

# US - IALE

The 2014 Annual Symposium  
May 18-22, 2014 ★ Anchorage, Alaska

## TABLE OF CONTENTS

Welcome.....	2
Acknowledgements .....	3
General Conference & Area Information .....	4
Schedule at-a-Glance .....	6
For Students.....	9
Field Trips.....	11
Workshops .....	13
Plenary Sessions.....	16
Featured Banquet Speaker.....	19
Special Symposia Overview.....	20
Technical Presentations at-a-Glance .....	26
Technical Presentations by Track, Date & Time:	
Monday .....	28
Tuesday .....	42
Wednesday .....	47
Poster Presentations .....	61
Awards .....	64
Sponsors & Exhibitors .....	66
US-IALE Membership .....	70
2016 US-IALE.....	71





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**The 2014 Annual Symposium**  
**May 18 –22, 2014 ★ Anchorage, Alaska**



## **WELCOME TO ALASKA!**

Our Planning Committee warmly welcomes you to Anchorage and to the great landscapes of Alaska! We have an exciting 29<sup>th</sup> annual meeting of the **U.S. Regional Association of the International Association for Landscape Ecology** with a theme of ***Cumulative Impacts and Landscape Initiatives: A Sustainability Check During Climate Change.***

We've designed a diverse and attractive program that leaves a "mark" and which presents the latest topics in landscape ecology of relevance for Climate Change and Sustainability in an Alaskan management and wilderness context, and with North America in mind. A focus is put on Open Access and quantitative science efforts, but we also want to include ongoing qualitative efforts and scenario building for more holistic and successful management. A specific emphasize was placed on the Pacific Rim, and so we are especially pleased to welcome our guests from Canada, China, Japan, and other locations abroad!

Anchorage is a great entry point for Alaska, being located in the Southcentral part of the state and offering a large variety of travel options. It's a true hub, allowing you to explore Alaska further by rail, bus, ferry, plane, floatplane or dog sled. We encourage you to try your options on foot, by bike, and canoe as well!

For the urban-minded, Anchorage is a big and dynamic city, offering great food and entertainment; from sourdough-style to modern. Anchorage has more than 300,000 people, and it's the biggest city in Alaska (Fairbanks with c. 85,000 people is second; Juneau is the capital and home to c. 30,000 people). The University of Alaska system has many campuses, and is among the leading research institutions for Arctic research. Besides Fairbanks (UAF) and Juneau (UAS), Anchorage (UAA) offers quality education in the state. In addition to the Arctic (aka the North Slope), Alaska also features the Bering Strait and Aleutian Islands (stretching all the way to Russia), the largest temperate rainforest in the world (Tongass-Chugach National Forests; bordering with Canada), many impressive mountain chains (Wrangell-St Elias, Denali, etc) as well as huge rivers like the Yukon. Interior Alaska is dominated by vast tracts of boreal forest and permafrost. Above all, Alaska truly represents the Last Frontier, with many corners remaining untouched by modern society.

Anchorage is also a true outdoor city with a large network of trails. Short trips can take you to the harbor, Potters Mash, or to Girdwood –offering mountains, hike system, vistas and the Chugach Forest – and an opportunity to experience the famous Alaskan wildlife, like moose, brown bear, salmon, and mosquitos.

We hope that you will enjoy the science and management advances in landscape ecology that will be presented in the talks, posters, workshops, symposia and by the invited plenary speakers. Please enjoy with us the spring weather, the outdoors, Alaskan hospitality, and the fascinating landscapes and wilderness.

***Welcome to the 2014 US-IALE Symposium in Anchorage, Alaska!***

# ACKNOWLEDGEMENTS

**W**e would like to thank the many people who generously contributed time and effort to make the meeting a success. The current **US-IALE OFFICERS** were involved in many ways:

Kurt Riitters, Janet Franklin, Emily Minor, Michelle Steen-Adams, Sara Gagné, Jeffrey Hollister, Audrey Mayer, Jason J. Taylot, Julie Ripplinger and Karl Jarvis. Brian Sturtevant kindly supported funding efforts.

We appreciate the extra efforts made by **WORKSHOP and SYMPOSIA ORGANIZERS**:

P.Vogt, J. Ripplinger, K. Jarvis, F. Sangermano, S. Wandersee, A. Zvoleff, F. Hoffmann, J. Kumar, L. Hinzman, T. Wilson, W. Hargrove, J. Mao, S. Norman, A. Baltensperger, J. Aycrigg, J. Vukomanovic, P. Bourgeron, J. Franklin, J.(Pep) Serra-Diaz, L. Sweet, A. Bidlack, B. Buma, NASA-SMAP, US-IALE Public Policy Committee, PacMara, K. Kelleher, T. Mullet, C. Bobryk, A. Farina, J. Trammell and S. Bassett

We thank our featured speakers for **PLENARY SESSIONS and BANQUET** for their valuable contributions:

Jack Liu, Ray Troll, Terry Bowyer and Brian Czech.

We are very grateful for assistance from our **STUDENT VOLUNTEERS**:

Shana Losbaugh, Lisa Strecker, Mark Spangler, Megumi Aisu, Danielle McClain, Christina Howell, Lindsay Hermanns, McKenna Hansen, Priscilla Lema, and Jesika Reimer.

Further, we wish to acknowledge our **funders**, as well as the **assistance of other colleagues in Alaska**, and **past meeting organizers** who have crafted templates of dates and tasks. Warm thanks to **Matt Viehdorfer**, US-IALE webmaster, for skills with databases and data merges. Finally, we are especially grateful for truly extraordinary efforts from **Meg Boera, Cindy Delaney**, and the entire crew at Delaney Meeting & Event Management, who managed crucial portions of the meeting organization, and were essential partners in this effort.

## LOCAL HOSTS:

- ★ **E. Jamie Trammell**, Assistant Professor, University of Alaska Anchorage (UAA)
- ★ **Sarah Wandersee**, Postdoc UAA
- ★ **Tracey Gotthardt**, Program Zoologist, Alaska Natural Heritage Program, UAA

## PROGRAM CHAIR:

- ★ **Falk Hueftmann**, Associate Professor, EWHALE lab, Biology & Wildlife Department, Institute of Arctic Biology, University of Alaska Fairbanks (UAF)

## PROGRAM COMMITTEE:

- ★ **Brian Buma**, Assistant Professor, University of Alaska Southeast (UAS)
- ★ **Michael Goldstein**, Forest Service, Alaska Region, Juneau
- ★ **Andrew Baltensperger**, graduate student representative, University of Alaska Fairbanks
- ★ **Sanjay Pyare**, Associate Professor, University of Alaska Southeast
- ★ **John Morton**, Kenai Wildlife Refuge, U.S. Fish & Wildlife Service

# GENERAL CONFERENCE INFORMATION

## REGISTRATION & INFORMATION DESK:

The conference registration desk is located on the 2<sup>nd</sup> floor Atrium. Stop by here to leave/receive messages, post/read announcements, and get information or assistance with conference functions. Hours of operation are:

Sunday, May 18	2:00 p.m. - 6:00 p.m.
Monday, May 19	7:00 a.m. - 5:00 p.m.
Tuesday, May 20	7:00 a.m. - 5:00 p.m.
Wednesday, May 21	7:00 a.m. - 5:00 p.m.

## SPEAKER INFORMATION:

All meeting rooms will be set with a laptop, data projector and screen. Student volunteers will be in each session room 15 minutes prior to the session start to troubleshoot any audio visual issues.

## REFRESHMENTS & MEALS:



The Full Conference Registration and Student Registration fee includes access to meals and social events as follows:

Welcome Social on Sunday night; Lunch on Monday and Wednesday (lunch is on your own on Tuesday); Poster Social on Monday night; Continental Breakfast Monday, Tuesday and Wednesday; coffee breaks daily; and the Awards Banquet on Tuesday evening.

**NOTE: the Student-Mentor lunch will be held on Monday with the regular attendee lunch. If you are interested in participating in the Student-Mentor lunch, please check sign-up sheets at registration.**

## STUDENT RIBBON:

In their registration packets, students will receive a colored ribbon to attach to their name tag. All meeting registrants are encouraged to engage students in conversations and professional activities in order to facilitate the networking process.

## BUY A STUDENT A DRINK:

Professionals attendees can purchase drink tickets at the registration desk and on Tuesday night at the reception prior to the banquet, students will be given tickets with the professional's name on it. Students are encouraged to seek out the professional to thank them and learn about their career paths.

## BUSINESS CENTER:

The hotel operates a full-service business center - "The Link" - located on the main lobby level. Take care of your administrative needs during the conference with access to a copier, fax machine, printer and a computer station.

## INTERNET SERVICE:

US-IALE conference attendees are entitled to complimentary Wi-Fi high-speed Internet access throughout the hotel.

**Wi-Fi Network:** Sheraton Meetings

**Password:** Shak13

## SHARE YOUR EXPERIENCE:

*Tag us in your posts and photos. Learn something new? Make a new connection?*

*Tweet about it!*

*Join the online conversation:*



/usiale



#usiale

### Did you know? ...

*Alaska is an Aleut word meaning "Great Land."*

# AREA INFORMATION

## ANCHORAGE



Anchorage is Alaska's largest city with 41% of the state's population — nearly 300,000 residents. As other large cities with population density, please stay safe by using common sense and by being aware of your surroundings, when out and about during the evening.



### ALASKA DAYLIGHT HOURS Anchorage, AK

Date	Sunrise	Sunset
May 17	5:03 AM	10:45 PM
May 18	5:00 AM	10:48 PM
May 19	4:58 AM	10:50 PM
May 20	4:56 AM	10:53 PM
May 21	4:53 AM	10:55 PM
May 22	4:51 AM	10:58 PM



**TIME ZONE:** Anchorage, and virtually all of Alaska, is in Alaska Standard Time, one hour behind Pacific Standard Time and four hours behind Eastern Standard Time.

## ALASKA WEATHER & CLIMATE



Quick: What are the four seasons in Alaska? Answer: Winter, June, July, and August. That timeworn classic is only partially true, and Alaska weather and daylight varies wildly by region and season. For average temperatures in May see below. Whatever your plans are while visiting, please plan to dress in layers, in order to be adequately prepared for fluctuating temperatures within the same day.

Month	Hi (F°)	Low (F°)
May	54	39

### ***Q. I have heard that the mosquitoes are just awful up in Alaska!***

**A.** Yes, Anchorage does have mosquitoes, and they have already arrived for the season! Don't forget the mosquito repellent when you're heading outdoors. Come downtown to the Visit Anchorage information center at 4th and F and pick up some of **Seymour's Moose-quito Delete-o**, an all-natural, no DEET, essential oil-based bug repellent. We're open until 7 p.m. seven days a week.





Anchorage sits at the base of the **Chugach (Chew-gach) Mountains** along the coast of Cook Inlet in Southcentral Alaska.


# SCHEDULE AT A GLANCE

☆ = social event



Sunday, May 18		
8:30 a.m. – 9:00 a.m.	<b>Conference Check-in for Workshop Attendees</b>	
9:00 a.m. – 5:00 p.m.	<b>Pre-Conference Full-Day Concurrent Workshops</b> <i>{pre-registration and additional fee required}</i> <ol style="list-style-type: none"> <li><b>Guidos: Landscape Pattern and Connectivity Analysis</b> Peter Vogt, European Commission, Forest Resources and Climate Unit</li> <li><b>Land Cover Change and Biodiversity Modeling</b> Florescia Sangermano, Ph.D. Research Assistant Professor, Clark University Clark Labs and Graduate School of Geography</li> <li><b>How to Design Plausible and Useful Scenarios for Modeling Landscape Change</b> E. Jamie J Trammell, University of Alaska; Scott Bassett, University of Nevada, Reno</li> <li><b>The Soil Moisture Active Passive (SMAP) Applications Program and NASA's Carbon Monitoring Systems (CMS) Initiative</b> Vanessa Escobar, M.S., Missions Application Deputy Coordinator, Support Scientist, Sigma Space Corporation, NASA Goddard Space Flight Center</li> </ol>	<ol style="list-style-type: none"> <li><b>SUSITNA ROOM</b></li> <li><b>KUSKOKWIM EAST</b></li> <li><b>KUSKOKWIM WEST</b></li> <li><b>YUKON ROOM</b></li> </ol>
12:45 p.m. – 3:00 p.m.	<b>FOR STUDENTS: WALK OR BIKE THE COASTAL TRAIL</b> Join US-IALE Student Representatives Julie Ripplinger and Karl Jarvis for an informal afternoon exploring the Tony Knowles Coastal Trail. See details on page 9. <b>RSVP to Julie.riplinger@asu.edu ahead of time, if you'd like to participate.</b>	<b>MEET IN HOTEL MAIN LOBBY AT 12:45 P.M. FOR PROMPT 1:00 P.M. DEPARTURE.</b>
2:00 p.m. – 6:00 p.m.	<b>Conference Registration Desk Open / Exhibitor Set-up</b>	<b>ATRIUM, 2<sup>ND</sup> FLOOR</b>
3:00 p.m. – 6:00 p.m.	<b>US-IALE Executive Committee</b>	<b>BOARDROOM #311, 3<sup>RD</sup> FLOOR</b>
6:30 p.m. – 8:30 p.m.	☆ <b>Welcome Social</b> Join the Local Host Team for light hors d'oeuvres and a cash bar, from the 15 <sup>th</sup> floor of the hotel, with stunning views of the surrounding area.	<b>THE SUMMIT, 15<sup>TH</sup> FLOOR</b>

Monday, May 19		
7:00 a.m. – 5:00 p.m.	<b>Conference Registration Desk Open</b>	<b>ATRIUM, 2<sup>ND</sup> FLOOR</b>
7:00 a.m. – 8:00 a.m.	<b>Continental Breakfast</b>	<b>HOWARD ROCK BALLROOM</b>
8:00 a.m. – 9:00 a.m.	<ul style="list-style-type: none"> <li><b>Welcome Remarks by Host Team</b></li> <li><b>IALE International &amp; U.S. Chapter Interaction</b> – Thomas Edwards, Jr., General Secretary for IALE International, and USGS Utah Cooperative Fish and Wildlife Research Unit</li> <li><b>Plenary Session I:</b> Telecouplings: Challenges and Opportunities for the Landscape Ecology Community Jianguo (Jack) Liu, Center for Systems Integration and Sustainability, Michigan State University</li> </ul>	<b>HOWARD ROCK BALLROOM</b>
9:00 a.m. – 9:20 a.m.	 <b>Coffee Break</b>	<b>ATRIUM, 2<sup>ND</sup> FLOOR</b>
9:20 a.m. – 12:00 p.m.	<b>Concurrent Sessions</b>	<b>SEE GRID FOR DETAILS</b>

12:00 p.m. – 1:00 p.m.	<b>Attendee Lunch and Student-Mentor Lunch</b> (Sign up in advance to participate in the student-mentor lunch. See Conference Registration Desk for details)	HOWARD ROCK BALLROOM
1:00 p.m. – 5:30 p.m.	<b>Poster Set-up</b>	HOWARD ROCK BALLROOM
1:00 p.m. – 3:00 p.m.	<b>Concurrent Sessions</b>	SEE GRID FOR DETAILS
3:00 p.m. – 3:20 p.m.	 <b>Refreshment Break</b>	ATRIUM, 2 <sup>ND</sup> FLOOR
3:20 p.m. – 5:00 p.m.	<b>Concurrent Sessions</b>	SEE GRID FOR DETAILS
5:30 p.m. – 7:30 p.m.	★ <b>Poster Social</b> Visit with presenting authors in the Howard Rock Ballroom. Light snacks will be provided as well as a cash bar.	HOWARD ROCK BALLROOM
7:00 p.m. – 9:00 p.m.	★ <b>NASA/MSU Dinner</b> {New NASA/MSU Awardees Only}	THE SUMMIT, 15 <sup>TH</sup> FLOOR
9:00 p.m. – 11:00 p.m.	★ <b>Student Social – Offsite at Humpy's Great Alaskan Alehouse</b> (610 W 6 <sup>th</sup> Ave; approximately 12-minute walk from the hotel)	OFFSITE

Tuesday, May 20		
7:00 a.m. – 5:00 p.m.	<b>Conference Registration Desk Open</b>	ATRIUM, 2 <sup>ND</sup> FLOOR
7:00 a.m. – 8:00 a.m.	<b>Continental Breakfast</b>	HOWARD ROCK BALLROOM
7:00 a.m. – 8:00 a.m.	<b>US-IALE Editorial Board Meeting</b>	BOARDROOM #305, 3 <sup>RD</sup> FLOOR
8:00 a.m. – 9:00 a.m.	<b>Plenary Session II:</b> Economic Trophic Levels: Implications for Sustainable Landscapes Brian Czech, Center for the Advancement of the Steady State Economy Brian will be available after his presentation for questions and book signing.	HOWARD ROCK BALLROOM
9:00 a.m. – 9:20 a.m.	 <b>Coffee Break</b>	ATRIUM, 2 <sup>ND</sup> FLOOR
9:20 a.m. – 12:00 p.m.	<b>Concurrent Sessions</b>	SEE GRID FOR DETAILS
12:00 p.m. – 1:00 p.m.	<b>Lunch on your own.</b>	
1:00 p.m. – 5:00 p.m.	<b>Half-day Field Trips</b> {pre-registration and additional fee required} ☆ <b>Guided Hike in Chugach Mountains</b> ☆ <b>Anchorage Scenic City Tour</b> ☆ <b>Alaska Wildlife Conservation Center &amp; Wildlife Tour</b>	SEE DETAILS ON PAGE
1:00 p.m. – 5:00 p.m.	<b>Half-day Concurrent Workshops</b> {pre-registration and additional fee required} 1. <b>Landscape-Population Analysis: Linking Social Surveys to Environmental Data for Inquiry</b> Alex Zvoleff, Postdoctoral Associate, Conservation International, Arlington, VA; Sarah Wandersee, Postdoctoral Fellow, University of Alaska, Anchorage 2. <b>Open GIS: Learn How to Map Geo-referenced Data with Accessible Mapping Tools</b> Falk Huettmann, EWHALE lab, Biology & Wildlife Department, Institute of Arctic Biology, University of Alaska Fairbanks 3. <b>STUDENT WORKSHOP: Inquiry-Based Curriculum Development for Landscape Ecologists</b> Panel of Landscape Ecology Professionals	1. YUKON ROOM  2. KUSKOKWIM EAST  3. KUSKOKWIM WEST

