

## ABBREVIATED CURRICULUM VITAE

### Franco Biondi

#### University Degrees

- 1990-'94 Ph.D., Watershed Management and Geosciences; University of Arizona, Tucson.  
 1985-'87 M.S., Watershed Management; University of Arizona, Tucson  
 1980-'85 Laurea *summa cum laude* (Italian Doctorate <sup>1</sup>), Forestry; Università di Firenze, Italy.

#### Academic Appointments and Titles (since 2000)

- 2017-present **Professor**, Department of Natural Resources and Environmental Science, University of Nevada, Reno (UNR).  
 2008-present **Faculty Member**, Interdisciplinary Graduate Program in Environmental Sciences, UNR.  
 2007-present **Senior Ecologist**, Board of Professional Certification, Ecological Society of America (ESA).  
 2007-present **External Faculty Member**, PhD Program in “Scienze e Tecnologie per la Gestione Forestale e Ambientale”, University of Tuscia, Viterbo, Italy.  
 2005-present **Faculty Member**, PhD Program in Ecology, Evolution and Conservation Biology, UNR.  
 2000-present **Faculty Member**, Graduate Program of Hydrologic Sciences, UNR.  
 2000-present **Director**, DendroLab, UNR.  
 2011-2016 **Professor**, Department of Geography, UNR.  
 2005-2010 **Associate Professor**, Department of Geography, UNR.  
 2000-2005 **Assistant Professor**, Department of Geography, UNR.  
 1998-2000 **Adjunct Professor**, Biology Department, San Diego State University, San Diego.  
 1997-2000 **Assistant Project Scientist**, Geosciences Research Division, Scripps Institution of Oceanography, University of California-San Diego, La Jolla.

#### Research Honors (since 2000)

- 2019 **h-index** of 39, i-10 index of 71 (Google Scholar).  
 2018 **Haury Visiting Scholar**, *Laboratory of Tree-Ring Research*, The University of Arizona, Tucson.  
 2017 **Habilitation Committee Member**, Fakultät Wissenschaftszentrum Weihenstephan für Ernährung, Landnutzung und Umwelt, *Technische Universität München*, Germany.  
 2015 **Invited Visiting Professor** (“*Poste Rouge*”), Laboratoire d’Ecologie Fonctionnelle et Environnement (EcoLab), *Université Toulouse III*, France.  
 2014 **Bullard Visiting Fellow**, Harvard Forest, *Harvard University*, Petersham, Massachusetts.  
 2013 **Visiting Scientist**, Oeschger Centre for Climate Change Research, *University of Bern*, and Swiss Federal Institute for Forest, Snow and Landscape Research (*WSL-Birmensdorf*), Zurich, Switzerland.  
 2013 **Visiting Fellow**, Cooperative Institute for Research in Environmental Science (CIRES), *University of Colorado, Boulder*.  
 2011 **Fulbright Senior Specialist** in Environmental Science, Department of Agriculture, Forests, Nature and Energy (DAFNE), *University of Tuscia*, Viterbo, Italy.  
 2008 **Hyung K. Shin Award** for Excellence in Research, College of Science, UNR.  
 2008 **Outstanding Researcher Award**, Mackay School of Earth Sciences and Engineering, UNR.  
 2007 **Visiting Fellow**, Chair of Terrestrial Ecology, *Swiss Federal Institute of Technology (ETH)*, Zurich, Switzerland.  
 2007 **Blaustein Visiting Fellow**, School of Earth Sciences, *Stanford University*, California.  
 2001 **Paper of the Year Award**, Climate Specialty Group, Association of American Geographers.

#### Peer-Reviewed Publications (since 2000) <sup>2</sup>

- (submitted) Truettner, C., M.D. Dettinger, E. Ziaco, A.Z. Csank, and **F. Biondi**. Mesoscale analysis of the 2011 – 2017 North American Monsoon near its northwest boundary.  
 (in review) **Biondi, F.** and D. Meko. Long-Term Hydroclimatic Patterns in the Truckee-Carson Basin of the Eastern Sierra Nevada, USA.

<sup>1</sup> No higher degrees in this major were awarded by Italian Universities at that time.

