

# EMIL A. CHERRINGTON, Ph.D.

## PROFILE

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Dr. Emil Cherrington is an Earth observation data scientist who possesses over twenty years of experience working with geographic information systems (GIS) and remote sensing. His work has focused on the use of such technologies for land cover change detection, ecosystem monitoring, disaster response, and integrated water resource management. He currently serves as a Principal Research Scientist at the Earth System Science Center (ESSC) of the University of Alabama in Huntsville (UAH) and serves as the Ecosystem & Carbon Lead at NASA's SERVIR Science Coordination Office. Since 2022 and continuing to the present, he has served as a Google Developer Expert (GDE) for the Google Earth Engine (GEE) platform. Emil holds a joint Ph.D. in forest ecology (with an emphasis in remote sensing) from AgroParisTech (France) and the Technische Universität Dresden (Germany), under the auspices of a fellowship from the European Commission's Erasmus Mundus program. He holds a master's degree in forest resources from the University of Washington's College of Forest Resources (where he was an Organization of American States Fellow) and a bachelor's degree in biology from Loyola University Maryland.

## EDUCATION

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Doctor of Philosophy, Forest ecology, École nationale du génie rural, des eaux et des forêts (ENGREF), L'Institut des sciences et industries du vivant et de l'environnement (AgroParisTech), Montpellier, France, 2016

Doctor of Philosophy (*Doktor rerum silvaticarum, magna cum laude*), Forest science, Institute of Forest Growth and Computer Sciences, Department of Forest Sciences, Technische Universität Dresden (TUD), Dresden, Germany, 2016

Master of Science, Management & Engineering Division, College of Forest Resources, University of Washington, Seattle, Washington, 2004

Bachelor of Science (*summa cum laude*), Biology, College of Arts & Sciences, Loyola University Maryland, Baltimore, Maryland, 2001

## PROFESSIONAL EXPERIENCE

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September 2016 – present, Earth System Science Center (ESSC), University of Alabama in Huntsville (UAH), Huntsville, Alabama, USA

### ***Research Scientist / Principal Research Scientist***

- Contracted by UAH to directly support implementation of SERVIR, an Earth observation initiative implemented jointly by NASA and the U.S. Agency for International Development (USAID) since 2005.
- Has provided Earth observation capacity building activities in numerous in-person and virtual training events for audiences in Belize, Central America, and West Africa
- October 2023 to present: Serves as the SERVIR Science Coordination Office's Ecosystem & Carbon Management thematic lead (one of SERVIR's five thematic areas); previously supported SERVIR's Land Cover, Land Use, and Ecosystems thematic area.
- June 2021 to December 2024: Served as the lead scientist for the SERVIR Carbon Pilot (S-CAP) activity which focuses on strengthening the integration of greenhouse gas estimation capabilities into land cover monitoring services across the SERVIR network.
- September 2016 through January 2024: Served as SERVIR's Regional Science Coordination Lead (RSCL) for West Africa, coordinating with researchers at partner agencies in six pilot countries (Burkina Faso, Ghana, Mali, Niger, Nigeria, Senegal) during its second phase (2022-2025\*), and four pilot countries (Burkina Faso, Ghana, Niger, Senegal) during its first phase (2016-2021)
- July 2022 – June 2025: Serves as a co-Investigator and institutional UAH PI on the NASA-funded "Interactive mapping and intelligent analysis of geospatial big data with Google Earth Engine" project
- November 2018 – November 2022: Served as Science Principal Investigator and co-Investigator on a NASA-funded project on "Climate-influenced Nutrient Flows and Threats to the Biodiversity of the

- Belize Barrier Reef Reserve System” (implemented by UAH, the Wildlife Conservation Society, the University of Georgia, and the NASA Jet Propulsion Lab)
- January 2018 – December 2021: Served as a co-Investigator on the NASA-funded Synthetic Aperture Radar virtual Capacity Building Center (SAR-CBC) project implemented by the University of Alaska-Fairbanks, UAH, and the NASA Jet Propulsion Lab
  - September 2016 – November 2024: Supervision (jointly with other UAH faculty) of SERVIR-affiliated graduate students in the Atmospheric & Earth Science master’s degree program of UAH
  - April 2017 – present: Has served as an affiliate member of the graduate faculty of UAH’s School of Graduate Studies, and has served as the instructor for the Land Use Applications & Sustainability (ESS 610) graduate level course for the Spring 2020 and Spring 2022 terms at UAH.
  - Has served as a science advisor on multiple projects of the NASA DEVELOP program, from summer 2019 through spring 2023
  - April 2022 – present: Serves as a Google Developer Expert for Google Earth Engine, and provides general support to the broader community of Earth Engine users.
  - March 2025 – present: Serves as an Early Adopter for NASA’s PACE hyperspectral observatory, and is conducting a pilot study on the applicability of PACE Ocean Color Instrument (OCI) data for terrestrial ecosystem mapping.
  - Has held the positions of Research Scientist I (Sept. 2016-May 2017), Research Scientist II (May 2017-May 2021), Research Scientist III (May 2021-August 2023), Research Scientist V (August 2023-July 2024), and Principal Research Scientist (July 2024 – present)
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October 2013 – September 2016, *Institut de recherche pour le développement (IRD) / botanique et Modélisation de l'Architecture des Plantes (AMAP)*, Montpellier, France

