


**First Forum
Seoul, Republic of Korea, 24-26 October 2011**

**Asia-Pacific Experiences in Developing
Common Frameworks and Methodologies ***

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Asia-Pacific Experiences in Developing Common Frameworks and Methodologies

Keynote by PCGIAP

(Hiroshi Murakami, Abbas Rajabifard, and Greg Scott)
on Developing Common Frameworks and Methodologies

at

High Level Forum On Global Geospatial Information Management
Seoul, Republic of Korea
24-26 October 2011



Outline

1. What is PCGIAP?
2. Focused Issues
3. Questionnaire on SDI
4. PCGIAP Experiences
5. Summary



1. What is PCGIAP?

- Established in 1995 in pursuance of a resolution at the 13th UNRCC-AP.
- Members:
 - Directorates of national surveying and mapping organizations.
- Aims:
 - Cooperate to develop regional SDI for Asia-Pacific
 - Contribute to the development of global SDI
- Plenary meetings are held every year and reported to UNRCC-AP.
- Current PCGIAP Office:
 - President: China; Vice President: Japan; Secretary: Korea



1. What is PCGIAP?

- Asia-Pacific Region: (56 Countries)
 - Largeness
 - 60% of population
 - 14 megacities (population > 10 mil)
 - 40% of land
 - Diversity
 - Climate, landcover, and topography
 - Language, culture, and economic/political/legal systems
 - Economic development
 - Developing or transitional rather than developed



2. Focused Issues

- Geodetic Framework
 - Defines the location of every piece of geospatial information.
- Technical Standards
 - Standards and specifications used for finding and sharing of geospatial information, including framework data.
- Regulatory Framework
 - Legal instruments that restricts/facilitates the use/distribution of geospatial data.



Geodetic Framework in SDI



Prepared by Geoscience Australia



2. Focused Issues

Geodetic Framework

- Countries in the world should adopt a common geocentric datum.
 - To make the positional information of all geospatial information interoperable.
 - To take advantage of GNSS technologies.
- Has each country made its geodetic framework interoperable with a common geodetic framework of the world?



2. Focused Issues

Technical Standards

- Geospatial information like framework data should be easily found and interoperable at national, regional and global levels.
 - Technical standards/specifications
 - Definition of geospatial features
- Do we have common standards and methodologies implemented down to national/local level so that national/local framework data can be easily integrated into global?



2. Focused Issues

Regulatory Framework

- Geospatial information has provided new frontier for the industry.
 - Detailed, up-to-date, highly sensitive geospatial information made available for public viewing, may compromise national security or personal privacy.
 - Balance between enhanced services and necessary restriction/regulation may be needed.
- Is the regulatory framework keeping up with the rapidly changing geospatial community?