6:00 p.m. – 7:00 p.m.	<p>★ <b>Cocktail Reception and “We’ll Pick up the Tab” Social</b></p> <p>Professionals can pre-purchase drink tickets for random distribution to students at the social. To redeem their ticket, students must find who purchased the ticket and introduce themselves. Happy Networking!</p>	ATRIUM, 2 <sup>ND</sup> FLOOR
7:00 p.m. – 9:00 p.m.	<p>★ <b>Awards Banquet &amp; Keynote by Alaskan Artist, Ray Troll — The Creative Landscape: Connecting the Natural World and the Artistic World (One Man's Tale)</b></p> <p>Join your colleagues for a scrumptious feast featuring Alaskan Salmon, as we celebrate the award recipients for the Foreign Scholar Travel Awards and Best Student Presentation, as well as recognize the US-IALE Officers of the Board.</p> <p><i>{ticket to the Banquet is included in the Full Conference Registration}</i></p>	HOWARD ROCK BALLROOM

Wednesday, May 21		
7:00 a.m. – 8:00 a.m.	<p><b>US-IALE Executive Committee and General Business Meeting</b></p> <p>All US-IALE members welcome. An informal meet and greet with the newly elected officers, and chance to share your concerns and ideas.</p>	BOARDROOM #305, 3 <sup>RD</sup> FLOOR
7:00 a.m. – 8:00 a.m.	<b>Continental Breakfast</b>	HOWARD ROCK BALLROOM
7:00 a.m. – 5:00 p.m.	<b>Conference Registration Desk Open</b>	ATRIUM, 2 <sup>ND</sup> FLOOR
8:00 a.m. – 9:00 a.m.	<ul style="list-style-type: none"> <li>▪ <b>Introductory Remarks:</b> 2016 US-IALE Sneak Peek, William Hargrove, Asheville, NC</li> <li>▪ <b>Plenary Session III:</b> Moose and Wolves: Application of Management and Conservation Strategies Based on Predator-prey Ratios R. Terry Bowyer, Ph.D., Idaho State University</li> </ul>	HOWARD ROCK BALLROOM
9:00 a.m. – 9:20 a.m.	 <b>Coffee Break</b>	ATRIUM, 2 <sup>ND</sup> FLOOR
9:20 a.m. – 12:00 p.m.	<b>Concurrent Sessions</b>	SEE GRID FOR DETAILS
12:00 p.m. – 1:00 p.m.	<b>Attendee Lunch Buffet</b>	HOWARD ROCK BALLROOM
1:00 p.m. – 3:00 p.m.	<b>Concurrent Sessions</b>	SEE GRID FOR DETAILS
3:00 p.m. – 3:20 p.m.	 <b>Refreshment Break</b>	ATRIUM, 2 <sup>ND</sup> FLOOR
3:20 p.m. – 5:00 p.m.	<b>Concurrent Sessions</b>	SEE GRID FOR DETAILS
Evening	<b>Dinner on your own in Anchorage.</b>	


Thursday, May 22		
8:00 a.m. – 6:00 p.m.	<p><b>Full-day Field Trips</b> <i>{pre-registration and additional fee required}</i></p> <ul style="list-style-type: none"> <li>☆ <b>Prince William Sound “26-Glacier Quest” Cruise</b> {DEPARTS AT 9:45am SHARP}</li> <li>☆ <b>Matanuska Glacier Ice Fall Trek</b> {DEPARTS AT 9:00am}</li> <li>☆ <b>Denali State Park to McKinley lodge &amp; Byers Lake Hike</b> {DEPARTS AT 8:00am}</li> </ul>	




# FOR STUDENTS

Attention Students: there are a handful of events taking place during the US-IALE Symposium geared specifically for you! For all other conference activities, please see the full Schedule at-a-Glance on the preceding pages 6-8.

## SUNDAY, MAY 18

12:45 p.m. – 3:00 p.m.  {Meet in hotel main lobby at 12:45pm for prompt 1:00pm departure.}	<b>NEW FOR STUDENTS: WALK OR BIKE THE COASTAL TRAIL</b> Join US-IALE Student Representatives Julie Ripplinger and Karl Jarvis for an informal afternoon exploring the <b>Tony Knowles Coastal Trail</b> – either by bike or on foot. Located about a mile from the hotel, the “Trail” is one of the most beautiful coastal trails in the nation, and gently winds along 11 miles of coastline. If you’re interested, bike rentals will be available (pay on own) at <b>Pablo Bicycle Rentals</b> (501 L Street, Anchorage 907- 272-1600) and can be reserved ahead of time at <a href="http://www.pablobicyclerentals.com">www.pablobicyclerentals.com</a> . <b>RSVP to Julie.ripplinger@asu.edu ahead of time, if you’d like to participate.</b>	
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## MONDAY, MAY 19

12:00 p.m. – 1:00 p.m.	<b>Student-Mentor Lunch / Howard Rock Ballroom</b> (Sign up at the Conference Registration Desk)  The student-mentor lunch brings students and landscape ecology professionals together to discuss professional development in a small group setting. Both students and professionals sign up in advance for this event through the conference registration process. We try to match students with professionals in their field of interest — academia, state and federal government, nonprofit organizations or business. At the event, dining tables will be labeled and you will be directed to a particular table based on your area of interest.	
7:00 p.m. – 9:00 p.m.	<b>NASA/MSU Dinner {New NASA/MSU Awardees Only} / The Summit, 15<sup>th</sup> Floor</b> A special, invitation-only dinner to recognize the new awardees. Award certificates will be distributed at the US-IALE Awards Banquet on Tuesday evening.	
9:00 p.m. – 11:30 p.m.	<b>Student Social</b> <b>Offsite at Humpy’s Great Alaskan Alehouse</b> (610 W 6 <sup>th</sup> Ave; approximately 12-minute walk from the hotel)  The student social is designed to encourage informal interactions among students attending the conference. All ages welcome! (A drink ticket will be distributed to each student upon arrival at the social. Proper I.D. required for alcoholic beverages; tickets can also be used for nonalcoholic beverages.)	

## TUESDAY, MAY 20

1:00 p.m. – 5:00 p.m.	<b>STUDENT WORKSHOP: Inquiry-Based Curriculum Development for Landscape Ecologists</b> (Advance registration required) <i>Panel of Landscape Ecology Professionals</i>  This workshop will provide graduate students in Landscape Ecology with skills to develop a course/syllabus in landscape ecology (and related topics) using inquiry-based approaches. Course-development skills can be useful for developing university-level courses, workshops for professionals, as well as for outreach and environmental education. These topics represent a gap in knowledge and experience for many graduate students despite their value in a variety of careers.  During this half-day workshop, Landscape Ecology professionals will introduce the topic of inquiry-based teaching methods, discuss ideas for encouraging experiential or project-based landscape ecology lessons, and conduct hands-on activities for use in a landscape ecology classroom. Students will receive an introduction to inquiry-based approaches to Landscape Ecology, as well as learn tricks of the trade for organizing their own Landscape Ecology curriculum.  <b>Participants must bring their own personal laptops as computers will not be provided.</b>
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6:00 p.m. –  
7:00 p.m.

**“We’ll Pick up the Tab” Social / Atrium, 2<sup>nd</sup> Floor**

To foster interaction between students and professional landscape ecologists, we’re asking non-students to “pick up the tab” for student drinks at the pre-banquet evening social. Participating professionals will pre-purchase tickets for random distribution to attending students. Students will receive a ticket with a sponsor’s name on the back. To redeem their ticket, students must find this sponsor at the social and introduce themselves. Students are encouraged to ask others at the social for help in finding their sponsor. Happy networking!

**STUDENT PRESENTATION AWARD PROGRAM:**

On the registration form, students have an opportunity to sign up to compete for the “Best Student Presentation Award”, or opt to receive feedback on their oral or poster presentation.

**Student Presentation Award Program**

US-IALE annually presents a “Best Student Presentation Award” to a student for the outstanding oral paper or poster given at the Society’s annual meeting. Volunteer judges have been selected among the professionals in attendance. In order for judges to best evaluate student presentations that will be most competitive, it is encouraged that students only enter this competition if they have completed or nearly completed research results.

**Student Presentation Feedback**

The US-IALE conference provides students with an opportunity to gain experience presenting their research results and to gather feedback from other landscape ecologists. To maximize this benefit, students can now request that their poster or oral presentation be evaluated by practicing landscape ecologists. Evaluators will provide constructive comments on both the student’s research and presentation style. This is separate from the student presentation competition, and students in all stages of their research are encouraged to participate. If you signed up for this option on the registration form, there will be instructions and feedback forms in your packet; it will be up to you to solicit feedback and collect the evaluation forms (which will be provided).



# FIELD TRIP OPTIONS

Additional Fee and Pre-Registration Required. If you have not signed up in advance and would like to purchase a ticket, please stop by the Conference Registration Desk for space availability.

**TUESDAY, MAY 20 ♦ HALF-DAY 1:00 PM – 5:00 PM**

## 1. Guided Day Hike – Chugach Mountains



**Price per person: \$90.00** (includes transportation and knowledgeable naturalist guide.)

**Departure Time: 1:00 PM from Hotel Lobby**

**Return Time: 5:00 PM**

Come hike in the Chugach Mountains, explore unique coastal alpine mountains with the most accessible wilderness to Anchorage and best Alaska wildlife viewing!

**What to bring:** This trip operates in all weather conditions. Wear comfortable clothing and dress in layers (fleece jacket, rain jacket/pants, light gloves & fleece/wool hat, sunglasses, ball cap). Also wear sturdy footwear (hiking boots or running shoes), small backpack, and a camera.



## 2. Anchorage Scenic City Tour



**Price per person: \$50.00** (includes transportation and local Alaskan tour guide)

**Departure Time: 2:00 PM from Hotel Lobby**

**Return Time: 4:30 PM**

On this tour you will visit historic places in the city, watch as float planes depart from Lake Hood, view the amazing mountains that surround the city and learn about Alaska's historic past and culture from a local Alaskan guide.

## 3. Alaska Wildlife Conservation Center & Wildlife Tour

**Price per person: \$ 100.00**

(includes transportation, local Alaskan tour guide and admission to Alaska Wildlife Conservation Center)

**Departure Time: 1:00 PM from Hotel Lobby**

**Return Time: 5:00 PM**

This tour is specifically designed for guaranteed wildlife viewing and beautiful scenery at a great value! A professional Salmon Berry tour guide will pick you up and drive you south along the Turnagain Arm. The main attraction is the Alaska Wildlife Conservation Center, where we will visit with bears, moose, elk, caribou, and all kinds of other Alaskan wild animals. This tour includes several wildlife viewing stops along the Turnagain Arm.



**Did you know? ...**

The Alaska state sport is Dog Mushing

# FIELD TRIP OPTIONS

Additional Fee and Pre-Registration Required. If you have not signed up in advance and would like to purchase a ticket, please stop by the Conference Registration Desk for space availability.

**THURSDAY, MAY 22 ♦ FULL DAY 8:00 AM – 5:00 PM**

## 1. Prince William Sound "26 Glacier Quest" Cruise

**Price per person: \$ 210 Adult; \$165 Child Ages 2-11**

*(includes transportation, lunch, Whittier Tunnel fee, admission for cruise)*

**Departure Time: 9:45 a.m. Return to Hotel: 6:30 p.m.**

During this 5-hour cruise, our route covers 140 miles into Prince William Sound, cruising through narrow passage ways, along jagged shorelines, and down glacier carved fjords where you'll see several types of glaciers, including Alpine (hanging), Piedmont and Tidewater. We get face to face with these towering masses of ice, so close you can "hear" the glaciers move and gaze at their brilliant blue hues. The cruise also features a: NO SEA SICKNESS GUARANTEE, COMPLIMENTARY HOT LUNCH, SNACK BAR AND FULL SERVICE SALOON, SEATING AND WILDLIFE VIEWING, including Harbor Seals, Humpback Whale, Sea Otter and Orca/Killer Whales.



## 2. Matanuska Glacier Ice Fall Trek

**Price per person: \$ 160 Adult; \$120 Child Ages 8 - 12**

*(includes transportation, Glacier Park gate fee, guided tour and equipment; lunch is on own)*

**Departure Time: 9:00 a.m. Return to Hotel: 6:00 p.m.**

Matanuska Glacier is the largest glacier accessible by car in Alaska! The Matanuska is a beautiful valley glacier nestled in the breathtaking Chugach Mountains. Glacier hiking is for virtually everyone! With proper equipment and an experienced guide, explore the hidden treasures of the Matanuska Glacier. You'll use mountaineering crampons to literally "walk on water" as you explore the glacier with your guide. Featuring the best accessible features of the glacier as well as getting up to a high point with great views of the ice fall. This is sure to be an unforgettable experience.



## 3. Denali State Park/Byers Lake Scenic Drive & Hike

**Price per person: \$60** *(includes transportation and local guide; lunch is on own)*

**Departure Time: 8:00 a.m. Return to Hotel: 6:00 p.m.**

Spend the day with local hosts, Andy Baltensperger, Graduate Student at University of Alaska-Fairbanks, and Tracey Gotthardt, Alaska Natural Heritage Program, University Alaska-Anchorage, for an up close and personal journey to Byers Lake. Byers Lake is a small lake in Denali State Park, Alaska, 150 miles north of Anchorage. The lake is named for a fisherman who was brought there many times by bush pilot Don Sheldon in the 1950s. Get out and experience Alaska's incredible beauty on a nature walk and enjoy magnificent views of surrounding mountains and Denali State Park. We'll stop for lunch along the way and will structure the day based on your interests.



# WORKSHOPS - Sunday

Additional Fee and Pre-Registration Required.

**SUNDAY, MAY 18 ♦ 9:00 AM – 5:00 PM {lunch break on own}**

## **Guidos: Landscape Pattern and Connectivity Analysis**

*Peter Vogt, European Commission, Forest Resources and Climate Unit*

Guidos implements new techniques for the morphological analysis of landscape patterns that allows classifying the landscape at pixel level into a set of mutually exclusive pattern categories related to fragmentation and connectivity. It can also be used to generate inputs for Conefor Sensinode for enhanced connectivity analysis. In addition, Guidos includes a variety of generic image analysis and processing tools, a complete GIS environment and statistical software for post-processing, and a graphical application for map publishing in GoogleEarth. It is being used by a variety of organisations, for example the European Commission and the USDA Forest Service.

### **Content outline:**

- Introduction and motivation for a new way of pattern analysis.
- Morphological Spatial Pattern Analysis (MSPA): what it is and how it works.
- GUIDOS: demonstration of program features, MSPA and other processing options.
- Identifying key structural connectors through habitat availability metrics.
- Hands-on training using sample data sets:
  - a) Data preparation for MSPA processing;
  - b) MSPA, network connectivity and fragmentation analysis;
  - c) Import/export to ArcGIS and Quantum GIS, export to GoogleEarth overlays
- Discussion, suggestions for new features or improvements, help with user-supplied data, etc.

**Intended Audience:** students, landscape ecologists, landscape planners, digital data analysts

**Requirements:** Participants must bring their own laptops with Guidos and GoogleEarth already installed. Digital workshop materials will be provided by instructor prior to workshop.

## **Land Cover Change and Biodiversity Modeling**

*Florencia Sangermano, Ph.D., Research Assistant Professor, Clark University Clark Labs and Graduate School of Geography*

Although human activities have been changing landscapes since pre-historical times, the magnitude, rate and spatial scale of these changes have reached unprecedented levels. Land cover change affects biodiversity by modifying landscape connectivity, habitat quality and habitat availability, and because of this, it is considered to be one of the major threats to biodiversity worldwide. Evaluating the impact of land cover change on biodiversity is therefore an important research area, and GIS provides the tools to perform this analysis.

This full-day, hands-on workshop will explore the use of GIS for the analysis and modeling of land cover change. This workshop will show, step-by-step, the process of land cover change modeling using the Land change (LCM). Originally built in partnership with Conservation International, LCM facilitates the process of analyzing land cover change, projecting its course into the future. We will also explore the use of the habitat and biodiversity modeled (HBM) to map species habitats and biodiversity.

The topics that will be covered include: land cover change analysis, spatial generalization of land cover changes, empirical land cover changes modeling, development of future scenarios of land cover change and biodiversity mapping.

**Requirements:** Participants must bring their own laptops with software installed. A week before the workshop participants will contact the instructor to receive a 30 days evaluation copy of IDRISI including all modules, data and tutorials to be used during the workshop.

# WORKSHOPS - Sunday

Additional Fee and Pre-Registration Required.

