Master Plan of GEBCO outreach Program

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Master plan of GEBCO outreach program

**Background**

- Paolo Lusiani reviewed the outreach programs in 2011
- Presentation and discussion in GEBCO meeting in 2013, led by Paolo Lusiani, Hyo Hyun Sung and Eunmi Chang
- Hyo and Eunmi prepared the documentation about the Roadmap for GEBCO outreach Program

**Outreach** means the activity of making people aware of the work that you do and the products and services that you provide

**Outreach** plays an educational role raising the awareness about existing services
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Theme 1

Current Status Reviews and Analysis of Environment

- Objects: Globes, maps, derived maps produced by GEBCO and members, grid data sets
- Activities: meetings, documentation and uploading to GEBCO site
- Clients: those who do not know about GEBCO, International organizations, nations, local governments, business sectors, education sectors

Method 1

Information Strategy Planning Method
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Theme 2

Vision and Strategy Setting via SWOT analysis
- Define strong points and weak points
- Define opportunities and threats
- Strategies

Theme 3

List of activities based on GEBCO budget and voluntary work
- Online and offline
- activities and products
- Long-term and short-term activities

Methods

5W1H method + Information Strategy Planning Method
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Theme 4
- Prioritization and Cross-referencing
  - Principles for priority
  - Definitions of relationship
  - 3 year short-term budget plan

Theme 5
- Expectations
  - Quantitative and Qualitative effects
- Road maps for the activities and products

Methods
- Paper works and email communications
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2013 GEBCO meeting resolution

Step 1. Consensus of need for Roadmap
Step 2. Environment analysis (members, funds, organization, traditions, rules etc.)
Step 3. Current situation analysis (ICT technical trend, user interests)
Step 4. SWOT analysis
Step 5. Vision and Objectives setting
Step 6. Strategies and potential subprograms
Step 7. Subprograms priority setting and inter-dependency analysis
Step 8. Detailed plan for top 10 or top 15 Subprograms and budget plans
Step 9. Implementation Strategy: outreach range, depth, methods, number of volunteers
Step 10. Organization support and declaration of Roadmap for outreach.

2014 GEBCO meeting: discussion

After 2014 GEBCO meeting
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Output 1

Presentation Material
In June 2014

Output 2

Discussion issues in meetings

Discussion issues

Reports
GEBCO Outreach Program
Master Plans
In Dec. 2014
(in English)
From theme 1 to theme 5
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Previous work: Current Status of GEBCO outreach activities

GEBCO original products

- Bathymetric maps of the world oceans, in paper and digital versions global grid of topography covering the entire world at a resolution of 30 arc-seconds
- Gazetteer of Undersea Feature Names
- Under Development…Regional Undersea Mapping programmes – grids (printed maps) (S E Pacific, N Indian Ocean, Southern Ocean)

- 2011 Presentation material Lusiani
  - Waterproof A3 GEBCO map
  - GEBCO Globe

- 2013 Presentation material Eunmi and Hyo
  - Web-cartoons, animation
  - GEBCO-derived map, smart Globe

http://www.gebco.net/about_us/news_and_events/
1. Social problem-solving ICT

Innovative business models replace ad-driven campaigns in emerging markets

With technology innovation hubs springing up across the continent, technology communities within many developing countries are gaining access to state of the art facilities, events, mentorship and training; making it more likely that they'll devise impactful solutions.

Early ICT successes that relied on service delivery and civic mapping are creating an appetite among developers and civil society organizations to confront power through public information.

2014, I predict that machine to machine (M2M) technology will be important for ICT for development as it reaches critical mass.

We will see improved food security and increased agricultural yields, rural education transformed, disease outbreaks detected, mothers sent vital information, and all of this done by sophisticated systems that take advantage of a basic mobile phone.

The 750m girls and women around the world who don't have phones, but can afford one designed for them and at the right price.

