



ALBANIA IN THE GLOBAL MAP

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Zagreb, November 16-18, 2016
GISday

Overview:

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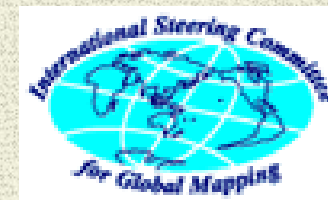
INTRODUCTION

- The performed research is part of case study within the PhD thesis of Milot Lubishtani in geodesy department of Polytechnic University of Tirana.
- Developing of Albanian Global Map dataset is performed by the team of experts in State Authority for Geospatial Information (ASIG) of Albania, leaded by PhD candidate Milot Lubishtani, and supervised by mentor prof. Bashkim Idrizi.
- Albanian GM dataset with all 8 (eight) layers has been released on July 14th, 2016 to the web site of ISCGM.
- Albanian GM dataset is open for download, and free for non-commercial use.
- From September 2016, Albanian GM dataset was migrated to United Nations Geospatial Information Section (UNGIS) database.

What is GSDI ???

The GLOBAL SPATIAL DATA INFRASTRUCTURE supports ready global access to geographic information. This is achieved through the coordinated actions of nations and organizations that promote awareness and implementation of complimentary policies, common standards and effective mechanisms for the development and availability of interoperable digital geographic data and technologies to support decision making at all scales for multiple purposes. These actions encompass the policies, organizational remits, data, technologies, standards, delivery mechanisms, and financial and human resources necessary to ensure that those working at the global and regional scale are not impeded in meeting their objectives

Global Mapping directly contributes to development of GSDI - Global Spatial Data Infrastructure.



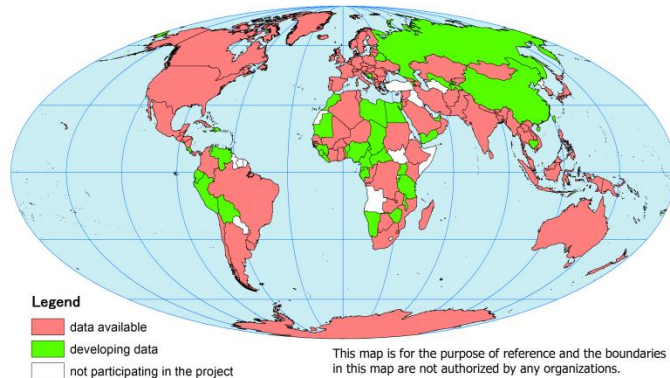


GLOBAL MAPPING

www.iscgm.org

Progress of Global Mapping Project

As of 2016-07-21
International Steering Committee for Global Mapping




 International Steering Committee for Global Mapping
 - Mapping the World, Advancing Global Understanding -

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Home About us Global Map Data Link


 Mapping the World, Advancing Global Understanding
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[Urban Hazard Maps Web Portal](#)
[The 23rd Meeting of ISCGM](#)
 2 Aug. 2016, New York, USA
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[22nd Meeting of ISCGM](#)
 4 Aug. 2015, New York, USA
[Schedule 2016](#)
[Fourth UN-GGIM High Level forum](#)

INTRODUCTION – Global Mapping project

The “Earth Summit” - the United Nations Conference on Environment and Development (UNCED) - in Rio in June 1992

- addressed the issue of information access,
- mention of the need for global mapping,
- stressing the importance of public access to information and
- international cooperation in making it available!

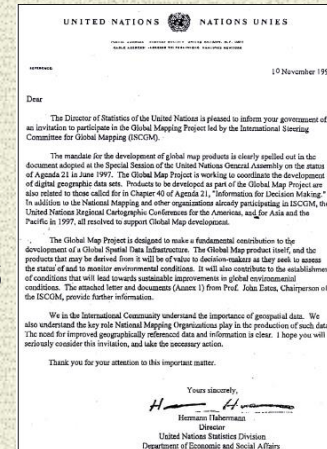


The International Steering Committee for Global Mapping (ISCGM) was established in 13th February 1996 in Tsukuba, Japan, with the office in GSI-Geographical Survey Institute (Geospatial Information Authority of Japan).



IMPORTANT DATES OF GLOBAL MAPPING HISTORY:

In 1998 year, UNITED NATIONS, was put down the letter addressed to all National mapping organizations around the world with invitation for participating in the project!



World Summit on Sustainable Development; Johannesburg; 2002

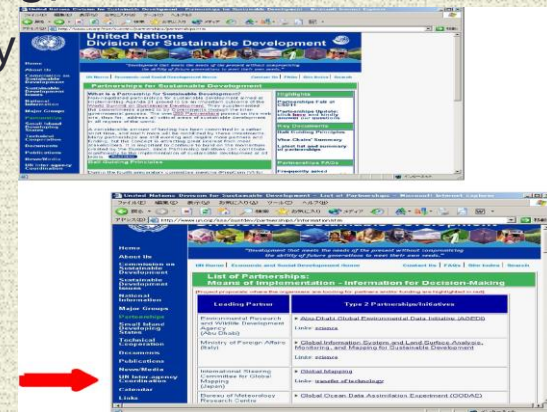
“Initiatives and partnerships for global mapping,” were strongly encouraged in the Johannesburg Plan of Implementation.

23th Meeting of ISCGM; New York; August, 2016

Final meeting of ISCGM, dissolution of ISCGM and the termination of the Global Mapping Project.

GM dataset will be transferred to the United Nations Geospatial Information Section (UNGIS).

Approval from the National Mapping Agencies is mandatory for transfer!



Ceremony of GM data
transfer to UNGIS



Ceremony of GM data
transfer to UNGIS

What is Global Mapping?