**SUNDAY, MAY 18 ♦ 9:00 AM – 5:00 PM {lunch break on own}**

## **How to Design Plausible and Useful Scenarios for Modeling Landscape Change**

*E. Jamie J Trammell, University of Alaska; Scott Bassett, University of Nevada, Reno*

The word “scenario” is thrown around a lot, especially in environmental assessments (NEPA, IPCC, etc.). This has created some confusion as to the utility of scenarios in studying landscape processes, like those integral to landscape ecology. This workshop is designed to provide a stronger background in scenario analysis, specifically designed for landscape ecologists, so that meaningful scenario construction can be an integral tool in landscape ecology.

This workshop is designed for land managers and scientists alike who might like to utilize the flexible yet robust framework for understanding landscape change that scenario analysis provides. This workshop should appeal to those involved with the many landscape initiatives that state and federal agencies have developed, as well as those looking for a framework for integrating climate change and other critical uncertainties into landscape change research.

**Requirements:** Participants must bring their own laptops. Reading materials will be provided prior to the workshop.

## **The Soil Moisture Active Passive (SMAP) Applications Program and NASA’s Carbon Monitoring Systems (CMS) Initiative**

*Vanessa Escobar, M.S., Missions Application Deputy Coordinator, Support Scientist, Sigma Space Corporation, Biospheric Sciences Branch, Code 618, NASA Goddard Space Flight Center*

The Soil Moisture Active Passive (SMAP) Applications Program and NASA’s Carbon Monitoring System (CMS) Initiative are geared towards identifying and fostering research that will provide fundamental knowledge of how mission data products can be scaled and integrated into users’ policy, business and management activities to improve decision-making efforts. We define applications as innovative uses of mission data products in decision-making activities for societal benefit.

This one day workshop will provide an opportunity to connect the methane and atmospheric scientists with the NASA mission experts to address the different uses of SMAP and CMS carbon products. We will describe mission products and uncertainties for SMAP and CMS. Because application requirements are different for each user, it is important to understand the individual resolution, access and accuracy concerns by thematic discipline. We aim to find benchmarking studies that will help pull together atmosphere models and look at the uncertainties more closely.

During the workshop, we will work with participants to identify areas of application of methane and permafrost studies, especially those relevant for high latitude carbon cycle dynamics (application of soil active layer freezer thaw dynamics). We will also explore effective ways of communicating modeling uncertainties and biases to decision makers.

**The workshop will also include a one hour overview and demo given by the USDA Forest Service on the online Template for Assessing Climate Change Impacts and Management Options (TACCIMO) tool and its applications in forest management and planning.**

**Presenters:** Vanessa Escobar, SigmaSpace/NASA GSFC; Narendra N. Das, Jet Propulsion Laboratory; Eric Kasischke, University of Maryland; Rolf Reichle, Global Modeling and Assimilation Office, NASA GSFC; E. Natasha Stavros, Jet Propulsion Laboratory; Robert Pattison, USFS Pacific Northwest Research Station; Javier Fochesatto, Geophysical Institute, University of Alaska Fairbanks; Lucas Jones, Numerical Terradynamic Simulation Group; Angela Allen, Alaska Satellite Facility; Emrys Treasure, Eastern Forest Environmental Threat Assessment Center, USDA Forest Service

# WORKSHOPS - Tuesday

Additional Fee and Pre-Registration Required.

**TUESDAY, MAY 20 ♦ 1:00 PM – 5:00 PM**

## **Landscape–Population Analysis: Linking Social Surveys to Environmental Data for Inquiry**

*Alex Zvoleff, Postdoctoral Associate, Conservation International, Arlington, VA; Sarah Wandersee, Postdoctoral Fellow, University of Alaska, Anchorage*

To approach human–environment dynamics and relationships, it is necessary to combine human and environmental data. Considering the movement towards interdisciplinary and trans–disciplinary research, this integration of social surveys and environmental datasets is becoming more and more relevant. In this workshop, we provide a review of the technical approaches for linking human and environmental data. This is intended to give new researchers a background on methods and considerations in analysis of these topics and also to practice building and applying these tools.

The first half of the workshop will provide a general overview of statistical diagnostic tools and modeling approaches (such as spatial multilevel modeling and agent–based modeling), and discuss how to choose the appropriate techniques for addressing specific research questions. The second half of the workshop will focus on example applications using real–world datasets. These applications will provide participants with understanding of the kinds of questions that can and cannot be answered with existing tools, a background of format, confidentiality, and data quality concerns, and familiarity with some common software platforms.

**Objectives:** To highlight methodological considerations for linking population and landscape data; To provide an overview of available datasets, statistical tools, software platforms, and approaches; To lead participants through two sample analyses, showing application and interpretation of these methods in two different settings: the Kenai Peninsula, AK and the Chitwan Valley, Nepal.

**Intended Audience:** Young researchers and graduate students, management professionals

**Requirements:** Participants must bring their own laptops.

## **Open GIS: Learn How to Map Geo–referenced Data with Accessible Mapping Tools**

*Falk Huettmann, EWHALE lab, Biology & Wildlife Department, Institute of Arctic Biology, University of Alaska Fairbanks (UAF), Fairbanks*

OpenGIS refers to Geographic Information Systems (GIS) and mapping of digital data with OpenSource software (freeware). The commercial business model of many GIS tools has been a traditional hindrance for their efficient use worldwide. Here participants will be introduced how to make good use of GIS based on free software. Specifically, QGIS, SAGA, R packages and Google Earth will be presented for an introduction. Participants will primarily learn how to open geo–referenced point data, shapefiles, and some first GRID operations and for basic mapping and overlay purposes. Subsequent Remote Sensing data applications will be briefly discussed, too. This workshop allows for a first introduction to OpenGIS and its underlying concepts. The goal of this session is that scholars can get started and explore these tools more and for their own work, focusing on mapping applications worldwide.

**Requirements:** Participants must bring their own laptops (IBM PCs, not Macs) and should be able to install freeware on their machines. Instructor will provide some download URLs and basic reading materials prior to the workshop.

## **STUDENT WORKSHOP: Inquiry–Based Curriculum Development for Landscape Ecologists**

*Panel of Landscape Ecology Professionals*

This workshop will provide graduate students in Landscape Ecology with skills to develop a course/syllabus in landscape ecology (and related topics) using inquiry–based approaches. Course–development skills can be useful for developing university–level courses, workshops for professionals, as well as for outreach and environmental education. These topics represent a gap in knowledge and experience for many graduate students despite their value in a variety of careers. During this half–day workshop, Landscape Ecology professionals will introduce the topic of inquiry–based teaching methods, discuss ideas for encouraging experiential or project–based landscape ecology lessons, and conduct hands–on activities for use in a landscape ecology classroom. Students will receive an introduction to inquiry–based approaches to Landscape Ecology, as well as learn tricks of the trade for organizing their own Landscape Ecology curriculum.

# PLENARY SESSION I

**Monday, May 19 ■ 8:00 a.m. – 9:00 a.m.**

## **Telecouplings: Challenges and Opportunities for the Landscape Ecology Community**

*Jianguo (Jack) Liu, Center for Systems Integration and Sustainability, Michigan State University*

### **OVERVIEW:**

The world is increasingly interconnected across distant landscapes, not only ecologically but also socioeconomically. To understand and manage such complex interconnections, a new integrated framework of telecoupling is proposed.

Telecouplings are socioeconomic and ecological interactions between multiple coupled human and natural systems (e.g., landscapes) over distances. They occur during trade, water transfer, payment for ecosystem services, foreign investment, migration, and tourism. They also emerge when information flows, organisms disperse, species invade, and diseases spread. The framework of telecoupling builds on, integrates and goes beyond previous concepts by emphasizing reciprocal cross-scale and cross-border interactions (e.g., feedbacks). For example, it extends the concept of teleconnection (interactions between distant climate systems) by encompassing socioeconomic interactions and expands the concept of economic globalization (interactions between distant human systems) by embracing ecological interactions.



Telecouplings have profound implications for landscape sustainability as they can transform landscape structure, function, pattern, process, and dynamics. They pose new challenges, but also offer exciting new opportunities for the landscape ecology community.

### **ABOUT JIANGUO LIU**

A human-environment scientist and sustainability scholar, Jianguo "Jack" Liu holds the Rachel Carson Chair in Sustainability, is University Distinguished Professor of fisheries and wildlife at Michigan State University, and also serves as Director of the Center for Systems Integration and Sustainability. Liu came to MSU after completing his postdoctoral work at Harvard University. He has been a guest professor at the Chinese Academy of Sciences, and a visiting scholar at Stanford (2001–2002), Harvard (2008) and Princeton (2009).

Liu's work has been published in journals such as *Nature* and *Science*, and he has served on various international and national committees and panels. He is a past president of the U.S. Regional Association of the International Association for Landscape Ecology (US-IALE), and he initiated the NASA-MSU Awards Program.

He also is a member of the Board of Reviewing Editors for *Science* and leads the International Network of Research on Coupled Human and Natural Systems (CHANS-Net.org). In recognition of his efforts and achievements in research, teaching, and service, Liu has received many awards, such as being named a Fellow of the American Association for the Advancement of Science (AAAS), the Guggenheim Fellowship Award, the CAREER Award from the National Science Foundation, the Distinguished Service Award from US-IALE and the Aldo Leopold Leadership Fellowship from the Ecological Society of America.



# PLENARY SESSION II

**Tuesday, May 20 ■ 8:00 a.m. – 9:00 a.m.**

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## **Economic Trophic Levels: Implications for Sustainable Landscapes**

*Brian Czech, Ph.D., President, Center for the Advancement of the Steady State Economy*

### **OVERVIEW:**

The human economy follows the same physical and ecological laws as the economy of nature and its nonhuman species. The economy of nature has a trophic structure whereby the producers, or plants, comprise the foundation. In any given ecosystem one or more trophic levels of consumers may build upon the surplus production of the plant community. Certain species also function as service providers, such as pollinators, scavengers, and decomposers. Similarly the human economy has a trophic structure whereby the foundation is agriculture and extraction (including energy extraction or capture). Agricultural and extractive surplus allows for the division of labor unto manufacturing trophic levels, in which natural resources are converted into manufactured capital and consumer goods. Service providers operate throughout this economy as well. The most distinguishing feature of the human economy is the monetary sector, which lacks an obvious equivalent in the economy of nature. However the circular flow of real money (i.e. adjusted for inflation and *ceteris paribus* in general) must reflect the flow of goods and services in the real sector.



All economic activity - real and monetary - takes place on a landscape or ultimately "the" landscape when speaking at the largest geographic scale. Meanwhile in the conservation sciences and professions, the phrase "sustainable landscape" has come into vogue. Viewed from the standpoint of conserving the economy of nature and its nonhuman species, the implication of "sustainable" is that the trophic structure remains intact and non-shrinking over time. However, for that to occur, the trophic structure of the human economy may not continue to expand, because to do so necessarily entails enlarging agricultural and extractive output at the base, which in turn necessarily entails a growing ecological footprint.

Trophic theory helps us to understand the fundamental trade-off between growing the human economy and maintaining sustainable landscapes. Serious landscape conservation requires planning for a steady state economy.

### **ABOUT BRIAN CZECH**

Brian Czech is the President of the Center for the Advancement of the Steady State Economy, Visiting Professor of Natural Resource Economics at Virginia Tech, and Interdisciplinary Biologist in the national office of the U.S. Fish and Wildlife Service. From 1988-1993, Czech developed the wildlife management program for the San Carlos Apache Tribe in Arizona. A certified wildlife biologist, Czech has a Ph.D. from the University of Arizona, an M.S. from the University of Washington, and a B.S. from the University of Wisconsin. His 50+ articles have appeared in dozens of peer-reviewed journals, reflecting the breadth of his work in ecological and economic sustainability. His books include *Supply Shock*, *Shoveling Fuel for a Runaway Train*, and *The Endangered Species Act: History, Conservation Biology, and Public Policy*. Czech is also a regular contributor at the *Huffington Post* and at the *Daly News*, a blog devoted to advancing the steady state economy as a policy goal with widespread public support.

# PLENARY SESSION III

**Wednesday, May 21 ■ 8:00 a.m.–9:00 a.m.**

## **Moose and Wolves: Application of Management and Conservation Strategies Based on Predator-prey Ratios** *R. Terry Bowyer, Ph.D., Idaho State University*

### **OVERVIEW:**

Dr. Bowyer developed an original modeling approach using program Stella® to investigate the usefulness of predator-prey ratios (PPRs) for interpreting top-down and bottom-up forcing on moose (*Alces alces*). The model included density-dependent feedbacks for the moose population, allowed carrying capacity (K) to vary based on amount and quality of available forage for moose, integrated effects of compensatory versus additive mortality, and added time lags in wolves (*Canis lupus*) tracking the moose population. Modeling scenarios developed included bottom-up and top-down regulation as predetermined outcomes. He then evaluated whether PPRs would reflect the various combinations of trajectories of wolf and moose populations under top-down versus bottom-up regulation.



The resulting patterns of PPRs were impossible to disentangle from one another, and did not provide reliable insights into whether top-down or bottom-forcing occurred, especially over short time spans where critical decisions related to the conservation and management of moose and wolves might be necessary. Only under top-down regulation did PPRs reflect the degree of predation experienced by moose, but in that instance, knowledge of top-down regulation must be known a priori to correctly interpret PPRs. Potential problems with interpreting PPRs include their double-variable nature, which resulted in the failure to reflect patterns of increase and decrease for predators and prey, especially at a temporal scale that would be meaningful for management purposes.

Terry will also discuss how such ratios might change with spatial scale, cautioning that the temptation to use PPRs often is irresistible, but their reliability is highly questionable. An alternative method to using PPRs or other predation metrics is provided, for determining whether top-down or bottom-up forcing is occurring by adopting an approach based on the physical condition and life-history characteristics of moose.

### **ABOUT TERRY BOWYER**

Dr. R. Terry Bowyer earned his B.S. and M.S. degrees from Humboldt State University and his Ph.D. from The University of Michigan. Since 2004 he has been a Professor of Ecology in the Department of Biological Sciences at Idaho State University. He joined the faculty following 18 years at the Institute of Arctic Biology and Department of Biology and Wildlife at the University of Alaska Fairbanks. He is a Fellow of the American Association for the Advancement of Science, The Arctic Institute of North America, and The Wildlife Society. He has received the Arthur S. Einarsen Award from the Northwest Section of The Wildlife Society, The Distinguished Moose Biologist Award, and the C. Hart Merriam Award from the American Society of Mammalogists for outstanding research on mammals. His research has earned four Outstanding Publication Awards from The Wildlife Society (2 for articles and 2 for monographs). He has mentored 30 graduate students to the successful completion of their degrees, including 14 Ph.D.s and 16 M.S. students. His research interests include the ecology and behavior of large mammals, and he has published extensively on sexual segregation, birth-site selection, and predator-prey relationships. He continues to study the population ecology of ungulates and the carnivore that prey upon them, and recently has become interested in the effects of temporal and spatial scales on life-history characteristics of mammals. Dr. Bowyer has 197 publications in the scientific literature. He and his wife Karolyn live on a small farm in Blackfoot, Idaho. He is an avid angler and hunter, and especially enjoys hunting upland birds and waterfowl with his Labrador retrievers, Pepper on Otis, and his Boykin spaniel, Beau.

# FEATURED BANQUET SPEAKER

**Tuesday, May 20 ■ 7:00 p.m. – 9:00 p.m.**

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## **The Creative Landscape: Connecting the Natural World and the Artistic World (One Man's Tale)**

Alaskan artist Ray Troll will share the twists and turns of his unique fish inspired career. Ray moved to the Northwest in the late 1970's and eventually on to Alaska in the early 80's with a couple of art degrees in his back pocket and a life-long interest in natural history. Over the years that interest in the natural world led him to a number of collaborative projects with scientists, writers and educators. Ray soon found one of his missions in life: making connections between disciplines and making complex scientific concepts engaging for the general public in straightforward creative ways.

### **ABOUT RAY TROLL**

From his tree lined studio, high on a hill above the Tongass Narrows in rain-swept Ketchikan Alaska, Ray Troll draws and paints fishy images that migrate into museums, books and magazines and onto t-shirts sold around the planet. Basing his quirky, aquatic images on the latest scientific discoveries, Ray brings a street-smart sensibility to the worlds of ichthyology & paleontology.

Ray earned a Bachelor of Arts degree from Bethany College in Lindsborg, Kansas in 1977 and an MFA in studio arts from Washington State University in 1981. In 2008 he was awarded an honorary doctorate in fine arts from the University of Alaska Southeast. In 2007 he was given a gold medal for 'distinction in the natural history arts' by the Academy of Natural Sciences in Philadelphia and in 2006 was given the Alaska Governor's award for the arts. In 2011 he was awarded a Guggenheim Fellowship along with Dr. Kirk Johnson for their new book project 'Cruisin the Eternal Coastline: West Coast Fossils from Baja to Barrow'. A month after that award Ray was also given the Rasmuson Distinguished Artist Award.



Troll's unique blend of art and science culminated in his traveling exhibit, "Dancing to the Fossil Record," a major show that opened at the California Academy of Sciences in San Francisco in 1995. The huge exhibit included Ray's original drawings, gigantic fossils, fish tanks, murals, an original soundtrack, a dance floor an interactive computer installation and the infamous "Evolvo" art car. In 1997 the exhibit traveled to the Oregon Coast Aquarium in Newport and in 1998 it hit the streets of Philadelphia at the Academy of Natural Sciences. The tour ended in 1999 at the Denver Museum of Nature and Science. By that time it had grown to 14,000 square feet.

