

The Pan American Institute of Geography and History United States National Section

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## **GLOSSARY OF ACRONYMS**

AAG American Association of Geographers

ACE Americas Competitiveness Exchange

AGOL ArcGIS Online

CAF Latin American Bank

**CLAG** Conference for Latin America Geography

CNIG Spanish National Center for Geographic Information

**CORS** Continuously Operating Reference Stations

DOC United States Department of Commerce

**ECPA** Energy and Climate Partnerships of the Americas

GGRF Global Geodetic Reference Frame

GNSS Global Navigation Satellite Systems

HLG-IGIF High-Level Group of the Integrated Geospatial Information Framework

INEGI National Institute of Statistics and Geography in Mexico

ITRF2020 International Terrestrial Reference Frame 2020

MALAS Midwest Association for Latin American Studies

METEOR National Geospatial-Intelligence Agency Meter Loan Program

MOU Memorandum of Understanding

NAPGD2022 North American-Pacific Geopotential Datum of 2022

NASA National Aeronautics and Space Administration

NGA National Geospatial-Intelligence Agency

NGS National Geodetic Survey

NOAA National Oceanic and Atmospheric Administration

NSRS National Spatial Reference System

OAS Organization of American States

PAIGH Pan American Institute of Geography and History

PAT Technical Assistance Program

SCoG United Nations Subcommittee on Geodesy

SDGs Sustainable Development Goals

SDI Spatial Data Infrastructure

SHAFR Society for Historians of American Foreign Relations

SIRGAS Geodetic Reference System for the Americas

UN-ECLAC United Nations Economic Commission for Latin America and the

Caribbean

**UN-GGCE** United Nations Global Geodetic Centre of Excellence

UN-GGIM United Nations Committee of Experts on Global Geospatial Information

Management

**UN-GGIM:** Americas Regional Committee of the United Nations Global Geospatial

Information Management for the Americas

**UN-IGIF** United Nations Integrated Geospatial Information Framework

**USAID** U.S. Agency for International Development

| USGS | United States Geological Survey |
|------|---------------------------------|
|      |                                 |

| USNS | United States National Section |
|------|--------------------------------|
|      |                                |

## INTRODUCTION

The United States National Section (USNS) of the Pan American Institute of Geography and History (PAIGH) is pleased to submit this report of USNS activities for the period of October 1, 2023, through September 30, 2024. Included are significant activities, summaries of meetings, reports from the USNS Cartography, Geography, Geophysics, and History Commission Representatives, and the USNS roster.

## **Highlights of 2024 Activities**

- The USNS selected Evan Ward to serve as USNS Vice President and Lidia Lopez to serve as Geophysics Commission Representative.
- The USNS overhauled and reinstated the USNS website (<a href="https://uspaigh.org">https://uspaigh.org</a>).
- The USNS held their first in-person annual meeting since the COVID-19 pandemic.
- Deirdre Dalpiaz Bishop was named Co-Chair of the 14<sup>th</sup> Session of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) in August 2024.

## **USNS LEADERSHIP**



Deirdre Dalpiaz Bishop President U.S. Census Bureau



Evan Ward
Vice President
Brigham Young University



Paul Riley
Executive Secretary
U.S. Census Bureau



Julianna Aynes-Neville
Development Counselor, U.S. Mission to the Organization of American States
U.S. Department of State

## Leadership Update

The USNS is pleased to announce the appointment of Evan Ward, from Brigham Young University as Vice President and Lidia Lopez, from the National Geospatial-Intelligence Agency (NGA) as USNS Geophysics Commission Lead. Both Evan and Lidia have been dedicated members of the USNS community for many years and we look forward to their continued leadership and collaboration in the years ahead.

## U.S. Department of State Update

Members of the U.S. Department of State U.S. Mission to the Organization of American States has planned and participated in numerous events over the last year, including but not limited to:

### Organization of American States 54th General Assembly (Paraguay, June 26-28, 2024)

The 54th Organization of American States (OAS) General Assembly, hosted in Asunción, Paraguay from June 26-28, 2024, focused on the theme of "Integration and Security for Sustainable Development in the Region." This OAS General Assembly underscored the importance of multilateral diplomacy and the OAS' role in promoting a democratic hemisphere, as well as Member States' commitment to sustainable development. OAS Member States adopted key resolutions to advance sustainable development, hemispheric security, and human rights, among other important issues.



Figure 1: Closing session of the 54th Regular Session of the OAS

### 18th Iteration of the Americas Competitiveness Exchange (Michigan, May 5-10, 2024)

The Americas Competitiveness Exchange (ACE) is the premier economic development innovation and entrepreneurial network of the Americas and is one of the leading high-level events of the OAS coordinated with the U.S. Mission to the OAS and the Department of Commerce. This exchange brings together senior-level government business policy and economic decision-makers from the Western Hemisphere and beyond and serves as a powerful catalyst to strengthen countries' cooperation and build on ideas and models that work to promote economic development.



