

Office of Arid Lands Studies

College of Agriculture and Life Sciences
The University of Arizona



Faculty & Staff

Publications & Presentations

Compiled by
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Arid Lands Information Center

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Peer Review Journal Publications

Ayerza, R. and W. Coates. 2004. Supplemental Pollination - Increasing Olive (*Olea Europaea*) Yields in Hot, Arid Environments. *Experimental Agriculture*, 40(2004):481-491.

Coates, W. 2004. CAST Update. *ASAE's Resource*. 11(5):9.

Coates, W. and R. Ayerza. 2004. Comparison of Llama Fiber Obtained From Two Production Regions of Argentina. *Journal of Arid Environments*. 58:513-524.

Coates, W. and R. Ayerza. 2004. Fatty Acid Composition of Llama Muscle and Internal Fat in Two Argentine Herds. *Small Ruminant Research*. 52:231-238.

G-X Zhou, E.M.K. Wijeratne, D. Bigelow, L.S. Pierson, H.D. VanEtten and A.A.L. Gunatilaka. 2004. *Aspochalasin I, J and K, Three New Cytotoxic Cytochalasins of Aspergillus flavipes from the Rhizosphere of Ericaneria laricifolia of the Sonoran Dese.*, *Journal of Natural Products*. 67(3):328-332.

He, J., E.M.K. Wijeratne, B.P. Bashyal, J. Zhan, C.J. Seliga, M.X. Liu, E.E. Pierson, L.S. Pierson III, H.D. VanEtten and A.A.L. Gunatilaka. 2004. *Cytotoxic and Other Metabolites of Aspergillus Inhabiting the Rhizosphere of Sonoran Desert Plants*. *Journal of Natural Products*. 67(12):1985-1991.

Heydlauff, A.L., P.R. Krausman, W. Shaw and S.E. Marsh, S.E. 2004. Perceptions Regarding Elk and Elk Management in Arizona. *Wildlife Society Bulletin*.

McLaughlin, S.P. and M.P. McClaran. 2004. Recent additions to the flora of the Pinaleno Mountains, Graham County, Arizona. *Journal of the Arizona-Nevada Academy of Sciences*. 37(2):91-93.

Meade-Tollin, L.C., E.M.K. Wijeratne, D. Cooper, M. Guild, E. Jon, A. Fritz, G-X Zhou, L. Whitesell, J.-Y. Liang and A.A.L. Gunatilaka. 2004. Ponicidin and Oridonin are Responsible for the Anti-angiogenic Activity of *Rabdosia rubescens*, a Constituent of the Herbal Supplement, PC SPES. *Journal of Natural Products*. 67: 2-4.

Quanrud, D.M., M.M. Karpiscak, K.E. Lansey and R.G. Arnold. 2004. *Transformation of Effluent Organic Matter during Subsurface Wetland Treatment in the Sonoran Desert*. *Chemosphere*. 54(6):777-788.

Quanrud, D.M., K. Quast, O. Conroy, M.M. Karpiscak, K.E. Lansey, W. Ela and R.G. Arnold. 2004. Estrogenic Activity and Volume Fraction of Wastewater Origin in Monitoring Wells along the Santa Cruz River, Arizona. *Ground Water Monitoring and Remediation*. 24(2):86-93.

Shupe, S.M. and S.E. Marsh. 2004. A Regional Vegetation Classification of the Sonoran Desert Using Landsat TM and ERS-1 Imagery. *Remote Sensing of Environment*. 93(1-2):131-149.

Tukov, F.F., S. Anand, R.S.V.S. Gadepalli, A.A.L. Gunatilaka, J.C. Matthews and J.M. Rimoldi. 2004. Inactivation of the Cytotoxic Activity of Repin, A Sesquiterpene Lactone from *Centaurea repens*. *Chemical Research in Toxicology*. 17(9):1170-1176.

