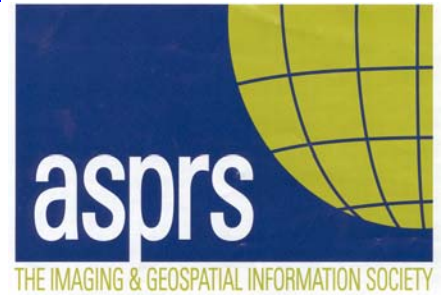

Wavelengths

Columbia River Region



<http://www.asprs.org/ColumbiaRiver>

Volume 2002:2 — October 2002

President's Letter

by Margo Blosser, President, ASPRS-CRR

Where does the time go? It is already fall and another successful GIA conference is behind us. It time to start thinking about our annual dinner. Stay tuned for the announcement about the ASPRS annual dinner!

This summer the CRR hosted a forum to solicit feedback from the CRR members regarding the Model Law. Feedback from the forum will be taken to the Oregon Task force on Surveying, GIS and Mapping. Some key players from the Surveyor community were present and some positive interactions took place. Hopefully, continued dialog between Surveyors, Photogrametrists and GIS professionals will build an understanding of the nature of each profession.

Although Photogrammetry has long been recognized as a profession, GIS is just now being recognized as a professional pursuit. Debates about whether GIS is a tool or a profession are likely to continue for a long time, but the time to define what GIS professionals do and who we are is now. Discussions with related geo-spatial disciplines will strengthen our credibility and increase our recognition as a highly educated, highly trained group of professionals.

Although the meeting was positive and useful not many GIS practioners were present. Adoption of the Model Law has the potential to shape our professionals lives for a very long time; it is essential that GIS professionals and Photogrametrists participate in these discussions. Every geo-spatial professional will need to understand what the model law means if it does become part of our state statues. We have posted the meeting minutes from the forum and

some recommended changes to the Model Law on the ASPRS-CRR web site (<http://www.asprs.org/ColumbiaRiver>). I urge everyone to read and review the recommendations and send us your comments.

Oregon State University ASPRS Student Chapter Activities for 2001-2002

by Andrea S. Laliberte, Student Chapter President

This past year, our OSU ASPRS group has been busy with several meetings, recruitment of new student members and improvements to our website. Thomas L. Pagh, Columbia River Region National Director, Chair of the Membership Committee, and photogrammetrist for Spencer B. Gross, Inc. was our first speaker last fall. Tom gave us an overview of ASPRS from the national level and explained the benefits of student membership. He also gave a technical presentation about corridor mapping using LiDAR, airborne GPS and IMU photography.

John Sharrard, an OSU alumni and manager of technical staff at ESRI in Olympia, gave us an overview of upcoming software releases by ESRI. This meeting was well attended by both chapter members as well as many members of the OSU ESRI community.

We also had a very interesting presentation by James E. Kain, Executive Vice President of GeoVantage. James spoke to us about new technology for digital airborne imagery and precision navigation technology. The company acquired some high-resolution (0.5-1 m) imagery of McDonald Forest near Corvallis, and we were able to look at the OSU forest in detail. GeoVantage also made this imagery available to Michael Wing, our chapter faculty

advisor, and we will be able to use the imagery in a remote sensing class this fall.

As a member of a College of Forestry student club, our president, Andrea Laliberte, received the Hoener Participation award, funding part of her travel to attend the ASPRS national meeting in Washington, DC and present a paper there.

The OSU chapter was also successful in recruiting several new ASPRS student members, thanks to the sponsorship of the Columbia River Region. The region is subsidizing any full time students who are current members of the OSU ASPRS student chapter. This means that a student will only have to pay \$10 instead of the full student rate of \$45 for national ASPRS membership. Four new students were recruited, and we have four more current ASPRS student members interested in taking advantage of the sponsorship when their current membership expires.

Additions and improvements were made to the OSU ASPRS student chapter website at <http://terra.geo.orst.edu/users/asprs>. The site has information about the chapter and national organization of ASPRS, a schedule of planned activities, descriptions of past events, access to officers, an online membership application and other links. We welcome visits and suggestions for further improvements of our site.

BLM and US Forest Service Remote Sensing Projects in the Pacific Northwest Submitted by Julie Browning

In recent years, the Bureau of Land Management (BLM) in Oregon and Washington has seen a steady increase in the use of remote sensing to meet a variety of BLM Field Office requirements including watershed analysis, forest inventory, habitat assessments, fire fuel modeling, diseased tree mapping and change detections. These new and diverse applications have led to the use of a variety of data types (Landsat 7, IKONOS, Hyperspectral, SPOT), processing methods (supervised classification, regression modeling, image segmentation), and software (Erdas Imagine, Envi, ESRI products, SAS, image segmentation software). Careful selection of appropriate data and processing techniques have been critical for each project's success. Brief descriptions of some of our current, completed, and new projects are given below. Additional information can be found at www.or.blm.gov/gis/projects/vegetation.