Figure 2: Welcome screen at the 18th iteration of the ACE.

ACE Michigan was a five-day exchange that brought together senior-level government business policy and economic development decision-makers from across the Americas and beyond to explore cooperation opportunities in trade and investment research development and innovation and to spark ideas for academic business and entrepreneurship projects that will help bolster inclusive economic

growth. Under the theme of "Pure Opportunity," the Michigan Economic Development Corporation curated a robust agenda that highlighted the several key economic sector, including Advanced Manufacturing, Life Sciences, Automotive and Mobility, Agribusiness, and Aerospace.



Figure 3: Attendees of the 18th Iteration of the ACE in Michigan.

### Pan American Day and Jazz Appreciation Month Celebrations

The U.S. Mission to the Organization of American States published an article in State Magazine about these events: <a href="https://statemag.state.gov/2024/07/0724itn02/">https://statemag.state.gov/2024/07/0724itn02/</a>

The development team also attended the 6<sup>th</sup> meeting of the Energy Ministers of the Energy and Climate Partnerships of the Americas, which was hosted in the Dominican Republic.

### President's Corner



In 2024, the PAIGH excelled at its mission to promote cartographic, geographic, historic, and geophysical studies and endeavors. The USNS is honored to be a part of this important organization and to lead members of the U.S. in collaborating with other PAIGH members on research, technical assistance projects, and publications in support of this work. We look forward to the continued success of PAIGH and the cooperation between the Institute, the USNS, and other international organizations in promoting and advancing these

areas of science in the Americas and beyond.

USNS members have a strong presence in many facets of the national and international community. A few highlights of 2024 USNS activities follow:

- The 2024 PAIGH USNS Annual meeting was held on April 9-10, 2024, in Washington,
  DC. Several members gathered at the recently renovated Department of Commerce,
  where updated meeting facilities and technology allowed others to join virtually. It
  was a pleasure to be together in person for the first time since the COVID-19
  pandemic.
- USNS representatives affiliated with the Cartography Commission created a StoryMap about the Dunes of Concon in Chile, providing information about geomorphology, conservation efforts, and indigenous flora and fauna. This work is an outstanding example of how to present technical information in an interesting and easy to understand manner.
- Related to the Geography Commission, USNS members participated in several conferences and organizations, published papers, and continued to conduct research pertaining to the Pan America region.
- Geophysics Commission activities of the USNS this year focused on strengthening the geodetic network across the Americas and providing technical support to countries faced with rebuilding following natural disasters.
- USNS members involved with the History Commission delivered many lectures and published several papers relevant to the mission of PAIGH.

Overall, the USNS continues to thrive through the support and dedication of members representing the U.S. cartography, geography, geophysics, and history communities. We welcomed new members to the USNS in 2024, including representatives of the public and academic sectors. We are honored to welcome these professionals to the USNS.

# PARTICIPATION IN PAIGH EVENTS AND REGIONAL COLLABORATIONS

## 24th General Assembly of PAIGH

October 30-November 3, 2023, Santo Domingo, Dominican Republic

A delegation of USNS members from the U.S. Census Bureau, NGA, Department of State, Brigham Young University, and Georgetown University attended the 24<sup>th</sup> General Assembly of PAIGH, in Santo Domingo, Dominican Republic, on October 30-November 3, 2023. Deirdre was elected to serve as President of the Scientific Policy Committee to guide 21 member states through scientific matters during the General Assembly. She led discussions about

extending and aligning the Pan
American Agenda with the United
Nations 2030 Agenda and Global
Frameworks; elevating the existing
Cartography Commission Geographic
Names Working Group to the "José
Joaquín Hungría Morell" Geographic
Names Committee; and demonstrating
appreciation to the Republic of South
Korea, especially as related to their
investments in capacity and
development in the Americas.



Figure 4: Members of the U.S. Delegation, from left, Paul Riley, Lidia Lopez, Deirdre Dalpiaz Bishop, Julianna Aynes-Neville, and Evan Ward.

Deirdre also delivered a presentation on the United Nations Integrated Geospatial Information Framework (UN-IGIF) during the Scientific Policy Committee meeting, using the opportunity to provide an update on how 13 PAIGH Member States are implementing the UN-IGIF. During the Assembly, Patricia Solís shared a presentation about the organization she founded called YouthMappers and discussed the importance of continually updating and maintaining geographic information such as addresses, roads, and boundaries. She also highlighted a new experimental geospatial product from the U.S. Census Bureau, the Community Resilience Estimates for Heat map viewer, which was the result of collaborations between USNS members.

