United States of America
National Section
of the
Pan American Institute
of
Geography and History

2016 ANNUAL REPORT

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Introduction
Deirdre Dalpiaz Bishop, USNS PAIGH President

The United States of America 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, 2015 through September 30, 2016. Included are reports from the Geography, Cartography, Geophysics, and History Commission Representatives from within the USNS; summaries of significant activities and meetings; and the USNS roster.

The USNS is pleased to have two members serving in leadership positions within PAIGH. Dr. Jean Parcher continues to serve as President of the PAIGH Geography Commission and Dr. Patricia Solis as Vice President. Jean and Patricia bring a wealth of knowledge, experience, and enthusiasm to their roles within the organization.

The leadership of the USNS has remained consistent over the past year, with the exception of one significant change. The USNS welcomes Ms. Erin Boyer as the new Department of State Liaison. Erin is a Foreign Affairs Officer with the U.S. Mission to the Organization of American States. The USNS wishes our previous liaison, Ms. Maria Perez, the best of luck in her new endeavors. Ms. Deirdre Dalpiaz Bishop of the U.S. Census Bureau remains President of the USNS, Mr. Paul Cooper of CARIS USA continues as Vice-President, and Ms. Ally Johnson of the U.S. Geological Survey maintains her role as Executive Secretary.

Similarly, the leaders of the USNS Commissions continue to serve as active members. The USNS is delighted that Mr. Eric van Praag of Esri is now serving in the role of Principal U.S. Representative to the Commission on Cartography. Dr. David Salisbury of the University of Richmond continues as the Principal U.S. Representative to the Commission on Geography. Dr. Erick Langer of Georgetown University continues to serve as Principal U.S. Representative to the Commission on History. Mr. Jorge Bajo of the University at Buffalo continues in his role as Principal U.S. Representative to the Commission on Geophysics.

Deirdre Dalpiaz Bishop led the USNS delegation to the 46th Meeting of the Directing Council in Cartagena, Colombia in November 2015. Several members of the USNS accompanied Deirdre, including Jean Parcher, Ally Johnson, Maria Perez, and Eric van Praag.

The USNS webpage aids in promoting U.S. activities within PAIGH and facilitates communication both within the national section and
with the general public. The website is hosted by the Association of American Geographers (AAG) and can be found at http://www.aag.org/cs/paigh.

During the reporting period, Ambassador Carmen Lomellin, U.S. Permanent Representative to the Organization for American States, arranged for payment of the assessed contribution to PAIGH in the amount of US $323,900.00 on April 4, 2016, fulfilling the United States annual quota of PAIGH’s budget, set at 59.47%.

This report is neither comprehensive nor exhaustive of the activities conducted by the USNS members, but it is representative of the nature of involvement and contributions that the USNS makes to PAIGH direct activities, goals, and strategic priorities.

**PAIGH USNS Annual Meeting, Suitland, MD, April 7 & 8, 2016**

The 2016 USNS Annual Meeting was held on April 7 and 8, 2016 at the United States Census Bureau Headquarters in Suitland, Maryland. Welcoming remarks were delivered by Deirdre Bishop, USNS President, and Paul Cooper, USNS Vice-President. Thanks are given to the US Census Bureau for their generosity in hosting the meeting and lending their very comfortable facilities. Special thanks are also provided to Paul Riley, Ally Johnson, and Dolly Garcia Jove for their exceptional efforts related to their logistical planning and organization of the annual meeting.

The USNS was extremely honored to have Secretary General Rodrigo Barriga present at the annual meeting this year. Secretary General Barriga provided important remarks including a history of the organization, in depth presentation of the integrated mapping efforts across Central and now South America, highlighted key accomplishments from 2015, and discussed current activities and publications.

During one afternoon, Department of State Liaison, Maria Perez, coordinated and arranged for the USNS to receive a guided tour of the historic Organization of American States (OAS) building and the OAS...
Museum. Both visits were highly memorable and educational. The USNS visited the rooms where all OAS decisions are made by each country delegate. They observed the artwork of Rimer Cardillo, an Uruguayan artist whose works graced every room in the museum. (http://www.museum.oas.org/exhibitions/2010s/2016-cardillo.html). The afternoon concluded with a group dinner in Downtown D.C.

The meeting had many invited presentations including, but not limited to “Mapping for Resilience (Youth Mappers),” “Smugglers and Economic Development in the 19th Century (South/Central Andes),” “Integration Eye on the Earth,” and “US Topo Story Map.” For a full listing of presentations provided, see Appendix 1, 2016 PAIGH USNS Annual Meeting Agenda.

Additionally, the members of the USNS continue to participate in monthly teleconferences to discuss ongoing business of the National Section.

**Cartography Commission**
Eric Van Praag, Representative

The mission of the Cartography Commission is to promote the exchange of technical knowledge in Cartography, develop collaborative partnerships among member countries and between the PAIGH and other multi-national institutions. During 2016, the USNS Cartography Commission advanced activities in the Mapa Integrado Andino del Norte (MIAN) project, and supported the GeoSUR Program.