***Doctoral researcher, Organization & Dynamics of Plant Populations & Landscapes team***

- Contracted through AgroParisTech
  - Implementation of a competitively selected €130,000 European Commission Erasmus Mundus-funded “Assessing forest composition and dynamics of closed tropical forest in French Guiana using modelling and multispectral imagery” doctoral research project (2013-2016)
  - Development of peer-reviewed publications based on doctoral research
  - Support for the French government (BGF)-supported DYNFORDIV project looking at dynamics within montane forests in French Guiana’s national parks
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July 2008 – October 2013, *Water Center for the Humid Tropics of Latin America & the Caribbean (CATHALAC)*, City of Knowledge, Panama City, Panama

***Senior Scientist / Manager, Division of Applied Research & Development***

- Coordination / supervision of other CATHALAC scientists and technical personnel working on the implementation of the SERVIR Mesoamerica initiative
- Served as the scientific and technical liaison for a number of initiatives, such as Central America’s Authorized User for NASA’s Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) sensor and the Earth Observing One (EO-1) satellite (the latter now defunct)
- Point of contact at CATHALAC for the Regional Support Office (RSO) established at CATHALAC for the United Nations Space-based Platform for Information for Disaster Management and Emergency Response (UN-SPIDER)
- Works in the development of geospatial and satellite-derived products, utilizing standard GIS and remote sensing processing platforms such as ERDAS Imagine and ESRI ArcGIS
- Project management duties related to the implementation of the USAID’s Global Development Alliance-funded *Mainstreaming Climate Indices and Weather Derivatives into Decision-Making for Adaptation to Climate Change in Central America, Mexico, and the Dominican Republic* project
- Responsible for promotion of the SERVIR initiative, and the development of grants and projects in support of the development of regional and national capacities in the application of geospatial technologies to integrated environmental management

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January 2006 – June 2008, *Water Center for the Humid Tropics of Latin America & the Caribbean* (CATHALAC), City of Knowledge, Panama City, Panama

***Geographic Information Systems, Remote Sensing and Natural Resources Specialist***

- Main CATHALAC point-of-contact regarding implementation of the *Regional Visualization & Monitoring System* (SERVIR) for Mesoamerica
  - Mainstreaming the role of CATHALAC at the national level by liaising with national institutions and providing technical assistance and training
  - Responsible for promoting and expanding regional use of geographic information technologies as management tools
  - Formulation, design and implementation of programs and projects aimed at building regional and national capacities to promote integrated environmental management
  - Maintenance of a network of regional contacts with national partner institutions
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January – December 2005, *Coastal Zone Management Authority & Institute* (CZMAI), Ministry of Agriculture, Fisheries and Cooperatives, Belize City, Belize

***Data Analyst***

- Maintenance of largest national holdings of geospatial data on coastal & marine resources and second-largest Government repository of geospatial data, including data compilation / collation functions and metadata development, making extensive use of the ESRI ArcView 3.3 and ArcGIS 9.0 platforms
  - Formerly responsible for the implementation of the *Reefs-at-Risk: Belize* (**WRI Project No. 04359**) collaboration between the CZMAI and the World Resources Institute, aimed at cataloging and improving access to CZMAI's extensive data on coastal & marine resources (Jan. – Sept. 2005)
  - Responsible for the implementation of collaboration between CZMAI and the United Nations Environmental Programme-World Conservation Monitoring Centre on the *Improved Watershed Management* component of the United Nations Foundation / USAID-funded Mesoamerican Reef Alliance project of the International Coral Reef Action Network (ICRAN-MAR)
  - Project duties in fulfillment of **UNEP-WCMC Project No. 1243** included analysis of regional land use change, and the hydrologic impacts thereof on the reef, in collaboration with other ICRAN-MAR partner agencies and the GEF-funded Mesoamerican Barrier Reef Systems (MBRS) project
  - Provision of technical support to national and regional resource-inventory initiatives, including but not limited to: (i) administration of the national databases of the Belize Spawning Aggregation (SPAG) Working Group and the Belize Marine Mammal Stranding Network, and (ii) provision of technical support to the national secretariat of Plan Regional de Pesca y Acuicultura Continental (PREPAC) project in the administration of a database of coastal lagoons
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August 2004 – January 2005, *National Land Advisory Committee* (NLAC), Land Management Program (LMP), Ministry of Natural Resources (MNR), Belmopan, Belize

