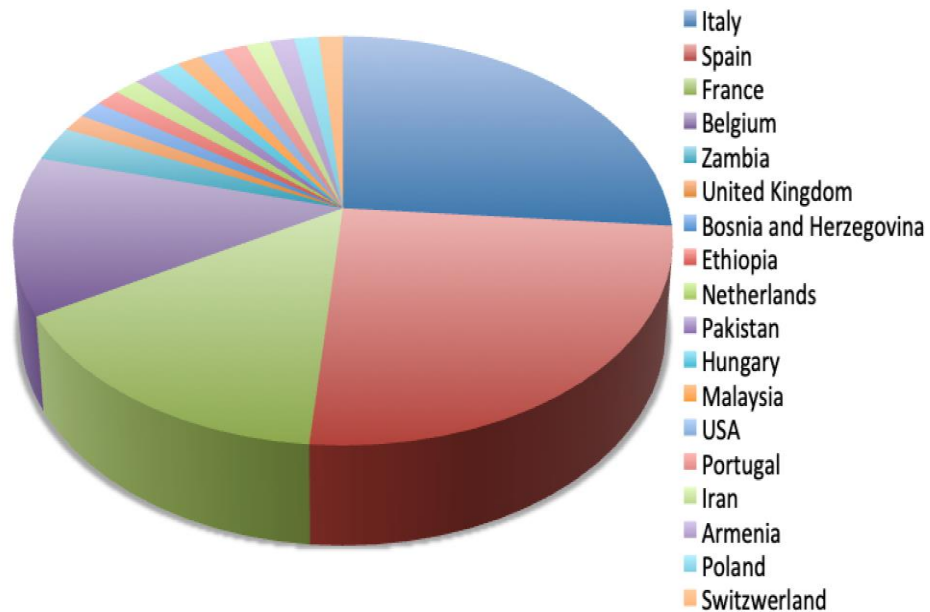


Co-funded by the
Erasmus+ Programme
of the European Union

VOLGENDE

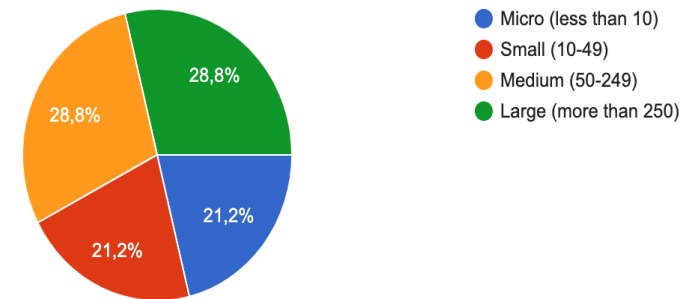


72 answers coming from ...



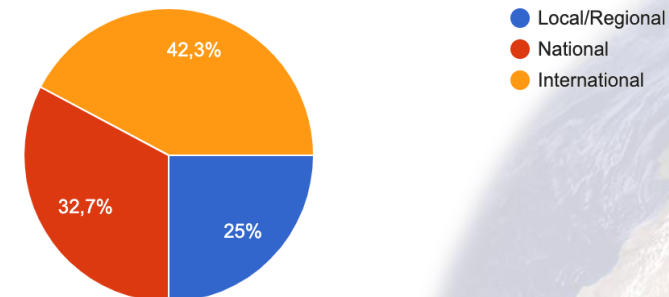
Company size: number of employees (European Commission Recommendation 2003/361/CE)

