

REPORT

12th Meeting of the Permanent Committee on GIS Infrastructure for Asia and the Pacific

18-22 September 2006

ESCAP UN Conference Centre

Bangkok, Thailand



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Acknowledgement

Special thanks are offered to all that contributed to the report of the 12th Meeting of the Permanent Committee on GIS Infrastructure for Asia and the Pacific held in Bangkok, Thailand, 18-22 September 2006.

Contact for the Permanent Committee on GIS Infrastructure
for Asia and the Pacific(PCGIAP)

International Affairs Office
Geographical Survey Institute
Kitasato 1, Tsukuba, Ibaraki 305-0811, Japan
Tel: +81 29 864 4514 Fax: +81 29 864 8087
Email: sec@pcgiap.org
Homepage:<http://www.pcgiap.org/>

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Record of Proceedings

12th Meeting of the Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP)

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UN Conference Centre

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A. Introduction

1. This record is a summary of the main points from the 12th PCGIAP held in Bangkok, Thailand, in conjunction with the 17th United Nations Regional Cartographic Conference for Asia and the Pacific (UNRCC-AP) during 18-22 September 2006.
2. A preparatory meeting was held at the UN Conference Centre in Bangkok in May 2006 with participation of the three key players, PCGIAP, UN Statistics Division and representatives of Thailand, from Royal Thai Survey Department and Geo-Information and Space Development Agency. Close collaboration continued through the end of the meeting, which led the meeting to a successful conclusion.
3. The meeting schedule was partly changed due to the closure of the UN Conference Centre on Wednesday 20 September 2006, under the special circumstances that prevailed in Thailand. The Conference resumed on Thursday 21 September after a day's suspension and smoothly continued until it was concluded at 15:30 on Friday 22 September, thanks to the understanding and cooperation of the participants.
4. The Conference theme was elaborated and drafted through consultations of UN and PCGIAP. As a forum of the Asia and Pacific region hit by a series of large scale disasters during the past few years, disaster management and the role of SDI in it were focused, while calling for contributions from the SDI community to the UN Millennium Development Goals.

B. Program

5. The five-day program of the 17th UNRCC-AP and 12th PCGIAP is formulated based on the provisional agenda proposed and adopted at the 16th UNRCC-AP in 2003 in Okinawa, Japan, to which some changes were made to reflect recent trends and

issues. The full program is attached as Annex 1.

6. Two Workshops were organized: 1)PCGIAP-ICA-ISCGM on Use of Geo-information for mitigating large scale disaster and attaining sustainable development and 2) PCGIAP Working Group 3 (Spatially Enabled Government) Workshop on the Integration of Built and Natural Environment Datasets within National SDI Initiatives.
7. PCGIAP Executive Board met in the morning of 18 September, immediately before the Conference, and again on 22 September with newly elected Board members after the Conference.

C. Attendance

8. The Conference was attended by approximately 210 representatives and observers from 30 countries and key institutions in the SDI field around the globe. Out of the 56 PCGIAP member countries/regions 19 were represented. List of participants is attached as Annex 2.

D. Opening of the Conference

9. Mr. Peter Holland(PCGIAP President), temporary President of the Conference, opened the Conference and made some welcoming remarks.
10. Opening statements were made by Mr. Paul Cheung, Director of the United Nations Statistics Division, on behalf of the Secretary-General and Mr. Pathom Yamkate, Deputy Permanent Secretary, Ministry of Science and Technology of Thailand.

E. Organizational matters

11. Mr. Peter Holland was elected as President of the Conference by acclamation after being nominated by the representative of Indonesia, Mr. Rudolf Matindas. The conference elected Mr. Li Weisen, Vice President of PCGIAP, and Mr. Yaguchi Akira, Secretary of PCGIAP, for Vice President and Rappporteur, respectively also by acclamation. Mr. Peter Holland and Mr. Yaguchi Akira took seats at the podium followed by an acceptance remark by Mr. Peter Holland.
12. The objective of the Conference was described as primarily providing a regional forum where all those involved in the surveying and mapping, cartography, hydrography and other related fields could meet to address the common needs and problems.
13. Three Technical Committees were established:
 - I –Geographical Information System(GIS), Remote Sensing, and Geodesy for Disaster Management
 - II – Data infrastructure capacity building and their development in Asia and the Pacific

III– Geospatial Fundamental Data including their collection, management and dissemination

Chairs of the Technical Committees were elected by acclamation:

I – Mr. Sohn Bong Gyun (Korea)

II – Maj. Gen. Gopal Rao(India)

III – Mr. Rudolf Matindas (Indonesia)

F. Report of PCGIAP

14. Mr. Peter Holland, President of PCGIAP, gave an overview of the Committee activities during the past three years of 2003-2006, highlighting the meetings, membership, representation and various contributions PCGIAP has made to the spatial data infrastructure (SDI) community in general. The Committee's resolve and dedication to continue to contribute to and work within the UNRCC-AP framework were expressed, while sincere thanks were extended to all the parties concerned that made the PCGIAP's excellent outcomes of the past three years possible.
15. Prof. Pengfei Cheng, Chair of the PCGIAP Working Group on Regional Geodesy (WG1), introduced three major projects underway specifically developed in response to the resolutions of the 16th UNRCC-AP in Okinawa: Asia Pacific Regional Geodetic Project (APRGP), Geodetic adjustment techniques and datum change parameters, and Regional geoid and absolute gravity, each of which has contributed to the establishment of the overall regional geodetic network. Recognizing the importance of studying and monitoring of earthquake and tsunami and sharing of tide gauge data, the report called for strengthened APRGP campaigns and broader participation by the member nations.
16. Mr. Gholam Reza Fallahi, Chair of the PCGIAP Working Group on Fundamental Data (WG2), presented an overview of activities undertaken during the three-year period of 2003-2006. Two most significant projects are Pan-Asia Pacific framework datasets and Asia Pacific Spatial Data Infrastructure (APSDI), for which separate taskforces have been established for specific works. A pilot project for an initial APSDI clearinghouse portal has been started and a workshop to promote establishment of geo-spatial clearinghouse nodes was organized. A special project for development of seamless datasets for the tsunami affected area was also launched.
17. Prof. Ian Williamson, Chair of the PCGIAP Working Group on Spatially Enabled Government (WG3), reported on key activities undertaken since the 16th UNRCC-AP in 2003. In response to the resolution calling for development of cadastral template and better understanding of the marine environment administration, work plans have been developed and implemented, specifically corresponding to the three components, Cadastre template, Marine cadastre, and Integration of built (cadastral) and natural (topographic) environmental datasets within National SDI initiative. As part of the third project, an international workshop is to be held within the framework of the 17th UNRCC-AP in Bangkok, Thailand.

18. Dr. Cho Woo-Sug, Vice Chair of the PCGIAP Working Group on Institutional Strengthening (WG4), presented a summary of a short course for the PCGIAP members held in October 2005, in Hyderabad, India. With an aim of creating and raising awareness among the stakeholders on the role and functioning of national spatial data infrastructure, the course covered various topics ranging from the concept to demonstrations, from technical to legal and financial aspects. It also provided opportunities to visit leading technical and educative centers in India.

G. UNRCC-AP Report

19. Mr. Amor Laaribi, the United Nations Statistics Division, presented a report jointly prepared by the United Nations and PCGIAP on the follow-up actions taken on each one of the five resolutions adopted at the 16th UNRCC-AP held in 2003 in Okinawa, Japan. Relevant actions had been taken by the PCGIAP Working Groups and plans were implemented as necessary.

H. Keynote speech

20. Mr. Craig Williams, of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), gave a keynote speech entitled “Data Preparedness and Emergency Response: No good decisions without good information”. The presentation discussed the critically important data in the emergency relief community including UN agencies and NGOs as a basis of accurate understanding of the urgent needs and right decisions for prompt actions, citing so called “pcodes”, a gazetteer of the settlements and administrative units of a country or affected region that proved relevant in the recent disasters of Pakistan and Indonesia.

I. Invited Papers

21. Prof. Milan Konecny, President of the International Cartographic Association (ICA), presented a paper entitled “Capacity Building for Geo-information Development: highlighting issues and influencing factors”. The paper, stressing the needs and importance of capacity building, summarized basic approaches, difficulties facing developing countries and ICA’s supports provided. Key factors for the geo-information development are policy, resources, and technology, which should be addressed to through strengthened cooperation of all the sectors and players concerned.
22. Prof. Stig Enemark, Vice President of the International Federation of Surveyors (FIG), presented a paper entitled “Supporting Institutional Development in Land Administration”. Land administration is introduced as a process and a framework indispensable to sustainable development. As such, the need for capacity building and institutional development is highlighted, including creation and adoption of a comprehensive policy and a holistic approach to land administration.

23. Prof. Bas Kok, Chair of Legal and Economic Working Group of Global Spatial Data Infrastructure Association (GSDI) presented a paper entitled "Supporting Capacity Development for Global Spatial Data Infrastructures". An overview of GSDI activities was presented highlighting its capacity building efforts, including Grant Programs, and various successful projects undertaken through the Legal and Economic Working Group. With a view to the increasingly important issue of natural disasters in Asia and the Pacific region, a joint GSDI/PCGIAP has been proposed for 2008 in the region.
24. Prof. Fraser Taylor, Chairperson of the International Steering Committee for Global Mapping (ISCGM) presented a paper entitled "Global Mapping and Disaster Management: The Importance of Participation and Partnership in the Creation of Global Map". The paper introduced the concept, progress, and vision of the project, and called for further participation and partnership. It also identified potential value and contribution of Global Map in the field of disaster management and territorial information linkage.
25. Prof. John Trinder, First Vice-President of the International Society for Photogrammetry and Remote Sensing (ISPRS), presented a paper entitled "State-of-the-Art in Spatial Information for Disaster Management". The paper demonstrated the increasingly significant role of spatial data for monitoring and damage assessment of an earthquake, catastrophe that has hit the region repeatedly, and discussed how photogrammetry, remote sensing and spatial information sciences can best contribute to disaster management and to recovery works based on international collaboration and coordination.
26. Mr. Olaf Magnus Ostensen, Chairman of ISO/TC211, presented a paper entitled "The Contribution of International Standards to Spatial Data Infrastructure and Disaster Management". The paper describes interoperability as a key for any effective international operation including environmental and disaster management, for which standards are imperative. Referring to an example of the formalized SDI of EU named INSPIRE and presenting a way forward, it further called for standardization efforts at all levels.
27. Mr. Bebas Purnawan, PCGIAP WG 2 Taskforce coordinator, presented a paper entitled "Towards the Creation of a Regional Dataset for the Tsunami Affected Area". As a response to the unprecedented disaster of the earthquake and tsunami in the region, the PCGIAP Working Group 2 launched a project of seamless dataset development of the affected area in collaboration with UN SALB (Second Administrative Level Boundaries project) and ISCGM, which is to be continued to eventually cover the entire PCGIAP region. The paper outlined its process, specification, participating countries, progress as well as future efforts.
28. Mr. Altaf Musani, from WHO, presented a paper entitled "Launch of the WHO/EMRO Atlas of Disaster Risk: Volume 1- Exposure to Natural Hazards". As an action of disaster preparedness based on GIS, the WHO Eastern Mediterranean Region (WHO/EMRO) has initiated a development project of an Atlas of Disaster Risk, which is to be published in three volumes. The paper summarizes its first volume called Exposure to Natural Hazards,

where five hazards are featured: floods, landslides, heat index, windstorms, and earthquakes. Potential links with other initiatives are suggested for further data sharing among the stakeholders.