Wijeratne, E.M.K., C.C. Carbonezi, J.A. Takahashi, C.J. Seliga, T.J. Turbyville, E.E. Pierson, L.S. Pierson III, H.D. VanEtten, L. Whitesell, V. Da S. Bolzani and A.A.L. Gunatilaka. 2004. Isolation, optimization of production and structure-activity relationship studies of Monocillin I, the cytotoxic constituent of *Paraphaeosphaeria quadrisepitata*. *Journal of Antibiotics*. 57(8):541-546.

Zhan, J., E.M.K. Wijeratne, C.J. Seliga, J. Zhang, E.E. Pierson, L.S. Pierson, H.D. VanEtten and A.A.L. Gunatilaka. 2004. A New Anthraquinone and Cytotoxic Curvularins of a *Penicillium* sp. from the Rhizosphere of *Fallugia paradoxa* of the Sonoran Desert. *Journal of Antibiotics*. 57:341-344.

Zhu, Y., Y. Wu and S. Drake. 2004. A survey: obstacles and strategies for the development of ground-water resources in arid inland river basins of western China. *Journal of Arid Environments*. 59(2):351-367.

Pamphlets, Reviews & Abstracts

Coates, W. 2004. Abstract: *Supplemental Pollination of Jojoba*. AAIC Annual Meeting, September 19-22, Minneapolis, Minnesota.

Hertzfeld, M., A. Thwaites and B.J. Orr. 2004. Pamphlet/Newsletter: *Arizona Geospatial Extension Program*. Pamphlet/Newsletter. Tucson, Arizona: Office of Arid Lands Studies, University of Arizona.

McLaughlin, S.P. 2004. Book Review: Plant Resources of South-East Asia. 17: Fibre Plants. *Industrial Crops and Products*.

McLaughlin, S.P. and J.E. Bowers. 2004. *Seed banks in native and exotic grassland before and after the Ryan Fire*. *Research Ranch News*. February: 5.

McLaughlin, S.P. and J.E. Bowers. 2004. *Plant Species Richness Before and After the Ryan Fire*. *Research Ranch News*. February: 4.

Orr, B.J. and M. Hertzfeld. 2004. *Geospatial Technology Fact Sheets for Master Watershed Stewards*. A series of 10 fact sheets addressing basic cartography, GPS and GIS used in support of the Master Watershed Stewards Program. Tucson, Arizona: Office of Arid Lands Studies, University of Arizona.

Pallaro, A.N., M.S. Feliu, S.M. Vidueiros, N. Slobodiank, R. Ayerza, W. Coates. 2004. Abstract: Estudio de la Calidad Proteica de una Fuente no Tradicional. (Study of a non-traditional source of protein) Congreso Internacional de Ciencia y Tecnologia de los Alimentos. November 24-26, Cordoba, Argentina.

Books & Book Chapters

Miller, R., C. de Rosas, H. Rodriguez, B.J. Orr, C. McDonald and R. Parades. 2004. *RangeView Ejercicios y Recursos: Taller para Directores de Recursos Naturales*. Training materials, exercises and resources (32 pages) introduced initially at a training of natural resource managers and ecologists at IMADES in Sonora, Mexico. Tucson, Arizona: Office of Arid Lands Studies, University of Arizona. On-line: http://rangeview.arizona.edu/presentations/rv_intro_spanish_3-31-04.pdf.

Orr, B.J., C. de Rosas and C. McDonald. 2004. Introduction to GPS and GIS for Youth Programs. PowerPoint presentations (170 slides), fact sheets (8), resource materials and a CD ROM, all focused on introducing geospatial technology into youth programming in Cooperative Extension. Tucson, Arizona: Office of Arid Lands Studies, University of Arizona.

Orr, B.J., J. Riggs, J. Schalau and M. Hertzfeld. 2004. Maps, technology and geospatial tools. In: Robert Emanuel (ed). *Arizona Master Watersheds Stewards Program Core Curriculum*. Tucson, Arizona: UA Cooperative Extension.