**Mapa Integrado Andino del Norte (MIAN)**
In 2009 PAIGH provided funding and supported, with technical assistance provided by the US Geological Survey, a series of geospatial technical exchange workshops with representatives from all countries in Central America and Mexico. The principal activity and product of the workshops was to apply participatory cartography methods to harmonize and integrate their
digital mapping data for the region at the 1:250,000-scale or better. The project was a great success in producing both an integrated digital mapping product with networked hydrography data using official sources from all seven countries, and in building a technical exchange network between GIS specialists and managers from the geography institutes of the region.

This project led to the development of an Integrated Map of the Andean Region of Northern South America (MIAN), with financial and technical support from CAF (the Latin American Development Bank), Spain’s National Institute of Geography, the US Department of the Interior, and the United States Agency for International Development (USAID).

This project was able to produce a digital geographic data base at 1:250,000 scale that covers basic and fundamental topographic themes: Administrative Boundaries, Hydrography, Villages, Roads, Morphology and others (e.g., Points of Interest) using official geographic information of each country. The project also produced a catalog of geographic objects (features) and attributes. It helped to solve most of the geometric and semantic matches in the frontiers, and developed a methodology for coordinating the work remotely between the workshops.

Three regional workshops were required to complete the new regional map: Bogota (February, 2015), Quito (July, 2015) and Panama (November, 2015). These were working sessions where each country worked with their neighbors to develop methods to seamlessly harmonize their data across the international borders, devised methods to correct inconsistencies in the datasets, and shared technological advances in geospatial mapping.

After each workshop, the participants returned to their country and completed pre-assigned work. Their government agencies covered their salary for this work, so the cost of the project was kept at a very reasonable level.

The participatory approach has been extremely successful in sharing new data models such as the ArcHydro model, improving the quality of the data, building collaborative partnerships between the technicians and managers of the national geography institutes, and paving the way for open data sharing.
Antonio Rodriguez, Deputy Assistant Director, IGN National Center for Geographic Information (CNIG) of Spain, coordinated all technical aspects of the work and was instrumental in moving this project forward. In order to obtain the support of the senior management at each participating agency, the first participatory workshop included a high-level meeting with the CEOs from the geographic institutes. This included participation of the specialists of the geographical institutes of Colombia, Ecuador, Peru, and Panama; Santiago Borrero (the CAF representative); Rodrigo Barriga (Secretary General of PAIGH), and Rigoberto Magaña (President of PAIGH).

All the data produced as part of this project is available for viewing in the GeoSUR Regional Map Service operated by the USGS on behalf of the GeoSUR Program: [www.geosur.info](http://www.geosur.info). The service follows the OGC WMS protocol and can be consumed by other client viewers. All data and services produced in the project have associated ISO19119 and ISO19115 metadata to facilitate their discovery and use.

This regional initiative generated strong interest from the Brazilian Institute of Geography and Statistics (IBGE) to share their border region data with their ten neighbors, and precipitated the need to have a fourth MIAN workshop, which took place in Rio de Janeiro, at the headquarters of the IBGE, in May of 2016. Delegates from Bolivia, Brazil, Colombia, Ecuador, Panama, Peru and Uruguay participated. The incorporation of Brazil, the largest country in the region with near 8,000 kilometers of borders with neighboring countries, is important and relevant to build the future Integrated Digital Map of South America (MIAS). IBGE, PAIGH and CAF are currently looking for funding to support the development of the MIAS.

**GeoSUR Program**

Eric van Praag, USNS Representative to the Commission on Cartography, provided support to the GeoSUR Program during the second half of 2015 and the first half of 2016. Mr. van Praag and Santiago Borrero, Coordinator of the GeoSUR Program, held periodic phone calls and virtual meetings to solve technical issues and to support several enhancements planned for the regional GeoSUR platform.

As part of this support, Esri re-activated the GeoSUR ArcGIS Online subscription for one more year in June of 2016, and is supporting the integration of this new medium and the existing GeoSUR Portal built with ArcGIS Server and Geoportal Server. The subscription will underpin the development of several Story Maps that highlight CAF’s projects and initiatives in the region. Along these lines, Esri has supported the development of a Story Map featuring the GIS-based hydropower assessments completed by CAF in the Sao Paulo State (Brazil), Peru, and Bolivia.
International Hydrographic Organization (IHO)
In agreement with the International Hydrographic Organization (IHO) Meso American Caribbean Hydrographic Commission (MACHC) GeoSUR has agreed to link the MACHC Nautical Chart Catalogue showing chart coverage throughout the MACHC region. The following is a summary of IHO activities that will interest and affect the work of PAIGH Nautical Cartographers.

The Edition 2.0.0 of S-100 - Universal Hydrographic Data Model
This was approved by the Member States and published. Many efforts were devoted to the continuing development of S-100 based product specifications. This includes S-101 - ENC Product Specification, various product specifications related to nautical information, tides and surface currents, maritime limits, and boundaries. A new work item on the development of a draft product specification for the display of under keel clearance management information was decided. The initial scoping of an S-100 interoperability specification for ECDIS was completed.

IHO Regional Hydrographic Commissions meetings in the PAIGH Zone are summarized below:

Meso American - Caribbean Sea Hydrographic Commission.
The 16th meeting of the Meso American - Caribbean Sea Hydrographic Commission (MACHC) was held in St. John's, Antigua and Barbuda from December 9 through 12 with 70 participants representing 11 Member States, six Associate Members, three observer countries, and nine observer organizations, including PAIGH.