- international collaborative initiative, through
- voluntary participation of national mapping organizations of the world,
- aiming to develop globally homogeneous geographic data set
- at the ground resolution of 1km, and
- to establish concrete partnership among governments, NGOs, private sectors, data providers and users
- to share information and knowledge for sound decision-making

Collaboration between participants is essential for

- sustainable economic development of society and environment
- implementation of global/international conventions and agreements for environment protection
- to oversee major phenomena of the environment and
- encourage economic growth within a sustainable context

Global Mapping contributes to

- Global spatial data infrastructure (GSDI - Global Spatial Data Infrastructure) and
- Global observation systems on Earth (GEOSS - Global Earth observation system of systems).

POTENTIAL UTILIZATION OF GLOBAL MAP

Some potential applications of GM data are given bellow:

- Monitoring and early warning systems for natural disasters;
- Monitoring and management of natural resources;
- Assessment of the trends of global environment changes;
- Local, national and multinational physical development planning;
- Informed decision-making of policy makers with a strategic database;
- Global/Regional/National perspective and contextual information;
- Developing ecosystem, drainage basins framework for environmental assessment;
- Quantifying trans boundary issues;
- Rapid Response capability;
- Environmental priority setting, analytical studies over large areas, ext.

- GM dataset enables:**
- all global data to be in one place,
 - with the same items,
 - in the same format,
 - in the same coordinate system,
 - in the same scale,
 - In the same spatial resolution, and
 - with similar accuracy.

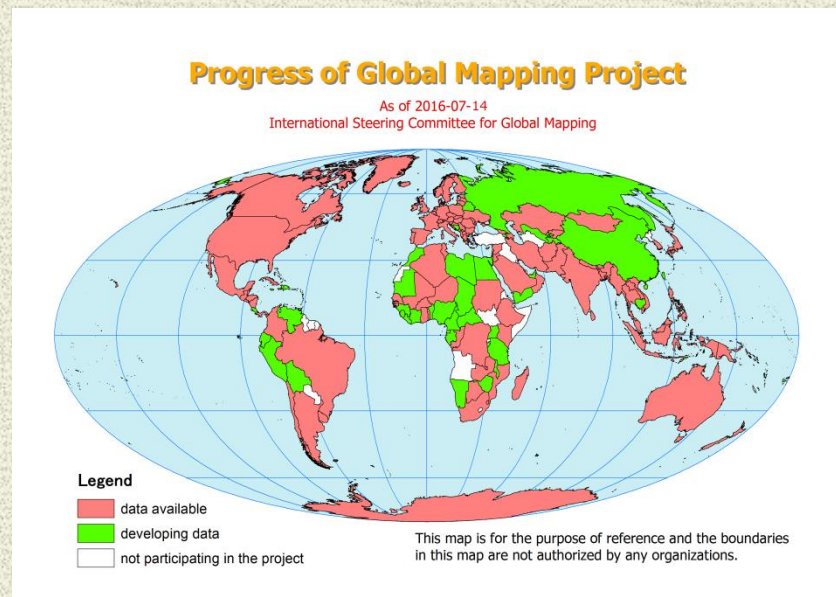
PARTICIPATION IN GLOBAL MAP

Participation is voluntary by the National Mapping Organizations categorized in three levels:

Level A - institution will prepare the data set of own country and other countries,

Level B - institution will prepare the data set of own country, and

Level C - institution will give all necessary data, preparation will be done by ISCGM.



