

Michael F. Crowley

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Institute of Marine and Coastal Sciences
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20+ years of experience in the fields of physical oceanography and remote sensing. Seven years of experience in program management.

TECHNICAL HIGHLIGHTS

- Technical program management
- Land, ocean and atmospheric remote sensing experience using both satellites and airborne sensors
- Physical oceanography and coastal ocean remote sensing expertise
- Multi-spectral image processing and algorithm development

EDUCATION

- **M.S., Physical Oceanography/Geography** (Remote Sensing specialty), Rutgers University, New Brunswick New Jersey, 1993
- **B.A., Physical Geography** (Remote Sensing & GIS Specialty), Rutgers University, New Brunswick, New Jersey, 1991.

PROFESSIONAL EXPERIENCE

2010-Present: Program Manager, Institute of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ

Michael is the program manager for the Ocean Observatories Initiative (OOI) Education and Public Engagement (EPE) Implementing Organization. EPE is constructing a series of software tools and a web-based social network that leverages the OOI Cyberinfrastructure to support engagement of a wide range of users. EPE will enable a new approach to oceanography research, where scientists, students and the public can explore and research the ocean in real-time from their classrooms, offices, dorm rooms, and even their homes. The face of an oceanographer will no longer be limited to a professor at sea, but expanded to a student at home viewing and analyzing exactly the same data at exactly the same time.

Michael is also the Operations Program Manager for the U.S. Integrated Ocean Observing System (IOOS) Mid-Atlantic Regional Coastal Ocean Observation System (MARACOOS – MARACOOS.org). As the PM, Michael oversees all aspects of data collection within the Mid-Atlantic Bight (Cape Hatteras to Cape Cod). MARACOOS collects data primarily from satellites, HF-RADAR and underwater ocean gliders. Data from all the instrumentation is used to feed and test ocean forecast models, with the ultimate goal being to better enable scientists to forecast both the ocean and atmospheric weather for the greater good of the Mid-Atlantic region.

2006-2010: Program Manager, PAR Government Systems Corporation, La Jolla, CA.

Mr. Crowley was the Program Manager of the Rapid Robust Sensor Development and Deployment Program (R2D2) for NAVAIR. The R2D2 program was directed toward the implementation of low-cost autonomous sensing systems in support of US Navy missions. Missions included IED, landmine and personnel detection using a multi-spectral video imaging acquisition and processing system on board a small unmanned aircraft.

In addition to R2D2, Mr. Crowley focused on business development for PAR's Signal and Image Processing business unit located at the San Diego Technology Center (SDTC). Activities included, but were not limited to: marketing new customers, proposal generation, program development and planning, program management, and participating in the algorithm testing activities on several remote sensing programs.

2003-2006: Technical Sales Manager, SeaSpace Corporation, Poway, CA.

Mr. Crowley has comprehensive experience in the field of remote sensing including land, ocean and atmospheric studies with real-time data. Michael worked with multi-spectral VIS/IR radiometers, SAR, passive microwave sounders and imagers, and radio buoy tracking. He oversaw multiple ground station installation projects for both operational (civil and military) and research (academic and government lab) projects on every continent, including the Antarctic. He organized and chaired remote sensing conferences world wide. Mr. Crowley has presented scientific research papers at remote sensing conferences, as well as organized and staffed trade-show exhibits.

He possesses unique qualifications for understanding academic, military and corporate views, and their use and application of remotely sensed data. He traveled to over 10 countries on 4 continents, presenting and informing students and professors, generals and admirals, and government ministers on potential uses of remote sensing in their regions. Additionally, he managed the sales department, which acquired over \$6,000,000 in annual revenue.

1993-2003: Director, Marine Remote Sensing Lab, Institute of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ

Throughout his first 10 years at Rutgers, Mr. Crowley's research efforts were supported by the United States Navy and National Oceanic and Atmospheric Administration (NOAA). Early research projects included using multiple satellites (Geosat, AVHRR, DCS) and in-situ datasets to monitor the Gulf Stream and model subsurface fronts to support operational anti-submarine warfare. In later years, he supported Navy S.E.A.L. teams (Special Forces) and mine counter measure research in coastal regions using satellite imagery to forecast currents and visibility for naval operations in coastal waters.

