



## Americas

**Gustavo Caubarrère**  
**President of SIRGAS**

**Chair of GRFA**

**Sandra Bolaños**

**Vice President of SIRGAS**





UPDATE TO THE  
UN  
SUBCOMMITTEE  
ON GEODESY  
6TH PLENARY  
SESSION

**Gustavo Caubarrère**  
President of SIRGAS  
Chair of GRFA  
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Vice President of SIRGAS



**Strengthening the Geodetic  
Reference Frame of the  
Americas**



SIRGAS

Continue **engagement** with member states (avoid lost of capacity and enhance infrastructure)

Maintain accuracy of geodetic products:

- Secure funding (IPGH, IAG)
- Increase redundancy of data repositories
- Document procedures (e.g. regional combination)
- Improve infrastructure: new GNSS stations and more AC
- Include non-linear deformation models in National networks

Stay **Visible**:

- Social media
- Conferences (e.g. IAG, PAIGH)
- Other communications (Geomail, UNGGIM, PAIGH)



PARTNER

Continue **Building Capacity**:

- Continuation of technical guide for gravimetry
- UNGGCE Americas workshop & VLBI/SLR training
- SIRGAS school: RF and their contribution to weather monitoring
- SIRGAS school: Reference Frames processing with Bernese 5.4
- Continue providing technical advice to new Analysis Centers

# 2025 presentation



SIRGAS



PARTNER

- Integration of the Caribbean countries
- Formalize the incorporation of VLBI and SLR processing techniques in the different countries so that they become International Analysis Centers (IVS and SLR)
- Generate more GNSS Solution Combination centers in SIRGAS member countries
- Promote the combination of solutions from different geodetic techniques (GNSS, VLBI, SLR)
- Improve national and integrate regional dynamics models that allow geodetic reference frames to be maintained for a longer period of time





Capacity Development (Virtual & On-site)

2025 was a year of consolidation, expansion and strong international positioning



Technical Coordination & Infrastructure



International Representation



Regional Expansion



Strategic Alignment with UN-GGIM



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2025"

Transmisión: Inglés y Español  
Forma: Virtual  
Fecha: 3, 5, 6, 10 y 12 de Junio 2025

Límite de inscripción:  
Viernes 9 de Mayo de 2025.



Registration deadline:  
Friday, May 9, 2025.

Broadcast: English and Spanish  
Format: Virtual

Virtual School 2025



Advanced GNSS Processing  
Course (Costa Rica)



Este miércoles 29 de octubre 🇨🇦 En el marco de la XVI Escuela SIRGAS – San Juan 2025, los participantes visitaron el Observatorio Astronómico Félix Aguilar (OFA), donde compartieron una enriquecedora jornada de charlas, intercambio y aprendizaje sobre las principales líneas de trabajo científico de la institución.

XVI SIRGAS VLBI & SLR  
School (Argentina)  
23 students – 8 countries



Gravimetry Course  
(Dominican Republic)  
35 participants – 8 countries



Americas Capacity  
Development Workshop  
(CEPAL, Chile)  
58 participants – 28 countries





# SIRGAS Virtual School 2025 – Terrestrial Reference Frame & Geodynamic Monitoring

**2025"**

Transmisión: Ingles y Español  
 Forma: Virtual  
 Fecha: 3, 5, 6, 10 y 12 de Junio 2025

Limite de inscripción:  
 Viernes 9 de Mayo de 2025.

**School: "Terrestrial Reference  
 Frame. Geodynamic and  
 Atmospheric Monitoring 2025"**

Registration deadline:  
 Friday, May 9, 2025.

Broadcast: English and Spanish  
 Format: Virtual

**SIRGAS democratizes  
 geodetic knowledge.**

- 100% virtual
- Bilingual (English/Spanish)
- High regional demand
- Published online (YouTube & website)

Date	Youtube views	Streaming views
03 June	539	78
05 June	754	347
06 June	605	211
10 June	490	235
12 June 1st Session	225	119
2nd Session	225	85



Joint effort: SIRGAS +  
UN-GGCE + ECLAC



**SIRGAS**  
sirgas.ipgh.org

## UN-GGCE Capacity Workshop (Chile)

- United Nations Global Geodetic Centre of Excellence
- Economic Commission for Latin America and the Caribbean

Transition to a Modern Geospatial Reference System

58 participants from 28 countries



**SIRGAS**  
sirgas.ipgh.org



Joint effort: SIRGAS +  
UN-GGCE + ECLAC +  
IAG

## VLBI & SLR School – Argentina

- IAG support
- PAIGH support
- 5 participants traveled from their countries to Chile (UN-GGCE) and SIRGAS financed travel from Chile to Argentina
- 3 International instructors (Spain)



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# Strengthening SIRGAS- CON

**SIRGAS** sirgas.igpm.org

**IGMI** INSTITUTO GEOGRÁFICO MILITAR

Nos complace anunciar la oficialización del centro experimental de procesamiento del Instituto Geográfico Militar de Bolivia

Como: Centro de Procesamiento Oficial SIRGAS.

