Christopher R. Locke
GIS/Remote Sensing Analyst, Research Planning, Inc.

Mr. Locke specializes in the application of Geographic Information Systems (GIS), remotely sensed data, spatial analysis and modeling, and database design and programming, for environmental assessments, oil spill planning and response, and utilities management. Mr. Locke has been part of the RPI team since 1995.

EDUCATION

M.S., Geography, University of South Carolina, Columbia, S.C. (1999).
B.A., Geography, University of South Carolina, Columbia, S.C. (1996).

PROFESSIONAL EXPERIENCE

Remote Sensing for Environmental Assessments:

2007: Bayou Perot, LA Spill Response. Oil type classification and volume estimation of spilled oil using digital aerial photography for on-scene management.

2007: NOAA HAZMAT Technologies Overview. Evaluation of existing and emerging technologies for remote data collection from space to underwater for assessments of coral and seagrass damage caused by vessel groundings.

2005: Hurricane Rita HAZMAT Debris Analysis. Data acquisition, preparation, and photo interpretation of Hurricane Rita debris issues for the Sabine National Wildlife Refuge.

2005: Hurricane Katrina Response. Combined LIDAR derived DEM's and priority satellite imagery to produce twelve hour interval flood level estimations in New Orleans for the Coast Guard.

2005: Ecuadorian Amazonia Spill Investigation. Estimation of asphaltic mat volume using imagery, GPS delineation, and field sampling.

2004: Palmetto Bluff, SC marina site suitability study. Current and historical image interpretation for bank erosion analysis.

2003-2005: LSU - Coastal Marine Institute. Louisiana coast line delineation and classification. Developed remote sensing techniques for classifying coastal habitats from satellite imagery following Environmental Sensitivity Index guidelines.

2003: SIEPAC electrical corridor, Costa Rica. Environmental impact modeling for alternate routing in Costa Rica for a proposed electricity transmission line connecting Mexico and Panama. Analysis and extraction for corridor attributes from Landsat imagery.

2002-2003: Arabian Gulf UNCC Gulf War Shoreline Survey. Analyzed and quantified oiling degree and extent from field work and remotely sensed imagery.

GIS Applications for Environmental Assessments:

2006-2007: Environmental Data Assessment Tool for American Samoa. Developed on-line tools to assist local users in accessing and utilizing NOAA environmental data sets.
2005-2006: M/T Athos Spill Natural Resource Damage Assessment. Compiled data and methodologies for digital quantitative analysis of shoreline oiling extent and impact.
2004-2005: Bouchard 120 Spill Natural Resource Damage Assessment. Compiled data and methodologies for digital quantitative analysis of shoreline oiling extent and impact.
2004: Buzzards Bay, MA Inlet protection strategies. Data compilation and creation for an oil spill mitigation response plan.
2003: GIS Analyst, Florida Power and Light (FPL) Integrity Management Program HCA Analysis. Analysis of FPL pipelines that intersect with High Consequence Areas (HCA).
2002-2003: GIS Analyst, NOAA Oil and Gas Infrastructure and Coastal Land Loss Risk Assessment for Louisiana. Programmed spatial risk analysis and software tools to assess risks to coastal oil and gas infrastructure in Louisiana from coastal land loss.

GIS Applications for Utilities and Infrastructure:

2006: Power Utility Assessment Tool. Consultation and Development of GIS tools to aid an electrical engineering firm's utility pole damage assessments post Hurricanes Katrina and Rita in Mississippi.
2004: South Carolina DNR soil mapping. Developed semi-automated techniques for soil classification digitizing.
2003-2004: Harvest Hope Food Bank GIS. Data integration, compilation, and modeling for analysis of service gaps in South Carolina food bank distribution areas.
2003: GIS Analyst, Florida Power and Light (FPL) Integrity Management Program HCA Analysis. Analysis of FPL pipelines that intersect with High Consequence Areas (HCA).
2003: SIEPAC electrical corridor, Costa Rica. Environmental impact modeling for alternate routing in Costa Rica for a proposed electricity transmission line connecting Mexico and Panama.