What about the meanings to GEBCO outreach

More education chances via mobile phones and smart phones and vulnerable groups

Mapping environment is crucial to solve social problems, even in the sea

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2. Key success factors in information technology market

Highlighted competition for platform leadership - competition and collaboration on multiple fronts

Changing consumer behaviors - growing importance of UI and UX

Growing importance of content - content differentiation and development of exclusive Content

Evolving business models - development of new value-added services and business models

2014 ICT Industry Outlook of Korea

Meanings to GEBCO outreach

Google or any other platform for the standardized bathymetric data platform. It is necessary for GEBCO outreach group to consider adapting UI and UX and 3D printing to GEBCO products

Technical Environment Analysis

PC-> NOTEBOOK-> mobile devices

- Mobile device Diversity and Management
- Mobile Apps and Applications
- The internet of things
- Hybrid Cloud and IT as Service Broker
- Cloud/Client Architecture
- The Era of Personal Cloud
- Software defined Anything
- Web-scale IT
- Smart Machines and 3-D printing

Gartner Group, 10 trends technology and strategy
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Theme 1

The vision of Outreach Program depends on the Mission of GEBCO itself.

**GEBCO operates in affiliation with The International Hydrographic Organization (IHO)**

“A subsidiary mission is the application of hydrographic data to support science, and to promote its use in geographic information systems...”

**GEBCO operates in affiliation with Intergovernmental Oceanographic Commission – IOC (of UNESCO)**

“The IOC assists Member States of the UN to address their individual and collective ocean and coastal problems through the sharing of knowledge, information and technology and through the co-ordination of national programmes.”
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### Theme 2

The SWOT of GEBCO are reflected on the SWOT of GEBCO outreach

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Long Tradition over 100 years</td>
<td>- Not well known to public</td>
</tr>
<tr>
<td>- Support National and International bodies</td>
<td>- Largely relies on volunteers</td>
</tr>
<tr>
<td>- Irreplaceable position</td>
<td>- Limited travel funding</td>
</tr>
<tr>
<td>- Development of cutting edge technology in survey and mapping</td>
<td>- Slow communication</td>
</tr>
<tr>
<td>- More public interest in marine territories</td>
<td></td>
</tr>
<tr>
<td>- Open education</td>
<td></td>
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</table>

### Opportunity

- Nationalism of data and information
- Increase in GAP between developing countries and developed countries
- Small budget

### Threats
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Theme 2

The SWOT of GEBCO outreach activities

**Strengths**
- Established set of products
- A group of volunteers to work on outreach activities
- Potential input of sub-committees
- Big data, social network, mobile approach to outreach
- Open education
- Needs for new science education about the earth

**Weakness**
- Not systematic work
- Poor interaction with other institutions
- Not concrete strategies
- Few leaders in outreach activities
- Language barrier

**Opportunity**

**Threats**
- Sporadic events
- Small size of budget
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Theme 2

Vision

1. Let people know GEBCO and its outputs
2. More people understand about the work of GEBCO and the importance and uses of seafloor mapping work; bathymetry data and the need to continue seafloor mapping and data collection and banking activities

Goals

A. Users in the academic and commercial sectors uses GEBCO’s data and products in their work
B. Business sectors related to transportations use GEBCO’s products
C. More children know the potential importance of GEBCO’s products and the role of the shape of the sea floor in ocean circulation and climate issues
D. Politicians and government officials are encouraged to increase budgets for seafloor mapping work and ocean studies
E. GEBCO continues to encourage and promote the availability of bathymetry data to the international community and continues to improve and expand its products and services
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Theme 2

Define the clients or audience for outreach

A. Experts in marine and coastal science use GEBCO products
   - One stop data, information, knowledge service
   - Google maps geo-tagged articles
     Ex) scientific measurement and theory in a certain point or geographic features

B. Business sectors related to transportations use GEBCO products
   - Museum, aquarium and other MICE activities
   - Guidance Map of Airline companies and vessel companies
   - Tourism Business User Experience Thematic Park about the sea

C. More children know the potential importance of GEBCO products
   - In Classroom or out of classroom activities
   - “Project : Beyond my country” about geography and oceanography and hydrography
   - Subject on “MegaHistory: ocean chapter”
Politicians and government officials in UN and each nation put more budget to coastal and marine survey and observation

- Scientific knowledge of the sea
- Economic effects of GEBCO products
- Background for International Treaty on Environmental policies about the “clean sea”

GEBCO has better collection ocean mapping data and derived products in the future to expand human habitat.