52 respuestas



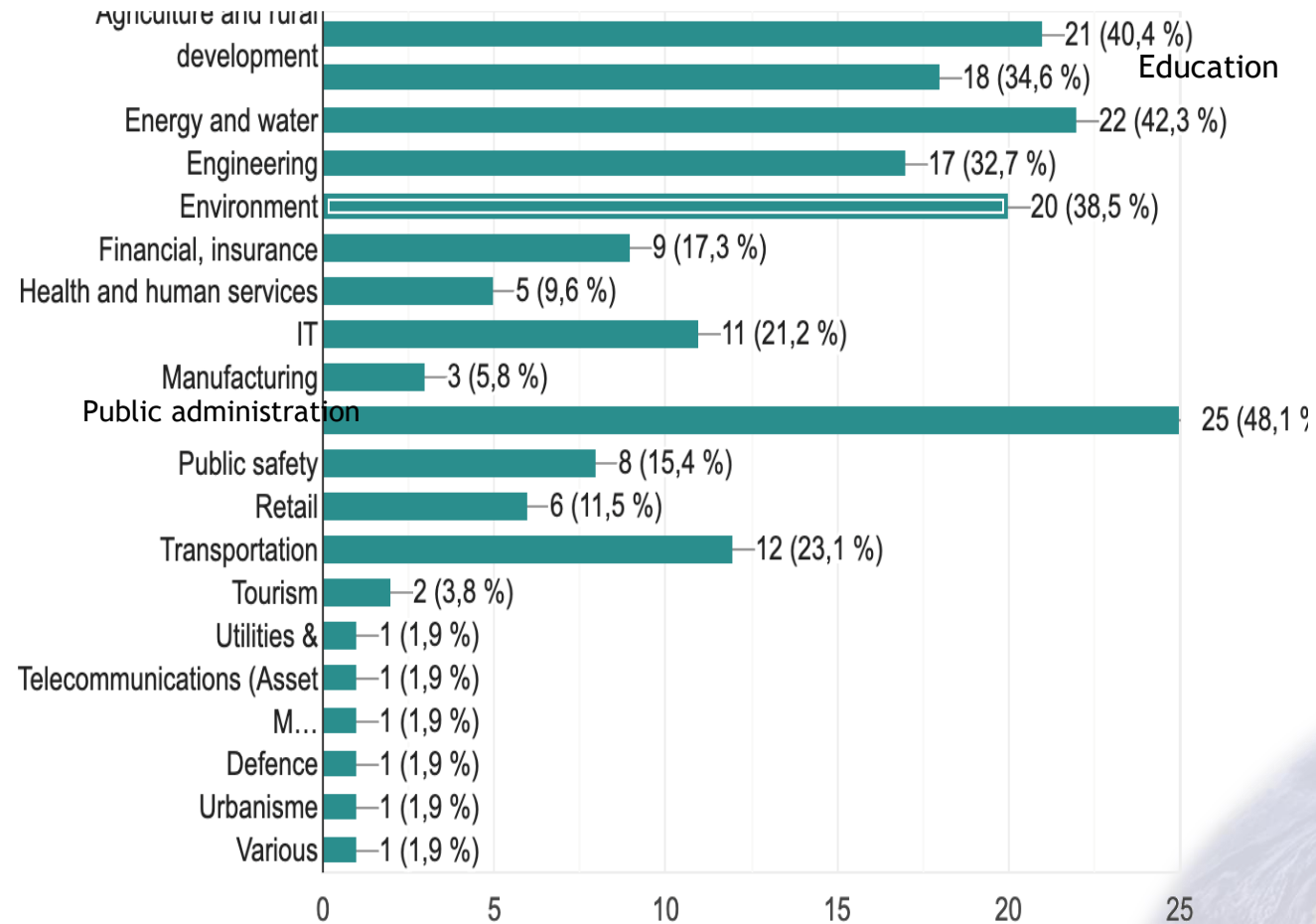
Geographical scope of business

52 respuestas



Principal sector of your clients

52 respuestas



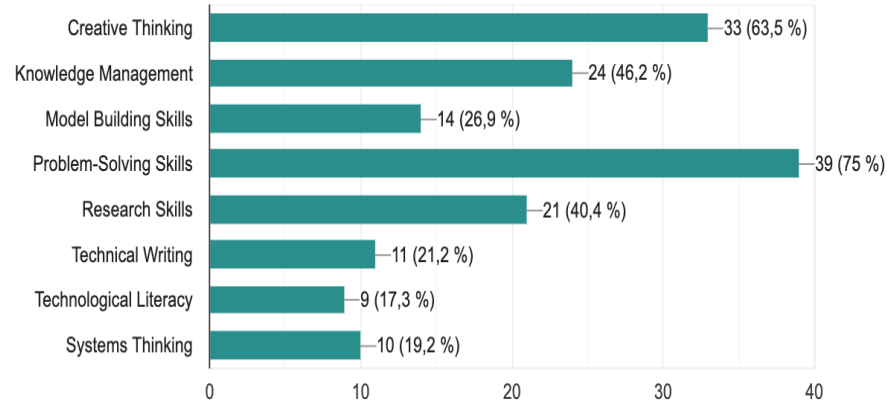
SELECT THE THREE SKILLS MORE VALUABLE FOR YOUR COMPANY



