Actions taken on resolutions of the
Seventh United Nations Regional Cartographic Conference for the Americas

UN Statistics Division, New York
and
PC-IDEA Secretariat, Mexico

This document has been prepared to summarize the follow-up actions taken on the resolutions adopted at the Seventh United Nations Regional Cartographic Conference for the Americas (UNRCC-A), New York, 22-26 January 2001. It is using a format that has been adopted as a system for monitoring the status of actions taken on UN Regional Cartographic Conference's resolutions.

RESOLUTIONS ADOPTED BY THE 7th UNRCC-A	STATUS OF ACTION
1. Development needs	
The conference, *Considering* the sustainable development objectives reflected in, for example, Habitat Conferences or Agenda 21, *Recognizing* that Spatial Data Infrastructures are necessary as foundation for information support though not sufficient conditions to achieve these objectives, *Further recognizing* the need to revitalize the geographic information activities in many of the countries of the region, *Considering* that these activities can in most countries in the region effectively and durably only be maintained with long-term governmental support, ***Recommends* that the Governments of the region create national conditions, which will guarantee that the infrastructure for geographic information activities is supported as a strategic policy.**	Most cartographic and Geographic Information agencies have established special internal bodies in their organizational structure with personnel specifically dedicated to deal with the conception, technological issues and implementation of the corresponding SDIs. Others have included strong organizational components at the national level to link main users and stakeholders within the official sector including in some cases the academic and private sectors. To guarantee the implementation and provide legal support some governments as those of the USA, Chile, Panama, and Cuba have issued or are in the preparation of laws or decrees dealing specifically with a mandate to build the corresponding SDIs. The general picture is that there is a growing awareness among the American Countries as to the importance of building SDIs, which in turn and according to this 7th UNRCCA recommendation is based on a strategic policy of development regarding geospatial information under the consideration of the benefits involved and the commitments to go into the Sustainable Economical Development.

2. Institutional Strengthening, education and training	The recommendation was implemented by creating a formal Working Group on Capacity Building during the 3rd. Meeting of the CP IDEA in Cartagena, Colombia, coordinated by the Research and Development Centre on Geographic Information (CIAF) of the Geographic Institute Agustin Codazzi (IGAC), of Colombia.

The conference,

Recognizing the need for the design and implementation of geospatial solutions for specific problems related to sustainable development such as environmental management and natural resources administration, and the well being of the people of the Americas,

Noting the need for institutional capacity building, especially for maintenance and management of the spatial data infrastructure,

Recommends to the Permanent Committee on Spatial Data Infrastructure for the Americas (PC-IDEA) to establish a working group on capacity building to execute the following:

(a)   Strengthen existing regional capabilities in spatial data infrastructure by organizing educational workshops and seminars in cooperation with regional and international organizations in the field of cartography and geographic information such as Pan-American Institute of Geography and History (PAIGH), International Federation of Surveyors (FIG), International Cartographic Association (ICA), International Society for Photogrammetry and Remote Sensing (ISPRS), International Union of Geodesy and Geophysics (IUGG), and EuroGeographics;

(b)   Create networks for exchange of knowledge and experience in geographic information for institutions and individuals, facilitated by activities of national, regional, and international organizations;

(c)   Contribute to filling the gap in leadership and management of change and management of technology for institutional geographic information projects by promoting the establishment of advanced management programs in geographic information in the region.

Recommends further **that the Permanent Committee on Spatial Data Infrastructure for the Americas (PC-IDEA***)* **strive for the incorporation of capacity building in the planning stage of projects financed by international and national organizations, such as World Bank and Inter-American Development Bank.**

The Group defined a model for Institutional Strengthening for the building of SDIs which has as main components the research, training and technical cooperation on geographic information, including organizational issues, particularly the design of functional models dealing with information.

Regarding item (a) some training programs were implemented by giving some courses on Spatial Data in 2004 supported by OAS, as well as another in 2005 sponsored by PAIGH. There have been courses on Geographic Metadata and on spatial Data Quality. Regarding Metadata, the INEGI in Mexico has given more than 30 courses to local people and at least one in the International Level. A course on geographic names also sponsored by PAIGH was given, as well as another on ISO Metadata Standards given in Mexico, October 2004 by ISO/TC211 which was attended by people from 8 American countries.

