

December 16, 2001

To: Gordon Matzke, Interim Chair of Geosciences  
From: Dawn Wright, Associate Professor, Geosciences  
Subj: Summary of Activity During OSU Sabbatical  
CC: Sherman Bloomer, Dean of the College of Science

#### **SABBATICAL OBJECTIVES**

- Establish collaborative ties and new research projects with the Sustainable Seas Expeditions (Santa Barbara, CA), the Fagatele Bay National Marine Sanctuary (American Samoa) and the broader NOAA National Marine Sanctuary Program.
- Improve teaching skills and receive faculty mentoring at Wheaton College, Illinois.
- Publish manuscripts and one book, and submit at least one major proposal for extramural funding.
- Oversee (with co-PIs) continued growth and momentum of the new Virtual Oregon data center and its connections to the proposed OSU Natural Resources Institute.

#### **ADDITIONAL MILESTONES**

- Developed a new seminar course, "Women in Science," which was taught as an experimental independent study at Wheaton College. The course, with slight modifications, is ready to be offered at OSU in the spring or fall of 2002.
- Co-convenor of the Marine Geology & Geophysics Database Management Workshop (<http://hummm.who.edu/DBMWorkshop>), May 14-16, sponsored by the National Science Foundation and the Office of Naval Research; 90 attendees.
- Secured a partnership agreement between OSU and the Marine Advanced Technology Education (MATE) Center at Monterey Peninsula College (MPC), California, providing a framework for cooperative activities of mutual interest between the institutions, particularly paid internships in marine science for OSU undergrads and grads (finalized September 12).
- Secured a partnership agreement between OSU and the Hellenic Center for Marine Research (HCMR), Institute of Marine Biology, Crete, Greece, providing a framework for cooperative activities of mutual interest between the institutions, particularly the development of short course and distance ed. materials in marine GIS and remote sensing (August).
- Initiated long-term process with ESRI development staff and ESRI marine special interest group to develop a new ArcGIS data model for the ocean domain. OSU is hosting new web site for data modeling progress and deliverables. Workshop with nationwide attendees to be held in Spring 2002 in Redlands, CA or on the OSU campus.

- Accepted a partnership with SSE on the development of ocean literacy standards, resulting in a possible 1-quarter RAship for a grad student, to be funded by the National Geographic. SSE hopes to be able to provide K-12 teachers with a national framework on how to include the oceans in their curriculum for every grade. The NGS-funded project will involve the development of a prototype matrix illustrating how teachers can include ocean science topics to meet the needs outlined in national standards.

## MEETINGS

- January** Meeting with Francesca Cava, Sustainable Seas Expeditions (SSE) Education Program Director, Santa Barbara headquarters, Jan. 11.
- Visit to Dr. Sara Fabrikant's new seminar, GEO 234, Mapping Cyberspace (<http://www.geog.ucsb.edu/%7Esara/teaching/geo234/home.html>) – 2 hour-lunch with her after the visit – discussion of ideas for a similar course at OSU, Jan. 11, 17.
- February** SSE GIS teacher workshop meeting with Francesca Cava and Laura Francis, SSE Education Coordinator for Channel Islands National Marine Sanctuary, SSE Santa Barbara headquarters, Feb. 2.
- Meeting with John Robinson, Manager of California office of GeoDigital Mapping, Inc. ([www.gdmcorp.com](http://www.gdmcorp.com)) about possible collaborations on GIS projects in marine pollution, water quality monitoring, Santa Barbara office, Feb. 2.
- Conference call (1 hour) with co-PIs of Virtual Oregon, to assess progress to date, Feb. 2.
- Winter meeting of the University Consortium for Geographic Information Science (UCGIS), Washington, D.C., Feb. 5-11.
- Meeting with staff of Channel Islands National Marine Sanctuary, headquarters at Santa Barbara Harbor, Feb. 15.
- March** Annual meeting of the Association of American Geographers (AAG), New York City. Feb. 26–Mar 1.
- Wheaton College Board of Visitors meeting, as well as meetings with faculty in the Geology & Environmental Science and Biology Departments, and with the Director of Multicultural Development, Mar. 13-14.
- Meeting with Dr. Barbara Walker, post-doc in the Departments of Anthropology and Geography, about future research collaborations in marine sanctuary/protected area studies and public participation GIS, Mar. 19.
- Meeting with Francesca Cava, SSE Education Program Director, and conference call with NOAA National Marine Sanctuary (NMS) and Center for Image Processing in Education (CIPE) personnel to plan June and August GIS teacher workshops, Santa Barbara headquarters, Mar. 27.
- April** Information Management for Marine Observatories Workshop, sponsored by the NEPTUNE project (<http://www.neptune.washington.edu/>), via 6.5 hours of conference calling from Seattle, WA, Apr. 12-13.
- Conference call with SSE, NOAA NMS and CIPE personnel to continue planning for June and August GIS teacher workshops, Apr. 18.
- May** Marine Geology and Geophysics Database Management Workshop, sponsored by NSF and ONR, La Jolla, CA, May 14-16.