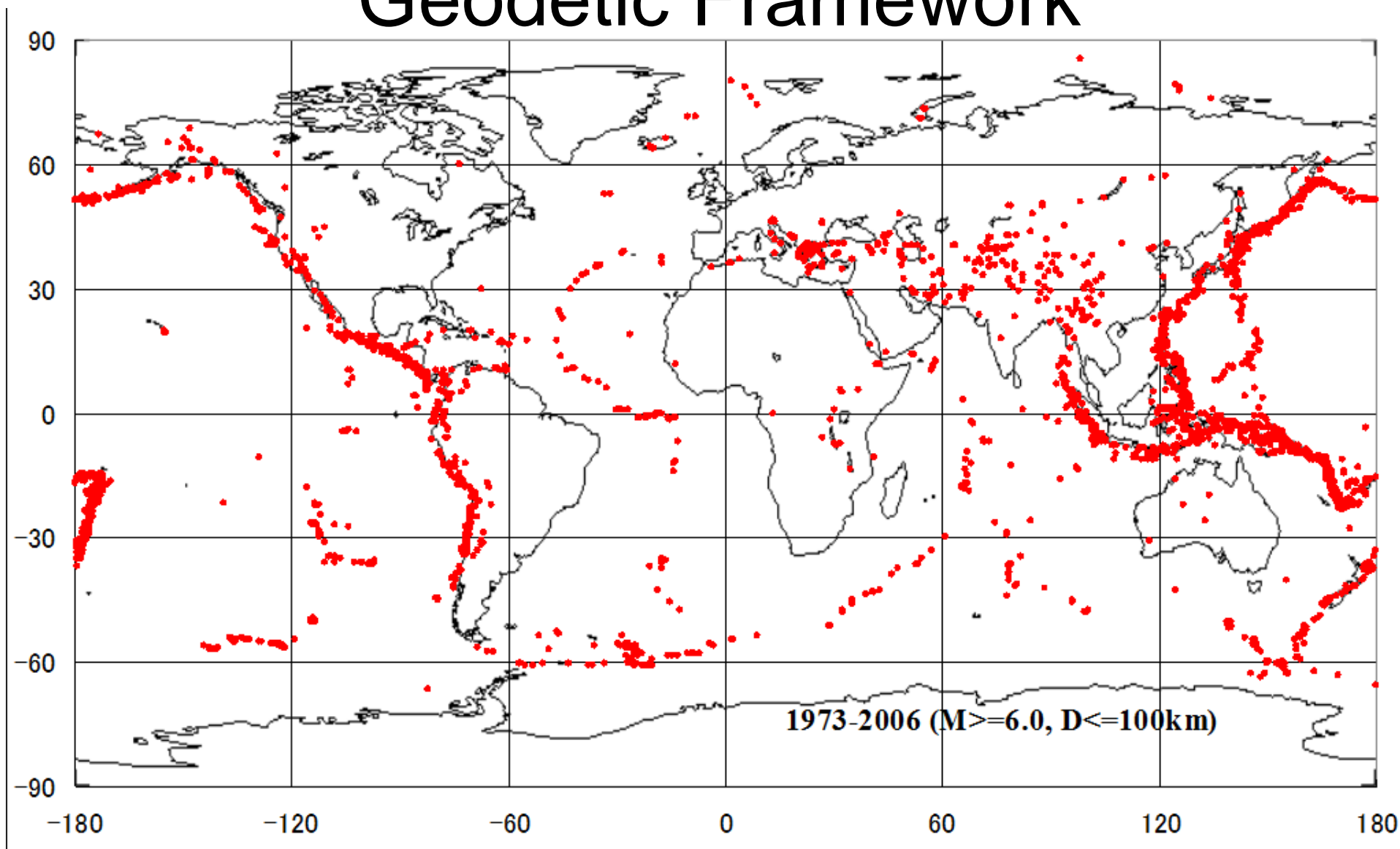


3. Questionnaire on SDI

- A questionnaire on national SDI was prepared by China and sent out to all member countries in September 2011.
 - 14 responses: Australian, Bangladesh, Brunei, China, Indonesia, Japan, Korea, Macao (China), Malaysia, Mongolia, Nepal, Singapore, Sri Lanka, and Vietnam.
- A preliminary result of the analysis will be reported by Dr. Zhou Xu of China at the Ad hoc Meeting of PCGIAP on 27 October at 9am-12noon at KINTEX.