Satellite data was combined with *in situ* data (http://marine.rutgers.edu/cool/sat_data/), CODAR HF-RADAR, AUV data, ADCP/ADP//CTD data and aerial photography. This was used to support shallow water submarine warfare mission planning. He served as the primary web developer for the Coastal Ocean Observation lab where real time satellite data from a SeaSpace satellite ground station was displayed (<http://rucool.marine.rutgers.edu/cool>). Over 90,000 hits per day on average occur on this site, with 90% of those accessing these real-time satellite image products (primarily fishermen, sailors and beachgoers). Mr. Crowley has taught hundreds of students, K-12 teachers, professors and the general public by lecturing and performing one-on-one training/tutoring sessions in remote sensing. Additionally, he has performed numerous television, radio, magazine and newspaper interviews.

1997-2001: Oceanography Consultant, Jenifer Clark's Gulf Stream, Upper Marlboro, MD

Mr. Crowley provided Gulf Stream maps and analyses for the “Marion to Bermuda” and “Newport to Bermuda” yacht races. The goal of these presentations was to map and predict the location of the Gulf Stream and its associated rings, which would allow the racers to maximize their boat speed by either entering or avoiding currents.

1992-1995: GIS Consultant, Department of Parks and Recreation, City of NY

Michael oversaw the development of a comprehensive geographic information system for the Parks Department of New York City. This project included integration and analysis of datasets including Tiger census data, Landsat imagery, aerial photography, soils, geology, land use/land cover, archeological sites, golf course layouts, agriculture, and creating a 2 meter resolution accurate digital elevation model for the parks.

1991-1993: Center for Remote Sensing and Spatial Analysis, Rutgers University, NJ

Mr. Crowley developed several GIS and satellite image databases. These projects included an environmental impact statement for a watershed management project in New Jersey, archeological dig planning in Burgundy France, lowland gorilla habitat analysis in the Republic of the Congo, landfill leachate pollution tracking in Staten Island, New York City, and the development of a global GIS database for numerous environmental factors using the GRASS and ArcInfo GIS software packages along with Spot, Landsat and AVHRR satellite imagery.

TEACHING

Assistant Teaching in College Courses:

- Resource Information Systems (1992-1993), Department of Natural Resources, Cook College, Rutgers University, New Brunswick, New Jersey.
- Introduction to Marine Science (1993-1994), Institute of Marine and Coastal Sciences, Cook College, Rutgers University, New Brunswick, New Jersey.
- Special Problems in Teacher Education - Remote Sensing - 1 Undergraduate Student - Fall, 1994. Cook College, Rutgers University, New Brunswick, New Jersey.
- Remote Sensing of Ocean and Atmosphere (1994-1996), Institute of Marine and Coastal Sciences, Cook College, Rutgers University, New Brunswick, New Jersey.
- Special Problems in Teacher Education - Remote Sensing - 1 Undergraduate Student - Spring, 1995. Cook College, Rutgers University, New Brunswick, New Jersey.
- Special Problems in Teacher Education - Remote Sensing - 1 Undergraduate Student - Fall, 1995. Cook College, Rutgers University, New Brunswick, New Jersey.
- Special Problems in Marine Science - Remote Sensing - 1 Undergraduate Student - Fall, 1995. Cook College, Rutgers University, New Brunswick, New Jersey.
- Special Problems in Marine Science - Remote Sensing - 2 Undergraduate Students - Fall, 1996. Cook College, Rutgers University, New Brunswick, New Jersey.

- Remote Sensing of the Biosphere, Rutgers University. Invited Speaker. Dr. Richard Lathrop Presiding. April, 1996.
- Special Problems in Marine Science - Remote Sensing - 3 Undergraduate Students - Fall, 1997. Cook College, Rutgers University, New Brunswick, New Jersey.
- Special Problems in Marine Science - Remote Sensing - 1 Undergraduate Student - Fall, 1998. Cook College, Rutgers University, New Brunswick, New Jersey.
- Special Problems in Marine Science - Remote Sensing - 1 Undergraduate Student - Fall, 1999. Cook College, Rutgers University, New Brunswick, New Jersey.

