

# THE BIOGEOGRAPHER

Newsletter of the Biogeography Specialty Group  
of the Association of American Geographers

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## **BSG Executive Board**

**David Cairns** (President), Texas A&M University  
**David Goldblum**, Northern Illinois University;  
**Curt Holder**, University of Colorado-Colorado Springs;  
**Evan Larson**, University of Wisconsin-Platteville;  
**Ross Meentemeyer**, University of North Carolina – Charlotte;  
**Melanie Stine**, Student Representative, Texas State University-San Marcos;  
**Taly Drezner** (Secretary-Treasurer), York University  
**John Waldron** (Editor, *The Biogeographer*), University of West Florida

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## President's Column

-- David Cairns, BSG President, 2011-13



When I arrived at LAX for this spring's Annual meeting of the AAG, I took the Supershuttle from the airport to the conference hotel where I was staying. All 11 of the other passengers in the van were also attending the meeting and everyone was excited about the prospects for sharing their recent research findings and learning something new. My colleague, Charles Lafon, and I were the only biogeographers in the van.

I have to admit that I did not share the enthusiasm for the meeting that the other travelers in the van did. I've been attending the AAG meeting almost every year since the Miami meeting in 1991. Early on, when I attended the meeting, I am sure that I was also bubbling with enthusiasm. Lately, though, the

meeting has changed for me. It is a time to catch up with old friends, gossip a little, attend business meetings, and have impromptu research meetings with old and new colleagues. All of these things are important, and can really only be done at the AAG. Therefore, it serves an important purpose. Attending paper sessions, however, really doesn't excite me the way that it used to. This realization made me stop and think about other meetings. Do I have the same feelings about paper sessions at other meetings? Unfortunately, the answer is no, I don't feel the same way. I still enjoy paper sessions at other meetings, so it must be something about the AAG.

I've been to hundreds of paper sessions at the AAG over the years, and I don't really remember much about the work that was presented in them. This could be because I have become much too specialized and my interests have narrowed. It's hard to find a talk at the AAG anymore that really piques my interest. It could also be because the quality of talks in sessions is so uneven. You can have really great talks mixed with talks that really aren't that good. I've certainly attended talks that appeared pre-mature and didn't need to be made at a national meeting.

There was also something different about this year's AAG meeting. There weren't many biogeographers there. There were significantly fewer organized paper and poster sessions that were sponsored by the Biogeography Specialty Group. Those that were on the schedule were relatively poorly attended. As an example, many biogeography sessions were scheduled on Saturday. The panel on publishing in biogeography that was organized by Melanie Stine (the BSG student representative) was at 8 a.m. on Saturday morning. It was attended by the panel members (including me) and by ONE other person. I can't believe that there weren't biogeographers interested in the topic of publishing, so why weren't there people at the panel? The time? The day? The panelists? Or a conflict with another session? The vegetation dynamics session was at the same time in a different hotel and it had about a dozen people attending (half were presenters). If there were only about twenty biogeographers attending sessions that morning, it was poor scheduling to have both the panel and the session at the same time.

So, why were there so few biogeographers at the meeting? I think that it is partly the result of scheduling this year. First, almost none of the tree-ring people were at the meeting this year. The Ameridendro conference was soon after the AAG and most of the dendro folks attended that meeting instead. Also, the US-IALE (Landscape Ecology) meeting was immediately after the AAG. Both of those meetings siphoned off a large number of the usual AAG attendees. I keep asking myself why so many people chose to go to meetings other than the AAG, and the only answer that I can come up with is that the other meetings are more relevant to the research that biogeographers are doing. There's nothing wrong with that, however, in an era of reduced travel funding, if we want to keep the AAG Annual Meeting as an important venue for the exchange of ideas, we need to change something about how the AAG meeting works for us. This brings me back to that van ride into the hotel in LA. How do we recapture that excitement that those other people in my van had for the meeting? I don't have a perfect solution for this problem. Though, I do have a few ideas. First, I think it's important to have a few sessions that bring all of the biogeography community together. One type of session would be to have a

prominent senior biogeographer or an up-and-coming young star give and extended plenary-type talk. Another would be to reinstate the best paper sessions for the master's and doctoral students. Those kinds of events would, I hope, bring people together, and highlight the really exciting work that is being done by biogeographers. It would be a great thing to walk away from the meeting in Tampa saying, "I learned something really exciting this year!"