29. Mr. Kemueli Masikerei, Chair of the PCGIAP Pacific Islands Group, presented a paper entitled "Issues from the Pacific Islands on Disaster Preparedness". The paper outlines natural disasters in the Pacific Islands, and mitigation/preparedness efforts pursued at different levels from national to regional to global. Issues to be addressed are discussed, which include strategy in prioritization, project management, data collection, training, exercises, planning and legislation, and community awareness/education among others.
30. Mr. Luis Alegria, Vice-President of the Permanent Committee for the Spatial Data Infrastructure of the Americas(PC-IDEA), presented a paper entitled "Regional and National Spatial Data Infrastructure in the Americas: institutional and capacity building issues". The paper gives an overview of the Permanent Committee activities during the past nine years since its establishment in 1997, based on a resolution of the UNRCC for the Americas. Coming events, including a workshop "Spatial Data Infrastructure in terms of the needs of Latin America" and GSDI-9 in November 2006 in Santiago, Chile, were also introduced.
31. Prof. Ian Williamson, University of Melbourne, Australia, presented a paper entitled "Spatially Enabling Government: A New Vision for Spatial Information". The paper introduces a new concept of SDI that is evolving towards iLand, a system where integrated, interactive spatial information are available on the Internet, replacing eLand administration as part of eGovernment. It is an innovative solution to the emerging needs of modern governments for more accurate, comprehensive and integrated information. It has the ability to transform the way government and private sector organizations do business.
32. Col. Chaiwat Prom Thong of the Royal Thai Survey Department presented a paper entitled "Deformation of Geodetic Network in Thailand due to Crustal Movement". The earthquake of 26th December 2004 off the coast of North Sumatra has resulted in large co- and post-seismic motions throughout the South East Asia, which caused a considerable deformation of the geodetic network in Thailand. Displacements have been determined through GPS campaigns and efforts continue to update the deformed geodetic network.
33. Mr. Shigeru Matsuzaka, Geographical Survey Institute of Japan, presented a paper entitled "GPS Network Experience in Japan and its Usefulness for Disaster Management". The paper reviews the development of GEONET (GPS Earth Observation Network System), a dense nation-wide GPS network of Japan consisting of more than 1220 stations, and its contributions in the field of disaster management. A new monitoring project aiming at disaster prevention and mitigation is proposed for Asia and the Pacific region.

34. Dr. Samad Hj. Abu, Department of Survey and Mapping, Malaysia, presented a paper entitled "2004 Sumatra Earthquake and Tsunami: Rate of Positions Displacement Experienced by Malaysia". Deformation caused by the two Sumatran earthquakes of December 2004 and March 2005 was significant. The coordinates' time series of the Malaysian permanent stations from 1999 to 2006 were analyzed to determine the relative change in time and implications on the future surveying and mapping activities.
35. Mr. Chaerul Hafidin, National Coordination Agency for Surveys and Mapping of Indonesia, presented a paper entitled "Crustal Deformation Monitoring in Indonesia: Current Status and Future Plan". The paper stresses the importance of continuous monitoring and realization of short-term earthquake and tsunami prediction for the Asian and Indian Ocean regions, zone of active seismicity and volcanic activities. Locations of continuous GPS observation are proposed for collection of precise crustal deformation data.
36. Mr. Bill Shepherd, Environmental Systems Research Institute (ESRI), presented a paper entitled "The Role of GIS Services, Data and Portals in Disaster Management - Planning, Response and Recovery". The paper describes why and how GIS is effective in disaster management at all stages from planning, response and recovery. Examples of an extensive and successful application of GIS, wildfires and Hurricane Katrina in particular, were introduced. It noted the importance of lessons learned and shared for further development.
37. Mr. Kazuo Ohta, Japan Aerospace Exploration Agency (JAXA), presented a paper entitled "ALOS Mission and Related Activities in JAXA to support Disaster Management and Sustainable Development". The paper describes the launch of Advanced Land Observing Satellite (ALOS) named "Daichi" in January 2006, including details of its objectives, notably cartography and disaster management, mission instruments, data distribution concept and other data service. It also focuses on its unique capabilities that can support disaster management efforts at all levels.
38. Dr. Steeve Ebener, the United Nations WHO Second Administrative Level Boundaries data set project (SALB), presented a paper entitled "Data Preparedness in Asia: Where we are with SALB ten months after the last PCGIAP Executive Board Meeting". The project has been initiated to provide free access to historic change tables and GIS format maps for each UN member state, which are vitally important at an initial stage of any relief effort. Efforts continue towards a complete coverage for the Asia and Pacific region with support from PCGIAP.
39. Mr. Kartlos Edilashvili, World Agency of Planetary Monitoring and Earthquake Risk Reduction (WAPMERR), presented a paper entitled "Disaster Reduction Experience in Developing Countries: Some Concrete Examples". WAPMERR works for reducing risk due to disaster and for rescue planning after disasters. To serve those purposes, a method of real-time loss estimate is adopted, a message based on which was posted in real-time after the Sumatra earthquake in March 2005. The importance of unified and standardized data development was stressed.

40. Mr. Wu Guoxiang, United Nations ESCAP, presented a paper entitled “An Overview of UNESCAP’s Space Applications Program and Activities on Disaster Reduction”. Efforts for space technology promotion and networking at regional level are underway through RESAP (Regional Space Applications Programme). Building upon the past experiences, it will continue to develop and implement various regional cooperative mechanisms on use of space technology for disaster reduction.
41. Mr. Jesper Moller, United Nations Children’s Fund (UNICEF), presented a paper entitled “Geospatial applications in Support for Disaster Management and Sustainable Development”. DevInfo, a general purpose database system, is introduced with a focus on its application before and after an emergency and on its features in support of the Millennium Development Goals based information management. The importance of standardization and harmonization is also highlighted in providing timely and quality data under difficult circumstances.
42. Ms. Elizabeth Seaman, Ordnance Survey, presented a paper entitled “The dynamic role of location information and technology in a fragile world”. The paper considers the information required in the various stages of the disaster management cycle, the roles of NMOs and emergency mapping agencies focusing on an example of Map Action works, a UK-based international NGO. A new European research project called “Orchestra” is introduced, which seeks to create an information architecture to support the risk management.
43. Due to the closure of the UN Conference Center of ESCAP, the meetings were not held on Wednesday, 20 September 2006.
44. The Conference resumed at 9:00 Thursday 21 September. After confirmation of the program revised at the plenary, the two Workshops were held in parallel.
45. At the PCGIAP-ICA-ISCGM Workshop 1, Mr. David Stevens, the United Nations Office for Outer Space Affairs (UNOOSA), presented a paper entitled “Establishing the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (SPIDER)”. It identified issues to be addressed and the role of NMOs for the implementation: (i) limited mechanisms (ii) relation between specific thematic databases and NSDI and existing international data standards; (iii) development of a web portal; (iv) cost reduction of satellite imagery at a time of disaster; (v) development of standards for information extraction from satellite imagery.
46. Prof. John Trinder, ISPRS, presented a paper entitled “Determining Sustainability Indicators by Remote Sensing”. In order to monitor and evaluate the progress of sustainable development, the necessity of developing early warning indicators was pointed out. Remote sensing technology can be used to produce some of the indicators for biomass changes, land use and land cover changes and agricultural crop estimation. Canadian experience in indicator making was introduced. The role of NMOs to establish data policy for copyright, protection of personal information and classified data concerning

the special data used as indicators was emphasized.