Conference call (1 hour) with Renee-Davis Born and Anne Guerry of PISCO and Tanya Hadded of the Oregon Coastal Management Program, on future metadatabase collaborations, May 25.

**June**

Mapping an Ocean Sanctuary GIS Workshop, sponsored by NOAA's Channel Islands National Marine Sanctuary (CINMS), National Geographic Society's Sustainable Seas Expeditions (SSE) and the Center for Image Processing in Education (CIPE), Santa Barbara, CA, Jun. 16-19.

Summer Assembly of the UCGIS, Buffalo, NY, Jun. 20-24.

**July**

Pacific Congress on Marine Science and Technology (PACON) 2001, 5th Regional Symposium, "Environmental Technologies for Sustainable Maritime Development", San Francisco, CA, Jul. 9.

21st Annual Environmental Systems Research Institute (ESRI) User Conference, San Diego, CA, Jul. 9-13.

Marine Mapping User Group meeting, sponsored by the California Department of Fish and Game, Moss Landing Marine Laboratory, Moss Landing, CA, Jul. 17.

Meeting with Francesca Cava, SSE Education Program Director, Santa Barbara headquarters, Jul. 26.

**September**

Meeting with Francesca Cava of SSE, and John Robinson of GeoDigital Mapping, Inc., Sept. 20.

**October**

ESRI Ocean Data Model Working Group Meeting, ESRI, Redlands, CA, Oct. 4-5.

Conference call (2 hours) with co-PIs of Oregon Coastal Atlas NSF project, to assess progress to date, Oct. 10.

10-year departmental review, Wheaton College Geology & Environmental Science Department, Wheaton, IL, Oct. 10-12.

Board of Visitors meeting, Wheaton College, Wheaton, IL, Oct. 18-19.

Conference call (1.5 hours) with co-PIs of Virtual Center for Interdisciplinary Watershed Studies NSF-ITR project, to discuss proposal submission for Nov. 13th target date.

**November**

Ocean Literacy Workshop, sponsored by the Channel Islands National Marine Sanctuary and NASA Oceanography, Chase Palm Park Center, Santa Barbara, CA, Nov. 3.

Conference call (1.5 hours) with co-PIs of Oregon Coastal Atlas NSF project, to assess progress to date, Nov. 7.

**FIELD WORK**

**April/May**

**(1) Kongsberg/Simrad EM-3000 multibeam bathymetric surveys of the Fagatele Bay National Marine Sanctuary (FBNMS), Pago Pago Harbor, and the National Park of American Samoa; (2) installation and creation of a FBNMS GIS, including ~20 new data layers and metadata records.** Island of Tutuila, American Samoa, funded by NOAA National Marine Sanctuary Program, NOAA National Ocean Service Office of Special Projects, and bathymetric surveying services contracted to Professor David Naar's group, College of Marine Science, University of South Florida, April 27-May 11.