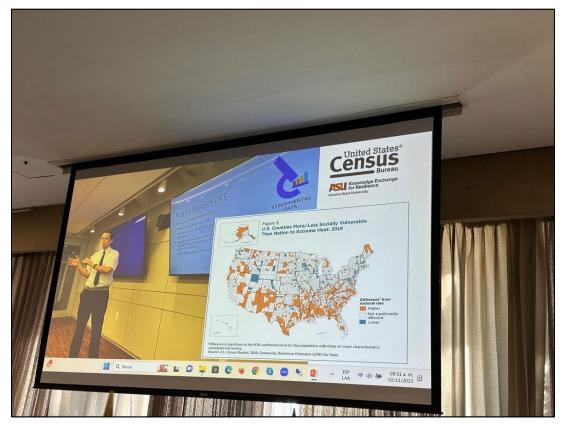


Figure 5: Census Bureau's Community Resilience Estimates for Heat Experimental Product featured during the YouthMappers presentation.

## **UN-GGIM Expert Consultations and Meetings**

January 22-26, 2024, Aguascalientes, Mexico

The United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) convened a series of meetings between January 22-26, 2024, at the National Institute of Statistics and Geography (INEGI) in Aguascalientes, Mexico. The meetings

focused on "Enhancing
Geospatial Information
Management Arrangements:
Accelerating the Implementation
of the Sustainable Development
Goals (SDGs)." During the
opening segment, Deirdre
participated in a plenary panel
and delivered a presentation
entitled, "Using Geospatial



Figure 6: Opening plenary panel (Deirdre Bishop, Stefan Schweinfest, Paloma Merodio Gomez, and Greg Scott)

Information and Technologies to Accelerate the Implementation of National Priorities in the United States of America"

(<a href="https://ggim.un.org/meetings/2024/Aguascalientes/documents/2024-01-22\_02\_USA\_Ms.\_Deirdre\_Dalpiaz\_Bishop.pdf">https://ggim.un.org/meetings/2024/Aguascalientes/documents/2024-01-22\_02\_USA\_Ms.\_Deirdre\_Dalpiaz\_Bishop.pdf</a>).



Figure 7: Co-Chairs of the HLG-IGIF (Fernand Guy Isseri and Deirdre Bishop)

At the 3<sup>rd</sup> Plenary Meeting of the High-level Group of the IGIF (HLG-IGIF), Deirdre and her Co-Chair of the HLG-IGIF, Fernand Guy Isseri, led a meeting of the group's members to share accomplishments and review the 2024 Plan of Work. She shared the results of a recent HLG-IGIF survey and was pleased to report that 93 Member States are currently using the UN-IGIF to strengthen geospatial information management arrangements in their countries. The group discussed refining goals and objectives of the Strategic Plan, how to strengthen working groups and include UN-GGIM Regional Committee Presidents, and planning for a 4<sup>th</sup> Plenary

Meeting of the HLG-IGIF to be held at United Nations Headquarters in New York, New York.

There were meetings of the Expanded Bureau, where the United States was complimented on their active engagement in the planning and negotiation process regarding the UN's 2024 budget process and where two new UN Centers of Excellence presented their future plans. The gathering concluded with meetings of the SDG Data Alliance, where Deirdre delivered an opening presentation entitled, "SDG Data Alliance Value Proposition" to demonstrate how the activities of the SDG Data Alliance are impacting the progress of implementation of the UN-IGIF.

### **USNS Annual Meeting**

April 9-10, 2024, Washington, DC

The 2024 PAIGH USNS Annual meeting was held in person on April 9-10, 2024, in Washington, DC and was coordinated by the U.S. Census Bureau. This was the first time the group has held an annual meeting in person since the COVID-19 pandemic.

### Remarks from the PAIGH Secretary General

The meeting opened with virtual remarks from PAIGH Secretary
General Antonio Campuzano, who highlighted the organization's achievements over the past year. He gave special recognition to USNS member and PAIGH President
Patricia Solís for her contributions to the success of PAIGH over the past year. Secretary General Campuzano also expressed gratitude to Deirdre



Figure 8: USNS members listen to remarks from the PAIGH Secretary General.

for her leadership and support, emphasizing that her guidance in the scientific field of earth sciences and history has been instrumental in advancing the development of Pan American nations. In response, Deirdre congratulated the Secretary General on his accomplishments and thanked him for acknowledging the contributions of women in cartography, geography, geophysics, history, and the sciences at large.

### Ethics in the Use of Geographic Data

Rosario Casanova, from the University of the Republic in Uruguay, presented on "Ethics in the Use of Geographic Data," a Technical Assistance Project (PAT) submitted by the Uruguayan National Section and supported by the USNS. In collaboration with the UN-GGIM: Americas Academic Network, Rosario and her team worked to develop guidelines and tools to facilitate the inclusion of ethics in the use of geographic data in academic institutions and the geomatics community. Several key products will be created as part of this project including a report on the diagnosis of the current situation of teaching the ethical use of geographical information in each of the participating countries, guidelines for the inclusion of the teaching of ethics in geographic information, a glossary of terms related to ethics, a training workshop for geomatics educators, and publications in congresses and/or specialized journals.