Current Projects

Interagency Vegetation Mapping Project (IVMP)

The Regional Interagency Executive Committee accepted effectiveness monitoring plans for the Northwest Forest Plan. Effectiveness monitoring requires comprehensive and consistent maps of existing and potential vegetation. The US Forest Service (USFS) and the Bureau of Land Management (BLM) are jointly funding the Interagency Vegetation Mapping Project (IVMP) to develop the existing vegetation maps. Vegetation cover and characteristics are predicted with a regression modeling approach using satellite data from Landsat 5 Thematic Mapper (TM). This process involves the use of numerous sources of ancillary data, the most crucial being USFS, BLM, and Forest Inventory and Analysis (FIA) inventory plot field data and photo-interpreted information. These data serve as model building data in the regression modeling. Final products include four maps; total percent vegetation cover, total percent conifer cover, total percent broadleaf cover, and conifer size (Quadratic Mean Diameter).

Vale

Vale BLM field office is evaluating the use of 1999 Landsat 7 Enhanced Thematic Mapper imagery to help define large-scale sagebrush steppe habitat connectivity or fragmentation in Malheur County, southeastern Oregon. Landsat data can be useful in guiding management strategies for conserving habitats that support sage grouse and other animals that use sagebrush habitats. Recently collected field data is being used in a regression modeling approach to predict percent shrub cover in 3 categories; 0-15%, 15-25% and greater than 25% for the McDermitt area. These methods and data appear to have value as a coarse screen. This method is currently being evaluation in the Bully Creek area (where juniper and other mixed habitats are present).

Fire Regime Mapping

Fire regime maps are being created using available existing vegetation maps for the Vale and Lakeview BLM field offices. The resulting maps will be merged with the fire regime maps from the Prineville and Burns field offices.

Completed Projects

WODIP

Western Oregon Digital Image Project (WODIP) was a vegetation mapping project using Landsat 5 Thematic Mapper satellite data from 1993 and existing field inventory data to produce a forest vegetation map of western Oregon, conforming to standards set by the Interagency Vegetation strike team. This project provides a continuous digital layer covering all areas from the crest of the Cascade mountains to the coast of Oregon regardless of administrative ownership. Its intended use is for watershed analysis, habitat analysis, and other environmental assessment projects.

Prineville

Prineville field office required existing vegetation maps in order to conduct high-priority environmental impact statement and a resource management plan (EIS/RMP) amendment (Brothers-LaPine RMP EIS/Plan Amendment). Landsat Thematic Mapper data were used to map the major vegetation types in the planning area. Field data have provided valuable ground data for use in traditional supervised classifications. Other remotely sensed data and techniques are being explored that will potentially give more specific information regarding juniper occupation/density, old-growth juniper occurrence, extent of noxious weeds, sage grouse habitat (shrub types and density), forest typing for density, species, structure, and dead fuels. Such techniques include change detection, multi-temporal datasets, vegetation and soil indices, texture, etc. Other data types being considered include hyperspectral data, digital photography, LIDAR and IKONOS.

Spokane

Shrub-steppe provides important habitat for many wildlife species in Washington state including sage grouse, sharp-tailed grouse, and pygmy rabbit. These species are currently listed as threatened or endangered of extinction by the state of Washington. The continuous loss of this important habitat makes it imperative for the spatial distribution and characteristics of these obligate wildlife species to be mapped for effective conservation and management.

The Spokane field office is utilizing remote sensing to create land cover maps for a variety of natural resource management projects. By showing the spatial distribution of shrub-steppe habitat throughout eastern Washington, these maps will aid in better understanding of landscape

function and change. In addition, the land cover maps will contribute towards the development of resource management strategies across multiple ownerships, and demonstrate how management practices will impact the landscape and help meet resource management goals.

Landsat 7 Thematic Mapper imagery was used to generate a land cover base map for more than 6.5 million acres in eastern Washington. This base map shows the spatial distribution of grasses, shrubs, agriculture, water urban, and barren areas, and trees. More sophisticated techniques relying on additional ancillary data, multi-temporal data, and regression analysis have been explored to refine this map to include cover densities. Hyperspectral (Probe 1) and IKONOS data are also being evaluated to see if their spatial and spectral properties have the ability to differentiate between individual species.

Change Detection

The objective of the ULEP Change Detection Project was to identify areas of significant vegetation change for the Umpqua 7th field watershed, between 1993 and 2001 using four dates of remotely sensed imagery (1993, 1996, 2000 and 2001). The change detection was performed using an image differencing method that resulted in maps showing the location and magnitude of change between two dates. Also produced were charts displaying the amount of change for the three different time periods (1993-1996, 1996-2000, and 2000-2001), and the type of land cover (according to existing vegetation data) that was disturbed between 2000 and 2001.

New Projects

Port Orford Cedar Mapping

Currently the BLM and US Forest Service are evaluating the utility of hyperspectral imagery to map areas of diseased Port Orford Cedar (POC) in southwestern Oregon.

