

Global Mapping of Algeria

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Reference
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Abstract: Global Mapping is an 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.

Primary objective of global Mapping is to contribute to the sustainable development through the provision of base framework geographic dataset, which is necessary to understand the current situation and changes of environment of the world.

Global map is applicable for:

- Monitoring and early warning systems for natural disasters;
- Monitoring and management of natural resources such as inland water, land use/cover and land use/cover changes as vegetation;
- Assessment of trends of environment changes such as desertification and deforestation;
- Local, national and multi-national physical development planning.

The National Institute of Cartography and Remote Sensing - Algeria has adhered to the GSDI/Global Mapping project in 2002, following an invitation from ISCGM.

The National Institute of Cartography and Remote Sensing has committed itself to put on internet a synthesized digital data at the scale of 1 million of Algeria, at the disposal of Algerian users specialized in the regional planning and development and of international researchers whom will find through the site of GSDI information on Algeria necessary to their works.

Keywords: GSDI, Global Mapping, digital data, scale of 1 million.

1. OUTLINE OF GLOBAL MAPPING

1-History

1992- "Global Mapping" was proposed

1996- International Steering Committee for Global Mapping (ISCGM) was established.

1998- ISCGM invited National Mapping Organizations around the world, with a recommendatory letter of the United Nations, to participate in the Global Mapping project. Global Map data production was started.

2000-Global Map data provision was started.

2002- Promotion of Global Mapping is started in the Plan of Implementation of world summit on sustainable development (WSSD).

2007- Global Map data of the whole land area to be completed.

2-What 's Global Mapping

In order to cope with global environmental problems reliable geographic information of the whole globe is indispensable. Global Mapping project was proposed by Ministry of Construction of Japan (present Ministry of land, Infrastructure and Transport of Japan) aiming to develop digital geographic data sets (global Map) of the whole globe. The purpose of the Global Map is accurately describing the present status of the global environment in international cooperation of respective National Mapping Organizations (NMOs) of the world.

3-Purpose

The primary purpose of this Committee is to examine measures that concerned national, regional and international organizations can take to foster the development of Global Mapping in order to facilitate the implementation of global agreements and conventions for environmental protection as well as the mitigation of natural disasters and to encourage economic growth within the context of sustainable development.