#### GeoForce 5

Len Kne, from the University of Minnesota, Miriam Olivares, from Yale University, and Him Mistry, from New York University, presented "An Introduction to GeoForce 5," an initiative aimed at advancing geospatial adoption in academia to support sustainable development goals. GeoForce 5 collaborates with higher education institutions to promote geo-literacy, empowering students, faculty, and staff to incorporate spatial thinking into their learning, research, and services. The initiative offers a range of services including training, consultations, geo-inquiries, grant writing support, geo-networking, spatial data discovery, software assessments, and outreach.

### Global Geodetic Reference Frame: From Land to Sea

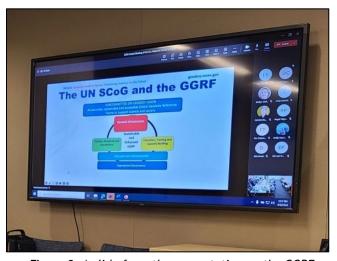


Figure 9: A slide from the presentation on the GGRF.

Dana Caccamise, from the National Oceanic and Atmospheric Administration (NOAA), presented on "Global Geodetic Reference Frame (GGRF): From Land to Sea," highlighting the critical role of geodesy in ensuring data is findable, accessible, interoperable, and reusable. The UN Subcommittee on Geodesy (SCoG) works to provide a precise, sustainable, and accessible GGRF that supports science and society

through geodetic infrastructure, policies, standards and conventions, education, training, and capacity building. The Geodetic Reference Frame for the Americas (GRFA), a working group within UN-GGIM: Americas, serves a similar role in the Americas. The United Nations Global Geodetic Centre of Excellence (UN-GGCE) currently leads many of the GGRF's key initiatives. The overarching goal is to help Member States and geodetic organizations coordinate, collaborate, sustain, and enhance an accurate and accessible GGRF, promoting science, society, and global development. Dana also shared a recent project in San Diego, California, where he restored existing datum benchmarks and established new ones to create a reliable benchmark network. He emphasized how developing and enforcing standards is vital for improving mapping accuracy and precision, especially with the adoption of an updated datum.

### Hidden Risk to Infrastructure and the Economy

On the second day of the meeting, Nicholas Brown delivered a presentation on "Hidden Risk to Critical Infrastructure and the Economy," where he highlighted the vital role of Global Navigation Satellite Systems (GNSS) in everyday life, the vulnerabilities of the GNSS network, and the potential impacts of a network outage. Nicholas has collaborated with 110 Member States on Joint Development Plans to address this issue. He expressed his gratitude to Deirdre and the USNS for their support in fostering connections with other organizations to raise awareness of these critical risks.

### U.S. Aerial Imagery Helps Ecuador Mitigate Erosion Catastrophe

Mike Shellenberger, from NGA, presented the project "U.S. Aerial Imagery Helps Ecuador Mitigate Erosion Catastrophe." In February 2020, the collapse of the San Rafael Falls, Ecuador's tallest waterfall, triggered a massive erosion event, severely impacting the lava dam behind it and disrupting the hydroelectric dam that supplied 26 percent of Ecuador's power. In response, the Ecuadorian government sought assistance from the U.S. Army Corps of Engineers to address the regressive erosion. Later, the U.S. Ambassador to Ecuador requested support from NGA and the Oakridge National Laboratory. NGA deployed drones to capture high-resolution imagery over 73 square miles of the river and surrounding areas of the Amazon Basin, providing critical data to assess the full impact of the collapse. The Ecuadorian government has since requested a follow up mission, scheduled for November/December 2024.

## Advancing Climate Justice and Undergraduate Research Capacity Building in the Americas

Ivan Ramirez, from the University of Colorado Denver, presented his research on "Advancing Climate Justice and Undergraduate Research Capacity Building in the Americas." This pilot project addresses critical issues of climate, health, social vulnerability, climate justice, and disaster risk reduction, with a focus on empowering undergraduate researchers and developing their capabilities. His team's first project involved mapping disease convergence across Peru from 2014-2016, as they work to analyze climate data to measure the impact of El Niño weather events on ecosyndemic health - where multiple diseases interact within a population under the influence of environmental conditions. Their second initiative was a retrospective mapping of dual malaria disparities

in Northern Peru in the 1990s, exploring how malaria patterns were influenced by climate variations. Currently, his team is conducting a disaster risk reduction project that includes a multi-country comparative analysis of how El Niño evolved across the region, including Ecuador, Australia, and the U.S. This involves a detailed a detailed content analysis on how El Niño reports escalate from alerts, to watches and warnings. The overarching goals of this work are to train the next generation of inter and multidisciplinary scholars and practitioners, establish multi-risk strategies, develop ecosyndemic geospatial surveillance and monitoring systems, integrate regional definitions to enhance early warning and response to El Niño, and incorporate equity into improved climate, health, and disaster planning efforts.

### Midwest Association for Latin American Studies

Betty Smith discussed her involvement and work with the Midwest Association for Latin American Studies (MALAS), an interdisciplinary regional organization that operates independently of the American Association of Geographers (AAG). Since its founding in 1950, MALAS has convened annually, with international meetings held every 3-4 years. While smaller in scale, MALAS shares many of the same goals as PAIGH, fostering scholarly exchange and collaboration. The next MALAS conference is scheduled for November 2024 in Chicago, Illinois. More information about MALAS can be found here:

https://www.malasnet.org/.

