

# Collaboration and Policy for Environmental Security in the Latin American and Caribbean Region, The Space Perspective



Reyes Camilo, Bazaldua Danton, Gallardo Carolina, Gramajo Juan,  
Napier Lauren, Quesada Adrián  
Space Generation Advisory Council (SGAC) - Space Law and Policy Project Group  
Contact: [camilo.reyes@spacegeneration.org](mailto:camilo.reyes@spacegeneration.org)

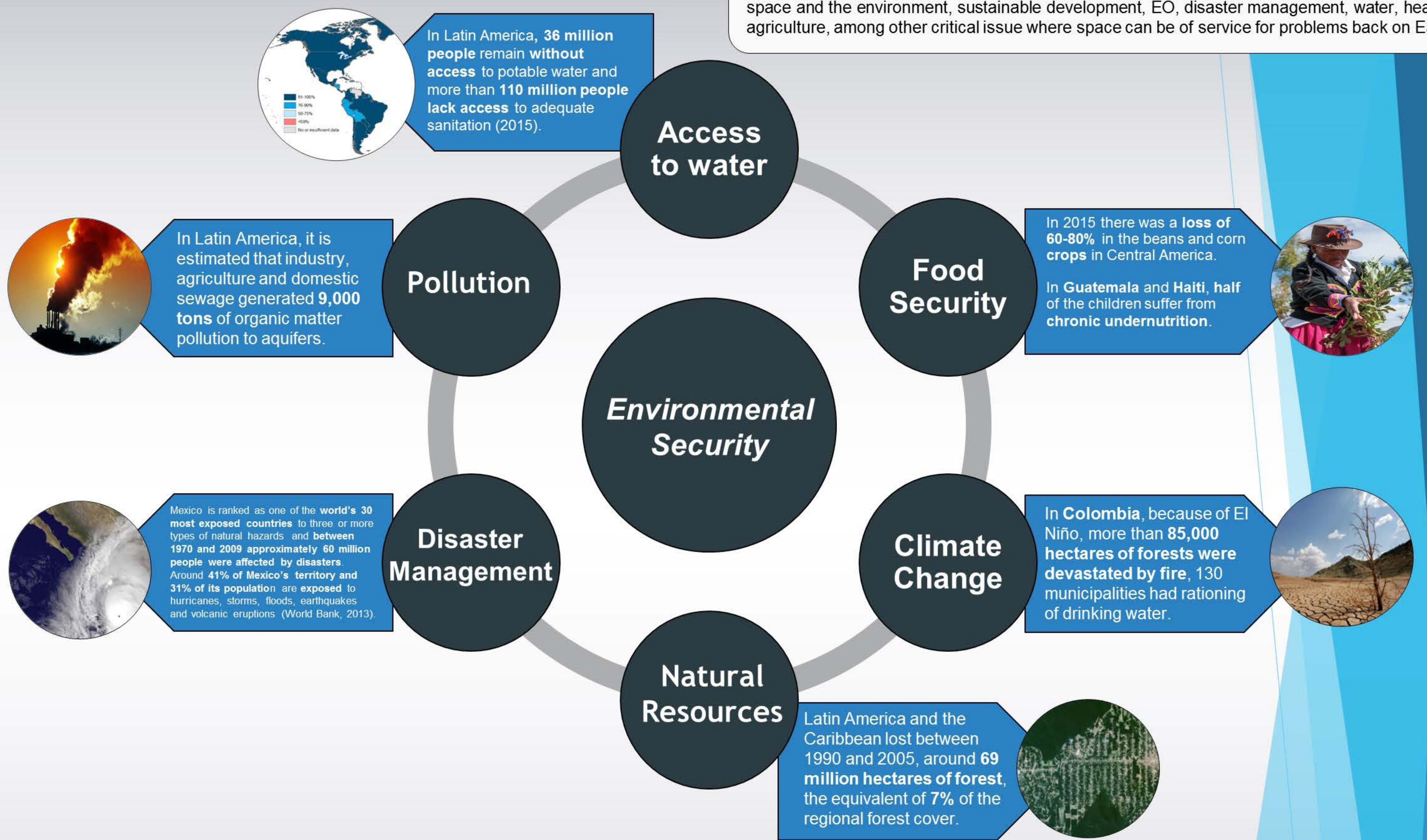


## Introduction

Developing nations, in particular the Group of Latin America and the Caribbean Countries (GRULAC), have many of the same concerns regarding environmental security. Food security, climate change and global warming, water management, natural disasters and disaster management, deforestation, and pollution are just some of the issues under the umbrella of environmental security that concern the GRULAC region. With the advent of space technologies such as Earth Observation and remote sensing, the space sector can help view, analyze and potentially alleviate these environmental issues. Therefore, the application of space technologies can have a direct and swift impact when addressing environmental security issues in the GRULAC region.