Pre-collegiate Education:

- 1994-present - Maintenance of a World Wide Web Page (<http://marine.rutgers.edu/mrs>) for the display of real-time satellite data, meteorological data and LEO-15 data.
- 1994-Geographic Information Systems Workshop for New Jersey Educators, Raritan College. Co-hosted with Janice McDonnell.
- 1994-Rutgers University Community Organized to Regain the Environment (CORE) Project for At-Risk Students with Previous Relationships with the Law.
- 1994-1995-Community Involvement in Personal Educational Development (CIPED), Weekly classes for South Brunswick High School Students interested in Marine Science.
- 1995-New Jersey Marine Educators Association, Workshop/lecture at the Institute of Marine and Coastal Sciences.
- 1995-Cook Discovery Program, Franklin and Union High Schools One Month Short Course, Computer Research in the Marine Remote Sensing Lab.
- 1995-Marine Activities Resources in Education (MARE), Pilot workshop, Marine Remote Sensing Lab.
- 1995-Project CORE, Community Organized to Regain the Environment, High School Students from Union & Middlesex Counties, Summer Workshop, Marine Remote Sensing Lab.
- 1995-Lower Regional Camden County School District, Institute Workshop, Hands-On Satellite Imagery Workshop, Marine Remote Sensing Lab.
- 1995-New Jersey Science Supervisors Association, Workshop, Marine Remote Sensing Lab.
- 1996-1997 IMCS Project Tomorrow Workshops (over 2,000 Pre-Collegiate Teachers Registered):
 - Global Change Conference (2/96, 11/96).
 - Project WET Workshop (4/96).
 - Sustainable Future Conference (4/96)
 - Marine Activities Resource & Education (MARE) Program (6/96, 7/97, 11/96, 6/97, 8/97).
 - Lower Camden County In-Service Program (over 800 Teachers) (6/96, 10/97).
 - Introduction to LEO-15 Internet Program (8/96, 10/96, 4/97).
 - Coastal Habitats (10/96, 4/97).
 - Earth Science Teachers Association (7/96).
 - New Jersey Science Teachers Conference (10/96).
 - NERRS Workshop (2/97, 6/96)
 - Southern Ocean County Science and Technology Consortium (3/97)

- 1996-1997 Annual Tours/Demonstrations for:
 - Discovery Pre-College Program for Minorities.
 - Douglass Program for Young Women.
 - Hudson County Science Fair Winners.
 - National Science and Humanities Symposium
 - New Jersey Marine Educators Association
 - New Jersey Science Supervisors Association.
 - New Jersey Science Teachers Association.
 - New York Biology Teachers Association.
- 1999 - Ocean Science in the COOLroom Video & The Fisherman Commercial, with Randy Olson, Prairie Starfish Productions, Hollywood, California.
- 2000 - Staff Advisor, About LEO-15 Educational CD, Produced by Janice McDonnell in conjunction with Rutgers TV & Radio.
- 2001 - What Does an Oceanographer Look Like? Video with Randy Olson, Prairie Starfish Prod., Hollywood, CA.
- 2001 - www.COOLClassRoom.org scientific team.
- 2001 - COOLClassRoom Newspaper Pages for R.U. COOL Research on Coastal Upwelling, with J. McDonnell.
- 2002 - Participating Scientist, MA-COSEE Summer Teacher Training Program, Tuckerton NJ.

Educational Video:

- 1998 - Marine Science at LEO-15 (with Trisha Bergmann, Rutgers Undergraduate)
- 1999 - Science in the COOLroom & The Fisherman Commercial (with Randy Olson, Prairie Starfish Productions, Hollywood, California).
- 2000 - What does an Oceanographer Look Like? (with Randy Olson, Prairie Starfish Productions, Hollywood, California).

