VALERIE TROUET

University of Arizona
Laboratory of Tree-Ring Research
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RESEARCH INTERESTS

Past, present, and future climate variability and its influence on forest ecosystems and human societies. My research on climate variability focuses on climate reconstruction over the Common Era, atmospheric circulation patterns, and extreme events. My study of forest ecosystems includes their role in the carbon cycle, forest disturbances, and dry tropical forests.

ACADEMIC APPOINTMENTS

University of Arizona, Laboratory of Tree-Ring Research
Associate Professor of Dendrochronology**,** 2015-present
Assistant Professor of Dendrochronology, 2011-2015
Affiliated Faculty in:
School of Natural Resources and the Environment, 2011-present
Department of Geosciences, 2016-present
Department of Hydrology and Atmospheric Sciences, 2017-present

Swiss Federal Institute for Forest, Snow, and Landscape Research WSL (ETH domain), Dendrosciences Unit
Research Scientist, 2007-2010

The Pennsylvania State University, Department of Geography
Post-Doctoral Research Associate, 2005-2006

EDUCATION

Katholieke Universiteit Leuven, Belgium
PhD, Bioscience Engineering, December 2004
Dissertation: *The El Niño Southern Oscillation effect on Zambezian miombo vegetation: proxies from tree-ring series and sattelite-derived data*

Ghent University, Belgium
MEng, Bioscience Engineering, June 1999
Major in Land Management and Forestry

Ghent University, Belgium
BSc, Bioscience Engineering, June 1997

HONORS AND AWARDS

2018 UA Distinguished Scholar Award

2017-18 Udall Center Fellow

2016 Kavli Fellow

2014 National Science Foundation CAREER Award

2017 Henry C Cowles Award for Best Publication (American Association of Geographers, Biogeography specialty group) for Taylor, Trouet et al. 2016

2016 NOAA NCEI paper of the year award for Belmecheri et al. 2016

2000-2003 Institute for the Promotion of Innovation by Science and Technology in Flanders, Doctoral Research Fellow

1999 Belgian Development Cooperation Prize for MS thesis

PUBLICATIONS

Peer-reviewed articles and book chapters

H-index: 26 (ISI) and 31 (Google Scholar)
Total citations: 2837 (ISI) and 4153 (Google Scholar)
Most highly cited first-authored article (2009, Science): 504 citations (ISI)
https://scholar.google.com/citations?user=-hF1HN8AAAAJ&hl=en

Underlined author is a student or post-doctoral advisee

IN REVISION/ IN REVIEW/ SUBMITTED

(64) Yao Q, **Trouet V**, Zheng B, Wang X, Hudson A, Shu L, Zhu C, Hu H, Li Y, Han S (submitted) Rising temperatures drive fire activity and economic loss in China.

(63) Alfaro-Sánchez R, Nguyen H, Klesse S, Hudson A, Belmecheri S, Köse N, Diaz HF, Monson RK, Villalba R, **Trouet V** (in revision) Natural drivers of spring northern tropical belt movements over the past 800 years. *Nature Geoscience*

(62) Babst F, Bodesheim P, Charney N, Friend A, Girardin M, Klesse S, Moore DJP, Seftigen K, Björklund J, Bouriaud O, Dawson A, DeRose R, Dietze M, Eckes A, Enquist B, Frank DC, Mahecha MD, Poulter B, Record S, **Trouet V**, Turton R, Zhang Z, Evans MEK (in revision) When tree rings go global: challenges and opportunities for retro- and prospective insight. *Quaternary Science Reviews*

(61) Babst F, Bouriaud O, Poulter B, **Trouet V**, Girardin MP, Frank DC (in revision) Observable redistribution in climatic limitations on global forest growth. *Science Advances*

(60) Wahl ER, Zorita E, **Trouet V**, Taylor AH (in revision) 21st century warming projected to override historical drivers of California drought and wildfire.

2018

(59) Ols C, Girardin MP, **Trouet V**, Hofgaard A, Bergeron Y, Drobyshev I (2018) Post-1980 shifts towards significant boreal tree growth responses to North Atlantic climate dynamics. *Global and Planetary Change* doi.org/10.1016/j.gloplacha.2018.03.006

(58) Xu G, Liu X, **Trouet V**, Treydte K, Wu G, Chen T, Sun W, Wang W, Zeng X, Qin D (2018) Regional drought shifts (1700-2011) in East Central Asia and linkages with atmospheric circulation recorded in tree-ring d18O. *Climate Dynamics* doi.org/10.1007/s00382-018-4215-2

(57) **Trouet V**, Babst F, Meko M: Recent enhanced high-summer North Atlantic Jet variability emerges from three-century context. *Nature Communications* doi.org/10.1038/s41467-017-02699-3

(56) Alfaro-Sánchez R, Camarero JJ, Sánchez-Salguero R, **Trouet V**, De las Heras J How do droughts and wildfires alter seasonal radial growth in Mediterranean Aleppo pine forests? *Tree-Ring Research* dx.doi.org/10.3959/1536-1098-74.1.1

2017

(55) Alexander MR, Rollinson CR, Babst F, **Trouet V**, Moore DJP: Uncertainty in tree-ring based biomass estimates does not alter growth-climate relationships. *Trees – Structure and Function* doi.org/10.1007/s00468-017-1629-0

(54) **Trouet V**, Dominguez-Delmas M, Pearson C, Pederson N, Rubino D: Dendro-archeo-ecology in North America and Europe: Re-purposing Historical Materials to Study Ancient Human-Environment Interactions. *In:* Amoroso M, et al. (eds.) Dendroecology: Tree-ring analyses applied to ecological studies, Springer, pp. 365-394.