4-Organizer international steering committee for global mapping

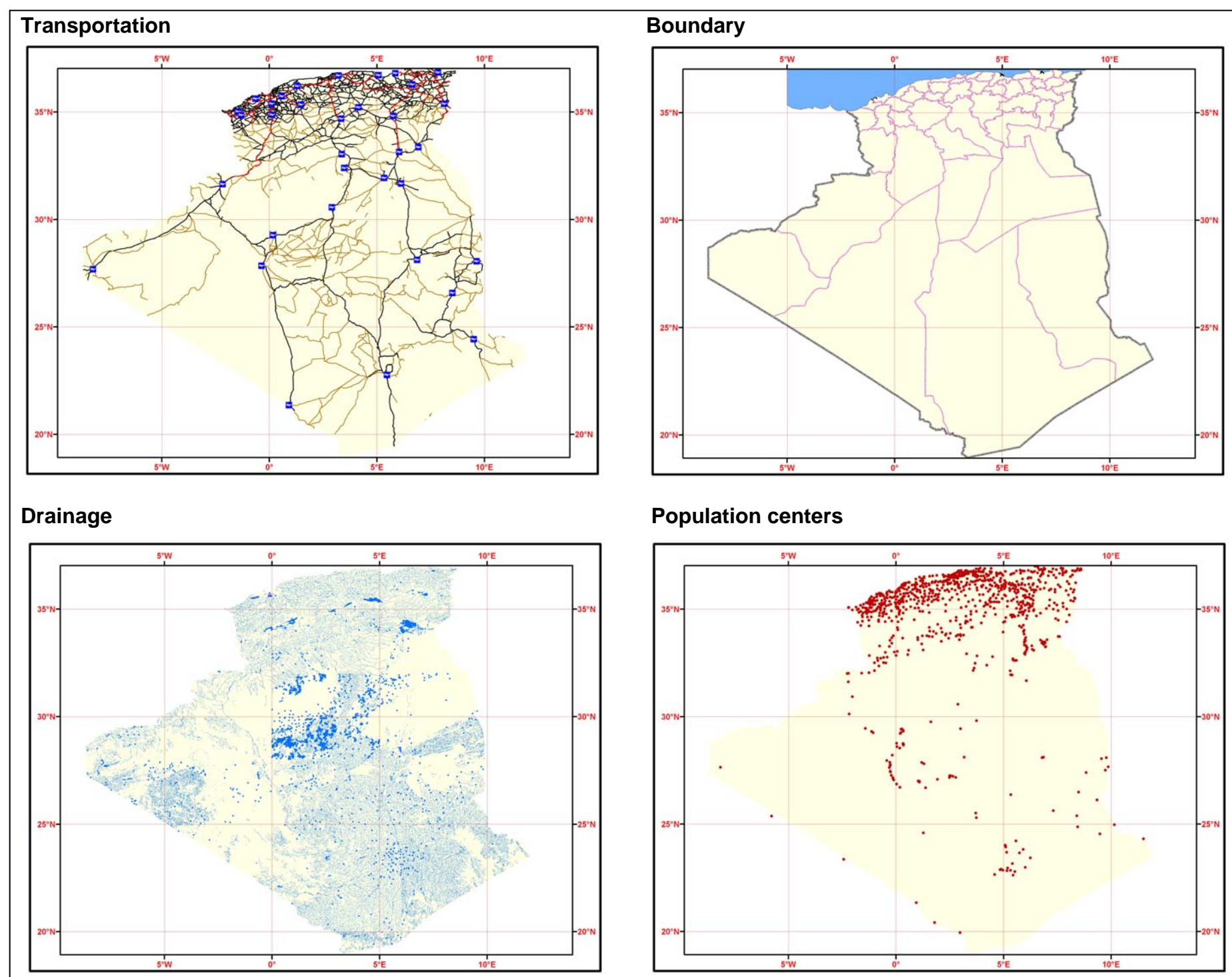
The International Steering Committee for Global Mapping (ISCGM) was established in February 13,1996 in Tsukuba Japan by the participants of the Preparatory Meeting of the ISCGM. And the First Meeting of the ISCGM was held in February 14, 1996. Aims to promote the Global Mapping project. It consists of the heads or those with adequate qualification of National Mapping Organizations and related international organizations. The ISCGM, with the secretariat situated at the Geographical Survey Institute (GSI), makes policy for developing Global Map and follows up data development.

4. REPRESENTATION OF FEATURES AND LAYERS

Spatial features are organized into thematic layers (coverages), with each layer containing logically related geographic information. These layers will either be in raster or vector form.

