



2016 GSDI Annual Report

Introduction

In 2016, GSDI has 38 Organizational Members from national and regional associations, government agencies, academia and private industry, from 20 countries, including 4 regional (transnational) organizations and the UN ECA. Former members of the International Geospatial Society (IGS) that was the individual member division of the Association are being renewed as GSDI Individual Members throughout the year, under provisions of new Bylaws adopted in 2015. Member information is on the GSDI website at <http://gsdiassociation.org/index.php/membership.html>.

The GSDI Mission and Vision

Global Spatial Data Infrastructure Association (**GSDI**) exists to promote international cooperation and collaboration in support of local, national and international SDI developments that will assist members to better address social, economic, and environmental issues of pressing importance in their nations.

- **Our Vision** ... is of a world where everyone can readily discover, access and apply geographic information to improve their daily lives.
- **Our Purpose** ... is to encourage international cooperation that stimulates the implementation and development of national, regional and local spatial data infrastructures.
- **Our Mission** ... is to advance geo---information best practices, knowledge sharing and capacity building for the improved sharing and application of geographic information.

GSDI Organization

In 2016, the GSDI Executive Committee comprised:

- Dr David Coleman, GSDI President and Executive Director
- Dave Lovell, GSDI President-elect
- Dr Abbas Rajabirard, GSDI Immediate Past-President
- Roger Longhorn, GSDI Secretary-General

A new Accountant and office manager was appointed in 2016, Ms. Leslie Balvanz, based in the USA. In April 2016, Dr Kate Lance assumed the task of Communications Manager, formerly held by Secretary-General, Roger Longhorn, so that he could concentrate more fully on GSDI 15 World Conference preparations. A new Treasurer was appointed in 2016, Mr Bruce Westcott, who has long experience of both GSDI, the geomatics industry and the role and duties of being treasurer. The GSDI Board of Directors in 2016 is listed in Annex 1.

GSDI Main Activities

The main activities of GSDI are:

- supporting growth of harmonized local, national, and regional SDIs that are globally interoperable;
- fostering international communication and collaborative efforts for advancing SDI innovations;
- supporting interdisciplinary research and education that advances SDI concepts and methods; and
- promoting access to, and appropriate use of, public geographic information.

Our main outreach and networking activities include the GSDI World Conferences, seminars, workshops, webinars, regional mail lists, and global and regional SDI news published continuously on



our website at gsdiassociation.org. The Association also supports capacity building initiatives in developing nations via the Small Grants Program and targeted Strategic Projects.

Information about the Association, its organization, activities, Memorandum of Understanding partners, official documents, etc. can be found at: <http://gsdiassociation.org/index.php/about-gsdi.html>

Global Liaisons

United Nations

GSDI received Special Consultative status with the UN ECOSOC Office for Support and Coordination on 1 May 2014. Since that time, GSDI is represented at, and makes contributions to, both global and regional UN Global Geospatial Information Management (GGIM) meetings and is an official Observer on the UN GGIM Regional Committees for Europe and the Americas and has special Liaison with UN GGIM Asia-Pacific. In 2016, GSDI assumed the Chair of the Joint Board of GI Societies (JBGIS) which is a member of the newly formed UN GGIM Expanded Bureau. The Chair is held by GSDI President-elect, Mr Dave Lovell (who becomes GSDI President on 2 December 2016). GSDI Past-president Dr Abbas Rajabifard is leader of the UN GGIM Academic Network formed in 2016.

- Dr Rajabifard represented GSDI at the 4th UN Global Geospatial Information Management (UN-GGIM), UNECA Headquarter, Addis Ababa, Ethiopia April 19-22, 2016 and will attend the UN GGIM Expanded Bureau meeting at UN HQ in New York on 7-9 December 2016.
- President David Coleman represented GSDI at the UN GGIM Annual meeting in New York in August 2016.
- GSDI Delegate for Member PAIGH represented the Association at the UN GGIM Americas meeting held in Mexico City, Mexico, on 5-6 October 2016.
- GSDI member Dr Gabor Remetey-Fülöpp represented GSDI at the UN GGIM Regional Committee for Europe meeting in Budapest in November 2016, at which meeting GSDI was officially welcomed as an Observer to the Committee.