(53) Marlon JR, Pederson N, Nolan C, Goring S, Shuman B, Booth R, Bartlein P, Berke MA, Clifford M, Cook ER, Dieffenbacher-Krall A, Hessl A, Hubeny JB, Jackson S, Marsicek J, McLachlan J, Mock CJ, Moore DJP, Nichols J, Robertson A, Schaefer K, **Trouet V**, Umbanhowar C, Williams J, Yu Z: Temperature and hydroclimatic

histories of the northeastern United States during the past 3000 years and their ecological implications. *Climate of the Past* doi.org/10.5194/cp-13-1355-2017

(52) Montane F, Fox A, Arellano A, MacBean N, Alexander MR, Dye A, Bishop D, **Trouet V**, Babst F, Hessl A, Pederson N, Blanken P, Bohrer G, Gough C, Litvak M, Novick K, Phillips R, Wood, J, Moore DJP: Evaluating the effect of alternative carbon allocation schemes in a land surface model on carbon fluxes, pools, and turnover in temperate forests. *Geoscientific Model Development* doi.org/10.5194/gmd-10-3499-2017, 2017

(51) Belmecheri S, Babst F, AR Hudson, Betancourt J, **Trouet V**: Northern Hemisphere Jet Stream Position Indices as Diagnostic Tools for Climate and Ecosystem Dynamics. *Earth Interactions* doi.org/10.1175/EI-D-16-0023.1

(50) Klippel L, Krusic PJ, Brandes R, Hartl-Meier C, **Trouet V**, Esper J: High-elevation inter-site differences in Mount Smolikas tree-ring width data. *Dendrochronologia* doi.org/10.1016/j.dendro.2017.05.006

(49) Yao Q, Brown PM, Liu S, Rocca ME, **Trouet V**, Zheng B, Chen H, Li Y, Wang X: Pacific-Atlantic Ocean influence on wildfires in northeast China (1774 to 2010). *Geophysical Research Letters*

(48) Konter O, Krusic P, **Trouet V**, Esper J: Meet Adonis, Europe's oldest dendrochronologically dated tree. *Dendrochronologia* doi:10.1016/j.dendro.2016.12.001

2016

(47) Taylor AH[1], **Trouet V[1]**, Skinner CN, Stephens SL: Socio-Ecological transitions trigger fire regime shifts and modulate fire-climate interactions in the Sierra Nevada, USA 1600-2015 CE. *Proceedings of the National Academy of Sciences* DOI: 10.1073/pnas.1609775113 [[1]AHT and VT contributed equally to this work] [Henry C Cowles Award for Best Publication; American Association of Geographers, Biogeography specialty group]

(46) Szejner P, Wright WE, Babst F, Belmecheri S, **Trouet V**, Leavitt SW, Ehleringer JR, Monson RK: Latitudinal gradients in tree-ring stable carbon and oxygen isotopes reveal differential climate influences of the North American Monsoon system. *Journal of Geophysical Research – Biogeosciences* doi:10.1002/2016JG003460

(45) Charney ND, Babst F, Poulter B, Record S, **Trouet V**, Frank D, Enquist BJ, Evans MEK: Observed forest sensitivity to climate implies larger reductions in 21st century forest growth. *Ecology Letters* doi: 10.1111/ele.12650

(44) Esper J, Krusic PJ, Ljungqvist F, Luterbacher J, Carrer M, Cook ER, Davi NK, Hartl-Meier C, Kirdyanov A, Konter O, Myglan V, Timonen M, Treydte K**, Trouet V,** Villalba R, Wilson RS, Yang B, Büntgen U: Review of tree-ring based temperature reconstructions of the past millennium. *Quaternary Science Reviews* 145: 134-151.

(43) O'Donnell A, Allen K, Evans R, Cook ER, **Trouet V**, Baker PJ: Wood density provides new opportunities for reconstructing past temperature variability from southeastern Australian trees. *Global and Planetary Change* 141: 1-11

(42) Black BA, Griffin D, Van der Sleen P, Wanamaker AD, Speer JH, Frank DC, Stahle DW, Pederson N, Copenheaver CA, **Trouet V**, Griffin S, Gillanders BM: The value of crossdating to retain high-frequency variability, climate signals, and extreme events in environmental proxies**.** *Global Change Biology* 22: 2582-2595.

(41) **Trouet V**, Harley G, Dominguez-Delmas M: Shipwreck rates reveal Caribbean tropical cyclone response to past radiative forcing**.** *Proceedings of the National Academy of Sciences* 113: 3169-3174.

(40) Belmecheri S, Babst F, Wahl ER, Stahle DW, **Trouet V**: Multi-century

evaluation of Sierra Nevada snowpack. *Nature Climate Change* doi:10.1038/nclimate2809 [Most read Nature Climate Change publication (09/28/2015); NOAA NCEI paper of the year award 2016]

2015

(39) Cook ER and 55 co-authors including **Trouet V**: Old World megadroughts and pluvials during the Common Era, *Science Advances* doi:1:e1500561

(38) Baker A, Hellstrom J, Kelly BFJ, Mariethoz G, **Trouet V**: A composite annual-resolution stalagmite record of North Atlantic climate over the last three millennia. *Scientific Reports* DOI: 10.1038/srep10307

(37) Dawson A, Austin D, Walker D, Appleton A, Gillanders BM, Griffin SM, Sakata C, **Trouet V**: A tree-ring based reconstruction of early summer precipitation in southwestern Virginia (1750-1981). *Climate Research* 64, 243-256.

