

EMIL A. CHERRINGTON

PROFILE

Emil Alexander Cherrington's educational background includes a Bachelor of Science degree in biology from Loyola College in Maryland, with research emphasis in plant ecology. His post-baccalaureate experience includes a 2001 research assistantship at the University of Georgia's Savannah River Ecology Laboratory. As a 2002-04 Organization of American States Fellow at the University of Washington, Emil received a Master of Science degree from that University's College of Forest Resources, his research focusing on the ongoing Belize Debt-for-Nature Swap. Between August 2004 and December 2005, Emil worked for the Government of Belize in land policy and geospatial science issues. Mr. Cherrington currently serves as Senior Scientist at the Panama-based Water Center for the Humid Tropics of Latin America & the Caribbean (CATHALAC), where he assists in the coordination of the Regional Visualization & Monitoring System (SERVIR), a spatial data infrastructure platform jointly implemented with NASA, USAID, the CCAD, the World Bank and other partners. Emil's work focuses on expanding regional application of geographic information technology.

EDUCATION

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

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

SHORT-TERM TECHNICAL TRAINING

"Modeling of Land Change Scenarios / Modeling of Hydrological Discharge of Sediments and Nutrients," World Resources Institute / World Conservation Monitoring Centre / ICRAN-MAR Project, Central Farm, Belize, August 15-18, 2006

"Introduction to Shuttle Radar Topography Mission (SRTM) Datasets and Techniques for Derivative Modeling," NASA / USGS / IABIN, Panama, March 7-10, 2006

"the Central American Agriculture & Land Use (CAALU) Tool," USAID / US Environmental Protection Agency / Colorado State University, Belize City, Belize, November 14-15, 2005

"Land Cover / Land Use Change for Carbon Management," USAID / NASA / CATHALAC / University of Arkansas, City of Knowledge, Panama, October 17-21, 2005

"Nonpoint-Source Pollution & Erosion Comparison Tool (N-SPECT)," National Oceanographic & Atmospheric Administration-Coastal Services Center, Charleston, South Carolina, May 31 – June 3, 2005

"National Greenhouse Gas Inventory Methods," USAID / US Environmental Protection Agency / Colorado State University, Belize City, Belize, March 31 – April 1, 2005

"Coastal Geographic Information Systems," World Resources Institute / Oak Foundation, Belize City, Belize, February 1-3, 2005

PROFESSIONAL EXPERIENCE

October 2006 – present, *Water Center for the Humid Tropics of Latin America & the Caribbean* (CATHALAC), City of Knowledge, Panama City, Panama, Central America

Senior Scientist

- Coordination / supervision of other CATHALAC scientists and technical personnel working on the implementation of the *Regional Visualization & Monitoring System* (SERVIR) which is currently prototyped for Mesoamerica
- Serves as the scientific and technical liaison for a number of initiatives, such as (i) serving as Central America's Authorized User for NASA's Advanced Spaceborne Thermal Emission and Reflection

- Radiometer (ASTER) sensor on the NASA Earth Observing System's Terra platform, and (ii) an observer on the Regional Operations Committee for NOAA's GOES-10 satellite
- 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 (USAID Cooperative Agreement No. 596-A-00-06-00099-00)
 - 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 – September 2006, *Water Center for the Humid Tropics of Latin America & the Caribbean* (CATHALAC), City of Knowledge, Panama City, Panama, Central America

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, Central America

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
 - 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
 - Served on a number of national working groups, advocating for the continuing development of Belize's national spatial data infrastructure through applied use of geographic information technologies
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August 2004 – January 2005, *National Lands Advisory Committee (NLAC)*, Land Management Program (LMP), Ministry of Natural Resources (MNR), Belmopan, Belize, Central America

Coordinator

- Provision of technical and logistical support to the NLAC
- Responsible for preparation of the work program, budgets and budget performance reports
- Responsible for 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
- Managed the day-to-day affairs, activities and work programs of the NLAC