Skirvin, S., W.G. Kepner, S.E. Marsh, S. Drake, J. Maingi, C. Edmonds, C. Watts and D. Williams. 2004. Assessing the accuracy of satellite-derived land-cover classification using historical aerial photography, digital orthophoto quadrangles and airborne video data. Chapter 9 in: Lunetta R. and J. Lyon (eds). *Remote Sensing and GIS Accuracy Assessment*. Boca Raton, Florida: CRC Press. Pp. 116-129.

Conference Proceedings

Arnold, R. D.M. Quanrud, W. Ela, O. Conroy, J. Zhang and C. Leung. 2004. Total estrogenic activity and nonylphenol concentration at the Roger Road Wastewater Treatment Plant—fates during effluent polishing and implications for water reuse. In: *Proceedings, Seventeenth Annual Symposium of the Arizona Hydrological Society*. Tucson, Arizona: September 15-18, 2004.

Conroy, O., D.M. Quanrud, K.E. Lansey, W. Ela and R.G. Arnold. 2004. Estrogenic and Anti-Estrogenic Activity in Wastewater Effluent: Fate during Soil Aquifer Treatment. In: *Proceedings, 19th Annual WateReuse Symposium*, Phoenix, Arizona, September 19-22, 2004.

Conroy, O., D.M. Quanrud, K.E. Lansey, W. Ela and R.G. Arnold. 2004. Estrogenic and anti-estrogenic activity in wastewater effluent: fate during soil aquifer treatment. In: *Proceedings, Seventeenth Annual Symposium of the Arizona Hydrological Society*. Tucson, Arizona: September 15-18, 2004.

Conroy, O., D.M. Quanrud, R.G. Arnold, W.P. Ela and K.E. Lansey. 2004. Anti-Estrogenic Activity in Wastewater Effluent: Fate during Soil Aquifer Treatment. In: *Proceedings, 4th International Conference on Pharmaceuticals and Endocrine Disrupting Chemicals in Water*. Minneapolis, Minnesota. October 13-15, 2004.

Drake, S. 2004. Supermaps from High Spatial Resolution Satellite Imagery for Vegetation Mapping and Monitoring. Proceedings of the RS2004 Conference (Tenth Biennial USDA Forest Service Remote Sensing Applications Conference), Salt Lake City, Utah, April 5-9, 2004.

Fang, H., S. Liang, M.P. McClaran, W.J.D. van Leeuwen, S. Drake, S.E. Marsh, A. Thomson, R.C. Izaurralde and N.J. Rosenberg. 2004. Deriving land surface biophysical parameters from satellite data for soil carbon sequestration. Proceedings of the 2004 International Geoscience and Remote Sensing Symposium (IGARSS), Anchorage, Alaska, September 20-24, 2004. VI:4277-4280.

Grunberg, W., J.C. Dale, M. Haseltine, N. Lerman, A. Olsson and B.J. Orr. 2004. Web-based map-algebra challenges: A polygon solution. Proceedings of the 24th Annual ESRI International User Conference, August 9-10, 2004, San Diego, California. On-line: <http://gis.esri.com/library/userconf/proc04/docs/pap1665.pdf>.

Grunberg, W., J.C. Dale, M. Haseltine, N. Lerman, A. Olsson and B.J. Orr. 2004. Web-Based Map-Algebra Challenges: A Polygon Solution. Proceedings of the 24th Annual ESRI User Conference. San Diego, California. Paper 1665. <http://www.esri.com/library>.

Mau-Crimmins, T.M. and B.J. Orr. 2004. Monitoring nonnative plants using hand-held GIS technology. Proceedings of the 5th Conference on Research and Resource Management in Southwestern Deserts – Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Sea. May 11-15, 2004 at the Double Tree Hotel in Tucson, Arizona. On-line: <http://www.skyislandalliance.org/madreanconference/>.