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## Graduate Student Representative Column

-- **Melanie Stine**, BSG Graduate Student Representative 2012-13



**G**reetings fellow biogeographers! I hope everyone had an enjoyable and constructive 2013 AAG Annual Meeting in Los Angeles. I was fortunate enough to meet or catch-up with many of you!

I organized a panel session titled "Navigating the Process of Journal Publishing in Biogeography" aimed at biogeography students. Panelists were David R. Butler of Texas State University – San Marcos, David M. Cairns of Texas A&M University, George P. Malanson of the University of Iowa, Lynn M. Resler of Virginia Tech, and Steven M. Schnell of Kutztown University. I greatly appreciated the time and willingness of the panelists to serve in this session. Unfortunately, however, the session was not well attended. The time of the session (Saturday morning at 8:00) may have had something to do with low attendance numbers. Panelists, however, carried on with good and informative conversation.

For those of you who have not checked out the Biogeography Specialty Group Facebook page, I would encourage you to do so!

I have enjoyed my time as the BSG student representative, but as of May 10<sup>th</sup>, I am no longer a student and introduce the 2013-2014 BSG student representative – Jeremy Johnson of Texas A&M University. Jeremy's research interests include biogeography, landscape ecology, landscape genetics, geographic information science, and remote sensing. Congratulations, Jeremy!

I hope everyone has a fun and productive summer!

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# Awards and Competitions

## Cowles Award for Excellence in Publication in Biogeography

-- Ross Meentemeyer, BSG Board Member and Awards Organizer



### Congratulations to the winner!

The Henry Cowles Award for Excellence in Publishing in Biogeography for best article or book published in biogeography in 2012 was awarded to Dr. John Kupfer, University of South Carolina. For his article: *Landscape ecology and biogeography: Rethinking landscape metrics in a post-FRAGSTATS landscape*.

Congratulations and best wishes to John for winning this prestigious award!

Kupfer, J.A. 2012. Landscape ecology and biogeography: Rethinking landscape metrics in a post-FRAGSTATS landscape. *Progress in Physical Geography* 36: 400-420.

### Abstract:

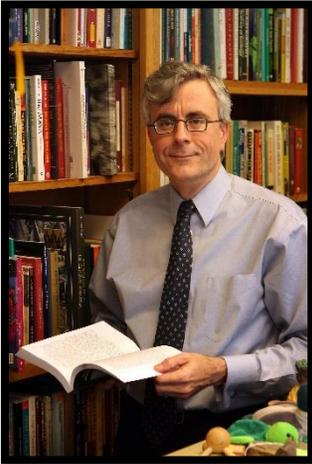
Landscape pattern indicators or 'metrics' provide simple measures of landscape structure that can be easily calculated with readily available data and software. Unfortunately, the ecological relevance of many metrics (i.e. the relationship between metric values and the real-world ecological processes that they are meant to serve as proxies for) is often unproven and questionable, and concerns are regularly voiced that such metrics fail to capture important aspects of landscape function. In this paper, I provide a review of landscape measures that may better link landscape pattern and function, ranging from approaches that extend existing metrics by incorporating a more functional component (e.g. core area measures, least cost distances) to those rooted in graph, network, and electrical circuit theory. While more 'functional' approaches are becoming increasingly popular, the selection of appropriate landscape metrics in many applications involves tradeoffs regarding data requirements, ease of calculation, functional basis, and simplicity of interpretation by a range of specialist and non-specialist stakeholders. Regardless, there continues to be a need for landscape metrics because they are seen by many land managers and stakeholders as simple, intuitive tools for assessing and monitoring changes in landscape pattern and, by extension, the effects on underlying ecological processes. Future needs include: (1) the development of more user-friendly landscape analysis software that can simplify graph-based analyses and visualization; and (2) studies that clarify the strengths and weaknesses of different approaches, including the potential limitations and biases in graph and network-based measures.