South East Pacific Regional Hydrographic Commission
The 12th meeting of the South-East Pacific Regional Hydrographic Commission (SEPRHC) was hosted and chaired by the Hydrographic Office of Ecuador (Instituto Oceanográfico de la Armada - INOCAR) from July 13 through 16. Eighteen delegates attended the Conference. The participants included six representatives from three of the four IHO Member States of the Region (Chile, Ecuador and Peru), four observers from Mexico, the United Kingdom, the IHO-IOC GEBCO Projec, the ICENC coordinating centre, and seven observers from industry. Representatives of Colombia participated in most of the Conference by video-link.

South-West Atlantic Hydrographic Commission
The 9th Conference of the South-West Atlantic Hydrographic Commission (SWAtHC) was hosted by the Hydrographic Office of Uruguay (Servicio de Oceanografía, Hidrografía y Meteorología de la Armada - SOHMA) and chaired by Captain Gustavo Musso Solari, Hydrographer of Uruguay, on 19and 20 March. Nine delegates and one observer from industry attended the Conference. Only two IHO Member States in the Region, Brazil and Uruguay, were represented.

IHO Hydrographic Commission on Antarctica
The rescheduled 14th Conference was planned to be hosted by the Hydrographic Office of Ecuador (INOCAR) on June 28 through 30, 2016 in Guayaquil, Ecuador.
**Geographical Names (Working Group)**
Roger Payne, Principal Member of the Working Group, reports that since October 1, 2015, there has been little activity for the Working Group on Geographical Names other than continued research and collaboration. There was no conventional course in 2015, and while one was tentatively scheduled for calendar year 2016, it has yet to materialize. All work of preparing slides and ancillary text is complete. The Working Group continues its collaboration and research. They are available for consultation on an individual country basis as needed.

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**Geography Commission**
Dr. David Salisbury, Representative

The role of the USNS Geography Commission is to help foster collaboration among geographers of the Americas through its member activities and its participation in PAIGH programs.

This past year, the USNS Geography Commission advanced activities focused around the Research and Education Committees of the three-fold committee structure of PAIGH (Institutional Strengthening currently lacks leadership).

The USNS Geography Commission is strengthened by two members who lead PAIGH’s Geography Commission as the President, Dr. Jean Parcher, and Vice-President, Dr. Patricia Solís. Their leadership ensures an active representation of the USNS Commission at the highest level.

**Work Plan**
The work plan of the Geography Commission emphasizes the aim of championing geographic research at the Pan American level, spurring the educational community towards collaborative production of scientific and geographic knowledge, and backing the goals of the PAIGH 2010-2020 Pan American Agenda in interdisciplinary coordination with the other Commissions.

Implementation of the work plan is to be interactive and strengthen communication with Member States. USNS Geography Commission Members are contributing leadership to the Pan American Working Groups, organized under two of the three committees, including:

- Research Committee - Working Group for an Atlas of Climatic Change in the Americas: This annotated Atlas will supply investigators and students with a view of the changing landscape, goals, and opportunities associated with the climatic change in the Americas.

  A seed project proposal, "Atlas del Cambio Climático de las Américas", was submitted to the Pan-American Technical Assistance competition in April of 2016. This effort includes representatives from Argentina, Colombia, Mexico, Venezuela and the United States of America.

- Education Committee - Working Group for Online Courses: This group is promoting geographic online courses with the end goal to create collaboration amongst geography
professors in the Americas. Dr. Osvaldo Muñiz Solari led a grant winning team which obtained 2014-2015 funding via a PAIGH research grant. Dr. Muñiz-Solari is the Lead, working together with Graciela Cacace and Maria Cristina Peneda.

- Committee for Institutional Strengthening: This working group is currently inactive although in 2015 Research Commission Principal Member David Salisbury finished up a USAID funded, Higher Education for Development Grant, focused on Building Conservation Capacity in a Changing Amazonia from 2013-2015 in the Peruvian Amazon.

Conferences and Meetings
The Association of American Geographers 2016 Annual Meeting in San Francisco, CA, hosted more than 9,000 geographers, GIS specialists, environmental scientists, and other registrants from around the world sharing the very latest in research, policy, and applications in geography, sustainability, and GIScience. Of those attending, approximately 37 percent of all attendees came from countries other than the U.S.A., which continues a steady trend toward increased international participation at AAG Meetings.

For comparison, the 2007 meeting in San Francisco registered approximately 24 percent international attendees. This year, attendees came from 87 different countries including most of Latin America.

At AAG "Hispanic and Latino New Orleans: Immigration and Identity since the Eighteenth Century," by our Geography Commission’s Research Committee member Andrew Sluyter, and his co-authors Case Watkins, James Chaney (present) and Annie Gibson, was awarded the Jackson Prize.

This report is neither comprehensive nor exhaustive of the activities conducted by the commission members, but it is representative of the nature of involvement and contributions that the USNS Geography Commission makes to PAIGH direct activities, goals, and strategic priorities.

Looking forward to the coming year, the U.S. Geography Commission will continue to pursue appropriate activities within these priority areas. These activities will continue to add value to
and support both the USNS work and the direction of PAIGH in terms of geographic research, geographic education, and the strengthening of institutions of geography in academic, public, and private sectors.

**History Commission**
Dr. Erick D. Langer, Representative

The History Commission was quite productive this year and was able to integrate itself more into the structure of PAIGH. The Commission was able to accomplish this through participation at the US National Section Meeting in April of this year. Other projects remain as they are, though progress continues to be made.