***Coordinator***

- Provision of technical and logistical support to the NLAC, management of the Committee's day-to-day affairs, and responsible for preparation of the work program, budgets and budget performance reports, and the organization & execution of workshops, consultations and meetings agreed upon by the NLAC
- Acted as Secretary to the NLAC, arranging meetings, taking & circulating minutes and other matters arising out of meetings
- Served as a liaison between the NLAC and the LMP, the MNR, and other government agencies and institutions

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**LANGUAGES**

**CREOLE (native tongue):** fluency in various English-based Caribbean dialects, as spoken in Belize and Jamaica, among others

**FRENCH:** conversational, and general ability to read and write French

**SPANISH:** fluency in conversational and written Spanish

## TECHNICAL SKILLS

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- **Geographic Information Systems (GIS):** High proficiency in geoprocessing, hydrologic modeling and other spatial analysis techniques, via the *ArcView 3.x*, *ArcGIS 10.x*, and *QGIS* platforms
- **Remote sensing (RS):** Satellite image processing / manipulation and multispectral image classification, via multiple platforms, including *ENVI*, *ERDAS Imagine*, *IDRISI / TerrSet*, *SeaDAS*, *SNAP*
- **Scientific computing:** Proficiency with JavaScript (for Google Earth Engine), R, Python
- **Statistical analyses:** Competency with descriptive and multivariate statistical analyses using *R*
- **Technical writing:** Development of grant proposals, consultancy bid documents, project performance reports, press releases and other technical documents

## PUBLICATIONS

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1. Canty, S.W.J., Cifuentes, M., Herrera Silveira, J.H., Morrisette, H., Cissell, J.R., Acosta Velasquez, J., **Cherrington, E.A.**, Feller, I.C., Friess, D., Lefcheck, J.S., Simpson, L., Teutli Hernandez, C. 2025. Implications of Improved Remote Sensing Capabilities on Blue Carbon Quantification. *Estuarine Coastal and Shelf Science* 319:109275. DOI: 10.1016/j.ecss.2025.109275.
2. Deval, C., Anderson, E.R., Kruskopf, M., Limaye, A., Bhandari, B., Markert, A., Flores-Anderson, A., Muthike, D.M., Basu, R., Shrestha, M., Laverde Barajas, M., Sanchez Lozano, J.L., **Cherrington, E.A.**, Begou, J.C., Hernandez Sandoval, B.E., Griffin, R.E., Irwin, D.E. 2024. Connecting Science to Sustained Impact: SERVIR's Journey in Earth Observations for Water Resources Management and Future Pathways. Preprint. DOI: <http://dx.doi.org/10.22541/essoar.172070626.66463831/v1>.
3. **Cherrington, E.A.**, Evans, C.A., Limaye, A.S., Anderson, E.R., Flores-Anderson, A.I. 2024. Reviews and syntheses: One forest carbon model to rule them all? Utilizing ensembles of forest cover and biomass datasets to determine carbon budgets of the world's forest ecosystems. Preprint. DOI: 10.5194/egusphere-2024-1179.
4. Basu, R., Anderson, E., Deval, C., Herndon, K., Markert, A., Pransky, L., **Cherrington, E.A.**, Phalke, A., Sayeed, A. 2024. Serving economic prosperity: economic impact assessments (EIA) on Earth observation-based services and tools by SERVIR. Preprint. DOI: 10.48550/arXiv.2405.15672.
5. Mensah, F., Mushtaq, F., Bartel, P., Abramowitz, J., **Cherrington, E.A.**, Mahamane, M., Mamane, B., Dieye, A.M., Sanou, P., Enaruvbe, G., Mar, F. 2024. Land Cover Mapping in West Africa: A Collaborative Process. *Land*, 13 (10): 1712. DOI: 10.3390/land13101712.
6. Maniyar, C., Megha, R., Callejas, I., Osborn, K., Lee, C.M., Jay, J.A., Philips, M., Auil Gomez, N., **Cherrington, E.A.**, Griffin, R.E., Evans, C.A., Rosado, A., Rosado, S., Felgate, S.L., Evans, C., Martin Arias, V., Mishra, D. 2023. Spatio-Temporal Dynamics of Total Suspended Sediments in the Belize Coastal Lagoon. *Remote Sensing*, 15(23): 5625. DOI: 10.3390/rs15235625
7. Flores, A., Parache, H.B., Martin Arias, V., Jimenez, S., Herndon, K., Mehlich, S., Meyer, F., Agarwal, S., Ilushchenko, S., Agarwal, M., Puzzi Nicolau, A., Markert, A., Saah, D., **Cherrington, E.A.** 2023. Evaluating SAR Radiometric Terrain Correction Products: Analysis-Ready Data for Users. *Remote Sensing*, 15 (5110): 1-19. DOI: 128098.
8. Schick, M., Griffin, R.E., **Cherrington, E.A.**, Sever, T. 2023. Utilizing LiDAR to Quantify Aboveground Tree Biomass within an Urban University. *Urban Forestry & Urban Greening*, 89(3): 128098. DOI: 128098.
9. Flores, A., Cardille, J.A., Azad, K., **Cherrington, E.A.**, Zhang, Y., Wilson, S. 2023. Spatial and Temporal Availability of Cloud-free Optical Observations in the Tropics to Monitor Deforestation. *Scientific Data*, 10(1). DOI: 10.1038/s41597-023-02439-x
10. Crowley, M. A., Stuhlmacher, M., Trochim, E. D., Van Den Hoek, J., Pasquarella, V. J., Szeto, S. H., Howarth, J.T., Platt, R., Roy, S., Tellman, B., Chakraborty, T.C., Ignatius, A., **Cherrington, E.A.**, Markert, K., Wu, Q., Madhusudan, M.D., Mayer, T., Cardille, J.A., Erickson, T., Moore, R., Clinton,