(36) Klesse S, Ziehmer M, Rousakis G, **Trouet V**, Frank D: Synoptic drivers of 400 years of summer temperature and precipitation variability on Mt. Olympus, Greece *Climate Dynamics* 45, 807-824.

(35) Seim A, Treydte K, **Trouet V**, Frank D, Fonti P, Tegel W, Panayotov M, Fernandez Donado L, Büntgen U: Climate sensitivity of Mediterranean pine growth reveals a distinct west-east dipole structure. *International Journal of Climatology* DOI: 10.1002/joc.4137

2014

(34) **Trouet V**: A tree-ring based late summer temperature reconstruction (1675-1980) for the northeastern Mediterranean. *Tree-Ring Research/ Radiocarbon* 56, 69–78.

(33) Babst F, Alexander MR, Moore DJ, Frank DC, Klesse S, Bouriaud O, Poulter B, Ciais P, Roden J, **Trouet V**: A tree-ring perspective on the terrestrial carbon cycle. *Oecologia* DOI 10.1007/s00442-014-3031-6

(32) Babst F, Bouriaud O, Alexander MR, **Trouet V,** Frank D**:** Biomass estimates from tree rings: A case study at five managed forest sites. *Dendrochronologia* 32, 153-161.

(31) Diaz H, **Trouet V:** Some Perspectives on Societal Impacts of Past Climatic Changes. *History Compass* 12(2):160-177.

2013

(30) **Trouet V,** Diaz HF, Wahl ER, Viau AE, Cook ER**:** A 1500-year reconstruction of annual mean temperature for temperate North America on decadal-to-multidecadal time-scales. *Environmental Research Letters* DOI 10.1088/1748-9326/8/2/024008

(29) PAGES2K consortium (including **Trouet V**) Temperature variability at the continental scale over two millennia. *Nature Geoscience* DOI 10.1038/NGEO1797 [ISI highly cited paper]

(28) De Ridder M, **Trouet V**, Van den Bulcke J, Hubau W, Van Acker J, Beeckman H**:** A tree-ring based comparison of *Terminalia superba* climate-growth relationships in West and Central Africa. *Trees – Structure and Function* DOI 10.1007/s00468-013-0871-3

(27) **Trouet V**, Van Oldenborgh GJ**:** KNMI Climate Explorer: a web-based research tool for high-resolution paleoclimatology. *Tree-Ring Research* 69(1): 3-13. [ISI highly cited paper][Most read and second most cited paper in Tree-Ring Research in 2017]

(26) Babst F, Poulter B**, Trouet V,** Kun T, Neuwirth B, Wilson R, Carrer M, Grabner M, Tegel W, Levanic T, Panayotov M, Urbinati C, Bouriaud O, Ciais P, Frank D: Climatic drivers of forest productivity derived from 1000 sites in Europe. *Global Ecology and Biogeography* DOI: 10.1111/geb.12023 [Top cited 2013-2014 GEB

paper] [ISI highly cited paper]

2012

(25) **Trouet V**, Mukelabai M, Verheyden A, Beeckman H**:** Cambial growth season of brevi-deciduous *Brachystegia spiciformis* trees from South Central Africa restricted to four months. *PLoS ONE* 7(10): e47364. DOI:10.1371/journal.pone.0047364

(24) Seim A, Buntgen U, Fonti P, Haska H, Herzig F, Tegel W, **Trouet V,** Treydte K**:** The paleoclimatic value of a millennium-long tree-ring chronology from Albania. *Climate Research* DOI: 10.3354/cr01076

(23) **Trouet V,** Panayotov M, Ivanova A, Frank DC**:** A pan-European summer teleconnection mode revealed by a new temperature reconstruction from the northeastern Mediterranean (1868-2008). *The Holocene* DOI: 10.1177/0959683611434225

(22) **Trouet V,** Scourse JD, Raible CC**:** North Atlantic storminess and Atlantic Meridional Overturning Circulation in the last Millennium: reconciling contradictory proxy records of NAO variability. *Global and Planetary Change* DOI 10.1016/j.gloplacha.2011.10.003 [Most cited publication in Global and Planetary Change in 2012]

2011

(21) Baker A, Wilson R, Fairchild I, Franke J, Spoetl C**, Trouet V**: High resolution d18O and d13C records of the last millennium climate from an annually laminated Scottish stalagmite. *Global and Planetary Change* DOI: 10.1016/j.gloplacha.2010.12.007

(20) Büntgen U, Tegel W, Nicolussi K, McCormick M, Frank D, **Trouet V**, et al.: 2500 years of European climate variability and human susceptibility. *Science DOI:* 10.1126/science.1197175 [recommended for Faculty of 1000 by Douglas Erwin] [ISI highly cited paper]

(19) **Trouet V**: Paleoclimate. In: Mastrandrea M, Schneider SH, Root TL (Eds.), The Encyclopedia of Climate and Weather, Oxford University Press, 2nd edition, 391-394.

(18) **Trouet V**: Little Ice Age. In: Mastrandrea M, Schneider SH, Root TL (Eds.), The Encyclopedia of Climate and Weather, Oxford University Press, 2nd edition, 241-243.