The *History of the Americas* continues. The idea is to publish a history of the Western Hemisphere in one volume, written by scholars of the hemisphere. The project has been designed and some of the chapters written. The three co-editors, Patricia Galeana of Mexico, Andre Figueiredo of Brazil, and Erick Langer, have worked extensively on the project. Erick Langer met with the Secretary General of the OAS, Luis Almagro, to inform him of this project and to ask for his support. In October, Erick Langer will travel to São Paulo, Brazil, to work with Dr. Figueiredo on refining the project.

In addition to this project, another member, James Siekmeier, is working with the Executive Secretary of the USNS to organize the paper and digitized archives that it possesses. This will permit USNS PAIGH officials to find relevant historical data and also permit a future historian to write a history of our national section.

Our members have been very active. Evan Ward and Erick Langer presented preliminary findings of their research at the USNS Annual Meeting. Jim Siekmeier was able to join the meeting at the U.S. Census Bureau as well.

*Left: Rodrigo Barriga, Bettina Martinez-Hackert, and Evan Ward*

Tim Schultz, Office of the Command Historian at SOUTHCOM in Florida, published several official, mostly classified publications for the Commander, United States Southern Command. These primarily dealt with the history of violence and internal conflicts in the Western Hemisphere. He also mentored two Florida International University Master of Arts in Global Affairs Capstone projects. These concern the potential national security implications of climate change and the ideological origins of the Union of South American Nations.

Jim Siekmeier, at the Department of History at University of West Virginia, led the Washington Program for UWV in the District of Colombia this year. He also published an article, titled “Iran-Contra Affair,” in Johns, Andrew, ed. *Companion to Ronald Reagan* (Malden, MA: Wiley-

Erick D. Langer, School of Foreign Service, Georgetown University, remains as a member of the Conseil Scientifique de l’Institut des Amériques, the body that oversees studies of the Western Hemisphere in French universities. He had an essay, “Indians and the Chaco War: Power and Acquiescence in Bolivia, Argentina, and Paraguay” published in *The Chaco War: Environment, Ethnicity, and Nationalism*, Bridget Chesterton, ed. (London: Bloomsbury Press, 2016). Dr. Langer won a Senior Scholar Research Fellowship for Spring semester 2016 and is presently on sabbatical and writing a book on the economic development of the south-central Andes in the nineteenth century.

Erick Langer was inducted into the Bolivian History Academia (Academia Boliviana de Historia) on September 12, 2016. The USNS is honored to have such recognized representatives of such prestigious organizations amongst our membership. The USNS congratulates Dr. Langer on his standing as a recently minted Honorary Member with the other members of the Academia.

In September of 2015 the University of Arizona Press released a paperback edition of Evan Ward's *Border Oasis: Water and the Political Ecology of the Colorado River Delta, 1940-1975*, which chronicles disputes regarding water quality between the United States and Mexico during the mid-twentieth century. Professor Ward also reviewed manuscripts for *Mexican Studies/Estudios Mexicanos* and Oxford University Press, as well as reviewed a book for the *Hispanic American Historical Review*. He continues to be active in the public forum, appearing twice on the KBYU radio show, Top of the Mind, where he discussed U.S.-Cuban property claims and recent trends in Puerto Rican immigration to the United States.

Our newest member, Juana Moriel-Payne, defended her dissertation at the University of Texas, El Paso last year and received her PhD last May. She is now a Visiting Professor at University of Saint Thomas-Houston for the 2016-2017 academic year, with a possible renewal the following academic year, where she be teaching a US History-survey and upper division-cross listed colonial Latin American History. Her new novel, *La caza del venado*, resulted finalist in Contact Latino contest and was published this month.
Geophysics Commission
Dr. Jorge V. Bajo Sanchez, Representative

This year the USNS Geophysics Commission reorganized to address the changes that the Geophysics Commission approved in the 20th General Assembly.

Dr. Christopher L. Castro was assigned the principal coordinator for the Climate Change Committee. The table below shows the new list of committees approved and the country and the principal coordinator for each one.