Orr, B.J., G.M. Casady, D.G. Tuttle, W.J.D. van Leeuwen, L.E. Baker, C.L. McDonald and S.E. Marsh. 2004. Phenology and trend indicators derived from spatially dynamic bi-weekly satellite imagery to support ecosystem monitoring. Proceedings of the 5th Conference on Research and Resource Management in Southwestern Deserts – Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Sea. May 11-15, 2004 at the Double Tree Hotel in Tucson, Arizona. On-line: <http://www.skyislandalliance.org/madreanconference/>.

Orr, B.J., W. Grunberg, A.B. Cockerham, A.Y. Thwaites, S.H. Severson, N.M.D. Lerman, R.M. Miller, M. Haseltine, B.J. Morehouse, J.T. Overpeck, S.R. Yool, T.W. Swetnam and G.L. Christopherson. 2004. An on-line interface for integrated modeling of wildfire, climate and society for strategic planning for the sky islands. Proceedings of the 5th Conference on Research and Resource Management in Southwestern Deserts – Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Sea. May 11-15, 2004 at the Double Tree Hotel in Tucson, Arizona. On-line: <http://www.skyislandalliance.org/madreanconference/>.

Quanrud, D.M., Bjolseth, I.M., Karpiscak, M., Ela, W., Lansey, K. and Arnold, R. 2004. Fate of estrogenic activity in constructed wetlands receiving wastewater effluent. In: *Proceedings, Seventeenth Annual Symposium of the Arizona Hydrological Society*. Tucson, Arizona: September 15-18, 2004.

Quanrud, D.M., Zhang, J., Teske, S., Dong, H., Orosz-Coghlan, P., Littlehat, P., Conroy, O., Arnold, R., Ela, W. and Lansey, K. 2004. The fate of nonylphenol and total estrogenic activity during wastewater treatment and sludge digestion: a mass balance analysis. In: *Proceedings, 4th International Conference on Pharmaceuticals and Endocrine Disrupting Chemicals in Water*. Minneapolis, Minnesota. October 13-15, 2004.

Quanrud, D.M. 2004. Get smart irrigation controllers. In: *Proceedings, 13th Annual Desert Horticulture Conference*. Tucson, Arizona: May 21, 2004.

van Leeuwen, W.J.D., B.J. Orr, S.E. Marsh, G. Casady, D. Tuttle, L. Baker, E. vander Leeuw, W. Grunberg and C.F. Hutchinson. 2004. The use of MODIS products in a geospatial decision support tool for rangeland monitoring. Proceedings Tenth Biennial USDA Forest Service Remote Sensing Applications Conference, April 5-9, 2004 Salt Lake City, Utah.

van Leeuwen, W.J.D., B.J. Orr, S.E. Marsh, G. Casady, D. Tuttle, L. Baker, E. vander Leeuw, W. Grunberg and C.F. Hutchinson, 2004. The use of MODIS products in a geospatial decision support tool for rangeland monitoring. Tenth Biennial USDA Forest Service Remote Sensing Applications Conference, April 5-9, 2004 Salt Lake City, Utah. "Remote Sensing for Field Users." pp 1-11.

Ward, W. and Quanrud D. 2004. 1,4-dioxane remediation using a constructed wetland. In: *Proceedings, Seventeenth Annual Symposium of the Arizona Hydrological Society*. Tucson, Arizona: September 15-18, 2004.

Zhang, J., Dong, H., Arnold, R. Ela, W., Quanrud, D.M. and Lansey, K., 2004. The fate of nonylphenol and total estrogenic activity during sludge treatment processes. In: *Proceedings, Seventeenth Annual Symposium of the Arizona Hydrological Society*. Tucson, Arizona: September 15-18, 2004.

Reports

Hutchinson, B.S. 2004. *Library-Extension Collaboration Reports, Background Materials and Web Site*. Series of 2004 reports and background papers for the Library-Extension collaboration discussion meetings and planning sessions for a national agricultural information system. Available on the USAIN website at:
http://usain.org/library_extensioncollab/lib_extcollabindex.html.