Ray followed that tour a few years later with "Sharkabet, a Sea of Sharks from A to Z". Venues included the Science Museum of Minnesota, the Anchorage Museum of History and Art, the Alaska State Museum and the Museum of the Rockies in Bozeman, Montana. Ray went on to act as the art director for the Miami Museum of Science's Amazon Voyage traveling exhibit and now has another touring show based on his book Cruisin' the Fossil Freeway with Dr. Kirk Johnson. He has illustrated and co-authored eleven books over the course of his career. He and his wife Michelle run the Soho Coho gallery in Ketchikan appropriately situated in an old historic house of ill repute located on a salmon spawning stream. Ray believes that everyone should be in a band regardless of talent or ambition. Holding true to that ethic he leads a band of musical renegades called the Ratfish Wranglers.

# SPECIAL SYMPOSIA OVERVIEW - Monday

**Monday,  
May 19**

9:20am –  
5:00 pm

## **Symposium 1: Vulnerability of Arctic and Boreal Ecosystems Under a Changing Climate**

**Conveners:** *Forrest M. Hoffman, Jitendra Kumar – Climate Change Science Institute, Oak Ridge National Laboratory, Computational Earth Sciences Group; Larry Hinzman, International Arctic Research Center, University of Alaska Fairbanks*

### **Overview:**

Climate warming due to rising atmospheric greenhouse gas burdens is having pronounced effects at high latitudes, where sensitive Arctic and boreal ecosystems host large and vulnerable stores of carbon. Sustainability of these ecosystems is threatened by the cumulative impacts of rising temperatures, melting permafrost, and shifting disturbance regimes. This symposium seeks to bring together experts in remote sensing, in situ measurements, ecosystem ecology, and ecosystem modeling to discuss changes in vegetation structure and phenology, fire frequency and intensity, microbial ecology, and permafrost interactions in high latitude environments. Systematic sampling strategies are essential for understanding ecosystem responses and informing model development, but harsh environmental conditions pose significant challenges to monitoring climate change impacts. Meanwhile, global Earth system models must be improved, using these measurements and manipulative experiments, to capture important processes and feedbacks that have implications for the evolution of the global carbon cycle and the climate system. This symposium is designed to foster collaboration among modelers, remote sensing experts, and experimentalists conducting research in Arctic and boreal ecosystems, particularly those in the State of Alaska.

**Monday,  
May 19**

9:20 a.m. –  
2:20 p.m.

## **Symposium 2: The Sustainability of Wildlife Management in Alaska**

**Convener:** *Tammy L. Wilson, National Park Service, Southwest Alaska Network*

### **Overview:**

Alaska's size, relative under-development, and cultural makeup present a unique set of opportunities and challenges for the management of wildlife habitats and populations. The predominant management paradigms may be inadequate for managing renewable wildlife resources in rural Alaska where the harvest and consumption of wildlife are necessary part of life. Further, harvesting and preparing wild foods lies at the very core of indigenous Alaskan culture, which may not be considered when regulations are enacted. Collectively called subsistence hunting, the reliance on wildlife for food creates challenges for management agencies that must consider the sustainability of this coupled human-natural system. Perceived and actual conflicts (e.g. between rural and urban residents, between native and western cultures, and between local people and managers) play out in a high-stakes media battle over wildlife policy reaching to the highest levels of government. The symposium will focus on the unique ecological and sociological aspects of wildlife management in Alaska through themes such as: subsistence, traditional ecological knowledge, and sustainability. The goal is to bring wildlife managers, tribal leaders, and researchers together to share ideas in a non-political framework, thereby fostering creative thought and collaboration.

# SPECIAL SYMPOSIA OVERVIEW - Monday

**Monday,  
May 19**

1:00 p.m. –  
5:00 p.m.

## **Symposium 3: North Pacific Temperate Rainforests in a Time of Change**

**Conveners:** *Allison Bidlack, Ph.D., Assistant Professor, Environmental Science and Director, Alaska Coastal Rainforest Center, University of Alaska Southeast; Brian Buma, University of Alaska Southeast*

### **Overview:**

The north Pacific coastal temperate rainforest (PCTR) ecosystem extends from central British Columbia to southcentral Alaska, and includes the largest remaining old-growth forests in North America, supports the most robust fisheries on the continent, and is home to tens of thousands of people who depend on a resource and tourism-based economy for their livelihoods. The terrestrial and freshwater systems of the northern PCTR are being transformed by climate warming, with most watersheds straddling the rain/snow threshold. Changes in hydrology, temperature, snow cover and carbon storage capacity may impact downstream ecosystems in complex and unanticipated ways. These changes are coming at a time of transition in the timber management system of the region, and in a period of record-high fisheries and tourism revenues. This symposium will highlight current climate change research in the PCTR, cumulative impacts, and applications to ecosystem science and resource management.

**Monday,  
May 19**

1:00 p.m. –  
4:00 p.m.

## **Symposium 4:**

### **Prioritizing Landscape Ecology's Contribution to Policy Development and Analysis**

**Convener:** *Audrey Mayer, US-IALE Public Policy Committee*

### **Overview:**

In our first poll of US-IALE members and public officials (n=59), land use change (31%), urbanization (20%), and climate change (19%) were identified as the three most pressing policy issues to which the science of landscape ecology can contribute, and that are relevant to the science of landscape ecology. The objective of this proposed symposium is to begin a dialog among members of the landscape ecology and policy communities, and to create a pathway for our discipline to meaningfully contribute to policy discussions. This pathway should ensure that the briefs and webpages produced by US-IALE members and subcommittees are actually useful to decision makers at the local, state, and national levels, and that decision makers can meaningfully connect with subject experts in landscape ecology. Hosted by the new US-IALE Policy Committee, this symposium will bring together topical experts in the top three identified issues (land use change, urbanization, and climate change), along with public officials who develop and implement policies for these topics at the state and federal level.

# SPECIAL SYMPOSIA OVERVIEW - Tuesday

**Tuesday,  
May 20**

9:20 a.m. –  
12:20 p.m.

## **Symposium 5: Soundscape Theory and Application: Current Direction and Future Trends for Investigating and Monitoring Acoustic Dynamics Across Heterogeneous Systems**

**Conveners:** *Almo Farina, Department of Basic Sciences and Foundations, Urbino University, Italy; Christopher Bobryk, Department of Forestry, University of Missouri, Columbia, MO, U.S.; Giusi Buscaino, CNR– Institute for Marine Coastal Environment, Capo Granitola, Italy; Timothy Mullet, EWHALE Lab, Biology and Wildlife Department, University of Alaska Fairbanks, AK, U.S.*

### **Overview:**

Soundscape ecology was recently considered an emerging new field of ecological research capable of capturing ecosystem dynamics as a function of unique acoustic signatures. The trends in development of soundscape studies have paved an avenue for growth resulting in the emergence of new research, theories, and technological advancements. The threat of climate change poses new difficulties in capturing variations in acoustic signatures where additional effort is needed in determine how to apply soundscape techniques to monitor and understand ecosystem dynamics. It would be crucial to gather a culmination of soundscape research and build a community of thought based on experience and invite fresh ideas for advancing this discipline while tackling sustainability amidst changes in global climate patterns. This symposium would be structured as a forum to bring together leading scientists in current fields of research that span animal biodiversity, community structure, theoretical ecology, urban development, and terrestrial ecosystem modeling; all using soundscape approaches at various spatio-temporal scales.

**Tuesday,  
May 20**

9:00 a.m. –  
12:00 p.m.

## **Symposium 6: Breaking Landscapes Smartly, Can it be Done?**

**Convener:** *Karen Kelleher, Anchorage District Manager, Bureau of Land Management, Anchorage, AK*

### **Overview:**

Alaska is a unique landscape in the United States. Largely intact, but facing accelerating climate change and ongoing pressure to develop its vast natural resources, natural resource agencies in Alaska are struggling to understand and respond to large scale landscape change. How do federal resource agencies make smart choices in focusing management effort and responding to climate change and development pressures while maintaining a sustainable landscape? Traditional land management and landscape ecology focus on stitching fragmented landscapes back together. Alaska land management agencies are faced with deciding how to manage development and resources in the face of climate change without creating a fragmented landscape. Department of the Interior agencies are engaged in numerous efforts, including Landscape Conservation Cooperatives, large scale ecological assessments, landscape-scale monitoring, modeling, and scenario planning, to try to determine what we know, what we need to know, and how to manage effectively in an unpredictable environment. What tools are available in landscape ecology that can help these agencies and partners make better informed decisions? This symposium will provide an overview of ongoing efforts by the various federal resource agencies in Alaska and open a dialogue between researchers and practitioners to identify science needs and opportunities for collaboration.

# SPECIAL SYMPOSIA OVERVIEW - Wednesday

**Wednesday,  
May 21**

9:20 a.m. –  
11:20 a.m.

## **Symposium 7: Cascading Thresholds in Coupled Human and Natural Systems (CHANS) and the Emergence of Wicked Problems**

**Conveners:** *Jelena Vukomanovic and Patrick Bourgeron, Institute of Arctic and Alpine Research, University of Colorado Boulder*

### **Overview:**

Environmental issues in coupled human and natural systems (CHANS) often bear the characteristics of wicked problems. These are complex problems where there is no single definition of the issues, no definitive and optimal solution exists, and proposed solutions create unintended secondary problems at different spatio-temporal scales and in different domains. Wicked problems in CHANS are the consequences of multi-scale and multi-domain (e.g. ecological, socio-economic, cultural) organization, and of their often non-linear responses to drivers of change, both potentially combining to cause cascading thresholds. Because wicked problems always occur in a social context, they are often overlooked by natural scientists. The overarching objective of this session is to highlight wicked problems across different systems and scales, formulate a process to identify when an environmental issue becomes a wicked problem, and outline the implications for ecosystem management. We will examine current knowledge of CHANS dynamics, tipping points, and cascading thresholds leading to alternative regimes; the potential for the shift to wicked problems; and implications for ecosystem management projects, including ecological restoration and novel ecosystems. The outcome of the session will be a group-developed template to characterize and address wicked problems in CHANS.

**Wednesday,  
May 21**

9:20 a.m. –  
11:20 a.m.

## **Symposium 8: Conservation in the Big Picture: Data and Analysis to Inform the Future**

**Convener:** *Jocelyn Aycrigg, Ph.D., National Gap Analysis Program, Department of Fish and Wildlife Sciences, University of Idaho*

### **Overview:**

Our intent is to highlight data development and analysis that can inform national biodiversity conservation both conceptually and empirically. Data at a national scale are no longer an impediment to national decision making with regards to conservation. There is an unprecedented amount of national-level data that can inform conservation in the future, including vegetation communities, vertebrate species distributions, species occurrence records, and protected areas. Our presentations will cover diverse topics, such as the effectiveness of protected areas in bird conservation, influence of a changing climate on species distributions, identifying habitat refugia to inform conservation planning, and assessing the biodiversity of the National Wildlife Refuge network. This topic and these presentations are relevant to the theme of US-IALE 2014 because we are addressing landscape impacts, such as land use and climate change and potentially informing landscape initiatives for the future conservation of biodiversity.

# SPECIAL SYMPOSIA OVERVIEW - Wednesday

**Wednesday,  
May 21**

1:00 p.m. –  
3:00 p.m.

## **Symposium 9: Open Science for the Public Good: Applications of Open Access Datasets and Online Institutional Repositories in Landscape Ecological Modeling and Biodiversity Conservation**

**Convener:** *Andy Baltensperger, Ph.D. Candidate, Department of Biology and Wildlife University of Alaska–Fairbanks*

### **Overview:**

The mapping of biological processes to address conservation concerns at regional and global landscape scales requires extensive datasets not easily collected in the field by individual scientists alone. Compiling datasets of sufficient size and spatial extent and making them available for these purposes is a task that requires cooperation and coordination from a community of scientists who contribute independently collected data toward a common goal. Numerous platforms exist for sharing this data with the broader scientific community using online institutional data repositories, data clouds, shared servers, and a variety of other data archiving methods. This symposium will exhibit progressive research that has used open-access, compiled datasets to address large-scale problems facing landscape modelers and conservation scientists. We will also discuss in panel format the future of data archiving, metadata, sharing, publishing, and the cooperative access necessary to achieve meaningful conservation goals.

**Wednesday,  
May 21**

1:00 p.m. –  
5:20 p.m.

## **Symposium 10: Impacts of Global Change: Linking Across Scales**

**Conveners:** *Professor Janet Franklin; Dr. Josep M.(Pep)Serra-Diaz, School of Geographical Sciences and Urban Planning, Arizona State University, Tempe AZ; Dr. Lynn Sweet, Earth Research Institute, University of California – Santa Barbara, Santa Barbara CA*

### **Overview:**

Research to detect, understand, and forecast the consequences of global change agents on the biosphere at landscape to continental extents requires understanding how forces acting at multiple scales shape ecological processes and requires linking interacting factors across scales. For example, in terrestrial ecosystems, topographically-moderated microclimate may affect the distribution of organisms, shaping range dynamics at broad scales. In aquatic ecosystems, cross-scale interactions may regulate spatial and temporal dynamics of nutrients at large spatial scales. Describing dynamic biotic and abiotic processes and patterns at different scales will require new ways of integrating data collection, analysis, and interpretation but also a strong collaboration across disciplines and organizations. It requires explicitly linking experiments and surveys with mechanistic and phenomenological modelling frameworks able to bridge cross-scale environmental and biological dynamics.

This session will be a forum for sharing new ideas and research results from landscape ecologists who are conducting cross-scale studies of the impacts of global change agents on all kinds of ecosystems (marine, aquatic, terrestrial) and their services. Following a series of speakers showcasing cutting edge research from a variety of ecosystems and regions, the session will conclude with a panel discussion to facilitate the exchange of ideas, collaboration, and best practices.



# SPECIAL SYMPOSIA OVERVIEW - Wednesday

**Wednesday,  
May 21**

1:00 p.m. –  
4:20 p.m.

## **Symposium 11: Integrating Measurements and Models of Terrestrial and Aquatic Ecosystem Phenology**

**Conveners:** *William W. Hargrove, Steven P. Norman, Forrest M. Hoffman, Jiafu Mao*

### **Overview:**

Phenology is as a broad and sensitive indicator of ecosystem health and function that responds to climatic change, disturbance, and edaphic factors. Acting as a driver, it forces ecosystem functions and services like productivity, health, and biomass. Today's Earth system models include prognostic phenology, and novel ground-based measurement technologies (e.g., webcams, fluorescence, citizen scientist observations, crowdsourcing) offer integrative links between models, measurements, and satellite Land Surface Phenology across a range of ecosystems and scales. This symposium focuses on measurements and models, observing and monitoring technologies, and analytic methods of terrestrial and aquatic ecosystems at all scales.



# Technical Presentations at-a-Glance

Please take note of different start and end times for each session to help you plan accordingly.

MONDAY, MAY 19					
SUSITNA ROOM	YUKON ROOM	KUSKOKWIM WEST	KUSKOKWIM EAST	BOARDROOM #311	BOARDROOM #308
9:20 AM – 12:00 PM					
SPECIAL SYMPOSIUM 1: Vulnerability of Arctic and Boreal Ecosystems Under a Changing Climate I	Landscape Ecology of Mountain Regions <i>{9:40am start time}</i>	Tropical Landscape Ecology	SPECIAL SYMPOSIUM 2: Sustainability of Wildlife Management in Alaska I	Biodiversity and Wildlife in Landscapes I	Landscape Ecology: Aspects of Fire
1:00 PM – 3:00 PM					
SYMPOSIUM 1 <i>continued:</i> Vulnerability of Arctic and Boreal Ecosystems Under a Changing Climate II	SPECIAL SYMPOSIUM 3: North Pacific Temperate Rainforests in a Time of Change I	SPECIAL SYMPOSIUM 4: Prioritizing Landscape Ecology's Contribution to Policy and Analysis I	SYMPOSIUM 2 <i>continued:</i> Sustainability of Wildlife Management in Alaska II <i>{1:00-2:20pm}</i>	Biodiversity and Wildlife in Landscapes II <i>{1:20pm-start time}</i>	Landscapes of Health <i>{1:00-2:00pm}</i>
3:20 PM – 5:00 PM					
SYMPOSIUM 1 <i>continued:</i> Vulnerability of Arctic and Boreal Ecosystems Under a Changing Climate III	SYMPOSIUM 3 <i>continued:</i> North Pacific Temperate Rainforests in a Time of Change II	SYMPOSIUM 4 <i>continued:</i> Prioritizing Landscape Ecology's Contribution to Policy and Analysis II <i>{3:20-4:00pm}</i>	Forested Landscapes and Communities	Landscape Planning and Energy <i>{3:20-5:20pm}</i>	Landscape Fragmentation and Ecological Processes I
TUESDAY, MAY 20					
SUSITNA ROOM	YUKON ROOM	KUSKOKWIM WEST	KUSKOKWIM EAST	BOARDROOM #311	
9:20 AM – 12:00 PM					
SPECIAL SYMPOSIUM 5: Soundscape <i>{9:20am-12:20pm}</i>	Studying Landscape Ecology with Remote Sensing	SPECIAL SYMPOSIUM 6: Breaking Landscapes Smartly	River, Coastal, and Seascape Ecology I	Landscape Fragmentation and Ecological Processes II <i>{9:40am start time}</i>	

# Technical Presentations at-a-Glance

Please take note of different start and end times for each session to help you plan accordingly.