<table>
<thead>
<tr>
<th>Comité</th>
<th>Objetivo</th>
<th>Relación con la Agenda del IPGH</th>
<th>País y Coordinador</th>
</tr>
</thead>
</table>
| **Comité de Desastres Naturales**            | Promover y brindar apoyo a proyectos de investigación geofísica, reuniones especializadas (congresos, simposios, talleres) y cursos en el tema de desastres naturales. Las actividades deben ser cuando menos binacionales, sobre temas contenidos en la agenda y cuyos desarrollos o conclusiones puedan ser publicados en el IPGH. | Construcción de capacidades a nivel panamericano. Promover la aproximación interdisciplinaria y la integración regional en el área de desastres naturales. | México  
Dr. José Luis Macías |
| **Comité de Cambio Climático**               | Promover y brindar apoyo a proyectos de investigación geofísica, reuniones especializadas (congresos, simposios, talleres) y cursos en el tema de cambio climático. Las actividades deben ser cuando menos binacionales, sobre temas contenidos en la agenda y cuyos desarrollos o conclusiones puedan ser publicados en el IPGH. | Construcción de capacidades a nivel panamericano. Promover la aproximación interdisciplinaria y la integración regional en el área de cambio climático. | Estados Unidos  
Dr. Christopher L. Castro |
| **Comité de Geofísica Aplicada**             | Promover y brindar apoyo a proyectos de investigación geofísica, reuniones especializadas (congresos, simposios, talleres) y cursos en el tema de geofísica aplicada. Las actividades deben ser cuando menos binacionales, sobre temas contenidos en la agenda y cuyos desarrollos o conclusiones puedan ser publicados en el IPGH. | Construcción de capacidades a nivel panamericano. Promover la aproximación interdisciplinaria y la integración regional en el área de geofísica aplicada. | Argentina  
ing. María Inés Pastorino |
| **Comité de Estudios Especiales**            | Promover y brindar apoyo a proyectos de investigación geofísica, reuniones especializadas (congresos, simposios, talleres) y cursos sobre temas especiales no incluidos en los Comités de Desastres Naturales, Cambio Climático y Geofísica Aplicada. Las actividades deben ser cuando menos binacionales, sobre temas contenidos en la agenda y cuyos desarrollos o conclusiones puedan ser publicados en el IPGH. | Construcción de capacidades a nivel panamericano. Promover la aproximación interdisciplinaria y la integración regional en temas especiales de la geofísica. | Chile  
Dr. Manuel Araneda |
The USNS Geophysics Commission remodeled itself to accommodate to the changes approved during the 20th General Assembly. As a result the commission now looks like this:

<table>
<thead>
<tr>
<th>Comité</th>
<th>Objetivo</th>
<th>Relación con la Agenda del IPGH</th>
<th>USA</th>
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<tbody>
<tr>
<td>Comité de Desastres Naturales</td>
<td>Promover y brindar apoyo a proyectos de investigación geofísica, reuniones especializadas (congresos, simposios, talleres) y cursos en el tema de desastres naturales. Las actividades deben ser cuando menos binacionales, sobre temas contenidos en la agenda y cuyos desarrollos o conclusiones puedan ser publicados en el IPGH.</td>
<td>Construcción de capacidades a nivel panamericano. Promover la aproximación interdisciplinaria y la integración regional en el área de desastres naturales.</td>
<td>Dr. Jorge V. Bajo</td>
</tr>
<tr>
<td>Comité de Cambio Climático</td>
<td>Promover y brindar apoyo a proyectos de investigación geofísica, reuniones especializadas (congresos, simposios, talleres) y cursos en el tema de cambio climático. Las actividades deben ser cuando menos binacionales, sobre temas contenidos en la agenda y cuyos desarrollos o conclusiones puedan ser publicados en el IPGH.</td>
<td>Construcción de capacidades a nivel panamericano. Promover la aproximación interdisciplinaria y la integración regional en el área de cambio climático.</td>
<td>Dr. Christopher L. Castro</td>
</tr>
<tr>
<td>Comité de Geofísica Aplicada</td>
<td>Promover y brindar apoyo a proyectos de investigación geofísica, reuniones especializadas (congresos, simposios, talleres) y cursos en el tema de geofísica aplicada. Las actividades deben ser cuando menos binacionales, sobre temas contenidos en la agenda y cuyos desarrollos o conclusiones puedan ser publicados en el IPGH.</td>
<td>Construcción de capacidades a nivel panamericano. Promover la aproximación interdisciplinaria y la integración regional en el área de geofísica aplicada.</td>
<td>Dr. Bettina Martinez-Hackert</td>
</tr>
<tr>
<td>Comité de Estudios Especiales</td>
<td>Promover y brindar apoyo a proyectos de investigación geofísica, reuniones especializadas (congresos, simposios, talleres) y cursos sobre temas especiales no incluidos en los Comités de Desastres Naturales, Cambio Climático y Geofísica Aplicada. Las actividades deben ser cuando menos binacionales, sobre temas contenidos en la agenda y cuyos desarrollos o conclusiones puedan ser publicados en el IPGH.</td>
<td>Construcción de capacidades a nivel panamericano. Promover la aproximación interdisciplinaria y la integración regional en temas especiales de la geofísica.</td>
<td>All members</td>
</tr>
</tbody>
</table>

Projects
Two members of the commission had projects accepted and renewed for this year.

Dr. Jorge V. Bajo Sanchez got an extension of his project Continuación del estudio sobre diferencias etnofisiográficas y mapas de perspectivas de peligros volcánicos de las comunidades de alrededor del Volcán de Santa Ana (El Salvador) that was supported by the Geophysics and Geography Committees.

Dr. Bettina Martinez-Hackert submitted her project Estudio batimétrico, hidrográfico y topográfico de la base del Lago Coatepeque, El Salvador, usando sondeo Mono-Haz y un escaneo lateral SONAR that was approved and supported by the Geophysics and Geography Committees.

Part of the members of the research team; back from left to right: Tami Bedulun (Teledyne- CARIS), Ing. Carlos Fiuero (CNR), Dr. Jorge V. Bajo Sanchez (Buffalo State), Mr. Rafael Lopez (CNR), Ing. Luis Hernandez (CNR), Ing. Eduardo Gutierrez (MARN), Ing. Francisco Montalvo (MARN), Agent Wilber (PNC), Agent Carlos Canales (PNC), Ing. Rafael de Leon (CNR). Front from left to right: Lauren Ambury (Buffalo State), Dr. Bettina Martinez-Hackert (Buffalo State), and Mr. Victor Castillo (CNR).
This project is supported by PAIGH, Buffalo State, Teledyne-CARIS, Kongsberg, Hemisphere, Centro Nacional de Recursos (CNR), El Salvador and Ministerio de Medio Ambiente y Recursos Naturales (MARN), El Salvador, Fundacion Coatepeque, El Salvador and Policia Nacional Civil (PNC), El Salvador.