- N.E., Saah, D. 2023. Pillars of cloud-based Earth observation science education. *AGU Advances*, 4, e2023AV000894.
11. Herndon, K.E., Griffin, R., Schroder, W., Murtha, T., Golden, C., Contreras, D.A., **Cherrington, E.A.**, Wang, L., Barazsky, A., Van Kollias, G., Alcover Firpi, O. 2023. Google Earth Engine for archaeologists: An updated look at the progress and promise of remotely sensed big data. *Journal of Archaeological Science: Reports*, 50: 104094.
  12. Abramowitz, J., **Cherrington, E.A.**, Griffin, R., Muench, R.E., Mensah, F. 2023. Differentiating oil palm plantations from natural forest to improve land cover mapping in Ghana. *Remote Sensing Applications: Society and Environment*, 30: 100968.
  13. Callejas, I., Osborn, K., Lee, C., Mishra, D., Auil-Gomez, N., Carrias, A., **Cherrington, E.A.**, Griffin, G., Rosado, A., Rosado, S., Jay, J. 2022. A GEE Toolkit for water quality monitoring from 2002-2022 in support of SDG 14 and coral health in Marine Protected Areas in Belize. *Frontiers in Remote Sensing* 3 (1020184). DOI:10.3389/frsen.2022.1020184
  14. Muench, R.E., **Cherrington, E.A.**, Griffin, R., Bako, M. 2022. Assessment of Open Access Global Elevation Model Errors Impact on Flood Extents in Southern Niger. *Frontiers in Environmental Science*, 10. DOI: 10.3389/fenvs.2022.880840.
  15. Martin-Arias, V., Evans, C.A., Griffin, R.E., **Cherrington, E.A.**, Lee, C.M., Mishra, D.R., Auil-Gomez, N., Rosado, A., Callejas, I.A., Jay, J.A., Rosado, S. 2022. Modeled Impacts of LULC and Climate Change Predictions on the Hydrologic Regime in Belize. *Frontiers in Environmental Science* 10:1. DOI: 10.3389/fenvs.2022.848085.
  16. Adams, E.C., Parache, H.B., **Cherrington, E.A.**, Ellenburg, W.L., Mishra, V., Lucey, R., Nakalembe, C. 2021. Limitations of Remote Sensing in Assessing Vegetation Damage Due to the 2019–2021 Desert Locust Upsurge. *Frontiers in Climate* 3:714273. DOI: 10.3389/fclim.2021.714273.
  17. Mensah, F., Bartel, P., **Cherrington, E.A.**, Singh, A., Henry, M., Muchoney, D., Brink, A., Mamane, B., Judge, J., Olofsson, P., Dieye, A.M., Muench, R.E., Abramowitz, J., Mahamane, M., Hackman, K., Neya, O. 2021. The key role land use/land cover monitoring plays in West Africa's development: A white paper by the West Africa Land Use / Land Cover Task Force for ECOWAS. Technical paper. Accra, Ghana. 16 pp.
  18. Callejas, I.A., Lee, C.M., Mishra, D.R., Felgate, S.L., Evans, C., Carrias, A., Rosado, A., Griffin, R.E., **Cherrington, E.A.**, Ayad, M., Megha, R., Page, B., Jay, J.A. 2021. Effect of COVID-19 Anthropause on Water Clarity in the Belize Coastal Lagoon. *Frontiers in Marine Science* 8. DOI: 10.3389/fmars.2021.648522.
  19. Mishra, V., Limaye, A.S., Muench, R.E., **Cherrington, E.A.**, Markert, K.N. 2020. Evaluating the performance of high-resolution satellite imagery in detecting ephemeral water bodies over West Africa. *International Journal of Applied Earth Observation and Geoinformation* 93(2):102218. DOI: 10.1016/j.jag.2020.102218
  20. **Cherrington, E.A.**, Griffin, R.E., Anderson, E.A., Hernandez Sandoval, B.E., Flores-Anderson, A.I., Muench, R.E., Markert, K.E., Adams, E.C., Limaye, A.S., Irwin, D.E. 2020. Use of public Earth observation data for tracking progress in sustainable management of coastal forest ecosystems in Belize, Central America. *Remote Sensing of Environment*, 245, 111798.
  21. Herndon, K.E., Muench, R.E., **Cherrington, E.A.**, Griffin, R.E. 2020. An assessment of surface water detection methods for water resource management in the Nigerien Sahel. *Sensors*, 20(2), 431. DOI:10.3390/s20020431
  22. Flores-Anderson, A.I., Griffin, R.E., Dix, M., Romero-Oliva, C.S., Ochaeta, G., Skinner-Alvarado, J., Ramirez Moran, M.V., Hernandez Sandoval, B.E., **Cherrington, E.A.**, Page, B., Barreno, F. 2020. Hyperspectral Satellite Remote Sensing of Water Quality in Lake Atitlán, Guatemala. *Frontiers in Environmental Science*, 8:7. DOI: 10.3389/fenvs.2020.00007.