47. Also at the Workshop 1, Mr. Naoki Minamiguchi, FAO Regional Office for Asia and the Pacific, presented a paper entitled “The Use of Geospatial Data for Food Insecurity and Agricultural Drought Monitoring and Assessment by the FAO GIEWS and Asia FIVIMS”. FAO developed the Global Information and Early Warning System (GIEWS), in operation for nearly 20 years now, utilizing the imagery of a low-resolution and high frequency satellite. Based on the experience of the GIEW, Food Insecurity and Vulnerability Information and Mapping System (FIVIMS) was launched. It also touched upon Cold Cloud Duration (CCD), a remote sensing technology providing a proxy for rainfall and Normalized Difference Vegetation Index (NDVI) that estimates crop production.
48. Mr. Wang Liang, Chinese Academy of Surveying and Mapping, presented a paper entitled “On the Establishment and Applications of Natural Disaster Spatial Information Systems for Government Agencies”. The paper discusses the natural disaster spatial information system established by the Chinese Government as a stable foundation to ensure provision of comprehensive disaster information in time and to facilitate informed decision makings. Core data consist of topographic maps, DEM, geographic names, satellite imagery and 1:50,000 raster maps. The system with improved quality and functions serves well the central government purpose.
49. Prof. Vladimir S. Tikunov, Vice-President of International Cartographic Association (ICA), presented a paper entitled “Geo-information System for Developing Scenarios of Global Demographic Process(Sustainable Development of Russia Case Study)”. An emphasis was made on the need for atlas-type geo-information, which can be used as indicators for sustainable development. Demographic indicators are of special importance as population size and growth are critical variables. The paper introduced a series of dynamic demographic maps under various scenarios.
50. At the same Workshop, six papers from five countries and one international organization were presented on Development and Use of Geo-information, that is, by Col. Saranpong Pramsane, Royal Thai Survey Department, by Mr. Muhammad Shafiqul Islam, Survey of Bangladesh, by Mr. Gholam Reza Fallahi, National Cartographic Center of Iran, by Mr. Hiromichi Maruyama, Geographical Survey Institute of Japan, by Prof. Milan Konecny, ICA, and Mr. Bebas Purnawan, BAKOSURTANAL, Indonesia. Status, strategies, institutional issues, activities, regional/global partnerships, role of NMOs involved in development and use of geo-information for disaster management were emphasized by the representatives of the five NMOs, while ICA reiterated the needs and role of mobile and adaptable cartography and geo-information in early warning and crisis management.
51. At the Workshop 2, PCGIAP WG 3 Workshop on the Integration of the Built and Natural Environment within National SDI initiatives, held in the morning of Thursday 21 Sep. Prof. Ian Williamson, Chair of the PCGIAP WG3, and Dr. Abbas Rajabifard, Research coordinator of PCGIAP WG3, presented a paper entitled “Integration of built and Natural environmental data within National SDI initiatives. The paper described the background,

plans, outcomes, and methodology of the project, while its major aim is defined as the development of a model and framework and associated tools for data integration. The Workshop is organized to investigate the data integration in the region by identifying problems, similarities, and difference in all the aspects involved among the nations in the region.

52. At the same Workshop 2, Mr. Hossein Mohammadi, University of Melbourne, presented a paper entitled “The development of a framework and associated tools for the integration of multi-sourced spatial datasets”. The paper presents a research framework for investigating and better understanding issues of integration of data from diverse sources, which creates serious inconsistency at all levels from institution to policy. The framework and tools provide an environment that allows use of data to its maximum potential.
53. For comparison and better understanding of the status in the region and in EU, seven country reports on SDI and data integration activities were presented, from Denmark by Prof. Stig Enemark, Aalborg University, Japan by Mr. Kazuhiko Akeno, Geographical Survey Institute, Australia by Mr. Andrew Binns, Melbourne University, Malaysia by Mr. Ahmad Fauzi bin Nordin, Department of Survey and Mapping Malaysia, Brunei Darussalam by Mr. Mohd. Jamil Mohd. Ali, Survey Department of Brunei Darussalam, Indonesia by Mr. Arief Syafi’f, BAKOSURTANAL), and New Zealand by Mr. Stephen Walsh, Land Information New Zealand. Each country report identified issues both technical and non-technical to be addressed and challenges affecting the jurisdiction as well as current status and future plans of the integration. Representatives from the NMO of the Philippines, NAMRIA, and of Singapore Land Authority, also introduced their respective efforts based on an integration template developed as part of the international case studies by the PCGIAP WG3.

J. Technical Committees

54. Three Technical Committees were held in parallel from 14:30 on Thursday 21 Sep. on three topics as have been confirmed and accepted. Prof. Bas Kok, representative of Netherlands, accepted to replace Maj. Gen. Gopal Rao (India) as Chair of Technical Committee II, who was unable to attend the meeting.
55. Technical Committee I, chaired by Mr. Sohn Bong-Gyun, elected Prof. John Trinder (ISPRS) and Dr. Cho Woo-Sug(Korea) as Vice Chair and Rapporteur, respectively. Discussions centered on contributions to disaster management from GIS, Remote Sensing and Geodesy, and resolutions were drafted calling for further strengthening of regional efforts in this field and collaboration among the parties concerned.
56. Technical Committee II, chaired by Prof. Bas Kok, elected Mr. Ahmad Fauzi Nordin(Malaysia) and Mr. Zoher Nomanbhoy(Malaysia) as Vice Chair and Rapporteur, respectively. Main issues discussed were: SDI capacity building, data integration within national SDI initiatives, and marine administration as part of seamless SDI for both the land and marine jurisdiction. The Committee proposed

three resolutions incorporating issues raised.

57. Technical Committee III, chaired by Mr. Rudolf Matindas, elected Prof. Fraser Taylor (ISCGM), as Vice Chair. Based on the shared understanding on the Importance of geo-spatial information in disaster management, its development efforts at different levels and efficient collaboration among diverse international initiatives were highlighted. The Committee drafted two resolutions.
58. Reports from the Technical Committee were presented to the plenary in the morning on Friday 22 Sep.

K. Election of the Executive Board members

59. The PCGIAP Statutes through Article 10 provide for election of the Executive Board, consisting of the President, Vice President, Secretary, and Executive Board members, currently up to nine, for the term of 2006-2009.
60. In compliance with the provision, at the plenary of Monday 18 Sep. an announcement was made inviting all the PCGIAP members to nominate for any of the positions of the Board. A nomination form was distributed to each member nation present.
61. Secretariat received by the prescribed time of midday Thursday 21 Sep. (extended by one day due to the suspension of the meeting on Wednesday 20 Sep.) one nomination each for President, Vice President, and Secretary, and 10 nominations for a Board member.
62. Nominees of the three executive positions were elected by acclamation: Mr. Peter Holland, Australia, for President, Mr. Yaguchi Akira, Japan, for Vice President, and Mr. Li Weisen, China, for Secretary.
63. Nine Board members were elected out of the ten nominees through two rounds of vote by the secret ballot: Mr. Mohd. Jamil Mohd. Ali (Brunei Darussalam), Mr. Barma Nand (Fiji), Maj. Gen. Gopal Rao (India), Mr. Bebas Purnawan (Indonesia), Mr. Sohn Bong-Gyun (Kroea), Datuk Hamid Ali (Malaysia), Mr. Diony Ventura (Philippines), Mr. Alexander Prusakov (Russian Federation), and Mr. Soh Kheng Peng (Singapore). Prof. Fraser Taylor of ISCGM served as a scrutineer of the election.

L. Working Group (WG) Chairs/Vice Chairs

64. Changes in personnel were confirmed and endorsed, while the establishment of four Working Groups was agreed upon. Working Group 3, formerly Cadastre, is renamed to Spatially Enabled Government.
65. Leadership of the four Working Groups are:
WG 1 (Regional Geodesy) will be led by Mr. Shigeru Matsuzaka (Japan) as Chair and

by Prof. Pengfei Cheng(China) and Mr. John Manning(Australia) both as Vice Chair. WG2(Fundamental Data) is to be chaired by Mr. Bebas Purnawan(Indonesia) and supported by Dr. Zhou Xu(China) as Vice Chair.

WG3(Spatially Enabled Government) will be led by Chair, Prof. Ian Williamson (Australia), and by Mr. Ahmad Fauzi Nordin(Malaysia) and Dr. Abbas Rajabifard (Australia) both as Vice Chair.

WG4(Institutional Strengthening) will have Maj. Gen. Gopal Rao(India) as Chair, and three Vice Chairs, Prof. Kim Eun-Hyung(Korea), Dr. Cho Woo-sug (Korea) and Dr. Li Pengde(China).

M. Resolutions

66. Seven resolutions were presented to the plenary for consideration one by one. They were adopted as presented after discussions and minor rewordings. The titles are:
1. Geo-information for mitigating large scale disasters
 2. Regional Geodesy
 3. Marine Administration-The Spatial Dimension
 4. SDI to support spatially enabled Government
 5. Fundamental Data
 6. Timor Leste Spatial Data Infrastructure(SDI)
 7. Eighteen UNRCC- AP

Full text of the resolutions is found at Annex 3.

N. Draft provisional agenda for the 18th UNRCC-AP and the PCGIAP coinciding with it

67. A draft provisional agenda for the 18th UNRCC-AP and the PCGIAP coinciding with it was adopted as presented. Draft agenda is attached as Annex 4.

O. Adoption of the Report of the Conference

68. Rapporteur of the Conference Mr. Yaguchi Akira presented a draft report of the 17th UNRCC-AP/12th PCGIAP, which was adopted.

P. Announcements from ISPRS and ICA

69. Upcoming events of ISPRS and ICA were announced by their respective representatives.

Q. Closing of the Conference

69. President of the Conference, Mr. Peter Holland, made a closing statement. He expressed his sincere thanks to the United Nations, PCGIAP members, and all those that had contributed to the success of the meeting.

**12th Meeting of the Permanent Committee on GIS Infrastructure
for Asia and the Pacific (PCGIAP)**

Bangkok, 18 -22 September 2006

**“Geo- information integration for Disaster Management and Sustainable
Development in the Context of the Millennium Development Goals”**

Monday 18 September

Am session:

10:00-10:20

Opening of the Conference

- Mr. Peter Holland, Vice-President of the 16th UNRCC-AP and President of PCGIAP
- Dr. Paul Cheung, Director, UNSD/DESA
- Minister of Science and Technology (Thailand)

Coffee Break

10: 45-12:00

Election of the President and other officers of the Conference

Adoption of the agenda and other organizational matters

- (a) Consideration and adoption of rules of procedure;
- (b) Adoption of the agenda;
- (c) Establishment of technical committees and election of Chairmen;
- (d) Organization of work;
- (e) Credentials of representatives to the Conference.

Objectives of the Conference

Report of the Permanent Committee on Geographical Information System Infrastructure for Asia and the Pacific .