### **USNS** Website Updates and Recruitment

To conclude the annual meeting, USNS members explored ways to expand membership by focusing on outreach, recruitment strategies, and updates to promotional materials and the website. Members proposed setting up an informational booth or presenting at geospatial conferences to highlight the work of the USNS and PAIGH. Other suggestions included increasing outreach through YouTube and social media and leveraging academic contacts. Offering different membership tiers was also proposed as a way to boost student involvement.

In addition, the group discussed updating promotional materials, agreeing unanimously that a refresh was necessary. Ideas included replacing the existing USNS brochure with more concise options, such as a one-page document, postcard, or business card featuring a QR

code linking to the USNS website. The members also reviewed the website, offering suggestions for improvement. These included removing unnecessary widgets from the homepage, reorganizing content, uploading meeting notes and reports, expanding commission pages, and adding a section for historical documents.

Emily Day and Sergio Rodriguez have since implemented these updates, and the revamped USNS website went live on August 26, 2024. It can be accessed here: <a href="https://uspaigh.org">https://uspaigh.org</a>.

All presentations from the annual meeting are available at the following location: <a href="https://uspaigh.org/annual-reports2/2024-usns-annual-meeting-april-9-10-2024/">https://uspaigh.org/annual-reports2/2024-usns-annual-meeting-april-9-10-2024/</a>.



Figure 10: In-person attendees of the USNS Annual Meeting on April 9, 2024

### 14th Session of UN-GGIM

August 5-9, 2024, New York, NY

A U.S. Delegation represented by the Department of Commerce, Department of Defense, Department of Interior, National Aeronautics and Space Administration, Department of Transportation, and the Department of Veterans Affairs, attended the 14<sup>th</sup> Session of the UN-GGIM in New York, NY. During this gathering, Deirdre was elected Co-Chair of the 14<sup>th</sup> Session of the Committee of Experts and presided over formal meetings and side events focused on:

- The management of global geospatial information, including the UN-IGIF.
- Collaboration between UN-GGIM Member States, Regional Committees, and Thematic Networks (i.e., Geospatial Societies, Academic Network, Private Sector Network, and UN Geospatial Network).
- The integration of geospatial, statistical, and other related information, such as earth observations.
- The use of geospatial information for sustainable development and climate resilience.
- Marine geospatial information.
- Geodesy and a global geodetic reference frame.
- Implementation and adoption of standards.
- Collaboration with the United Nations Group of Experts on Geographical Names.

During the formal 14<sup>th</sup> Session, Deirdre worked with federal colleagues to develop and provide ten interventions on behalf of the United States, relating to:

- Enhancing global geospatial information management arrangements.
- 2. Contribution of regional committees to the global geospatial information agenda.
- 3. Implementation and adoption of standards for the global geospatial information community.
- 4. The UN-IGIF.
- 5. The Global geodetic reference frame.
- 6. The future geospatial information ecosystem.
- 7. Integration of geospatial, statistical, and other related information.
- 8. Geospatial information for sustainable development.



Figure 11: Deirdre presides as Co-Chair of the 14<sup>th</sup> Session of the UN-GGIM.



Figure 12: Deirdre offering an intervention on behalf of the United States.

- 9. Geospatial information for climate and resilience.
- 10. Integrated marine geospatial information.

During the side events, Deirdre led a meeting to discuss recent accomplishments of the HLG-IGIF and review the work plan and led a forum on "Integrated Geospatial Information Management to 2030 and Beyond." She facilitated a discussion to better understand the accomplishments and challenges of the UN-GGIM Committee of Experts since its inception 14 years ago, as well as goals for the future.



Figure 13: Members of the U.S. Delegation to the 14th Session of the UN-GGIM.

## 25th General Assembly of PAIGH

November 1-3, 2024, Santiago, Chile

USNS members plan to attend the 25<sup>th</sup> General Assembly, to be held November 1-3, 2024, in Santiago, Chile.

## 11th Session of UN-GGIM: Americas

October 7, 2024, Mexico City, Mexico

USNS members actively participated in the 11<sup>th</sup> Session of UN-GGIM: Americas, held in Mexico City, Mexico on October 7, 2024. The event gathered geospatial leaders from across the region to engage in discussions on strengthening regional cooperation, integrating statistical and geospatial data, and developing strategies to advance sustainable development.

The session's agenda also spotlighted key collaborations and strategic priorities for 2025. As a committed partner, PAIGH and the USNS support the mission of UN-GGIM: Americas to advance geospatial information management, aiming to improve decision making and promote sustainable development throughout the Americas. The organization's involvement underscores the importance of collective efforts to address regional challenges and build a more connected and informed geospatial community.