PUBLICATIONS

Referred Publications:

- R.C. Willems, S.M. Glenn, M.F. Crowley, P. Malanotte-Rizzoli, R.E Young, T Ezar, G.L. Mellor, H.G. Arrango, A.R. Robinson, and C.-C.A. Lai, 1994. Experiment Evaluates Ocean Models and Data Assimilation in the Gulf Stream. EOS, 75, p. 385, 391 & 394.
- D.L Porter, S.M. Glenn, E.B. Dobson and M.F. Crowley, 1995. Extension and Validation of a Gulf Stream Geosat Synthetic Geoid. Journal of Atmospheric and Oceanic Technology, 13, p. 514-531.
- S.M. Glenn, M.F. Crowley, D.B. Haidvogel and Y.T.Song, 1996. Underwater observatory captures coastal upwelling events off New Jersey, EOS, 77, pp. 233, 236.
- S.M. Glenn, M.F. Crowley, D.B. Haidvogel and Y.T.Song, 1996. Underwater observatory captures coastal upwelling off New Jersey, Earth in Space, 9, 9-11.

- S.M. Glenn and M.F. Crowley, 1997. Gulf Stream and ring feature analyses for forecast model validation, *Journal of Atmospheric and Oceanic Technology*, 14, 1366-1378.
- M.F. Crowley, J. McDonnell, M. Bogdon, S.M. Glenn and M.P. DeLuca, 1998. Using real-time satellite and in situ data on the internet to bring the ocean to the pre-collegiate classroom, *American Meteorological Association*, 7th Symposium on Education, Phoenix, Arizona, pp. J1-J2.
- J. McDonnell, M.F. Crowley, M. Bogdon, M.P. DeLuca and S.M. Glenn, 1998. The LEO-15 internet program: Linking oceanographic research and the pre-collegiate classroom, *American Meteorological Association*, 7th Symposium on Education, Phoenix, Arizona, pp. 74-75.
- Schofield, O., R. Arnone, W.P. Bissett, M. Crowley, M.A. Moline, S. Glenn, Cyclops is dead: Tapping the international constellation of ocean color satellites, *Backscatter*, 2001.
- Glenn, S. M., Schofield, O., Dickey, T. D., Chant, R., Kohut, J. T., Barrier, H., Bosch, J., Bowers, L., Creed, E., Haldeman, C., Hunter, E., Kerfoot, J., Mudgal, C., Oliver, M., Roarty, H., Romana, E., Crowley, M., Barrick, D., and Jones, C. 2004. The expanding role of ocean color and optics in the changing field of operational oceanography. *Oceanography*. 17: 86-95.
- Glenn, S., R. Arnone, T. Bergmann, W. P. Bissett, M. Crowley, J. Cullen, J. Gryzmski, D. Haidvogel, J. Kohut, M. Moline, M. Oliver, C. Orrico, R. Sherrell, T. Song, A. Weidemann, R. Chant, and O. Schofield . 2004.

Technical Reports:

- D.L. Porter, S.M. Glenn, E.B. Dobson and M.F. Crowley, 1993. GEOSAT Dynamic Topography Measurements in the Gulf Stream during the SYNOP Experiment. Johns Hopkins University/Applied Physics Laboratory,
- GEOSAT Follow-On Meeting Technical Report, I (A6), p. 32.
- D.L. Porter. S.M. Glenn, E.B. Dobson and M.F. Crowley, 1994. Extension and Validation of a Gulf Stream Geosat Synthetic Geoid. Johns Hopkins University/Applied Physics Laboratory, Technical Report, S1R-94-015, p. 53.

General Interest Journals, Conference Proceedings and Newsletters:

- S.M. Glenn, M.F. Crowley, D.B. Haidvogel and Y.T. Song, 1996. Underwater Observatory Captures Coastal Upwelling Events off New Jersey. *Eos*, 77, p. 233, 236.
- S.M. Glenn, M.F. Crowley, D.B. Haidvogel and Y.T. Song, 1996. Underwater Observatory Captures Coastal Upwelling off New Jersey. *Earth in Space*. 9, 9-11.
- M. F. Crowley, J. McDonnell, M. Bogdon, S.M. Glenn and M.P. De Luca, 1998. Using Real Time Satellite and In Situ Data on the Internet to Bring the Ocean to the Precollegiate Classroom. *American Meteorological Association*, 7th Symposium on Education, Phoenix, Arizona.