Standards within Global Mapping

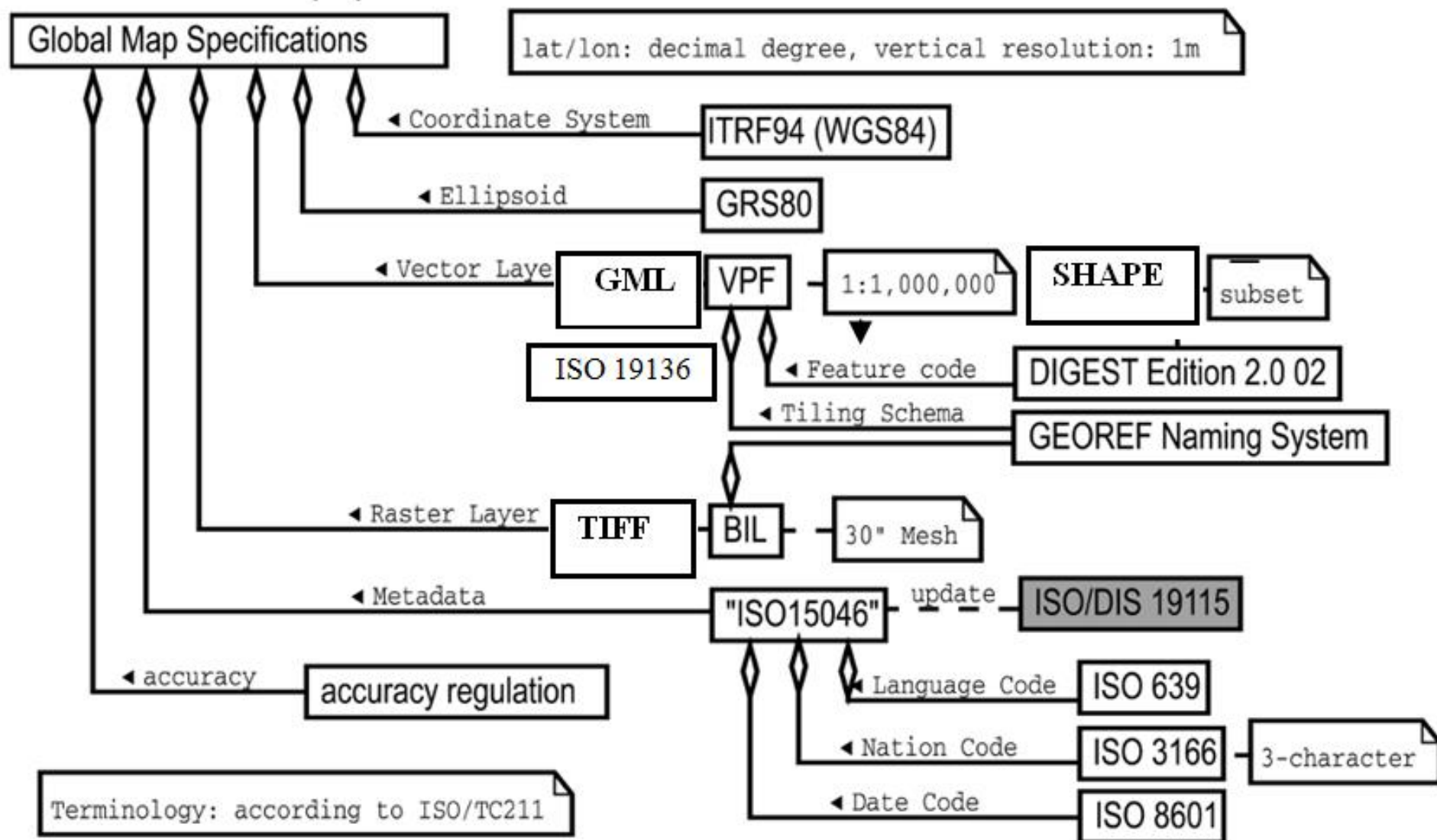
Global Map Specifications

- Version 1.1, on 16.03.2000,
- Version 1.2 on 17.04.2005,
- Version 1.2.1 on 11.11.2006,
- Version 1.3 on 14.07.2007,
- Version 2 on 25.10.2009,
- Version 2.1 on 18.06.2011, and
- Version 2.2 on 12.08.2012, and

The data structure is adopted in to ISO/TC 211 standards for geographic information, i.e.:

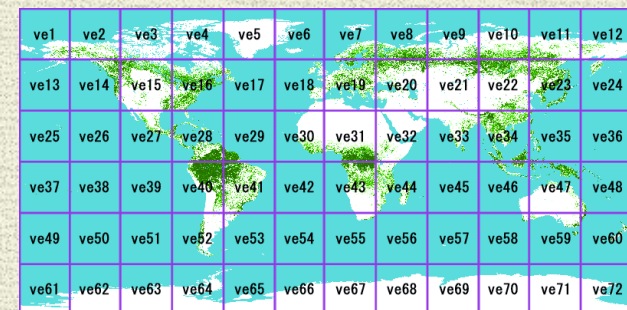
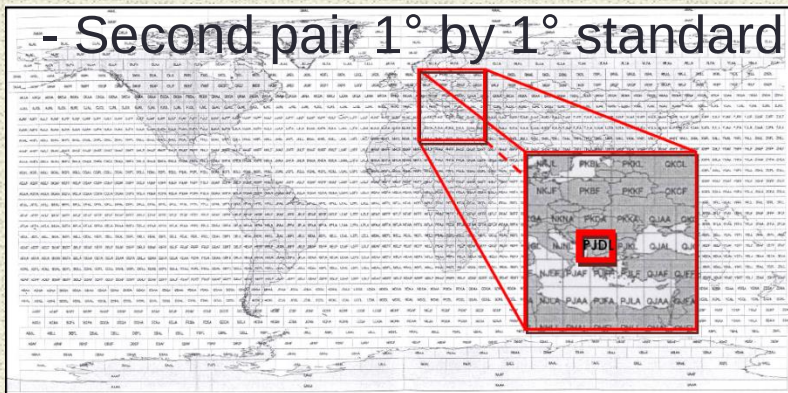
- ISO19136 for GML format,
- ISO 3166 for nation codes,
- ISO 19115 standard of metadata of V2 by using ISO 19139 for encoding,
- ISO 15046 standard of metadata of V1,
- ISO639 for language code, and
- ISO8601 for date code.

SCHEME OF STANDARDS IN GLOBAL MAPPING

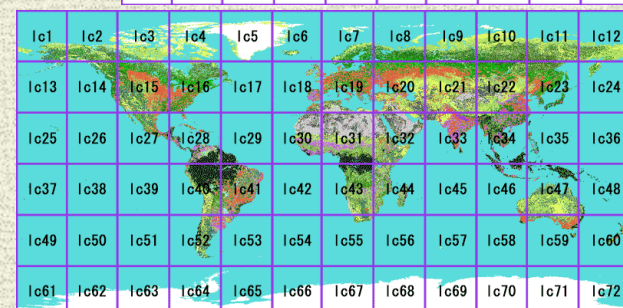


MATHEMATICAL ELEMENTS OF GLOBAL MAP

- Datum ITRF 94 + GRS 80 ellipsoid or datum WGS 84;
- Horizontal accuracy:
 - ± 1km for 90% of points,
 - ± 0.5km by utilization of satellite images
- Vertical accuracy: ± 150m for 90% of points;
- Tiling system of GM V1/V2 is GEOREF, with two pair of letters:
 - First pair come from 15° by 15° standard GEOREF division
 - Second pair 1° by 1° standard GEOREF divisions



- The tiling system of GM V1 global version uses the dividing system of 30° x 30° starting from the equator and the Greenwich meridian .



GLOBAL MAP DATA

- Global Map V.0
- Global Map V.X
- Global Map V1/V2 (national and regional version) and
- Global Map V1 (global version).