- Mr. Peter Holland, President of PCGIAP (**E/CONF.97/3**)
- WG 1,2,3,4 (**E/CONF.97/3/Add.1, Add.2, Add.3, Add.4**)

Conference Reports

- (a) Report on the implementation of resolutions of the 16th United Nations Regional Cartographic Conference for Asia and the Pacific (UNSD-PCGIAP)
Title of the report: Actions taken on resolutions of the Sixteenth United Nations Regional Cartographic Conference for Asia and the Pacific (E/CONF.97/4)

- (b) Country reports

(to be tabled) (E/CONF.97/5/CRP.1, CRP.2,...)

pm session:
14:00-15:30

Keynote paper

Paper 1:

Mr. Craig Williams, Office for the Coordination of Humanitarian Affairs (OCHA)

Title of paper: Data Preparedness and Emergency Response: No good decisions without good information
(E/CONF.97/6/IP.1)

Global issues

Session Chair:

Mr. John Trinder (ISPRS)

Paper 2:

Mr. Milan Konecny, President of ICA

Title of paper: Capacity Building for Geo-information Development: highlighting issues and influencing factors
(E/CONF.97/6/IP.2)

Paper 3:

Mr. Stig Enemark, FIG

Title of paper: Supporting Institutional Development in Land Administration (E/CONF.97/6/IP.3)

Paper 4:

Mr. Bas Kok, Chair of Legal and Economic WG, GSDD

Title of paper: Supporting Capacity Development for Global Spatial Data Infrastructure (E/CONF.97/6/IP.4)

16:00-17:00

Global issues (continued)

Session Chair:

Mr. Hiromichi Maruyama (ISCGM)

Paper 5:

Mr. Fraser Taylor, Chairperson, ISCGM

Title of paper: Global Mapping and Disaster Management: the Importance of Partnership and Participation in the Creation of Global Map (E/CONF.97/6/IP.5)

Paper 6:

Mr. John Trinder, First Vice President of ISPRS

Title of paper: Photogrammetry and Remote Sensing for Disaster Management (E/CONF.97/6/IP.6)

Paper 7:

Mr. Olaf Magnus Ostensen, Chairman of ISO/TC211

Title of Paper: The Contribution of International Standards to Spatial Data Infrastructure and Disaster Management
(E/CONF.97/6/IP.7)

18:00-19:30

Reception hosted by Geo-information and Space Technology Development Agency (GISTDA)

Welcome address by Lt. Gen. Vichit Satharanond, Chairman

Tuesday 19 September

am session:

9:00-10:30 **Regional Issues**

Session Chair: Mr. Barma Nand (Fiji)

Paper 7: Mr. Olaf Magnus Ostensen, Chairman of ISO/TC211
Title of Paper: The Contribution of International Standards to Spatial Data Infrastructure and Disaster Management (E/CONF.97/6/IP.7)

Paper 8: Mr. Bebas Purnawan, PCGIAP Taskforce coordinator
Agency for Surveys and Mapping (BAKOSURTANAL),
Indonesia
Title of paper: Regional Tsunami Dataset (E/CONF.97/6/IP.8)

Paper 9: Mr. Altaf Musani, Regional Adviser Emergency Preparedness
Action, WHO EMRO
Title of paper: Launch of the WHO/EMRO Atlas of Disaster Risk: Volume 1- Exposure to Natural Hazards (E/CONF.97/6/IP.9)

Paper 10: Mr Kemueli Masikerei, Chair, PCGIAP Pacific Islands Group
Title of paper: Issues from Pacific Islands on Disaster Preparedness (E/CONF.97/6/IP.10)

Paper 11: Mr. Luis Alegria, Vice-President of PC-IDEA
Title of paper Regional and National Spatial Data Infrastructure in the Americas: institutional and capacity building issues (E/CONF.97/6/IP.11)

10:45-12:00 **National issues**

Session Chair: Mr. Mohd. Jamil Mohd. Ali(Brunei Darussalam)

Paper 12: Mr. Ian Williamson (University of Melbourne, Australia)
Title of paper: Spatially Enabling Government (E/CONF.97/6/IP.12)

Paper 13: Col. Chaiwat Prom Thong (Royal Thai Survey Department)
Title of paper: Deformation of Geodetic Network in Thailand (E/CONF.97/6/IP.13)

Paper 14: Mr. Shigeru Matsuzaka,(Geographical Survey Institute, Japan)
Title of paper: GPS network experience in Japan and its usefulness for Disaster Management (E/CONF.97/6/IP.14)

Paper 15: Mr. Samad Hj. Abu (Department of Survey and Mapping,
Malaysia)
Title of paper: 2004 Sumatra Earthquake and Tsunami –Rate of Positions Displacement Experienced in Malaysia (E/CONF.97/6/IP.15)

pm session:
14:00-15:30

National issues (continued)

Paper 16: Mr. Cecep Subarya, (BAKOSRUTANAL, Indonesia)
Title of Paper: Crustal Deformation Monitoring in Indonesia; Current Status and Future Plan (E/CONF.97/6/IP.16)

Spatial Data Collection, Management and Dissemination

Session Chair Mr. Diony Ventura(the Philippines)

Paper 17: Mr. Bill Shepherd, ESRI
Title of paper: The Role of Geo-spatial portals, Services and Data in Disaster Preparedness, Response and Recovery Efforts (E/CONF.97/6/IP.17)

Paper 18: Mr. Kazuo Ohta, Associate Senior Engineer,
Earth Observation Research Center, Japan Aerospace
Exploration Agency (JAXA/EORC)
Title of paper: ALOS mission and related activities in JAXA to support disaster management and sustainable development (E/CONF.97/6/IP.18)

Paper 19: Mr. Steeve Ebener , Project Manager, SALB WHO
Title of paper: Data preparedness in Asia: Where we are with SALB 10 months after the last PCGIAP Executive Board Meeting (E/CONF.97/6/IP.19)

15:45-17:00

Best Practices and Applications

Session Chair: Mr. Rajendra Shrestha (AIT)

Paper 20: Mr. Kartlos Edilashvili, World Agency of Planetary
Monitoring and Earthquake Risk Reduction (WAPMERR)
Title of paper: Disaster Reduction Experience in Developing Countries: some concrete examples (E/CONF.97/6/IP.20)

Paper 21: Mr. WU Guoxiang, ESCAP
Title of paper: Integrated Earth Observations for Disaster Management and Sustainable Development in Asia and the Pacific Region: ESCAP Approach (E/CONF.97/6/IP.21)

Paper 22: Mr. Jesper Moller, DevInfo Project Manager, UN DG
Title of paper: Geospatial Applications in support for Disaster Management and Sustainable Development (E/CONF.97/6/IP.22)

Paper 23: Ms Elilizabeth Seaman, Ordnance Survey
Title of paper: The dynamic role of location information and technology in a fragile world (E/CONF.97/6/IP.23)

18:00-19:30

Dinner hosted by GIS Development

Thursday 21 September

Two parallel workshops

I) PCGIAP-ICA-ISCGM Workshop: Use of Geo-information for mitigating large scale disaster and attaining sustainable development

am session:

9:00-12:30

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- Paper 24:** Mr. David Stevens (UNOOSA)
Title of paper: Establishing the United Nations Platform for Space-based Information for Disaster Management and Emergency Response(SPIDER) (E/CONF.97/6/IP.24)
- Paper 25:** Not presented
- Paper 26:** Mr. John Trinder (ISPRS)
Title of Paper: Determining Sustainability Indicators by Remote Sensing (E/CONF.97/6/IP.26)
- Paper 27:** Mr. Naoki Minamiguchi, FAO
Title of paper : Food insecurity and agricultural drought monitoring and assessment by using geo-spatial data (E/CONF.97/6/IP.27)
- Paper 28:** Dr. Surachai Rattanasermpong (GISTDA, Thailand)
Title of paper: Application of Geo-informatics for Natural Disaster Management(E/CONF.97/6/IP.28)
- Paper 29:** Dr. Rajendra Shrestha, Asian Institute of Technology
Title of paper: Geoinformation development and use of environmental management in the Greater Mekong Subregion Countries (E/CONF.97/6/IP.29)
- Paper 30:** Mr. Wang Liang, China,
Title of paper: Establishment and Applications of Natural Disaster Spatial Information System for Government Agencies (E/CONF.97/6/IP.30)
- Paper 31:** Mr. Vladimir Tikunov, Vice president of ICA
Title of paper:Geoinformation System for Developing Scenarios of Global Demographic Process (E/CONF.97/6/IP.31)
- Paper 32:** Col.Saranpong Pramsane (RTSD, Thailand)
Title of paper: Development and Use of Geo-information in Thailand (E/CONF.97/6/IP.32)
- Paper 33:** Brigadier General Muhammad Shafiqul Islam (SOB, Bangladesh)
Title of paper: Development and Use of Geo-information in Bangladesh (E/CONF.97/6/IP.33)
- Paper 34:** Mr. Gholam Reza Fallahi,(NCC, Iran)

Title of paper: Development and Use of Geo-information in Iran (E/CONF.97/6/IP.34)

Paper 35: Mr. Hiromichi Maruyama (GSI, JAPAN)
Title of paper: Development and Use of Geo-information in Japan (E/CONF.97/6/IP.35)

Paper 36: Mr. Milan Konecney (President of ICA)
Title of paper: Mobile and Adaptive Cartography and Geoinformatics in Early Warning and Crises Management (E/CONF.97/6/IP.36)

Paper 37: Mr. Bebas Purnawan, PCGIAP
Title of paper: Development and Use of Geo-information in PCGIAP (E/CONF.97/6/IP.37)

II) PCGIAP-WG3 Workshop on the Integration of Built and Natural Environment Datasets within National SDI Initiatives (This workshop aims to investigate data integration of natural (topographic) and built (cadastral) environmental datasets in the context of establishing and maintaining national SDIs within countries in Asia and the Pacific region. This will identify problems, issues, similarities and differences in: institutional arrangements; related SDI policies; data integration methods and technologies; and human resource and capacity building).