Published Abstracts:

- M. Crowley, S.M. Glenn, 1992. Forecasting Gulf Stream Meanders and Rings. *Proceedings: 7th Annual GRASS Users Convention*, Denver, Colorado.

- S.M. Glenn, M.F. Crowley, D.L. Porter and E.B. Dobson, 1992. Comparisons of Geosat Altimetry to Thermal Data in the Gulf Stream Region. American Geophysical Union, Transactions, 73 (43), p. 127.
- D. Porter, S.M. Glenn, E. Dobson and M. Crowley, 1993, Invited. GEOSAT Dynamic Topography Measurements in the Gulf Stream During the SYNOP Experiment. Navy GEOSAT Follow-On Meeting, Proceedings, Laurel, Maryland, p. a.6.
- D. Porter, S.M. Glenn, E. Dobson and M. Crowley, 1993. GEOSAT Observations of Mesoscale Variability in the Northeast Atlantic Compared with Dynamic Topography and AVHRR Data. Satellite Altimetry and the Oceans, Proceedings, JASO, Toulouse, France, p. 3.18.
- M.F. Crowley and S.M. Glenn, 1994. Remote Sensing and In Situ Observations of Coastal Upwelling/ Downwelling Offshore New Jersey. American Geophysical Union, Transactions, 75 (3), p. 156.
- S.M. Glenn and M.F. Crowley, 1995, Invited. Coastal Upwelling and its Relation to Hypoxia in the New York Bight. American Geophysical Union, Transactions, 76 (17), p. 183.
- T.I. Bergmann, M.F. Crowley and S.M. Glenn, 1995. Coastal Upwelling and its Relation to Hypoxia in the New York Bight. SeaSpace User's Conference Proceedings, Munich, Germany.
- M.F. Crowley, S.M. Glenn and T.I. Bergmann, 1995. Coastal Upwelling and its Relation to Hypoxia in the New York Bight. ERIM Third Thematic Conference on Remote Sensing in Marine and Coastal Environments, Seattle, Washington.
- M. Crowley, S.M. Glenn, D.B. Haidvogel and T. Song, 1996. Observations and Modeling Coastal Upwelling off New Jersey. Eos Supplement, 1996 AGU Spring Meeting, Baltimore, Maryland, p. 148.
- R. Chant, A. Munchow, S. Glenn and M. Crowley, 1996. Spatial Structure of Inertial and Subinertial Motion on a Shallow, Highly Stratified Coast from OSCAR Measurements. Eos Supplement, 77, 1996 AGU Fall Meeting, San Francisco, California, p. 422.
- M.F. Crowley, J. McDonnell, M. Bogdon, S.M. Glenn and M.P. De Luca, 1997. Using Real Time Satellite and In Situ Data in the Internet to Study Biological Responses to Upwelling off the New Jersey Coast. American Meteorological Association, 7th Symposium on Education, Phoenix, Arizona.
- M. Bogdon, J. McDonnell, M. Crowley, S.M. Glenn and M.P. De Luca, 1997. Using Real Time Satellite Imagery, In Situ Data and the Internet to Teach Oceanography to Pre-collegiate Students. American Meteorological Association, 7th Symposium on Education, Phoenix, Arizona.
- T. Bergmann, O. Schofield, M.A. Moline, J. Grzyski, M. Crowley and S.M. Glenn, 1998. Impact of Upwelling on nearshore Inherent and Apparent Optical Properties in the Mid-Atlantic Bight. 1998 Ocean Sciences meeting, San Diego, California.
- M.F. Crowley, J.F. Fracassi and S.M. Glenn, 1999. Using Real-Time Remote Sensing and In Situ Ocean Data for Adaptive Sampling & Data Assimilative Modeling. American Society of Limnology and Oceanography, Santa Fe.
- R.J. Chant, M.F. Crowley, J. Kohut and S.M. Glenn, 1999. Structure of Near-Inertial and Subinertial Motion across an Upwelling Frontal System. American Society of Limnology and Oceanography, Santa Fe.