23. Flores-Anderson, A.I., Herndon, K.E., Thapa, R.B., **Cherrington, E.A.** (Eds.) 2019. The SAR Handbook: Comprehensive Methodologies for Forest Monitoring and Biomass Estimation. First edition. U.S. National Aeronautics & Space Administration (NASA). DOI:10.25966/nr2c-s697. 307 pp.
24. Flores-Anderson, A.I., Herndon, K.E., **Cherrington, E.A.**, Thapa, R.B., Kucera, L., Quyen, N.H., Odour, P., Wahome, A., Tenneson, K., Bako, M., Saah, D., Chishtie, F., Limaye, A.S. Chapter 1: Introduction and Rationale. In: Flores-Anderson, A.I., Herndon, K.E., Thapa, R.B., **Cherrington, E.A.** (Eds.) 2019. The SAR Handbook: Comprehensive Methodologies for Forest Monitoring and Biomass Estimation. First edition. U.S. National Aeronautics & Space Administration (NASA). DOI:10.25966/nr2c-s697. 307 pp.
25. **Cherrington, E.A.**, Flores-Anderson, A.I., Thapa, R.B., Herndon, K.E., Wahome, A., Oduor, P., Mubea, K., Ouko, E., Quyen, N.H., Saah, D., Bako, M., Bartel, P., Mensah, F., Ofori-Ampofo, S., Anderson, E.R., Adams, E.C., Muench, R.E., Markert, A., Nicolau, A., Ellenburg, W.L., Markert, K.N., Hernandez Sandoval, B.E., Limaye, A.S., Griffin, R.E., Irwin, D.E. 2019. Chapter 8: Perspectives on the Future Application of SAR in Forest and Environmental Monitoring. In: Flores-Anderson, A.I., Herndon, K.E., Thapa, R.B., **Cherrington, E.A.** (Eds.) 2019. The SAR Handbook: Comprehensive Methodologies for Forest Monitoring and Biomass Estimation. First edition. U.S. National Aeronautics & Space Administration (NASA). DOI:10.25966/nr2c-s697. 307 pp.
26. **Cherrington, E.A.**, Barbier, N., Ploton, P., Vincent, G., Sabatier, D., Berger, U., and R. Pélissier. 2016. BRDF-corrected vegetation indices confirm seasonal pattern in greening of French Guiana's forests. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 9, No. 8, 3505-3511.
27. **Cherrington, E.A.**, Vincent, G., Sabatier, D., Barbier, N., Berger, U., and R. Pélissier. 2016. BRDF-corrected vegetation indices confirm seasonal pattern in greening of French Guiana's forests. *Revue Française de Photogrammétrie et de Télédétection*, no. 211-212, 3-9.
28. **Cherrington, E.A.**, Barbier, N., Vincent, G., Sabatier, D., and R. Pélissier. 2015. Unravelling the Green Carpet: Use of Remotely Sensed Data for Improved Inventorying & Monitoring of French Guiana's Forest. *Proceedings of the XIV World Forestry Congress*. Durban, South Africa. September 2015.
29. Hernandez-Sandoval, B. and **E. A. Cherrington**. 2014. Los Impactos Potenciales del Cambio Climático en los Recursos Hídricos de Mesoamérica y el Caribe: La Perspectiva Regional, Parte I. Water Center for the Humid Tropics of Latin America and the Caribbean / International Development Research Center. June 2014. 37 pp.
30. Anderson, E., Irwin, D., Delgado, M., Molina, G., and **E.A. Cherrington**. 2012. Evaluation of space-based support through SERVIR during floods and landslides in El Salvador. *Proceedings of the 63<sup>rd</sup> International Astronautical Congress*. Naples, Italy. October 2012.
31. Flores Cordova, A., Anderson, E., Irwin, D., and **E.A. Cherrington**. 2012. Contributions of SERVIR in promoting the use of space data in climate change and disaster management. *Proceedings of the 63<sup>rd</sup> International Astronautical Congress*. Naples, Italy. October 2012.
32. **Cherrington, E.A.**, Percival P.P., Waight, I. Santos, T.Y. Escalante, A.E., Nabet, J. and L. Usher. 2012. Executive Summary: Forest Cover Change and Deforestation in Belize: 2010-2012. Water Center for the Humid Tropics of the Latin America and the Caribbean, Lancaster University, Environmental Research Institute of the University of Belize, Forest Department of the Ministry of Forestry, Fisheries, and Sustainable Development. Belmopan, Belize. 6 pp.
33. Hernandez, B., Flores, A., Garcia, B., Clemente, A., Moran, M., **Cherrington, E.A.**, Oyuela, M., Smith, O., and J.M. Guardia. 2011. Satellite Monitoring of Lake Atitlan in Guatemala. *Proceedings of the Second International Symposium on Building Knowledge Bridges for a Sustainable Water Future*: 234-238. Panama City, Panama. November 2011.
34. Hernandez, B., Garcia, B., Garrish, V., **Cherrington, E.A.**, Picado, F., Sempris, E. 2011. Mapa Centroamericana de cobertura y uso de la tierra, cambios de cobertura y uso de la tierra 1980-1990-2000-2010. Technical report, no. PREVDA/UGR/SER/14/08. Water Center for the Humid Tropics of Latin