The Coatepeque Caldera Lake is situated on the western part of the country of El Salvador (see Figure 2), and it is considered an active volcano with the last eruption estimated about 10,000 b.p. years ago, and the last rhyolitic explosive eruption estimated at 50,000 years b.p. It presents a lot of doming activity. Some of these domes were seen and discovered during fieldwork for the first time (see Figure 3).

The bathymetry chart was published in 1982 and since then it has been observed a lake water surface fluctuation levels of +/- 4 meters and the water datum has dropped at least 10 meters.

For this work several instruments were used to gain a better understanding of the lake and the lake composition, depth and geological features. The EA400 side scan sonar and echo sounder (see Figure 3 for a sample of the data obtained using this instrument) was used to obtain depth and images of the bottom of the lake that give us a glimpse of what the caldera volcano looks like under the water, which has never been seen before. This instrument was donated by Kongsberg with the technical support of one of their experts, Ing. Leonardo Figueroa. Due to bureaucratic problems this instrument did not arrive to the site until the last week. However, the CNR lent us their echo sounder to obtain depth data.
Teledyne-CARIS lent us Digibar (see Figure 4 for a sample of the data obtained using this instrument) that allowed us to start getting an understanding of the lake depths while we were waiting for the instruments and working on the boats (see Figure 5) to install the echo sounders and side scan sonar. They also sent Ms. Tami Beduhn to work with us, help set the equipment, and teach several members of the group how several of the programs and instruments worked.
By the end of three weeks of fieldwork, two-thirds of the lake (Figure 6) was mapped using a combination of echo sounder and side scan sonar.

Figure 6 (left) - Map showing the area covered with echo sounder and side scan sonar, using CARIS software. The different colors represent differences in depth with red being the more shallow part of the lake and purple being the deepest.

The lake also left us with some beautiful images after stormy nights and cloudy mornings.

Figure 7 (below) – Photo taken by Dr. Bajo from the house where the team stayed at the lake right after a morning storm.

Dr. Jorge V. Bajo Sanchez is a collaborating USNS member for a project submission for the upcoming year titled National Section Document Archiving. This project aims to create the first steps towards standardization and archiving of PAIGH-related documents for the different National Sections.

The archiving and standardization of PAIGH documents is essential for the continued success of PAIGH. It will strengthen the organization and make its rich and vast library of documents available and easily transferable between National Sections.

Figure 8 (left) – Photo taken by Dr. Bajo in the morning showing some low clouds coming down the Southern flank of the Caldera Crater.

As mentioned in the report of the USNS Commission on History, this project proposes to learn the already-existing standards used by the PAIGH main office in Mexico to archive documents. Sample types of documents include partial and final reports, conference minutes, meeting resolutions, etc., but certainly not
limited to those. It also proposes to improve and modify if necessary the already-existing mechanisms so that better document management techniques can be implemented with the documents of the various National Sections. The USNS will create a procedure on how to standardize and archive its records, not only digitally, but also in hard copy.

**Conferences and meetings**
Dr. Martinez-Hackert and Dr. Bajo Sanchez presented the work funded by PAIGH in several national and international meetings during this past year, such as the General Assembly for the American Association of Geographers that took place in Chicago, IL, the American Geophysical Union that took place in San Francisco, CA the Uncertainty in Geo-Science: A Workshop on Hazard Analysis that took place in Buffalo, NY, the 26th General Assembly of the International Union of Geodesy and Geophysics which was held from June 22 to July 2, 2015 in Prague, the Czech Republic, and the 2016 USNS Annual Meeting, held in Suitland, MD.

Dr. Martinez-Hackert, Dr. Bajo Sanchez, and Dr. Castro also participated and presented their work during the Tercera Reunión Conjunta de las Comisiones del IPGH, which took place in México Federal District. Dr. Castro and Dr. Bajo Sanchez used that opportunity to meet and talk about the USNS Geophysics Commission and future collaborations in the region.

**Papers and publications**

This dissertation is composed of an introductory chapter and three papers about vulnerability and volcanic hazard maps with emphasis on lahars. The introductory chapter reviews definitions of the term vulnerability by the social and natural hazard community and it provides a new definition of hazard vulnerability that includes social and natural hazard factors. The first paper explains how the Community Volcanic Hazard Map (CVHM) is used for vulnerability analysis. It also explains in detail a new methodology to obtain valuable information about hazards, ethnophysiographic differences, and landscape knowledge of communities in the area of interest: the Canton Buenos Aires situated on the northern flank of the Santa Ana (Ilimatepec) Volcano, El Salvador. The second paper is about creating a lahar hazard map in data poor environments by generating a landslide inventory and obtaining potential volumes of dry material that can potentially be carried by lahars. The third paper introduces an innovative lahar hazard map integrating information generated by the previous two papers. It shows the differences in hazard maps created by the communities and experts both visually as well as quantitatively. This new, integrated hazard map was presented to the community with positive feedback and acceptance. The dissertation concludes with a summary chapter on the results and recommendations.