Following the 11<sup>th</sup> Session of UN-GGIM: Americas, Secretary General Antonio Campuzano Rosales and Sofía Nilo Crisóstomo, President of UN-GGIM: Americas, hosted a reception at the PAIGH Headquarters. The gathering offered a unique opportunity for PAIGH national section members to explore the newly restored PAIGH Headquarters and connect with colleagues from across the region. Attendees included several USNS members, including Deirdre, Patricia, Lidia, Charlotte Smith, Tim Trainor, Emily Carlson, and Paul Riley. The event was a celebration of collaboration and the ongoing efforts of the geospatial community, as well as the successful completion of the Headquarters' restoration.



Figure 15: Secretary General Campuzano and Patrica Solís at the PAIGH Headquarters Reception.



Figure 14: Deirdre at the 11th Session of UN-GGIM: Americas.



Figure 16: Attendees of the  $11^{\rm th}$  Session of UN-GGIM: Americas.



Figure 17: USNS members at the PAIGH Headquarters Reception.

## **COMMISSION ACTIVITIES**

The USNS continues to benefit from the expertise of the USNS Commission Representatives who reliably serve as active members. Their reports follow.

- Cartography Commission Representative: Eric van Praag (Esri)
- Geography Commission Representative: David Salisbury (University of Richmond)
- Geophysics Commission Representative: Lidia Lopez (National Geospatial-Intelligence Agency)
- History Commission Representative: Erick Langer (Georgetown University)

## **Cartography Commission**

The Cartography Commission report has been prepared by Eric van Praag, USNS Cartography Commission Representative

The mission of the Cartography Commission is to foster the exchange of technical knowledge and expertise in Cartography, while encouraging collaborative partnerships among member countries and between PAIGH and other multi-national organizations. In the last quarter of 2023 and the first quarter of 2024, members of the USNS Cartography Commission actively supported initiatives across the Americas focused on enhancing data sharing, improving data interoperability, strengthening Spatial Data Infrastructure (SDI) initiatives, and assisting geospatial agencies in PAIGH member countries. Below is a summary of these key activities.

### Story Map Development

Esri supported the Pontifical Catholic University of Valparaíso in creating a StoryMap about the Dunes of Concon using ArcGIS Online. The StoryMap offers an overview of the origin of the dunes and current status, along with its geomorphology, ongoing conservation efforts, and a brief description of its flora and fauna. The University's Department of Geography has been researching this dune system for several years and sought to present its findings through a user-friendly platform like the StoryMap. This initiative was led by Hermann Manriquez, Dean of the Department of Geography and President of the PAIGH Geography Commission.



Figure 18: Screenshot of the Dunes of Concon StoryMap.

### Regional Map of the Americas

The Regional Map of the Americas is a collaborative effort involving the national mapping organizations of the Americas and stakeholders such as PAIGH, the Spanish National Center for Geographic Information (CNIG), the US Geological Survey (USGS), and the Latin American Bank (CAF). This project aims to develop a comprehensive digital geographic database at 1:250,000 scale, encompassing topographic themes such as administrative boundaries, hydrography, villages, roads, morphology, and points of interest using official geographic data provided by PAIGH member countries.

Launched in 2013 with funding provided by PAIGH and CAF, the South American and Central American components were completed in 2020. The North American portion is currently under development, is being led by the USGS, INEGI, and Environment Canada.

In the second half of 2023 and the first half of 2024 the USGS completed key U.S. map layers, including boundaries, hydrography, transportation, and land morphology. The remaining U.S. layers are scheduled for completion by December 2024.

The United Nations Economic Commission for Latin America and the Caribbean (UN-ECLAC) has offered to host the integrated map of North America and provide a map service for data visualization. Ongoing discussions are focused on how to best integrate the three national components of the map into a unified product and align the North American Regional Map with the existing Central American map.

### **PAIGH ArcGIS Online Regional Account**

An ArcGIS Online (AGOL) organizational account was generously provided to PAIGH as part of the Esri - PAIGH Memorandum of Understanding (MOU) established in June 2019, and extended under a new MOU signed in August 2024. PAIGH members can request access to the AGOL platform, enabling them to host, analyze, process, and share data both internally within PAIGH, and externally with other members or the public.

In 2024, Eric van Praag conducted several virtual meetings with PAIGH, including its Cartography, Geography, and History Commissions, as well as representatives from UN-ECLAC and UN-GGIM: Americas. These meetings focused on exploring strategies to increase the platform's use across the region. Esri also offered to support PAIGH and its stakeholders in



Figure 19: Sample PAIGH AGOL Landing Page

developing easy-to-configure applications using AGOL tools such as StoryMaps or Dashboards - designed to showcase initiatives aligned with PAIGH's mission, including SDIs, spatial data dissemination, and climate change awareness.

#### Esri - PAIGH MOU

Esri and PAIGH formalized a second MOU in August 2024. This renewed partnership aims to establish a framework for exchanging geographic, cartographic, and scientific expertise, enhancing mechanisms for sharing spatial data and services, and providing training to strengthen the GIS skills of PAIGH members and stakeholders. This MOU is the result of

extensive consultations between Esri, the PAIGH Secretary General, and the leadership of the PAIGH Cartography and Geography Commissions.