WEDNESDAY, MAY 21					
SUSITNA ROOM	YUKON ROOM	KUSKOKWIM WEST	KUSKOKWIM EAST	BOARDROOM #311	BOARDROOM #308
<b>9:20 AM – 12:00 PM</b>					
<b>SPECIAL SYMPOSIUM 7:</b> Cascading Thresholds in CHANS and the Emergence of Wicked Problems <i>{9:20am–11:20am}</i>	<b>SPECIAL SYMPOSIUM 8:</b> Conservation in the Big Picture <i>{9:20am–11:20am}</i>	Livestock, Crop and Biomass Production <i>{9:20am–11:20am}</i>	River, Coastal, and Seascape Ecology II <i>{9:20am–10:20am}</i>	Insects and Invasives in Landscapes	Simulations and Model Predictions of Landscapes I <i>{9:20am–11:40am}</i>
<b>1:00 PM – 3:00 PM</b>					
<b>SPECIAL SYMPOSIUM 9:</b> Open Science for the Public Good	<b>SPECIAL SYMPOSIUM 10:</b> Impacts of Global Change: Linking Across Scales I	<b>SPECIAL SYMPOSIUM 11:</b> Integrating Measurements and Models of Terrestrial and Aquatic Ecosystems Phenology I	Movements and Connectivity in Landscapes	Urban Landscape Ecology I	Simulations and Model Predictions of Landscapes II
<b>3:20 PM – 5:00 PM</b>					
Landscape Changes and Scenarios <i>{3:20pm–6:00pm}</i>	<b>SYMPOSIUM 10</b> <i>continued:</i> Impacts of Global Change: Linking Across Scales II <i>{3:20pm–5:20pm}</i>	<b>SYMPOSIUM 11</b> <i>continued:</i> Integrating Measurements and Models of Terrestrial and Aquatic Ecosystems Phenology II <i>{3:20pm–4:20pm}</i>		Urban Landscape Ecology II	Simulations and Model Predictions of Landscapes III <i>{3:20pm–5:20pm}</i>



# Technical Presentations by Track, Date, Time

**MONDAY, MAY 19 / 9:20 AM – 12:00 PM**

<b>SPECIAL SYMPOSIUM 1: Vulnerability of Arctic and Boreal Ecosystems Under a Changing Climate I</b>	<b>Landscape Ecology of Mountain Regions</b>	<b>Tropical Landscape Ecology</b>	<b>SPECIAL SYMPOSIUM 2: The Sustainability of Wildlife Management in Alaska I</b>	<b>Biodiversity and Wildlife in Landscapes I</b>	<b>Landscape Ecology: Aspects of Fire</b>
<b>SUSITNA ROOM</b>	<b>YUKON ROOM</b>	<b>KUSKOKWIM WEST</b>	<b>KUSKOKWIM EAST</b>	<b>BOARDROOM #311</b>	<b>BOARDROOM #308</b>

<b>Monday, May 19</b>	<b>SPECIAL SYMPOSIUM 1: Vulnerability of Arctic and Boreal Ecosystems Under a Changing Climate I</b> <b>Conveners:</b> Forrest M. Hoffman, Jitendra Kumar – Climate Change Science Institute, Oak Ridge National Laboratory; Larry Hinzman – International Arctic Research Center, University of Alaska Fairbanks
<b>Room 1:</b>	<b>SUSITNA ROOM</b>
9:20am	<b>Landscape Change in a Warming Arctic: Implications for Carbon Cycle Processes and Climate Feedbacks at Multiple Scales</b> Stan D. Wulfschleger – Oak Ridge National Laboratory; Larry D. Hinzman – University of Alaska Fairbanks; Susan S. Hubbard – Lawrence Berkeley National Laboratory; Alistair Rogers – Brookhaven National Laboratory; Peter E. Thornton – Oak Ridge National Laboratory <b>Keywords:</b> Climate, Ecosystems, Feedbacks, Landscape Evolution, Thermokarst
9:40am	<b>Carbon Fluxes in Boreal and Arctic Tundra Ecosystems from Alaska to Siberia</b> Eugénie S. Euskirchen, Marion S. Bret-Harte, Colin Edgar – Institute of Arctic Biology, University of Alaska Fairbanks; Jennifer W. Harden – U.S. Geological Survey; Gaius R. Shaver – The Ecosystems Center, Marine Biological Laboratory <b>Keywords:</b> Arctic Tundra, Boreal Forest, Peatlands, Net Ecosystem Exchange, Permafrost
10:00am	<b>Evolving Approaches to Snow in Changing Arctic and Boreal Landscapes</b> Christopher Hiemstra – Cold Regions Research and Engineering Laboratory, Alaska Projects Office; Matthew Sturm – University of Alaska Fairbanks; Anna M. Wagner – CRREL-Alaska <b>Keywords:</b> Snow, Arctic, Boreal, Climate Change, Cryosphere
10:20am	<b>The Integrated Ecosystem Model (IEM) for Alaska and Northwest Canada: An Interdisciplinary Tool to Assess the Responses of Natural Resources to Climate Change</b> A. David McGuire – U.S. Geological Survey; T. Scott Rupp, Amy Breen, Eugénie Euskirchen, Vladimir Romanovsky – University of Alaska Fairbanks <b>Keywords:</b> Arctic, Boreal Forest, Climate Change, Permafrost, Fire
10:40am	<b>Sensitivity of Permafrost Carbon Feedback to Deep Soil Decomposability, Hydrology and Nitrogen</b> David Lawrence – National Center for Atmospheric Research; Charles Koven, William Riley – Lawrence Berkeley National Laboratory; Sean Swenson – National Center for Atmospheric Research <b>Keywords:</b> Permafrost, Earth System Model, Carbon Cycle, Feedback
11:00am	<b>The Interactions Between Biogeophysical and Biogeochemical Processes and their Feedbacks on Permafrost Soil Carbon Stocks</b> Atul Jain, Bassil El-Masri – University of Illinois

	<b>Keywords:</b> Permafrost, Soil Carbon, Biogeophysics, Biogeochemistry, Integrated Science Assessment Model
11:20am	<b>Century time-scale Implications for Change in Peak Growing Season Carbon Flux in Ice Wedge Polygonal Tundra on the Barrow, Peninsula</b> Mark Lara, Anthony D. McGuire, Eugénie S. Euskirchen — University of Alaska Fairbanks <b>Keywords:</b> Thaw Lake Cycle, Thermokarst, Carbon, Classification, Arctic
11:40am to 12:00pm	<b>Using Vegetation and Soil Characteristics to Inform Model Scaling of a Polygonal Tundra Landscape</b> Victoria Sloan, Colleen M. Iversen — Oak Ridge National Laboratory; Mark J. Lara — University of Alaska, Fairbanks; Richard J. Norby — Oak Ridge National Laboratory <b>Keywords:</b> Arctic, Vegetation Communities, Modeling, Geomorphology, Soil

<b>Monday, May 19</b>	<b>Oral Session: Landscape Ecology of Mountain Regions</b> Chair: Dr. Shana Loshbaugh, Resilience and Adaptation Program, University of Alaska Fairbanks
<b>Room 2:</b>	<b>YUKON ROOM</b>
	PLEASE TAKE NOTE OF 9:40AM START TIME.
9:40am	<b>Timberline Forest Upward Advance Facilitated by Moisture and Disturbance</b> Adelaide Johnson, J. A. Yeakley — Portland State University <b>Keywords:</b> Alpine Timberline, Microsites, Wood, Precipitation, Temperature
10:00am	<b>Climate-induced Habitat Decline for an Endemic Alpine Specialist</b> Michelle Jackson, Kathy M. Martin, Sarah E. Gergel — University of British Columbia <b>Keywords:</b> Alpine, Climate Change, Species Distributions, Vancouver Island, White-tailed Ptarmigan
10:20am	<b>The Relative Importance of Biotic Variables in Determining Current and Future Tree Species Distributions</b> Katherine Renwick, Monique E. Rocca — Colorado State University <b>Keywords:</b> Climate Change, Species Distribution, Range Shift, Dispersal, Competition
10:40am	<b>Distribution Shifts of Coniferous Forests in the Colorado Plateau Under Projected 21<sup>st</sup> Century Climate Change</b> Jacob Gibson — Utah State University; Thomas C. Edwards — U.S. Geological Survey; Gretchen G. Moisen — U.S. Forest Service; Tracey S. Frescino — U.S. Forest Service <b>Keywords:</b> Climate Change, Species Distribution Models, Conifers, Colorado Plateau
11:00am	<b>Shrinking Glaciers and Expanding Woodlands: The Case of Peru's Santa River Basin</b> Molly Polk — Department of Geography & the Environment, University of Texas at Austin; Kenneth R. Young — University of Texas at Austin; Mark Carey — University of Oregon; Bryan G. Mark — Ohio State University; Jeffrey Bury — University of California, Santa Cruz; Jeffrey M. McKenzie — McGill University <b>Keywords:</b> Tropical Mountains, Reforestation/Afforestation, Glacier Recession, Landscape Management, Conservation
11:20am	<b>Open Discussion</b>

<b>Monday, May 19</b>	<b>Oral Session: Tropical Landscape Ecology</b> Chair: Kiros Hadgu, World Agroforestry Centre
<b>Room 3:</b>	<b>KUSKOKWIM WEST</b>
9:20am	<b>Spatial Configuration of Drought Disturbance and Forest Gap Creation Along Environmental Gradients</b> Margaret E. Andrew, Katinka X. Ruthrof — Murdoch University; George Matusick — The Nature Conservancy; Giles St. J. Hardy — Murdoch University <b>Keywords:</b> Climate Change, Die-off, Extreme Weather Events, Forest Mortality, Landscape Structure
9:40am	<b>Altitudinal Distribution and Habitat Preference of Alpine Grassland Birds in Yushan National Park, Taiwan</b> Tzung-Su Ding — School of Forestry and Resource Conservation, National Taiwan University; Da-Li Lin — Endemic Species Research Center; Huan-Chang Liao, Pei-Fen Lee — National Taiwan University <b>Keywords:</b> Alpine Grassland, Elevational Distribution, Global Warming, Habitat Selection, Vegetation Succession
10:00am	<b>Factors Affecting Landscape Occupancy for Hylidae Tree Frogs in the Brazilian Cerrado</b> Luciana Lima, Rogério P. Bastos, Paulo De Marco Junior — Universidade Federal de Goiás; Kimberly A. With — Kansas State University <b>Keywords:</b> Landscape Occupancy, Broader-Scale Disturbance, Anura, Cerrado
10:20am	<b>Restoration Optimization Using a Spatially Explicit Approach</b> Leandro Tambosi, Jean P. Metzger — University of São Paulo <b>Keywords:</b> Habitat Availability, Functional Connectivity, Focal Species, Landscape Restoration
10:40am	<b>Sustainable Land Use Planning: Key to Avoid Tropical Deforestation in Cambodia</b> Santanu Basu, Rupesh Bharti, Siva Subramanian — RMSI Pvt. Ltd. <b>Keywords:</b> Sustainable Land Use Planning, Tropical Deforestation, Land Use/Cover Change, Suitability Modeling, REDD+
11:00am	<b>Climate Smart Land Management for Improved Food Security and Climate Resilient Green Economy (CRGE) Strategies in Africa</b> Kiros Hadgu — World Agroforestry Centre; Emiru B. Hizkias — Mekelle University; Jeremias G. Mowo, Aster Gebrekirstos — World Agroforestry Centre <b>Keywords:</b> Africa, Agroforestry, Climate Resilient Green Economy, Climate Smart Land Management, Rehabilitation
11:20am	<b>How Much Is Enough? Identifying Plant Conservation Areas in Hawaii Using Quantitative Methods</b> Fred Amidon, Adam E. Vorsino, Stephen E. Miller — U.S. Fish & Wildlife Service; James D. Jacobi — U.S. Geological Survey; Marie M. Bruegmann — U.S. Fish & Wildlife Service
11:40am to 12:00pm	<b>A Integrated Framework for Tropical Forest Monitoring</b> Alex Zvoleff, Melissa Rosa, Jorge Ahumada — Conservation International <b>Keywords:</b> Land Use and Cover Change, Protected Area, Management, Forest Change, Biodiversity

<b>Monday, May 19</b>	<b>SPECIAL SYMPOSIUM 2: The Sustainability of Wildlife Management in Alaska I</b> Convener: Tammy L. Wilson, National Park Service, Southwest Alaska Network
<b>Room 4:</b>	<b>KUSKOKWIM EAST</b>
9:20am	<b>Subsistence Hunting in Alaska: The Federal Perspective</b> Trevor Fox — U.S. Fish & Wildlife Service, Office of Subsistence Management; Tammy L. Wilson, Ph.D. — Quantitative Ecologist, National Park Service, Southwest Alaska Network <b>Keywords:</b> Sustainability of Wildlife Management in Alaska, Subsistence, Harvest, Wildlife
9:40am	<b>Mitigating a New Way: Examples of Regional Mitigation and How it can be Done in Alaska</b> Matt Preston — Bureau of Land Management, Division of National Landscape Conservation System; Jolie Pollet — Bureau of Land Management, Alaska State Office, Division of Resources <b>Keywords:</b> Mitigation, Landscape-scale, LUP
10:00am	<b>How Does Sample Unit Size Affect the Detection Process?</b> Tammy Wilson — National Park Service <b>Keywords:</b> Detection, Occupancy, Grain, Brown Bear, Scale Dependency
10:20am	<b>Building Social-ecological Models of Human-Bear Encounter Perceptions Across Scale</b> Kim Jochum — Biology and Wildlife Department, University of Alaska Fairbanks; Todd J. Brinkmann — Scenarios Network for Alaska and Arctic Planning; Andrew A. Kliskey — RAM Group, Biological Sciences, University of Alaska-Anchorage; Kris J. Hundertmark — Biology and Wildlife Department, University of Alaska-Fairbanks; Lilian N. Alessa, RAM Group <b>Keywords:</b> Human-Wildlife Encounters, Social-Ecological Systems, Spatial Scale, Perception Mapping, Pacific Rim
10:40am	<b>Perceptions of the Impacts of Social-ecological Trends on Subsistence Resources: Importance of Access</b> Todd Brinkman — University of Alaska Fairbanks; Winslow D. Hansen — University of Wisconsin; F. S. Chapin, III — University of Alaska Fairbanks; Gary P. Kofinas — University of Alaska Fairbanks; Shauna B. Burnsilver — Arizona State University <b>Keywords:</b> Access, Climate Change, Fuel Costs, Subsistence, Sustainability of Wildlife Management in Alaska
11:00am	<b>A Chat on Crucial Habitat Assessment Tools</b> Miles Spathelf, Susanne Rodman, Kimberly Titus, Kelly Nesvacil — Alaska Department of Fish and Game <b>Keywords:</b> Landscape, Habitat, Planning
11:20am	<b>Structured Decision Making for Brown Bear Management on National Park Service Lands in Alaska</b> James Peterson — USGS Oregon Cooperative Fish and Wildlife Research Unit; Angela M. Romito, Michael J. Conroy — Warnell School of Forestry and Natural Resources, University of Georgia
11:40am to 12:00pm	<b>The Kenai River Watershed: An Alaska Case Study of Land-use Interactions with Salmon Habitat</b> Shana Loshbaugh — University of Alaska Fairbanks <b>Keywords:</b> Land Use, Salmon, Environmental History, Alaska, Aquatic Habitat

<b>Monday, May 19</b>	<b>Oral Session: Biodiversity and Wildlife in Landscapes I</b> Chair: Mark Spangler, Maderas Rainforest Conservancy and FrogWatch USA
<b>Room 5:</b>	<b>BOARDROOM #311</b>
9:20am	<b>Water Availability Over 30 Years at Owens Lake, California During the Peak of Spring Shorebird Migration along the Pacific Flyway</b> Danica Schaffer-Smith, Jennifer J. Swenson — Nicholas School of the Environment, Duke University; Matthew E. Reiter — Point Blue Conservation Science <b>Keywords:</b> Remote Sensing, Water Availability, Shorebirds
9:40am	<b>Distance to Nature: A Feasible Environmental Indicator and its Relation to Bird Species Richness in Austria</b> Johannes Rüdiger — Institute of Ecology, University of Innsbruck; Erich Tasser — Institute for Alpine Environment, European Academy Bolzano; Ulrike Tappeiner — Institute of Ecology, University of Innsbruck <b>Keywords:</b> Biodiversity, Landscape Indicator, Naturalness, GIS, Austria
10:00am	<b>Mapping Sources, Sinks, and Connectivity Using a Simulation Model of Northern Spotted Owls</b> Nathan Schumaker — U.S. EPA; Jeffrey R. Dunk — Humboldt State University; Julie A. Heinrichs, Joshua J. Lawler — University of Washington; Allen Brookes — U.S. EPA <b>Keywords:</b> HexSim, Habitat Connectivity, Net Flux, Population Viability Analysis, Spotted Owl
10:20am	<b>Implementing a Landscape Modeling Framework for Wildlife Management in Nova Scotia, Canada</b> David Colville — Applied Geomatics Research Group, NSCC; Randy Milton, Sean Basquill — Nova Scotia Department of Natural Resources; James McKay, Suzanne Monette, Sarah-Marie McDonald, Michael Gemmell — Applied Geomatics Research Group <b>Keywords:</b> GIS, Spatial Analysis, Mainland Moose, Forest Landscapes, Wildlife Ecology
10:40am	<b>Modelling the Impacts of Agriculture in Mixed-use Landscapes: A Review and a Case Study Involving Two Species of Dabbling Duck</b> David Lieske — Department of Geography, Mount Allison University; Megan R. Macintosh — Mount Allison University <b>Keywords:</b> Agriculture, GIS Modelling, Dabbling Ducks, Habitat Selection, Habitat Modelling
11:00am	<b>Conservation of Biodiversity in the Context of Climate Change: Implementation of the ELU Strategy</b> Peter August — University of Rhode Island; Kevin Ruddock — The Nature Conservancy; Christopher Damon, Charles LaBash — University of Rhode Island <b>Keywords:</b> Conservation, Climate Change, Biodiversity, Ecological Land Unit
11:20am	<b>Soundscape Measurements to Evaluate Disturbance Impacts on Natural Ecosystems</b> Amandine Gasc — Purdue University, Department of Forestry and Natural Resources; Bryan C. Pijanowski — Purdue University; Jeremy Anso — Institut de recherche pour le développement; Laure Desutter-Grandcolas — Museum national d'Histoire naturelle de Paris; Hervé Jourdan — Institut de recherche pour le développement <b>Keywords:</b> Soundscape, Biodiversity Assessment, Disturbance, Acoustic Diversity
11:40am to 12:00pm	<b>Acoustic and Bird Diversity Modeled with Highway Noise and Habitat Structure Extracted From LiDAR</b> Maryam Ghadiri Khanaposhtani, Luis Villanueva-Rivera, Jinha Jung, Bryan Pijanowski — Purdue University <b>Keywords:</b> Birds, Diversity, Soundscape, LiDAR, Highway