Further Geophysics Commission member publications are listed in Appendix 2.
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PAN AMERICAN INSTITUTE OF GEOGRAPHY AND HISTORY
Specialized Organization of the Organization of American States
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UNITED STATES NATIONAL SECTION

Agenda

2016 Meeting of the U.S. National Section
Pan American Institute of Geography and History
U.S. Census Bureau
Suitland, MD
April 7 and 8, 2016

Thursday, April 7

9:00 – 9:10  Welcoming Remarks
            ● Deirdre Bishop, USNS President

9:10 – 9:20  Opening Remarks
            ● Paul Cooper, USNS Vice-President

9:20 – 9:45  U.S. Permanent Mission to the Organization of American States - State Department
            ● Maria Perez, U.S. Mission to the OAS, Department of State Liaison

9:45 – 10:00 USNS Discussion Items
            ● USNS Roster Update – Ally Johnson
            ● USNS Annual Report Discussion – Deirdre Bishop/Paul Cooper
            ● USNS Membership General Recruitment – Paul Cooper

10:00 – 10:25 Invited Presentations by USNS Members
            ● Mapping for Resilience (Youth Mappers) – Patricia Solis

10:25 – 10:40 BREAK

10:40 – 11:10 Invited Presentations by USNS Members
• Smugglers and Economic Development in the 19th Century (South/Central Andes) – Erick Langer

11:10 – 11:50 Invited Presentations by USNS Members & Guests
• IHO/PAIGH/GeoSUR Integration Eye on the Earth – Jim Rogers, Paul Cooper
• OGC and PAIGH – Trevor Taylor, Open Geospatial Consortium

11:50 – 12:30 Remarks from the Secretary General of PAIGH
• Rodrigo Barriga, PAIGH Secretary General

12:30 – 1:00 U.S. Delegation Lunch

1:00 – 1:45 Census Shuttle to OAS Historic Building

2:00 – 2:45 OAS Historic Building Guided Tour

3:00 – 4:00 OAS Museum Guided Tour

5:00 Delegation Dinner

6:00 Optional DC Tour

Friday, April 8

9:00 – 9:20 Group Photo

9:20 – 9:40 Results of Approved 2015 Project
• Study of the Santa Ana Volcano in El Salvador – Jorge Bajo

9:40 – 10:00 Results of Approved 2015 Project
• Network for Geographic Learning – Osvaldo Muñiz

10:00 – 10:20 Status of Approved 2016 Projects
• Bathymetric, Hydrographic, and Topographic Studies of the El Salvadorian Coatepeque Lake Base – Bettina Martínez-Hackert

10:20 – 10:35 Break

10:35 – 10:50 2017 Project Proposals
• Project Proposals Timeline – Deirdre Bishop
• Guidelines for Submitting Proposals Electronically – Jean Parcher
• Brainstorm on Possible Multi-Commission Project Proposals
10:50 – 11:20 Invited Presentations by USNS Members
   • A Renaissance in the Americas: Jose Marti, Jose Enrique Rodo, and Jose Vasconcelos in the Age of Theodore Roosevelt – Evan Ward

11:20 – 11:50 Invited Presentations by USNS Guests
   • US Topo Story Map – Mike Tischler, Director, National Geospatial Program, USGS

11:50 – 12:50 Lunch

12:50 – 1:00 Institute Updates
   • Significant Institute Dates and Deadlines – Jean Parcher

1:00 – 2:00 Reports by Commission Representatives
   • Commission on Geography – David Salisbury
   • Commission on History – Erick Langer
   • Commission on Cartography – Eric Van Praag
   • Commission on Geophysics – Jorge Bajo Sanchez

2:00 – 2:30 Invited Presentations by USNS Members
   • Community Volcanic Hazard Map (CVHM) for Vulnerability Analysis – Jorge Bajo

2:30 – 2:45 Break

2:45 – 3:15 USNS Social Media Strategic Plan
   • Deirdre Bishop/Diana Sinton

3:15 – 4:00 Meeting Debrief – Action Item Recap
   • Deirdre Bishop/Paul Cooper/Ally Johnson

4:00 Meeting Adjourns
USNS Member Conference Participations, Significant Accomplishments and Published Works