GEO/GEOSS and CEOS

GSDI has promoted the open data principles of the **Group on Earth Observation (GEO)** and the GEO System of Systems (**GEOSS**) for many years. Various GSDI Members are active in GEO and GEOSS, including FGDC, Esri and the Open Geospatial Consortium (OGC). GSDI member Dr Gabor Remetey-Fülöpp represented GSDI at the GEO Work Programme Symposium and GEOSS Common Infrastructure Workshop at WMO in Geneva, 2-5 May 2016. He also participated in the GEO XIII meetings in St. Petersburg, Russia, in November 2016, along with representatives from GSDI member Esri.

GSDI were represented at, and made formal presentations to, the **Committee of Earth Observation Satellites (CEOS) Working Group on Information Systems and Services (WGISS)** meeting held in Canberra, Australia on 14-18 March 2016 and has been represented in this group for several years by GSDI member Dr Remetey-Fülöpp.

GEO Secretariat has also, once again, provided funding to support travel for five participants from developing nations to the GSDI 15 World Conference, this year held in Taipei, Taiwan, for which the Association is truly grateful.

International Hydrographic Organization (IHO)

The Association continues working with the International Hydrographic Organisation (IHO) Marine SDI Working Group, in capacity building activities, since rejoining this global initiative in 2015. The



next full MSDIWG meeting takes place in Canada 31 January to 2 February 2017. In line with the Marine SDI project (see below) and IHO MSDIWG, GSDI is also represented on the Open Geospatial Consortium (OGC) Marine Domain Working Group, by GSDI Secretary-General Roger Longhorn. The OGC Marine DWG was established in 2016,

External Relationships

GSDI are members (and current Chair) of the Joint Board of Geospatial Information Societies (**JBGIS**) and have MoUs with the International Cartographic Association (**ICA**), the International Federation of Surveyors (**FIG**) and the International Society for Photogrammetry and Remote Sensing (**ISPRS**), the International Society for Digital Earth (**ISDE**), and the Centre for Disaster Management and Public Safety (**CDMPS**) at the Univ. of Melbourne for joint promotion of activities.

The Association has joined with other international organisations in the **Digital Belt and Road (DBAR)** initiative initiated by the Chinese Academy of Sciences Institute of Remote Sensing and Digital Earth, which has cooperating members from 20 countries along the maritime and land ‘Silk Roads’. This scientific cooperation aims to demonstrate the use and application of Big Earth Data for the benefit of people and economies providing sustainable development on local, national and regional levels.

In October 2016, GSDI met with the Board of Delegates of **EuroSDR**, where it was agreed that EuroSDR would make available additional budget to support the work of the Marine SDI Best Practice Project through 2018. This is the first formal relationship developed between GSDI and this major European research-oriented not-for-profit organisation linking National Mapping and Cadastral Agencies with Research Institutes and Universities in Europe for the purpose of applied research in spatial data provision, management and delivery. The new relationship was fostered by GSDI Organisational Member Delegate, Dr Joep Cromptvoets (KU Leuven), Secretary-General of EuroSDR, and several EuroSDR members are also members of GSDI. EuroSDR (formerly OEEPE) is a pan-European organisation established by International Treaty, as OEEPE, in 1953 in Paris in accordance with a recommendation passed by the Council of the Organisation for European Economic Co-operation

Other International Conferences and Meetings

GSDI members were also in attendance at the **GIM International Summit** meeting in Amsterdam in February, 2016, and the **Common Vision Conference 2016** in Amsterdam in June 2016, co-sponsored by GSDI Members Dutch Kadaster and EuroGeographics, plus EuroSDR and. The GSDI Marine SDI Best Practice Project conducted a workshop at the INSPIRE 2016 Conference in Barcelona, Spain in September 2016.