ANALYTICAL AND CRITICAL THINKING

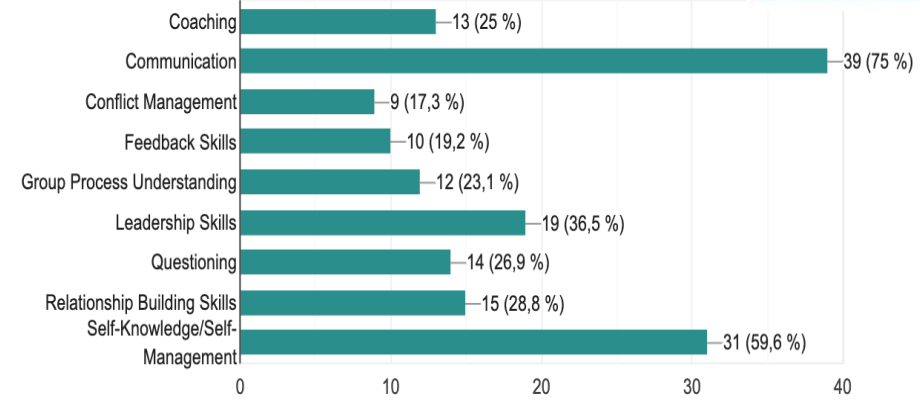


52 respuestas



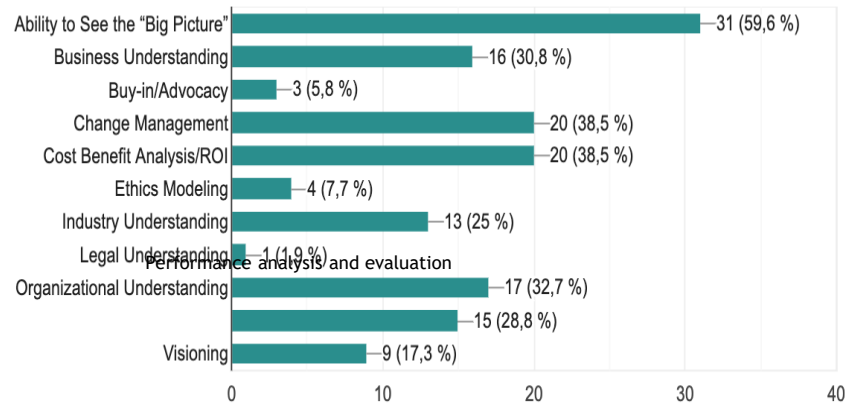
INTERPERSONAL COMPETENCIES

52 respuestas



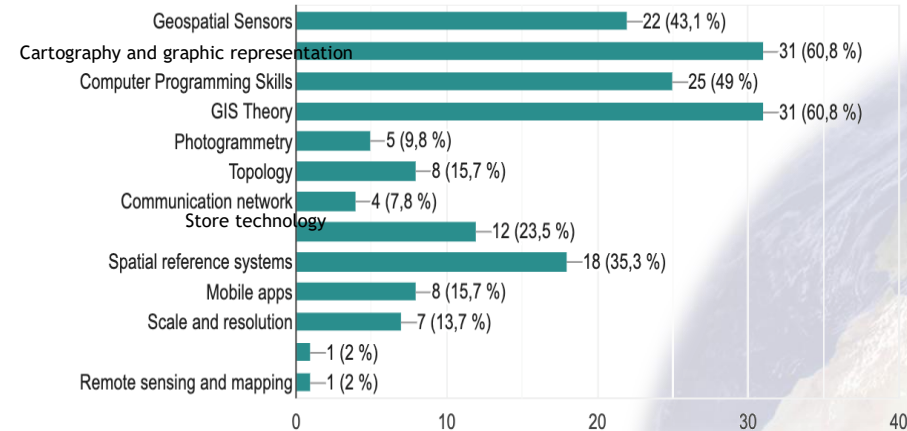
BUSINESS COMPETENCIES

52 respuestas

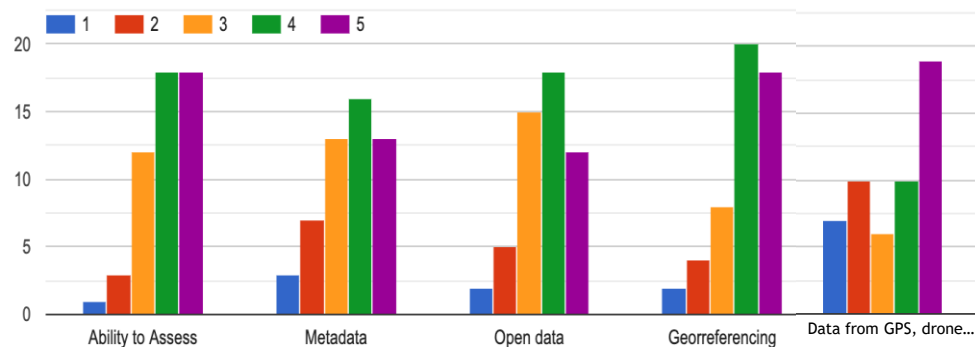


TECHNICAL COMPETENCIES

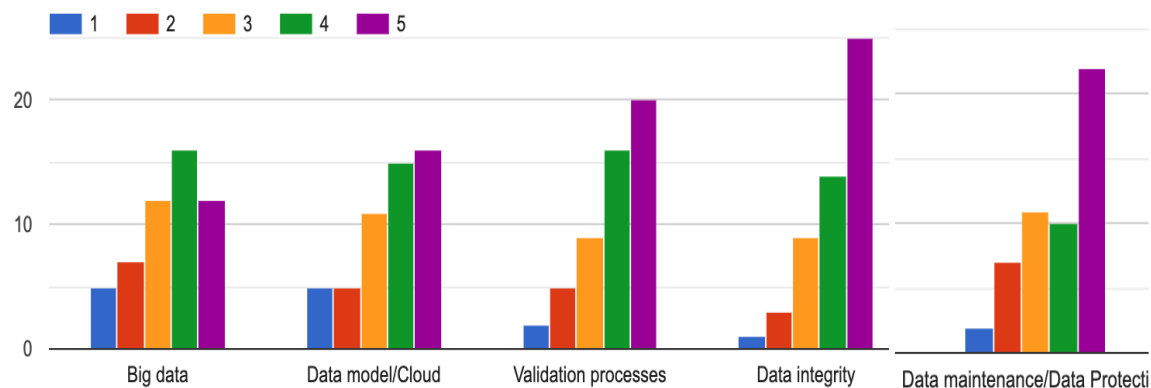
51 respuestas



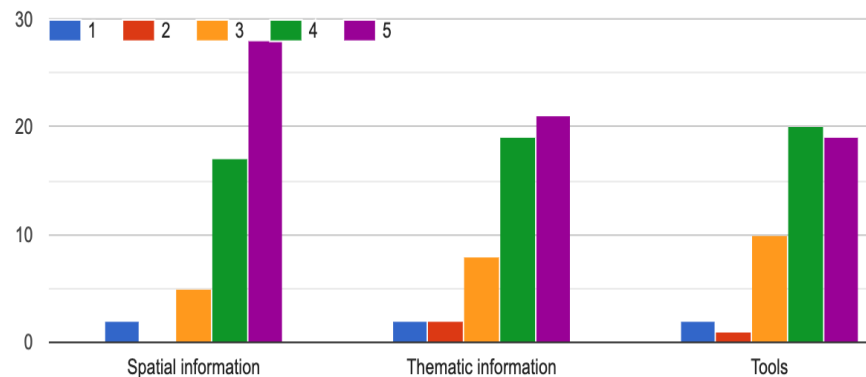
DATA SOURCE



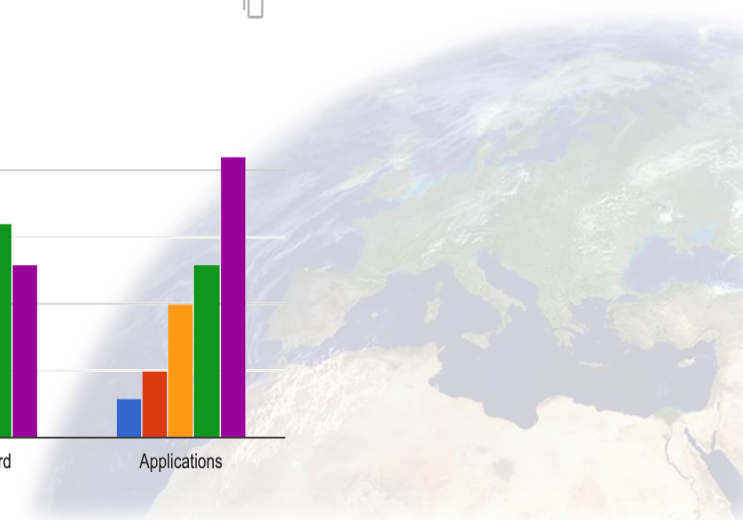
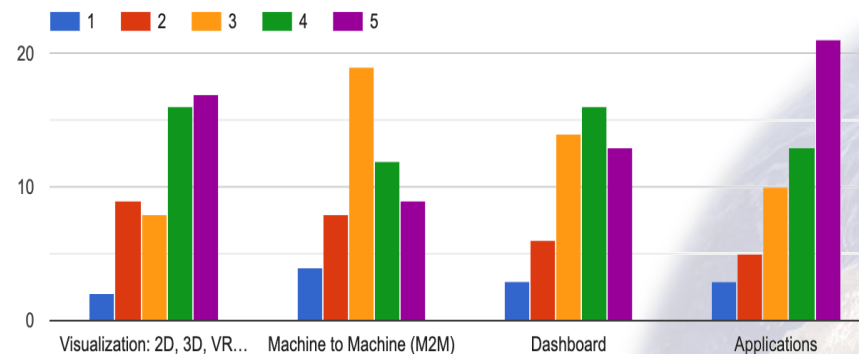
STORE



ANALYSIS



DATA GEOMATICS



euro geo

United Nations
Habitat Professionals Forum
The 2022 Roadmap to Recovery

Background Report April 2022

WORLD
URBAN
FORUM
ELEVENTH SESSION

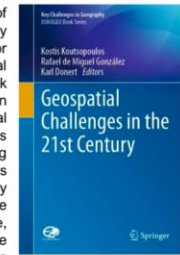


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Harnessing New Digital Technologies for Intelligent Cities and Smart Communities

96. Public agencies need new tools to cope with the levels of uncertainty and complexity of issues they face. Key opportunities have been created by the digital revolution, for example, in form of interactive mapping, platforms, artificial intelligence (AI), Digital Twins and big data. In order to unlock the potential of geospatial analytical systems, there is an urgent need to establish a complementary set of core digital capacities in data, platforms, tools and techniques, as well as develop adequate skill capacity