<b>Monday, May 19</b>	<b>Oral Session: Landscape Ecology: Aspects of Fire</b> Chair: Donald McKenzie, US Forest Service
<b>Room 6:</b>	<b>BOARDROOM #308</b>
9:20am	<b>Are Fire-prone Landscapes Complex Adaptive Systems?</b> Donald McKenzie — US Forest Service; Maureen C. Kennedy — University of Washington; Paul F. Hessburg — US Forest Service <b>Keywords:</b> Complexity, Fire Regimes, Self-organized, Scale
9:40am	<b>Refuge or Not: Do Historic Wildfire Refugia Remain Unburned in Recent Fires?</b> Tyler Bleeker — University of Idaho <b>Keywords:</b> Wildfire Refugia, Burn Severity, Forest Structure, Remote Sensing
10:00am	<b>Open</b>
10:20am	<b>Fire Modulates Simulated Climate Change Response of Aspen Across Topoclimatic Gradients in a Montane Landscape of Western North America</b> Jian Yang — Institute of Applied Ecology, Chinese Academy of Sciences; Peter J. Weisberg — University of Nevada, Reno; Douglas J. Shinneman — U.S. Geological Survey, Forest and Rangeland Ecosystem Science Center; Thomas E. Dilts — University of Nevada, Reno; Susan L. Earnst — U.S. Geological Survey, Forest and Rangeland Ecosystem Science Center <b>Keywords:</b> Quaking Aspen, Climate Change, Gradient Analysis, Refugia, Fire Disturbance
10:40am	<b>A Novel Approach to Predicting Fire Likelihood Using Landscape-scale Models of Fire Connectivity</b> Brett Dickson — Conservation Science Partners and Northern Arizona University; Miranda E. Gray — Northern Arizona University <b>Keywords:</b> Fire, Connectivity, Sonoran Desert, Circuit Theory
11:00am	<b>Rethinking Wildland Fire-size Distributions and Self-organized Criticality</b> Paul Hessburg, Nicholas A. Povak — USDA Forest Service, Pacific Northwest Research Station; Max A. Moritz — University of California Berkeley <b>Keywords:</b> Wildland Fire, Landscape Resilience, Spatial Controls, Endogenous Controls, Exogenous Controls
11:20am to 11:40am	<b>Influence of Fire History on Avian Diversity in Managed Western Montane Forests</b> Lance Roberts, Ryan D. Burnett, Alissa M. Fogg, Brent R. Campos — Point Blue Conservation Science <b>Keywords:</b> California, Fire Ecology, Birds, Diversity, Conifer Forest



# MONDAY, MAY 19 continued

## 1:00 PM – 3:00 PM

SUSITNA ROOM	YUKON ROOM	KUSKOKWIM WEST	KUSKOKWIM EAST	BOARDROOM #311	BOARDROOM #308
<b>SYMPOSIUM 1</b> <i>continued:</i> Vulnerability of Arctic and Boreal Ecosystems Under a Changing Climate II	<b>SPECIAL SYMPOSIUM 3:</b> North Pacific Temperate Rainforests in a Time of Change I	<b>SPECIAL SYMPOSIUM 4:</b> Prioritizing Landscape Ecology's Contribution to Policy and Analysis I	<b>SYMPOSIUM 2</b> <i>continued:</i> The Sustainability of Wildlife Management in Alaska II	Biodiversity and Wildlife in Landscapes II	Landscapes of Health

## 3:20 PM – 5:00 PM

<b>SYMPOSIUM 1</b> <i>continued:</i> Vulnerability of Arctic and Boreal Ecosystems Under a Changing Climate II	<b>SYMPOSIUM 3</b> <i>continued:</i> North Pacific Temperate Rainforests in a Time of Change II	<b>SYMPOSIUM 4</b> <i>continued:</i> Prioritizing Landscape Ecology's Contribution to Policy and Analysis II	Forested Landscapes and Communities	Landscape Planning and Energy	Landscape Fragmentation and Ecological Processes I
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<b>Monday, May 19</b>	<b>SPECIAL SYMPOSIUM 1: Vulnerability of Arctic and Boreal Ecosystems Under a Changing Climate II</b> Chair: Larry Hinzman, University of Alaska Fairbanks
<b>Room 1:</b>	<b>SUSITNA ROOM</b>
1:00pm	<b>NASA's Arctic-Boreal Vulnerability Experiment: A Large-scale Study of Environmental Change in Western North America and its Implications for Social-ecological Systems</b> Eric Kasischke — Department of Geographical Sciences, University of Maryland; Daniel J. Hayes — Oak Ridge National Laboratory; Diane Wickland, Elisabeth Larson, Peter Griffith — NASA <b>Keywords:</b> Environmental Change, Arctic, Boreal, Ecosystems, Societal Impacts
1:20pm	<b>Representativeness-Based Sampling Network Design for the Arctic</b> Forrest Hoffman — University of California-Irvine and Oak Ridge National Laboratory; Jitendra Kumar, Richard T. Mills — Oak Ridge National Laboratory; William W. Hargrove — Eastern Forest Environmental Threat Assessment Center, USDA Forest Service <b>Keywords:</b> Representativeness, Ecoregions, Cluster Analysis, Sampling, Alaska
1:40pm	<b>Permafrost-Vegetation-Soil Interactions in Boreal Landscapes of Interior Alaska Inferred From Field Measurements and Remote Sensing</b> Thomas Douglas — Cold Regions Research and Engineering Laboratory; Mark T. Jorgenson — Alaska Ecoscience; Christopher A. Hisemstra, Seth W. Campbell, Kevin A. Bjella, Steven Newman — Cold Regions Research and Engineering Laboratory; John Andersen — Topographic Engineering Center; Dana Nossov, Anna K. Liljedahl — University of Alaska Fairbanks <b>Keywords:</b> Permafrost, Boreal Biome, Vegetation, Climate

2:00pm	<b>Projected Changes in Diverse Ecosystems From Climate Warming in Northwest Alaska</b> Mark Jorgenson — Alaska Ecoscience; Bruce G. Marcot — USDA Forest Service; David K. Swanson — National Park Service; Janet C. Jorgenson — U.S. Fish & Wildlife Service; Anthony R. DeGange — U.S. Geological Survey <b>Keywords:</b> Ecosystems, Climate, Change, Alaska
2:20pm	<b>Mapping Plant Functional Type Distributions in Arctic Ecosystems Using Multi-spectral Remote Sensing and Vegetation Survey Datasets</b> Jitendra Kumar, Forrest Hoffman, Victoria Sloan, Richard Norby — Oak Ridge National Laboratory <b>Keywords:</b> Arctic Vegetation, Plant Functional Types, Remote Sensing, Upscaling, Data Mining
2:40pm – 3:00pm	<b>Scaling-up Approaches in Understanding Landscape Dynamics in a Northern High Latitude Ecosystem</b> Santonu Goswami, Daniel J. Hayes — Environmental Sciences Division and Climate Change Science Institute, Oak Ridge National Laboratory; Guido Grosse — Alfred Wegener Institute of Polar and Marine Research; Richard J. Norby, Stan D. Wullschlegel — Environmental Sciences Division and Climate Change Science Institute, Oak Ridge National Laboratory <b>Keywords:</b> Permafrost, Remote Sensing, Arctic, Thermokarst, Disturbance

<b>Monday, May 19</b>	<b>SPECIAL SYMPOSIUM 3: North Pacific Temperate Rainforests in a Time of Change I</b> <b>Conveners:</b> Allison Bidlack and Brian Buma, University of Alaska Southeast
<b>Room 2:</b>	<b>YUKON ROOM</b>
1:00pm	<b>SE Alaska Natives' Perceptions of Change</b> Linda Kruger — Pacific Northwest Research Station, Juneau Forestry Sciences Lab; Jim Powell — University of Alaska <b>Keywords:</b> Alaska Native, Rural Alaska, Perceptions of Change, Local Knowledge
1:20pm	<b>Use of Historical Logging Patterns to Identify Disproportionately Logged Ecosystems Within Temperate Rainforests of Southeastern Alaska</b> David Albert — The Nature Conservancy; John W. Schoen — Audubon Alaska <b>Keywords:</b> Forestry, Fragmentation, Land-Cover Change, Old-Growth Forest, Logistic Regression
1:40pm	<b>Climate Implications in the Northern Coastal Temperate Rainforest of North America</b> Colin S. Shanley — The Nature Conservancy; Sanjay Pyare — University of Alaska Southeast; Michael I. Goldstein — U.S. Forest Service; Paul B. Alaback — University of Montana; David M. Albert — The Nature Conservancy; Colin M. Beyer — State University of New York; Todd Brinkman — University of Alaska Fairbanks <b>Keywords:</b> Temperature, Precipitation, Snowfall, Temperate Rainforests, Future
2:00pm	<b>Decadal Snow Cover Variability in the Hemlock-Fir Ecotone of the Western Oregon Cascades</b> Todd Lookingbill, Tihomir S. Kostadinov — University of Richmond <b>Keywords:</b> Snow, Pacific Northwest, Mountains, Ecotone
2:20pm	<b>Facilitating Landscape Analysis in Alaska</b> Lee Benda — Earth Systems Institute; Daniel J. Miller — TerrainWorks <b>Keywords:</b> NetMap, Landscape, Salmon
2:40pm	<b>Vulnerability of Oregon and Washington's Natural Areas to Climate Change</b> Margaret Massie — Oregon State University; Todd Wilson — USFS PNRS; Anita Morzillo — Oregon State University; Emilie Henderson — Institute of Natural Resources <b>Keywords:</b> Natural Areas Network, Climate Change Vulnerability, Landscape Monitoring, Climate Envelope

<b>Monday, May 19</b>	<b>SPECIAL SYMPOSIUM 4: Prioritizing Landscape Ecology's Contribution to Policy and Analysis I</b> Chair: Audrey Mayer, Michigan Technological University
<b>Room 3:</b>	<b>KUSKOKWIM WEST</b>
1:00pm	<b>Climate Change and Policy for Landscape Ecology and the Need for Radical Innovation</b> Robert Scheller — Portland State University <b>Keywords:</b> Climate Change, Policy, Management, Innovation, No-Analog Future
1:20pm	<b>Forest Disturbances, Policy and Climate Change: A Case Study of Water and Trees in the Rocky Mountains</b> Brian Buma — University of Alaska Southeast; Ben Livneh — University of Colorado, Boulder <b>Keywords:</b> Forest, Disturbance, Climate Change, Water, Ecosystem Services
1:40pm	<b>The Contribution of Landscape Ecology to Urban Land Use Policy and Planning</b> Sara A. Gagné, Robert Boyer — Department of Geography and Earth Sciences, University of North Carolina at Charlotte
2:00pm	<b>Climate Change Information for Resource Management: Lessons from Landscape Ecology</b> Jeremy Littell — U.S. Geological Survey, Alaska Climate Science Center <b>Keywords:</b> Climate Information, Climate Change, Downscaling, Adaptation, Resource Management
2:20pm	<b>Fuels Management in an Uncertain Future: Climate-driven Wildfire, Bark Beetle and Drought Interactions in the Forested Landscape of the Lake Tahoe Basin</b> E. Louise Loudermilk — USDA Forest Service; Robert M. Scheller — Portland State University; Peter J. Weisberg — University of Nevada-Reno; Matthew D. Hurteau — Penn State University; Alec M. Kretchun — Portland State University; Jian Yang — University of Nevada Reno <b>Keywords:</b> Fuels Management, Climate Change, Bark Beetles, Wildfire, Drought
2:40pm	<b>Shifting Paradigms and Policy: A Landscape Perspective From Boreal Systems in Canada</b> Meg Krawchuk — Simon Fraser University; Fiona Schmiegelow — Yukon College
3:00pm	<b>Break</b>
	<b>SPECIAL SYMPOSIUM 4 continued: Prioritizing Landscape Ecology's Contribution to Policy and Analysis II</b>
3:20pm – 4:00pm	<b>Open Discussion</b>

<b>Monday, May 19</b>	<b>SPECIAL SYMPOSIUM 2 continued: The Sustainability of Wildlife Management in Alaska II</b> <b>Convener:</b> Tammy L. Wilson, National Park Service, Southwest Alaska Network
<b>Room 4:</b>	<b>KUSKOKWIM EAST</b>
1:00pm	<b>The Where, What and When of Energy Development Impacts on Alaskan wildlife</b> Wendy Loya, Ryan R. Wilson — The Wilderness Society <b>Keywords:</b> Cumulative Effects, Development, Caribou, Arctic, Land Management
1:20pm	<b>Using Spatial Climate Change Data to Assess Vulnerability across Alaska</b> Melanie Smith, Nathan J. Walker — Audubon Alaska <b>Keywords:</b> Spatial Analysis, Climate Change, Alaska, Planning, GIS
1:40pm	<b>Native Perspectives: Caring for the Natural Resources and Management</b> Karen Evanoff — National Park Service <b>Keywords:</b> Alaska Native Culture, Traditional Ecological Knowledge, Subsistence, Land Management
2:00pm	<b>Open Discussion</b>

<b>Monday, May 19</b>	<b>Oral Session: Biodiversity and Wildlife in Landscapes II</b> <b>Chair:</b> Janet Silbernagel, University of Wisconsin–Madison
<b>Room 5:</b>	<b>BOARDROOM #311</b>
	<b>PLEASE NOTE 1:20PM START TIME.</b>
1:20pm	<b>Comparing Approaches to Identify Wildlife Vulnerability to Climate Change and Development</b> Amy Pocerwicz, Holly E. Copeland — The Nature Conservancy; Martin B. Grenier — Wyoming Game and Fish Department; Douglas A. Keinath — Wyoming Natural Diversity Database; Lindsey Washkoviak — The Nature Conservancy <b>Keywords:</b> Wildlife, Vulnerability, Climate Change, Development, Planning
1:40pm	<b>Emerging Conservation Strategies in North America and China: A Look at the Role of Distributed Conservation</b> Janet Silbernagel — University of Wisconsin Madison; Dajun Wang — Peking University; Peng Luo — Chengdu Institute of Biology; Tim VanDeelen — University of Wisconsin Madison <b>Keywords:</b> Conservation Easement, Ecosystem Services, Nature Reserves, Forest, Ownership
2:00pm	<b>Spatially Explicit Demographic Modeling to Assess Climate Change Vulnerability in a Species with Cyclic Population Dynamics</b> Lars Pomara — Department of Forest and Wildlife Ecology, University of Wisconsin Madison; Karl J. Martin — Wisconsin Department of Natural Resources; Benjamin Zuckerberg — University of Wisconsin Madison <b>Keywords:</b> Climate Change, Demographic Modeling, Distribution Modeling, Population Cycles, Ruffed Grouse
2:20pm – 2:40pm	<b>Floristic Composition and Avian Distributions: Addressing Global Change Impacts</b> Stephen Matthews — Ohio State University & US Forest Service; Louis R. Iverson, Anantha M. Prasad, Matthew P. Petters — US Forest Service, Northern Research Station <b>Keywords:</b> Bird, Tree, Distributions, Climate Change

<b>Monday, May 19</b>	<b>Oral Session: Landscapes of Health</b> Chair: Eric Taber, Penn State University
<b>Room 6:</b>	<b>BOARDROOM #308</b>
1:00pm	<b>Assessing Human Well-being From a Sustainability Perspective</b> Ganlin Huang — Beijing Normal University; Jianguo Wu — Arizona State University <b>Keywords:</b> Human Well-being, Landscape Sustainability, Ecosystem Services, Scale, Beijing
1:20pm	<b>Invasion of <i>Aedes albopictus</i> in Pennsylvania and Potential Risk of Dengue</b> Eric Taber, Justine Blanford — The Pennsylvania State University <b>Keywords:</b> <i>Aedes albopictus</i> , Dengue, Socio-Ecological Systems, Pennsylvania, Infectious Disease
1:40pm– 2:00pm	<b>Plasticification in Landscape Ecology: A New Global Research Scheme for Sustainability</b> Falk Huettmann — University of Alaska Fairbanks <b>Keywords:</b> Plasticification, Sustainability, Management