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## 2013 BSG Board Elections

-- Curt Holder, BSG Board Member and Elections Organizer



On behalf of the BSG Specialty Group, I am pleased to announce the newly elected president and the newly elected members of the BSG Executive Board:

President (Two-year term):  
Lynn Resler (Virginia Tech)

Executive Board Members (Two-year term)  
Grant Elliott, University of Missouri  
Justin Hart, University of Alabama

Student Representative (One-year term)  
Jeremy Johnson, Texas A&M University

Please join me in welcoming our newly elected president and board members. Also, thanks to all who were willing run for election and volunteer their time to the BSG. There were 47 voters this year, with 1 candidate running for the president, 6 candidates running for the executive board and 2 candidates for student representative. Please join me in thanking the outgoing president (David Cairns) and board members (David Goldblum, Ross Meentemeyer, and Melanie Stine) for their service to BSG.

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## Graduate Student Presentation Awards

-- Evan Larson, BSG Board Member and Student Presentation Awards Coordinator



The BSG Student Paper Competition at the 2013 AAG meeting in Los Angeles included some excellent presentations that resulted in very close competitions. Thank you to all the participants and judges that made this event possible!

**Thomas Christiansen** (The University of Texas at Austin) won the M.S. Student Paper Competition for his paper *Structural disturbance classes: Explicitly linking field- and satellite-derived measurements for improved disturbance detection and quantification*. One of the

judges commented that “the combined qualitative and quantitative approach to [his] research... is a great sampling design and has promise for ... substantive results.”

**Isaac Park** (The University of Wisconsin-Milwaukee) won the Ph.D. Student Paper Competition for his paper *Flowering phenology across North America*. Judges commented that Isaac's presentation was "...one of the most polished presentations I observed at the AAG. His flow, organization and use of graphic tools was informative and pleasing. His conclusions were logical, clear and well stated. He had good eye contact with the audience and appeared relaxed and knowledgeable on the specifics of the research."

Congratulations to both Thomas and Isaac!



**Ph.D. Winner:** Isaac Park

**Title:** *Flowering phenology across North America*

**Abstract:** Although multiple methods exist for examining variations in phenology over space, the contribution of differing community composition to these variations is largely unknown. This study will utilize herbarium records to address this question and evaluate

the relative importance of changes in community composition and intra-specific phenological plasticity in response to varying environmental conditions to the observed variation in flowering phenology. It will also evaluate community-level changes in flowering time through analysis including 24,000 species across 750 counties in 16 states. As higher plasticity within individual species may result in greater resilience to future climate variations, understanding the relative importance of these two factors is significant to modeling efforts for the prediction of species persistence and range limitation, as well as projected changes in community composition in response to climate changes.

Preliminary results indicate that the plastic responses of individual species to local environmental conditions are the predominant factor in explaining spatial phenological variation ( $R=0.710$ ,  $p<0.001$ ,  $df=10,528$ ), while phenological variations that are solely due to differences in community composition explain much lower relationships to overall observed variation ( $R=0.359$ ,  $p<0.001$ ,  $df=10,528$ ). This indicates that the majority of spatial variation in flowering phenology can be attributed to plasticity within individual species, and that differences in community composition play only a secondary role in determining spatial variation in flowering phenology.



**Masters Winner:** Thomas Christiansen

**Title:** *Structural disturbance classes: Explicitly linking field- and satellite-derived measurements for improved disturbance detection and quantification*