4. PCGIAP Experiences Geodetic Framework



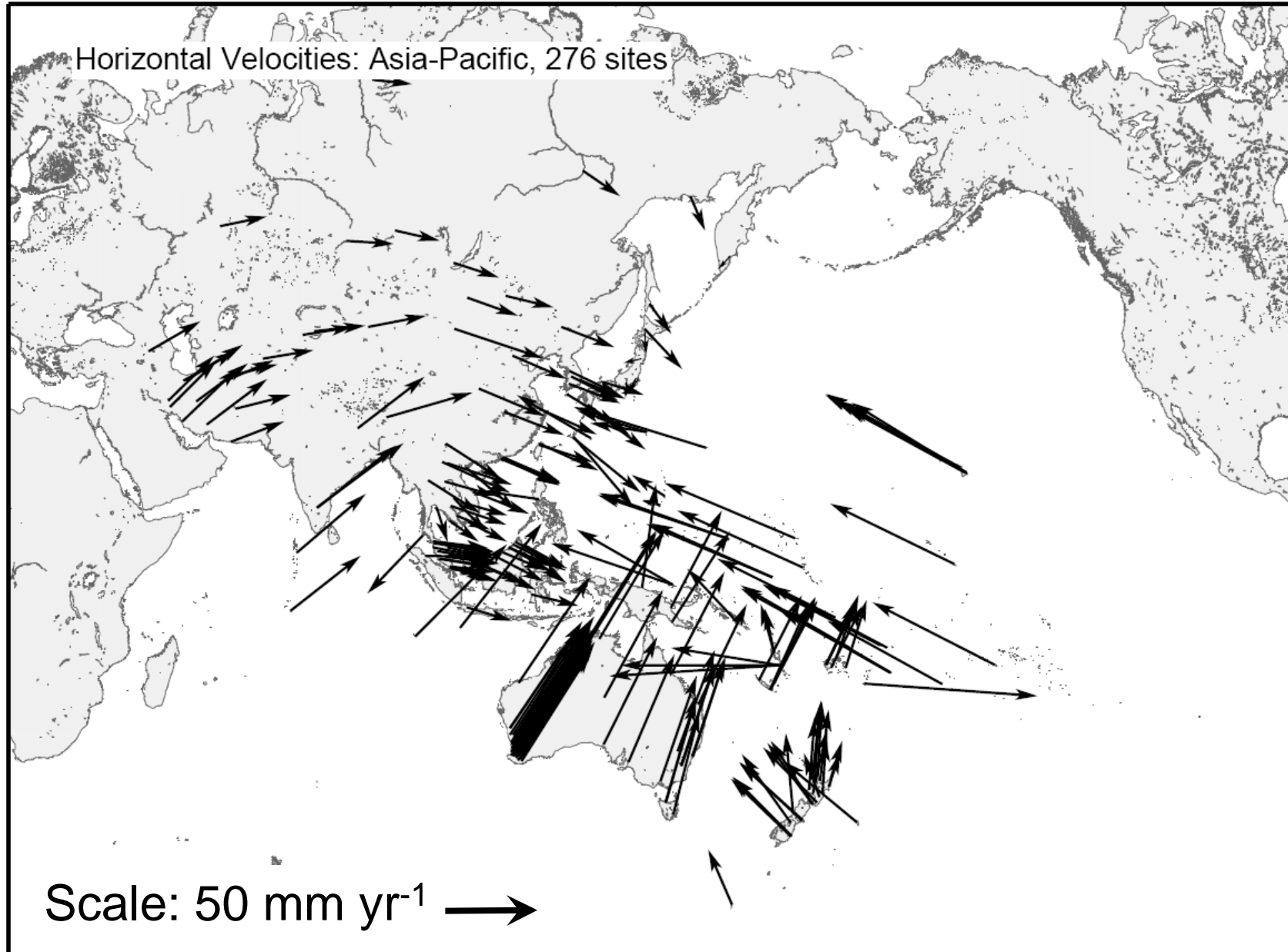


4. PCGIAP Experiences Geodetic Framework

- Asia Pacific Regional Geodetic Project
 - Annual one-week GNSS/GPS campaigns have been conducted since 1997 to connect national geodetic networks and determine site velocities.
 - Ability of member countries has been enhanced in processing and analyzing regional geodetic networks.
- Asia-Pacific Regional Reference Frame
 - Currently being developed based on data of continuous GPS tracking stations.