## MONDAY, MAY 19 3:20 PM – 5:00 PM

<b>Monday, May 19</b>	<b>SPECIAL SYMPOSIUM 1: Vulnerability of Arctic and Boreal Ecosystems Under a Changing Climate III</b> Chair: Jitendra Kunmar, Oak Ridge National Laboratory
<b>Room 1:</b>	<b>SUSITNA ROOM</b>
3:20pm	<b>Annual and Spatial Patterns of CO<sub>2</sub> and CH<sub>4</sub> Fluxes in Arctic Alaska</b> Walter Oechel, Aram A. M. Kalhori, Salvatore Losacco, Virginie Moreaux, Patrick Murphy — Global Change Research Group, San Diego State University; Donatella Zona, Global Change Research Group, San Diego State University and the University of Sheffield, Sheffield UK <b>Keywords:</b> Arctic, Alaska, CO <sub>2</sub> , CH <sub>4</sub> , Fluxes
3:40pm	<b>Using Satellite Remote Sensing to Monitor Changing CO<sub>2</sub> and CH<sub>4</sub> Emission Constraints in Boreal–Arctic Wetland Regions</b> Jennifer Watts — Flathead Lake Biological Station and Numerical Terradynamic Simulation Group, The University of Montana; John S. Kimball — Numerical Terradynamic Simulation Group, The University of Montana <b>Keywords:</b> Wetlands, Methane, Boreal, Arctic, Carbon
4:00pm	<b>Daily Alaskan Fire Emissions for 2003–2013 Based on a Combined Field, Remote Sensing and Modeling Approach</b> Sander Veraverbeke, Gergana Mouteva, Brendan M. Rogers, Elizabeth Wiggins, James T. Randerson — University of California <b>Keywords:</b> Fire, Carbon, Emission, Boreal, dNBR
4:20pm	<b>Marine–Linkages in the Biogeochemical Cycling of Sulfur</b> Clara Deal, Meibing Jin — University of Alaska Fairbanks; Scott Elliott — Los Alamos National Laboratory; Grant Humphries — University of Otago; Nicole Jeffery — Los Alamos National Laboratory <b>Keywords:</b> Biogeochemistry, Sea Ice, Dimethylsulfide, Modeling, Arctic
4:40pm to 5:00pm	<b>Characterization of Carbonaceous Aerosols Emitted From Boreal Forest Fires in Alaska</b> Gergana Mouteva — University of California Irvine; Simon Fahrni, Guaciara M Santos — W.M. Keck Carbon Cycle Accelerator Mass Spectrometry Laboratory, University of California, Irvine <b>Keywords:</b> Black Carbon, Fire, Emissions, Isotopes

<b>Monday, May 19</b>	<b>SPECIAL SYMPOSIUM 3: North Pacific Temperate Rainforests in a Time of Change I</b> <b>Conveners:</b> Allison Bidlack and Brian Buma, University of Alaska Southeast
<b>Room 2:</b>	<b>YUKON ROOM</b>
3:20pm	<b>Genotypic and environmental effects on water deficit and water loss in <i>Pseudotsuga menziesii</i></b> Sheel Bansal, Constance A. Harrington — USDA Forest Service, Pacific Northwest Research Station; Peter J. Gould — US Department of Natural Resources; Bradley St. Clair — USDA Forest Service, Pacific Northwest Research Station <b>Keywords:</b> Climate Change, Drought, Genecology, Minimum Transpiration, Water Relations
3:40pm	<b>Shifting Patterns of Habitat Suitability of Three Rare Plant Species in Response to Climate Change in the Chugach–Kenai Area</b> Matthew L. Carlson — University of Alaska Anchorage, Alaska Natural Heritage Program; Robert L. DeVelice — USDA Forest Service, Chugach National Forest
4:00pm	<b>Interacting Disturbance Regimes in the Temperate Rainforests of SE Alaska: Wind, Landslides and Yellow Cedar Decline</b> Brian Buma — University of Alaska Southeast; Adelaide C. Johnson — U.S. Forest Service <b>Keywords:</b> Disturbance Interactions, Regimes, Wind, Landslides, Temperate Rainforest
4:20pm	<b>Hydroclimatic Vulnerability Index for Pacific Salmon Research and Conservation in Southeast Alaska</b> Colin Shanley, David M. Albert — The Nature Conservancy <b>Keywords:</b> Climate Change, Pacific Salmon, Vulnerability Index, Hydrologic Change, Alaska
4:40pm	<b>Open Discussion</b>

<b>Monday, May 19</b>	<b>Oral Session: Forested Landscapes and Communities</b> <b>Chair:</b> Bidur Khadka, Yokohama National University
<b>Room 4:</b>	<b>KUSKOKWIM EAST</b>
3:20pm	<b>Development of a Stakeholder-driven Web-based Tool for Strategic Land Use Planning in Two Watersheds in Maine</b> Spencer Meyer, Michelle L. Johnson, Robert J. Lilieholm, Christopher S. Cronan — University of Maine; Stephen T. Engle — Center for Community GIS <b>Keywords:</b> Land Use Planning, Stakeholder Engagement, Watershed Conservation, Natural Resource Management, Participatory GIS
3:40pm	<b>Community-based Eco-tourism to Provide Livelihoods for Indigenous Communities and Conserving the Forest for Mitigating Climate Change: The Maredumilli Eco-tourism Project, Andhra Pradesh State, India</b> Teki Surayya — Adikavi Nannaya University, India <b>Keywords:</b> Livelihoods, Climate Change, Eco-tourism, Community, Impact
4:00pm	<b>Climate Change in Nepal: How Community Forest is Providing Ecosystem Services and Copes with Climate Change</b> Bidur Khadka — Yokohama National University <b>Keywords:</b> Climate Change, Adaptation, Community Forest, Ecosystem Services
4:20pm	<b>The Role of Indigenous Eco-friendly Technologies and Microfinance for Forest Living Community's Sustainable Livelihoods w.r.t. Non-Wood Forest Products - Andhra Pradesh, India</b> Teki Surayya — Adikavi Nannaya University <b>Keywords:</b> NWFPs, Communities, Value Additions, Microfinance, Eco-friendly Technologies

4:40pm – 5:00pm	<b>Identifying Effective Measures for Environmental Monitoring by Aboriginal Communities</b> Ariana McKay, Chris J. Johnson — University of Northern British Columbia <b>Keywords:</b> Environmental Monitoring, First Nations Communities, Cumulative Impacts, Resource Development, Cross-Sectoral Communication
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<b>Monday, May 19</b>	<b>Oral Session: Landscape Planning and Energy</b> Chair: Jamie Trammell, University of Alaska–Anchorage
<b>Room 5:</b>	<b>BOARDROOM #311</b>
3:20pm	<b>Comparing the Ecological Impacts of Wind and Oil &amp; Gas Development: A Landscape Scale Assessment</b> Nathan Jones — ABR, Inc., Environmental Research & Services; Liba Pejchar — Colorado State University <b>Keywords:</b> Energy, Habitat, Biodiversity, Ecosystem Services, Impacts
3:40pm	<b>Use of a Participatory Sustainability Assessment for Landscape Management</b> Ashma Vaidya, Audrey L. Mayer — Michigan Technological University <b>Keywords:</b> Sustainability, Sustainable Assessment, Landscape Management, Participatory, Indicators
4:00pm	<b>The Shifting Conservation Mosaic Model: A New Paradigm for Landscape-level Wildlife Management?</b> Sean Kyle — Texas Parks & Wildlife Department; William Van Pelt — Western Association of Fish and Wildlife Agencies; James Pitman — Kansas Wildlife Parks & Tourism; David Klute — Colorado Wildlife and Parks; Allan Janus — Oklahoma Department of Wildlife Conservation; Grant Beauprez — New Mexico Game & Fish Department <b>Keywords:</b> Conservation Targeting, Mitigation, Climate Change, Energy Development, Lesser Prairie-Chicken
4:20pm	<b>Incorporating Habitat Availability Into Systematic Planning for Landscape Restoration: A Species Specific Approach for Atlantic Forest Mammals</b> Renato Crouzeilles — Federal University of Rio de Janeiro; Hawthorne L. Beyer, Morena Mills — University of Queensland; Carlos EV Grelle — UFRJ; Hugh P. Possingham — UQ <b>Keywords:</b> GIS, Land Acquisition Cost, Prioritization, Spatial Modeling, Systematic Conservation Planning
4:40pm	<b>Offsetting the Impacts of Energy Development: A New Decision Support Tool and Solar Energy Case Study from the Mojave Desert</b> Jason Kreidler — U.S. Geological Survey; Carrie Schloss — The Nature Conservancy; David Stoms — California Energy Commission; Frank Davis — University of California Santa Barbara <b>Keywords:</b> Biodiversity Offsetting, Decision Support, Renewable Energy Development, Mojave Desert
5:00pm to 5:20pm	<b>Baseline Landscape Data: New Opportunities for Ecoregional Assessments</b> E. Jamie Trammell — University of Alaska Anchorage <b>Keywords:</b> Ecoregional, GIS, Conservation Planning, Landscape Integrity



<b>Monday, May 19</b>	<b>Oral Session: Landscape Fragmentation and Ecological Processes I</b> Chair: Vilis Nams, Dalhousie University
<b>Room 6:</b>	<b>BOARDROOM #308</b>
3:20pm	<b>Morphological Analysis of State and Trends of Landscape Pattern</b> Peter Vogt — European Commission, Joint Research Centre <b>Keywords:</b> Pattern, Morphology, Change Analysis
3:40pm	<b>Downscaling Landscape Metrics</b> Amy Frazier — Oklahoma State University <b>Keywords:</b> MAUP, Backscaling, Remote Sensing, Population Weighting, Pattern
4:00pm	<b>Disentangling the Relationship Between Environmental Heterogeneity and Species Diversity Along a Gradient of Human Footprint</b> Ian Seiferling, Raphaël Proulx — University of Québec at Trois-Rivières; Christian Wirth — University of Leipzig <b>Keywords:</b> Environmental Heterogeneity, Biodiversity, Complexity, Fragmentation, Niche Theory
4:20pm	<b>Does Habitat Adjacency Affect Possible Edge Effects for Birds in a Heterogeneous Environment?</b> Jenny Foggia, James Martin, Scott Rush — Mississippi State University; Thomas B. Wigley — National Council for Air and Stream Improvement; Darren A. Miller — Weyerhaeuser Company <b>Keywords:</b> Edge Effects, Avifauna, Adjacency, Complementary Resource Distribution Hypothesis
4:40pm	<b>Plant Species Richness Extends the Active Photosynthetic Period of Herbaceous Communities of Riparian Buffers in Agricultural Landscape</b> Guillaume Rheault, Raphaël Proulx, Laurianne Bonin — Université du Québec à Trois-Rivières <b>Keywords:</b> Diversity, Photography, Phenology, Plant, Greenness

# Technical Presentations by Track, Date, Time

**TUESDAY, MAY 20 / 9:20 AM – 12:00 PM**

<b>SPECIAL SYMPOSIUM 5: Soundscape</b>	<b>Studying Landscape Ecology with Remote Sensing</b>	<b>SPECIAL SYMPOSIUM 6: Breaking Landscapes Smartly</b>	<b>River, Coastal, and Seascape Ecology I</b>	<b>Landscape Fragmentation and Ecological Processes II</b>
<b>SUSITNA ROOM</b>	<b>YUKON ROOM</b>	<b>KUSKOKWIM WEST</b>	<b>KUSKOKWIM EAST</b>	<b>BOARDROOM #311</b>

## **SPECIAL SYMPOSIUM 5: Soundscape Theory and Application**

**Conveners:** Almo Farina, Department of Basic Sciences and Foundations, Urbino University, Italy; Timothy Mullet, EWHALE Lab, Biology and Wildlife Department, University of Alaska Fairbanks

<b>Room 1:</b>	<b>SUSITNA ROOM</b>
9:20am	<b>Soundscape Ecology: State of the Art and Future Perspectives</b> Almo Farina, Nadia Pieretti — Department of Basic Sciences and Foundations, Urbino University <b>Keywords:</b> Soundscape, Landscape, Recording Acoustic Diversity, New Technologies, Soundscape Courses
9:40am	<b>Visualization and Analysis of the Soundscape in Important Natural Habitats in the Upper Great Lakes</b> Stuart Gage — Michigan State University; Gary Belovsky — University of Notre Dame; Eric Kasten — Michigan State University; Michael Cramer — University of Notre Dame <b>Keywords:</b> Soundscape Metrics, Upper Great Lakes, Normalized Difference Soundscape Index, Bird Census, Visualization
10:00am	<b>The Soundscape of the Shallow Water of Arctic sea (Kongsfjorden, Svalbard): Preliminary Results</b> Giuseppa Buscaino, Francesco Filiciotto, Vincenzo Maccarrone — National Research Council, Institute for Coastal Marine Environment <b>Keywords:</b> Marine Soundscape, Arctic, Glacier Noise
10:20am	<b>Modeling the Acoustic Footprint of Human-made Noise in an Alaskan Wilderness</b> Timothy Mullet — EWHALE Laboratory, Biology and Wildlife Department, University of Alaska Fairbanks; Stuart H. Gage — Michigan State University; Falk Huettmann — University of Alaska Fairbanks; John M. Morton, U.S. Fish & Wildlife Service <b>Keywords:</b> Wilderness, Human-made Noise, Soundscape
10:40am	<b>A Multi-system Assessment of Sustainable Agroforestry Using Soundscape Complexity</b> Christopher Bobryk, Sougata Bardhan, Christine C. Rega — University of Missouri-Columbia; Almo Farina — University of Urbino; Shibu Jose — University of Missouri-Columbia <b>Keywords:</b> Soundscape, Agroforestry, Sustainability, Low-Cost Recorders, Acoustic Complexity
11:00am	<b>Developing Methods to Map Sound Over Time and Space: Possibilities and Problems</b> Sharon Gill, Jacob R. Job, Kyle Myers, Koorosh Naghshineh — Western Michigan University <b>Keywords:</b> Sound Maps, Sound Levels, Ecological Sounds, Anthropogenic Sound
11:20am	<b>The Landscape of Values in Soundscape Ecology</b> Jonathan Beever — The Rock Ethics Institute, Penn State <b>Keywords:</b> Values, Conservation Ethics, Soundscapes

11:40am	<b>Global Soundscapes Day: Developing a Worldwide Natural Sounds Database for Research and Education</b> Bryan Pijanowski — Purdue University; Brad Lisle — FoxFire Interactive; Amandine Gasc, Jarrod Doucette — Purdue University <b>Keywords:</b> Soundscapes
12:00pm to 12:20pm	<b>Soundscapes as a Measure of Ecological Integrity of Grazed Tropical Dry Forests in Madagascar</b> Lyndsay L. Rankin, Anne C. Axel — Marshall University <b>Keywords:</b> Soundscape, Acoustic Index, Madagascar

<b>Tuesday, May 20</b>	<b>Oral Session: Studying Landscape Ecology with Remote Sensing</b> Chair: Marc Lindermann, University of Iowa
<b>Room 2:</b>	<b>YUKON ROOM</b>
9:20am	<b>The Influence of Uncertainty on Reasoning about Forest Disturbances from Remote Sensing Images</b> Raechel Bianchetti — Pennsylvania State University; Warren Cohen — Pacific Northwest Research Station, US Forest Service; Alan MacEachren — Pennsylvania State University <b>Keywords:</b> Uncertainty, Air Photo Interpretation, GIScience
9:40am	<b>The Spatial and Temporal Study of the Phenology in Oklahoma's Grasslands</b> Junlong Liu — Oklahoma State University <b>Keywords:</b> Phenology, Remote Sensing, Climate Change, Oklahoma
10:00am	<b>Hyperspectral Imaging for Bioenergy Applications</b> Marc Linderman, Ryan A. Johnson — University of Iowa <b>Keywords:</b> Hyperspectral, Bioenergy, Floodplains, Land Use, Management
10:20am	<b>A Mixed-Methods Analysis of Socio-ecological Feedbacks Between Urbanization and Forest Persistence</b> Douglas Shoemaker — North Carolina State University; Todd K. BenDor — UNC Chapel Hill; Monica A. Dorning, Jean-Claude Thill — UNC Charlotte; Ross K. Meentemeyer — North Carolina State University
10:40am	<b>Improving Ecosystem Services and Agricultural Productivity Through Landscape-farm Level Restoration in Ethiopia</b> Kiros Hadgu, Jeremias Mowo, Aster Gebrekirstos — World Agroforestry Center (ICRAF) <b>Keywords:</b> Agricultural-Productivity, Ecosystem-Service, Landscape-Restoration, Land Use-Land Cover Change
11:00am – 11:20am	<b>Trends in NDVI and Tundra Community Composition in the Arctic of NE Alaska Between 1988 and 2009</b> Robert Pattison — USFS Pacific Northwest Research Station; Janet C. Jorgenson — U.S. Fish & Wildlife Service; Martha K. Reynolds — University of Alaska Fairbanks; Jeffery M. Welker — University of Alaska Anchorage <b>Keywords:</b> Tundra, NDVI, Landsat, Shrub