As for item (b), the Polytechnic University of Madrid in Spain took care of enlisting institutions from America with the purpose of building a network to strengthen and improving relationships with high education and research centres from Europe and America in issues related to SDIs. PC IDEA at this time has no further information on this initiative

No action was taken regarding item (c)

In the general context, Capacity Building has not so much advance and requires to be strengthened and supported by an adequate funding from other organizations.

3. Economic Aspects of modern surveying, mapping, spatial data infrastructure and land administration	
The conference, *Noting* the Resolution 6 of the 15th UN Regional Cartographic Conference for Asia and the Pacific concerning "Economic aspects of modern surveying, mapping, spatial data infrastructure and land administration programs", *Recognizing* that also in the Americas many Governments seek to reduce the cost to the taxpayer for fundamental and infrastructural geospatial data services by various forms of privatisation, cost recovery, outsourcing or revenue generating initiatives, *Considering* that these initiatives have also in the Americas a significant technical, organizational and institutional impact on national spatial data infrastructure, *Bearing in mind* that the expanding array of options for professionals in the geographic information field imposes choices in which economics plays a decisive role both in government and the private sector, *Reaffirms* Resolution 6 of the 15th United Nations Regional Cartographic Conference for Asia and the Pacific, **Requests that the United Nations Secretariat, within available resources and in cooperation with the Permanent Committee on Geographic Information Systems Infrastructure for Asia and the Pacific (PCGIAP), takes initiative to develop the program of the proposed workshop on economic aspects to be hosted by the Government of India.**	UN Statistics Division sent a letter to the Government of India on 14 June 2001, reminding them that the representative of Indian Department of Science & Technology, Lt. Gen. A.K. Ahuja, agreed at that time, and, as stated in the Resolution 6 (15th UNRCC-AP) and Resolution 3 (7th UNRCC-Americas), that India would host a Workshop on Economic Aspects in National Spatial Data Infrastructure and Spatial Data Infrastructure for Land Administration, and asking whether the Government of India is still willing to host the Workshop. India planned the Workshop for April 2002, but didn't take place.
4. Fundamental Data: SIRGAS Project	
The conference, *Recognizing* the importance of high quality tri-dimensional position data referred to a unique global geodetic reference system for spatial data infrastructure, *Noting* that there are large differences between existing national geodetic datums, *Considering* the achievements obtained by the South American Geocentric Reference System (SIRGAS)	Dr. Fortes from Brazil will be reporting on the current status of the project SIRGAS and on its future challenges (Conference paper: IP.16)

Project with respect to a unified geodetic datum, *Bearing in mind* that the SIRGAS reference frame is based on the International Terrestrial Reference Frame (ITRF), and noting that the World Geodetic System of 1984 (WGS84) is practically identical to ITRF, *Also bearing in mind* that SIRGAS is supporting the participating countries in terms of knowledge transfer and training, **Recommends** **that member countries of the Americas integrate their national geodetic reference systems into a reference system compatible with SIRGAS,** **Also recommends** **that member countries of the Americas provide to SIRGAS gravity data for computation of the geoid as the reference surface of the vertical (height) system,** **Further recommends** **that member countries of the Americas correct their levelling by gravimetric observations in order to compute geopotential numbers and connect the networks with neighboring countries, making all these information available to SIRGAS.**	
5. Land Administration and SDI	
The conference, *Recognizing* the importance of efficient and effective land administration systems in supporting the development of land markets, in providing security of tenure and access to land, in facilitating the provision of credit to farmers, in ensuring equitable land taxation, promoting better land use planning and more generally in promoting economic development, social cohesion and sustainable development, *Recalling* the deliberations of the Sixth United Nations Regional Cartographic Conference for the Americas on the need to better understand and appreciate the relationship between land administration and spatial data infrastructures, *Noting* the difficulties being faced by many member States in designing appropriate spatial data infrastructures to support effective land administration, and in integrating cadastral and topographic spatial data, especially in digital form, *Further noting* the generous offer of the Government of Mexico to host a special workshop on the	. **1.** Special forum on Land Information Policies, co-organized by UN, PC-IDEA and FIG, took place in Aguascalientes, Mexico, 26-27 October, 2004. **2.** Status of action of this resolution will be reported in detail in FIG report (Conference paper: IP. 35).