2010

(17) **Trouet V**, Esper J, Beeckman H**:** Climate/growth relationships of *Brachystegia spiciformis* from the Miombo woodland in southern Africa. *Dendrochronologia* DOI: 10.1016/j.dendro.2009.10.002

(16) **Trouet V**, Taylor AH**:** Multi-century variability in the Pacific North American (PNA) circulation pattern reconstructed from tree rings. *Climate Dynamics* DOI:10.1007/s00382-009-0605-9

(15) **Trouet V**, Taylor AH, Wahl ER, Skinner CN, Stephens SL**:** Fire-climate interactions in the American West since 1400 CE. *Geophysical Research Letters* DOI:10.1029/2009GL041695

(14) Büntgen U, Frank D, **Trouet V**, Esper J**:** Diverse growth trends and climate responses of high-elevation Mediterranean tree-ring width and density. *Trees – Structure and Function* DOI:10.1007/s00468-009-0396-y

(13) Büntgen U, **Trouet V**, Leuschner HH, Frank D, Friedrichs D, Esper J**:** A tree ring-based summer drought reconstruction for Central Germany reveals evidence of the Medieval Climate Anomaly. *Quaternary Science Reviews* DOI: 10.1016/j.quascirev.2010.01.003

(12) Frank D, Esper J, Raible C, Büntgen U, **Trouet V**, Joos F**:** Ensemble temperature reconstruction constraints on CO_2 feedbacks. *Nature* 463, 527-530, DOI: 10.1038/nature08769 [ISI highly cited paper]

(11) Panayotov M, Bebi P, **Trouet V**, Yurukov S**:** Climate signal in tree-ring chronologies of *Pinus peuce* and *Pinus heldreichii* from the Pirin Mountains in Bulgaria. *Trees – Structure and Function* 24, 479-490, DOI:10.1007/s00468-010-0416-y

2009

(10) **Trouet V,** Esper J, Graham NE, Baker A, Frank DC, Scourse JD **:** Persistent positive North Atlantic Oscillation mode dominated the Medieval Climate Anomaly. *Science* 324, 78–80, DOI: 10.1126/science.1166349 [ISI highly cited paper]

(9) **Trouet V**, Taylor AH, Carleton AM**:** Interannual variations in fire weather, fire extent, and synoptic-scale circulation patterns in northern California and Oregon. *Theoretical and Applied Climatology* 95:349-360, DOI: 10.1007/s00704-008-0012-x.

(8) Skinner CN, Abbott CS, Fry DL, Stephens SL, Taylor AH**, Trouet V:** Variation in Fire Regime Characteristics in California's North Coast Range. *Fire Ecology* 5: 73-96, doi: 10.4996/fireecology.0503073

(7) Friedrichs D, **Trouet V**, Büntgen U, Frank DC, Esper J, Neuwirth B, Löffler J: Twentieth century climate sensitivity of Central European tree species. *Trees - Structure and Function* 23:729-739, DOI 10.1007/s00468-009-0315-2

2008 AND EARLIER

(6) Taylor AH, **Trouet V**, Skinner CN (2008) Climatic influences on fire regimes in montane forests in the southern Cascades, California, USA. *International Journal of Wildland Fire* 17:60-71.

(5) Yuan Y, Shao X, Wei W, Yu S, Gong Y, **Trouet V** (2007) The potential to reconstruct Manasi River streamflow in the northern Tien Shan mountains (NW China). *Tree-Ring Research* 63, 81-93. [4th most cited TRR article 2013-2015]

(4) **Trouet V**, Taylor AH, Carleton AM, Skinner CN (2006) Fire-climate interactions in forests of the American Pacific Coast. *Geophysical Research Letters* 33:L18704, DOI:10.1029/2006GL027502.

(3) **Trouet V**, Coppin P, Beeckman H (2006) Annual ring patterns in *Brachystegia* Trees of the Miombo Woodland reveal climatic Influence. *Biotropica* 38(3): 375-382.

(2) Fichtler E**, Trouet V**, Beeckman H, Coppin P, Worbes M (2004) Climatic signals in tree rings of Burkea africana and Pterocarpus angolensis from semi-arid forests in Namibia. *Trees – Structure and Function* 18: 422-451.

(1) **Trouet V**, Haneca K, Coppin P, Beeckman H (2001) Tree ring analysis of Brachystegia spiciformis and Isoberlinia tomentosa: evaluation of the ENSO-signal in the miombo-woodland of eastern Africa. *IAWA Journal* 22: 385-399.

GRANTS

>10K USD

(20) National Science Foundation CAREER: Tree-ring based reconstruction of decadal to centennial-scale Northern Hemisphere Jetstream variability; sole PI (587,442 USD; 05/15/2014-05/14/2019)

(19) US Geological Survey Southwest Climate Science Center: Influence of interannual North Pacific Jet variability on Sierra Nevada Fire regimes; PI (139,280 USD; 9/9/2013-9/8/2015)

(18) Department of Energy: Estimating carbon flux and storage: constraint of the Community Land Model using observations at different temporal scales; co-I (970,020 USD; 9/1/2013-8/31/2016);

(17) National Science Foundation: Catalyzing International Partnerships in Community-related Environmental and Sustainability Research and Education: Ethical, Structural and Institutional Issues of Collaboration; co-I (20,000 USD; 4/1/12-3/31/14)

(16) University of Arizona, Water Environment and Energy Solutions: Influence of

jet stream variability on North American landscape phenology; PI (32,752 USD; 8/15/2016-5/15/2017)

(15) University of Arizona, CONACYT: Historic hydroclimatic variability of the Baja California Peninsula, based on tree-ring widths and isotope analysis of Pinus monophylla and Pinus lagunae; Co-I (25,000 USD; 1/1/2015-12/31/2015)

(14) University of Arizona, Water Environment and Energy Solutions: Hydrologically-driven Spatial Heterogeneity of Tree Productivity and Tree Climate Sensitivity in the Southwest; PI (39,994 USD; 7/1/2014-6/30/2013)