April 2003 – June 2004, *Foundation for International Understanding Through Students, (FIUTS)*, Seattle, WA

Trustee / Newsletter Editor

- As a member of the greater Board of Trustees of a nonprofit affiliated with the University of Washington, was responsible for planning and assisting in the implementation of the various weekly events held on behalf of international students
- Led students on various trips & tours of Washington State and the greater Pacific Northwest, and has been jointly responsible for the coordination of activities at various Orientations (in-bound and outbound), as well as serving on Orientation-related panel discussions
- One of two Editors responsible for the compilation of the weekly email newsletter and the posting of relevant announcements to the University's large international student community

Summer 2003, *Toledo Institute for Development & Environment (TIDE)*, Punta Gorda, Belize, Central America

Graduate Intern

- Designed a willingness-to-pay survey for the Port Honduras Marine Reserve (PHMR), a national MPA managed by TIDE, The Nature Conservancy's (TNC) partner in southern Belize; analysis of survey results and feedback pertaining to the organization's weekly radio show, the Rising Tide
- Assisted in the centralization of the organization's geographic information systems data, and dissemination of that information to other partner NGOs in southern Belize

Summer 2001, *Savannah River Ecology Laboratory (SREL)*, University of Georgia, Aiken, SC

Graduate Assistant

- Utilized geographic information systems data in documenting wetland location within the U.S. Department of Energy's Savannah River Site (SRS), and collection of specimens for Rutgers University studies on the aquatic wildlife tissue retention of radioactive effluents
- Helped execute and design experiments on wetland fish and amphibians to test for effluent recognition / effects of stream flow on recognition

LANGUAGES

CREOLE: fluency in various English-based Caribbean dialects, as spoken in Belize and Jamaica, for instance

SPANISH: working knowledge of conversational and written Spanish; also possesses Caribbean Examinations Council (CXC) certification (grade I, general proficiency) of general ability in the language

TECHNICAL SKILLS

FIELD-SPECIFIC

- **Geographic Information Systems (GIS):** Spatial analysis and hydrologic modeling, via the *ArcView 3.x*, *ArcGIS 9.x* platforms (high proficiency)
- **Remote sensing (RS):** Satellite image processing / manipulation (high proficiency) and multispectral image classification (medium proficiency), via the *ENVI 4.x* and *ERDAS Imagine 8.x-9.x* platforms
- **Statistical analyses:** Capable of performing descriptive and multivariate statistical analyses via the *SPSS 10.x-11.x* and *Microsoft Excel* platforms (medium proficiency)
- **Technical writing:** Development of grant proposals, consultancy bid documents, project performance reports, press releases and other technical documents (high proficiency)

GENERAL

- Extreme facility with computers, especially word-processing, spreadsheets, database management and web-browsing, e.g. *Microsoft Office*, *Microsoft Windows* (high proficiency)
- General troubleshooting and networking abilities
- General file archival, including Compact Disc mastering (high proficiency)
- HTML, e.g. *MS FrontPage* (general proficiency)
- Image-editing, e.g. *Adobe PhotoDeluxe / Adobe PhotoShop* (medium proficiency)

TECHNICAL PROJECTS

GIS SUPPORT FOR DECISION-MAKING:

- Modeling of erosion susceptibility for the Latin America & Caribbean region, for inclusion in UNEP's 2007 regional edition of the Global Environmental Outlook (GEO) publication [09/06]
- Updating of the World Database on Protected Areas (WDPA) at the offices of UNEP's World Conservation Monitoring Centre (data updated for Mexico, Belize, Guatemala and Honduras) [12/05]
- Use of spatial data in the assessment of degraded lands in Belize, under the national program of the United Nations Convention to Combat Desertification; 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. [09/05-11/05]
- GIS support in the area of land cover / land use change analysis for the national environmental profile: Department of the Environment. 2005. Belize Environmental Profile: 2005. Ministry of Natural Resources & the Environment. Belmopan, Belize. 200 pp. [11/05]
- GIS support for the report: Mesoamerican Barrier Reef Systems Project. 2007. "Rapid Assessment of Anthropogenic Impacts on Select Transboundary Watersheds of the Mesoamerican Barrier Reef System (MBRS) Region." Mesoamerican Barrier Reef Systems Project, Tufts University, National Oceanographic & Atmospheric Administration. Belize City, Belize. 141 pp. [06/05-11/05]
- Preliminary sediment modeling of the Belize River watershed using the Nonpoint-Source Pollution & Erosion Comparison Tool (N-SPECT) developed by the U.S. National Oceanographic & Atmospheric Administration (NOAA), for a collaborative effort between the MBRS project, NOAA, and Tufts University [8/05]
- Selection, preparation & submission of the first data layers of the Belize Biodiversity Clearinghouse Mechanism (<http://www.chm.org.bz>) [7/05]
- GIS support for the thematic assessment of Belize's commitments to the United Nations Convention to Combat Desertification, through the National Capacity for Self-Assessment (NCSA) project: National Capacity for Self-Assessment. 2005. "United Nations Convention to Combat Desertification: Thematic Assessment Report." Department of the Environment, Ministry of Natural Resources and the Environment. Belmopan, Belize. 29 pp. [5/05]
- Metadata development for the majority of layers on the second version of the Belize Coastal Data CD released by the World Resources Institute's Reefs-at-Risk project [3/05-5/05]

- Installation, along with the Biodiversity Officer and Forest Resource Planning & Management Officer, of the Forest Department's national geographic information system [11/04-1/05]
- GIS support in the area of forest cover assessment for the FAO Forest Resource Assessment 2005 Belize report: Forest Department. 2005. "Global Forest Resources Assessment: Belize Country Report." Country report 143. Food & Agriculture Organization, United Nations. Rome Italy. 37 pp. [12/04]

REMOTE SENSING & SATELLITE IMAGE PROCESSING:

- Mosaicking and MrSID compression of LandSat ETM imagery for inclusion on the Biodiversity, Environment and Resource Data System (BERDS) of Belize clearinghouse's online map-server (<http://www.biodiversity.bz>) [7/05-9/05]
- Remote sensing of dry- and wet-season areas of the Agua Caliente, Crooked Tree, and New River Lagoons for the PREPAC project, through unsupervised classification of LandSat ETM imagery, aided by pan-sharpening [7/05]
- Remote sensing of pine forests from LandSat ETM imagery for the Wood Depot, for planning harvest operations and the designation of new Forest Reserves in the southern coastal plains of Belize [5/05]

PUBLICATIONS (INCL. GREY LITERATURE)

1. Cherrington, E.A. (editor). 2005. "Directory of Belizean Spatial Datasets." First edition. Coastal Zone Management Authority & Institute & ICRAN-MAR project. Belize City, Belize. 20 pp.
2. 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.
3. Avella, E. & E.A Cherrington (editors). 2004. "Proceedings of the National Land Symposium: Towards a Comprehensive National Land Policy." National Land Advisory Committee, Land Management Program, and Ministry of Natural Resources, the Environment and Industry. Belmopan, Belize. 45 pp.
4. Cherrington, E.A. 2004. "The Belize Debt-for-Nature Swap: Foundations of a Framework for Program Evaluation." Master of Science thesis, College of Forest Resources, University of Washington. Seattle, WA. 96 pp.