### PROFESSIONAL PRESENTATIONS / SEMINARS

- February**      *GIS in Support of Marine Protected Areas, Reserves, and Sanctuaries*, Association of American Geographers Annual Meeting, New York, NY, Session Organizer, Chair, and Presenter.
- Geographic Information Science in Support of Science and Related Disciplines*, Congressional Breakfast, US Capitol Building HC-8, University Consortium for Geographic Information Science (UCGIS) Winter Meeting, Washington, D.C., Invited Presenter.
- Geographic Visualization*, UCGIS Winter Meeting, Washington, D.C., Presenter.
- Distance Education in GIScience*, UCGIS Winter Meeting, Washington, D.C., Invited Presenter.
- May**            *Seafloor Mapping and GIS for the Fagatele Bay National Marine Sanctuary*, Public Library, Pago Pago, American Samoa, Invited Public Lecture.
- Developing a Computational Environment for Coupling MOR Data, Maps, and Models: The Virtual Research Vessel (VRV) Prototype*, NSF/ONR Marine Geology & Geophysics Database Management Workshop, La Jolla, CA, Invited Presenter, with Judy Cushing of Evergreen State College.
- June**           *Remotely-Acquired Oceanographic Information*, UCGIS Summer Assembly, Buffalo, NY, Presenter.
- Distance Education in GIScience*, UCGIS Summer Assembly, Buffalo, NY, Session Organizer and Chair.
- July**            *Marine and Coastal GIS*, Ocean Science & Technology Sessions 9A and 9B, Pacific Congress on Marine Science and Technology (PACON) 2001, 5th Regional Symposium, San Francisco, CA, Invited Session Organizer and Chair.
- Coastal Zone Management*, Ocean, Coastal, and Marine Resources Track, 21st Annual Environmental Systems Research Institute User Conference, San Diego, CA, Invited Chair.
- GIS Coordination at America's Remotest Marine Sanctuary and National Park*, Paper 104, 21st Annual Environmental Systems Research Institute User Conference, San Diego, CA, Presenter.
- August**        *Ocean Floor Mapping and GIS in Support of Samoan Coral Reef Management*, SSE Virtual Teacher & Educator Workshop, *Conservation and the Coral Reef World*, <http://www.coexploration.org/sse/coral>, Jul. 23 - Aug. 20 (300 enrollees worldwide, eligible for 1 unit graduate credit), Invited Keynote Presenter and Discussion Facilitator.
- October**       *Ocean Floor Mapping and GIS in Support of Samoan Coral Reef Management*, SSE Virtual Teacher & Educator Workshop, *Conservation and the Coral Reef World*, <http://www.coexploration.org/sse/coral>, Oct. 1-26 (350 enrollees worldwide, eligible for 1 unit graduate credit), Invited Keynote Presenter and Discussion Facilitator.
- Ideas for the ArcGIS Ocean Data Model*, ESRI Ocean Data Model Working Group Meeting, ESRI, Redlands, CA, Invited Presenter.