Dr Gábor Remetey-Fülöpp represented GSDI at the **6th Digital Earth Summit** - ‘*Digital Earth in the Era of Big Data*’ in Beijing, July 7-8, 2016. Past-President Dr Abbas Rajabifard also made a presentation in the opening ceremony and Trevor Taylor of GSDI Member Open Geospatial Consortium (OGC) made a presentation on “*Enabling the Digital Earth: The Role of Open Standards*”. Links to the presentations are on the GSDI website. At this meeting, Dr Remetey-Fülöpp was also awarded Life Membership in the International Society for Digital Earth (ISDE), joining current GSDI members who are also Life Members, Dr David Coleman, GSDI President, and Prof Josef Strobl, who represents UNIGIS at GSDI.

Members also regularly attend national and regional meetings relating to geomatics affairs and SDI throughout the year. Details are posted on the Association’s website at gsdiassociation.org.

GSDI Strategic Projects

GLIM/GGPM



On 31 August, 2016, phase two of the GSDI part-funded project *Geo Legal Interoperability Map of the World (GLIM)* - <http://www.bastiaanvanloenen.nl/glim/glim.html> - was completed. Added to this project was a new component the *Global Geoportal Map (GGPM)* – see <http://www.bastiaanvanloenen.nl/glim/ggpm.html>. Analytical work based on the data captured in creating these two online maps is in hand to be reported in 2017.

The project was funded for a total of €6000 in two phases, beginning in 2014. Since January 2016, the focus in GLIM was on completing the research on the worldwide status of geoportals. The website (www.sdiassessment.org) was maintained by uploading new research data. The research is being processed into a research paper for publication in a peer-reviewed journal to be submitted in 2017. In December, all countries were checked for availability of portals. In total, 106 portals were examined, for which data was collected for all previously defined criteria.

The project has been promoted in two *GIM International* GSDI Columns and one article submitted to GIM, as well as on the GSDI Website and in conference presentations. The final project report was delivered on 31 August 2016 and the website of the portal showing the results will be maintained. An extension of the work into 2017 is being considered, focusing on the Global GeoPortal Map (GGPM) extension to GLIM – see <http://www.sdiassessment.org/>.

Marine SDI Best Practice

The Marine SDI Best Practice Project started in November 2015 and runs through 31 October 2017 with a total current budget of \$5,000, led by GSDI members KU Leuven and our newest member, LETG-BREST GEOMER. The project grew out of 2014 and 2015 PhD research involving these two GSDI Members, which conducted a survey of national coastal and marine geoportals mainly in Europe. The project has already presented research papers to a number of international conferences, with more planned, including workshops at INSPIRE 2016 (29.09.2016) and GSDI 15 (01.12.2016). The work is also considered as our (GSDI) input to the International Hydrographic Organization (IHO) Marine SDI Working Group activities, of which GSDI is a member, and has been welcomed by the IHO MSDIWG. See: <http://gsdiassociation.org/index.php/projects/marine-sdi.html>.

The project also presented a Marine SDI Best Practice workshop at the CoastGIS 2015 Conference held in Cape Town, South Africa, in April 2015 and project member, Roger Longhorn, presented (remotely) at the Marine SDI implementation workshop in Cape Town, South Africa, on 18 October 2016.

Global Index of NSDI (GI-NSDI) Project Summary

The Global Index of National Spatial Data Infrastructures (GI-NSDI) project started in September and runs until 31 December 2018, with a total budget of \$14,000 over 28 months. It is based upon work completed by a GSDI Individual Member at Oxford (UK) University in 2015. Through a process of expert interviews, research, and pilot testing within WWF priority countries, a final scorecard format and qualifying guidelines for scoring were achieved. This work built a comprehensive picture of how vital open, accurate, and transparent spatial data are to land use planning and conservation projects, and has identified where any barriers to improvement exist.