Natural Resource Mapping:

2007: QA/QC Manager, NOAA Long Island ESI Project. Responsible for quality control and integrity of digital data compiled as part of a NOAA standard Environmental Sensitivity Index (ESI) shoreline, coastal biology, and coastal human-use resource atlas.
2007: QA/QC Manager, NOAA Northern California ESI Project.
2006: QA/QC Manager, NOAA Alabama ESI Project.
2006: QA/QC Manager, NOAA Maryland ESI Project.
2006: QA/QC Manager, NOAA Hudson River ESI Project.
2005: QA/QC Manager, Panama Canal Authority ESI Project.
2005: QA/QC Manager, NOAA Puget Sound ESI Project.
2005: QA/QC Manager, NOAA Guam and the Mariana Islands ESI Project.
2005: QA/QC Manager, NOAA Virginia ESI Project.
2005: QA/QC Manager, NOAA Hudson River Valley ESI Project.
2005: QA/QC Manager, NOAA Central California ESI Project.
2004: QA/QC Manager, NOAA Columbia River ESI Project.

2004: QA/QC Manager, NOAA North Slope, Alaska ESI Project.
2004: QA/QC Manager, NOAA Bristol Bay, Alaska ESI Project.
2003: QA/QC Manager, NOAA American Samoa ESI Project.
2003: QA/QC Manager, NOAA Louisiana ESI Project.
2003: QA/QC Manager, NOAA Western Alaska ESI Project.
2002: GIS Analyst/ Field Specialist, USAID Honduras Coastal Resource mapping.
2001: GIS Analyst/ Field Specialist, USAID Guatemala Coastal Resource mapping.
2001: GIS Analyst, NOAA Hawaii ESI Mapping.
2001: GIS Analyst, NOAA New York/ New Jersey ESI Mapping.
2000: GIS Analyst/ Field Specialist, USAID Golfo de Fonseca Resource mapping.
1997: GIS Tech, El Salvador Coastal Resource mapping.
1996: GIS Tech, NOAA North Carolina ESI mapping.
1996: GIS Tech, NOAA Georgia ESI mapping.
1995: GIS Tech, NOAA South Carolina ESI mapping.

PUBLICATIONS, REPORTS, and PROCEEDINGS

Locke, C., M. White, J. Michel, C. Henry, J.D. Sellars, and M. L. Aslaksen, Jr. 2008. Use of Vertical Digital Photography at the Bayou Perot, LA Spill for Oil Mapping and Volume Estimation. Proc. 2008 International Oil Spill Conference, May 5-7 2008, Savannah, GA.

Michel, J., C. Boring, and C. Locke, 2008. Rapid Assessment Protocols for Small Vessel Groundings. Proc. 2008 International Oil Spill Conference, May 5-7 2008, Savannah, GA.

Locke, C. and J. Michel. 2007. Considerations for Using Remote Sensing Technologies to Assess Injury to Benthic Habitats from Vessel Groundings. Prepared for NOAA, Office of Response & Restoration, Seattle, WA.

Locke, C. and J. Michel. 2007. Using AQUAMAP™ and GPS Technologies for Underwater Mapping in Emergency Assessments of Vessel Groundings. Prepared for NOAA, Office of Response & Restoration, Seattle, WA.

Born K., Locke, C., Michel, J., Braud, D. 2004. Using IKONOS Imagery for Mapping Coastal Habitats for Oil Spill Applications. ASPRS 2004 Annual Conference, May 23-28, 2004. Denver, Colorado.

Carbone G, Kiechle W, Locke C, Mearns LO, McDaniel L, and Downton M. 2003. Response of soybean and sorghum to climate change scenarios in the Southeastern United States. Special Issue of Climatic Change: Climate Change and Agriculture in the Southeast, 2003.

Locke, C.R., G. J. Carbone, and E. J. Sadler. 2000. Remote Sensing of Soybean Biophysical Properties. 5th International Conference on Precision Agriculture and Other Precision Resource Management, July 16-19, 2000. Bloomington Minnesota, Precision Agriculture Center, Univ. of Minnesota.

Carbone G, Locke C, Tsvetsinskaya E, Mearns L, McDaniel L. 2000. Responses of CERES and CROPGRO models to coarse and fine spatial resolution climate change scenarios in the

southeastern United States. 96th Annual Meeting of the Association of American Geographers, April 6, 2000. Pittsburgh, PA.