<sup>2</sup> Articles in preparation were not included

- (accepted) Cameletti, M. and **F. Biondi**. Hierarchical modeling of space-time dendroclimatic fields: Comparing a frequentist and a Bayesian approach. *Arctic, Antarctic, and Alpine Research*.
- (accepted) Piovesan, G., **F. Biondi**, M. Baliva, G. De Vivo, V. Marchiano, A. Schettino, and A. Di Filippo. Lessons from the wild: Slow but increasing long-term growth allows for maximum longevity in European beech. *Ecology*.
- (accepted) Quarta, G., A. Di Filippo, L. Calcagnile, M. D’Elia, **F. Biondi**, E. Presutti Saba, M. Baliva, G. De Vivo, A. Schettino, and G. Piovesan. Identifying the 993-994 CE Miyake event in the oldest dated living tree in Europe. *Radiocarbon*.
- (in press) Piovesan, G., **F. Biondi**, M. Baliva, A. Dinella, L. Di Fiore, V. Marchiano, E. Presutti Saba, G. De Vivo, A. Schettino, and A. Di Filippo. Tree growth patterns associated with extreme longevity: Implications for the ecology and conservation of primeval trees in a changing world. *Anthropocene*, doi: 10.1016/j.ancene.2019.100199.
- (in press) Kilpatrick, M., J. Roberts, and **F. Biondi**. Fire history of an old-growth ponderosa pine stand in the Sheep Range, Desert National Wildlife Refuge, Nevada, USA. *Tree-Ring Research*, doi: 10.3959/TRR2018-13.
- 2019 Ren, P., E. Ziacco, S. Rossi, **F. Biondi**, P. Prislan, and E. Liang. Growth rate rather than growing season length determines wood biomass in dry environments. *Agricultural and Forest Meteorology* 271: 46-53.
- 2018 Ziacco, E. and **F. Biondi**. Stem circadian phenology of four pine species in naturally contrasting climates from sky-island forests of the western USA. *Forests* 9 (7), art.396 (21 pp.), doi: 10.3390/f9070396.
- 2018 Piovesan, G., **F. Biondi**, M. Baliva, L. Calcagnile, G. Quarta, and A. Di Filippo. Dating old hollow trees by applying a multistep tree-ring and radiocarbon procedure to trunk and exposed roots. *MethodsX* 5: 495-502.
- 2018 Piovesan, G., **F. Biondi**, E. Presutti Saba, M. Baliva, L. Calcagnile, G. Quarta, M. D’Elia, G. De Vivo, A. Schettino, and A. Di Filippo. The oldest dated tree of Europe lives in the wild Pollino massif: *Italus*, a strip-bark Heldreich's pine. *Ecology* 99(7): 1682-1684.
- 2018 Ziacco, E., C. Truettner, **F. Biondi**, and S. Bullock. Moisture-driven xylogenesis in *Pinus ponderosa* from a Mojave Desert mountain reveals high phenological plasticity. *Plant, Cell & Environment* 41(4): 823–836.
- 2018 Truettner, C., W.R.L. Anderegg, **F. Biondi**, G.W. Koch, K. Ogle, C. Schwalm, M.E. Litvak, J.D. Shaw, and E. Ziacco. Conifer radial growth response to recent seasonal warming and drought from the southwestern USA. *Forest Ecology and Management* 418: 55–62.
- 2018 Hackett-Pain, A.J., D. Ascoli, G. Vacchiano, **F. Biondi**, L. Cavin, M. Conedera, I. Drobyshev, I. Dorado Liñán, A.D. Friend, M. Grabner, C. Hartl, J. Kreyling, F. Lebourgeois, T. Levanic, A. Menzel, E. van der Maaten, M. van der Maaten-Theunissen, L. Muffler, R. Motta, C.-C. Roibu, I. Popa, T. Scharnweber, R. Weigel, M. Wilmking, and C. Zang. Climatically controlled reproduction drives inter-annual growth variability in a temperate tree species. *Ecology Letters* 21(12): 1833-1844.
- 2018 Devitt, D., B. Bird, B. Lyles, L. Fenstermaker, R. Jasoni, S. Strachan, J. Arnone, **F. Biondi**, S. Mensing, and L. Saito. Assessing near surface hydrologic processes and plant response over a 1600 m mountain valley gradient in the Great Basin, NV, U.S.A. *Water* 10(4), article 420 (21 pp.), doi:10.3390/w10040420.
- 2017 Di Filippo, A., **F. Biondi**, G. Piovesan, and E. Ziacco. Tree-ring based metrics for assessing old-growth forest naturalness. *Journal of Applied Ecology* 54(3): 737–749.
- 2017 Schwalm, C., W.R.L. Anderegg, A.M. Michalak, J.B. Fisher, **F. Biondi**, G. Koch, M. Litvak, K. Ogle, J.D. Shaw, A. Wolf, D.N. Huntzinger, K. Schaefer, R. Cook, Y. Wei, Y. Fang, D. Hayes, M. Huang, A. Jain, and H. Tian. Global patterns of drought recovery. *Nature* 548(7666): 202-205.
- 2016 Ziacco, E. and **F. Biondi**. Tree growth, cambial phenology, and wood anatomy of limber pine at a Great Basin (USA) mountain observatory. *Trees - Structure and Function* 30: 1507–1521.
- 2016 Ziacco, E., **F. Biondi**, and I. Heinrich. Wood cellular dendroclimatology: Testing new proxies in Great Basin bristlecone pine. *Frontiers in Plant Science - Functional Plant Ecology* 7:1602 (13 pp.), doi: 10.3389/fpls.2016.01602.