integration of Spatial Data Infrastructure initiatives and Cadastral activities, along with the 4th Permanent Committee on Spatial Data Infrastructure for the Americas (PC-IDEA) Meeting, *Also noting* the need to improve capacity to design, build and manage land administration systems which incorporate appropriate spatial data infrastructures, *Supports* the resolutions of the 15th United Nations Regional Cartographic Conference for Asia and the Pacific, Kuala Lumpur, 11-14 April, 2000 and in addition *endorses* the United Nations-International Federation of Surveyors Bathurst Declaration on Land Administration for Sustainable Development, **Requests** **United Nations Secretariat, within available resources and with the support of the Permanent Committee on Spatial Data Infrastructure for the Americas (PC-IDEA) and the International Federation of Surveyors, to provide support on the program of the inter-regional workshop to be hosted by Mexico to determine policies and programs for educational, training and professional capacity building that will ensure the development of appropriate land administration systems and associated spatial data infrastructures,** **Recommends** **that member States develop appropriate institutional, legal and technical processes to integrate land administration and topographic mapping programs within the context of a wider national strategy for spatial data infrastructure.**	

6. Contribution of the Permanent Committee on Spatial Data Infrastructure for the Americas (PC-IDEA)	
The Conference, *Noting* with appreciation the formation of the PC IDEA, pursuant to resolution 3 of the 6th UNRCC for the Americas, NY 1997, and the meaningful role that it is serving now to the region, *Also noting* the works of similar regional organizations in Europe, Asia and the Pacific, *Recognizing* the need to increase the works of the PC IDEA in order to derive economic, social, and environmental benefits by the application of geo-information, Conscious of the cultural, and social background	Regarding this recommendation, no working plan and schedule was implemented under item (l). However, in connection with item (1a), formal relationships have been established with the GSDI Association, The International

pertaining to regions and sub-regions in the Americas when developing a conceptual framework for a regional SDI,	Steering Committee for Global Mapping (ISCGM) with ISO/TC211 through a Class A Liaison and with the Panamerican Institute of Geography and History (PAIGH).
Recommends **the Permanent Committee on Spatial Data Infrastructure for the Americas (PC-IDEA), the relevant forum for the better understanding of national, regional, and global GIS/SDI issues to:**	As for item (1b), no action has been taken so far (SDI Spanish terminology).
1. Develop and implement a work-plan and a schedule for its implementation, *inter-alia***:** **(a) the establishment of formal liaisons with the appropriate regional and global initiatives and organizations, e. g. United Nations Geographic Information Working Group, International Steering Committee for Global Mapping, ISO/TC 211, and the optimisation of the network of experts in the region;** **(b) the adoption of Spatial Data Infrastructure (SDI) terminology to the Spanish language, starting from the Global Spatial Data Infrastructure (GSDI) framework book;**	No specific action has been taken regarding items (2) and (3).
2. Recall the need to report about the PC-IDEA development to highest level in governments in order to secure visibility, and sustainability of resources to establish SDI;	
3. Take responsibility for monitoring the implementation of the resolutions out of this conference, and to report its findings to the subsequent regional cartographic conferences.	

