Statistical Journal of the IAOS 32 (2016) 453–455
DOI 10.3233/SJI-161036
IOS Press



Guest Editorial

# Editorial Special Section on Integration of Statistical and Geospatial Information[1]

It is my great pleasure to invite you to explore this special issue of the Statistical Journal of the International Association for Official Statistics focussing on the emerging area of the integration of statistical and geospatial information.

## Farewell to Mr Shigeru Kawasaki, IAOS President, 2013–2015

This issue was initiated to commemorate the IAOS President's invited session at the 60th International Statistics Institute World Statistics Congress held in the dynamic city of Rio de Janerio, Brazil, during 26–31 July 2015. This session was organised by the outgoing IAOS President, Mr Shigeru Kawasaki.

Mr Shigeru Kawasaki was elected the 14th President of the IAOS in August 2013. He was chosen based on his distinguished career and international experience, and was the first Japanese to become President of the IAOS since the IAOS was established in 1985.

Mr Kawasaki was interviewed by the IAOS in 2015 and I encourage you to take some time to read about his long and distinguished career. Under Mr Kawasaki's leadership, the IAOS went from strength to strength.

- Membership numbers increased to 343 individual members in 2014, an increase of 34 since 2013.
- A highly successful conference was held in Da Nang Vietnam in 2014, attracting 250 participants from 44 countries.
- The range of countries from which entries to the IAOS Young Statistician's Prize were received increased substantially from 19 to 27.
- The number of papers published in the Statistical Journal of the IAOS also increased substantially, from 15 in 2012 to 32 in 2013 and 54 in 2015.

## 60th World Statistics Congress – Invited Panel Session 101 – IAOS Presidents Address – Towards the Integration of Statistical and Geospatial Information

Mr Kawasaki approached me on the sunny last day of the 2014 IAOS Conference, overlooking the stunning beaches in Da Nang, and said he would like to use his President's address at the 2015 World Statistics Congress to shine a light on the theme of the integration of geographic information and official statistics. Having recently taken on the task of co-chairing a United Nations Expert Group on the same topic and charged with the development of a Global Statistical Geospatial Framework, I was delighted that the President of the official statistics profession would lend his voice to this important topic.

What followed was a significant achievement of Mr Kawasaki to bring together speakers from across the world – from Australia, China, Mexico and New Zealand to share their experiences and aspirations. A quite significant achievement was the participation of Dr Li Pengde, the Deputy Director General of the National Administration of Surveying, Mapping and Geoinformation of China, and co-chair of the UN Committee of Experts on Global Geospatial Information Management. Some of us present know of the challenges Dr Pengde faced getting to Rio, and I thank him for his efforts and bringing his expertise and experience to the 60th World Statistics Congress.

The theme of the session was "Towards Integration of Statistical and Geospatial Information". Recognising that the rapid development of geospatial technology and infrastructure in recent years has enabled many national statistical offices to integrate statistical and geospatial information for improving various aspects of their work from production to dissemination

of official statistics. Further, that integration of statistical and geospatial information gives great benefit to not only producers of official statistics but also a broad range of data users, both statistical and non-statistical. The session aimed to give a broad overview of the current status, and recent international and national movements among national statistical and geographical institutes, and to discuss future directions.

In suggesting the theme, Mr Kawasaki noted this topic has important implications to other fields of statistics. One of the values of the ISI World Statistics Congress is to promote development of statistics through inter-disciplinary or inter-sectoral collaboration. As integration of statistical and geospatial information involves collaboration among people of different specialties, such as statisticians, geographers, and ICT specialists, it can serve as a good model of inter-disciplinary collaboration. He asked presenters to use the session as an opportunity to promote better understanding about the movements of integration and to share thoughts and experiences about inter-disciplinary cooperation.


IAOS President, Mr Shigeru Kawasaki (middle) with presenters Mr Rolando O'Campo (far left), Dr Li Pengde (second from the right) and Ms Rochelle Morgan (far right) and discussant (Ms Gemma Van Halderen, second from left).

The 2015 IAOS President's Invited Panel Session spanned three key topics:

- Mr Rolando O'Campo promoted a better understanding of developments in Mexico by discussing the integration of geography and statistical expertise. This expertise included the establishment of a Cartographic Database that integrates the cartography of the National Geospatial Framework (of Mexico) and the Topographic Map of Mexico; and a Digital Map of Mexico that allows for the visualisation and analysis of geographic and georeferenced statistical information. Take a look at Rolando's paper in this Issue of the Journal.
- Ms Rochelle Morgan promoted a better understanding of developments in New Zealand. Statistics New Zealand have recently launched a new strategic vision 'to unleash the power of data to change lives' with a broad focus on statistics as part of a data eco-system, including fundamental spatial data. This is making integration of statistics and geospatial information a key priority. Ms Morgan shared with the audience New Zealand's Geospatial Strategy to establish a National Spatial Data Infrastructure (NSDI), led by their national mapping agency Land Information NZ (LINZ). Rochelle's paper appears in this Issue of the Journal.
- Dr Li Pengde promoted a better understanding of developments in China, in particular that the Chinese Government launched its first national census of geographic conditions between 2013 and 2015 with a total budget of 10 Billion RMB Yuan, and involving National, Provincial, Municipal and County Governments. The Census involved several innovations such as field survey pads and an information service platform. Dr Pengde's presentation concluded that the world could be smartly governed if geospatial and statistical data was integrated; that a census should be location based; that the Chinese experience with a Geography Census could be replicated around the world; a call for a global unified smart map; that global land cover would be a useful tool for the Sustainable Development Agenda; and finally, a call for a global Geography Census in 2020.

I had the honour of being a discussant for this session, a session which could be summed up with one word: geostatistics. There has been a general increase in access to geospatial technologies in the broader population – geospatial capabilities in mobile devices and the widespread use of geospatial information in web pages and apps are just two examples. Within organisations, there is increased availability and affordability of GIS systems; better national geospatial data infrastructure to facilitate geospatially enabled data and increased general demand for analytics to inform decision making. As a result, across the world we have seen strong growth in demand for geospatially enabled data users see the value of this data to enhance decision making by governments, community and business; and users also have increased capability to understand and use this data effectively.

The three presentations from Mexico, New Zealand and China were responses from

- the Geospatial community to enhance National Spatial Data Infrastructures to enable more consistency and hence better data and ideas, such as the Geographic Census and integrating sources of geospatial information along with socio/economic data
- the Statistical Community to implement a Global Statistical Geospatial Framework to support consistent spatial enablement of socio-economic data and utilise National Spatial Data Infrastructure to ensure integration with geospatial; and view Statistical Business Transformation as an opportunity to get geostatistical enabled data as the default for statistics and ensure geospatial and statistical metadata is interoperable
- both communities to collectively support geostatistical analysis, and the leadership to demonstrate benefits and drive change

## 60th World Statistics Congress – Special Topic Session 086 – Integration of Statistics and Geospatial Information – Creating Information for Sustainable Development

Mr Kawasaki must have known he was onto a good topic because the 2015 ISI also incorporated a Special Topic Session on the integration of statistics and geospatial information – creating information for sustainable development. Arranged by Eurostat, the session had a particular focus on the integration of statistical and geospatial information to support sustainable development. The session heard about the importance and value that comes from official statistical agencies and national mapping agencies working cooperatively on joint projects (see Ms Maria Tammilehto-Luode, Chief Advisor, Statistics Finland's article in this Issue), and professionally (see article from Australia on the integration agenda between statisticians and geospatial experts in this Issue). The audience also heard from Mr Naoki Makita, Director of the National Statistics Center Japan about a new geostatistical web service for small area census data (see article from Mr Makita in this Issue) and the integration of statistics and disaster prevention and environmental protection in Brazil (see article from Ms Maria do Carmo Dias Beuno, IBGE, in this Issue). Finally, Mr Rolando O'Campo, Vice-President of Mexico's National Geographic and Environment Information discussed the importance of integration statistical geospatial information for sustainable development.

Mr Walter J. Radermacher. Director General, Eurostat summarised this session very eloquently. "One can say that geospatial statistics have arrived in manifold practical applications and they have started to be part of routine production of statistics in many countries". This is a great step forward.

## 61st World Statistics Congress – Marakeesh, Morocco

The integration of statistical and geospatial information will feature again at the 2017 ISI World Statistics Congress in Marakeesh, Morocco. Eurostat have once again taken the lead and submitted an Invited Paper Session on How to Geo-Enable Official Statistics? – the Global Statistical Geospatial Framework. Please come along to ISI 2017 and in particular to this session to hear the latest developments from across the globe in this exciting and truly inter-disciplinary field of official (geospatially enabled) statistics.

## Concluding remarks

I would like to pay a special tribute to Dr Wasmalia Bivar, President of the Brazilian Insititute of Geography and Statistics (IBGE), for hosting the 2015 ISI World Statistics Congress and for providing a wonderful opportunity for official statisticians and professional statisticians more broadly to engage and enjoy the wonders of Rio. We were treated to a carnivale atmosphere, a beautiful city and yet another wonderful professional experience with colleagues and friends from across the globe.

Of course there were many more papers and presentations than could be included in this edition of the Statistical Journal of the IAOS. All of the conference papers are at http://www.isi2015.org/index.php/component/evento/isi2015/scientific-programme?view=cadastro&modulo=Proceedings&acao=browse. I hope you enjoy this Special Edition.

Gemma Van Halderen
Guest Editor
Statistical Journal of the IAOS 31 (2015), 145–155
E-mail: g.vanhalderen@abs.gov.au