The GM V.0 is based in

Vmap level 0 data,

Global Land Cover Characterization (GLCC), and

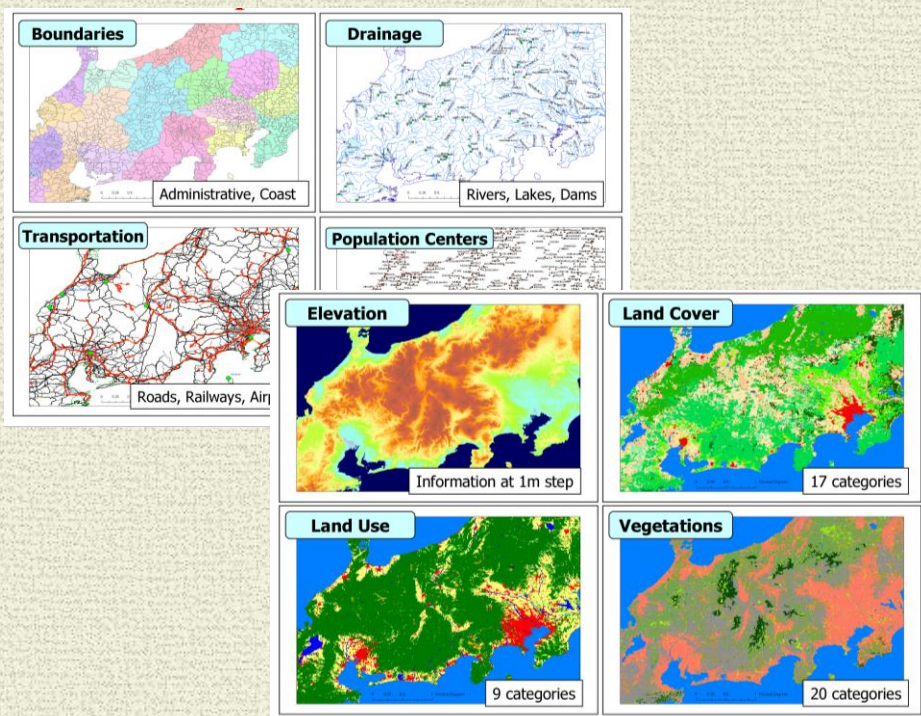
GTOPO 30 elevation data set.

It contains four raster layers (vegetation, land cover, land use and elevation), in TIFF/BIL raster formats, developed by using existing global geographic datasets, and without any validation of any NMO's.

The GM V.X is based in existing global geographic datasets also, tentatively developed with expectance to be improved in GM V1/V2.

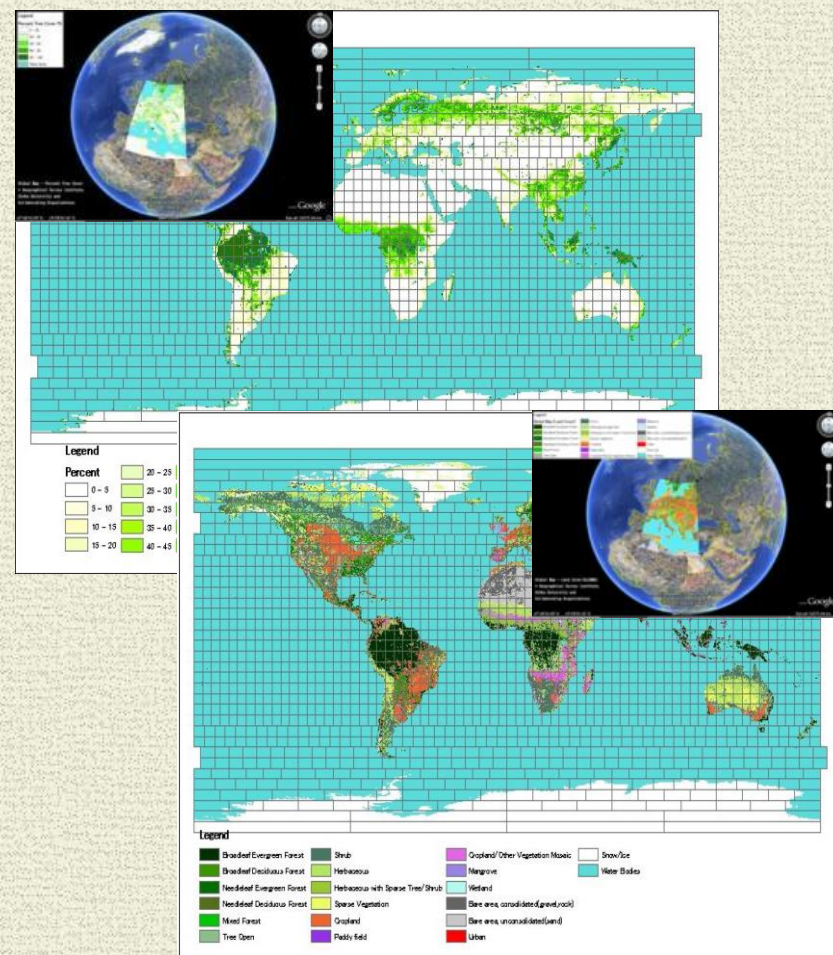
Global Map V1/V2 (national and regional version)

<i>Vector Layers</i>	<i>Raster Layers</i>
Transportation	Elevation
Boundaries	Land Cover
Drainage	Land Use
Population Centers	Vegetation



Global Map V1 (global version)

Land cover *Percent tree cover*



DEVELOPING ALBANIAN GLOBAL MAP DATASET

Responsible institution:

State Authority for Geospatial Information of Albania www.asig.gov.al



Initiative:

Case study of PhD theses of PhD candidate Milot Lubishtani, at the geodesy department of Polytechnic University – Tirana www.upt.al



Working team:

Milot Lubishtani as team leader; prof Bashkim Idrizi as supervisor; and 3 mapping and GIS experts of ASIG.

Technical support:

International Steering Committee for Global Mapping www.iscgm.org



Data sources:

Orthophoto images of year 2012.

Existing topographic maps in scale 1:25000, and IRS, SPOT and RapidEye satellite images.