**Abstract:** Field structural measurements were collected in a savanna system proximate to the Okavango Delta in the Botswana Kalahari. Three study sites were surveyed along multiple transects perpendicular to water / village locations with 10 x 25 m plots oriented along each transect at regular intervals. Each tree (7472 in total) was identified and measured with respect to stem and canopy dimensions. Three-dimensional visualizations of these plots were created using IDL. The visualizations allow interpretation and communication of structural differences among plots on a given transect, among all plots within a given site, and across sites as well as interpreted in light of distance to water, populated areas, and recent disturbances. Plots were categorized into disturbance classes, and then compared to three other data sources. First, the disturbance classes were compared to high resolution (GeoEye) imagery to determine the success of categorization and how representative both individual plots and transects were of the greater region. Second, the disturbance classes were qualitatively compared to interviews conducted in the three study sites to assess correlation among reports of extraction of veld products and land management. Third, aboveground biomass was calculated for each plot using collaborators' allometric equations derived from a dataset of 342 harvested trees and shrubs in Western Botswana relating basal area and crown diameter to aboveground biomass. These calculations were then compared at the disturbance class level to illustrate the utility of disturbance classes as explicitly linking field- and satellite-derived measurements as each providing important quantifiable indicators of savanna disturbance.

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## Student Research Grant Competition

--David Goldblum, BSG Board Member & Student Research Grant Coordinator



**C**ongratulations to our Student Research Grant award recipients:

MS award (\$500)

Elizabeth Schneider

University of Tennessee, Knoxville (Advisor: Henri Grissino-Mayer)

Project title: Low-Frequency Climate Drivers of Wildfire Activity, Magdalena Mountains, New Mexico

PhD award (\$978.75)

Amanda B. Young

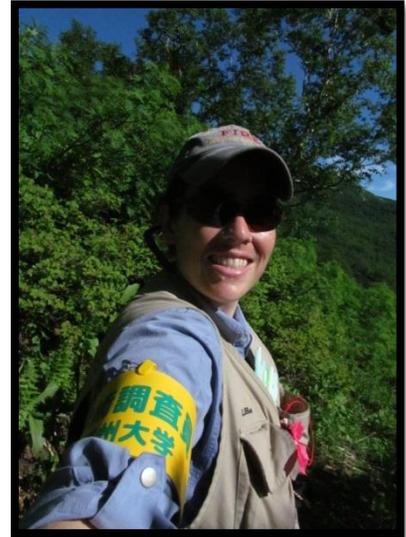
Pennsylvania State University (Advisor: Alan Taylor)

Project title: High elevation deciduous forest structure: a test of William Bond's 'Slow Seedling Hypothesis'

**Best PhD Degree proposal:**

Amanda Young, Pennsylvania State University

Research Summary: My dissertation research will test William Bond's 'Slow Seedling Hypothesis' within spatially partitioned belts of deciduous (angiosperms) and coniferous (gymnosperms) of an alpine forest in the Northern Japanese Alps. The purpose of this research is to understand how deciduous forest belts occur in alpine forests, when the theory laid out in the Slow Seedling Hypothesis predicts that alpine forests should be comprised of gymnosperms. My research will investigate the contribution of the regeneration niche, habitat niche, climatic influences, and disturbance history as measures contributing to the partitioning of deciduous and coniferous forest belts in the alpine forests of central Japan.



**Best Master's Degree proposal:**

Elizabeth Schneider, University of Tennessee

Research Summary: My thesis research will examine the climate drivers that increase wildfire risk in the Magdalena Mountains in New Mexico, specifically during coupled phases of high-frequency (El Nino-Southern Oscillation) and low-frequency (Pacific Decadal Oscillation and Atlantic Multidecadal Oscillation) climate phases. Correlations between fire history, sea surface temperatures, and precipitation data will be compared using both Superposed Epoch Analysis, for interannual to decadal timescales, and Bivariate Event Analysis, for multidecadal timescales. Knowledge gained from my reconstructions will allow me to extrapolate the fire-climate relations for the future. Fuel management that is research guided can promote less catastrophic fires and help return fire to its historical range of variability.



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# Recent Publications

## Articles:

Deel, L.N., B.E. McNeil, P.G. Curtis, S.P. Serbin, A. Singh, K.N. Eshleman, and P.A. Townsend (2012) Relationship of a Landsat cumulative disturbance index to canopy nitrogen and forest structure. *Remote Sensing of Environment* 118:40-49.