Chair: Prof. Ian Williamson

9:00-12:30

Introduction and overview

Paper 38&39: Mr. Ian Williamson (Chair, PCGIAP WG3)
Title of paper: Integration of built and Natural environmental data within National SDI Initiatives (E/CONF.97/6/IP.38 and IP.39)

Paper 40: Mr. Stig Enemark (University of Aalborg)
Title of paper: The Integration of natural and built environment data-The experience of Europe with a focus on Denmark (E/CONF.97/6/IP.40)

Integration activities –Key issues from country case studies

Paper 41: Mr. Kazuhiko Akeno (Geographical Survey Institute, Japan)
Title of paper: Integration activities of Japan (E/CONF.97/6/IP.41)

Paper 42: Mr. Andrew Binns (Melbourne University).
Title of paper: Integration Activities of Australia (E/CONF.97/6/IP.42)

Paper 43: Mr. Ahmad Fauzi bin Nordin (Department of Survey and Mapping, Malaysia)
Title of paper: Integration Activities of Malaysia (E/CONF.97/6/IP.43)

Paper 44: Mr. Hossein Mohammadi (University of Melbourne)
Title of paper: The development of a framework and associated tools for the integration of multi-sourced spatial datasets (E/CONF.97/6/IP.44)

- Paper 45:** Mr. Mohd. Jamil Mohd. Ali(Survey Dept. of Brunei Darussalam)
Title of paper: Integration activities of Brunei Darussalam
(E/CONF.97/6/IP.45)
- Paper 46:** Mr. M.Arief Syafi'i (Indonesia, BAKOSURTANAL)
Title of paper: Integration activities of Indonesia
(E/CONF.97/6/IP.46)
- Paper 47:** Mr. Stephen Walsh (Land Information New Zealand)
Title of paper: Integration activities of New Zealand
(E/CONF.97/6/IP.47)

Summary and way forward by Chair

Thursday 21 September

14:30-17:00

Parallel Committees

Committee I: *GIS, Remote Sensing and Geodesy for Disaster Management*
Chairman: Mr. Soh Bong-Gyun

Committee II: *Spatial data infrastructure capacity building and their development in Asia & the Pacific*
Chairman: Prof. Bas Kok

Committee III: *Geospatial Fundamental Data, including their collection, management and dissemination*
Chairman: Mr. Rudolf Matindas

Friday 22 September

9:00-9:30

Election of the PCGIAP Executive Board members

9:30-12:00

Reports of the Technical Committees (Plenary) (30 min for each Committee)
Review of the achievements of the Conference

14:00-15:30

Adoption of Resolutions, Provisional Agenda of the 18th UNRCC-AP, and Report of the 17th UNRCC-AP

Concluding remarks by Mr. Peter Holland, President of the Conference

Note: Numbers given after each paper, (E/CONF.97/6/IP.1) for instance, correspond to those listed at the UN Conference site : <http://unstats.un.org/unsd/geoinfo/17thunrccapdocuments.htm>, where full papers are available.

List of participants

A. States Members of the United Nations

Australia

Mr. Peter Holland, General Manager, Spatial Information Industry Advice and Facilitation Branch, Geoscience Australia

Mr. Andrew Binns, Research Fellow, Department of Geomatics, The University of Melbourne

Mr. Paul Kelly, Director, Spatial Strategies Pty Ltd, Board Member, Australian Spatial Information Business Association

Mr. Hossein Mohammadi, PhD Student, Centre for SDI and Land Administration Research, Department of Geomatics, The University of Melbourne

Dr. Abbas Rajaribifard, Deputy Director, Centre for SDI and Land Administration Research, Department of Geomatics, The University of Melbourne

Professor Ian Williamson, Head, Department of Geomatics, The University of Melbourne

Ms. Kim Suree Williamson, Student, Australian National University

Mr. John Manning, Visiting Fellow, University of New South Wales

Bangladesh

Representative

Brigadier General Mohammad Safiqul Islam, Surveyer General of Bangladesh, Survey of Bangladesh

Brunei Darussalam

Mr. Hj Mohd Ali Jamil, Surveyor General, Survey Department

Mr. Hj Nudim Jali, Surveyor, Survey Department

Cambodia

Representatives

Mr. Ith Sotha, Director of Geography Department, Ministry of Land Management, Urbanization and Construction

Mr. Prak Angkara, Director of Research and Regulations Department, Ministry of Land Management, Urbanization and Construction

China

Representative

Mr. Li Weisen, Deputy Director General, State Bureau of Surveying and Mapping

Alternates

Prof. Dr. Cheng Pengfei, Vice President, Chinese Academy of Surveying and Mapping

Dr. Li Pengde, Deputy Director General, Shaanxi Bureau of Surveying and Mapping

Experts

Dr. Zhou Xu, Senior Engineer, National Geomatics Center of China

Mr. Wang Liang, Researcher, Chinese Academy of Surveying and Mapping

Ms. Jiang Xiaohong, Programme Officer, Foreign Affairs Office, State Bureau of Surveying and Mapping

Cyprus

Representative

Mr. Elikkos Elia, Lands Officer, Department of Lands and Surveys, Ministry of Interior

Democratic Republic of Congo

Prof. Matezo Bakunda, Scientific Director, Geographic Institute of Congo

Mr. Theodore Modembi K. Subani, Technical Director, Geographic Institute of Congo

Fiji

Mr. Barma Nand, Director of Lands and Surveyor General, Department of Lands and Survey

Mr. Kemueli Masikerei, Assistant Director, Mapping and Land Information, Department of Lands and Survey

Finland

Head of delegation

Mr. Jarmo Ratia, Director General, National Land Survey of Finland

Deputy Head of delegation

Mr. Pekka Tätilä, Chief Engineer, National Land Survey of Finland

Representative

Mr. Veikko Jantunen, Director, FM-International

Germany

Representative

Prof. Dr. Dietmar Grünreich, Head of Delegation, President, Federal Agency for Cartography and Geodesy

Alternate

Mr. Hagen Graeff, President, German Association for Geodesy, Geoinformation and Landmanagement (DVW)

Advisor

Mr. Gottfried Konecny, Chairman, Advisory Group for International Development in Surveys, Mapping and Landinformation (BEV)

Indonesia

Mr. Rudolf Matindas, Head of National Coordinating Agency for survey and Mapping

Mr. Chaerul Hafidin, Official, National Coordinating Agency for survey and Mapping

Mr. Sukendra Martha, Official, National Coordinating Agency for survey and Mapping

Mrs. Yetty Rusli, Official, Ministry of Forestry

Mr. Hermawan Indrabudi, Official, Ministry of Forestry

Mr. Djajang Sukarna, Official Department of Energy and Mineral Resources

Mr. Adi Saptadi Ruchiantan, Official, Indonesian association for survey and Mapping Enterprises

Mr. Sugiarta Wirasantosa, Official, Department of Marine and Fisheries

Mr. Heru Sri Widiyanto, Official, Topographic Office, Indonesian Army

Mr. Rahman Ibrahim, Official, Hydro-Oceanographic Office

Mr. Sobar Sutisna, Official, National Coordinating Agency for survey and Mapping

Mr. Tri Patmasari, Official, National Coordinating Agency for survey and Mapping

Mr. Agus Prijanto, Official, National Coordinating Agency for survey and Mapping

Mr. Bebas Purnawan, Official, National Coordinating Agency for survey and Mapping

Mr. Arief Syafi'i, Official, National Coordinating Agency for survey and Mapping

Mr. Agus Hermawan Atmadilaga, Official, National Coordinating Agency for survey and Mapping

Mr. Rasidiana Renny

Iran

Representative and Head of delegation

H. E. Mr. Gholamreza Fallahi, Head of GIS Department, The National Cartographic Center of Iran

Expert

Mr. Hamid Ebrahimi, Department of Border Affairs, Ministry of Foreign Affairs

Japan

Representative

Mr. Akira Yaguchi, Director General, Geographical Survey Institute, Ministry of Land, Infrastructure and Transport

Alternate Representatives

Mr. Jiro Usui, Counsellor, Embassy of Japan in Bangkok

Mr. Etsuo Okuda, Second Secretary, Embassy of Japan in Bangkok

Mr. Shigeru Matsuzaka, Assistant Director for Geodesy, Geodetic Department, Geographical Survey Institute, Ministry of Land, Infrastructure and Transport

Mr. Kazuhiko Akeno, Head of International Affairs Office, Planning Department, Geographical Survey Institute, Ministry of Land, Infrastructure and Transport

Mr. Kohei Miyagawa, Deputy Head of International Affairs Office, Planning Department, Geographical Survey Institute, Ministry of Land, Infrastructure and Transport

Mr. Hiromichi Maruyama, Director of Geographic Department, Geographical Survey Institute, Ministry of Land, Infrastructure and Transport

Mr. Shinichi Sakabe, Assistant Director for Environmental Geographic Information, Geographical Survey Institute, Ministry of Land, Infrastructure and Transport

Ms. Kazuko Ishigaki, Deputy Director of National Land Information Office, General Affairs Division, National and Regional Planning Bureau, Ministry of Land, Infrastructure and Transport

Ms. Chie Deguchi, Chief of Information Section, National Land Information Office, General Affairs Division, National and Regional Planning Bureau, Ministry of Land, Infrastructure and Transport

Mr. Katsuto Nakagawa, Minister's Secretariat, Ministry of Land, Infrastructure and Transport

Mr. Akira Suzuki, Official, Planning Department, Geographical Survey Institute, Ministry of Land, Infrastructure and Transport

Jordan

Eng. Saleim M. Khalifeh, Director General, Royal Jordanian Geographic Centre

Eng. Mukhles Haddad, Royal Jordanian Geographic Centre

Laos

Mr. Phouangphanh Sayasane, Director of Cartographic Division, National Geographic Department

Malawi

Representatives

Mr. Richie Bizwick Muheya, Principal Cartographer, Surveys Department

Mr. Halex Chasokwa Kanyangala, Deputy Surveyor General, Surveys Department

Malaysia

Head of delegation

Mr. Ahmad Fauzi bin Nordin, Director of Survey, Mapping Division, Department of Survey and Mapping

Delegates

Dr. Samad bin Abu, Director of Survey, Geodesy Section, Mapping Division, Department of Survey and Mapping

Mr. Md. Zaki bin Ad. Wahid, Director of Survey, Utility Mapping Section, Mapping Division, Department of Survey and Mapping

Mr. Zoher bin Nomanbhoy, Principal Assistant Director of Survey, Database Section, Mapping Division, Department of Survey and Mapping

Nepal

Representative

Mr. Toya Nath Baral, Director General, Survey Department

New Zealand

Head of delegation

Mr. Stephen Walsh, Senior Policy Analyst, Land Information New Zealand

Philippines

Representatives

Undersecretary Diony A. Ventura, Administrator, National Mapping and Resource Information Authority (NAMRIA)

Mr. Jose Galo Isada, Director, Mapping and Reprography, National Mapping and Resource Information Authority (NAMRIA)

Commodore Rodolfo M. Agaton, Director, Coast and Geodetic Survey, National Mapping and Resource Information Authority (NAMRIA)

Republic of Korea

Head of delegation

Mr. Sohn Bong-gyun, President, National Geographic Information Institute

Representatives

Mr. Lee Hah-joon, Section Chief, Geographic Information, National Geographic Information Institute