## Environmental Security

Environmental security examines the impact that the environment and environmental events has on national and/or international security. The environment has a direct link to the food security and the access to potable water sources in a country. Environmental events or natural disasters pose a great threat to the stability of a country, especially in countries with a lack of institutions capable of preventing, managing and administrating these events. The Institute for Environmental Security defines environmental security as: "central to national security, comprising the dynamics and interconnections among the natural resource base, the social fabric of the state, and the economic engine for local and regional stability." The UN Office of Outer Space Affairs also sees the impact space applications can have on environmental security as there are many documents referring to space and the environment, sustainable development, EO, disaster management, water, health, and agriculture, among other critical issue where space can be of service for problems back on Earth.



## Current Examples of International Collaboration with GRULAC Countries

- **Brazil, Mexico** – CRECTEALC, training on remote sensing, satellite communications, satellite meteorology, and space and atmospheric sciences.
- **US, Canada, Mexico** – "Three Amigos." Clean sources and cut methane emissions 40-45% by 2025.
- Bi- and multi-lateral agreement between the governments of **Colombia, Peru, Germany, Norway** and the **UK** to protect Colombia's and Peru's rainforest.
- The **US** Environmental Protection Agency and **Brazil** exchange information on environmental management and risk reduction in areas of mutual interest.
- **India, Mexico** – Memorandum of Understanding on Space Cooperation. Next meeting to be held during IAC2016 to conclude previous meeting.
- **China, Brazil** – Earth Resources Satellite, powerful data provider for Earth Observation.
- **Chile, Germany** – Antarctica and Space exploration in cooperation with Chilean partners.
- **Argentina, USA** – Memorandum of Understanding on Space Cooperation.

## Recommendations

Cross-Sector Collaboration Between Space and Environment Governmental Experts	South-South Collaboration & Capacity Building	Alignment to United Nations Sustainable Development Goals
<ul style="list-style-type: none"> <li>• Create working groups within non-space forums, to study the implementation of space technologies to assure environmental security. Some example of these are:                             <ul style="list-style-type: none"> <li>• The Meeting of Ministers and High Authorities on Science and Technology of the Summit of the Americas.</li> <li>• Meeting of the Forum of Ministers of Environment of Latin America and the Caribbean in the framework of the UN Environment Programme.</li> </ul> </li> <li>• These working groups would have a direct link to policy makers and thus a framework for implementation could have a clear path to realization.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue CRECTEALC educational programs in remote sensing and continue scientific cooperation</li> <li>• Create more educational programs and training opportunities within the region between states and organizations especially on analyzing and using satellite data</li> <li>• Build more South-South relationships that allow for capacity building and sharing of data</li> <li>• Continue to utilize organizations such as CEOS and GEO for support on capacity building and collaboration</li> </ul>	<ul style="list-style-type: none"> <li>• Use the SDGs to help create manageable goals and objectives in policies relating to environmental security and space applications within GRULAC and the GRULAC states:                             <ul style="list-style-type: none"> <li>○ #2 Zero Hunger</li> <li>○ #6 Clean Water and Sanitation</li> <li>○ #13 Climate Action</li> <li>○ #14 Life Below Water</li> <li>○ #15 Life on Land</li> </ul> </li> </ul>

## References

- Capacity-building in space science and technology, UNOOSA, 2008, <https://goo.gl/s3Vd8N>, (accessed 29.08.2016)
- Disaster Risk Management in Latin America and the Caribbean Region: GFDRR Country Notes, World Bank, 2010.
- Economic Commission for Latin America and the Caribbean, Achieving the Millennium Development Goals with equality in Latin America and the Caribbean: Progress and challenges. United Nations, Santiago, Chile, 2010.
- EO Agriculture & Forestry measurements and future missions, ESA, 2016, <https://goo.gl/6ZRwYj>, (accessed 20.08.2016)
- The Millennium Development Goals Report 2015, United Nations, 2015. <https://goo.gl/mFcFB1>, (accessed 20.08.2016)
- Natural Resources in Latin America and the Caribbean: Beyond Booms and Busts?, World Bank, 2010, <https://goo.gl/2e73B1>, (accessed 11.08.16)