As part of the agreement, Esri is donating a 5-year AGOL organizational account, along with limited technical support from Spanish-speaker subject matter experts from Esri.

## **Geography Commission**

The Geography Commission report has been prepared by David Salisbury, USNS Geography Commission Representative

## Braided Knowledges for a Sustainable Future: Rivers, Indigenous Communities, Justice

In November 2023, David Salisbury from the University of Richmond participated in an impactful event titled "Braided Knowledges for a Sustainable Future: Rivers, Indigenous Communities, Justice." This gathering brought together representatives from Amazonian communities in Brazil, Peru, and Bolivia to Richmond, VA, where they engaged in meaningful discussions about solutions for local and global sustainability.

Attendees included partners from Canada, New Zealand, Japan, Norway, and South Africa, fostering a rich exchange of perspectives. The event featured two roundtable discussions focused on environmental justice, technology, and climate change, along with a sustainability fare and two immersive field trips.

Culminating the event, participants took a train to Washington, DC, where they visited key institutions, including the National Aeronautics and Space Administration (NASA), the U.S. Agency for International Development (USAID), the Global Change Research Program, and the Smithsonian.

### 38th Conference of Latin American Geography

Members of the USNS Geography Commission attended the 38th Conference of Latin American Geography (CLAG) from May 22-25, 2024, in Old San Juan, Puerto Rico. CLAG is a non-profit organization dedicated to advancing geographic education and research focused

on Latin America. It publishes the Journal of Latin America Geography and organizes this prestigious conference.

This year's conference featured a diverse array of discussions on topics including Colonialism, Hurricanes, and Disaster Capitalism; Environmental Justice; Geographies of Water; and Political and Legal Geographies. Additionally, a mentoring panel was held to support geographical research in Latin America. During the conference, USNS Geography Commission member Andrew Sluyter was honored with the 2024 Award for Outstanding Service to CLAG.

## **Geophysics Commission**

The Geophysics Commission report has been prepared by Lidia Lopez, USNS Geophysics Commission Representative

USNS Geophysics Commission Members have participated in the following activities in 2024:

- 1) United States Department of Commerce/NOAA's National Geodetic Survey (NGS) supported the following projects and efforts:
  - NOAA's NGS is collaborating with Caribbean nations to improve regional reference frames and vertical datums as part of the modernized U.S. National Spatial Reference System (NSRS). A key initiative in this effort is the development of a Caribbean Terrestrial Reference Frame, which will serve as a densification of the Sistema de Referencia Geocéntrico para las Américas (SIRGAS) and the International Terrestrial Reference Frame 2020 (ITRF2020) models and be centered on the Caribbean plate. This densification and additional deformation modeling will yield improved geometric coordinates using GNSS technology and NGS's online tools, ultimately enhancing the accuracy and utility of these reference frames.

A substantial number of Caribbean Continuously Operating Reference Stations (CORS) are already integrated into the NOAA CORS Network, which supports precise positioning applications across the region. The collaboration will expand this network, improving access to reliable, accurate geodetic coordinates throughout the Caribbean. These improvements to the Caribbean segment of the NOAA CORS Network will directly enhance regional alignment

with NGS's upcoming North American-Pacific Geopotential Datum of 2022 (NAPGD2022).



Figure 20: The NOAA CORS Network across southern U.S. Central America, and the Caribbean.

In parallel, NGS is assisting Caribbean nations in bolstering their gravity data holdings, pointing them toward resources and encouraging data sharing. This data will play a critical role in developing NAPGD2022, a system designed to model gravity, geoid heights, and orthometric heights across the region.

NAPGD2022 will provide the foundation for consistent heights above mean sea level across the Caribbean, North and Central America, and northern South America, facilitating more effective terrestrial and maritime linkages.

This enhanced geospatial framework will support a wide range of applications, including coastal resilience, disaster preparedness, navigation safety, and commercial and scientific endeavors. By linking the Caribbean's terrestrial and maritime domains, these efforts will bolster the protection of life and property while advancing regional development goals.

To support these advancements, NGS has practical training at its Testing and Training Center, located south of Washington, D.C. While NGS cannot cover travel costs, its free classes provide valuable professional education and capacity-building opportunities, equipping participants with the skills necessary to leverage these new geodetic tools and resources.

- 2) NGA representatives supported the following projects and efforts:
  - In late 2023, NGA Representatives Collaborated with US and Ecuadorian Government Organizations to Mitigate Erosion Catastrophe.
    - https://www.nga.mil/news/US\_Aerial\_Imagery\_Helps\_Ecuador\_Mitigat
       e\_Erosion\_C.html.



Figure 21: Oak Ridge National Laboratory's Matt Larson surveys the impact of regressive erosion on the Coca River.