Kulakowski, D., C. Matthews, D. Jarvis, and T.T. Veblen. 2013. Compounded disturbances in subalpine forests in western Colorado favor future dominance by quaking aspen (*Populus tremuloides*). *Journal of Vegetation Science* 24: 168-176.

McNeil, B.E., J.M. Read, and C.T. Driscoll (2012) Foliar nitrogen responses to the environmental gradient matrix of the Adirondack Park, New York. *Annals of the Association of American Geographers* 102(1):1-15.

McWethy, D.B., P.E. Higuera, C. Whitlock, T.T. Veblen, D.M.J.S. Bowman, G.J. Cary, S.G. Haberle, R.E. Keane, B.D. Maxwell, M.S. McGlone, G.L.W. Perry, J.M. Wilmshurst, A. Holz, and A.J. Tepley. 2013. A conceptual framework for predicting temperate ecosystem sensitivity to human impacts on fire regimes. *Global Ecology and Biogeography*. Online DOI: 10.1111/geb.12038.

Paritsis, J., A. Holz, T.T. Veblen, T. Kitzberger. 2013. Habitat distribution modeling reveals vegetation flammability and land use as drivers of wildfire in SW Patagonia. *Ecosphere* 4 (5): 53. <http://dx.doi.org/10.1890/ES12-00378.1>

Rhoades, C.C., J.H. McCutchan, Jr., L.A. Cooper, D.W. Clow, T.M. Detmer, J.S. Briggs, J.D. Stednick, T.T. Veblen, R.M. Ertz, G.E. Likens, and W.M. Lewis, Jr. 2013. Biogeochemistry of beetle killed forests: Explaining a weak nitrate response. *Proceedings of the National Academy of Sciences*, PNAS Early Edition [www.pnas.org/cgi/doi/10.1073/pnas.1221029110](http://www.pnas.org/cgi/doi/10.1073/pnas.1221029110).

Waldron, J. and W. Xi. 2013. Forest Restoration: Simple Concept, Complex Process. *Forest Research*. 2(1): e104. doi:10.4172/2168-9776.1000e104

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# News

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## **BSG Business Meeting: 2013 AAG Conference in Los Angeles**

Minutes Submitted by **Lynn Resler**, President-Elect

### **A. Chair's Report**

David Cairns presented the chairs report. He introduced the current members of the board, highlighted a number of points from the Chairs meeting, AAG membership levels, and a brief look at budget issues. It was noted that many biogeographers were not in attendance at the 2013 Los Angeles meeting, likely due to the timing of other conferences.

### **B. Report from the Chairs Meeting**

One topic of discussion from the Chair's meeting was the opportunity to bring in external scholars to the AAG meeting. It was noted that these scholars would get their registration paid, but their travel would not be reimbursed, so the scholars should be local. A reminder about soliciting an external scholar will be made.

The flexibility of the AAG schedule was another item brought up at the Chairs meeting. There was discussion about trying to work with the AAG meeting planning committee to schedule sessions and business meetings at both more convenient times and at times that didn't overlap with other specialty group business meetings that biogeographers may also attend. This matter was especially a concern for the BSG Student Representative's discussion panel, which was scheduled for the last day of the conference this year. Dave mentioned the importance of highlighting this session in the future.

There were approximately 7300 registrants at the AAG meeting this year compared to about 8500 last year. There were 1438 sessions, 5411 submitted abstracts, and 348 sponsored sessions.

### **C. BSG Finances**

Taly Drezner, BSG Secretary was not in attendance to deliver the financial report this year, so Dave Cairns reported. Sally Horn made a motion of appreciation for her hard work as Treasurer over the last several years. The motion was unanimously approved and there was applause in appreciation.

Our current balance as of February 28, 2013 (there is a lag time between membership dues collections and when they are posted to our account) is **\$3257.10**. By comparison, last year on February 29, 2012, our balance was \$3311.99, and the year before that, February 28, 2011, we were at \$3478.86, so we are roughly at about the same place financially.



