



INTERNATIONAL ASTRONAUTICAL FEDERATION

Regional Group for Latin America and the Caribbean (IAF-GRULAC)

LATIN AMERICA : SUSTAINABILITY AND MULTILATERAL SPACE GOVERNANCE

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Washington DC

1 May 2012



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Space Sustainability in LAC: KEY ASPECTS

- Diversity of Latin American and Caribbean Region
- Sustainability I: Space for Human and Environmental Security
- Sustainability II : Equitable Access to Outer Space for NSFN and ESFN
- Methodology of inclusion of non main space actors.
- Global and regional space governance : the need of and holistic approach

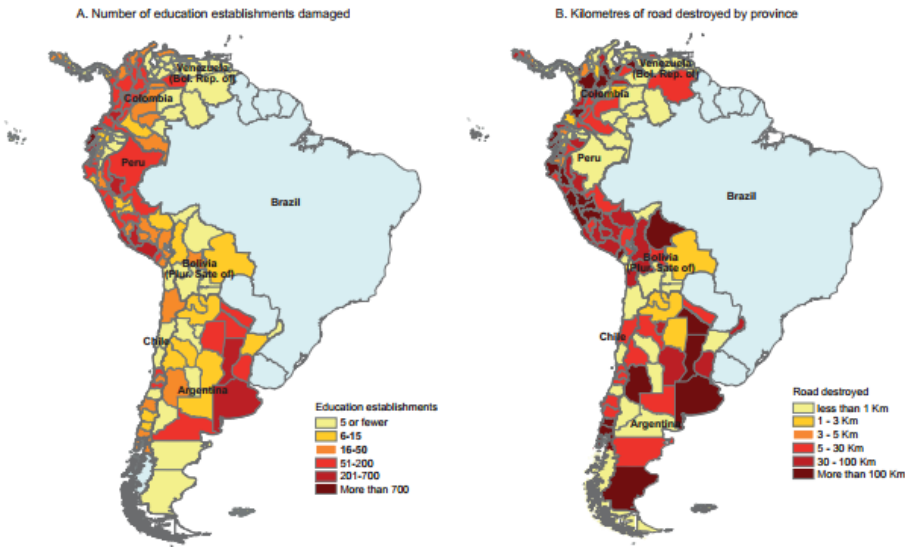


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I. Sustainability :Space for Human and Environmental Security /Latin America Major Challenges

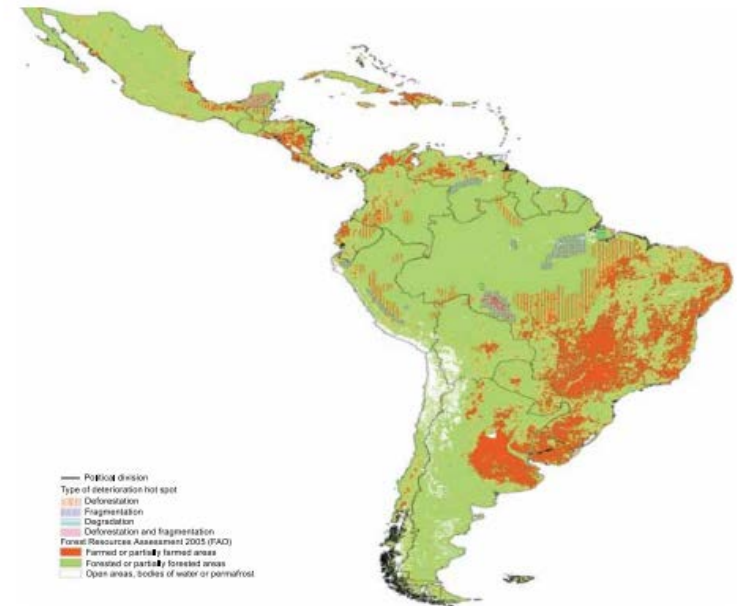
Map I.1
LATIN AMERICA (SELECTED COUNTRIES): IMPACT OF EXTREME EVENTS ON REGIONAL INFRASTRUCTURE, 1970-2009



Source: International Strategy for Disaster Reduction (ISDR), *2011 Global Assessment Report on Disaster Risk Reduction: Revealing Risk, Redefining Development* [online] <http://www.preventionweb.net/english/hyogo/gar/2011/en/home/download.html>.

Note: The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.

Map II.2
LATIN AMERICA AND THE CARIBBEAN: HOT SPOTS BY TYPE OF DETERIORATION, 2005



Source: F. Achard and others, "Identification of deforestation hot spot areas in the humid tropics", *Research Report, No. 4*, Brussels, European Commission, 1998; Food and Agriculture Organization of the United Nations (FAO), *Global Forest Resources Assessment 2005, Rome, 2005*; and information from GlobCover project.

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The number of poor and indigent population is increasing, reaching in 2010, and 177 million persons. During the period 1970-2010, floods and storms accounted for almost 70% of natural disasters, which lead to 467,000 deaths and an average of 4.5 million persons were affected.