- In 2024, NGA representatives supported U.S. military and non-military activities and capabilities in the Arctic. For more information, please review the following two articles:
  - https://www.nga.mil/news/Strategic\_Competition\_in\_the\_Arctic\_Heat
     s\_Up\_as\_Se.html.

https://www.nga.mil/news/NGA\_Helps\_US\_Allies\_Play\_to\_Win\_the\_Ar
 ctic\_Competi.html.

 NGA continued to support the international community through the NGA Meter Loan Program (METEOR).
 According to the METEOR website NGA
 About Geomatics:

"[METEOR] promotes international

cooperation and strengthens multinational ties with the United

ACCT TO CELLS

Figure 22: ArcticDEM map.

States. For over 50 years, NGA has put geophysical and geodetic



Figure 23: NGA geodetic earth scientists James Beale and Alicia Metzger used a gravimeter to collect marine gravity data while crossing the Northwest Passage on the U.S. Coast Guard Cutter Healy.

equipment in the hands of academia, industry, and governmental institutions all over the world to help countries establish local geodetic control and advance their own internal infrastructure. To request NGA equipment for loan, or for more information, please contact the NGA Office of Geomatics [METEOR] at <a href="meteor@nga.mil">meteor@nga.mil</a>."

## **History Commission**

The History Commission report has been prepared by Erick Langer, USNS History Commission Representative

The USNS History Commission has been fortunate to have a group of dynamic members who have actively participate in various PAIGH events while also maintaining their academic activities.

Commission members made significant contributions to two key events, leaving a notable impact on the proceedings. The first was a highly productive PAIGH General Assembly held in late October 2023 in the always hospitable Dominican Republic. Commission member Evan Ward delivered a keynote address focusing on the development of airports in the Caribbean and its relation to tourism. Together with Evan, Erick Langer (Georgetown University) played a critical role in the History Commission discussions, providing the guest institution and Filiberto Cruz and Reina Rosario support in their endeavors, including the



Figure 24: Erick Langer presents during the 2024 USNS Annual meeting.

organization of a major conference on the teaching of history in the Americas.

Additionally, the USNS annual meeting in April 2024 was a success, featuring Erick's presentation on landlord-settler conflicts on the Bolivian Chaco frontier in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries.

### James Siekmeier from the University of

West Virginia contributed to the edited volume, *Thinking Otherwise* (Cornell University Press), a Festschrift honoring the esteemed political scientist, Walter LaFeber. He coauthored the chapter "Thinking About Democracy: Inevitable Revolutions" alongside Lorena Oropeza from the University of California Berkeley. This book will be available to download for free in October 2024.

Thomas Field from Embry-Riddle Aeronautical University has been remarkably productive over the past year. While primarily focused on the release of his next book, he has also

been actively engaged in publishing and participating in conferences. Here are recent and forthcoming book chapters:

- "The Limits of Superpower: U.S. Developmentalists and the Local Origins of Bolivia's 1964 Coup," in *Coup d'Etat in Cold War Latin America*, edited by Sebastián Carassai and Kevin Coleman (Cambridge University Press, forthcoming).
- "From Gap Year Hijinks to Collectivist Awakenings: Che Guevara's Motorcycle Diaries in Fact and Fiction," in *Latin American History at the Movies*, edited by Donald Stevens. New York: Macmillan, 2023, pp. 153-180.

Thomas has published two book reviews - one in *Diplomatic History* and the other in *American Historical Review*. Additionally, he has a forthcoming review in *Diplomatic and International History Discussion Network (H-Diplo)*. He participated in three panels across two conferences:

- "The Art of Not Intervening: Che Guevara's 1967 Uprising and Washington's
  Avoidance of an Andean Vietnam," and was Chair in a roundtable discussion, "In and
  Out: Non-U.S. Specialists at SHAFR," both at the Society for Historians of American
  Foreign Relations, Toronto, ON, June 2024.
- "Receiving the Cold Shoulder? The Historical Importance of the Often-Neglected Cultural Diplomacy, Gender, and Economics of the Cold War," at the Society for Historians of American Foreign Relations, Arlington, VA, June 2023.

Erick Langer from Georgetown University had the following works published:

- "New Methodologies for a Latin America Economic History on the Nineteenth Century: The South-Central Andes," Revisita Historica Económica de América Latina, 1 (2024), 73-94.
- "Indigenous Groups in the Heart of South America" [Review Essay], *Latin American Research Review*, 59:1 (2024), 242-251.
- "Comunidades guaraníes y terratenientes karai: La lucha por la autonomía en la frontera central chiriguana en el siglo XIX," Boletín Americanista, Año LXXXIII, 2, No. 87 (2023), 55-76,

https://revistes.ub.edu/index.php/BoletinAmericanista/article/view/41761/40755.

Erick has continued to serve as news analyst on "Club de Prensa" for NTN24, Colombia's all-news network. He also delivered several lectures at the Foreign Service Institute in Arlington, VA, and provided news analysis on Voice of America. Additionally, he

organized and presided over the program for the Borderlands Committee of the Conference of Latin American History at the American Historical Association in San Francisco, CA in January 2024.

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