Global map is composed of 8 layers

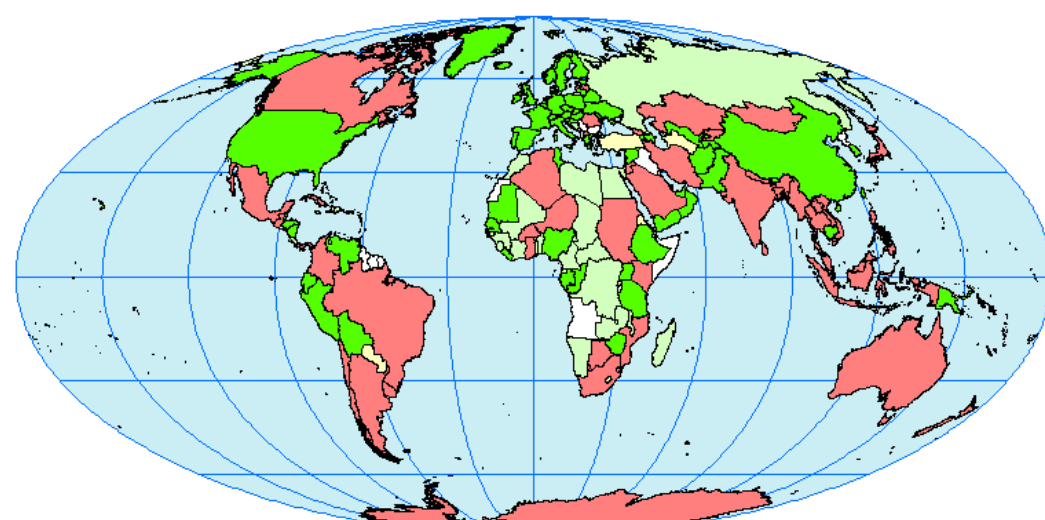
Vector layers



2. PRESENT STATUS OF THE PARTICIPATING COUNTRIES RELEASED DATA

Progress of Global Mapping Project

As of 2008-03-18
International Steering Committee for Global Mapping

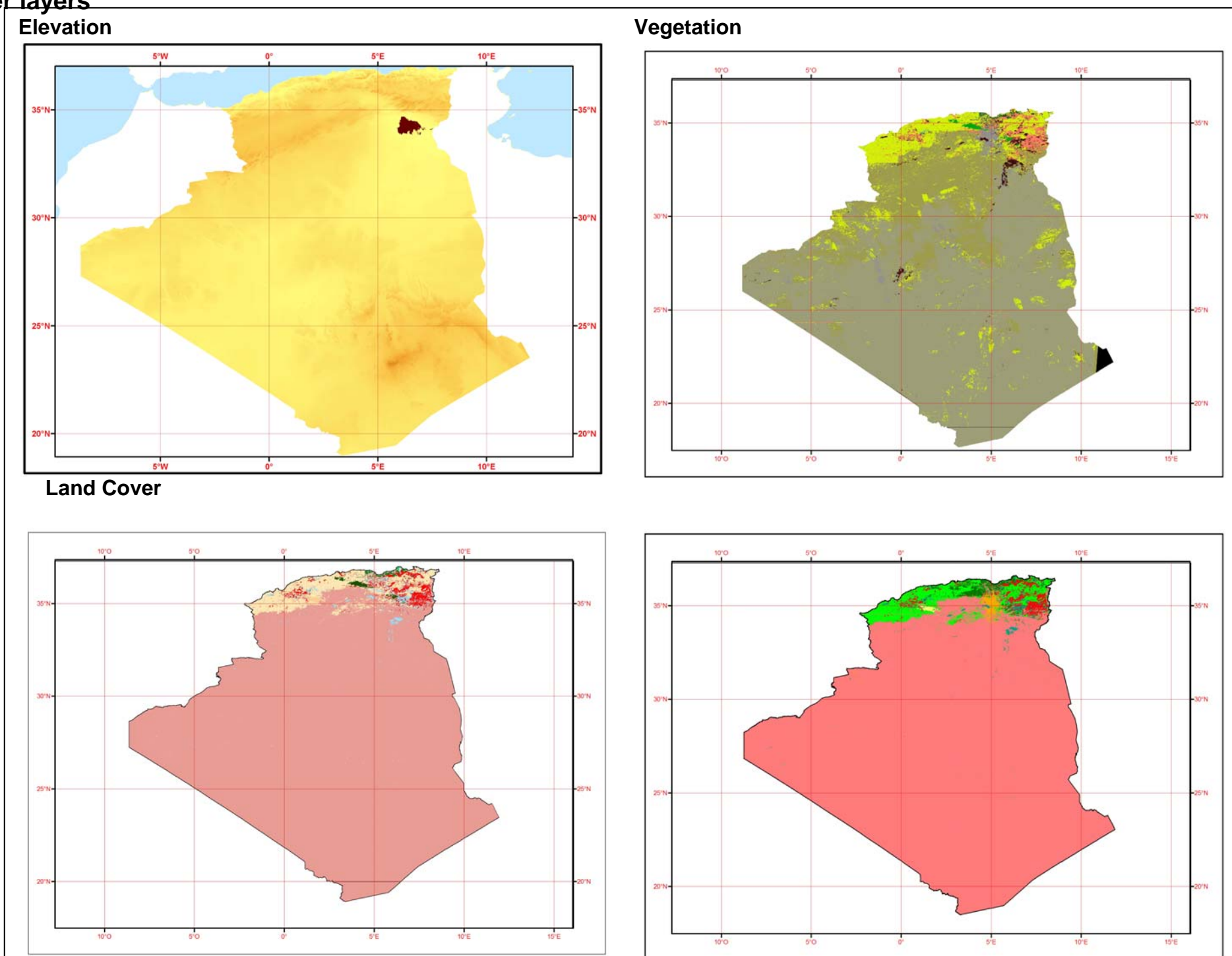


Legend

Red	data available	Yellow	considering joining the project
Green	data for verification	White	not participating in the project
Light Green	developing data		

Most raster data of current Global Map are compiled from GTOPO30 and GLC-C, contribution of United States of America.
This map is for the purpose of reference and the boundaries in this map are not authorized by any organizations.

Raster layers



3. DEVELOPMENT STATUS OF BASE MAP (DIGITAL DATA) TO DEVELOP GLOBAL MAP

- Digital Data (Vector Data) to a million scale (1.000.000) covers the totality of the national territory.
- This data is made with digitalization of 14 maps to the scale 1:1.000.000 who covers Algeria.

- Map information:

- o Scale of the map: 1/1 000 000
- o Coordinate system: North Sahara 1959
- o Projection: Lambert Conic Conformal
- o Amplitude: 6° X 4°
- o Equidistance of curves: 100 m

- Data information

- **Data Source:** Digitalization of separate films of the map to 1/1 000 000.