within the planning profession through training and education. This also enables open data. Intelligent City and Smart Community Smart City Technologies are key opportunities created by the geospatial and big data revolution to enable accurate, reliable and shared open data, in order to increase the knowledge and better contribute to recovery plans. These are illustrated in Box D.⁴⁰



Box D: Core Digital Geospatial Capacities

- **A Common Spatial Data Environment based on National Mapping and Datasets:** the map and data sets (key environmental, socio-economic & public health data) that would enable every baseline study including forecasting, simulation, modelling, and monitoring for the country need to be specified and collated centrally.
- **A National Network of 'Regional Data Observatories' based on Regional Data Input:** regional bodies tasked with collecting and analysing demographic, economic, social and environmental data should be created.
- **An Integrated Planning Open Data Framework based on Planning Data Input:** digital planning support systems need to be designed to capture back-office data in an integrated open data framework with decision support and public consultation functions.
- **Planning Metadata and Information Management Standards:** unifying planning metadata and information management standards to enable the twin pillars of development control and plan-making to be coordinated and synergised.
- **Digital Tools and Techniques:** a diverse range of digital tools and techniques which can be employed and integrated in spatial planning should be introduced to planners.

(Source: A Digital Future for Planning: *Spatial Planning Reimagined* (Michael Batty & Wei Yang, 2022))

94. There are three critical issues that need to be addressed if this is to be achieved there needs to be: (i) agreed key performance indicators; (ii) better access to available data; and (iii) the harnessing of smart technologies and new big data sources. These are discussed below and collectively call for the development of linked national and regional **UN-Habitat Knowledge Hubs**., building on the experience of for example, the like the John Hopkins Coronavirus Dashboard⁴¹ and the CAA Data Platform⁴².

⁴⁰ A-Digital-Future-for-Planning-Full-Report-Web.pdf (digital4planning.com)

⁴¹ COVID-19 Map - Johns Hopkins Coronavirus Resource Center (jhu.edu)

⁴² Call To Action - Planning for Climate Change and Rapid Urbanisation (commonwealthsustainablecities.org)



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Questions...?

Comments...?

Thanks so much 🙏

rafaelmg@unizar.es



Twelfth Session of the United Nations
Committee of Experts on Global Geospatial Information Management

**Geospatial information for landscape monitoring and management:
developing the role of higher education**