- 2016 Ziaco, E., **F. Biondi**, S. Rossi, and A. Deslauriers. Environmental drivers of cambial phenology in Great Basin bristlecone pine. *Tree Physiology* 36: 818–831.
- 2015 **Biondi, F.** Dendrochronology, Volcanic Eruptions. Pp. 221-227 in W.J. Rink and J.W. Thompson (Eds.), *Encyclopedia of Scientific Dating Methods*, Springer-Verlag, Berlin-Heidelberg.
- 2015 **Biondi, F.** and S. Rossi. Plant-water relationships in the Great Basin Desert of North America derived from *Pinus monophylla* hourly dendrometer records. *International Journal of Biometeorology* 59(8): 939-953.
- 2015 Zang, C. and **F. Biondi**. *treeclim*: an R package for the numerical calibration of proxy-climate relationships. *Ecography* 38: 431–436.
- 2015 Saito, L., **F. Biondi**, R. Devkota, J. Vittori, and J. Salas. A water-balance approach for reconstructing streamflow using tree-ring proxy records. *Journal of Hydrology* 529(Part 2): 535–547.
- 2015 Salas, J.D., Z. Tarawneh, and **F. Biondi**. A hydrological record extension model for reconstructing streamflows from tree-ring chronologies. *Hydrological Processes* 29(4): 544–556.
- 2015 Anderegg, W.R.L., C. Schwalm, **F. Biondi**, J.J. Camarero, G. Koch, M. Litvak, K. Ogle, J.D. Shaw, E. Shevliakova, A.P. Williams, A. Wolf, E. Ziaco, and S. Pacala. Pervasive drought legacies in forest ecosystems and their implications for carbon cycle models. *Science* 349 (6247): 528-532.
- 2014a **Biondi, F.** Dendroclimatic reconstruction at kilometer-scale grid points: A case study from the Great Basin of North America. *Journal of Hydrometeorology* 15(2): 891-906.
- 2014b **Biondi, F.** Paleocology Grand Challenge. *Frontiers in Ecology and Evolution* 2: 1-3 (article 50), doi: 10.3389/fevo.2014.00050.
- 2014 **Biondi, F.**, M. Hay, and S. Strachan. The Tree-Ring Interpolation Model (TRIM) and its application to *Pinus monophylla* chronologies in the Great Basin of North America. *Forestry* 87(4): 582–597.
- 2014a Ziaco, E., **F. Biondi**, S. Rossi, and A. Deslauriers. Climatic influences on wood anatomy and tree-ring features of Great Basin conifers at a new mountain observatory. *Applications in Plant Sciences* 2(10): 1400054 (13 pages), doi: 10.3732/apps.1400054.
- 2014b Ziaco, E., **F. Biondi**, S. Rossi, and A. Deslauriers. Intra-annual wood anatomical features of high-elevation conifers in the Great Basin, USA. *Dendrochronologia* 32(4): 303–312.
- 2014 McLauchlan, K., P. E. Higuera, D. G. Gavin, S. S. Perakis, M. C. Mack, H. Alexander, J. Battles, **F. Biondi**, B. Buma, D. Colombaroli, S. Enders, D. R. Engstrom, F. S. Hu, J. R. Marlon, J. Marshall, M. McGlone, J. L. Morris, L. E. Nave, B. N. Shuman, E. Smithwick, D. H. Urrego, D. A. Wardle, C. J. Williams, J. J. Williams. Reconstructing disturbances and their biogeochemical consequences over multiple timescales. *BioScience* 64(2): 105-116.
- 2013 **Biondi, F.** The fourth dimension of interdisciplinary modeling. *Journal of Contemporary Water Resources Education (JCWRE)* 152: 42-48.
- 2013 **Biondi, F.** and M. Bradley. Long-term survivorship of single-needle pinyon (*Pinus monophylla*) in mixed-conifer ecosystems of the Great Basin, USA. *Ecosphere* 4(10): art 120 (19 pages).
- 2013 Zang, C. and **F. Biondi**. Dendroclimatic calibration in R: The *bootRes* package for response and correlation function analysis. *Dendrochronologia* 31: 68-74.
- 2013 Di Filippo, A., **F. Biondi**, E. Ziaco, and G. Piovesan. Dendroecological networks to investigate forest dynamics: The case of European beech in Italy. Pp. 134-143 in G. Helle, H. Gärtner, W. Beck, I. Heinrich, K.-U. Heußner, A. Müller, and T. Sanders (editors), *TRACE – Tree Rings in Archaeology, Climatology and Ecology*. Scientific Technical Report STR13/05, German Research Centre for Geosciences (GFZ), Potsdam, Germany.
- 2013 Kilpatrick, M., **F. Biondi**, S. Strachan, and J.S. Sibold. Fire history of mixed conifer ecosystems in the Great Basin/Mojave Deserts transition zone, Nevada, USA. *Trees - Structure and Function* 27: 1789–1803.
- 2013 Strachan, S., **F. Biondi**, S.G. Lindström, R. McQueen, and P.E. Wigand. Application of dendrochronology to historic charcoal production sites in the Great Basin, USA. *Historical Archaeology* 47(4): 103–119.