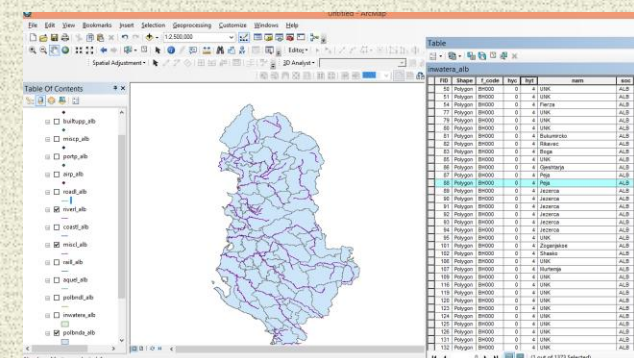
Used standards:

Global Map Specification; Version 2.2, 12.08.2012.

Accessibility and copyright:

Open for downloading;

Free only for non-commercial use, via <https://iscgm.org/gmd>



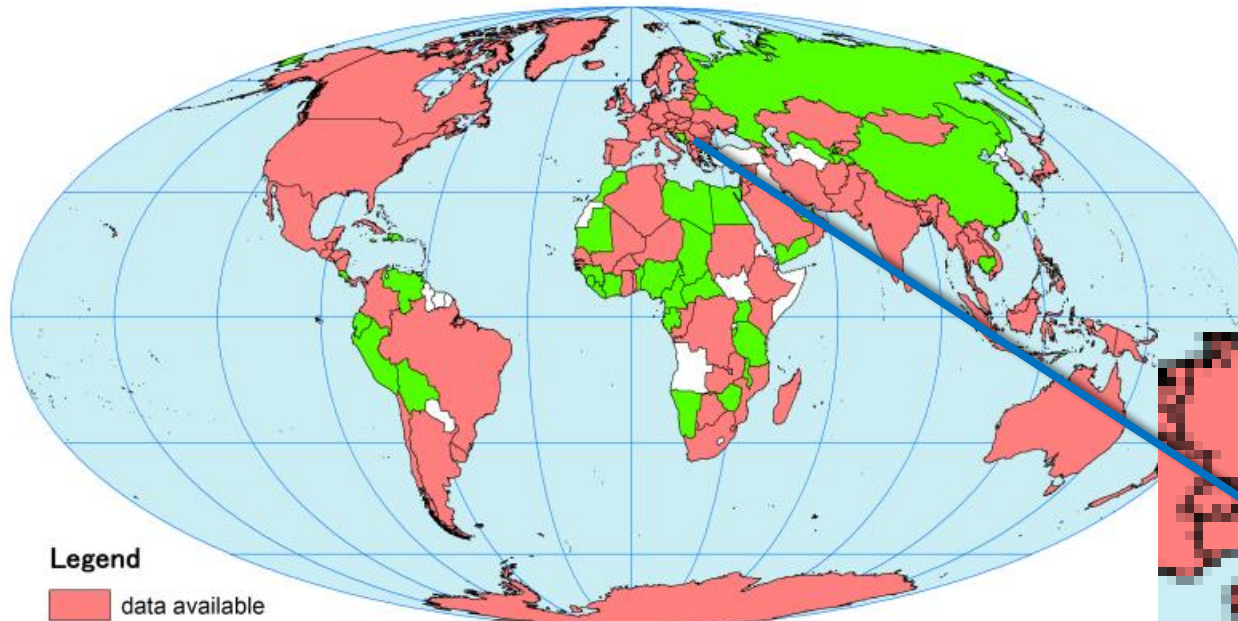
Published on:

July 14th, 2016. <http://www.iscgm.org/aboutus/ngias.html>

Progress of Global Mapping Project

As of 2016-07-14

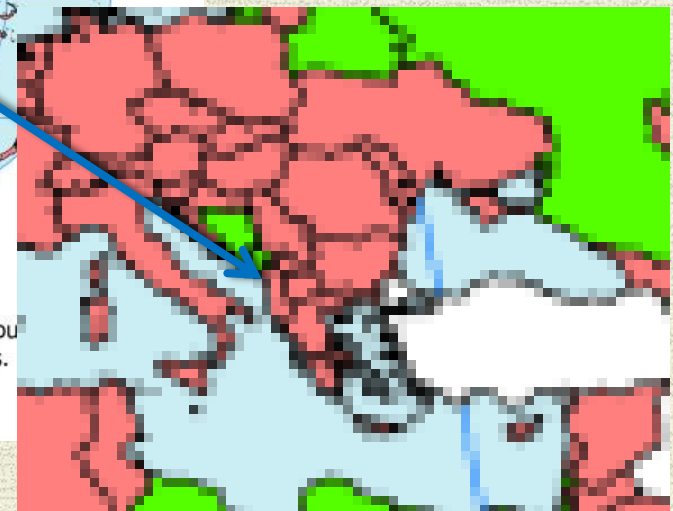
International Steering Committee for Global Mapping



Legend

- data available
- developing data
- not participating in the project

This map is for the purpose of reference and the boundaries in this map are not authorized by any organizations.



www.iscgm.org/gmd/

their responsibility. ISCGM will not assume any responsibility for the contents of these data. For detailed information

Agreement for use

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The above articles may change without prior notice.

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First, please choose an area. Please select an area in the left box to see a list of countries and regions.

Then, in the right box, select a country you want to get data.

A list of datasets will be shown. Please see that table below.