CEPAG Igm BOLIVIA

**New Official Processing Center: Bolivia (BOL)**

**SIRGAS** sirgas.igpm.org

**USACH**

**CEP**

FORTALECIENDO LA INFRAESTRUCTURA DE DATOS GEODÉSICOS DE SIRGAS

Oscar Cruz Ramos, Gabriel Guimarães, Carlos Gomes, GABRIEL GAYTAN, OSCAR RODRIG..., Guido Gonzalez..., GUILLERMO GAS..., Mónica Liliana L..., Cap. J. Teixeira D..., Camila Bautista L..., Guiderlan Marr..., Álvaro Álvarez, UCR, Marco Lima IBGE, GEODESIA IGVS8

**Backup strategy (USACH + CEPAL servers)**

**¡ATENCIÓN!**

Ya se encuentran disponibles las Guías Técnicas 2025 en nuestra página web de SIRGAS

- > [GTI GUÍA01 COORDINACIÓN DE LA RED SIRGAS](#)
- > [GTI GUÍA02 INSTALACIÓN, OPERACIÓN E INSCRIPCIÓN DE ESTACIONES SIRGAS-CON](#)
- > [GTI GUÍA03 DIRECTRICES DE PROCESAMIENTO PARA LOS CENTROS DE ANÁLISIS SIRGAS-CON](#)

**Updated Technical Guidelines 2025**

Journal of Geodetic Science

DE BRUYTER

Journal of Geodetic Science 2025, 15, 2025003

Research Article

Mariana Inoue and Gabriel Guimarães\*

Development and evolution of height systems in the context of SIRGAS: From the local vertical data to the International height reference frame

**Vertical reference frame modeling advances**



## Regional implementation platform

# ADELA Project – Kinematic Reference Frames for Seismically Active Regions

- Development of tools and operational guidelines
- Addressing non-linear deformation caused by earthquakes
- Supporting kinematic reference frames in the SIRGAS region
- Improving long-term stability of the geodetic reference frame



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Strategic Alignment with UN-GGIM



# International Representation



## IAG

- SIRGAS' participation in the IAG 2025 Assembly in Rimini, Italy from September 1 to 5
- “Changes that geodesy faces in the future”, by Dr. Richard Gross



## Pan American Institute of Geography and History

- SIRGAS actively participates in the 26th General Assembly of the IPGH in Tegucigalpa
- Strategic meeting between IPGH, SIRGAS and ECLAC during the Twelfth Session of UN-GGIM: Americas



## UN-GGIM / UN-GGIM: Americas

- 15th Session of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM)
- Twelfth Session of UN-GGIM Americas

**The President and Vice President of SIRGAS currently serve as Chairs of the UN-GGIM Americas Working Group on the Geodetic Reference Frame (GRFA)**



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# Expansion & Regional Integration