- **Means:** digitalization by means of a digitizer on the computer VAX 11/785 followed by a total resumption on PC by using SIG for the control, the treatment and the structure of the data.

- The data in 1:1.000.000 scale was modified according to the Global spatial Data Infrastructure (GSDI) project with ESRI Inc..A new version was structured under the GIS (ArcGis software)

- Contents of Layers:

Every digitized sheet is structured in layers, from which we distinguish:

- Planimetric layer:
 - The communications (road, track (runway), railroads)
 - The towns (conglomerations)
 - The construction
 - The electricity network
 - The symbols (village, ruins, isolated installations, airport, lighthouse (headlight))
- Altimetric layer:
 - The curves of levels
 - Points sides
 - Equidistance of curves 100 m, intercalary curves 50m
- Hydrographic layer:
 - The permanent and temporary rivers – Marsh, lac ...
- Vegetation Layer:
 - Wood, bushes, ...
- The layer of textual elements.
- Other layers of particular details.

Remark: the data in 1/1 000 000 return within the framework of the project GSDI with ESRI Inc., a new version was structured under the software SIG ArcGis.

Biography of the Author

Mohamed Amine Mengouchi is engineer of state in geodetic sciences and topographic works, from National centre of spatial technical, Cheif of Department of basic map in National Institute of Cartography and Remote Sensing, Algiers, ALGERIA