- 2013 Mensing, S., S. Strachan, J. Arnone, L. Fenstermaker, **F. Biondi**, D. Devitt, B. Johnson, B. Bird, and E. Fritzinger. A network for observing Great Basin climate change. *Eos, Transactions American Geophysical Union* 94(11): 105-106.
- 2012 **Biondi, F.**, and S.. Strachan. Dendrohydrology in 2050: Challenges and Opportunities. Pp. 355-362 in W. Grayman, P. Loucks, and L. Saito (editors), *Toward a Sustainable Water Future: Visions for 2050*, American Society of Civil Engineers (ASCE), Reston, Virginia.
- 2012 Strachan, S., **F. Biondi**, and J. Leising. A 550-year reconstruction of streamflow variability in Spring Valley, Nevada, USA. *Journal of Water Resources Planning and Management* 138: 326-333.
- 2012 Cheek, J.W., **F. Biondi**, J.S. Sibold, and R. Tausch. Fuel analysis and potential fire behavior in mixed conifer woodlands of the Great Basin, Nevada, USA. *Physical Geography* 33(3): 205–228.
- 2012 Ziaco, E., **F. Biondi**, A. Di Filippo, and G. Piovesan. Biogeoclimatic influences on tree growth releases identified by the boundary line method in beech (*Fagus sylvatica* L.) populations of southern Europe. *Forest Ecology and Management* 286: 28–37.
- 2012 Di Filippo, A., **F. Biondi**, M. Maugeri, B. Schirone, and G. Piovesan. Bioclimate and growth history affect beech lifespan in the Italian Alps and Apennines. *Global Change Biology* 18: 960-972.
- 2011 **Biondi, F.**, L. Jamieson, S. Strachan, and J. Sibold. Dendroecological testing of the pyroclimatic hypothesis in the central Great Basin, Nevada, USA. *Ecosphere* 2(1): art 5 (20 pages).
- 2011 Alessandrini, A., **F. Biondi**, A. Di Filippo, E. Ziaco, and G. Piovesan. Tree size distribution at increasing spatial scales converges to the rotated sigmoid curve in two old-growth beech stands of the Italian Apennines. *Forest Ecology and Management* 262: 1950–1962.
- 2011 Piovesan, G., A. Alessandrini, **F. Biondi**, A. Di Filippo, B. Schirone, and E. Ziaco. Bioclimatology, growth processes, longevity and structural attributes in an Italian network of old-growth beech forests spreading from the Alps to the Apennines. Pp. 173-192 in H.D. Knapp and A. Fichtner (editors), *Beech Forests: A Joint Natural Heritage of Europe*, BfN-Skripten, Vol. 297, Federal Agency for Nature Conservation, Bonn, Germany.
- 2011 Kleppe, J.A., D.S. Brothers, G. Kent, **F. Biondi**, S.E. Jensen, and N. Driscoll. Duration and severity of medieval drought in the Lake Tahoe Basin. *Quaternary Science Reviews* 30: 3269-3279.
- 2011 McMahan Jr., M., S.M. Dascalu, F.C. Harris Jr., S. Strachan, and **F. Biondi**. Architecting Climate Change Data Infrastructure for Nevada. Pp. 354-365 in C. Salinesi and O. Pastor (editors), *Advanced Information Systems Engineering Workshops CAISE-2011*, Lecture Notes in Business Information Processing, LNBIP-83, Springer, London, UK.
- 2010 **Biondi, F.**, and P. Hartsough. Using automated point dendrometers to analyze tropical treeline stem growth at Nevado de Colima, Mexico. *Sensors* 10: 5827-5844.
- 2010 **Biondi, F.**, and I. Galindo Estrada. Tree-ring evidence for the 1913 eruption of Volcán de Fuego de Colima, Mexico. Pp. 453-464 in M. Stoffel, M. Bollschweiler, D. R. Butler, and B. H. Luckman (eds.), *Tree Rings and Natural Hazards: A State-of-the-Art*, Series “Advances in Global Change Research” Vol. 41, Springer, New York.
- 2010 Solander, K., L. Saito, and **F. Biondi**. Streamflow simulation using a water-balance model with annually-resolved inputs. *Journal of Hydrology* 387: 46–53.
- 2010 Di Filippo, A., A. Alessandrini, **F. Biondi**, S. Blasi, L. Portoghesi, and G. Piovesan. Climate change and oak growth decline: Dendroecology and stand productivity of a Turkey oak (*Quercus cerris* L.) old stored coppice in Central Italy. *Annals of Forest Science* 67 (7): 14 pages, DOI: 10.1051/forest/2010031.
- 2010 Snyder, K.A., R. Monnar, S.R. Poulson, P. Hartsough, and **F. Biondi**. Diurnal variations of needle water isotopic ratios in two pine species. *Trees* 24: 585–595.
- 2009 **Biondi, F.**, P. Hartsough, and I. Galindo Estrada. Recent warming at the tropical treeline of North America. *Frontiers in Ecology and the Environment* 7(9): 463–464.
- 2009 Dilts, T.E., J.S. Sibold, and **F. Biondi**. A weights-of-evidence model for mapping the probability of fire occurrence in Lincoln County, Nevada. *Annals of the Association of American Geographers* 99(4): 712–727.