#### D. Other/Announcements:

Dave announced that Joy Nystrom Mast, after many years of dedicated service, has decided to pass on The Biogeographer newsletter. Sally Horn made a motion to thank Joy for her years of service. The motion was unanimously approved and there was applause in appreciation. Dave solicited volunteers for the open newsletter position. John Waldron volunteered to take over the newsletter. A motion was passed for John to take over the newsletter with no opposition.

Lynn Resler made a motion to formalize the application process for the Parson's Award, beginning in 2014. She suggested that any nominations for the award be accompanied by a letter of nomination, plus two additional letters of support. There was no objection and the motion was approved.

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## Research Notes



Graduate student **Heather Mason** at the University of West Florida's Tree Ring Analysis and Interpretation Laboratory (TRAIL) used dendrochronology to analyze tree-ring growth response to climate in the economically and ecologically important forest species Atlantic white cedar (*Chamaecyparis thyoides*) and a species variant (*C. thyoides* var. *henryae*) in northwest Florida, near the southern limit of the Atlantic white cedar range. The species variant exists only in the western Florida panhandle and southern Alabama. Neither the main species nor the

variant had previously been analyzed in the Gulf Coast region using dendrochronological methods. Precipitation, temperature, Palmer drought indices, and low-frequency climate indices were examined for temporal relationships with standardized tree-ring widths from two separate sites to determine what climate factors influenced tree growth, and if any differences in growth-climate response existed between the main species and the variant. Findings indicated that year-round dry conditions in the year prior to growth are favorable for the main species, while dry winter conditions in the year prior to growth are significantly correlated to increased tree-ring width in the variant. It was unclear if the growth response differences were attributable to genetic differences between the species and variant, or to variability in local environmental conditions. The findings may help forest managers formulate better management plans for the species and variant, which are often found in association with listed threatened or endangered plant species because of the unique wetland habitat conditions where the trees thrive.

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## Notes

1. Back issues of *The Biogeographer* in pdf format are posted on the BSG website ([www.biogeographer.org](http://www.biogeographer.org)).
2. Please consider adding the **BSG domain** to your favorite links and promote it on your homepage ([www.biogeographer.org](http://www.biogeographer.org))
3. If you're interested in being on the BSG student list-serv, please e-mail the list moderator, Chad Lane, at [chad.lane@lawrence.edu](mailto:chad.lane@lawrence.edu).
4. John Kupfer is presently managing the BSG website, [www.biogeographer.org](http://www.biogeographer.org). If you have links (or other materials), send up to 2-3 pages to John, including syllabi for biogeography courses. If there is anything for any of these areas, contact John at [KUPFER@mailbox.sc.edu](mailto:KUPFER@mailbox.sc.edu)
5. Communications among BSG members is usually by email through the AAG's discussion forum. Current instructions to access and post messages on the BSG forum: Login to the AAG website ([www.aag.org](http://www.aag.org))  
Select Memberships  
Select Specialty Groups  
Scroll down to Biogeography and click on "learn more"

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## Submission Guidelines

--- John Waldron, Editor, *The Biogeographer*



Submissions to *The Biogeographer* should be sent directly to the editor as email attachments in Word format to [jwaldron@uwf.edu](mailto:jwaldron@uwf.edu). Bear in mind that your editor generally just cuts and pastes whatever he gets, so please spell-check and proofread your submissions carefully. Submissions should be concise and written in a style consistent with the rest of the newsletter.

**Notes and News Items.** News items can be personal, departmental, institutional, or simply biogeography-related stories from the press. Notes are intended to convey topical information of interest to the BSG community.

**Recent Publications.** Only publications that have actually appeared in print or online will be listed, so please do not submit in-press items until you have page numbers or a permanent URL.

Topics for these categories include:

- Research Notes: new projects and progress reports or general research-related ideas and issues.
- Field Notes: recent field work or field trips or retellings of classic tales from the field (embellishments welcome).
- Course Notes: news, announcements, or articles related to teaching biogeography or pedagogical issues affecting the discipline.
- Book Notes: book reviews or announcements.
- Miscellaneous Notes: anything that doesn't fit in any of the other categories.

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