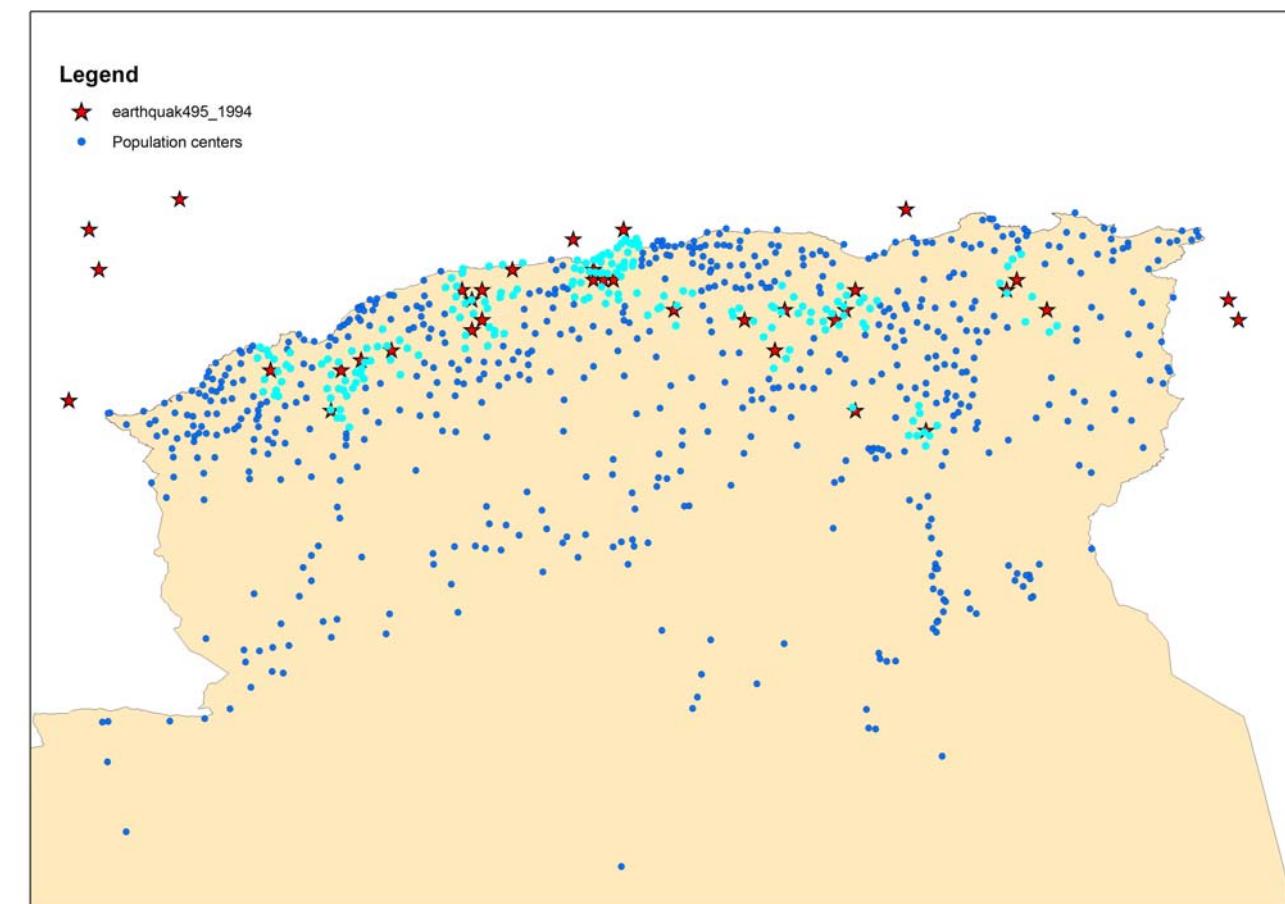
Mohamed Amine Mengouchi

5. UTILIZATION OF GLOBAL MAP

- Desertification;
- Natural disasters like floods, fires and earthquakes;
- Evaluation of industrial pollution;
- Grasshopper invasion;
- Dryness;
- Etc.

Application (Monitoring and early warning systems for natural disasters)

To find the location that are subject to the earthquake's risk, we have superposed the global map layer's of population center with Significant Earthquakes since years 495 to 1994 with the radius of 30 km around the epicenter the result is: 179 locations of 864 are subject to the earthquake's risk,



6. Conclusion:

To understand the current situation and changes of environment of the world, we hope that all countries in the world complete their Global map and diffuse it through the net in order to put the different thematic maps at the disposal of different national and international users.