- 2009 Kozubowski, T. J., A.K. Panorska, and F. Biondi. Mixed multivariate models for random sums and maxima. In: A. SenGupta (Ed.), *Advances in Multivariate Statistical Methods*, Vol. 4, Statistical Science and Interdisciplinary Research, World Scientific, Singapore, pp. 145-171.
- 2009 Piovesan, G., E. Presutti Saba, F. Biondi, A. Alessandrini, A. Di Filippo, and B. Schirone. Population ecology of yew (*Taxus baccata* L.) in the Central Apennines: Spatial patterns and their relevance for conservation strategies. *Plant Ecology* 205(1): 23–46.
- 2008a Biondi, F., and F. Qeadan. Inequality in paleorecords. *Ecology* 89(4): 1056–1067.
- 2008b Biondi, F., and F. Qeadan. A theory-driven approach to tree-ring standardization: Defining the biological trend from expected basal area increment. *Tree-Ring Research* 64(2): 81–96.
- 2008 Biondi, F., T.J. Kozubowski, A.K. Panorska, and L. Saito. A new stochastic model of episode peak and duration for eco-hydro-climatic applications. *Ecological Modelling* 211: 383-395.
- 2008 Kirchner, P., F. Biondi, R. Edwards, and J. McConnell. Variability of trace metal concentrations in Jeffrey pine (*Pinus jeffreyi*) tree rings from the Tahoe Basin, California, USA. *Journal of Forest Research* 13: 347–356.
- 2008 Piovesan, G., F. Biondi, A. Di Filippo, A. Alessandrini, and M. Maugeri. Drought-driven growth reduction in old beech (*Fagus sylvatica*) forests of the central Apennines, Italy. *Global Change Biology* 14(6): 1265–1281.
- 2008 Saito, L., F. Biondi, J.D. Salas, A.K. Panorska, and T.J. Kozubowski. A watershed modeling approach to streamflow reconstruction from tree-ring records. *Environmental Research Letters* 3: 024006 (6pp); doi:10.1088/1748-9326/3/2/024006.
- 2008 Hartsough, P.C., S.R. Poulson, F. Biondi, and I. Galindo Estrada. Stable isotope characterization of the ecohydrological cycle at a tropical treeline site. *Arctic, Antarctic, and Alpine Research* 40(2): 343–354.
- 2007 Biondi, F., S.D.J. Strachan, S.A. Mensing, and G. Piovesan. Radiocarbon analysis confirms the annual nature of sagebrush growth rings. *Radiocarbon* 49(3): 1231-1240.
- 2007 Di Filippo, A., F. Biondi, K. Cufar, M. de Luis, M. Grabner, M. Maugeri, E. Presutti Saba, B. Schirone, and G. Piovesan. Bioclimatology of beech (*Fagus sylvatica* L.) on the Eastern Alps: spatial and altitudinal climatic signals identified through a tree-ring network. *Journal of Biogeography* 34(11): 1873-1892.
- 2006 North, G.R., F. Biondi, P. Bloomfield, Christy, J. R., Cuffey, K. M., Dickinson, R. E., Druffel, E. R., Nychka, D., Otto-Bliesner, B., Roberts, N., Turekian, K. K., Wallace, J. M. *Surface Temperature Reconstructions for the Last 2,000 Years*, National Research Council, The National Academies Press, Washington, D.C., 196 pp.
- 2006 Py, C., J. Bauer, P.J. Weisberg, and F. Biondi. Radial growth responses of singleleaf pinyon (*Pinus monophylla*) to wildfire. *Dendrochronologia* 24: 39-46.
- 2005 Biondi, F., P.C. Hartsough, and I. Galindo Estrada. Daily weather and tree growth at the tropical treeline of North America. *Arctic, Antarctic, and Alpine Research* 37(1): 16-24.
- 2005 Biondi, F., T.J. Kozubowski, and A.K. Panorska. A new model for quantifying climate episodes. *International Journal of Climatology* 25(9): 1253-1264.
- 2005 Piovesan, G., F. Biondi, M. Bernabei, A. Di Filippo, and B. Schirone. Spatial and altitudinal bioclimatic zones of the Italian peninsula identified from a beech (*Fagus sylvatica* L.) tree-ring network. *Acta Oecologica* 27: 197–210.
- 2005 Piovesan, G., A. Di Filippo, A. Alessandrini, F. Biondi, and B. Schirone. Structure, dynamics, and dendroecology of an old-growth *Fagus* forest in the Apennines. *Journal of Vegetation Science* 16: 13-28.
- 2004 Biondi, F. and K. Waikul. DENDROCLIM2002: A C++ program for statistical calibration of climate signals in tree-ring chronologies. *Computers & Geosciences* 30(3): 303-311.
- 2003 Biondi, F., I. Galindo Estrada, J.C. Gavilanes R., and A. Elizalde Torres. Tree growth response to the 1913 eruption of Volcán de Fuego de Colima, Mexico. *Quaternary Research* 59(3): 293-299.
- 2003 Weinheimer, A. and F. Biondi. Paleoclimatology: Varves. In: J.R. Holton, J.A. Pyle, and J.A. Curry (editors), *Encyclopedia of Atmospheric Sciences*, Academic Press, London, Vol.4, pp. 1680-1684.
- 2002 Biondi, F., T.J. Kozubowski, and A.K. Panorska. Stochastic modeling of regime shifts. *Climate*