Africa
Asia
✓ Europe
North America
South America
Oceania
Antarctica

Europe
Albania
Bosnia and Herzegovina
Bulgaria
Croatia (local name: Hrvatska)
Czech Republic
Cyprus
Georgia
Hungary
Macedonia, the former Yugoslav Republic of

ALB

Clear ALL

*The countries and regions whose Global Map V.1/V.2 were available are written in bold

<https://iscgm.org/gmd>

Country or Region	Organization	Details
Africa		See more.
Asia		See more.
Europe		See more.
Republic of Albania	State Authority for Geospatial Information	Released
Andorra	Ministeri d'Urbanisme i Ordenament	EuroGlobalMap
Austria	Federal Office of Metrology and Surveying	EuroGlobalMap
Belarus	The State Committee on Property of the Republic of Belarus	Direct
Belgium	National Geographic Institute General Administration of Patrimonial Documentation	EuroGlobalMap
Bosnia and Herzegovina	Agency for Geodetic and Real Property Affairs Republic Ministry for Geodetic and Property Affairs of Republic of Srpska	
Bulgaria	Geodesy, Cartography and Cadastre Agency	Released
Croatia	State Geodetic Administration of the Republic of Croatia	EuroGlobalMap
Cyprus	Cyprus Department of Lands and Surveys	Direct+Euro
Czech Republic	Czech Office for Surveying, Mapping and Cadastre	EuroGlobalMap
Denmark	Danish Geodata Agency	EuroGlobalMap
Estonia	Estonian Land Board	Direct+Euro
Finland	National Land Survey of Finland Finnish Geodetic Institute	EuroGlobalMap
France	National Institute of Geographic and Forest Information	EuroGlobalMap

<http://www.iscgm.org/aboutus/ngi/ro.html>

/index.html



Activity of Global Mapping Project

International Steering Committee for Global Mapping (ISCGM), in cooperation with relevant organizations of respective countries and regions around the world, has been working for the Global Mapping Project, an effort to develop, provide and promote the use of geospatial information necessary for addressing global challenges, including environmental problems and disaster prevention, and advancing sustainable development of the world.

What's New

2016-08-02: Twenty-third meeting of the ISCGM in NY was successfully concluded. >> [ISCGM23 Page](#)

2016-08-01: "A Twenty Year Journey in Global Mapping" is posted. >> [ISCGM23 Page](#)

2016-07-21: Global Map Cote d'Ivoire Version 2 is Released

2016-07-14: Global Map Albania Version 2 is Released

2016-07-12: Global Map V12 (Global Version, ISCMMO) is released

2016-06-30: Republic of Albania participated

2016-06-01: Announcement and Registration Page of the 23rd Meeting of the ISCGM is Posted. >> [ISCGM23 Page](#)

2016-05-12: Urban Hazard Maps Web Portal Renewal

>> [More News](#)

2016

Fourth UN-GGIM High Level forum
Apr. 20-22, Addis Ababa, Ethiopia

FIG Working Week 2016
May. 2-6, Christchurch, New Zealand

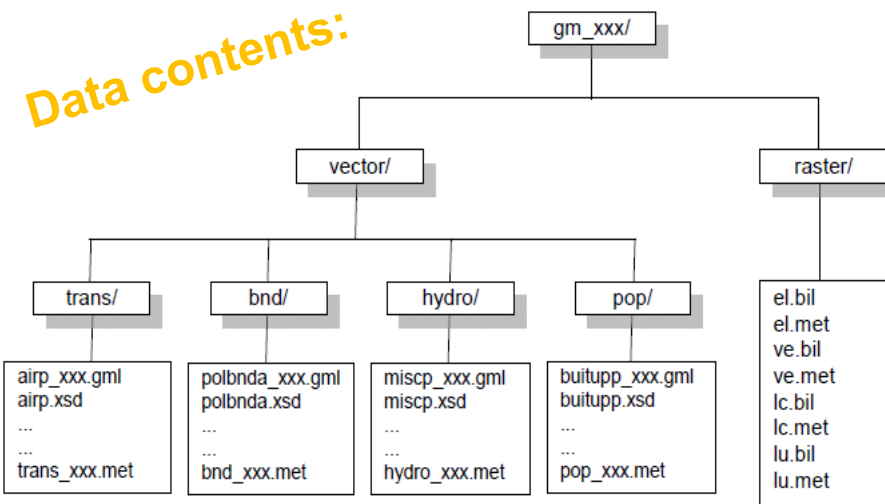
23rd meeting of ISCGM
Aug. 2, New York, USA

Sixth Session of UN-GGIM
Aug., New York, USA

Fifth UN-GGIM-AP Plenary Meeting
Oct., Malaysia

WE MAPS
INTERNATIONAL MAP YEAR 2015-2016

Data contents:



<https://iscgm.org>

Albanian Global Map V2 (national version)