Laney, N.R., J. Buizer, B.J. Orr, D. Roessner and C. Saltz. 2004. *SAHRA Knowledge Transfer, Education, Stakeholder Engagement and International Program Review: Panel Report and Recommendations*. Tucson, Arizona.

Marsh, S.E., B.J. Orr, W.J.D. van Leeuwen, C.F. Hutchinson, A-M. White, W. Grunberg, L. Baker, G. Casady, Y. Yang, C-L. Kuo, E. vander Leeuw, D. Tuttle, A. Thwaites, B.S. Hutchinson, L.D. Howery, M. Pepper, G.B. Ruyle, P.R. Krausman, J. Cain, D. Schafer, K. Jain and C. Baker. 2004. *Final Report Synergy IV: Extending and Operationalizing Rangeview for Natural Resource Management*. Tucson, Arizona: Arizona Remote Sensing Center.

McClure, M., B.J. Orr, W. van Leeuwen, S.E. Marsh and D. Rautenkranz. 2004. Final Report: Imaging Systems for Identifying Nematode Infestations in Arizona Specialty Crops. Submitted in fulfillment of Award No. FY2003 SCRES-5.

Morehouse, B.J., T.W. Swetnam, J.T. Overpeck, S.R. Yool, G.L. Christopherson and B.J. Orr. 2004. Final Report for EPA Star Grant R-82873201-0 "Climatic and Human Impacts on Fire Regimes in Forests and Grasslands of the U.S. Southwest" Institute for the Study of Planet Earth, Tucson, Arizona.

Quanrud, D.M., K.E. Lansey, W. Ela and R.G. Arnold. 2004. "Estrogenic Activity in Reclaimed Water and Stormwater." *Fall 2004 UA Water Quality Center Research report*. National Science Foundation Multi-University Water Quality Center Bi-Annual Fall Meeting, Arizona State University, Tempe, Arizona. November 8-9, 2004.

Quanrud, D.M., K.E. Lansey, W. Ela and R.G. Arnold. 2004. "Estrogenic Activity in Reclaimed Water and Stormwater." *Spring 2004 UA Water Quality Center Research report*. National Science Foundation Multi-University Water Quality Center Bi-Annual Spring Meeting, University Marriott, Tucson, Arizona. May 4-5, 2004.

Edited Volumes and Newsletters

Waser, K. 2004a. Arid Lands Newsletter, No. 54. Fire Ecology I. Online at <http://ag.arizona.edu/OALS/ALN/aln54/aln54toc.html>

Waser, K. 2004b. Arid Lands Newsletter, No. 55. Fire Ecology II. <http://ag.arizona.edu/OALS/ALN/aln55/aln55toc.html>

Presentations, Talks and Posters

Bashyal, B.P., E.M.K. Wijeratne, C.J. Seliga, L.A. Luevano, S. Faeth and A.A.L. Gunatilaka. 2004. *New Orsellinic Acid Esters from the Endophytic Fungus Chaetomium globosum*. Proceedings of the International Congress on Natural Products Research. Phoenix, Arizona. p. 263 (Abs. # P:238).

Bjolseth, I, D.M. Quanrud, M.M. Karpiscak, W.P. Ela, K.E. Lansey and R.G. Arnold. 2004. Fate of Estrogenic activity during wetland treatment of wastewater effluent and stormwater runoff. Arizona Water Pollution Control Association 77th Annual Conference, Mesa, Arizona. May 5-7, 2004.

Coates, W. 2004. Weed Management: Economic and Environmental Savings. 56th Annual Conference of the California Weed Science Society. January 12-14, 2004. Hyatt Regency Sacramento at Capitol Park. Sacramento, California.