- Global databases of publically-available bathymetry data continues to increase;
  GEBCO’s products continue to increase, improve and expand
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### Theme 2

**activities and products in the near past**

<table>
<thead>
<tr>
<th>Offline products</th>
<th>Offline activities</th>
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<tr>
<td>- Water-proof A3 GEBCO map</td>
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<tr>
<td>- A0 GEBCO map</td>
<td></td>
</tr>
<tr>
<td>- GEBCO globes in different size</td>
<td></td>
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<tr>
<td>- GEBCO balloon</td>
<td></td>
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<tr>
<td>- Stickers and other gifts</td>
<td></td>
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<tr>
<td>- Digital GEBCO map</td>
<td></td>
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<tr>
<td>- Various trials for maps</td>
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<tr>
<td>- Booth in Monaco</td>
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<td>- Activities in IOC meetings</td>
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<tr>
<td>- Personal trial to send A3 GEBCO map</td>
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<tr>
<td>- Presentation of GEBCO works in academic conferences</td>
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<tr>
<td>- Homepage with presentation materials</td>
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<td>- Google Ocean experiments with you-tube</td>
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<td>- Training Program Nippon foundation activities and Korea</td>
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How to speed up filling the gap in the past and IT trends

Theme 2

1. One source Multi platform strategy
   - Google ocean
   - ESRI platform
   - GEBCO platform
   - 30 arc grid

2. One source Multi device strategy
   - Multi-panel display
   - Personal computer
   - Mobile device
   - Value added contents
   - GEBCO world map
   - GEBCO gazetteer

3. One source Multi usage
   - Smart GLOBE
   - 3-D printing other technological innovation
   - GEBCO world map
   - GEBCO gazetteer

Multi-OS
Multi-browser
Multi-device
Multi-resolution
Multi-display
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activities and products in the near future

**Theme 3**

**Offline products**

- Water-proof A3 GEBCO map
- A0 GEBCO map
- GEBCO balloon with depth information
- Digital GEBCO map
- Smart GEBCO Globe
- Derived thematic maps
- Cartoons and animations

**Online products**

- More Uploading of GEBCO data
- Animations and Videos
- Information Services
- Digital imagery products
- Up-to-date GEBCO brochure

**Offline activities**

- Better Booth in Monaco
- More trial to send A3 GEBCO map
- Encourage GEBCO colleagues to give presentation of GEBCO’s work at conferences; exhibitions and meetings and through scientific and general interest publications
- Report on the economic effects of GEBCO products

**Online activities**

- Education Program in Open Universities and Cyber Universities
- Customized expert training on web and mobile environments
- Continue to improve content of GEBCO’s ‘General Interest’ web pages relating to the importance of seafloor mapping and its uses’ and post links to posters;
- Post links to articles about GEBCO, its work and about the bathymetry data on GEBCO’s Facebook pages
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Theme 4

Prioritization and inter-relationship

Each item can be categorized into high-cost group and low-cost group.

- GEBCO World map
- Derived maps
- Derived maps
- Derived cartoons
- Smart globe
- App and application
- Digital Globe
- Augmented Reality
- GEBCO brochure
- analogue Globe
- UX-based Home pages
- Update GEBCO General interest web page content
- Partial 30 arc-second Grid sets
- gazetteers
- Presentation material

High cost: H
Low cost: L

languages

Each item can be categorized into high-cost group and low-cost group.
Each item can be categorized into wide impact group and narrow impact group.