## Jamaica

- Joins SIRGAS, expanding Caribbean integration



## IDE Chile enter as collaborating member



## SIRGAS is expanding into the Caribbean and strengthening institutional partnerships.

**23 countries in the Americas are part of SIRGAS, and another 4 are already formalizing their entry**



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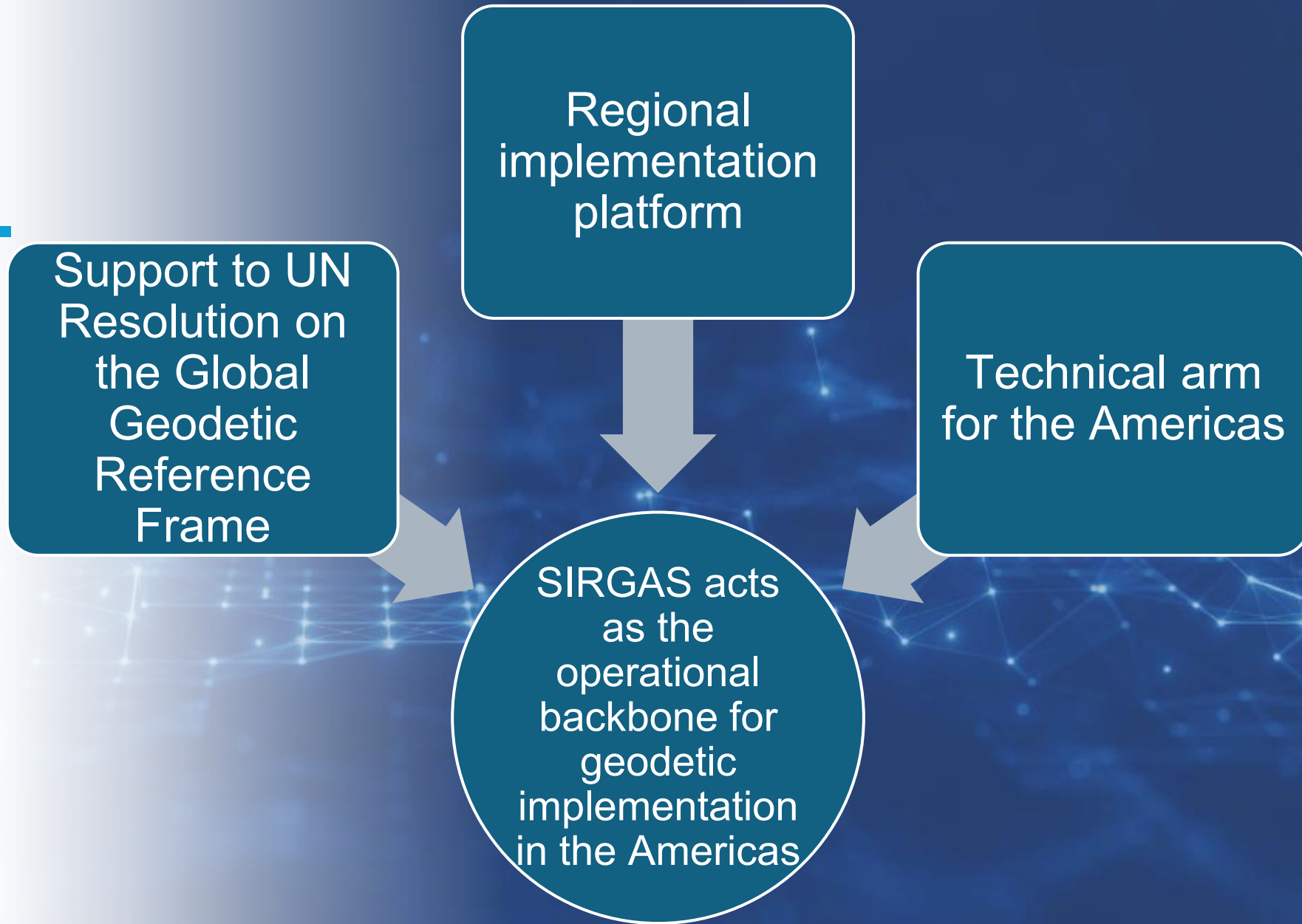


Strategic Alignment with UN-GGIM



# SIRGAS & UN- GGIM Alignment

United Nations Committee  
of Experts on Global  
Geospatial Information  
Management





# Financial Reality & Sustainability

IPGH support  
reduced from USD  
16,000 to USD 6,000

62.5% decrease due  
to unpaid country  
contributions

Reduced operational  
flexibility

Need for stronger  
regional commitment

In 2025, SIRGAS received financial support from the Pan American Institute of Geography and History (PAIGH) and the International Association of Geodesy (IAG), whom we thank.



## **Financial Reality & Sustainability**

Despite a small budget, SIRGAS continued delivering high-impact regional activities.



# SIRGAS 2025 – A Year of Resilience and Strategic Positioning

1. Strengthening regional geodetic infrastructure
2. Expanding international leadership
3. Building capacity across the Americas

**A sustainable geodetic reference frame requires sustained political and financial commitment**



## 2026 activities



1. Improve governance structure to develop and sustain the SIRGAS geodetic reference frame



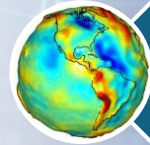
2. Strengthening geodetic capacities of professionals and technicians responsible for maintaining national geodetic reference frames



3. Promote open exchange of geodetic data to improve and develop the geodetic reference frame of the Americas



4. Modernize processing according to IGS standards



5. Establish and maintain the reference frame of the Americas



6. Develop communication and outreach programs to make the geodetic reference frame more visible and understandable to society and national decision-makers



7. In-person activities (scientific activities and Member States' presence at the SIRGAS symposium are prioritized)

# The SIRGAS Executive Committee is pleased to invite the entire Scientific and Geodetic Community in and Earth Sciences to participate in the SIRGAS 2026 Symposium

Montevideo, Uruguay, November 3-6, 2026

To promote the adoption and use of the SIRGAS geodetic reference frame in all countries of the Americas.

To strengthen regional collaboration aimed at building geodetic capacities, with the purpose of ensuring the development, sustainability, and dissemination of a global geodetic reference frame, in accordance with the United Nations Resolution “A Global Geodetic Framework for Sustainable Development.”

To promote the goals established in the Joint Action Plan signed by the IPGH, SIRGAS, UN-GGIM: Americas, AmeriGEO, and ECLAC.

To support the achievement of the goals defined by the United Nations in the 2030 Agenda, through the contribution to the project “Statistical and Geospatial Framework for the Americas”.

# Montevideo, Uruguay

# **SIMPOSIO SIRGAS**

## 2026



FACULTAD DE  
INGENIERÍA



UNIVERSIDAD  
DE LA REPUBLICA  
URUGUAY