PRESENTATIONS

SYMPOSIA

1. "Options for Remote Monitoring of the Mesoamerican Barrier Reef System," Regional Experts Meeting on the Regional Environmental Information System, GEF-Mesoamerican Barrier Reef Systems Project, 17 May 2007, Belize City, Belize
2. "SERVIR: An Integrated Platform for the Visualization & Monitoring of the Air, Land and Sea of Belize and the Wider Mesoamerican Region" Remote Sensing and GIS Needs for Supporting Conservation & Management in Belize, 16 April 2007, Belmopan, Belize
3. "Mainstreaming Climate Indices and Weather Derivatives into Decision-Making for Adaptation to Climate Change in Central America, Mexico, and the Dominican Republic," Regional Experts Meeting on the Possible Impacts of Global Climate Change on Regional Biodiversity in Mesoamerica and the Dominican Republic, 21 March 2007, Panama City, Panama
4. "Data Scale & Resolution Considerations in Environmental Modeling," SERVIR Second Generation Environmental Decision Support and Information Sharing Tools in Support of the Mesoamerican Environmental Information System regional experts workshop, 27 February 2007, Panama City, Panama
5. "The Role of Data and Information Infrastructures in Supporting Climate Change Adaptation in Latin America and the Caribbean," United Nations Framework Convention on Climate Change (UNFCCC) Caribbean Regional Experts Meeting, 7 February 2007, Kingston, Jamaica

6. "Mainstreaming ICRAN-MAR Project Outputs through the Regional Visualization & Monitoring System (SERVIR)," ICRAN-MAR Watershed Modeling Product Launch, 12 December 2006, Belize City, Belize
7. "Advances in the Implementation of the Regional Visualization & Monitoring System (SERVIR) in Mesoamerica and Beyond," SERVIR Summit, 4 December 2006, Auburn, New York
8. "White Water to Blue Water: Promoting Integrated Watershed Management in the Wide Caribbean" (with Vincent Sweeney of the IWCAM Project), 12th Intergovernmental Meeting of the United Nations Environment Programme Regional Coordinating Unit for the Caribbean Environmental Programme," 29 November 2006, Montego Bay, Jamaica
9. "The Contribution of the Regional Visualization & Monitoring System (SERVIR) to the Development of Belize's Spatial Data Infrastructure," 2nd Belize Geographic Information Systems Day and Geography Awareness Week, 13 November 2006, Belmopan, Belize
10. "The Regional Visualization & Monitoring System (SERVIR): An Integrated System for Providing Environmental Decision Support," 59th Gulf & Caribbean Fisheries Institute meeting, 11 November 2006, Belize City, Belize
11. "Panama's Experience in the Implementation of the Global Programme of Action," Second Intergovernmental Review of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Sources of Pollution, 18 October, 2006, Beijing, China
12. "Science for Society: SERVIR, A Regional Visualization & Monitoring System for Mesoamerica" (with Dan Irwin of NASA), NASA Joint Science Meeting, 22 August 2006, College Park, Maryland
13. "Space Information Infrastructure for Mesoamerica: the Regional Visualization & Monitoring System (SERVIR)," V Space Conference of the Americas, 26 July 2006, Quito, Ecuador
14. "The Regional Visualization & Monitoring System (SERVIR): Infrastructure for Addressing Land Degradation," XI Regional Latin American & the Caribbean meeting of the United Nations Convention to Combat Land Degradation (UNCCD), 19 July 2006, Panama City, Panama
15. "The Role of CATHALAC in Supporting the Implementation of the UNEP Global Programme of Action," Regional Latin America & Caribbean Meeting on the Implementation of National Programmes of Action in Preparation for the Second Intergovernmental Review meeting of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (IGR-2), 4 July 2006, Panama City, Panama
16. "Application of the Regional Visualization & Monitoring System (SERVIR) to the Caribbean," 3rd Caribbean Environment Forum & Exhibition (CEF-3), 8 June 2006, St. John's, Antigua & Barbuda
17. "Use of GOES-12 Data in the Regional Visualization & Monitoring System (SERVIR)," Earth Observation Partnership of the Americas (EOPA) meeting, 1 June 2006, Sao Jose de Campos, Brazil
18. "The Regional Visualization & Monitoring System (SERVIR) as a Regional Mesoamerica Model for the Global Earth Observation System of Systems (GEOSS)," Group on Earth Observations Capacity-Building Committee meeting, 30 May 2006, Sao Jose de Campos, Brazil
19. "Development of a National Program of Action for Panama under the UNEP Global Programme of Action for the Protection of the Marine Environment from Land-based Activities," World Water Forum IV, 18 March 2006, Mexico City, Mexico
20. "Land Use Scenario Development against the backdrop of el Sistema Regional de Visualización y Monitoreo para Mesoamérica (SERVIR)," UNEP-Global Environmental Outlook Latin America & Caribbean regional consultation, 13 February 2006, Port-of-Spain, Trinidad
21. "Strengthening of Environmental Information Systems in Belize & Mesoamerica: the Importance of UNEP-WCMC to ICRAN's Mesoamerican Reef Alliance," talk at United Nations Environmental Programme-World Conservation Monitoring Centre, 8 December 2005, Cambridge, United Kingdom