- M. Crowley, S.M. Glenn, J. Fracassi and J. Kohut, 2000. LEO-15 Records Remote Sensing, Meteorological and In Situ Data from the Eye of Hurricane Floyd. AGU/ASLO Ocean Sciences, San Antonio.
- M.A. Moline, O. Schofield, S. Glenn, S. Tozzi, M. Crowley, M. Dermarest, R. Arnone, W.P. Bissett, 2000. Assessment of phytoplankton dynamics at the long term ecosystem observatory (LEO-15) using in water optics and remote sensing, ASLO Ocean Sciences, Copenhagen, Denmark.
- O.M.E. Schofield, T. Bergmann, M. Crowley and S.M. Glenn, 2001. Integration of the International Real-time Ocean Color Data to the new Jersey Long-term Ecosystem Observatory (LEO-15). American Meteorological Society, *Fifth Symposium on Integrated Observing Systems*, Albuquerque, New Mexico.
- Crowley, M., A. Kahl, T. Bergmann, K. Prasad, S.M. Glenn, M.A. Moline, W.P. Bissett, 2001. Comparisons of SeaWiFS, MODIS, Oceansat, FY1-C, and PHILLS to In Situ Measurements in the Coastal Ocean. American Geophysical Union, San Francisco.
- Bergmann, T., R. Arnone, W.P. Bissett, M. Crowley, S.M. Glenn, M.A. Moline, K. Prasad, O. Schofield, Intercomparison of remotely sensed and in-water ocean color data for coastal ocean monitoring and modeling, Oceanology International, London, submitted.
- Crowley, M., O. Schofield, S.M. Glenn, 2002. Comparisons of Satellite and In Situ Chlorophyll-a Measurements in Coastal Upwelling Waters, AGU Ocean Sciences, Honolulu, Hawaii.
- Crowley, M., O. Schofield, S. Glenn, J. Kohut, 2002. Development of Coastal Ocean Observatories for Synoptic Oceanography, PICES North Pacific Marine Science Organization, 11th Annual Meeting, Qingdao, China.
- Davies, A., Dirbas, J., Crowley, M., Schoonmaker, J., Gilbert, G., 2007. MANTIS-3T and Affordable Spectro-Polarimetry, Society for Photo-Optical Engineering, Defense, Security and Sensing Meeting Proceedings.
- Abbo, N., Crowley, M., Henderson, P., Schoenmackers, T., Schoonmaker, J., Runnels, D., Shen, C., Gallagher, W., Kwok, R., 2008. Compact Low Cost Multi-Spectral Imaging for Target Detection on UAVs, Society for Photo-Optical Engineering, Defense, Security and Sensing Meeting Proceedings.
- Kilb, D., Fundis, A., Risien, C., Crowley, M., 2011. The Education and Public Engagement (EPE) Component of the Ocean Observatories Initiative (OOI): Enabling Near Real-Time Data Use in Undergraduate Classrooms. AGU Ocean Sciences Fall Meeting, poster.
- Crowley, M. F.; Glenn, S. M.; Lichtenwalner, C. S.; McDonnell, J.; deCharon, A.; Wieclawek, J.; Companion, C.; Levenson, S.; Rude, A.; McCurdy, A.; THE OCEAN OBSERVATORIES INITIATIVE EDUCATION AND PUBLIC ENGAGEMENT: DELIVERING REAL TIME DATA FOR TRANSFORMATIVE LEARNING IN THE UNDERGRADUATE CLASSROOM
- Glenn, S., et al., 2012. Impact of Ocean Observations on Hurricane Forecasts in the Mid-Atlantic Bight. MTS Oceans 2012 Meeting, Hampton Roads, VA. Oral Presentation and Abstract and proceedings paper.
- Seroka, G., et al., 2012. Rutgers University Coastal Ocean Observation Lab Advanced Modeling System Developed to Cost-Effectively Support Offshore Wind Energy Development and Operational Applications. MTS Oceans 2012 Meeting, Hampton Roads, VA. Oral Presentation and Abstract and proceedings paper.
- Crowley, M., et al., 2012. The OOI EPE: Using Real-Time Data in the Undergraduate Classroom. MTS Oceans 2012 Meeting, Hampton Roads, VA. Oral Presentation and Abstract and proceedings paper.