Port-Orford-cedar (POC), *Chamaecyparis lawsoniana*, is found mainly along streamside, bogs, and other wet areas in northwestern California and southwestern Oregon. The long lasting nature of the wood makes it an important component of riparian areas. It provides important habitat structure for fish, amphibians, and other aquatic organisms. An introduced pathogen (*Phytophthora lateralis*) has spread throughout the natural range of POC, which quickly kills Port-Orford cedars (regardless of age or size) by traveling through water and moist soil. For effective

management of these affected areas, there is a need to map the locations of diseased trees.

Earth Search Science Inc. (ESSI) is collecting four flight lines of data with their Probe-1 sensor. These data will have a spatial resolution of 5 meters and spectral resolution of 128 bands. Using ENVI software along with GPS field data, maps will be made of healthy and diseased POC. Once field verification and accuracy assessments are completed and the technology verified, additional flight lines may be collected.

Late Successional Old Growth (LSOG) Maps

The primary objective is to analyze the amount and distribution of LSOG using IVMP maps. To be able to meet this objective, the first step is to generate forest stand structure maps. Several methods to produce these structure maps are currently being evaluated in a pilot test, including regression analysis, logistic regression, and image segmentation (using eCognition software). Once structure has been mapped, these maps will be combined with IVMP data to generate LSOG maps. The final step will be to compute areas for each forest condition class, and analyze various landscape metrics using Fragstats.

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Building for the Future ASPRS Building Fund Drive, 2002

ASPRS moved the Society's headquarters from leased space in Falls Church, Virginia, to purchased space in the Maryland suburbs of Washington, DC in 1989. In deciding to move, the Board articulated a goal of eventual full ASPRS ownership of the headquarters space. The original Building Fund Drive was initiated even prior to the move and during the early 1990s significant progress was made toward the original goal of full ownership. While that goal never diminished, the mid-1990s brought lower overall contributions to the Building Fund.

With the revitalization and positive financial growth of ASPRS during 1998-1999 came the opportunity to renew the Society's vision of full and clear headquarters ownership. During the Fall 1999 Board meeting, ASPRS set aside \$30,000 of 1999 cash reserves to initiate a renewed Building Fund Drive by matching individual and Regional donations to the Building Fund on a one-for-one basis. The Board added an additional \$10,000 to the matching fund balance in late 2000 and \$30,000 again in early 2002 to reinforce its commitment to a strong Building Fund drive.

For further information, see: www.asprs.org.

At present, there is an opportunity to have your contribution multiplied by a factor of four. If you send your donation to the ASPRS Building Fund via the Columbia River Region, the Columbia River Region will match your donation. Then when the matched donation reaches ASPRS Headquarters, it will be matched again. Thus, if you were to donate say \$25, this would ultimately result in a donation to \$100 to the ASPRS Building Fund.

Donations the ASPRS Building Fund are deductible as charitable contributions for federal income tax purposes.

Please send your contribution to:

Robert Harmon
ASPRS Columbia River Region
c/o Oregon Water Resources Department
158 12th Street NE
Salem, OR 97301-4172

CALENDAR: 2002 - 2003

November 8-15, 2002: The 15th William T. Pecora Memorial Remote Sensing Symposium/Land Satellite Information IV Conference and the ISPRS Commission I (Platforms and Sensors) Symposium, Integrating Remote Sensing at the Global, Regional and Local Scale. Adam's Mark Hotel, Denver, CO.

<http://www.asprs.org/Pecora-ISPRS-2002>

November 8, 2002: 12:00-1:30p,
Geological Society of the Oregon Country
Oregon State Office Building, 800 NE Oregon St.,
Portland, Oregon, Crooked River Suite Room 120B.

<http://www.gsoc.org/noonsched.html>

December 4, 2003: Oregon Geographic Information Council - Oregon GIS Standards Forum, Keizer, OR Wittenberg Inn 9-3:30
First of series of forums to develop and adopt statewide data content standards for geographic information
Sessions on elevation data, orthoimagery, clearinghouse, and metadata. Comment period prior to forum.

<http://www.gis.state.or.us/coord/standards.html>

Dec 6-7, 2002: Geomatics Workshops - FEMA for Land Surveyors, Portland OR
Overview of the national flood insurance program and the surveyor's role. 704-336-3734,
geomatics@carolina.rr.com

http://www.plso.org/workshops/fema_port.pdf

March 3-5, 2003: California/Hawaii/Nevada/Guam ESRI Regional User Group Annual Conference, Renaissance Ilikai Waikiki Hotel, Honolulu, HI.

<http://www.cahinv.org>

March 4-8, 2003: 99th AAG Annual Meeting, Hyatt Regency Hotel, New Orleans, LA.

<http://www.aag.org/>

March 29-April 2, 2003: 2003 ACSM Annual Conference with APLS and AGIC. Phoenix Civic Plaza, Phoenix, AZ.

<http://www.acsm.net/acsmconf.html>

April 23-25, 2003: GIS in Action 2003, DoubleTree Hotel, Lloyd Center, Portland, OR.

May 3-9, 2003: ASPRS Annual Conference, Technology: Converging at the top of the world. William A. Egan Civic and Convention Center, Anchorage, AK.

<http://www.asprs.org/alaska2003/index.html>

The Calendar will be updated with each issue. Please send contributions to: rwkiefer@aol.com.

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