22. "Use of Remote Sensing in Environmental Information Management in Belize," Conference on the Spatial Dimensions of Information & Decision-Making in Belize, 16 November 2005, Galen University, Belize
23. "The State of Belizean Coastal Zone Research: 2005," United Nations Development Programme Common Country Assessment, 24 October 2005, Belmopan, Belize
24. "Geographic Information Science in Belize" (with Rafael Lima of the Belize Land Information Centre), USAID/NASA Land Use and Land Use Change for Carbon Management workshop, 21 October 2005, City of Knowledge, Panama City, Panama
25. "Geographic Information Systems Capacity at the Coastal Zone Management Authority & Institute," Regional Symposium on Information Sharing in Climate Change and Development Issues, 13 September 2005, Belize City, Belize
26. "Development in the Deforestation Driver Seat: \$wapping Debt for Nature in Belize, Central America," Graduate & Professional Student Senate 2004 Brownbag Lecture Series, 27 May 2004, Seattle, Washington
27. "The Belize Debt-for-Nature Swap," Graduate Student Symposium, College of Forest Resources, University of Washington, 27 February 2004, Seattle, Washington
28. "The Effect of Ant Mounds on a Serpentine Grassland Community in Maryland," 15th National Conference on Undergraduate Research (NCUR), 15 March 2001, Lexington, Kentucky

OTHER PRESENTATIONS

Facilitator, University of Mississippi / NASA / CATHALAC-sponsored "Rapid Prototyping of Next Generation NASA Sensors into the Regional Visualization & Monitoring System" workshop, 15-16 May 2007, Panama City, Panama

Facilitator, CATHALAC / USAID-sponsored "Regional Experts Meeting on the Possible Impacts of Global Climate Change on Regional Biodiversity in Mesoamerica and the Dominican Republic," 21-22 May 2007, Panama City, Panama

Facilitator, World Bank / NASA / CATHALAC / USAID / CCAD-sponsored "SERVIR Second Generation Environmental Decision Support and Information Sharing Tools in Support of the Mesoamerican Environmental Information System" workshop, 26 February – 1 March 2007, Panama City, Panama

Instructor, Belize Ministry of Natural Resources & the Environment / NASA / CATHALAC-sponsored "Introduction to Remote Sensing" training workshop, 14-15 November, 2006, Belmopan, Belize

Chair, UNEP-sponsored "Regional Latin America & Caribbean Meeting on the Implementation of National Programmes of Action in Preparation for the Second Intergovernmental Review meeting of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities," 4-5 July 2006, Panama City, Panama

Panelist, NOAA-sponsored "National Plans of Action for the Implementation of the UNEP GPA" session, World Water Forum IV, 19 March 2006, Mexico City, Mexico

Panelist, National Science Foundation / Global Biodiversity Information Facility (GBIF)-funded workshop on "Cyberinfrastructure for International Biodiversity Research Collaboration," 12 January 2006, Panama City, Panama