Vector Layers

Transportation

Boundaries

Drainage

Population Centers

Raster Layers

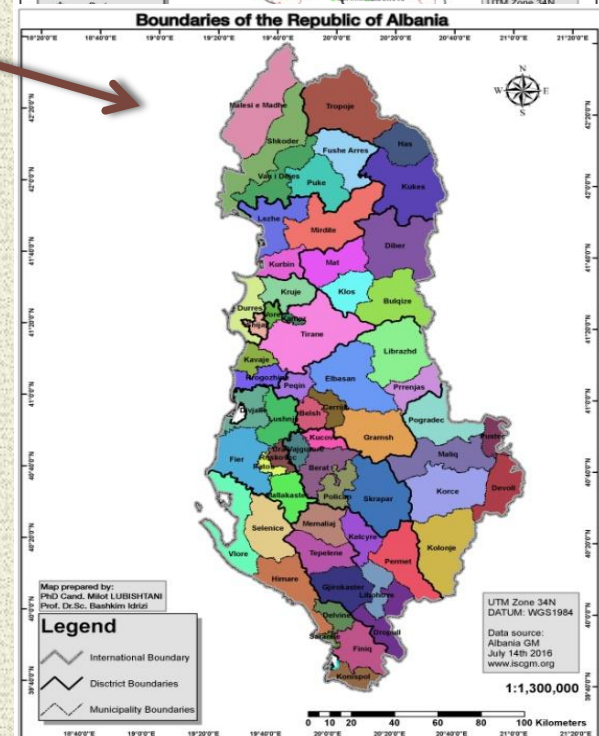
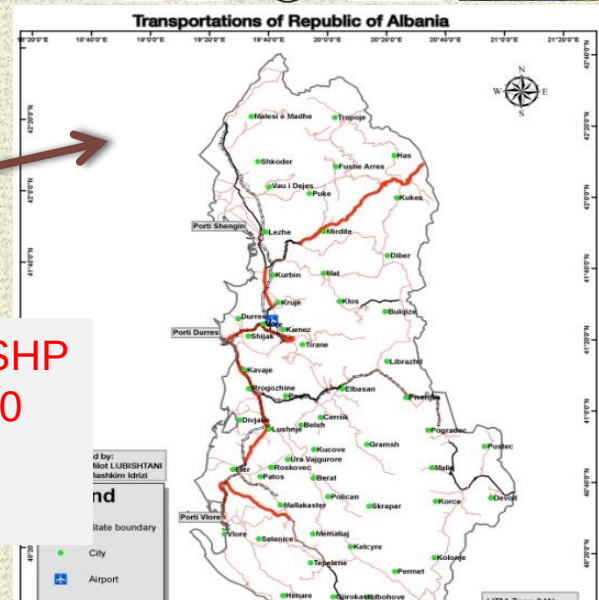
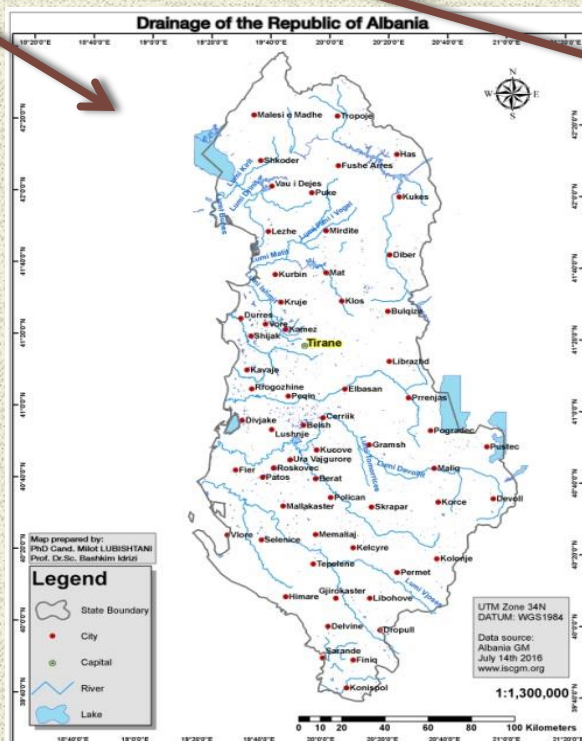
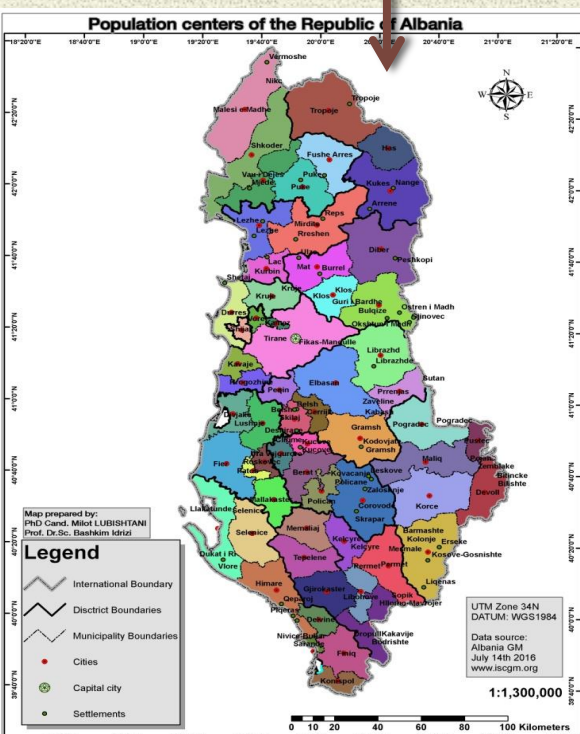
Land Cover

Elevation

Land Use

Vegetation

Format: GML & SHP
Scale 1:1.000.000
Datum: WGS 84
Entirety: 100%



Albanian Global Map V2 (national version)