- Kuska, G., Crowley, M., et al., 2012. Raising the Bar in the Mid-Atlantic: Moving MARACOOS Observations to the Next Generation Forecasting and Product Development. MTS Oceans 2012 Meeting, Hampton Roads, VA. Oral Presentation and Abstract and proceedings paper.
- Rudnick, D., et al., 2012. A National Glider Network for Sustained Observation of the Coastal Ocean. MTS Oceans 2012 Meeting, Hampton Roads, VA. Oral Presentation and Abstract and proceedings paper.
- Crowley, M., 2012. How Can We See the Ocean? – Building New Windows for Discovery and Education. U.S. IOOS Ignite Session for Oceans 2012.

PRESENTATIONS / SERVICES

Additional Presentations:

- M. Shulman and M.F. Crowley, 1991. Rutgers Plant Hardiness Zones Map. Copyright 1991, Rutgers University.
- Global GRASS CD-ROM 2 & 3, U.S. Army CERL, Rutgers University, 1993. Center for Remote Sensing and Spatial Analysis, M. Crowley Chief Editor.
- M. Crowley, 1993. Gulf Stream Modeling. Workshop for Coastal Oceanography Section of the Tactical Oceanography Block Program, Stennis Space Center, Mississippi (Oral Paper).
- M.F. Crowley and S.M. Glenn, 1993. Remote Sensing and In Situ Observations of Upwelling Offshore New Jersey. Middle Atlantic Bight Physical Oceanography and Meteorology (MABPOM) Workshop.
- M.F. Crowley and M. Bogdon, 1995. Pre-collegiate Educations Applications of Remote Sensing Technology at IMCS. Nineteenth Annual New Jersey Science Convention. Garden State Convention and Exhibit Center, Somerset, New Jersey.
- M. Crowley, S.M. Glenn, 1995. Observations of Coastal Upwelling and its Relation to Hypoxia in the New York Bight. Middle Atlantic Bight Physical Oceanography and Meteorology Workshop (MABPOM). SUNY Stony Brook, New York.
- M. Crowley, S. Glenn, D. Haidvogel, T. Song, 1996. Observations and Modeling of Coastal Upwelling Off New Jersey. 1996 Spring Meeting, American Geophysical Union. Baltimore, MD.
- M. Crowley, S.M. Glenn, R. Chant, and R. Garvine, 1996. A History of Coastal Upwelling Observations offshore New Jersey. SeaSpace User's Conference, Yokohama, Japan.
- R. Chant, A. Munchow, S.M. Glenn, M. Crowley and R. Garvine, 1996. Upwelling and River Plumes along the New Jersey Coast from a Recent Observational Program. MABPOM Workshop. University of Delaware, Newark, Delaware.
- M. Crowley, J. McDonnell, 1997. Observations of Upwelling Effects on the Physical and Biological Properties of the Coastal Ocean Off New Jersey. Satellites and Education Conference X, West Chester, Pennsylvania.
- J. McDonnell, M. Crowley, 1997. The Long Term Ecosystem Observatory (LEO-15) Internet Project. Satellites and Education Conference X, West Chester, Pennsylvania.
- M. Crowley, S. Glenn, 2000. Evaluation, Analysis and Comparisons of the New FY1-C Satellite to AVHRR and SeaWiFS, 10th Annual TeraScan Users Conference, La Jolla, CA.