Panelist, FIUTS / World Affairs Council-sponsored *Global Teach*: "Tradition & Change in Central America," 26 February 2004, Seattle, Washington

Panelist, FIUTS / World Affairs Council-sponsored *Global Teach*: "Inside/Outside: Multiple Perspectives on Issues Facing our World Today," 18 September 2003, Seattle, Washington

Keynote speaker, FIUTS / World Affairs Council-sponsored *Global Classroom*: "The Maya of Belize," 14 February 2003, Seattle, Washington

Panelist, FIUTS / World Affairs Council-sponsored *Global Teach*: “Environment & Development: Global Sustainability and the World’s Natural Resources,” 2 December 2002, Seattle, Washington

GRANTS / PROJECTS AWARDED

- Principal Investigator, “Strengthening of the Application of the Regional Visualization & Monitoring System (SERVIR) in the Gulf of Mexico,” National Aeronautics & Space Administration (NASA) - **US \$84,300** [06/07]
- Principal Investigator, “Rapid Prototyping of NASA Next Generation Sensors into the Regional Visualization & Monitoring System (SERVIR),” Universities Space Research Association (USRA) - **US \$40,000** [05/07]
- Lead Consultant, “Capability Assessment of the Geographic Information Systems (GIS) Capabilities of Countries Participating in the IWCAM Project,” United Nations Environmental Programme - **US \$47,500** [02/07]
- 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

- *Certificate 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]
- Protected Areas Conservation Trust scholarship of BZ \$10,000 [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]
- 1st Prize, Belize *Social Security Board Essay Contest* - wrote winning essay nationally on the topic of social security reform in Belize [5/99]
- *St. John Berchmans Award for Service*, St. John’s College - honors annually one SJC student with the most outstanding commitment to the extracurricular activities of the College community [4/99]
- 2nd Place, Belize Lions Club 3rd annual *National Tertiary Level Public Speaking Contest* [11/98]
- *Certificate of Excellence*, Caribbean Examinations Council - ranked fourth nationally in the regional CSEC examinations [3/98]
- *Certificate of Recognition*, Caribbean Examinations Council - attained highest 1997 CSEC passes at St. John’s College [3/98]
- *Merit Scholarship*, Government of Belize - awarded for exceptional performance on the regional CSEC examinations [8/97-5/99]

ADDITIONAL ACTIVITIES

- Participant, *Regional Experts Meeting on the Regional Environmental Information System*, GEF-Mesoamerican Barrier Reef Systems (MBRS) Project, Belize City, Belize [05/07]
- Participant, *Global Environmental Outlook (GEO) Data Portal Development Workshop*, United Nations Environmental Programme / CATHALAC, Panama City, Panama [05/07]
- Participant, *Belize Second National Communication Greenhouse Gas Inventory Validation Workshop*, Ministry of Natural Resources and the Environment, Belize City, Belize [04/07]
- Participant, *Remote Sensing and GIS Needs for Supporting Conservation & Management in Belize*, University of Edinburgh / University of Belize, Belmopan, Belize
- Participant, *United Nations Framework Convention on Climate Change Caribbean Regional Experts Meeting*, UNFCCC Secretariat, Kingston, Jamaica [02/07]