(13) University of Arizona, Sustainability of semi-Arid Hydrology and Riparian Areas: Spatial heterogeneity of tree growth sensitivity to climate in the Jemez River Basin Critical Zone Observatory; sole PI (14,996 USD; 5/1/2012-6/30/2012)

(12) University of Arizona TRIF Optics/Imaging special program; Co-I (14,941 USD; 2/1/2011-3/1/2011)

(11) European Science Foundation, Exploratory Workshop Grant: Synoptic-scale Circulation Patterns over the last Millennium, Kippel, Switzerland; PI (14,000 EUR; 10/1/2008-06/01/2009)

(10) Institute for the Promotion of Innovation by Science and Technology in Flanders, Belgium: Doctoral Research Fellowship; sole PI (80,000 EUR; 01/01/2000-12/31/2003)

<10K USD

(9) National Science Foundation CAREER supplement: Tree-ring based reconstruction of Northern Hemisphere Jetstream variability; sole PI (2,724 USD; 05/15/2016-09/15/2017)

(8) University of Arizona, College of Science: Curriculum Development for two Interdisciplinary Courses: Global Change Analysis and Scientific Writing; sole PI (10,000 USD; 8/15/2016 -5/15/2017)

(7) University of Arizona, College of Science: Dendroclimatic potential of *Widdringtonia cedarbergensis* trees in South Africa; sole PI (9,986 USD; 10/1/2015-9/30/2016)

(6) National Science Foundation travel award for the *International Hurricane and Climate Change Summit* (Crete, Greece; June 9-14 2015); sole PI (1,505 USD)

(5) Past Global Changes (PAGES) Network: PAGES NAM2K workshop (27-29 October 2011; Tucson, AZ) funding; sole PI (5,000 USD; 05/01/2011-12/31/2011)

(4) Schweizerische Nationalfonds, International short visit funding; sole PI (6,190 CHF; 01/01/2010-06/30/2010)

(3) European Science Foundation, MedClivar: young scientist exchange grant for undergraduate advisee Albena Ivanova; sole PI (3,350 EUR; 10/2009)

(2) University of Bern, Oeschger Center for Climate Research: Synoptic-scale Circulation Patterns over the last Millennium, Kippel, Switzerland; workshop funding; PI (5,000 CHF; 10/1/2008-06/01/2009)

(1) European Meteorological society, Young Scientist Travel Award, sole PI (1,500 CHF; 09/2008)

TEACHING

Scientific Writing: Fall 2016; 600 level; 10 students

Introduction to Dendrochronology: Fall 2011-12, 2014-2016; 400-500 level; 7-18 students

Introduction to Global Change: Spring 2012-2014; 100 level; General Education; 50-150 students

Renewable Natural Resources Seminar: Fall 2012-13, Spring 2013-14; 600 level; 5-10 students

	Topics in Dendrochronology: Fall 2011; 500 level; 5 students
ADVISING	Guobao Xu (2018-2019)
POST-DOCS	Raquel Alfaro-Sanchez (2016-2017); currently post-doc at Autonomous University of Barcelona, Spain
	Soumaya Belmecheri (2015-2016); currently post-doc at University of Arizona
	Genaro Guttierez (Jan-Dec. 2015); currently research scientist at Center for Scientific Research and Higher Education; Ensenada; Mexico
	Flurin Babst (2013-2015); currently research fellow at Swiss Federal Institute for Forest, Snow, and Landscape Research WSL (ETH domain); Birmensdorf, Switzerland
PRIMARY ADVISOR	Michael Ross Alexander, PhD, School of Natural Resources and the Environment (SNRE), UA (2012- 2017); currently Research Associate at Harvard Forest
	Paul Szejner, PhD, SNRE, UA (2013-2017); currently post-doc at LTRR
	Amy Hudson, PhD, SNRE, UA (2015-present)
	Matthew Meko, PhD, Department of Geosciences, UA (2016-present)
	Kashja Iler, MS, SNRE, UA (2016-present)
	Diana Zamora-Reyes, PhD, Department of Hydrology and Atmospheric Sciences, UA (2017-present)
	Robert Shepard, MS, SNRE, UA (2013-2015)
	Zakia Hassan Khamisi, MS, SNRE, UA (2011-2014)
GRADUATE COMMITTEE	Qichao Yao, PhD, College of Forestry, Northeast Forestry University, Harbin, China (defended May 2017)
	Clementine Ols, PhD, Department of Forestry, UQAT, Quebec, Canada (defended October 2016)
	Vera De Cauwer, PhD, Applied Biological Sciences, Katholieke Universiteit Leuven, Belgium (defended September 2016)
	Alison Fretz, MS, Department of Biology, University of New Mexico, NM (defended in June 2017)
	Rodrigo Valdes, PhD, Department of Hydrology and Atmospheric Sciences, UA (2014-present)
	Connor Nolan, PhD, Department of Geosciences, UA (2013-present)
	Laura Marshall, PhD, SNRE, UA (2011-present)
	Rebecca Caroli, MS, Archeology Department, UA (2013-2015)
	Emily L Dynes, MS, SNRE, UA (2012-2015)
	Jesper Bjoerklund, PhD, Earth Sciences, University of Gothenburg, Gothenburg, Sweden (defended June 2014)
	Astika Bhugeloo, MS, Geography, University of KwaZulu-Natal, South Africa (defended Spring 2014)
	Maaike De Ridder, PhD, Applied Biological Sciences, Ghent University, Ghent, Belgium (defended May 2013)
INVITED PRESENTATIONS	
CONFERENCES & WORKSHOPS	(13) AMQUA/CANQUA conference (Ottawa, Canada, August 7-11 2018) *Natural drivers of early spring Northern Hemisphere tropical belt movements over the past 800 years*
	(12) Frontiers of Science Symposium, Kavli Foundation and National Academy of Sciences (Irvine, CA, November 3-6 2016) *Snow, wind, and fire: understanding*

drivers of past climate variability

(11) SCOT2K workshop (Aviemore, UK, September 6-7 2016) *A tree-ring based reconstruction of North Atlantic Jet variability over the last 250 years*