Dr. Cho Woo-sug, Professor, Inha University

Russian Federation

Dr. Victor Alexandrov, Deputy President, Federal Agency of Geodesy and Cartography, Ministry of Transport of the Russian Federation

Mr. Rinat Abdrakhmanov, Section Chief, Administrative Department, Federal Agency of Geodesy and Cartography, Ministry of Transport of the Russian Federation

Ms. Natali Kozlova, Attaché, Department of Legal Affairs, Ministry of Foreign Affairs

Mr. Valery Moskalenko, Councilor, State Cartographic and Geodetic Center, Federal Agency of Geodesy and Cartography, Ministry of Transport of the Russian Federation

Dr. Alexander Prusakov, Director, Planning and Economy Department, Federal Agency of Geodesy and Cartography, Ministry of Transport of the Russian Federation

Mr. Vladimir Zhukovskiy, Deputy Director, Surveying and Mapping Department, Federal Agency of Geodesy and Cartography, Ministry of Transport of the Russian Federation

Singapore

Head of delegation

Mr. Soh Kheng Peng, Chief Surveyor, Survey Department, Singapore Land Authority

Representatives

Mr. Victor Khoo Kock Soon, Manager, Infrastructure Team, Survey Department, Singapore Land Authority

Ms. S. Indrani, Branch Head, Mapping Unit, Ministry of Defence

Ms. Daisy Tan Buck Choon, Mapping Officer, Mapping Unit, Ministry of Defence

Mr. Michael Tan Soong Tong, Map Research Officer, Mapping Unit, Ministry of Defence

Sri Lanka

Mr. P. K. Vithana, Superintendent of Map Publications, Sri Lanka Survey Department

Thailand

Head of Delegation

Lieutenant General Vichit Satharanond, Director General, Royal Thai Survey Department

Representatives

Mr. Suparek Tansriratanawong, Director General of Meteorological Department

Mr. Thongchai Charupatt, Director, Geo-informatics and Space Technology, Development Agency

Major General Lek Chudasuta, Deputy Director for Technical Affairs, Royal Thai Survey Department

Alternates

Colonel Boonlert Thasanakrongsin, Technical Officer, Royal Thai Survey Department

Colonel Winai Semsawat, Director of Geography Division, Royal Thai Survey Department

Colonel Krith Bunthid, Chief of Map Information Center, Royal Thai Survey Department

Colonel Chaiwat Promthong, Deputy Director of Geodesy and Geophysics Division, Royal Thai Survey Department

Colonel Saranpong Pramsane, Deputy Director of Plans and Projects Division, Royal Thai Survey Department

Colonel Chaisit Preeyanupab, Assistant Director of Mapping Division, Royal Thai Survey Department

Colonel Uamkiat Charensong, Chief of Geodesy Section, Geodesy and Geophysics Division, Royal Thai Survey Department

Lieutenant Colonel Rungsak Hongthong, Chief of Foreign Relations Section Plans and Projects Division, Royal Thai Survey Department

Lieutenant Colonel Anupong Prongchit, Geophysicist, Geodesy and Geophysics Division, Royal Thai Survey Department

Lieutenant Colonel Attawoot Kiatiwat, Chief of Map Information Processing Section, Map Information Center, Royal Thai Survey Department

Major Suraphong Subongkod, Assistant Instructor, Department of General Engineering Education Division, Royal Thai Survey Department

Lieutenant Totsapon Roongkaew, Geography Division, Royal Thai Survey Department

Mr. Khunpol Prompaet, Director of Survey & Mapping Division, Bangkok Metropolitan Administration

Mr. Samarn Kloemwilai, Chief of Mapping Section, Survey and Mapping Division, Bangkok Metropolitan Administration

Mr. Suriyahn Gawperm, Mapping Technician, Survey and Mapping Division, Bangkok Metropolitan Administration

MSGT. Chaiyaporn Chomsri, Mapping Technician, Survey and Mapping Division, Bangkok Metropolitan Administration

Mr. Wuthichai Kaewwan, Lecturer, Burapa University

Mr. Phurith Meeprom, Lecturer, Burapa University

Assistant Professor Dr. Pong-In Rakariyatham, Vice President for Academic Affairs, Chiang Mai University

Mr. Chira Prangkio, Head, Geo-Informatics and Space Technology, Center (Northern Region), Faculty of Social Sciences, Chiang Mai University

Dr. Chaichoke Vaiphasa, Department of Survey Engineering, Chulalongkorn University

Mr. Supakit Phopapapan, Director of Information Technology Center, Department of Disaster Prevention and Mitigation

Mr. Somchai Reangchatchai, Civil Technical Department of Disaster Prevention and Mitigation

Mr. Prasong Thammapala, Scientist, Department of Disaster Prevention and Mitigation

Mr. Manotch Ditthawisan, Chief, Survey and Mapping Department, Hydro Power Survey and Land Division, Electricity Generating Authority of Thailand

Mrs. Kornkanok Sarutanon, System Analyst, Survey and Mapping Department, Hydro Power Survey and Land Division, Electricity Generating Authority of Thailand

Mr. Surapong Rangsisombatsiri, Engineer Level 11, Transmission System Survey and Land Division, Electricity Generating Authority of Thailand

Mr. Tuxapong Kanlayanapradith, Chief, Transmission System Survey Department, Transmission System Survey and Land Division, Electricity Generating Authority of Thailand

Mrs. Darasri Dowreang, Deputy Director, Geo-informatics and Space Technology, Development Agency

Mrs. Ramphing Simking, Director, Satellite Based Resources Information Center, Geo-informatics and Space Technology Development Agency

Ms. Supapis Polngam, Acting Director, GEO-Informatics Office, Geo-informatics and Space Technology Development Agency

Ms. Kannika Komwong, GEO-informatics Scientist, Geo-informatics and Space Technology Development Agency

Mr. Anusorn Kunarsa, GEO-informatics Scientist, Geo-informatics and Space Technology Development Agency

Mr. Anusorn Rungsipanich, GEO-informatics Scientist, Geo-informatics and Space Technology Development Agency

Captain Preecha Somsukjaroen, Director of Technical Division, Hydrographic Department

Mr. Phanumat Amphat, Head of Orthophoto Map Sub-Division, Land Development Department

Dr. Somchai Baimoung, Director of Meteorological Geoinformation, Mapping Bureau, Meteorological Department

Mr. Worawoot Tantivanit, Expert Geologist, Consulting Expert in Geological, Resources Management, Department of Mineral Resources

Mrs. Supawadee Vimuktanandana, Senior Geologist, Chief of Cartographic Section, Mineral Resources Information Centre, Department of Mineral Resources

Mr. Wisut Chotikasathien, Senior Geologist, Environmental Geological and Geological Hazard Division, Department of Mineral Resources

Dr. Kampanart Piyathamrongchai, Lecturer, Naresuan University

Capt. Anujit Vansarochana, Lecturer, Naresuan University

Mr. Suchin Khantisomboon, Geographer, National Park, Wildlife and Plant Conservation Department

Mr. Tinnakorn Tatong, Geologist, National Disaster Warning Center

Mr. Passkorn Kunthasap, Geologist, National Disaster Warning Center

Dr. Kajornsak Jaiyawat, Policy and Plan Analyst, The National Research Council of Thailand

Mr. Wutthipong Sangmanee, Lecturer, Department of Geography, Faculty of Humanities and Social Science, Prince of Songkla University, Pattani Campus

Mr. Pisan Kayansumruahj, Surveying and Mapping Expert, Department of Public Works and Towns and Country Planning

Mr. Keattisak Amornprasertsook, Director of Information Technology Center, Department of Public Works and Towns and Country Planning

Assistant Professor Dr. Vinita Paonak, Faculty of Education, Ramkhamhaeng University

Assistant Professor Paitoon Piyapakorn, Faculty of Education, Ramkhamhaeng University

Sub.Lt. Pol Rakthong, Professional Engineer 9 for Survey, Office of Topographical and Geotechnical Survey, The Royal Irrigation Department

Sub.Lt. Ekasint Sintudeacha, Director of Ground Survey Branch, Office of Topographical and Geotechnical Survey, The Royal Irrigation Department

Mrs. Suwanna Euvananont, Director of Photogrammetric Survey Branch, Office of Topographical and Geotechnical Survey, The Royal Irrigation Department

Miss Suphan Saykawlard, Senior Geologist, Office of Topographical and Geotechnical Survey, The Royal Irrigation Department

Mr. Prasith Phanboonkirt, Senior Survey Engineer, Office of Topographical and Geotechnical Survey, The Royal Irrigation Department

Mrs. Krisana Klindao, Senior Photogrammetric Officer, Office of Topographical and Geotechnical Survey, The Royal Irrigation Department

Mr. Chawalit Thamratanasiri, Survey Engineer, Office of Topographical and Geotechnical Survey, The Royal Irrigation Department

Mr. Phonchai Klinkhachon, Senior Hydrologist, Office of Hydrology and Water Management, The Royal Irrigation Department

Mr. Chaiwut Wuttanakarn, Hydrologist, Office of Hydrology and Water Management, The Royal Irrigation Department

Mrs. Supinda Wuttanakarn, Hydrologist, Office of Hydrology and Water Management, The Royal Irrigation Department

Captain Surakarn Chimkul, Aide de Camp to Director General, Office of Director General,
Royal Thai Survey Department

United Arab Emirates

Representatives

Major Adel Khalifa Nasseb Al-Shamsi, UAE Armed Forces

Captain Hamed Khamis Saif Al Kaabi, UAE Armed Forces

Dr. Mohammed Rashid Abu Alhamam, Assistant Professor, Geography Program, Human and
Social Sciences College, University of Emirates

United Kingdom

Mr. Giles Andre, Second Secretary (Defense), Defence Geographic Centre, British High
Commission