The project will produce an index reporting the effectiveness of countries NSDIs results of a wider implementation which will assist WWF-UK, UN-GGIM and other interested parties, to encourage key actors in each country to make improvements to transparency, accuracy, and availability of data. The index will be pilot tested within 6 months of Project commencement and, with the help of a global community, subsequently implemented at a global scale. The project could potentially have profound long-term benefits for improving spatial data, reporting on the Sustainable Development Goals, and for the environment, innovation, and investment.



Initial work on the project will be presented in a workshop at the GSDI 15 World Conference in Taipei, Taiwan on 1 December 2016, where the project is also being presented orally.

Small Grants Program

Four GSDI Small Grants Program projects concluded in 2016, gratefully supported with funding from GSDI member Natural Resources Canada through 31 March 2016. These SDI-related projects were conducted in Ecuador (Galapagos Islands), Jamaica, Indonesia and South Africa. Further funding is now being sought to advance the programme through 2016-2017, continuing the excellent results obtained since the program started in 2003, since which more than 110 awards have been granted. Two of the former Small Grants beneficiaries are also presenting at the GSDI 15 World Conference in Taipei, Taiwan, 29 November to 2 December, with financial support from a travel award grant from the Group on Earth Observation (GEO). At the time of writing this report, new funding is being sought to extend the program into 2017. For more information, visit:

<http://gsdiassociation.org/index.php/projects/small-grants.html>.

Capacity Building Activities

Workshops and Webinars

A 90-minute Marine SDI Best Practice and Capacity Building workshop was conducted at the INSPIRE 2016 Conference in Barcelona, Spain, on 29 September 2016. A 90-minute Coastal/Marine SDI Best Practice webinar was held on 4 November, presented by members of the Marine SDI Best Practice Project. Roger Longhorn, involved in this project, also participated by internet in a Marine SDI implementation workshop in Cape Town, South Africa, on 18 October 2016.

Proposed Capacity Building Program

The proposed GSDI operational plan for 2017-2018 includes a new Capacity Building focus for the Association, including appointment of a staff member to manage and implement the plan. A series of webinars are planned for 2017, to be conducted quarterly, that cover two main themes. One focuses on SDI implementation generally, at national and/or regional level. The other is a continuation of the Coastal/Marine SDI Best Practice Project webinars, looking at policy issues, marine geoportals, implementation issues and case studies of good practice. The main features of the proposed program include:

- Plan and conduct the SDI Webinars program in 2017-2018.
- Prepare the forward plan for face-to-face workshops, allied with GSDI Members' activities and regional events, events of MoU partners, etc.
- Identify online and distance learning courses already available (Moodle, MOOC, SPOC) and relevant training webinars from GSDI Organizational Members.
- Find and promote relevant Wiki's for the topics above, e.g. Research Data Alliance (RDA) Working Groups, GEOSS Best Practice Wiki, etc.
- Provide information on SDI benchmarks, assessment methodologies, testbeds and test suites, e.g. studies, reports, assessment already undertaken and results achieved, etc.
- Provide an overview of existing education programs, using standardized metadata permitting easy searching – and regular updating.
- Update the GSDI SDI Cookbook(s) and SDI implementation-specific reports, studies, etc.
- Communications and Promotion Activities

Communications and Promotion

The new GSDI website has been active at gsdiassociation.org since April 2015 and is now the



Association's principle mode of communicating with the global SDI and geomatics community. News is now published immediately when received, online, rather than via monthly newsletters. Dr Kate Lance is the overall news editor as well as GSDI Communications Manager (since April 2014). As of 15 November, we had published over 570 news items in the previous 12 months and 663 news items since the news went online at the end of August 2015. Follow the news online at:

<http://gsdiassociation.org/index.php/news.html>.

GSDI also has an active LinkedIn Group at <https://www.linkedin.com/groups/3794985>, and active Facebook and Twitter accounts at: <https://www.facebook.com/gsdianigs/> and <https://twitter.com/GSDIAssn>.