- America and the Caribbean (CATHALAC). Panama City, Panama. 152 pp. DOI: <http://dx.doi.org/10.13140/RG.2.2.16349.82409>.
35. Anderson, E.R., Limaye, A., Flores, A.I., **Cherrington, E.A.** 2011. Climate Change Impacts on Surface Water in Central America and Hispaniola. Technical report. Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC) / Regional Visualization & Monitoring System (SERVIR). 33 pp.
  36. **Cherrington, E.A.**, Clemente, A., Hernandez, B.E., Garcia, B.C., and M.O. Oyuela. 2011. Fires in Central America and the Dominican Republic (2001-2010): Data from Satellite-based Monitoring. Technical report. Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC) / Regional Visualization & Monitoring System (SERVIR). 11 pp.
  37. **Cherrington, E.A.**, Anderson, E.A., Flores, A.I., Hernandez, B., Clemente, A.H., Sempris, E., Picado, F., and D.E. Irwin. 2011. Implications of Climate Change for Forest Structure and Carbon Storage in the Tropical Zones of Latin America and the Caribbean. Technical report. Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC) / Regional Visualization & Monitoring System (SERVIR). 19 pp.
  38. **Cherrington, E.A.**, Clemente, A., Hernandez, B.E., Garcia, B.C., and M.O. Oyuela. 2011. Land Cover Change and Deforestation in Central America: 1990-2008. Technical report. Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC) / Regional Visualization & Monitoring System (SERVIR). 11 pp.
  39. **Cherrington, E.A.**, Hernandez, B.E., Garcia, B.C., Clemente, A., and M.O. Oyuela. 2011. Sea Surface Temperature Trends in the Caribbean Sea and the Eastern Pacific Ocean. Technical report. Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC) / Regional Visualization & Monitoring System (SERVIR). 11 pp.
  40. **Cherrington, E.A.**, Hernandez, B.E., Trejos, N.A., Smith, O.A., Anderson, E.R., Flores, A.I., and B.C. Garcia. 2010. Identification of Threatened and Resilient Mangroves in the Belize Barrier Reef System. Technical report to the World Wildlife Fund. Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC) / Regional Visualization & Monitoring System (SERVIR). 28 pp.
  41. **Cherrington, E.A.**, Ek, E., Cho, P., Howell, B.F., Hernandez, B.E., Anderson, E.R., Flores, A.I., Garcia, B.C., Sempris, E., and D.E. Irwin. 2010. Forest Cover and Deforestation in Belize: 1980-2010. Technical report. Water Center for the Humid Tropics of Latin America and the Caribbean / NASA / Belize Ministry of Natural Resources and the Environment. Panama City, Panama. 43 pp.
  42. **Cherrington, E.A.** 2010. Fire Trends for Belize (2003-09): Data from Satellite-Based Monitoring. CATHALAC. Panama City, Panama. 10 pp.
  43. Perez, J.B., **Cherrington, E.A.**, Anderson, E.R., Moran, M., Flores, A.I., Trejos, N., and E. Sempris. 2009. The Experience of the Mesoamerican Region in Climate Change Adaptation. in: Sepulveda, C.J. & M. Ibrahim (Eds.) Policies and Incentive Systems for the Growth and Adoption of Agricultural Practices: A Measure of Climate Change Adaptation in Central America. CATIE / UNEP / CATHALAC / UNCCD. CATIE Technical Series No. 377. Turrialba, Costa Rica. ISBN 978-9977-57-485-1. 272 pp.
  44. **Cherrington, E.A.** 2008. Modeling the Vulnerability of Biodiversity to Climate Change in Mesoamerica and the Dominican Republic. in: Dubrie, A., Corbin, C., Nagatani, K., Metternicht, G., Giada, S., Griffith, M. and S. Sosa (Eds.) Climate Change in the Caribbean and the Challenge of Adaptation. United Nations Environment Programme Regional Office for Latin America and the Caribbean. Panama City, Panama. 91 pp.
  45. Anderson, E.R., **Cherrington, E.A.**, Tremblay-Boyer, L., Flores, A.I., and E. Sempris. 2008. Identifying Critical Areas for Conservation using measures of Biodiversity and Climate Change in Central America, Mexico, and the Dominican Republic. *Biodiversity* 9 (3 & 4): 89-99
  46. Anderson, E.R., **Cherrington, E.A.**, Sempris, E., Flores, A.I., Perez, J.B. and R. Carrillo. 2008. Potential Impacts of Climate Change on Biodiversity in Central America, Mexico, and the Dominican Republic. CATHALAC / USAID. Panama City, Panama. ISBN: 978-9962-8941-1-7. 94 pp.