- Participant, *the SERVIR Summit*, National Aeronautics & Space Administration / Institute for the Application of Geospatial Technology, Auburn, New York [12/06]
- Participant, *Second Intergovernmental Review of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Sources of Pollution*, United Nations Environmental Programme, Beijing, China [10/06]
- Participant, *NASA Joint Science Meeting*, NASA, College Park, Maryland [08/06]
- Participant, *Modeling of Land Change Scenarios / Modeling of Hydrological Discharge of Sediments and Nutrients*, ICRAN-MAR Project, Galen University, Belize [08/06]
- Participant, *V Space Conference of the Americas: Regional Space Coordination for Security & Human Development*, Quito, Ecuador [07/06]
- Participant, *3rd Caribbean Environmental Forum & Exhibition (CEF-3)*, Caribbean Environmental Health Institute / United Nations Environmental Programme, St. John's, Antigua & Barbuda [06/06]
- Participant, *Earth Observation Partnership of the Americas (EOPA) Technical Meeting on the GOES-10 Satellite Move*, NOAA, Sao Jose de Campos, Brazil [06/06]
- Participant, *Intergovernmental Group on Earth Observations (GEO) Capacity Building Workshop*, Group on Earth Observations Secretariat / INPE, Sao Jose de Campos [05/06]
- Participant, *Technical Committee meeting on the Mesoamerican Environmental Information System (CT-SIAM)*, Panama City, Panama [04/07]
- Participant, *IV World Water Forum: Local Actions for a Global Change*, Mexico City, Mexico [03/06]
- Participant, *United Nations Environmental Programme Global Environmental Outlook 4 (GEO4) / Caribbean Sea Regional Assessment (CARSEA) Consultation for Latin America & the Caribbean*, United Nations Environmental Programme, Port-of-Spain, Trinidad & Tobago [02/06]
- Member, *International Symposium for Remote Sensing of the Environment (ISRSE) Technical Program Committee*, San Jose, Costa Rica [01/06-06/07]
- Participant, *First Meeting of the Belize Spatial Data Infrastructure (SDI) Working Group*, Belize City, Belize [14/12/05]
- Co-Organizer, *Conference on the Spatial Dimensions of Information & Decision-Making in Belize / Belize GIS Day 2005*, Galen University, Belize [16/11/05]
- Participant, *Technical Oversight Committee Meeting of the International Coral Reef Action Network-Mesoamerican Reef Alliance*, ICRAN-MAR Project, Miami, Florida [11/05]
- Participant, *Tulum+8 Mesoamerican Barrier Reef Systems Consultation Meeting*, Cancun, Mexico [09/05]
- Participant, *National Awareness Seminar on the United Nations Convention on Biological Diversity and the Cartagena Protocol*, Ministry of Natural Resources, Belize City [07/05]
- Participant, *Fifth Technical Working Group Meeting / First Consultation for the Design of Phase II of the Mesoamerican Barrier Reef Systems Project*, GEF-Mesoamerican Barrier Reef Systems (MBRS) Project, Guatemala City, Guatemala, [06/05]
- Participant, *UNDP National Capacity Self-Assessment consultations*, Ministry of Natural Resources, Belize City / Belmopan, Belize [03/05-12/05]
- Participant, *National Awareness Seminar on the United Nations Convention to Combat Desertification / Land Degradation & Drought*, Ministry of Natural Resources, Belize City, Belize [10/04]

PROFESSIONAL MEMBERSHIPS

- American Computer Science Association [2002-present]
- Belize Audubon Society [2004-present]
- *Sigma Xi* Scientific Research Society [2004-2005]

TECHNICAL COMMITTEE MEMBERSHIPS

- Representative, *Belize Biodiversity Clearinghouse Mechanism Working Group* – representing the Coastal Zone Management Authority & Institute, helped to guide the development of Belize's CHM [2005]
- Representative, *Belize Biodiversity Monitoring Working Group* – provided technical input regarding the development of a national biodiversity monitoring strategy [2004-2005]

- Member, *Belize Spatial Data Infrastructure Working Group* – provided technical input on the development of Belize’s NSDI to the now-dormant SDI Working Group [2005]
- Data Manager, *Belize Spawning Aggregation Working Group* –was responsible for the management of Belize’s national database of monitoring data for the sensitive Nassau grouper, *Epinephelus striatus* [2005]

PERSONAL

Citizen of Belize born 10 December 1980 in Belize City, Belize

REFERENCES

Available upon request