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Making the SDI Concept Relevant to Asia-Pacific Countries- the PCGIAP Experience

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Background on the UN sponsored PCGIAP

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Background

- **13th** United Nations Regional Cartographic Conference for Asia and the Pacific (**UNRCC-AP**) held in Beijing, China in May **1994**.
 - **Resolution 16** “*Permanent regional GIS infrastructure committee*” was adopted.
- **Inaugural formation** meeting held in Kuala Lumpur, Malaysia on 12-14 July **1995**,
 - The “*Permanent Committee on GIS Infrastructure for Asia and the Pacific*” (PCGIAP) was formally established.
- **Membership** of the Committee consists of the directorates of the national survey and mapping organizations and equivalent national agencies of the nations from Asia and the Pacific.

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Asia and the Pacific Region

Asia and the Pacific region is:

- largest region in the world
- 60 per cent of the world’s population / 3.5 billion people
- 55 countries as defined by the UN

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Membership



Asia and the Pacific Region

Asia-Pacific region has

complex social and political environments, typified by competing and often conflicting priorities and motivations.

Every case in this region is unique

- national context,
- language and characteristics
(size, population, political systems, varied infrastructures and skills),
- national traditional and cultural attitude, and
- the **people** who participate, develop and use SDIs

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PCGIAP- Aims

“To maximize the economic, social and environmental **benefits** of geographic information in accordance with **Agenda 21** by providing **a forum** for nations from Asia and the Pacific to:

- **cooperate in** the development of a **Regional SDI**.
- **contribute to** the development of the **Global SDI**.
- **share** experiences and consult on matters of **common interest**.”

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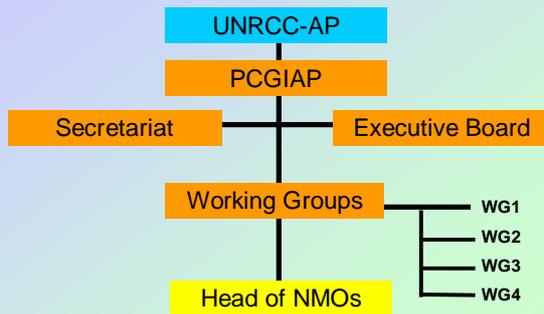
Asia-Pacific SDI

- The PCGIAP believes that a spatial data infrastructure for the region is needed to support the region's economic growth, and its social and environmental objectives, backed by **standards**, **policies and exchange network** on easy access to those data.
- **Key Components of APSDI**
 - 1) Data exchange Networking
 - 2) Fundamental Datasets
 - 3) Legislation & Standardization
 - 4) Institutional Framework

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Organizational Structure



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Linkages with other organizations

The Permanent Committee seeks to establish links with other relevant United Nations programs and international agencies such as the:

- **International Federation of Surveyors (FIG)**;
- International Steering Committee for Global Mapping (ISCGM);
- Global Spatial Data Infrastructure (GSDI)
- Permanent Committee on Spatial Data Infrastructure for the Americas (PCIDEA)
- International Association of Geodesy (IAG);
- International Society of Photogrammetry and Remote sensing (ISPRS)
- International Cartographic Association (ICA)
- ISO/TC211
- International Society on Digital Earth (ISDE)

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Committee Meetings

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Committee Meetings

Meeting	Location	Date
13 th UNRCC-AP	Beijing, China	May 1994
1 st PCGIAP	Kuala Lumpur	July 12-14, 1995
2 nd PCGIAP	Sydney, Australia	Sept. 29-Oct. 4, 1996
14 th UNRCC-AP 3 rd PCGIAP	Bangkok, Thailand	Feb. 1-7, 1997
4 th PCGIAP	Tehran, Iran	Feb.28-March 4, 1998
5 th PCGIAP	Beijing, China	April 19-22, 1999
15 th UNRCC-AP 6 th PCGIAP	Kuala Lumpur, Malaysia	April 11-14, 2000
7 th PCGIAP	Tsukuba, Japan	April 24-27, 2001
8 th PCGIAP	Bandar Seri Begawan, Negara Brunei Darussalam	April 16-19, 2002
16 th UNRCC-AP 9 th PCGIAP	Okinawa, Japan	July 14-18, 2003
10 th PCGIAP	Bangalore, India	Jan 30-31, 2004
11 th PCGIAP	Bali, Indonesia	May 18-21, 2005

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Highlights of PCGIAP Activities

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Working Groups of PCGIAP

Working Groups are established, where required, to undertake projects in pursuit of the PCGIAP aims and objectives

- **WG 1: Regional Geodesy**
- **WG 2: Fundamental Data**
- **WG 3: Cadastre**
- **WG 4: Institutional Strengthening**

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Highlights of PCGIAP Activities

- Successful **regional geodetic observation campaigns** to expand number of key geodetic sites in the region using GPS etc;
- **Pilot project** on administrative boundary data;
- **Policy** on Sharing Fundamental Data;
- **APSDI clearinghouse Data Nodes** Taskforce;
- **Cadastral Template** Project;
- **Marine Administration** Template
- PCGIAP **Hainan Tainting base**;

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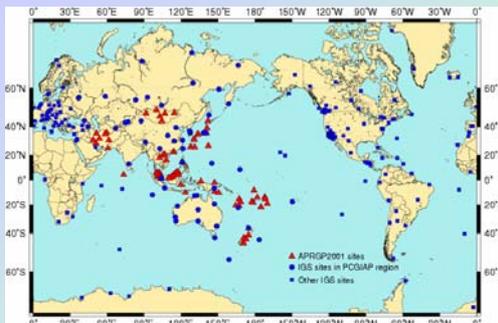
WG1 : Regional Geodesy

- ♦ The primary objective of the WG1 has been to facilitate cooperation in geodesy amongst national agencies in order to build a common geodetic framework across the region.