- Research** 23: 23-30.
- 2002 Redmond, K.T., Y. Enzel, P.K. House, and F. Biondi. Climate variability and flood frequency at decadal to millennial time scales. In: P.K. House, R.H. Webb, V.R. Baker, and D.R. Levish (eds.), *Ancient Floods, Modern Hazards: Principles and Applications of Paleoflood Hydrology*, Water Science and Application Vol.5, American Geophysical Union, San Francisco, pp. 21-45.
- 2001 Biondi, F. A 400-year tree-ring chronology from the tropical treeline of North America. *Ambio* 30: 162-166.
- 2001 Biondi, F., A. Gershunov, and D.R. Cayan. North Pacific decadal climate variability since AD 1661. *Journal of Climate* (Letters) 14: 5-10.
- 2000 Biondi, F. Are climate-tree growth relationships changing in north-central Idaho? *Arctic, Antarctic, and Alpine Research* 32: 111-116.

### Competitive Research Grants (since 2000)

#### Current

- Relationships Between Regional Climatic Patterns, Wood Anatomy, and Hydraulic Architecture of Conifer Species in the Western US*, NSF Paleo Perspectives on Climate Change (P2C2) Program, \$461,883; **P.I., 2015-'20**.
- Fire History and Climate Change in Old-Growth Ponderosa Pine Habitats of the Sheep Range, Desert National Wildlife Refuge, Nevada*, US Fish & Wildlife Service, Pacific Southwest Region, \$85,000; **sole P.I., 2015-'19**.
- Calibration of blue light reflectance for tree-ring analysis*, USFS Rocky Mountain Research Station, \$43,031; **sole P.I., 2015-'19**.
- Past Extension of the North American Monsoon System (NAMS) into the Great Basin Reconstructed from Cell-to-Ecosystem Dendrochronology*, NSF Paleo Perspectives on Climate Change (P2C2) Program, \$453,519; **sole P.I., 2014-'19**.

#### Completed

- Dendrochronological Analysis of Wood Samples Associated with Archaeological Features in the Roberts Mountains Area, Nevada*, Kautz Environmental Consultants, \$ 59,500; **sole P.I., 2018-'19**.
- Water balance reconstructions obtained from a watershed model with proxy climate inputs*, Office of Research and Innovation, Research Enhancement Grant (REG) Program, University of Nevada, Reno, \$23,000; **sole P.I., 2017-'18**.
- Planning for a Great Basin Ecological Observatory: from NevCAN to the Spring Valley Field Station*, NSF Improvements in Facilities, Communications, and Equipment at Biological Field Stations and Marine Laboratories (FSML) Program, \$24,993; **sole P.I., 2016-'17**.
- Collaborative Research: Extreme Events and Ecological Acclimation: Scaling from Cells to Ecosystems*, NSF Macrosystem Biology Program, \$92,385; **Co-P.I., 2014-'17**.
- Refinement of Historical Variability and the Baseline for Hydroclimatic Conditions within The Walker Basin, Nevada/California: A Multi-Elevational Dendrochronological and Ecohydrological Approach*, NSF Geography and Spatial Sciences Program, \$344,999; **P.I., 2012-'17**.
- Drought Planning Service Agreement*, Truckee Meadows Water Authority, \$31,974; **sole P.I., 2015-'16**.
- Dendrochronological Analysis of Wood Samples Associated with Archaeological Features near Mt. Hope, Eureka County, Nevada*, Kautz Environmental Consultants, \$ 16,637; **sole P.I., 2013-'15**.
- EAGER: Intra-seasonal Wood Anatomy to Assess Millennia-long Regional Climate Reconstructions*, NSF Paleoclimate Program, \$171,628; **sole P.I., 2012-'15**.
- P2C2: Multi-Century Streamflow Derived From Watershed Modeling and Tree-Ring Data*; NSF Paleo Perspectives on Climate Change (P2C2) Program, \$181,744 out of \$291,801; **P.I., 2008-'14**.
- Nevada Infrastructure for Climate Change Science, Education, and Outreach*; NSF EPSCoR Program, \$740,862 out of \$15,000,000; UNR Co-PI for the Nevada Competition, and Ecological Change Lead for the NSF Proposal, 2008-'13.
- Graduate Research Assistantships*, Nevada System of Higher Education (for NSF-EPSCoR Project), \$126,000; **P.I., 2008-'13**.
- Tree-Ring Investigations for Water Resources Planning*; Southern Nevada Water Authority, \$138,500; **sole P.I., 2011-'13**.
- Dendrochronology of the Mojave Desert*; United States Geological Survey, \$20,000; **sole P.I., 2011-'13**.
- Resolving The "Divergence" Issue In Dendroclimatology*; Integrative Science Project, NSHE-EPSCoR, \$114,304; **P.I.,**