## PUBLICATION MILESTONES

- January** Appearance of **Wright, D.J.**, S.H. Bloomer, C.J. MacLeod, B. Taylor, and A.M. Goodliffe, Bathymetry of the Tonga Trench and forearc: A map series, *Marine Geophysical Researches*, 21(5): 489-512, 2000.  
(plus 4 large fold-out maps in back of issue)
- 2nd printing of **Wright, D.J.** and Bartlett, D.J. (eds.), *Marine and Coastal Geographical Information Systems*, 2000 released by Taylor & Francis, London.
- March** **Wright, D.J.**, R.M. Haymon, S.M. White, and K.C. Macdonald, Crustal fissuring on the crest of the southern East Pacific Rise, 17° 15'-40'S, *Journal of Geophysical Research*, submitted.
- April** Psuty, N.P., P. Steinberg, and **D.J. Wright**, Coastal and marine geography, in G.L. Gaile and C.J. Willmott (Eds.), *Geography in America at the Dawn of the 21st Century*, Oxford University Press, New York, in press, 2001.
- June** **Wright, D.**, GIS coordination at America's remotest national marine sanctuary (American Samoa), *Proceedings of the 21st Annual Environmental Systems Research Institute User Conference*, Paper 140, (CDROM & <http://www.esri.com/library/userconf/archive.html>), 32 manuscript pages.
- July** **Wright, D.J.** (ed.), *Undersea With GIS*, Redlands, California: ESRI Press, in press, 2001.  
(with chapter contributions from two former major advisees).  
**Wright, D.J.**, Introduction, in D.J. Wright (Ed.), *Undersea with GIS*, Redlands, California, ESRI Press, 9 manuscript pages.  
**Wright, D.J.**, B.T. Donahue, and D.F. Naar, Seafloor mapping and GIS coordination at America's remotest national marine sanctuary (American Samoa), in D.J. Wright (Ed.), *Undersea with GIS*, Redlands, California, ESRI Press, 32 manuscript pages.  
**Wright, D.J.**, Selected bibliography and Internet resources, in D.J. Wright (Ed.), *Undersea with GIS*, Redlands, California, ESRI Press, 14 manuscript pages.
- August** Hepner, G., **D. Wright**, C. Merry, S. Anderson, and S. DeGloria. Remotely-acquired data and information in GIScience, in McMaster, R. (ed.), *Emerging Themes in GIScience Research*, Publisher, Place, in press, 2001. 30 manuscript pages.
- September** Smith, D., S. Carbotte, S. Cande, S. Miller, **D. Wright**, and W. Ryan. *Data Management for Marine Geology and Geophysics: Tools for Archiving, Analysis, and Visualization*, NSF/ONR Workshop Report, Geosciences Professional Services, Inc., Washington, D.C., 32 pp., <http://hummm.who.edu/DBMWorkshop>.
- October** **Wright, D.**, D. Dibiase, C. Pancake, R. Wright, and K. Foote. Distance education in geographic information science: The UCGIS Approach, *Journal of the Urban and Regional Information Systems Association*, submitted, 2001.  
**Wright, D.**, A. DeWet, T. Perciante, and E. Campbell, *Wheaton College Department of Geology and Environmental Science: Ten-Year Review Team Report*, Division of Natural and Social Sciences, Wheaton College, Wheaton, IL, 30 manuscript pages.
- November** Rub, M.W. and **D. Wright**, A novel landscape ecology approach for determining microhabitat correlations and faunal patchiness in extreme environments: Pilot study for the southern East Pacific

Rise at 17-18°S, *Proceedings of the Second International Symposium on Deep-Sea Hydrothermal Vent Biology*, Brest, France, October, 2001, 16 manuscript pages.

**Wright, D.**, D. DiBiase, K. Foote, K. Kemp, C. Pancake, and R. Wright, Distance education: The UCGIS approach, *GIS Educator*, Fall 2001, 1, 6, <http://www.esri.com/industries/university/giseducator.html>.