Geography Commission

- Research Committee (Principal David Salisbury)
  - Dr. Andrew Sluyter
      - Winner of the 2015 *J. B. Jackson Book Prize of the American Association of Geographers*.
    - Executive Director of Conference of Latin Americanist Geographers
    - CLAG book series: The new Book Series Editorial Board oversees the publication of books by the Conference of Latin Americanist Geographers:
      - Our first initiative in this new venture is a collaboration with Springer Publishers to publish “Springer Briefs in Latin American Studies.” The series will publish compact volumes (50 to 125 pages) on geographical, environmental, cultural, economic, political, and urban research about Latin America. Regional experts will referee all submissions, authors retain copyright, books are published within three months of acceptance, and each will feature the CLAG logo. For more information, see the series flyer. To submit a proposal or manuscript, please contact Dr. Sluyter at asluyter@lsu.edu.
  - Mr. Tim Trainor
    - UN Committee of Experts on Global Geospatial Information Management (UN-GGIM) met in NY where approximately 93 countries participated, including many from North, Central and South America (including many Caribbean countries). A special side event took place on August 3 for the UN-GGIM Americas where one theme was SDI strengthening for Latin America. On Sunday, July 31, a Geospatial Data Infrastructure workshop convened for the Caribbean Member States. SDI for the Caribbean nations has been a continuing theme over the last year.
    - Earlier workshop was held April 18-19, 2016. It included a breakdown of achievements gained through a Cartography, Metadata and Disaster Response training held at the Fisheries Division Meeting Room of Antigua and Barbuda.
    - Training workshop on "Geographic Information Metadata" from March 14-16, 2016 in city of Havana, Cuba, as part of the conference framework of the XVI Convention of Informatics and IX Congress of Geomatics.
    - Project for Strengthening the Spatial Data Infrastructure in the States and Territories of the Association of Caribbean States was held the third training course in Cartography in Mexico City, November 8-9, 2015.
course was taught by Dr. Bheshem Ramlal and Ms. Valrie Grant, with the participation of technical experts from the 14 participating countries.

- More details on these activities can be found at the UN-GGIM Americas website:

  Dr. David Salisbury
  - John D. and Catherine T. MacArthur Grant: Transboundary Sustainability Workshop for Ashaninka/Asheninka.
  - Workshop: First Binational Congress of the Ashaninka People. 137 Ashaninka representatives from 54 communities and 24 federations from Peru and Brazil met September 21-22, 2015.
  - On Sabbatical in Granada, España writing book on Amazon Borderlands.

  Dr. Roger Sayre
  - 2014 – Launch of new, data-derived standardized global 250 m ecological land units (ELUs) data ([http://www.aag.org/cs/global_ecosystems](http://www.aag.org/cs/global_ecosystems)); Americas-wide terrestrial ecosystems clips derivable from the global product
  - 2016 – (later in year) – will launch new global ecological marine units (EMUs); Americas-wide marine ecosystems will be clipped and contributed to MBON’s (GEO Marine Biodiversity Observation Network) Pole-to-Pole Ecosystem Monitoring Initiative, representing a US Government contribution to the AmeriGEOSS Initiative.

Education Committee (Principal Betty Smith)

  Dr. Osvaldo Muniz-Solari
  - On editorial board of
    - Revista Geográfica
    - Revista Cartográfica
    - Geotrópico
- Principal Professor of CEPEIGE Online
- REDONLINE-PAIGH2015. PAIGH approved project to develop a network of geography teachers in Latin America to study global climate change.
- Member of International Geographical Union’s Commission on Geographical Education (Coordinator for Latin America) [http://www.igu-cge.org/](http://www.igu-cge.org/)
  
  o Dr. Betty Smith
  - New course development for online delivery: Eastern Illinois University GEO 3070 Geography and Culture of Mexico, Caribbean and Central America was approved for online delivery in 2015. This course is fully enrolled to be taught for the first time online fall semester 2016 by Dr. Betty Elaine Smith.

  o Dr. Diana Sinton
  - Developing the new PAIGH USNS website.
  - Has been focused on Geospatial Technologies and Learning.

- **Institutional Strengthening Committee (Principal Vacant)**
  
  o Dr. Patricia Solís
  - Solís, Patricia, Marie Price, and Maria Adames. (Accepted, in press). Building Collaborative Research Opportunities into Study Abroad Programs: A Case Study from Panama. Manuscript accepted by Journal of Geography in Higher Education.

**Geophysics Commission**

- **Applied Geophysics Committee (Principal – Dr. Bettina Martinez Hackert)**
  
  o Dr. Bettina Martinez Hackert & Dr. Jorge Bajo

- **Special Studies Committee (Principal – Dr. Manuel Araneda (Chile))**
  
  o Dr. Jorge Bajo & Dr. Bettina Martinez Hackert

*History and Cartography Commission Contributions are found in the body of the report.*
2015 HIGHLIGHTS

U.S. NATIONAL SECTION AND PACIFIC COMMISSION

The Commission, an independent, non-profit, non-political organization, promotes the development of ocean and coastal resources in the United States and its territories. Its mission is to advance the study and understanding of the ocean through research, education, outreach, and advocacy.

R E S U L T S  A N D A C C O M P L I S H M E N T S

- Continued growth in membership and engagement
- Increased outreach to educational institutions
- Expanded partnerships with government and private sectors

The Commission's achievements are reflected in its ongoing commitment to promoting ocean literacy and advocating for the sustainable use of ocean resources.

ARMS AMERICAN AGENDA - 2010-2020

Geographic Commission

The Geographic Commission focuses on the development of maps and geographic information systems (GIS) to support decision-making and policy development. Its work includes the creation of detailed maps of the United States and its territories, as well as the development of interactive GIS tools.

CARTOGRAPHIC COMMISSION

The Cartographic Commission is responsible for the development of standards and practices for the creation of maps and cartographic products. Its work includes the development of technical guidelines and best practices for map production.

U.S. GOVERNMENT INFORMATIONal - Public Records

The Commission works closely with government agencies to ensure the availability of accurate and up-to-date information on ocean and coastal resources. Its efforts include the development of databases and repositories for sharing data and information.

The Commission's work is supported by a dedicated team of volunteers and advisors who contribute their expertise and time to further the mission of promoting ocean literacy and advocating for sustainable ocean management.