2011-'13.

*Minority Graduate Research Assistantship*, NSF EPSCoR Program, \$73,630; P.I., 2011-'13.

*Mountain-to-Valley Ecohydrology at Multiple Spatial and Temporal Scales*, Western Tri-State Consortium, Interdisciplinary Working Group Program, \$6,520; Co-P.I., 2011.

*Tree-Ring Extension of Hydrological Records for Selected Eastern Nevada Valleys*; Southern Nevada Water Authority, \$173,600; sole P.I., 2008-'11.

*Pre-settlement Wildfire, Drought, and Piñon Juniper Dynamics in Southeastern Nevada*; Department of the Interior, Bureau of Land Management (through the Great Basin Cooperative Ecosystem Study Unit) \$805,589 out of \$1,357,370; P.I., 2007-'09.

*Tracing the Waters Through the Trees: North American Monsoon Dynamics During the Past Four Centuries*; NSF Geography and Regional Science Program, \$225,000; sole P.I., 2005-'09.

*Stochastic Modeling of Episode Duration, Magnitude, and Peak in Long Paleo Records*; NSF Paleoclimate Program, \$94,045 out of \$241,226; P.I., 2005-'09.

*CAREER: Learning in the Woods - Decadal Climate, Water Supply, and Fire Frequency in the Great Basin*; NSF Paleoclimate Program, \$400,197; sole P.I., 2002-'08.<sup>1</sup>

*Radiocarbon Dating of Sagebrush for Fire History Research*; Research Initiatives Program, Woods Hole Oceanographic Institute, \$5,000; P.I., 2005-'06.

*Development of a Methodology for Building Long-term Fire History in Great Basin Valley Landscapes*; Joint Fire Science Program, Bureau of Land Management, \$22,244 out of \$99,321; Co-P.I., 2002-'03.

*High Elevation Tree Rings and Climate in the North American Tropics*; NSF Paleoclimate Program, \$295,872; P.I., 2000-'03.

*Tree-Ring Reconstruction of Climate Variability at the Tropical Boundary of the American West*; National Oceanic and Atmospheric Administration, Paleoclimate Program, \$60,500; P.I., 2000-'02.

### Non-refereed Publications (since 2000)

2014 **Biondi, F.** and G. Greenwood (coordinators). *Abstract Book for the Global Fair and Workshop on Mountain Observatories*, Mountain Research Initiative and University of Nevada, Reno, NV, USA; 204 pp.

2011 **Biondi, F.** and S. Strachan. The Nevada NSF-EPSCoR Instrumented Transects: A Tool for Mountain-to-Valley Ecohydrology. *Mountain Views* 5(1): 2-4.

2006 **Biondi, F.** Getting the pulse of the trees. *The Midden* 6(2): 3.

2002 **Biondi, F.** Treeline dendroclimatology in the North American Tropics. *PAGES News* 10(1): 9-10.

*Abstracts in Conference Proceedings*: 189 to date; 56 since 2013.

*Reports*: 47 to date; 16 since 2013.

### Professional Presentations

132 to date; 39 since 2013.

### Teaching at UNR

2001, '02, '03, '04, '05, '08, '09  
2008, '10, '11, '12, '14, '15

Physical Geography (GEOG 103, 3 credits)<sup>2</sup>

Climate Change and its Environmental Impacts (GEOG/ATMS 121, 4 credits)<sup>3</sup>

2018, '19

Natural Resource Ecology (NRES 217, 3 credits)<sup>1</sup>

2001, '02, '04

Field Methods (GEOG 314, 3 credits)

2006, '09, '10, '11

Understanding Climate (GEOG 321, 3 credits)<sup>2</sup>

2017, '18, '19

Regional and Global Issues in Environmental and Natural Resource Sciences (ENV/NRES 467, 3 credits)<sup>1</sup>

2001, '03, '05, '09, '10, '12, '15, '16

Spatial Analysis (GEOG 416/616, 3 credits)<sup>1</sup>

2000, '02, '04

Climatology (GEOG 421/621, 3 credits)<sup>1</sup>

<sup>1</sup> A Graduate Research Assistantship was provided by UNR's Office of the Vice President for Research for the first three years of the grant.