### PROPOSALS SUBMITTED

- January** *ITR/IM: Infrastructure for Data Sharing, Spatial Analysis, Resource Decision-Making, and Societal Impact: The Oregon Coastal Atlas; National Science Foundation, Information Technology Research (ITR)*. P.I.: Dawn Wright (OSU Geosciences). Senior non-PIs: Tanya Haddad and John Marra (Oregon Coastal Management Program/DLCD), Paul Komar (OSU College of Oceanic & Atmospheric Sciences), 09/01 to 10/04, **\$497,964**. **Recommended for funding 06/05/01.**
- May** *Exploring Ocean Science with GIS; National Science Foundation, Instructional Materials Development*. PIs: Steve Moore (Center for Image Processing in Education), Francesca Cava (SSE), Laura Francis (SSE/CINMS); Senior Personnel/non-PIs: Dawn Wright (OSU Geosciences), Michelle McCutchan (CINMS), Mitchell Tart (NOAA CSC), Laurie Molina (Florida State), Patrick McKnight (University of Arizona), 04/02 to 10/05, **\$660,509**. **Declined but strong enough for a resubmit, next time to NSF ITR in 2002.**
- October** *Oregon Coastal Atlas Ocean Resources Module; NOAA National Environmental Satellite, Data, and Information Service (NESDIS)*. P.I.s: Tanya Haddad and John Marra (Oregon Coastal Management Program/DLCD), Edward Backus (Ecotrust), Dawn Wright (OSU Geosciences), 06/02 to 12/05, **\$125,000**.
- SIO Explorer: Expedition Planner; NOAA Ocean Explorer Program*. P.I.s: Stephen P. Miller (Scripps Institution of Oceanography), John Helly (San Diego Supercomputer Center), Dawn Wright (OSU Geosciences), and Cheryl Peach (Scripps' Birch Aquarium), 06/02 to 05/05, **\$838,819**.
- November** *ITR/IIS: Virtual Center for Interdisciplinary Watershed Studies, National Science Foundation, Information Technology Research*. P.I.s: Mary Santelmann, Aaron Wolf, Dawn Wright (OSU Geosciences), John Bolte (OSU Bioengineering), and Denise Lach (OSU Sociology and Center for Water and Environmental Sustainability), 05/02 to 12/07, **\$4,975,440**.

### TEACHING

- May** Guest lecture, GEOG 176C, GIS Design and Applications, UC-Santa Barbara, 50 enrolled. (<http://www.geog.ucsb.edu/~sara/teaching/geo176c/home.html>)
- June** Workshop sessions "Introduction to GIS," "ArcView Basics," and "Downloading Data From the Web" for *Mapping an Ocean Sanctuary GIS Workshop*, sponsored by NOAA CINMS, SSE, and CIPE, Santa Barbara, CA, 10 enrolled (participants eligible for 4 units of extension credit).
- Aug-Dec** SCI 280, Women in Science: An Interdisciplinary Seminar, 1 credit, full semester, Wheaton College, Illinois, 4 enrolled (**developed course from scratch**).
- October** Guest lecture, GEOL 371, Intro. To GIS, Wheaton College, IL, 15 enrolled.
- Oct- Dec** GEOL 208, General Oceanography, 3 credits, semester quad B, Wheaton College, IL, 35 enrolled.

## ELECTRONIC PRODUCTS

### **Fagatale Bay National Marine Sanctuary GIS Data**

- <http://dusk.geo.orst.edu/djl/samoa>

### **Sabbatical Adventure Site**

- <http://dusk.geo.orst.edu/sabbatical>

### **Online "keynote address" for SSE Virtual Teacher & Educator Workshop, *Conservation and the Coral Reef World***

- <http://dusk.geo.orst.edu/djl/samoa/ssekey> and <http://www.coexploration.org/sse/coral>

### **ArcGIS Marine Data Model**

- <http://dusk.geo.orst.edu/djl/arcgis>

### **Preparation of new SGI 230 NT workstation for marine sanctuary fieldwork in American Samoa. Software/data installs included:**

Windows NT 4.0, SP 5 (ESRI recommends SP 6a or higher)	Upgrade to SP 6a on 4/12/01
Internet Explorer 5.5	Netscape Communicator 4.76
Acrobat Reader 4.05	McAfee Anti-Virus 4.0.3a
PC-Doctor for Windows NT 3.1	QuickTime 4.1.2
Aladdin Expander 5.1 (for zip files)	ArcView 3.2
AV Spatial Analyst 2 w/Model Builder	AV Image Analysis 1.0
AV 3D Analyst 1.0	AV Network Analyst 1.0
NOAA CSC Metadata Collector Tool 2.0	NOAA CSC Grid Data Handler
NOAA CSC Chartview (nautical charts)	ESRI ArcIMS Viewer (Java Applet)
Java 2 Runtime Environment 1.3	Windows Media Player 6.4
MS Office 2000 SR-1	Adobe Photoshop 5.5
AdobePS 5.1 PostScript Printer Driver	ArcInfo 8.1 Workstation Prerelease
ArcGIS 8.1 ArcMap	ArcGIS 8.1 ArcCatalog
ArcGIS 8.1 ArcScene	ArcGIS 8.1 ArcToolbox
ArcGIS 8.1 Tutorial Data	ArcGIS Sample Maps
ArcSDE for Coverages	ArcSDE Client
MicraTek NMEAgent 1.18 - to collect & average multiple GPS readings	

## **STUDENTS ADVISED (including letters of recommendation)**

**Tracy Arras**, OSU **BioEngineering** Program (via email)

Doctoral committee member.