Coates, W.E., R. Ayerza and D. Palzkill. 2004. Supplemental Pollination of Jojoba. Annual Meeting of the Association for the Advancement of Industrial Crops, September 19-22, Minneapolis, Minnesota.

Conroy, O. K. Quast, D.M. Quanrud, W. Ela, R.G. Arnold and K.E. Lansey. 2004. "Estrogenic Activity: Fate during Wastewater Treatment, In-stream Transport and Infiltration." Poster presented at the Sustainable Land Application Conference. Lake Buena Vista, Florida. January 4-8, 2004.

Dong, H., J. Zhang, D.M. Quanrud, K.E. Lansey, W. Ela and R.G. Arnold. 2004. Determination of estrogenic activity in soil from a wastewater effluent recharge basin. Arizona Water Pollution Control Association 77th Annual Conference. Mesa, Arizona. May 5-7, 2004.

Gunatilaka, A.A.L. 2004. Invited Speaker. Studies on Bioactive Agents from Plants and Plant-associated Microorganisms. NaPro Biotherapeutics. Boulder, Colorado. February 16, 2004.

Gunatilaka, A.A.L., E.M.K. Wijeratne, T.J. Turbyville, J. He, B.P. Bashyal, J. Zhang, C.J. Seliga, L.A. Luevano, M.X. Liu, L. Whitesell, L. Meade-Tollin, E.E. Pierson, L.S. Pierson, H.D. VanEtten and S. Faeth. 2004. Bioactive Agents from Sonoran Desert Plant-associated Microorganisms. Proceedings of the International Congress on Natural Products Research. p. 50 (Abs. # O:20). Phoenix, Arizona. July 31-August 4, 2004.

Hutchinson, B.S. 2004. "AgNIC: A Digital Collaboration to Bring Reliable Information to the Agriculture Community." Exploratory Meeting on Collaboration for an Agricultural Outreach and Information System in conjunction with the National Extension Director's Annual Meeting. Phoenix, Arizona. February 18, 2004.

Hutchinson, B.S. 2004. "*Challenges and Opportunities for the 21st Century Land Grant Library*" Invited presentation at Kansas State University. Manhattan, Kansas. April 6, 2004.

Hutchinson, B.S. 2004. "*Partnership Opportunity with Cooperative Extension.*" AgNIC Alliance Annual Meeting. Beltsville, Maryland. May 8, 2004.

Hutchinson, B.S. 2004. "*Rangelands West: A Partnership for Bringing Value-Added Rangeland Management Information To the Web.* University of Hawaii Libraries. ." Honolulu, Hawaii. March 2, 2004.

Hutchinson, B.S. 2004. "*The AgNIC Initiative and the Potential for Library-Extension Collaborations.*" ARL Land-Grant Library Director's Meeting. Tucson, Arizona. May 14, 2004.

Hutchinson, B.S. 2004. Poster. *The Agriculture Network Information Center (AgNIC): A Library and Extension Collaboration Using Information Technologies.* Annual Conference of the College of Agriculture and Life Sciences, University of Arizona, Tucson, Arizona. August 31, 2004.

Hutchinson, B.S. 2004. *The Agriculture Network Information Center (AgNIC): An International Library and Extension Collaboration Using Information Technologies.* AIAEE 20th Annual Conference "Education and Extension for Multi-Functional Agriculture." Dublin, Ireland. May 24-27, 2004.

Hutchinson, B.S. and J. Elliot. 2004. "*In a Market-Driven, High-Tech World, Is the Land-Grant Model Still Viable?*" AIAEE 20th Annual Conference. Dublin, Ireland. May 25, 2004.

Hutchinson, C.F. 2004. Desertification: Seven Challenges for the Social Sciences Workshop organized by the Center for Environmental Studies, Lund University, Sweden. Institute of Landscape Ecology, Nové Hradý, Czech. September 20, 2004.