Horizontal Velocities

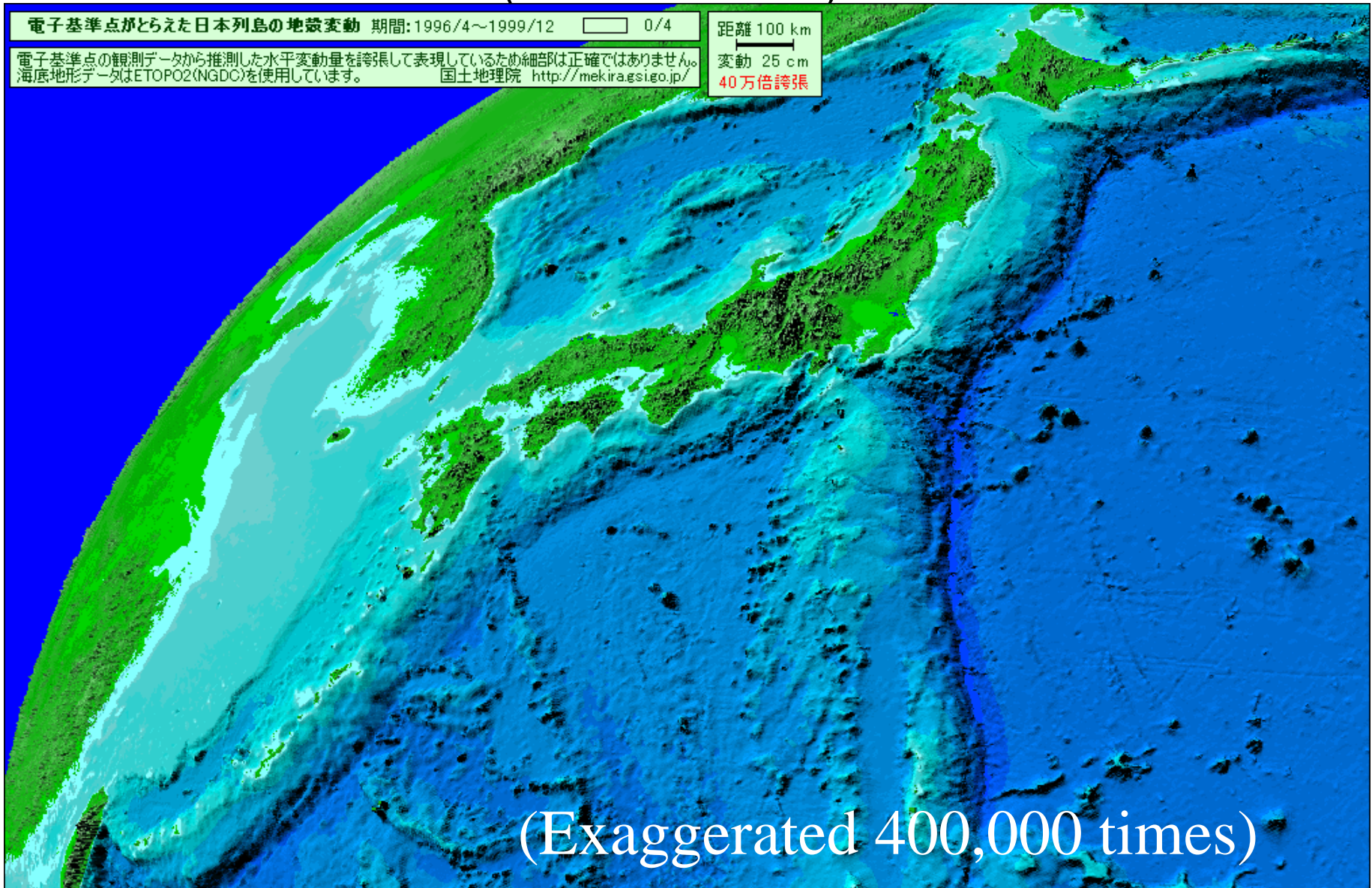




Ground Surface Movement

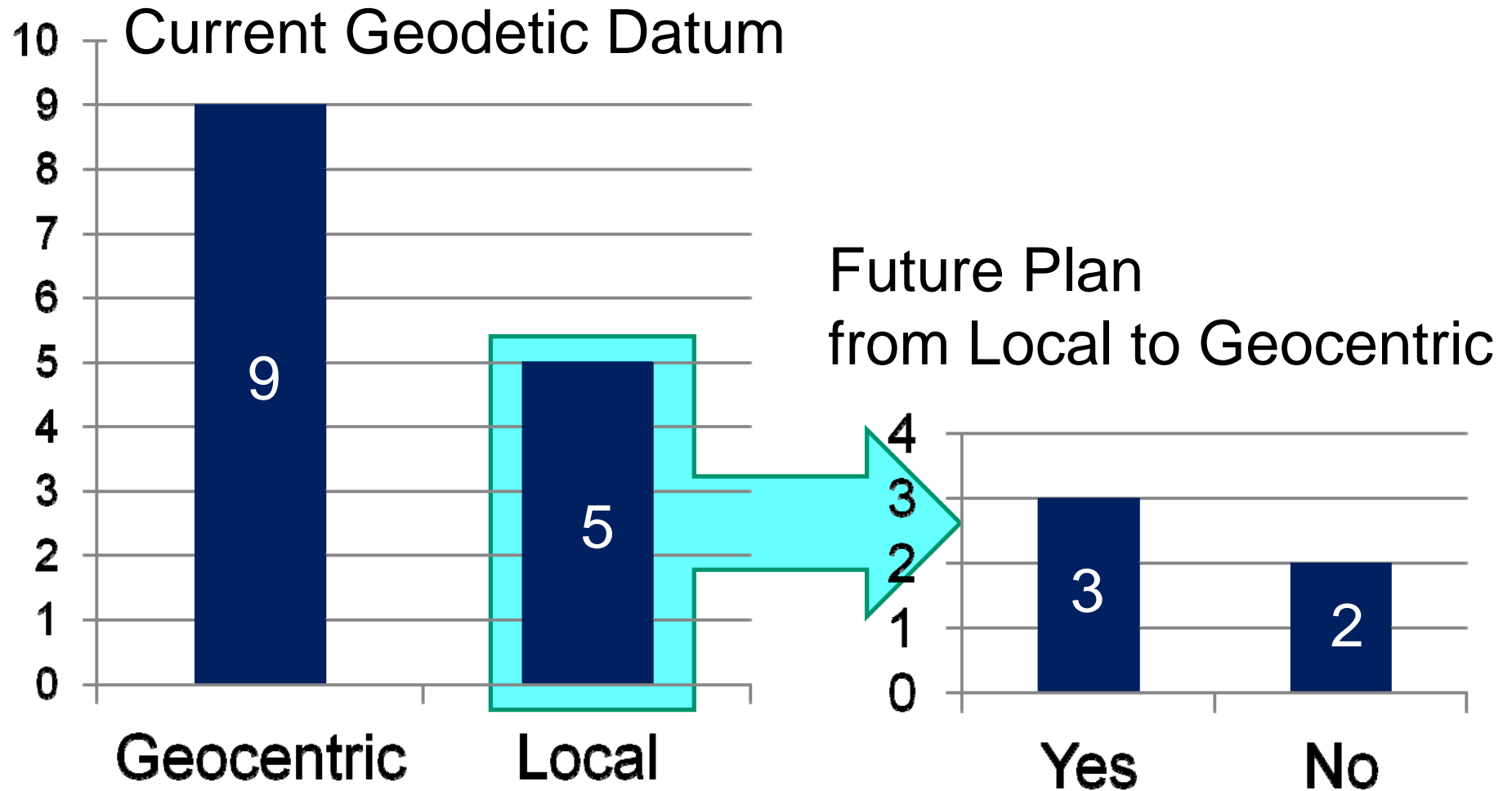


(1996/4-1999/12)





4. PCGIAP Experiences Geodetic Framework Result of Questionnaire





4. PCGIAP Experiences Geodetic Framework

- There are some countries that have not adopted a geocentric datum, yet.
- Adoption of geodetic framework in some countries needs high-level policy decision in the government.
- Experiences on datum change and maintenance should be shared with these countries through technical guidelines/assistance and workshops.
 - Potential agenda for UNCEGGIM



Monuments at Special Locations



40° 00'00" N, 140° 00'00"
E
(Round numbers)

By courtesy of Ogata Village



33° 33'33.333" N, 133° 33'33.333"
E
(Repdigits)