Vector Layers

Transportation

Boundaries

Drainage

Population Centers

Raster Layers

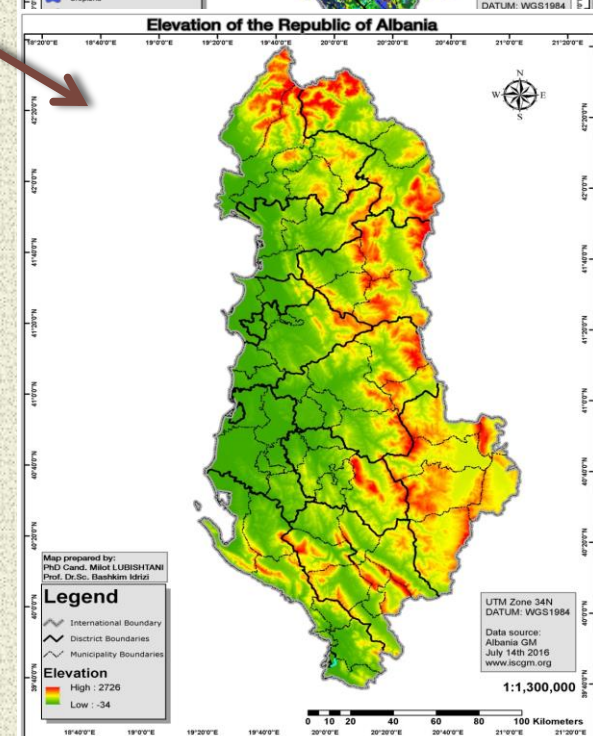
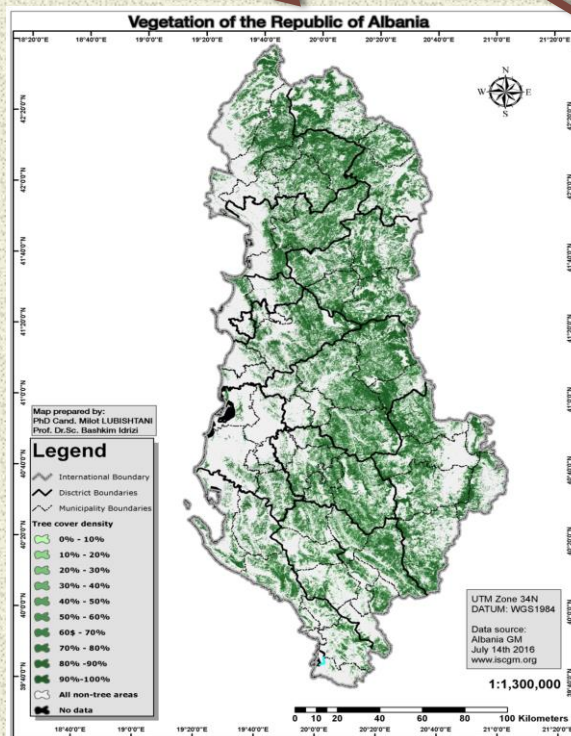
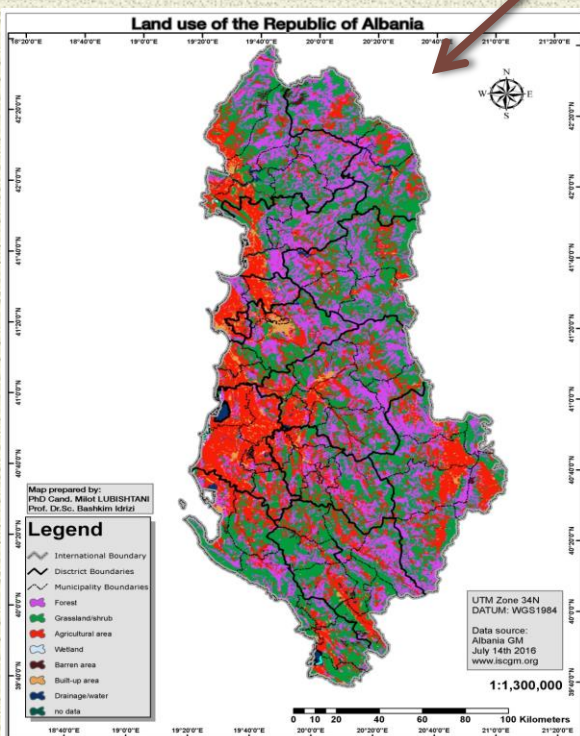
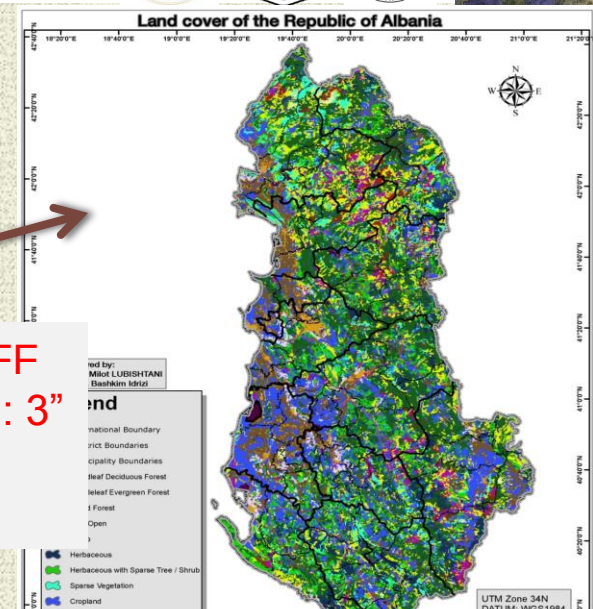
Land Cover

Elevation

Land Use

Vegetation

Format: BIL & TIFF
Spatial resolution: 3"
Datum: WGS 84
Entirety: 100%



OUTPUTS - Albanian Global Map dataset contains:

Seven transportation layers (302 km Highway, 421 km Primary route, 3362 km Secondary route, 11583 km other routes, 483 km Rail road, and Tirana airport):

- Airports includes digital cartographic data with attributes for the airports of the Albania, represented as points;
- Ports includes digital cartographic data with attributes for the ports of the Albania, represented as points;
- Ferry Routes includes digital cartographic data with attributes for the ferries of the Albania, represented as lines;
- Railroad stations includes digital cartographic data with attributes for the railroad stations of the Albania, represented as points;
- Railroads includes digital cartographic data with attributes for the railroads of the Albania, represented as lines;
- Trails and tracks line includes digital cartographic data with attributes for the trails and tracks of the Albania, represented as lines;
- Roads includes digital cartographic data with attributes for the roads of the Albania, represented as lines.

Population centers layer: in total have been included 208 population centers, i.e. 61 cities and 147 settlements

Drainage (hydrography) layer: 41 rivers, 477 lakes and 896 reservoir.

Boundary layer: national and local level boundaries (national boundary line, district lines and municipality boundaries.

Main outputs:

- involving Albanian NMO in Global Mapping project,
- developing and publishing the Albanian Global Map Dataset, and
- migrating the Albanian dataset to United Nations Geospatial Information Section (UNGIS) database!

In behalf of both co-authors



Milot LUBISHTANI & Bashkim IDRIZI

THANK YOU FOR YOUR ATTENTION!!!



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