(10) Ecological Society of America (ESA) annual meeting (Baltimore, MD, August 10-14 2015) *A tree-ring perspective on terrestrial climate dynamics*

(9) XYLAREDD 2015 symposium (Tervuren, Belgium, May 26-29 2015) *Climatic drivers of tree growth in the miombo woodland of southern Africa.*

(8) MTNCLIM 2014 Conference, Cirmount (Midway, UT, September 15-18 2014) *Reconstructing North Pacific Jet variability and its influence on Sierra Nevada fire regimes*

(7) PAGES2K North American Climate working group, Powell Center, Fort Collins, CO (24 June 2014) *A 1500-year reconstruction of annual mean temperature for temperate North America on decadal- to multidecadal time-scales*

(6) Center for the Ancient Mediterranean workshop, Columbia University (NYC, NY, May 17 2014) *Potential pathways of climatic influence on the late Roman Empire*

(5) AAG meeting (Tampa, FL, April 6-12 2014) *Taking dendrochronology to the next level: reconstructing jet stream variability*

(4) 9th International Conference on Dendrochronology (Melbourne, AUS, January 13-17 2014) *Climate Dynamics and European History*

(3) PAGES NAM2K meeting (Flagstaff, AZ, 8-10 May 2011) *Climate drivers of tree growth in Europe*

(2) Eurodendro, Mallorca, Spain (28 October 2009) Keynote Lecture: *Developments, advances, and challenges in dendroclimatology*

(1) 3rd Milestone Meeting of the Millennium Project, Mallorca, Spain (3 March 2009) Keynote Lecture: *Persistent positive NAO mode dominated the Medieval Climate Anomaly*

SEMINARS

(29) Visher lecture in Climatology, Indiana University, Bloomington, IN (16 February 2018) *Heat, wind, and fire: extreme climate events in a historical context*

(28) Physics Colloquium, McGill University, Montreal, Canada (9 February 2018) *Heat, wind, and fire: extreme climate events in a historical context*

(27) Department of Ecology and Evolutionary Biology, Brown University, Providence, RI (6 February 2018) *Heat, wind, and fire: understanding drivers of past climate variability and extremes*

(26) Environmental Breakfast Club, UA (2 February 2018) *Heat, wind, and fire: understanding drivers of past climate variability and extremes*

(25) St. Petersburg Coastal and Marine Science Center, USGS, St. Petersburg, FL (15 September 2017) *Heat, wind, and fire: understanding drivers of past climate variability and extremes*

(24) Institute for Geophysics, University of Texas, Austin, TX (27 April 2017) *Snow, wind, and fire: tree rings as recorders of past extreme climate events*

(23) Florida Keys History and Discovery Center, Islamorada, FL (22 March 2017) *Shipwrecks, tree rings, and hurricanes*

(22) Department of Hydrology and Atmospheric Sciences, UA (17 November 2016) *Influence of the Northern Pacific Jet on California hydroclimate and wildfire regimes over the last 500 years*

(21) Department of Forestry, Universite de Quebec en Abitibi-Témiscamingue, Rouyn-Noranda, Canada (25 October 2016) *Influence of the North Pacific Jet stream*

on California hydroclimate and wildfire regimes over the last 500 years

(20) Division of Forest, Nature, and Landscape, Katholieke Universiteit Leuven, Leuven, Belgium (9 September 2016) *A tree-ring based reconstruction of Northern Hemisphere Jet variability and its ecosystem impacts*

(19) Department of Soil, Water, and Environmental Science, UA, (21 March 2016) *Tree-ring based reconstruction of Northern Hemisphere Jetstream variability and its ecosystem impacts*

(18) Department of Geography, UA, (12 February 2016) *Shipwreck Rates Reveal Caribbean Tropical Cyclone Response to Past Solar Forcing*

(17) Department of Geosciences, UA (8 February 2016) *Tree-ring based reconstruction of Northern Hemisphere Jetstream variability and its ecosystem impacts*

(16) Department of Hydrology and Atmospheric Sciences, UA (29 October 2015) *Shipwreck rates reveal North Atlantic Tropical Cyclone Response to Past Radiative Forcing*

(15) Physical Oceanography and Climate Change seminar series, University of Wales, Bangor (UK) (21 May 2014) *Reconstructing the position of the North Atlantic Jet*

(14) Laboratory of Tree-Ring Research, UA (21 November 2012) *A Tree-Ring Based Reconstruction of Balkan Temperatures Back to Medieval Times Reveals a Robust Pan-European Summer Teleconnection Mode*

(13) Research Insights in Semiarid Ecosystems (RISE) Symposium, UA (13 October 2012) *Large-scale interactions of climate, fire and vegetation structure in the western US as observed through tree rings*

(12) Department of Forest Resources and Environmental Conservation, Virginia Tech (12 March 2012) *Fire-Climate Interactions in the American West*

(11) Department of Atmospheric Sciences, UA (3 November 2011) *Climate Dynamics during the Medieval Climate Anomaly.*

(10) School of Geography and Development, UA (30 September 2011) *Trees, Climate and History: What Tree-rings Can Tell Us About European History, Its Climate Drivers and How It's Linked to the Southwest*