Hutter, L.K., S.P. McLaughlin, A. Fritz and A.A.L. Gunatilaka. 2004. Bioactive and other constituents of *Melampodium leucanthum*. 2004 International Congress on Natural Products Research. p. 471 (Abs. # P:567). Phoenix, Arizona. July 31-August 4, 2004.

McCloskey, W.B. and W. Coates. 2004. *Precision Cultivation & Weed Control, Past and Future.* Sacramento, California. January 13, 2004.

McGee, J., K. Vlasek, B.J. Orr, J. Nowatski, N. Watermeier and P. Rasmussen. 2004. Poster: National geospatial technology extension network. Soil and Water Conservation Society 59th Annual Conference. St. Paul, Minnesota. July 25-28, 2004.

Orr, B.J. 2004. Arizona's Geospatial Extension Program. ASPRS Fall Conference, Kansas City, Missouri. September 15, 2004.

Orr, B.J. 2004. Conducted an advanced RangeView training. Arizona Cattle Growers' Association Workshops – Part II. Kingman and Prescott, Arizona. February 27-29 2004.

- Orr, B.J. 2004. Geographic Coordinate Systems. Geospatial Technologies Seminar. Salt Lake City, Utah. October 4-7, 2004.
- Orr, B.J. 2004. Geospatial Extension in Arizona: A Technology Transfer Model. University of Arizona Atmospheric Science Seminar. Tucson, Arizona. January 22, 2004.
- Orr, B.J. 2004. Invited Speaker. An On-line Interface for Integrated Modeling of Wildfire, Climate and Society for Strategic Planning for the Sky Islands. Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Seas. Tucson, Arizona. May 12-13, 2004.
- Orr, B.J. 2004. Invited Speaker. Keynote address: Exposure (based on a speech given by Dr. Gene Levy in April 2000). Arizona Space Grant Symposium Banquet, Tucson, Arizona. April 24, 2004.
- Orr, B.J. 2004. Invited Speaker. Phenology and Trend Indicators Derived from Spatially Dynamic Bi-weekly Satellite Imagery to Support Ecosystem Monitoring. Biodiversity and Management of the Madrean Archipelago II: Connecting Mountain Islands and Desert Seas. Tucson, Arizona. May 12-13, 2004.
- Orr, B.J. 2004. NASA Space Grant in Arizona. Arizona Space Grant Symposium Banquet, Tucson, Arizona. April 23, 2004.
- Orr, B.J. 2004. Rangelands West Workshop. RangeView training for a combination of rangeland specialists and library information science experts from Land Grant universities across the western U.S. Tucson, Arizona. March 17, 2004.
- Orr, B.J. 2004. RangeView: Decision Support in the Changing. UA College of Agriculture and Life Sciences Annual Conference, Tucson, Arizona. September 1, 2004.
- Orr, B.J. 2004. Remote Sensing 102: Basics, Data Sources and On-line Geospatial Technologies Seminar. Salt Lake City, Utah. October 4-7, 2004.
- Orr, B.J. 2004. Spatially and Temporally Dynamic Decision Support for Natural Resource Monitoring. Soil and Water Conservation Society 59th Annual Conference, St. Paul, Minnesota. July 28, 2004.
- Orr, B.J. 2004. The Geospatial Extension Program: Translational Science and Technology Transfer. International Conference on Resources, Ecosystems and Sustainability of Arid and Semi-arid Regions. Xinjiang University, Urumuqi, China. September 8-10, 2004.
- Orr, B.J. 2004. Wildfire Alternatives (WALTER). UA College of Agriculture and Life Sciences Annual Conference, Tucson, Arizona. Presented September 1, 2004.
- Orr, B.J. and C. McDonald. 2004. Enhancing Ground Monitoring through RangeView's Satellite-derived Vegetation Indices. Red Rock Allotments Workshop. Sonoita, Arizona. March 9, 2004.

Orr, B.J. and C. Wissler. 2004. Introduction to ArcView® GIS for Youth Development & 4-H Agents. Tucson, Arizona. July 6-8, 2004.