7. Implementation of national spatial data infrastructures in the Americas

The Conference, *Recommends* that member States share experiences and address common needs and interests within the Americas and with other regions of the world, through the Permanent Committee on Spatial Data Infrastructure for the Americas,	Regarding these recommendations, no specific direct action has been taken except for the fact that member countries attending some of the PC-IDEA meetings have reported their progress on the development of their SDIs, for example Mexico, Guatemala, Costa Rica, Panama, Colombia, and Chile in some International Forums.
Further recommends that member States promote or assist in the establishment of national geographical names authorities to develop principles, policies, and procedures for geographical names standardization,	On the second paragraph, the actions taken to establish nationals Geographic Names Authorities have been very meager. In 2001, a Working Group of PC-IDEA on Geographic Names was established under the leadership of the IGAC in Colombia. A course was given in July-August 2001. A proposal was presented to develop an Electronic Dictionary of Geographic Names
Also recommends that all countries of the Americas embrace the concepts of national spatial data infrastructures and develop implementation strategies that support regional and global spatial data infrastructure initiatives while meeting national objectives.	

	for the Americas to be supported by PAIGH. There is also some work done on documentation compilation from the United Nations, Canada and Australia, including some translation work. It has been established the necessity to work closely with the UN Group on Geographic Names. No further reports are available to PC-IDEA. Regarding the third paragraph, there are not yet implementation strategies to develop the Regional SDI. The main progress has been on the development of national strategies. Several governments in the American Region have launched initiatives to build Spatial Data Infrastructures, considered as instances for the best management and administration of current spatial activities within their cartographic information programs and projects. At these times at least 22 American Countries are involved with SDIs (Argentina, Canada, Bermuda, Bolivia, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, El Salvador, Ecuador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Trinidad and Tobago, USA, Uruguay and Venezuela). Some are in the conceptual stage, others are under implementation and some few like those of the USA and Canada show an outstanding progress.
8. Global Map	
The Conference, *Noting* the development of Global Map as a significant contribution for the implementation of Agenda 21, *Noting with appreciation*, that the Global Map version 1.0 data sets are completed and made available for an initial group of nations, *Recognizing*, that the development of the Global Map contributes to the development of a regional Spatial	Status of action to be reported by Dr. Taylor in ISCGM report (Conference paper: IP.5)

data Infrastructure for the Americas, the Global Spatial Data Infrastructure work plan, the United Nations Geographic Database and other SDI initiatives, which are vital for sustainable development and improved mitigation of natural disasters,	
Recommends, to member States not contributing to the Global Map project, to consider participation with the assistance of International Steering Committee for Global Mapping (ISCGM) and PC-IDEA,	
Further recommends, to the forthcoming 8th ISCGM Meeting to reconsider, when evaluating Global Mapping Phase 2, the issues concerning Global Mapping specifications, in accordance to user requirements at the national, regional and global levels. .	
9. Geographic Information Working Group	
Welcoming the establishment of the United Nations Geographic Information Working Group,	The UN Secretariat is working to forge ties between the UN Regional Cartographic Conferences and UN Geographic Information Group (UNGIWG), in charge of the development of UN Geographic Database. Besides the resolution 8 of the 15th UN regional Cartographic Conferences in Kuala Lumpur, the 7th UNRCC-Americas, held in New York in January 2001, recognized that cartography, GIS and Geographical Names are crucial to the promotion of geographic information, and recommended National Mapping and other responsible agencies to provide maps showing framework data layers, in analogical and digital formats when available, to the United Nations.
Expressing its support for the continued efforts of the Working Group, in particular, the formulation of a system-wide geographic information strategic plan and the proposed development of the United Nations Geographic Database,	
Recognizing the importance of a multi-scale, seamless global database that addresses different needs of the United Nations,	
Also recognizing the role of national mapping agencies in advancing these initiatives,	
Expressing its support for the resolution adopted at the Fifteenth United Nations Regional Cartographic Conference for Asia and the Pacific in cooperation with the United Nations Geographic Database initiative,	In addition, UN Secretariat attended the first and the third (and last) UN Geographic Information Group meetings and is participating in the work of the Task group dealing with Administrative Boundaries. In all the three meetings, the UN Geographic Information Group is considering and encouraging the creation of national geographic databases, which could be usefully woven into the design of the new UN Geographic database.
Invites the participation of national mapping agencies, other governmental and non-governmental organizations, international and regional organizations, industry and academia, in advancing the objectives of the Working Group,	
Recommends national mapping and other responsible agencies to provide maps showing framework data layers, in analogical and digital formats when available, to the United Nations.	