Photo by Bakkai



4. PCGIAP Experiences

Technical Standards

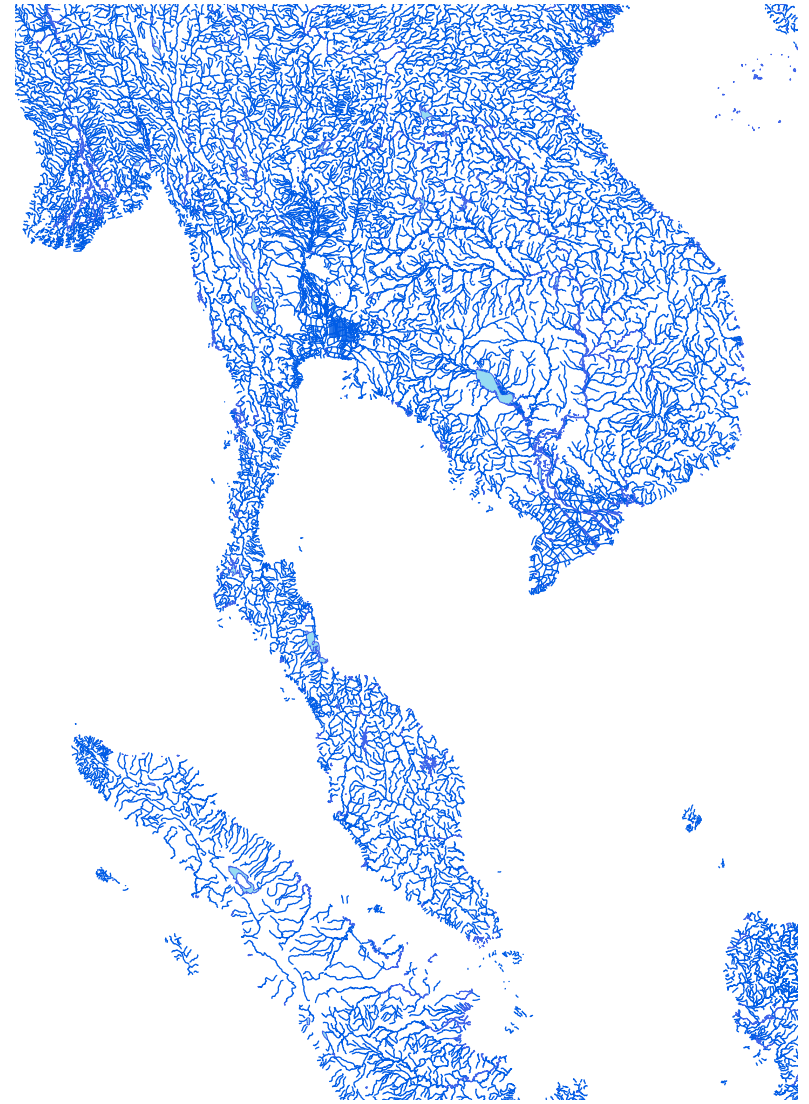
- PCGIAP endorsed international standards and interoperability specifications developed by ISO/TC211 and OGC.
- A regional framework data set of seamless vector data for 22 countries was developed, taking advantage of the standards (2006-2009).
 - Triggered by the Indian Ocean tsunami in 2004.
 - Developed layers include boundaries, road & railroad networks, waters and populated places.
 - Cooperative project with NMOs, ISCGM and SALB.
 - Data resolution: 1:1M.
 - Landsat orthoimagery was employed to stitch the data seamlessly.