**Kuuiipo Burleigh**, OSU Oceanography, **Marine Resource Management** Program (via email and face-to-face at the ESRI conference in San Diego)

Master's major professor

**Ken Crouse**, OSU Geosciences, **Geography** Program (via email)

Provided paid summer internship with FBNMS in American Samoa

**Joyce Maphanyane**, OSU Geosciences, **Geography** Program (via email)

Doctoral major professor

**Liz O'Dea**, OSU Geosciences, **Geography** Program (via email and face-to-face at the AAG meeting in New York, the ESRI conference in San Diego, and 1 evening in Santa Barbara)

Master's major professor

**Deana Pennington**, OSU Geosciences, **Geography** Program (via email and face-to-face at the AAG meeting in New York)

Doctoral committee member.

**Rajendra Bose**, UCSB Environmental Science and Management doctoral candidate (computational data lineage, environmental databases)  
**Maria Meyer**, Hunter College-CUNY Earth and Environmental Science doctoral candidate (marine sanctuaries)  
**Diane Schweizer**, UCSB Geography doctoral candidate (Earth system science education)  
**2 UCSB undergrads** (seafloor mapping, marine GIS, marine sanctuaries)

### SERVICE

**January** Profiled in Macmillan/McGraw-Hill 2002 Science textbook series, "People in Science: Marine Geology", <http://www.mhscience02.com>  
- *brief phone interview and email correspondence*

**February** Elected to Board of Directors, UCGIS (3-year term)

Appointed to the presentation team for the UCGIS briefing of members and staffers of the **U.S. House of Representatives and the U.S. Senate, Capitol Hill, Washington, D.C.**, February 8th.

**March** Review of manuscript for the *Singapore Journal of Tropical Geography*.  
Review of manuscript for the *International Journal of Geographical Information Science*.  
Review of proposal for the National Science Foundation, Geography & Regional Science Program.

**April** Review of proposal for the National Science Foundation, Information Technology Research (ITR), Ocean Sciences Division.

**May** Activities in support of field work for the Fagatele Bay National Sanctuary, Pago Pago, American Samoa:

- participation in American Samoa GIS Users Group meeting, American Samoa Department of Commerce, May 1st
- interview with Samoa public television, May 2<sup>nd</sup>
- interview for article in Samoa News, May 3<sup>rd</sup>
- tours of survey boat and ArcView GIS project for students from American Samoa Community College, May 8<sup>th</sup>
- public lecture in library, May 10th

**June** Review of manuscript for the *International Journal of Geographical Information Science*.

**August** Featured in the "Oceans" volume of the National Geographic publication *Reading Expeditions: Science*, for grades 3-6, to be published in 2002.

Review of manuscript for *Marine Geodesy*.

**September** Interview with Medford Mail Tribune (Medford, OR), for a news story about Episode 7 ("What About God?") of the PBS series *Evolution* (<http://www.pbs.org/wgbh/evolution>)  
- 2 hours

**October** External reviewer, Wheaton College Department of Geology & Environmental Science 10-year review  
Review of group proposal (5 institutions, 10 PIs, 35-page project description) for the National Science Foundation, Ocean Sciences Division.

**December** Review of manuscript for *The Canadian Geographer*.



**AWARDS/HONORS**

- September** Excellence in Mentoring Award, College of Oceanic and Atmospheric Sciences, OSU
- November** Biography featured in *Portraits of Great American Scientists*, edited by 1988 Nobel Laureate in Physics, Leon M. Lederman, and Judith Scheppler of the Illinois Mathematics and Science Academy, published by Prometheus Books.