- M. Crowley, L. Kahl, O. Schofield, R. Arnone, J. Kerfoot, T. Bergmann, K. Prasad, 2002. Comparisons of Satellite Derived Optical Properties to In Situ Coastal Measurements at LEO, 11th Annual TeraScan Users Conference, San Diego Evaluation, San Diego, CA.
- M. Crowley, S. Glenn, O. Schofield, J Kohut, 2003. Using SeaSpace's L-band and X-band Systems as Part of an Integrated Operational Coastal Ocean Monitoring Program, 13th Annual TeraScan Users Conference, Santiago, Chile.
- M. Crowley, K. Prasad, O. Schofield, 2003. A Short Overview of the FY-1C/1D & Oceansat-1 Satellites from an Oceanographer's Perspective, 13th Annual TeraScan Users Conference, Santiago, Chile.
- M. Crowley, R. Bernstein, K. Prasad, S. Glenn, E. Terrill, M. Otero, 2003. Oceansat's Ocean Color Monitor: An Instrument Who's Time Has Come, 14th Annual TeraScan Users Conference, Bologna, Italy.
- M. Crowley, R. Bernstein, K. Prasad, S. Glenn, E. Terrill, M. Otero, 2003. Oceansat's Ocean Color Monitor: Overview and Applications, Oceans Conference, San Diego, CA.
- M. Crowley, K. Prasad, 2004. MODIS Data Processing and Applications Using TeraScan Software, Oceans Conference, San Diego, CA.
- M. Crowley, K. Prasad, 2004. SeaSpace Corporation TeraScan® Systems for acquisition and processing the full range of environmental & meteorological satellite data. 15th Annual TeraScan Users Conference, Nanjing, China.
- M. Crowley, 2005. Future Remote Sensing Developments Coming to a SeaSpace Near You!. 16th Annual TeraScan Users Conference, Austin, Texas.
- M. Crowley, Dirbas, J., Henderson, P., Davies, A., Schoonmaker, J., Runnels, D., 2007. JWaTH Data Acquisition from MANTIS Flights Over Camp Shelby, MS March 3-5, 2007. Army Space and Missile Defense Command Workshop, Mobile, AL.

Professional Services:

- 1991 Remote Sensing Demonstrations, The Pride in Rutgers Network Biennial Legislator Reception, Trenton, New Jersey.
- 1993 Remote Sensing Demonstrations, Friends of the Institute of Marine and Coastal Sciences, Tuckerton, New Jersey.
- 1993 Remote Sensing Demonstration for U.S. Congressman Dick Zimmer.
- 1995 Development of Automated Satellite Image Feature Software with NEC Research Institute, Inc., Princeton, New Jersey.
- 1996 Department of Defense, Capitol Hill Demonstration Project, University Involvement in the National Defense. Rutgers University Representative, May, 1996.
- 1999 Hurricane Floyd Demonstrations for the Rutgers Display at the National Science Coalition Capitol Hill Science Event, Washington, D.C.
- 1999 Redesign of COOL Science Webpage <http://rucool.marine.rutgers.edu> with undergraduate Sage Lichtenwalner and Scott Glenn

- 1999 Site visit to R.U. COOL by R.Adm. Richard D. West, President of the Consortium for Oceanographic Research and Education (CORE).
- 2000 Host and Master of Ceremonies of the SeaSpace 9th Annual International Terascan Users Conference.
- 2001 News stories on The COOL Room shown on New York (Channels 4, 7, 9) and Philadelphia (Channel 10) television.
- 2001 New public outreach website, www.thecoolroom.org launched Memorial Day Weekend, with Sage Lichtenwalner and Scott Glenn
- 2002 Coastal Ocean Observation Lab Satellite Imagery shown on Philadelphia Channel 10 Weather Reports routinely from Memorial Day through Labor Day.
- 2003 Master of Ceremonies, 14th Annual International TeraScan Users Conference, Bologna, Italy.
- 2004 Master of Ceremonies, 15th Annual International TeraScan Users Conference, Nanjing, China.
- 2005 Master of Ceremonies, 16th Annual International TeraScan Users Conference, Austin, Texas