Regional Framework Data



Boundaries

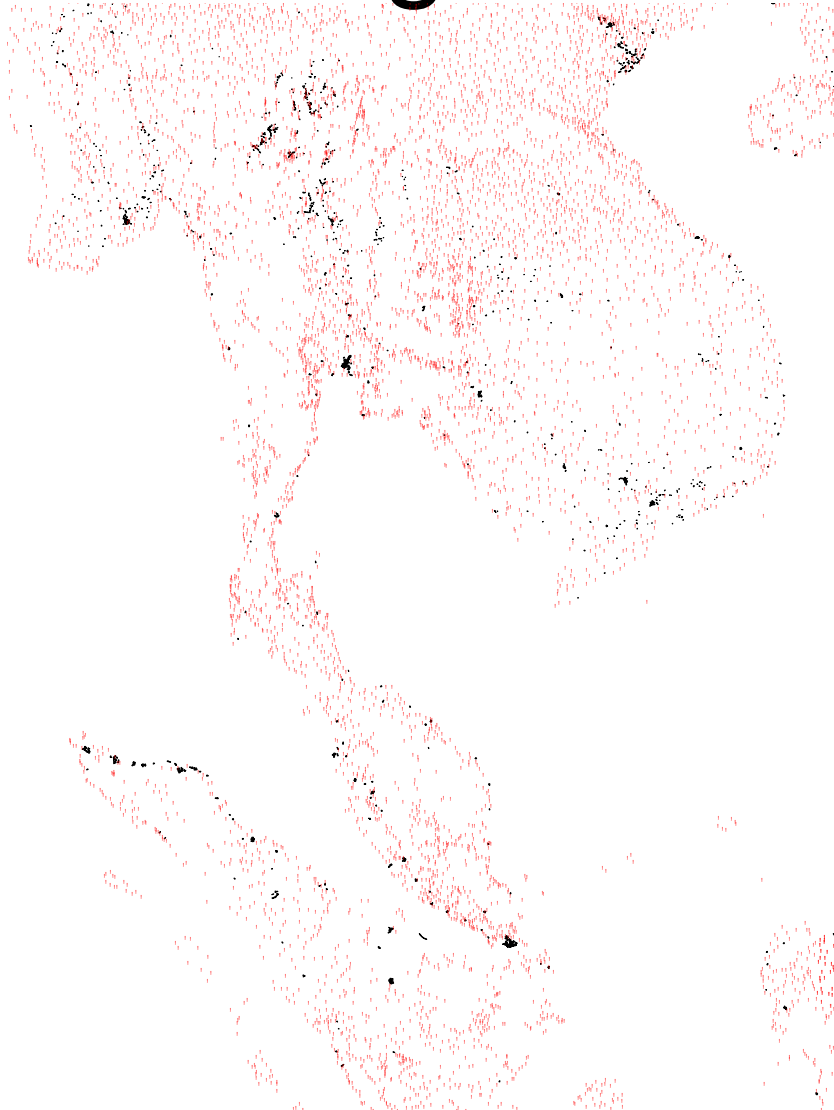


Waters

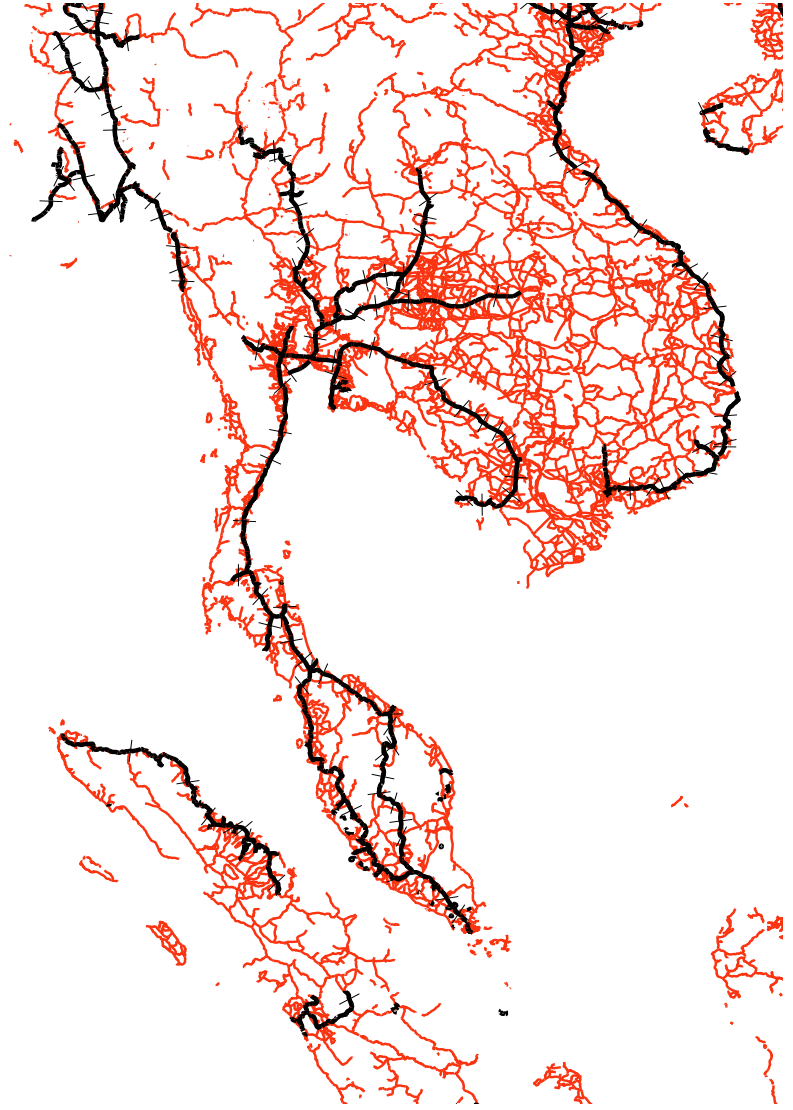
By courtesy of Mr. Bebas Purnawan, PCGIAP WG2 Chair (2006-2009)