(9) Laboratory of Tree-Ring Research, UA (27 April 2011) *Myth busters: can tropical trees form annual rings?*

(8) Fire Sciences Laboratory, Rocky Mountain Research Station, USDA Forest Service, Missoula (3 February 2011) *Fire-climate interactions in the American West*

(7) Geographisches Institut, Johannes Gutenberg Universität, Mainz, Germany (24 June 2010) *Long-term dynamics of the North Atlantic Oscillation*

(6) Institutes of Energy and the Environment, The Pennsylvania State University (2 April 2010) *Tree-ring based reconstruction of atmospheric circulation patterns*

(5) INRA, Nancy, France (4 March 2010) *Tree ring-based reconstruction of forest fire regimes, atmospheric circulation patterns, and their interactions*

(4) IMEP, Aix-en-Provence, France (2 December 2009) *Reconstructing atmospheric circulation patterns using tree ring analysis*

(3) Centre d'Ecologie Fonctionelle et Evolutive, CNRS, Montpellier, France (25 February 2009) *Tree ring based reconstruction of atmospheric circulation patterns and their influence on natural fire regimes in the Western U.S.*

(2) CEREGE, CNRS, Aix-en-Provence, France (24 February 2009) *Tree ring based reconstruction of atmospheric circulation patterns and their influence on natural fire*

regimes in the Western U.S.

(1) IGDP in Ecology, The Pennsylvania State University (11 September 2006) *Tree ring analysis of Zambezian miombo vegetation*

SERVICE

CONFERENCE & WORKSHOP CONVENER

10th World Dendro Conference (Thimphu, Bhutan, June 10-15 2018); scientific committee member

American Geophysical Union (AGU) annual meeting (San Francisco, CA) 2012-2016 Conference Session "*Constraining terrestrial ecosystem carbon uptake and storage using models and data*", convener

AGU annual meeting 2017 Conference Session "*Past atmospheric variability inferred from paleoclimate proxies"*, convener

AGU annual meeting 2015 Conference Session *"Hydroclimate and Atmospheric Circulation Patterns on Multidecadal to Millennial Timescales*", convener

2nd American Dendrochronology Conference (13-17 May 2013, Tucson, AZ; ~180 participants), co-chair of the programming committee

PAGES NAM2K workshop (27-29 October 2011; Tucson, AZ; ~15 participants), convener

ESF exploratory workshop on synoptic-scale climate dynamics over the last millennium (17-20 May 2009; Kippel, CH; ~35 participants), convener

7th Symposium on Fire and Forest Meteorology (23-25 October 2007; Bar Harbor, ME); member of the programming committee.

AAG 2006, 2012 Conference Session "*Tropical Dendrochronology*", organizer

SCIENTIFIC COMMUNITY

Editor (2018 onwards) and Associate editor (2017) for *Geophysical Research Letters*

Associate editor for *Fire Ecology* (2010-2016)

AGU Walter Sullivan Award for Excellence in Science Journalism: selection committee member (2017)

American Quaternary Association (AMQUA) council member (2015-present)

Navareno Ecological Observatory (NEO) associate member (2015-present)

White House Earth Observations Assessment (EOA); panel member

Department of Forest Resources and Environmental Conservation, Virginia Tech: A showcase of female scientists (13 March 2012, Blacksburg, VA), discussion panellist

ARAMACC (Annually Resolved Archives of Marine Climate Change) summer school (Wales, UK, May 2014), instructor (INVITED)

International Dendroecological Fieldweek (Tasmania, January 2014), dendroclimatology instructor (INVITED)

North American Dendroecological Fieldweek (2011, 2012), dendroclimatology instructor (INVITED)

European Dendroecological Fieldweek (2006 - 2008), instructor

INVITED JOURNAL REVIEWER

Reviewer for >40 ISI-listed journals:

Agricultural and Forest Meteorology, Biotropica, Canadian Journal of Forest Research, Climate Dynamics, Climate of the Past, Climate Research, Climatic Change, Dendrochronologia, Ecology, Ecosystems, Earth and Planetary Science Letters, Fire Ecology, Forest Ecology and Management, Geografisker Annaler, Geology, Geophysical Research Letters *(Recognized by American Geophysical Union for refereeing >3 manuscripts in 2016)*, Global Change Biology, Global and Planetary Change, The Holocene, International Journal of Climatology, International Journal

of Wildland Fire, Journal of Applied Meteorology and Climatology, Journal of Atmospheric and Solar-Terrestrial Physics, Journal of Climate, Journal of Ecology, Journal of Geophysical Research, Journal of Hydrology, Journal of Tropical Ecology, Land, **Nature, Nature Communications, Nature Geoscience** *(Recognized by Nature Publishing Group for refereeing 4 manuscripts in 2014)*, PLoSOne, Population and Environment, Progress in Physical Geography, Quaternary Research, Quaternary Science Reviews, Radiocarbon, **Science, Science Advances**, Tree Physiology, Tree-Ring Research, Trees Structure and Function

GRANT REVIEWER

Reviewer for >10 national and international funding agencies:

ERC – European Research Council

FCT – Fundação para a Ciência e a Tecnologia (Portugal)

FFG – Austrian Research Promotion Agency (Austria)

FONDECYT – National Fund for Scientific and Technological Development (Chile)

Fonds de Recherche Nature et Technologies (Quebec)

FWO- Fonds voor Wetenschappelijk Onderzoek (Belgium)

NERC – Natural Environment Research Council (UK)

NOAA – Climate Change Data and Detection (CCDD) Program

NSERC – Natural Sciences and Engineering Research Council of Canada – including invited grant review panelist (February 2017)