47. **Cherrington, E.A.** (Editor). 2007. Capacity Assessment of Geographic Information Systems Capabilities of the Caribbean: Regional Assessment Report. UNEP / GEF- Integrated Watershed and Coastal Areas Management (IWCAM) Project. 79 pp.
48. Opadeyi, J. & **E.A. Cherrington** (Eds.). 2007. Proceedings of the GEF-IWCAM Regional Geographic Information Systems Workshop on Strategic Approaches to Application of GIS tools in Support of Planning for Watershed and Coastal Areas Management. UNEP / GEF- Integrated Watershed and Coastal Areas Management (IWCAM) Project. 25 pp.
49. Meerman, J. & **E.A. Cherrington**. 2005. Preliminary Survey of Land Degradation in Belize. Ministry of Natural Resources, Local Government and the Environment. Belmopan, Belize. 64 pp.

## **GRANTS / PROJECTS AWARDED**

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- Institutional Principal Investigator, “GEEmap: Interactive mapping and intelligent analysis of geospatial big data with Google Earth Engine,” Agreement no. A23-0375-S001, National Aeronautics & Space Administration through the University of Tennessee – **US \$36,603** [07/22-06/25]
- Principal Investigator, “SERVIR CARbon Pilot (S-CAP),” Agreement no. 80MSFC22M0004, National Aeronautics & Space Administration – **US \$625,000** [06/21-12/24]
- Principal Investigator, “Assessment of the total mangrove and littoral forest cover within the Belize Barrier Reef Reserve System-World Heritage Site,” Contract No. BAS-UAH-2017-01, Belize Audubon Society – **US \$22,758** [09/17-03/18]
- Lead Consultant, “Strengthening of Disaster Preparedness and Emergency Response Capacity in Belize,” Contract No. UNDP/BCPR/NEMO 2013-001, Belize National Emergency Management Organization (NEMO) - **US \$36,000** [06/13-12/13]
- Lead Consultant, “Development of Land Use Change Scenarios for the Belize Central Corridor, in the context of the REDD-CCAD-GIZ project,” Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) - **US \$17,920** [01/13-04/13]
- Lead Consultant, “Baseline Assessment of Seagrass and Mangrove Cover and Dynamics in the Port Honduras Marine Reserve, Belize,” Toledo Institute for Development and the Environment (TIDE) - **US \$2,500** [01/13-02/13]
- Lead Consultant, “Support to the UN REDD project for Establishing a Geographic Information System, Data Compilation, and Training,” SSFA/REDD 002 / 2011, United Nations Environment Programme - **US \$50,000** [09/11-12/12]
- Lead Consultant, “Development of the First Phase of a Data Bank to Support REDD-related Monitoring, Reporting, and Verification activities in Central America and the Dominican Republic,” Deutsche Gesellschaft für Technische Zusammenarbeit (GIZ) - **US \$20,000** [10/10-12/10]
- Lead Consultant, “Development of an Interactive Map-Based Information Platform to Disseminate CEP-related and REPCar-related Information on the Web,” Agreement No. GFL-2324-4880-2760-1203 / QCL-2324-2288-2661-2219, United Nations Environmental Programme - **US \$12,000** [07/08-04/09]
- Principal Investigator, “Expansion of the Regional Visualization & Monitoring System (SERVIR) to other Geographic Areas including the Dominican Republic, Gulf of Mexico, Africa, Asia and South America,” Contract No. NNM07AB02C, National Aeronautics & Space Administration (NASA) - **US \$1,115,892** [09/07-10/11]
- Principal Investigator, “Rapid Prototyping of Global Precipitation Measurement (GPM) Instrument Data into the Regional Visualization & Monitoring System, SERVIR,” Subcontract No. 08-11-051, University of Mississippi – **US \$50,000** [12/07-05/08]
- Principal Investigator, “Rapid Prototyping of NASA Next Generation Sensors into the Regional Visualization & Monitoring System (SERVIR),” Subcontract No. 03494-1, Universities Space Research Association (USRA) - **US \$40,000** [04/07-08/07]