GIM International magazine (<http://www.gim-international.com/>) continues to publish the GSDI Column monthly in both its print and online versions, as well as being a major outlet for republishing news provided by the Association. In 2016, *GEOconnexion* magazine (<http://www.geoconnexion.com/publications/geo-international/>) has also become a major republisher of GSDI news. Both magazines have also published articles about the Association, the GSDI 15 World Conference and Members' activities throughout the year.

GSDI also promotes news and activities from our Memorandum of Understanding partners - FIG, ISPRS, ICA and ISDE and CDMPS at Univ. of Melbourne.

See <http://gsdiassociation.org/index.php/about-gsdi/gsdi-mous.html>.

GSDI World Conference

The ***GSDI 15 World Conference*** is being held in Taipei, Taiwan, from 29 November to 2 December 2016 under the theme "***Spatial Enablement in the Smart Homeland***" hosted by GSDI member Taiwan Association for Disaster Prevention Industry (TADPI). More than 160 abstracts and/or papers were submitted to the conference and as of the date of preparation of this report, 110 technical presentations have been scheduled (more to follow), along with 20 workshops which are free to attend.

The conference features 10 Keynote Speakers and more than 45 exhibition booths. The ***GSDI 15 Digital Proceedings*** will be available for download from the GSDI website prior to the conference – see: <http://gsdiassociation.org/index.php/gsdi-conferences.html>. A GSDI 15 conference book is also in preparation with selected peer-reviewed papers. This will be available as a free download from the Association website.

The ***GSDI Global Citizen Award***, the fourth presented by the Association, is being awarded to **Prof Emeritus Ian Masser** for his extensive work on Spatial Data Infrastructure research and development, spanning more than two decades. Prof Masser is also a past President of the Association and other significant European SDI national and regional organisations.

The Association extends grateful thanks to the **Group on Earth Observation (GEO) Secretariat** for providing funds to support travel to the conference for participants from developing nations. Winners of the five travel awards were chosen by the GSDI Executive Committee from the 21 abstracts and papers that were submitted from qualifying nations.

The Association extends special thanks to the **Taiwan Association for Disaster Prevention Industry (TADPI)**, our local host in Taipei, and to the **Ministry of Interior**, Government of Taiwan, who provided very significant financial support to ensure the success of the conference.

Finally, our very special thanks to all those on the **GSDI 15 Local Organizing Committee** who have worked so hard over the past year in preparing for the conference. We would not have succeeded without their strong commitment, work and support. For more information, visit the official GSDI 15 World Conference website at gsdi15.org.tw.

Annex 1 – GSDI Board of Directors at 15 November 2016

Name & Institution (Voting Members)	Position / Representing
David Coleman , University of New Brunswick	President
Dev Raj Paudyal , Representative of Individual Members	Individual Members
Carmelle J. Terborgh , GSDI Industry Advisory Council	GSDI IAC
Li Weisen , National Administration of Surveying, Mapping and Geoinformation	Government
Joep Cromptoets , KU Leuven, Belgium	Academia
Hussein Farah , Regional Center for Mapping of Resources for Development	Region – Africa
Dan Paull , PSMA Australia	Region - Asia/Pacific
Heli Ursin , National Land Survey of Finland	Region – Europe
Ivan Deloatch , US Federal Geographic Data Committee	Region - North America
Jesus Suniaga , CAF - Latin America Development Bank	Region - South America
Mark Reichardt , Open Geospatial Consortium, Inc.	Non-Profit Organisations
Ex-officio Members (non-Voting Board Members)	
Dave Lovell (Executive Committee Member)	President-Elect
Abbas Rajabifard (Executive Committee Member)	Past-President
Roger Longhorn (appointed by Board - Executive Committee Member)	Secretary-General
Al Stevens (appointed by Board)	Secretary
Bruce Westcott (appointed by Board)	Treasurer
David Coleman (appointed by Board - Executive Committee Member)	Executive Director
Karen Schweigler (approved by Board)	Recording Secretary