Viet Nam

Head of delegation

Mr. Tran Bach Giang, Director of Survey and Mapping Department

Members

Mr. Ha Minh Hoa

Mr. Hoang Lam Son

Mr. Phan Ngoc Mai

Mr. Le Dinh Ai

Mr. Tran Dinh Luat

Mr. Nguyen Van Duyen

Mr. Nguyen Van Duc

Mr. Vu Nhu Thieu

Mr. Chu Van Quyen

Mr. Giang Van Lenh

Mr. Nguyen Phan

Mr. Vu Nhu Hoi

Yemen

Mr. Khaled Albanna

Mr. Hussien Ahmed Al-Mashdali

Mr. Abdul Wahab Mohamed Sallah

B. Non-member State of the United Nations

Holy See

Head of delegation

Msgr. John Kallarackal

Representative

Rev. Jean Barry, SJ

C. Specialized agencies

Mr. Steeve Ebener, Project Manager, eHealth, World Health Organization

Mr. Atlaf Musani, Regional Adviser, Emergency and humanitarian Action, World Health Organization Regional Office for the Eastern Mediterranean

Mr. Michael Sheinkman, Senior Regional Programme Advisor, Vulnerability, Analysis and Mapping (VAM), World Food Programme, Bureau for Asia

Mr. Axel Pustan, Regional VAM Spatial Data Analyst, World Food Programme, Regional Bureau for Asia

Mr. Craig Williams, Regional Information Management Officer, Regional Office for Asia and the Pacific, Office for the Coordination of Humanitarian Affairs (OCHA)

Mr. Kyotaro Harano, Regional Officer, Air Traffic Management and Search and Rescue, Asia and Pacific Office, Bangkok, International Civil Aviation Organization (ICAO)

D. International scientific organizations

International Cartographic Association (ICA)

Prof. Milan Konecny, President

Prof. Vladimir Tikunov, Vice President

International Federation of Surveyors (FIG)

Prof. Stig Enemark, Department of Development and Planning, Aalborg University

International Society for Photogrammetry and Remote Sensing (ISPRS)

Prof. John Trinder, First Vice President

International Steering Committee for Global Mapping (ISCGM)

Prof. Fraser Taylor, Chairperson

Global Spatial Data Infrastructure (GSDI)

Prof. Bas Kok, Chair of Legal and Economic Working Group

ISO/TC 211

Prof. Olaf Magnus Ostensen, Chairman

Mr. Henry Tom

E. Invited Speakers

Mr. Craig Williams, Regional Information Management Officer, Regional Office for Asia and the Pacific, Office for the Coordination of Humanitarian Affairs (OCHA)

Prof. Milan Konecny, President, International Cartographic Association (ICA)

Prof. John Trinder, First Vice President, International Society for Photogrammetry and Remote Sensing (ISPRS), School of Surveying and GIS, University of New South Wales, Australia

Prof. Bas Kok, Chair of Legal and Economic Working Group, GSDI, Delft University of Technology, Netherlands Council for Geo Information

Prof. Fraser Taylor, Chairperson, International Steering Committee for Global Mapping (ISCGM), Department of Geography and Environmental Studies, Carleton University, Canada

Prof. Stig Enemark, International Federation of Surveyors (FIG), Department of Development and Planning, Aalborg University

Prof. Olaf Magnus Ostensen, Chairman, ISO/TC 211, Norwegian Mapping Authority

Mr. Bebas Purnawan, PCGIAP Task Force Coordinator, Agency for Surveys and Mapping (BAKOSURTANAL), Indonesia

Mr. Altaf Musani, Regional Adviser Emergency Preparedness Action, WHO EMRO

Mr. Kemueli Masikerei, Chair, Permanent Committee on Geographic Information System (GIS) Infrastructure for Asia and the Pacific (PCGIAP) Pacific Islands Group

Mr. Luis Alegría Matta, Vice President of PC-IDEA

Prof. Ian Williamson, Head of Department of Geomatics, The University of Melbourne

Col. Chaiwat Prom Thong, Royal Thai Survey Department

Mr. Shigeru Matsuzaka, Geographical Survey Institute, Japan

Dr. Samad Hj. Abu, Department of Survey and Mapping, Malaysia

Mr. Cecep Subarya, Head, Geodynamic Division, National Coordination Agency for Surveys and Mapping (BAKOSURTANAL), Indonesia

Mr. Bill Shepherd, Environmental Systems Research Institute, Inc. (ESRI)

Mr. Kazuo Ohta, Associate Senior Engineer, Earth Observation Research Center, Japan Aerospace Exploration Agency (JAXA/EORC)

Dr. Steeve Ebener, Project Manager, SALB WHO

Mr. Kartlos Edilashvili, Senior Technical Adviser, World Agency of Planetary Monitoring and Earthquake Risk Reduction (WAPMERR)

Mr. Wu Guoxiang, Chief, Space Technology Application Section, Information, Communication and Space Technology Division, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)

Mr. Jesper Moller, DevInfo Project Manager, United Nations Development Group

Ms. Elizabeth Seaman, Ordnance Survey

Mr. David Stevens, United Nations Office for Outer Space Affairs (UNOOSA)

Mr. Naoki Minamiguchi, Vulnerability Analysis Coordinator, Food and Agriculture Organization of the United Nations Regional Office for Asia and the Pacific, Bangkok, Thailand

Mr. Surachai Rattanasermpong, GISTDA, Thailand

Mr. Rajendra Shrestha, Asian Institute of Technology

Mr. Wang Liang, Deputy Director, Research Center of Government GIS, Chinese Academy of Surveying and Mapping

Prof. Tikunov Vladimir, Vice President, International Cartographic Association (ICA)

Mr. Saranpong Pramsane, Royal Thai Survey Department, Thailand

Brigadier General Muhammad Shafiqul Islam, Survey of Bangladesh, Bangladesh

Mr. Gholam Reza Fallahi, National Cartographic Center, Iran

Mr. Hiromichi Maruyama, Secretary General, International Steering Committee for Global Mapping (ISCGM), Director of Geographic Department, Geographical Survey Institute, Japan

Dr. Abbas Rajabifard, Deputy Director, Centre for Spatial Data Infrastructures and Land Administration, Department of Geomatics, The University of Melbourne, Australia

Mr. Kazuhiko Akeno, Geographical Survey Institute, Japan

Mr. Andrew Binns, Research Fellow, Department of Geomatics, The University of Melbourne

Mr. Ahmad Fauzi bin Nordin, Department of Survey and Mapping, Malaysia

Mr. Hossein Mohammadi, PhD Candidate, Department of Geomatics, The University of Melbourne

Mr. M. Arief Syafi'i, National Coordination Agency for Surveys and Mapping (BAKOSURTANAL), Indonesia

Mr. Stephen Walsh, Land Information, New Zealand

F. Observers

Mr. Kazuo Furukata, Kokusai Kogyo Co., Ltd, Japan

Mr. Masamichi Haraguchi, Kokusai Kogyo Co., Ltd, Japan

Mr. Satoru Nishio, Kokusai Kogyo Co., Ltd, Japan

Mr. Norio Ishijima, Kokusai Kogyo Co., Ltd, Japan

Mr. Ichiro Nonaka, Asia Air Survey Co., Ltd, Japan

Mr. Yuji Ouchi, Aero Asahi Corporation, Japan

Mr. Kohei Yamamoto, Pasco Corporation, Overseas Division, Japan

Mr. Kei Sato, Pasco Corporation, Overseas Division, Japan

Mr. Hiroshi Sanui, Pasco Corporation, Overseas Division, Japan

Mr. Lal Samarakoon, Director, Geoinformatic Center, Asian Institute of Technology

Mr. David Khidasheli, Director of Operations, World Agency of Planetary Monitoring & Earthquake Risk Reduction (WAPMERR)

Mr. Adel Karas, Regional Director, World Agency of Planetary Monitoring & Earthquake Risk Reduction (WAPMERR)

Ms. Lauren Paletta, Disaster Tracking Recovery Assistance Center (D-TRAC)

Mr. Sunil Ahuja, Regional Manager, South East Asia and Pacific, GIS Development

Mr. Cihat H. Basocak, GIS Officer, Space Technology Application Section, Information, Communication and Space Technology Division United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)

G. Secretariat of the Permanent Committee on GIS Infrastructure for Asia and the Pacific (PCGIAP)

Ms. Mariko Ito, Secretariat of the PCGIAP

Ms. Kazuyo Maruyama, Secretariat of the PCGIAP

H. United Nations Secretariat

Mr. Paul Cheung, Director, Statistics Division, Department of Economic and Social Affairs

Mr. Amor Laaribi, Statistics Division, Department of Economic and Social Affairs

Mr. Otto Gustafik, Division for General Assembly and ECOSOC Affairs, Department for General Assembly and Conference Management

Mr. Kyoung-Soo Eom, Chief, Cartographic Section, Department of Peacekeeping Operations

Resolutions of the 17th UNRCC-AP/12th PCGIAP

1. Geo-information for mitigating large scale disasters

The Conference,

Bearing in mind that in order to make more effective and efficient use of geo-information by decision makers for disaster monitoring, assessment and management, and the realization of improved environmental and sustainable development decision making, and the challenges of lack of adequate resources facing NMOs.

Recommends that:

(a) PCGIAP, NMOs and organizations involved in the development of geo-information take the following actions:

- (1) Collect and provide geo-information on affected areas;
- (2) Apply best practices in the development of appropriate geo-databases and applications;
- (3) Use remote sensing imagery with other data sets in regional applications;
- (4) Coordinate their activities in promoting the wider use of geo-information for disaster monitoring and management with ISCGM and UN activities, in particular UNOOSA initiated SPIDER, accessing ALOS and new remote sensing imagery sources, investigating geospatial portal technology on mobile platforms and advising countries on the availability and use of web-based spatial data for disaster management;
- (5) Consider acquiring additional funds through donor agencies for disaster preparedness, mitigation and management, especially in support of the activities of the NMOs.

(b) Organizations involved in the development of geo-information such as ISCGM

collaborate with regional and global initiatives, such as various UN programs and GEO (Group on Earth Observations), which are users of geo-information, and promote the use of geo-information.

(c) Organizations active in geo-information field such as ICA, ISPRS, and other members of JBGIS promote and raise the awareness of the benefits of geo-information, to decision makers;

(d) PCGIAP consider appropriate mechanisms to enable representatives from developing countries to attend a Workshop on Monitoring Earthquake and Tsunami Hazards at the time of planned PCGIAP-GSDI meeting in Fiji in 2008.