NSF – National Science Foundation

- Integrative Organismal Systems
- Geography and Spatial Sciences
- Atmospheric and Geospace Sciences
- Arctic System Science Program
- Paleoclimate Program
- Division of Earth Sciences post-doctoral program

NGS - National Geographic Society

NWO - Netherlands Organisation for Scientific Research

UNIVERSITY OF ARIZONA

Arid Lands Graduate InterDisciplinary Program (GIDP) faculty member (2014-present)

Global Change GIDP faculty member (2011-present)

Member, Steering Committee for Earth Dynamics Observation cluster hire (5 hires); 2015-2016

Member, Search Committee for Laboratory of Tree-Ring Research Director position; 2014-2015

Member, Search Committee for Dendro-archeology faculty position; 2011

Marshall Foundation Jury member; Fall 2015

Co-chair of the second Ameridendro conference programming committee; 2012-2013

Organizer, Tree-Ring Talk seminar series; 2011-2012

UA Office of Research and Development: NSF CAREER Support; panel member; spring 2015

30 September 2016: *Female Climate Researchers on Gender and Female Representation in the Academy*; School of Geography and Development; panel member

29 November 2012: NRGSO's *Graduate Professional Development session on Career Planning*; College of Agricultural and Life Sciences; panel member

June 2012: video interview about tree-ring research related to the fall of the

	Roman Empire for a film by Regents' Professor David Soren (School of Anthropology) on the topic: http://vimeo.com/48419359
MEDIA COVERAGE OF RESEARCH (SELECTED)	Our recent publications in Nature Communications (Trouet et al. 2018), Nature Climate Change (Belmecheri et al. 2016), Dendrochronologia (Konter et al. 2017), and PNAS (Trouet et al. 2016; Taylor, Trouet et al. 2016) have received broad national and international media attention. Below is a selective list:
KONTER ET AL. 2017	Washington Post: http://tinyurl.com/jkcz93m
	Huffington Post, CNN
	Arizona Daily Star, Daily Wildcat (UA student newspaper)
TAYLOR, TROUET ET AL. 2016	Wildfire Today: http://tinyurl.com/gkvnz7k
	Arizona Daily Star
TROUET ET AL. 2016	Inside Higher Ed's Academic minute: http://tinyurl.com/zupfd3v
	The Conversation: http://tinyurl.com/zxcrk2u
	Washington Post, Archeology magazine, Christian Science Monitor, Atlas of Science, Hakai magazine (Canada), El Pais (Spain), De Morgen (Belgium)
	NTN24 (Colombia National TV interview), Zona Politics (Tucson regional TV interview)
BELMECHERI ET AL. 2016	The Conversation: http://tinyurl.com/gtxea2w
	Yale Climate Connections: http://tinyurl.com/htp9gqd
	Zocalo Public Square: http://tinyurl.com/ods642o
	New York Times, LA Times, Washington Post, USA Today, The Guardian (UK), San Francisco Chronicle, Sacramento Bee, Orange County Register, Phoenix New Times, Arizona Daily Star,
	Reuters.com, CBS News, Discovery News, NBC News, Nature News and Comments, Vice.com, National Geographic
	New Scientist, Popular Mechanics, R&D Magazine
	Weather Channel (TV interview)
	>15 radio interviews, including Capital Radio Sacramento, Arizona Public Media, Radio Canada, Radio New Zealand
PREVIOUS STUDIES	Environmentalresearchweb.org (July 5, 2013): *Tree rings and pollen enable 1500-year temperature reconstruction*
	stateimpact.npr.org/Texas (June 5, 2013): *High wildfire risk, longer fire season possible this year*
	Arizona Daily Star (4 November 2012): http://tinyurl.com/zmcb3y4
	New Scientist (2 April 2009) *Natural mechanism for medieval warming discovered*
	New Scientist (11 April 2009) *Medieval warming study is blow to climate change deniers*
OTHER MEDIA INTERACTIONS	Reviewer for Climatefeedback.org
	climatenexus.org telepresser panellist about drought and fire in California (June 2013, January 2014)
	Video interview for PBS paleoclimate science documentary *Taking Earth's temperature;* http://www.takingearthstemperature.org/
	Video interview about tree-ring research related to the fall of the Roman Empire for a film by UA Regents' Professor David Soren: http://vimeo.com/48419359
	www.insidescience.org (March 10 2014), *Climate alters Mongolian Past and Present* (Marcus Woo), comment on PNAS paper by Pederson et al.

	Sciencenordic.com (April 2016): http://tinyurl.com/zchthbv; comment on Nature paper by Ljungqvist et al.
PROFESSIONAL DEVELOPMENT	Expert Witness Training Academy organized by National Science Foundation (Hamlin School of Law, University of Minnesota, MN; August 1-5 2016); attendee
	UN Framework on Climate Change COP21 conference (Paris, France, December 6-11 2015); Research and Independent NGO (RINGO) observer
FIELD CAMPAIGNS	
LEAD ORGANIZER	Tanzania 1998; Zambia 2000, 2002; Sierra Nevada, CA 2005, 2006; Bulgaria 2008; Greece 2010; Turkey 2012; New Mexico 2012; Arizona 2013; Wyoming 2015; Albania, Greece 2015
PARTICIPANT	Spain (Pyrenees) 2007; Albania 2008, 2009; Scotland 2009; Russia (Yakutia) 2011; Mozambique 2011
LANGUAGES	Dutch (mother tongue)

	Understand	*Speak*	*Write*
ENGLISH	excellent	excellent	excellent
FRENCH	excellent	very good	excellent
GERMAN	excellent	excellent	very good
SPANISH	Good	basic	basic