- GEBCO World map
- Partial 30 arc-second Grid sets
- Gazetteers
- Presentation material
- Update GEBCO General interest web page content
- Derived paper maps
- Derived digital maps
- Smart globe
- App and application
- Augmented Reality
- Digital Globe
- Analogue Globe
- UX-based Home pages
- GEBSCO brochure
- Derived cartoons

Themes:
- Wide impact
- Narrow impact

Languages:
- English
- French
- Spanish
- Chinese
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**Theme 4**

Which priority with a very limited budget?

LW might be done first and then HW and LW and finally LW might be done with GEBCO own budget; others can be done voluntarily.
Which priority is placed with very limited budget?

LW might be done first and then HW and LW and finally LW might be done with GEBCO own budget; others can be done voluntarily.

- **Community group** (H, high cost)
- **Update GEBCO General interest web page content** (H, high cost)
- **Website Link** (L, low cost)
- **Presentation material** (L, low cost)
- **Indirect Exhibitions** (W, wide impact)
- **Academic Papers & Reports** (W, wide impact)
- **Circular Exhibition** (N, narrow impact)
- **Direct Exhibition** (N, narrow impact)
- **ICAO network** (N, narrow impact)
With full understanding ICT standards and trends, GEBCO outreach program will be carried out step by step, covering products and activities.

Limited budgets will be spent on the items with the lowest cost and widest impact. There needs to be collaboration with groups such as TSCOM to prioritize GEBCO’s resources.

But a master plan for outreach with consensus will go ahead before TSCOM finishes its own jobs.

*Outreach* means the activities of providing services to populations who might not otherwise have access to those services. *Outreach* plays an education role and raising the awareness of existing services.
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Action Plans 1

1-1 Archive the previous materials with information of availability and price.

1-2 Who will do this? When will it be done? Budget?

- Gazetteers: NGDC, NOAA
- GEBCO world map: diverse Nippon Colleagues
- GEBCO lenticular map: Pauline
- GEBCO hard cover brochure (updated): (       )
- GEBCO webpage contents: Korea
- GEBCO world map balloons
- Derived Cartoon: Korea
- Other presentation Material: Korea + (      )
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Action Plans

Who will do this? When will it be done? Budget

Digital Globe
App and application

Smart globe
Augmented Reality
3D printing
Derived digital maps
Derived paper maps

Analogue Globe

High cost
Low cost
Wide impact
Narrow impact

- Digital globe (Google+ NASA)
- App application (IHO)
- Smart globe (Korea + after 2015)
- Augmented reality (Korea + after 2015)
- Derived digital maps and globes after 2015
- Application of 3D printing
Examples
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Example 1

Exhibition

URL: http://www.khoa.go.kr/kcom/cnt/selectContentsPage.do?cntId=53301000

Title: “Ocean, Earn Names and Fame”

Contents:
1. Wider Look of the Ocean
2. Closer Look into the Ocean
3. Oceans, Earn Korean Names
4. Our Magnificent Seas
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Example 2 America-centric world map

URL: http://www.khoa.go.kr/kcom/cnt/selectContentsPage.do?cntId=45705000

Korean version of the America-centric world map
(undersea feature names)
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Example 2: Asia-centric world map

URL: http://www.khoa.go.kr/kcom/cnt/selectContentsPage.do?cntId=45705000

Korean version of the Asia-centric world map (undersea feature names)
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Example 3
Linear Undersea Features (in revision)
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Example 4

URL: http://www.khoa.go.kr/kcom/cnt/selectContentsPage.do?cntId=53301000
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Example 5: Smart Globe

- GEBCO world map + mobile App program

Scan the area in interest

Mobile App Program

- Database
- Location DB
- Names in a grid
- Selected information
- Lists of undersea features
- Detailed information

Google Map

Undersea

SQLite
Marker printing and Hugh algorithm enables the location of the interested areas.