2 Regional Geodesy

The Conference,

Recognising the importance of establishing an homogeneous geodetic network as the basis for the Asia and the Pacific regional spatial data infrastructure as well as for geodetic activities concerning Disaster Management of the region,

Noting the progress made by the PCGIAP Regional Geodesy Working Group in establishing a precise regional geodetic framework as the base layer in a regional spatial infrastructure,

Considering Global Earth Observation System of Systems (GEOSS) 10-year implementation plan, endorsed by more than 60 countries at the Third Earth Observation Summit in Brussels in 2005, is in progress,

Further considering the frequent outbreaks of natural disasters caused by in particular earthquakes, volcanic eruptions, and tsunamis in the region,

Realising the need to establish a geodetic framework in Asia and the Pacific region to contribute to the Disaster prevention/mitigation program through associated technology transfer and information exchange,

Bearing in mind the limited financial resources and availability of equipment and expertise in observation and processing of acquired geodetic data,

Recommends that:

The regional geodetic framework continues to be maintained and enhanced through integration of national geodetic networks and through appropriate linkages to global reference frames over the next three years through the following activities:

- 1) Enhance the regional geodetic infrastructure to contribute to monitoring, warning and post-event reconstructions through cooperative observations of crustal deformation and plate motion, and information exchange, including tide gauge networks and placement of new GPS key sites.
- 2) Encourage the transfer of GPS technology to nations in need through annual campaign observations, and the development and sharing of analysis techniques

in the following geodesy workshop activities.

- 3) Promote the application of new geodetic adjustment techniques and datum change transformation parameters for regional spatial data integration and for geo-referencing cadastral and statistical information.
- 4) Interact with IAG commissions 1 and 2 on the status of the regional geodetic reference frames and geoid determination using absolute gravity, satellite, airborne and terrestrial gravity.
- 5) Review the status of geodetic networks in individual countries and upgrade PCGIAP web site information.
- 6) Support the expansion of continuous GPS installations in areas of earthquake and tsunami hazards and strongly encourages nations making such data readily available on a weekly basis for shared scientific study and warning systems in relation to tectonic events.

3. Marine Administration - The Spatial Dimension

The Conference,

Noting that the majority of National SDIs and cadastral initiatives are only related to the land environment and that most countries in the region have an extensive marine jurisdiction and related administrative responsibilities,

Further noting the requirements and obligations of countries under UNCLOS to support the management of their marine environment,

Acknowledging that the marine environment and particularly the coastal zone are critically important for food production and sustainable development within Asia and especially the Pacific Island countries,

Recognising the outcomes of the PCGIAP Working Group 3 International Workshop on Marine Administration, Malaysia 2004, which recommended that a marine cadastre be defined as a management tool which spatially describes, visualises and realises formally and informally defined boundaries and associated rights, restrictions and responsibilities in the marine environment as a data layer in a marine SDI, allowing them to be more effectively identified, administered and accessed.

Recommends that:

- (a) All countries in the Asia-Pacific region with a marine jurisdiction and administrative responsibilities be encouraged to include the development of a marine administration component (including a marine cadastral component) as part of a seamless SDI that covers both land and marine jurisdictions to ensure a continuum across the coastal zone.
- (b) The PCGIAP through Working Group 3 continue investigations into marine cadastre, marine SDI, and the spatial dimension of marine administration and ocean governance, and particularly encourage member nations to complete the Marine Cadastre Template at www.marineadministration.org.

4. SDI to support spatially enabled Government

The Conference,

Noting the outcomes of AGENDA 21 and the UN Bogor Declaration which promote the importance of efficient and effective national Spatial Data Infrastructures (SDI) and land administration systems as key factors in support of sustainable development and environmental management,

Further noting the resolutions and deliberations of the 16th UNRCC-AP and the 8th UNRCC for the Americas on the need to integrate land administration, cadastre and land registration functions with topographic mapping programs within the context of a wider national strategy for SDIs,

Mindful of the benefits and difficulties of integrating natural and built (including legal, cadastral, economic and demographic data) environmental datasets in providing an understanding of the real world and supporting decision making for sustainable development,

Recognising the outcomes of the 17th UNRCC-AP workshop on integration of natural and built environmental data which concluded that firstly such integration is an important component for delivering technical, economic and social solutions to real world problems in government, business and the community at large, and second that SDIs serve as an enabling platform supporting spatially enabled government to support strategies such as e-government,

Recommends that:

- (a) Member Nations develop a better understanding and pursue the principles of:
 - 1) the integration of natural and built environmental datasets in support of sustainable development,
 - 2) a spatially enabled platform to support the integration of natural and built environmental data by exploring related conceptual, institutional, policy, legal and technical issues,
 - 3) designing SDIs to support spatially enabled government.

- (b) PCGIAP, through Working Group 3, for the period 2006-2009 assist member nations building or re-engineering their SDIs to support the role of spatially enabling government by investigating the concept and associated institutional, technical, policy, legal, socio-economic and capacity issues.

5. Fundamental Data

The Conference,

Recalling that the Asia and the Pacific region is a potential area for disasters (e.g. earthquake, tsunami,...).

Recalling the importance of generating a seamless dataset covering the entire Asia and the Pacific region.

Noting the significant interest expressed by the participating countries and the results obtained so far in the context of the pilot project for the generation of a set of seamless data layers for the tsunami affected area.

Further noting the strong support for the pilot project from the 11th PCGIAP Meeting in Bali, 2005 and the PCGIAP Executive Board Meeting in Brunei, 2005.

Welcoming the efforts of the Global Mapping project and those of the UNGIWG SALB project in the generation of global seamless data sets including those for Asia and the Pacific.

Recognizing that the availability of fundamental data sets, such as national administrative divisions, are crucial for the analysis and management of socio-economic phenomena,

Further Recognizing that the Government of the Russian Federation adopted, in August 2006, the concept of Spatial Data Collection and Development.

Recommends that:

- (a) PCGIAP Working Group 2 on Regional Fundamental Data, jointly with PCGIAP Working Group 1 on Regional Geodetic Network, extends and improves the above mentioned pilot project in collaboration with ISCGM, SALB and other similar initiatives.

- (b) PCGIAP through Working Group 4 in collaboration with Working Group 2 encourages efforts in capacity building in data development, in particular the training programs by the Geographical Survey Institute (GSI) funded by the JICA.
- (c) PCGIAP encourages close collaboration between PCGIAP Working Group 2 with ISO/TC211 in the development of an ISO Metadata standard profile for Asia Pacific.
- (d) Countries in Asia and the Pacific region, particularly through their NMOs and notably with the help of the PCGIAP, support and participate actively in the SALB and the Global Mapping project by providing the necessary data and information they require, and take full advantage of participating in the Global Mapping and SALB projects for capacity building to help establish National and Regional Spatial Data Infrastructures in the region;
- (e) Countries in Asia and the Pacific region continue their efforts to create and support national geo-information databases and spatial data infrastructures and undertake this work in the most efficient and effective way by avoiding duplication of effort.

6. Timor Leste Spatial Data Infrastructure (SDI)

The Conference,

Recognizing the positive and separate efforts of the Government of Timor Leste and the UN Department of Peacekeeping Operations to develop geographic information and an SDI in Timor Leste.

Further recognizing the efforts of PCGIAP to establish a Regional SDI and multi-country datasets, and the efforts internationally to improve the geographic information knowledge base in Timor Leste.

Recommends that the Government of Timor Leste, member countries of PCGIAP, the

UN Department of Peacekeeping Operations and other international efforts, collaborate as appropriate in developing this spatial data infrastructure so as to maximize its value

7. **7. Eighteenth United Nations Regional Cartographic Conference for Asia and the Pacific**

The Conference,

Noting the progress made in the work on the spatial data infrastructure, at the national, regional and global levels, by States Members of the United Nations,

Noting also the essential role played therein both by the present United Nations Regional Cartographic Conference for Asia and the Pacific and by the Permanent Committee on Geographic Information System Infrastructure for Asia and the Pacific,

Noting further that the Permanent Committee was established in 1994 pursuant to resolution 16 adopted by the Thirteenth United Nations Regional Cartographic Conference for Asia and the Pacific in Beijing,

Noting that the Permanent Committee has expressed its wish to hold its meeting in conjunction with the Eighteenth United Nations Regional Cartographic Conference for Asia and the Pacific,

Recognizing the necessity of continuing this important work,

Recommends to the Economic and Social Council that the Eighteenth United Nations Regional Cartographic Conference for Asia and the Pacific be convened in 2009.

Annex 4

Draft provisional agenda and documentation for the Eighteenth United Nations Regional Cartographic Conference for Asia and the Pacific

1. Opening of the Conference.
2. Election of the President and other officers of the Conference.
3. Adoption of the agenda and other organizational matters:
 - (a) Adoption of the rules of procedure;
Documentation: Provisional rules of procedure of the UN Regional cartographic Conference for Asia and the Pacific
 - (b) Adoption of the agenda and organization of work of the Conference;
Documentation: Annotated provisional agenda and proposed organization of work;
 - (c) Establishment of technical committees and election of Chairperson of each committee;
 - (d) Credentials of representatives to the Conference.
4. Objectives of the Conference.
5. Report of the Permanent Committee on Geographical Information System Infrastructure for Asia and the Pacific.
Documentation: Report of the PCGIAP on its activities since the 17th UNRCC AP
6. Report on the implementation of resolutions adopted at the Seventeenth United Nations Regional Cartographic Conferences for Asia and the Pacific;
Documentation: Report on the implementation of resolutions adopted at the Seventeenth UNRCC-AP;
7. Conference papers:
 - (a) Country reports
 - (b) Invited papers on achievements and developments in geographic information in addressing national, regional and global issues including:
 - (i) Strategy, policy, economic and institutional issues;
 - (ii) Spatial data infrastructure and spatially enabled Government;
 - (iii) Geospatial data collection, management and dissemination;
 - (iv) Best practices and applications;
 - (v) Disaster Management.
8. Reports of the technical committees of the Conference.
9. Provisional agenda for the Nineteenth United Nations Regional Cartographic Conference for Asia and the Pacific.
Documentation: Provisional agenda for the Nineteenth UNRCC-AP
10. Adoption of the report on the Eighteenth United Nations Regional Cartographic Conference for Asia and the Pacific.
Documentation: Draft report on the Eighteenth UNRCC-AP