Regional Framework Data



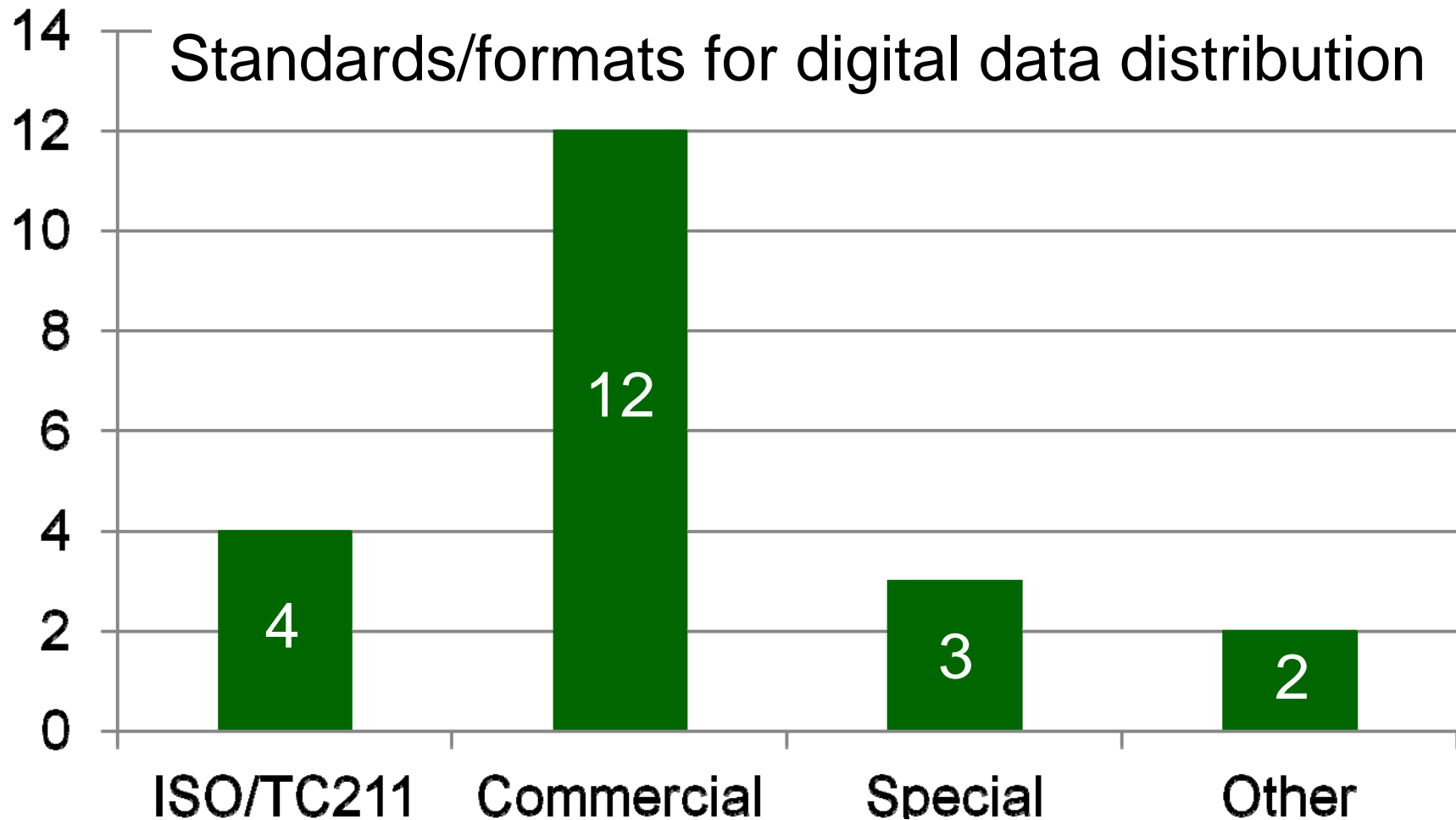
Populated Places



Road and Railroad Networks

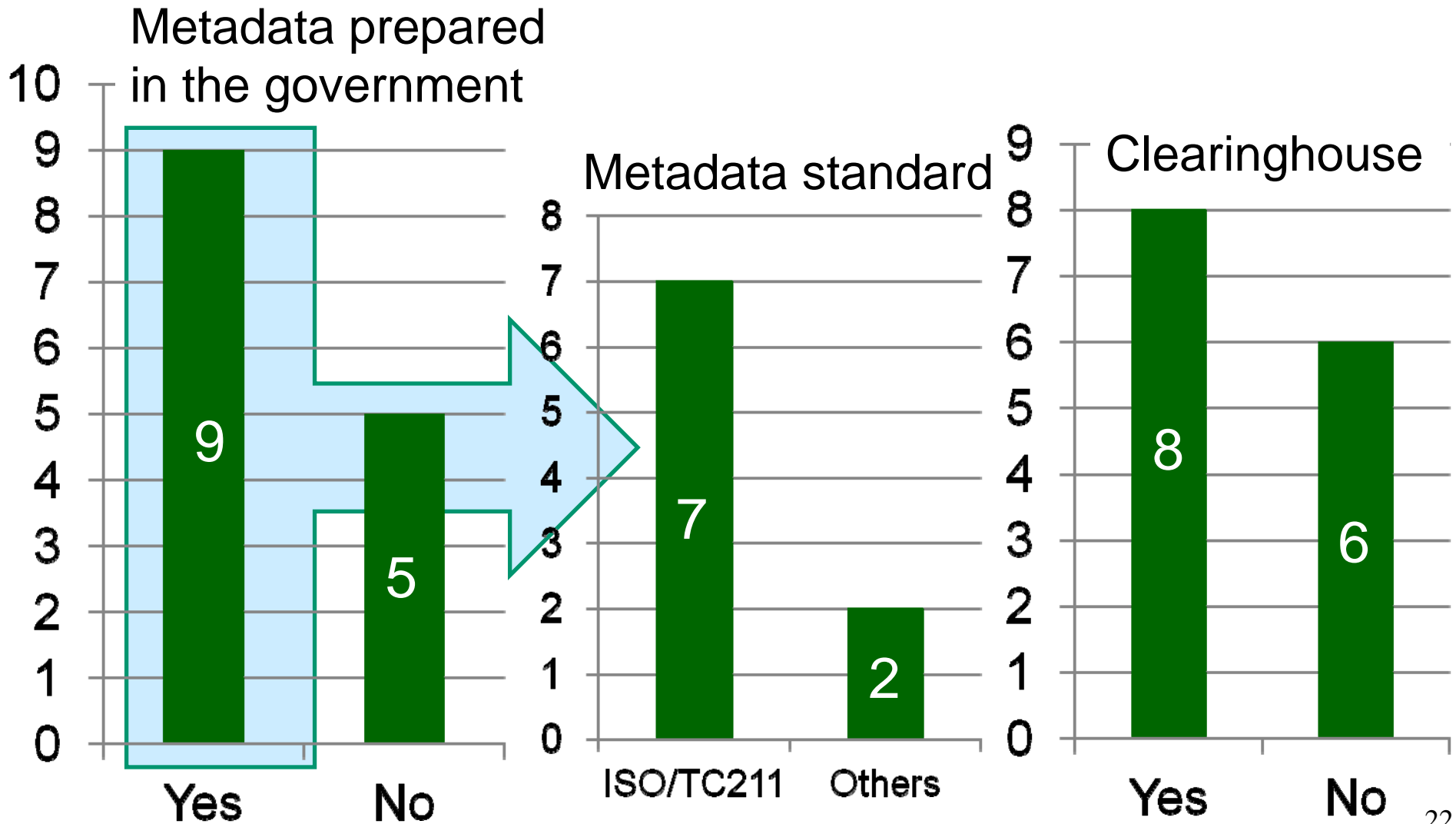


4. PCGIAP Experiences Technical Standards Result of Questionnaire





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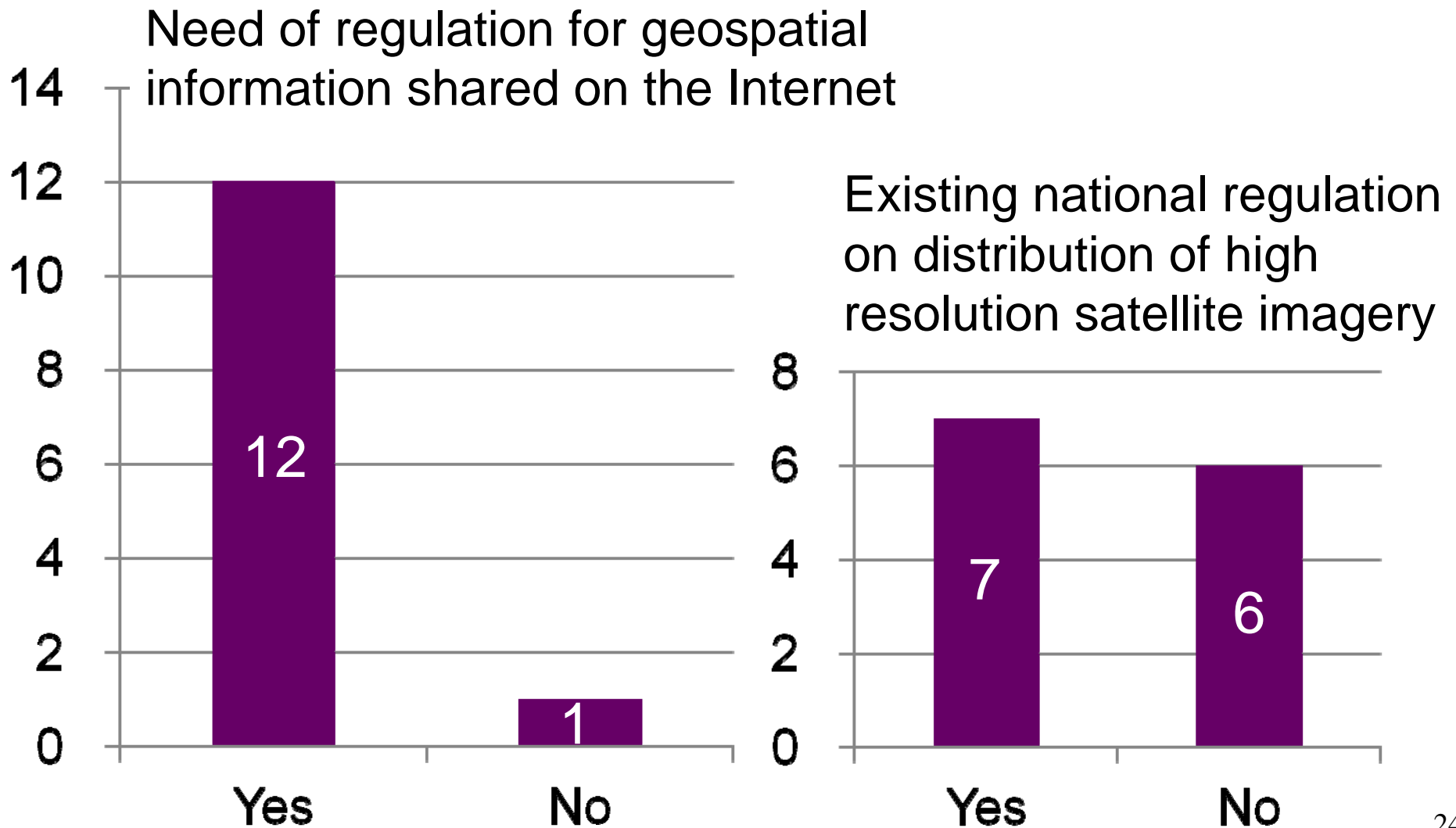


4. PCGIAP Experiences Technical Standards

- While much progress has been made on technical standards for data sharing, not many countries have adopted/ fully implemented them, yet.
- Difficulty of data discovery and sharing still exists, causing inefficiency/duplicated efforts in data development.
- Regular global surveys should be made through questionnaires on the progress in the implementation/dissemination of technical standards.
 - Potential agenda for UNCEGGIM



4. PCGIAP Experiences Regulatory Framework Result of Questionnaire





4. PCGIAP Experiences Regulatory Framework

- Most countries find it necessary to have regional or global regulations on the geospatial information made available on the Internet.
- Balance between enhanced services and necessary restriction/regulation may be needed.
 - Potential agenda for UNCEGGIM



4. PCGIAP Experiences

Regulatory Framework

- Topographic mapping has been focused on SDI development in the region, while cadastral data is equally important for modern market economy.
- Growing interest in the region on land administration has been proved with successful international conferences.
- A resolution was adopted on annual land administration forum at the 18th UNRCC-AP.
- Yet, many countries in the region manage them separately in different organizations.
- Reorganization may be necessary to become truly geospatially enabled government.



5. Summary

- Regarding geodetic framework and technical standards, we have technologies and experiences, but much effort needs to be made in their implementation and dissemination in different countries.
- Geospatial community is rapidly changing and expanding. Without timely and appropriate adjustment to regulatory framework, NMOs might not be bringing the progress, but causing hindrances to the community.
- PCGIAP welcomes the UN initiative on GGIM and ready to support it in close cooperation with the countries in the region.



Thank you!

Important Announcement

Ad hoc meeting of PCGIAP

On 27 October Thursday

9 am – 12noon at KINTEX