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GPS observation sites (WG1 : Regional Geodesy)



APRGP (Asia Pacific Regional Geodetic Project)

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WG1 : Regional Geodesy

- ♦ A current project work plan is operational with identified responsibilities and milestones for the period 2003 –2006.
- ♦ WG 1 now expanding its geodetic referencing into the activities of the other PCGIAP WGs to enhance the building of an integrated SDI on a common geodetic base.
- ♦ The recent **tsunami disaster** places greater emphasis on the wider identification of hazards across the region whilst the provision of material from the regional SDI for regional disaster management across national borders takes on a role of urgency.

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APSDI Clearinghouse Search (WG2 : Fundamental Data)

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WG3 : Cadastre

- WG3 was established in 2000. It has been recommended that the UN, within available resources, and in cooperation with the WG, and with the expert assistance of relevant organisations such as FIG and IHO, undertake work into and facilitate discussion on:
 - Development of the Asia-Pacific SDI;
 - Development of regional marine administration infrastructure;
 - Realisation of economic, social and environmental benefits for the region; and
- The implementation of the United Nations Conference on Environment and Development (UNCED) Agenda 21; and that
- WG3 also has an objective to explore the relationship between the operations of the **cadastre** or **land administration system** in each member country and the development of their SDIs at local, state and national levels.

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WG3 : Cadastre

The major activities of WG3 over the past 3 years include:

- Development of a cadastral template;
- Development of a marine administration template;
- Running an international SDI short course; and
- Hosting two international workshops on the cadastre and marine administration.

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Cadastral Template (WG3 : Cadastre)

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Cadastral Template (WG3 : Cadastre)

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Marine Administration (WG3 : Cadastre)

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Marine Administration
(WG3 : Cadastre)

D. Issues in Administering the Marine Environment

D1. Major issues in Administering Rights, Restrictions and Responsibilities in the Marine Environment

List three major issues for each area of administration and three overall issues.

Country	Issues
Australia	Coastal Zone As described above, the coastal zone is administered via a vast and complex legislation framework. The inter-tidal zone is particularly complex with multiple boundaries many of which are poorly or ambiguously defined. The ICOM is making some efforts to improve this situation however recognise that improvements will be gradual at best. Realising these boundaries on the ground is correspondingly problematic. The visualization of the coastal zone is also problematic with numerous data depicting the coastline at various scales and resolutions, many apparently providing conflicting coastline determinations. For example, it is not uncommon for data depicting the line of low water to be landward of a line depicting high water. There are a number of national initiatives currently in progress which are designed to improved access to reliable coastal information and improving metadata. The coastal zone is under major commercial and environmental pressure highlighting the administrative problems identified above. Issues surrounding the extension of the current land based cadastral systems seaward is currently under consideration by ANZLIC and ICOM.

WG3 : Cadastre
Future Plan (2005-2007)

One of the projects that WG3 has aimed and proposed to work on next three years is the relationship between cadastres and SDI's and particularly the relationship and integration of cadastral and topographic datasets.

Sustainable Development

Built Data **Natural Data**

Integration of datasets to facilitate sustainable development

Strategic Issues

- ◆ Relationship with the United Nations
- ◆ Participation rates in the committee and its organs
- ◆ Progress on the the implementation of the APSDI
- ◆ Working groups are the engine-room of the PCGIAP. Significant outputs have been generated by all working groups. Yet the PCGIAP continues to have difficulty in effectively mobilizing these groups, particularly in maintaining enthusiasm and activity levels. Much of the reason for this problem lies in the voluntary nature of working group efforts.
- ◆ Continuing requirements for capacity building

Strategic Issues

- ◆ Capacity to fund activities
- ◆ Emergence of new regional and global SDI initiatives, and other bodies undertaking similar work
- ◆ New global agendas such as community safety and administration of marine resources, alongside existing agendas like sustainable development
- ◆ Technological change, particularly in data acquisition, computing and communications, and interoperability
- ◆ Understanding customer and stakeholder expectations and measuring satisfaction

Strategic Objectives

- ◆ The aims of the PCGIAP and its method of operation are generally still valid. They should be subject to continuous review.
- ◆ Participation rates must improve. Innovative approaches should be tested.
- ◆ Members must want to be involved. There must be benefits to members from their participation.
- ◆ Outputs must continue to focus on the ultimate objective of the APSDI. They must be achievable.

Strategic Objectives

- ◆ The relationship with the UN must be strengthened, but not at the expense of independence of action.
- ◆ Links must continue to be forged with external bodies, to assist learning and to avoid duplication.
- ◆ Outputs of the PCGIAP must be defined and tested in consultation with stakeholders to ensure they are satisfied.



Conclusion

- ◆ The mission of the PCGIAP is to establish a SDI across the Asia-Pacific region. This cannot be fully achieved without the active involvement and support of the countries in the region.
- ◆ The PCGIAP has found that it is most effective when its activities not only address its own mission, but also address the problems faced by the individual countries in the region.

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Conclusion

- ◆ The tragedy of the **tsunami** event that struck Indian Ocean countries on 26 December 2004, and the crucial need for support in re-building infrastructure (particularly SDI) in affected countries, is likely to have an enduring influence on the role of the PCGIAP in the future.

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Thank You

**For details, visit
<http://www.pcgiap.org/>**

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