- Lead Consultant, “Capability Assessment of the Geographic Information Systems (GIS) Capabilities of Countries Participating in the IWCAM Project,” Agreement No. GFL-2324-4834-2731-1202, United Nations Environmental Programme - **US \$47,500** [02/07-08/07]
- Principal Investigator, “Exploring the Efficacy of Market-Based Mechanisms for Conservation Financing in Belize, Central America,” Sigma Xi - Grants-in-Aid of Research program - **US \$500** [5/03]

## **HONORS & AWARDS**

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- *Certificate of Appreciation*, Faculty of Science, University of Belize [11/24]
- *Certificate of Appreciation*, Forest Department of the Belize Ministry of Sustainable Development and Climate Change [08/24]
- *Award of Appreciation*, Belize Coastal Zone Management Authority & Institute [10/23]
- *Google Developer Expert* – Earth Engine [04/22]
- *Project Excellence team award*, MTS, Inc. – for the SERVIR SAR Handbook [04/21]
- *Geospatial Rising Stars*, Geospatial World – recognized as one of 50 ‘geospatial rising stars’ of Geospatial World’s inaugural cohort for the award [02/21]
- *Meritorious Service Award*, Earth System Science Center, University of Alabama in Huntsville [12/20]
- *Group Achievement Award*, NASA – for supporting the development of SERVIR’s Synthetic Aperture Radar Handbook [09/20]
- *SERVIR Collaboration Award* – for supporting the development of SERVIR’s Synthetic Aperture Radar Handbook [02/20]
- *Taking NASA Public peer award* – ‘for dedicating to engaging the public through social media and encouraging the SERVIR team to communicate their science well’ [08/19]
- *Group Achievement Award*, NASA – for supporting decision support / response activities following Hurricane Harvey [08/18]
- *Erasmus Mundus Joint Doctoral fellowship*, European Commission – €130,000 award for pursuing Ph.D. studies [10/13 – 12/16]
- *Award of Recognition*, Land Information Centre of the Government of Belize [06/07]
- *Award of Recognition*, Government of Belize and Belize Protected Areas Conservation Trust [11/06]
- *Certificate of Recognition*, Foundation for International Understanding Through Students [5/04]
- *Xi Sigma Pi* national forestry honor society, *Alpha* chapter [5/04]
- *Scholarship*, Protected Areas Conservation Trust- BZ \$10,000 toward university expenses [09/02-06/04]
- Organization of American States *Fellow*, PRA Regular Training Program [9/02 – 6/04]
- Member of *National Dean’s List* [3/01]
- *Honorary Citizenship*, City of Baltimore [5/00]
- *Beta Beta Beta (Tri-Beta)* national biological honor society, *Theta Chi* chapter [4/00]
- Loyola College *Belize Transfer Scholarship* recipient - two-year, full-tuition waiver awarded annually to an academically gifted Belizean student to facilitate transfer to Loyola College [9/99-5/01]

## **PROFESSIONAL MEMBERSHIPS**

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- American Geophysical Union (AGU)
- American Society for Photogrammetry & Remote Sensing (ASPRS)
- *Sigma Xi* scientific research society
- Society for Conservation Geographic Information Systems (SCGIS)