<sup>2</sup> Modified course

<sup>3</sup> New course

2002, '10, '12	Geography of Past Environments (GEOG 437/637, 3 credits) <sup>2</sup>
2012	Geography Colloquium (GEOG 490/690, 1 credit)
2001, '03, '05, '08, '10, '12, '16	Advanced Climatology (GEOG 721, 3 credits) <sup>1</sup>
2002	Rural Landscapes of Northern Italy (USAC; 1 credit) <sup>2</sup>

**Advising at UNR:** M. Bradley (M.S., 2009), J. Cheek (M.S., 2009), M. Hay (M.S., 2012), K. Hoover (M.S., 2010), L. Jamieson (M.S., 2008), M. Kilpatrick (M.S., 2009; Ph.D., in progress), P. Kirchner (M.S., 2006), N. Miley (M.S., 2018; Temporary Research Scientist, 2019), R. Monnar (M.S., 2007), K. Solander (M.S., 2009); S. Strachan (M.S., 2011); P.C. Hartsough (Ph.D., 2008); J. Sibold (Postdoc, 2008); C. Truettner (Ph.D., in progress); E. Ziaco (Postdoc, 2013-'18; Research Scientist, 2019).

### Service Activities (since 2007)

**Member of the Sabbatical Committee, UNR, 2017-present.**

**Invited Participant, 2018** and 2013, “Expert Witness Training Academy”, National Science Foundation and William Mitchell College of Law, St. Paul, Minnesota, USA.

**Organizer, 2016 Workshop** on “Planning for a Great Basin ecological observatory: From NevCAN to the Spring Valley Field Station”, NSF-FSML Program, Hidden Canyon Retreat, Nevada, USA.

**Co-organizer of a special session (oral: B14C; poster: B11D)** on “Ecological (A)synchrony of Forest Responses to Climate” at the 2016 Fall Meeting of the American Geophysical Union, San Francisco, California, USA.

**Co-organizer of a special session (oral: GC31G; poster: GC33B)** on “Climate impacts on forest ecosystems: ecohydrologic scaling from cells to landscapes” at the 2015 Fall Meeting of the American Geophysical Union, San Francisco, California, USA.

**Co-organizer of the Global Fair and Workshop** on “Long-Term Observatories of Mountain Social-Ecological Systems”, 16-19 July 2014, University of Nevada, Reno (in cooperation with the Mountain Research Initiative, Institute of Geography, University of Bern, Switzerland).

**Specialty Chief Editor, 2013-present, Paleoecology** (a section of *Frontiers in Ecology and Evolution*).

**Subject Matter Editor, 2010-present, Ecosphere**, the open-source journal of the Ecological Society of America (ESA).

**Member, Review Panels for National Science Foundation Programs, 2006, '09, '12, '16, '17, '18.**

**Editorial Board Member, 2014-2017, PLoS One.**

Co-organizer of a special session (GC32B) on “Environment and Ecosystem Changes in the Third Pole and Other Mountain Regions II” at the 2013 Fall Meeting of the American Geophysical Union, San Francisco, California, USA.

Member of the Courses and Curriculum Committee, College of Science, UNR, 2005-'06 and 2007-2013.

Chair, Dept. of Geography Personnel Committee, UNR, 2010-2013.

Member, 2010-2012, Publications Committee, American Geophysical Union (AGU).

Co-organizer of a special session (B013) on “Climate impacts on ecosystems quantified using a combination of proxy records and instrumented observatories” at the 2012 Fall Meeting of the American Geophysical Union, San Francisco, California, USA.

Chair (2009) and Member (2012) of Shin Research Award Committee, College of Science, UNR.

Co-organizer of a special session (B36) on “Identifying and Quantifying Change in Ecological Systems” at the 2011 Fall Meeting of the American Geophysical Union, San Francisco, California, USA.

Organizer, Interdisciplinary Working Group meeting on “Mountain-to-Valley Ecohydrology at Multiple Spatial and Temporal Scales”, NSF-EPSCoR Western Tri-State Consortium, UNR, 2011.

Chair, Search Committees for Faculty Positions, Dept. of Geography, UNR, 2003-'04 and 2009-'10.

Organizer, Special Sessions I and II on “Climate, Wildfire, and Woodland Dynamics in the Great Basin of North America”, 2009 Annual Meeting of the Association of American Geographers, Las Vegas, Nevada, USA.

Member, 2002-2006 and 2007-2009, Selection Committee for the Paper of the Year Award, Climate Specialty Group, Association of American Geographers.

Reviewer of grant proposals submitted to public and private funding agencies, including the *National Science Foundation* and the *National Oceanic and Atmospheric Administration*.

Reviewer of manuscripts submitted to refereed journals (including *Science*, *Nature* journals, and *PNAS*) and books.