Orr, B.J. and E. Benally. 2004. "Mapping and Documenting Infestations." Southwestern Noxious/Invasive Weed Short Course. Full day hands-on training in digital geospatial field mapping with support of 7 students from Diné College. Farmington, New Mexico July 21, 2004.

Orr, B.J. and G. Christopherson. 2004. WALTER's Fire-Climate-Society (FCS-1) Strategic Wildfire Planning Model. Arizona Governor's Forest Health Advisory Council. Phoenix, Arizona. February 13, 2004.

Orr, B.J. and R. Radden. 2004. Conducted a workshop on field mapping basics employing geospatial technology. Master Watershed Steward Program: Yavapai. Prescott, Arizona. October 19, 2004.

Orr, B.J., B. Morehouse, G. Christopherson, T. Swetnam, S. Yool. 2004. Wildfire Alternatives (WALTER) Beta Tests: Chiracahua, Huachuca, Catalina-Rincon Mountains, Arizona. and Jemez Mountains (New Mexico). Conducted user test of the Fire-Climate-Society (FCS-1) fire probability/values at risk model. Chiracahua, Huachuca, Catalina-Rincon and Jemez Mountains. January 27, 29, February 3, 10, 2004.

Orr, B.J., C. McDonald, A. Olsson, D. Nofchissey and C. de Rosas. 2004. Conducted "Introduction to GPS and GIS for Youth Programs" workshop for 4-H and Youth Development Cooperative Extension Agents in Arizona. 4-H and Youth Development Workshop. Phoenix, Arizona. April 2, 2004.

Orr, B.J., D. Wall, J. Matlock, D. Isely, M. Walter, M. Tapaha, J. Paul, R. Begaye, J. Nelson, N. Jeli, T. Clark, P. Lansing, S. Liton, C. Tso, D. Bradley, M. Deschinny, A. Tso, J. Martinez, L. Tso, E. Benally, D. Nofchissey, L. Baker, N. Sanova and D. Rautenkranz. 2004. Navajo Watershed Research Project: Final Presentation. Shiprock, New Mexico. rfttttttttnye. Navajo Watershed Research Project: Summer 2004 Program. Shiprock, New Mexico and Tsaile, Arizona. April 5-6, 2004.

Orr, B.J., R. Paredes and J. Valverde. 2004. RangeView—IMADES Collaborative Planning Session. Instituto del Medio Ambiente y el Desarrollo Sustentable del Estado do Sonora. Hermisillo, Sonora, Mexico. February 11, 2004.

Orr, B.J., S.E. Marsh, C. McDonald and C. de Rosas. 2004. Eyes in the Sky, Pueblo High School: RangeView workshop for students and educators. Tucson, Arizona. June 16, 2004.

Orr, B.J. and J. Riggs. 2004. Conducted a workshop on field mapping basics employing geospatial technology. Master Watershed Steward Program: Graham. Benson, Arizona. August 10, 2004.

Orr, B.J. and J. Overpeck. 2004. Presented "Climate, Drought, Forest Health and Society." U.S. Senate Committee on Commerce, Science and Transportation: Staff Tour of Key University of Arizona Science Initiatives. Tucson, Arizona. May 25, 2004.

Orr, B.J., D. Jenkins, D. Price, E. Benally, M. Walter and D. Isely. 2004. Organized a panel of Navajo professionals using geospatial technology in their careers to speak at two Diné College campuses. Role of Geospatial Technology in Career Opportunities for Diné College Students. Shiprock, New Mexico and Tsaile, Arizona. April 5-6, 2004.

Orr, B.J., R. Miller, R. Parades, H. Rodriguez, C. de Rosa, C. McDonald. 2000. RangeView-IMADES: Training for Natural Resources in Sonora. RangeView: Taller para Directores de Recursos Naturales. Hermosillo, Sonora, Mexico. March 13, 2004.

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