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Losses from Natural Disasters

Table I.4
LATIN AMERICA (SELECTED COUNTRIES): DISASTER-RELATED LOSSES
(Number of persons and households)

	Dead	Injured	Disappeared	Homes destroyed	Homes damaged	Persons affected	Population in 2009	Period
Argentina	3 377	22 470	810	53 973	141 381	23 271 305	40 164 561	1970-2009
Bolivia (Plurinational State of)	1 190	1 133	254	6 249	8 200	832 980	10 187 067	1970-2009
Chile	3 184	6 811	640	101 877	278 087	8 052 836	19 983 720	1970-2009
Colombia	35 898	26 447	2 812	183 106	681 404	22 688 062	45 103 268	1970-2009
Costa Rica	516	51	62	8 796	50 800	32 405	4 509 290	1970-2009
Ecuador	3 019	2 535	1 228	12 074	58 785	1 293 799	14 032 233	1970-2009
El Salvador	4 541	15 087	535	180 277	202 701	343 817	7 124 374	1970-2009
Guatemala	1 953	2 789	1 113	20 941	105 985	3 339 301	14 009 133	1989-2009
Mexico	31 442	2 882 359	9 273	432 812	2 781 635	59 882 327	106 116 969	1970-2009
Panama	339	1 292	39	13 534	70 678	345 782	3 304 461	1989-2009
Peru	40 994	65 675	9 136	438 376	398 237	2 218 035	29 330 481	1988-2009
Venezuela (Bolivarian Republic of)	3 015	379	1 059	56 285	158 288	2 932 101	28 143 584	1970-2009

Source: International Strategy for Disaster Reduction (ISDR), *2011 Global Assessment Report on Disaster Risk Reduction: Revealing Risk, Redefining Development* [online] <http://www.preventionweb.net/english/hyogo/gar/2011/en/home/download.html>.

IPCC predicts that the number of people experiencing water shortages in the Latin American region will range between 12 million and 81 million in 2025, probably reaching between 79 million and 178 million persons in 2055.



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Climate Change

Map II.1
**LATIN AMERICA AND THE CARIBBEAN: AREAS MOST VULNERABLE TO CLIMATE CHANGE
 ACCORDING TO ITS EXPECTED IMPACTS BY 2050**





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2.Sustainability on Space garanties Sustainability on Earth

Need of a Regional Plataform On Enviromental Data

One of the first measures to react to the problems occurring in Latin American Region is the development and reinforcement of national/regional policies, innovation, science and technology and among them space related technologies for growth stimulation and sustainability achievement.

- **Health services improvement** – provide health assistance to less populated areas (telemedicine) or a more efficient management of medical resources can be performed.
- **Early warning and surveillance system, capable of identifying risk factors for disease and decrease epidemics.**



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3. Proposals

A

Establishing a regional strategy for the definition of an intelligence platform for environmental space data.

- Process intend to the adoption of *an Inter-American Convention on Space Data for the Environment and Climate Change*, which reflects main hemispherical cooperation, should be undertaken.
- This instrument would contribute to achieve efficiency on global and regional governance, creating the first regional public asset on space issues.



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3. Proposals

B

Identify how space technologies can contribute to the implementation of the mandates arising from the Sixth Summit of the Americas

The mandates arising from the Sixth Summit of the Americas held in Cartagena, in April 14, 2012 are::

- i. Integration of Physical Infrastructure in the Americas;
- ii. Poverty, Inequality and inequity;
- iii. Citizen Security and transnational organized Crime;
- iv. Disaster risk reduction and Management;
- v. Access and use of information and Communications Technologies.



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II.: Sustainability for Non-Space Faring Nations = Equitable Access to Outer- Space

How to preserve the rational uses of the GEO considering that is a limit natural resource on the verge of saturation, aggravated by the increased amount of space debris? (generated by SFN which posses the immense majority of the present actives civilian and military satellites?) New comers faced “fait accompli”

Equitable access to the orbit spectrum for NSN and ESFN is fundamental. Application of UN resolution 55/122 of December 2000 as a result of more interaction between COPUOS and ITU.



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4. Conclusions I

- Although Latin America has made important contributions to the promotion of the UN space legal principles, the region still has much to learn about space science and technology capabilities. Main focus on the inter-dependence between sustainability in Space and Earth. International cooperation is fundamental.
- Equitable access to space remain a key objective for the region for a long term sustainability on their space activities. The role that well designed space agencies play in the sustainable and inclusive growth of the region is crucial. Space Conference of the Americas has made a significant contribution for the development of a forum to the conciliation of a regional space policy, a critical area that tends to be neglected on the hemisphere's political agenda.



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- Space development should be understood as a persistent process of systematic change that, if successful, allows the incorporation of a growing technological into the greatest challenges of the global and regional agenda.
- The regional governance capacity on space issues and therefore its contribution to the multilateral framework of sustainability of space activities, discussed at the UN COPUOS depends on their impact of regional socio-economic situation.



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4. Conclusions II

- Main challenges: holistic approach versus proliferation of competing initiatives
- A more integrated approach to the space issues is necessary
- The need for the UN to lead a global approach has never been so important
- Preserving International cooperation under strong commercialization of space
- Supporting the US proposal cosponsored by China, Ecuador, Japan, Peru, Saudi Arabia to review the international mechanisms for cooperation in the peaceful exploration and use of outer space.



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METHODOLOGIES : NON SPACE ACTORS PARTICIPATION

- CONSENSUAL AND INCLUSION CONSULTATION PROCESS.
- IRRESPECTIVE OF THEIR DEGREE OF THE ECONOMICAL OR SCIENTIFIC DEVELOPPEMENT
- INCLUSSION OF NEW ACTORS, NON GOVERNAMENTAL ORGANISATIONS, PRIVATE SECTORS, ACADEMIA .



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