<b>Tuesday, May 20</b>	<b>SPECIAL SYMPOSIUM 6: Breaking Landscapes Smartly</b> Convener: Karen Kelleher, Anchorage District Manager, Bureau of Land Management, Anchorage, AK
<b>Room 3:</b>	<b>KUSKOKWIM WEST</b>
9:20am	<b>Social Processes of Landscape Integration: An Analytical Framework for Understanding Collaborative Adaptive Management in Alaska</b> Steve Cohn — Bureau of Land Management, Alaska State Office, Division of Resources <b>Keywords:</b> Alaska, Landscape Management, Service Landscape Conservation Cooperatives, Federal Initiatives
9:40am	<b>USFWS Priority Species and Conservation Frameworks: Laying the Foundation for Achieving Landscape Sustainability</b> Charla Sterne — U.S. Fish & Wildlife Service, Alaska Region Science Applications; Cynthia Jacobson — U.S. Fish & Wildlife Service <b>Keywords:</b> Conservation Framework, Landscape Management, Sustainable Management
10:00am	<b>Managing Dynamic Landscapes in the Alaska Region: Integrating Landscape Perspectives into Forest Service Management Practices</b> Barbara Schrader — US Forest Service, Alaska Region <b>Keywords:</b> Canadian/US science Collaboration, 2012 Planning Rule, Multiple Uses
10:20am	<b>Managing for Intact Landscapes and Sustainable Economic Growth: How Science Informs BLM–Alaska's Land Planning</b> Serena Sweet — Bureau of Land Management, Alaska State Office, Planning Program <b>Keywords:</b> Multiple Use, Sustainable Yield, Rapid Ecoregional Assessment, National Petroleum Reserve
10:40am	<b>Two Examples of the Use of Scenarios for Landscape–level Analyses by the North Slope Science Initiative and National Park Service in Alaska</b> John Payne — North Slope Science Initiative; Bob Winfree — National Park Service <b>Keywords:</b> North Slope Science Initiative (NSSI), National Park Service (NPS), Alaska, Scenario Planning, Alaska North Slope
11:00am	<b>Strengthening Bridges Between Partner Conservation Efforts to Address Shared Science Needs: Landscape Conservation Cooperatives</b> Karen Murphy — Western Alaska Landscape Conservation Cooperative; Aaron Poe — Aleutian & Bering Sea Islands Landscape Conservation Cooperative <b>Keywords:</b> Landscape Conservation Cooperatives (LCCs), Northwest Canada, Alaska, LCC Network
11:20am to 11:40am	<b>Ecosystem Stewardship: A Framework to Guide Strategic Planning for the Northwest Boreal Landscape Conservation Cooperative</b> Dawn Magness — Kenai National Wildlife Refuge, Fish & Wildlife Service; Amanda L. Robertson — Northwest Boreal Landscape Conservation Cooperative <b>Keywords:</b> Ecosystem Stewardship, Social–ecological Systems, Vulnerability, Resilience, Transformation



<b>Tuesday, May 20</b>	<b>Oral Session: River, Coastal, and Seascape Ecology I</b> Chair: Bodil Bluhm, University of Alaska Fairbanks
<b>Room 4:</b>	<b>KUSKOKWIM EAST</b>
9:20am	<b>Arctic Marine Seafloor Fauna: Biodiversity, Community Distribution and Biomass on Regional to Pan-Arctic Scales</b> Bodil Bluhm — University of Alaska Fairbanks; Philippe Archambault — University of Quebec a Rimouski; Ken H. Dunton — University of Texas at Austin; Jacqueline M. Grebmeier — University of Maryland; Falk Huettmann, Katrin Iken, Brenda L. Norcross — University of Alaska Fairbanks; Dieter Piepenburg — Christian Albrecht University Kiel; Paul E. Renaud — Akvaplan-NIVA; Boris I. Sirenko — Zoological Institute St Petersburg <b>Keywords:</b> Benthos, PanArctic, Seascape, Biodiversity, Biomass, Community Structure, Food Web, Climate Change
10:00am	<b>Neutral Models as a Way to Evaluate the Sea Level Affecting Marshes Model</b> Wei Wu — The University of Southern Mississippi; Kevin M. Yeager — University of Kentucky; Mark S. Peterson — University of Southern Mississippi; Richard Fulford — U.S. Environmental Protection Agency <b>Keywords:</b> Coastal Wetlands, Neutral Models, Kappa Statistics, SLAMM
10:20am	<b>Trans-Boundary Indicators of Aquatic Ecosystem Health</b> Tanya Gallagher, Sarah Gergel — University of British Columbia; Wong Cecilia — Environment Canada; Roberts Lindsay — University of British Columbia; Suchy Martin — Environment Canada <b>Keywords:</b> Water Quality, Landscape Indicators, Ecosystem Health, Trans-Boundary, Landscape Patterns
10:40am	<b>Remote Sensing Applications for Coral Reef Management in the Florida Keys</b> Lucas McEachron — Florida Fish and Wildlife Research Institute; Brian Barnes, Chuanmin Hu — University of South Florida <b>Keywords:</b> Remote Sensing, Coral Reefs, Florida Keys, MODIS
11:00am	<b>Mechanism of Road Network Impacts on Fluvial System and Their Spatial Variation at Multiple Scales: A Case Study in Yunnan Province</b> Shiliang Liu, Cong Wang, Nannan An, Shikui Dong — School of Environment, Beijing Normal University <b>Keywords:</b> Crossing Impacts, Lateral Disconnection, River Connectivity, GIS Analysis
11:20am	<b>Developing Watershed Level Indicators for Predicting Aquatic Condition in Stream Networks</b> Anne Kuhn, Nathan J. Smucker, James L. Lake, Jonathan R. Serbst — U.S. Environmental Protection Agency; Michael A. Charpentier — Raytheon <b>Keywords:</b> Watersheds, Landscape Indicators, Riparian Condition, Stream Networks, Aquatic Condition
11:40am	<b>Landscape-level Evaluation of Resident Perceptions of Water Resource Policies in the Willamette River Basin</b> Anita Morzillo, Meagan Atkinson, Stephanie Graham — Oregon State University <b>Keywords:</b> Water Resources, Human Dimensions, Attitudes, Policy, Landowner

<b>Tuesday, May 20</b>	<b>Oral Session: Landscape Fragmentation and Ecological Processes II</b> Chair: Vilis Nams, Dalhousie University
<b>Room 5:</b>	<b>BOARDROOM #311</b>
	<b>PLEASE NOTE 9:40AM START TIME FOR THIS SESSION.</b>
9:40am	<b>How Does the Shape of Edges Affect Dispersal?</b> Vilis Nams — Dalhousie University <b>Keywords:</b> Edges, Habitat Fragmentation, Metapopulations, Permeability, Dispersal
10:00am	<b>Scaling Soil Respiration Dynamics Across Regional Land-use and Climate Gradients in Southern California, USA</b> Steven Crum, George D. Jenerette — University of California, Riverside <b>Keywords:</b> Landscape Metabolism, Heterogeneity, Environmental Gradients
10:20am	<b>Detailed Assessment of the Decline of Core Forest in the Conterminous United States</b> Kurt Riitters, John W. Coulston — USDA Forest Service; James D. Wickham — U.S. Environmental Protection Agency <b>Keywords:</b> Forest, Pattern, Fragmentation, Assessment, Land Use
10:40am	<b>Testing Predictions from the Habitat Amount Hypothesis</b> James Watling — University of Florida; Lenore Fahrig — Carleton University <b>Keywords:</b> Habitat Amount, Fragmentation, Species Richness, Sampling
11:00am	<b>Automating Calculation of Road-based Landscape Metrics Using ArcPy</b> Rebecca Loraamm, Joni A. Downs, James H. Anderson — University of South Florida <b>Keywords:</b> Fragmentation, GIS, Landscape, Metrics, Connectivity
11:20am to 11:40am	<b>Estimation of Benchmark Protected Areas Using the Minimum Dynamic Reserve Concept and Spruce Budworm Outbreak Data in Canada's Eastern Boreal</b> Marc Edwards, Meg A. Krawchuk — Simon Fraser University <b>Keywords:</b> Boreal, Spruce Budworm, Minimum Dynamic Area, Reserve Design, Natural Disturbance



# Technical Presentations by Track, Date, Time

**WEDNESDAY, MAY 21 / 9:20 AM – 12:00 PM**

<b>SPECIAL SYMPOSIUM 7:</b> Cascading Thresholds in CHANS and the Emergence of Wicked Problems	<b>SPECIAL SYMPOSIUM 8:</b> Conservation in the Big Picture	<b>Livestock, Crop and Biomass Production</b>	<b>River, Coastal, and Seascape Ecology II</b>	<b>Insects and Invasives in Landscapes</b>	<b>Simulations and Model Predictions of Landscapes I</b>
<b>SUSITNA ROOM</b>	<b>YUKON ROOM</b>	<b>KUSKOKWIM WEST</b>	<b>KUSKOKWIM EAST</b>	<b>BOARDROOM #311</b>	<b>BOARDROOM #308</b>

## **SPECIAL SYMPOSIUM 7: Cascading Thresholds in Coupled Human and Natural Systems and the Emergence of Wicked Problems**

**Conveners:** Jelena Vukomanovic and Patrick Bourgeron, University of Colorado

<b>Room 1:</b>	<b>SUSITNA ROOM</b>
9:20am	<p><b>Issues in Managing the Land–Water–Climate Nexus: Causes and Consequences of a Shift to a Wicked Problem</b></p> <p>Patrick Bourgeron, Jelena Vukomanovic, Hope C. Humphries — Institute of Arctic and Alpine Research, University of Colorado Boulder</p> <p><b>Keywords:</b> Social–ecological Systems, Ecosystem Services, Wicked Problems, Societal Implications, Western USA</p>
9:40am	<p><b>Landscape Values and Temporal Dynamics: Culture and Landscape on the Kenai Peninsula, AK</b></p> <p>Sarah Wandersee — University of Alaska Anchorage; Andrew Kliskey — University of Idaho, Center for Resilient Rural Communities</p> <p><b>Keywords:</b> Landscape Values, Culture, Kenai Peninsula, Land Cover Change</p>
10:00am	<p><b>Interactions Among Disturbances, Climate Change, and Exurbanization in the Colorado Front Range: Shift to a Wicked Problem and Some Potential Solutions</b></p> <p>Jelena Vukomanovic, Patrick S. Bourgeron, Hope C. Humphries — Institute of Arctic and Alpine Research, University of Colorado Boulder</p> <p><b>Keywords:</b> Social–ecological Systems, Wildland–Urban Interface, Hierarchical Modeling, Wicked Problem, Colorado</p>
10:20am	<p><b>Complex Ecological Effects of Tourism in Nature Reserves</b></p> <p>Hongbo Yang, Andrés Viña, Jianguo Liu — Michigan State University</p> <p><b>Keywords:</b> Telecoupling, Tourism, Ecological Effects, Sustainable Management, Landscape Change</p>
10:40am	<p><b>Impacts From Oil and Gas Development on Ecosystem Services and Benefits: Tame or Wicked Problems?</b></p> <p>Angela Campbell, Hope C. Humphries — Institute of Arctic and Alpine Research; Patrick S. Bourgeron — University of Colorado</p> <p><b>Keywords:</b> CHANS, Oil and Gas Development, Ecosystem Services, Resilience, Impacts</p>
11:00am – 11:20am	<p><b>At a Tipping Point: Landscape Restoration Planning in Eastern Cascade Mountain Forests</b></p> <p>Paul Hessburg — USDA Forest Service</p> <p><b>Keywords:</b> CHANS, Washington, Wildfire, Mountain Forests</p>

<b>Wednesday, May 21</b>	<b>SPECIAL SYMPOSIUM 8: Conservation in the Big Picture</b> Convener: Jocelyn Aycrigg, Ph.D., National Gap Analysis Program, Department of Fish and Wildlife Sciences, University of Idaho
<b>Room 2:</b>	<b>YUKON ROOM</b>
9:20am	<b>Are Protected Areas in the U.S. Enough to Conserve Biodiversity?</b> Laura Dornak — University of Idaho; Courtney J. Conway —U.S. Geological Survey, Idaho Cooperative Fish and Wildlife Research Unit, University of Idaho; Jocelyn L. Aycrigg — National Gap Analysis Program, University of Idaho <b>Keywords:</b> Protected Areas, Multiple-Use Areas, Bird, Trends, Breeding Bird Survey
9:40am	<b>Coupled Climate and Land-use Change Effects on GAP Modeled Species: A Draft Framework for National Cumulative Impacts and Case Study of the Pacific Northwest</b> Jason Kreidler, Tamara Wilson — U.S. Geological Survey; Jocelyn Aycrigg, Thomas Laxson — University of Idaho; Ben Sleeter — U.S. Geological Survey University of Idaho <b>Keywords:</b> Land-Use Change, Climate Change, Cumulative Impacts, Gap Analysis, Pacific Northwest
10:00am	<b>Overview of the State of the Birds Reports 2009–2014</b> Jocelyn Aycrigg — Gap Analysis Program, Idaho Cooperative Fish and Wildlife Research Unit, University of Idaho, North American Bird Conservation Initiative (U.S. Committee) <b>Keywords:</b> Birds, Conservation, eBird, Protected Areas, Breeding Bird Survey
10:20am	<b>Assessing Representation of Bird Species and Ecological Systems Within the National Wildlife Refuge System</b> Jeff Lonneker, Thomas Laxson — Gap Analysis Program, Idaho Cooperative Fish and Wildlife Research Unit, University of Idaho; Terrell D. Rich — Partners in Flight, U.S. Fish & Wildlife Service; Jocelyn L. Aycrigg — Gap Analysis Program, Idaho Cooperative Fish and Wildlife Research Unit, University of Idaho <b>Keywords:</b> Birds, Ecological Systems, National Wildlife Refuge, Representation, Conservation Prioritization
10:40am	<b>Defining the Climate Space of Fire for Conservation Planning</b> Ellen Whitman — Simon Fraser University; Enric Batllori — Berkeley; Sandra L. Haire — Haire Laboratory for Landscape Ecology <b>Keywords:</b> Fire, Climate, Conservation
11:00am – 11:20am	<b>Identifying Conservation Priorities in Alaska</b> Tracey Gotthardt — Alaska Natural Heritage Program, University of Alaska Anchorage; Jeff Lonneker — Gap Analysis Program, Idaho Cooperative Fish and Wildlife Research Unit, University of Idaho; Anne Davidson — Gap Analysis Program, Idaho Cooperative Fish and Wildlife, University of Idaho; Sanjay Pyare — Environmental Sciences, University of Alaska Southeast; Falk Huettmann — Institute of Arctic Biology, University of Alaska Fairbanks; Jocelyn L. Aycrigg — Gap Analysis Program, Idaho Cooperative Fish and Wildlife Research Unit, University of Idaho <b>Keywords:</b> Vertebrate Species, Conservation Priorities, Alaska, Protected Areas



<b>Wednesday, May 21</b>	<b>Oral Session: Livestock, Crop and Biomass Production</b> Chair: Lucy Alford, Université de Rennes I
<b>Room 3:</b>	<b>KUSKOKWIM WEST</b>
9:20am	<b>Impacts and Solutions of Livestock Grazing in Protected Areas for the Giant Panda</b> Binbin Li, Stuart L. Pimm — Duke University <b>Keywords:</b> Spatial Modeling, Livestock Grazing, Giant Panda
9:40am	<b>Effects of Landscape Structure and Functional Habitat on Northern Bobwhite in Agricultural Landscapes</b> James A. Martin, Myung-bok Lee, Tara J. Conkling, Kelsey M. Drey, Jennifer R. Foggia, Jesse T. Kamps, Marc M. McConnell, Adrian P. Monroe, L. Wes Burger —Mississippi State <b>Keywords:</b> Agricultural Landscapes, Functional Habitat, Landscape Structure, Northern Bobwhite
10:00am	<b>The Effects of Landscape Ecology and Thermal Conditions on the Natural Enemies of Aphids in Cereal Fields</b> Lucy Alford, Kevin Tougeron, Françoise Burel, Joan van Baaren — Université de Rennes I <b>Keywords:</b> Agriculture, Biological Control, Insects, Thermal Biology, Landscape Management
10:20am	<b>How Much Biomass Plant Communities Can Pack Per Unit of Volume?</b> Raphaël Proulx — Université du Québec à Trois-Rivières <b>Keywords:</b> Biomass, Ecosystem, Indicator, Forest, Wetland
10:40am	<b>How Cropping System Changes Affect Fertilizer Applications: Modeling Nitrogen Inputs within USGS Watersheds</b> Bryan C. Pijanowski, Buddhika D. Madurapperuma — Purdue University <b>Keywords:</b> Crop Rotation, Nitrogen Modeling, Watersheds
11:00am– 11:20am	<b>Modeling Historic and Current Aboveground Forest Biomass Quantities and Evaluating Abiotic Mechanisms Driving Distributions Along the Missouri River Corridor</b> Christopher Bobryk, Hong He, Shibu Jose — University of Missouri–Columbia <b>Keywords:</b> Aboveground Forest Biomass, Random Forest, Missouri River

<b>Wednesday, May 21</b>	<b>Oral Session: River, Coastal, and Seascape Ecology II</b> Chair: Cindy Hartmann Moore, NOAA
<b>Room 4:</b>	<b>KUSKOKWIM EAST</b>
9:20am	<b>Modeling and Mapping Flood Inundation Along the Upper Mississippi River: Implications for the Study and Management of Floodplain Vegetation and Soil Dynamics</b> Nathan De Jager — USGS Upper Midwest Environmental Sciences Center; Jason Rohweder, Timothy Fox, Yao Yin — U.S. Geological Survey <b>Keywords:</b> Floodplain, Nitrogen, Biodiversity, Invasion, Recruitment
9:40am	<b>Alaska's ShoreZone Dataset</b> Cindy Hartmann Moore, Steve Lewis — NOAA, National Marine Fisheries Service, Alaska Region; Mandy G. Lindeberg — NOAA, NMFS, AFSC; Dr. John R. Harper — Coastal and Ocean Resources; Susan R. Saupe — Cook Inlet Regional Citizens Advisory Council <b>Keywords:</b> Coastal Mapping, Coastal Vulnerability, Bioareas, ShoreZone, Dataset
10:00am	<b>Development of Landscape Measures Suitable for Assessing Coastal Vulnerability Using Systems Modeling</b> Cerian Gibbes — University of Colorado; Anna Linhoss — Mississippi State University <b>Keywords:</b> Sea Level Rise, Land Use Change, SLAMM, Yucatan, Coastline

10:20am	<b>Revisiting the Mesopredator Release Hypothesis: Predator Community Dynamics Along a Gradient of Landscape Disturbance in Central Pennsylvania</b> Andrew Townsend, Robert P. Brooks, Ph.D. — Pennsylvania State University <b>Keywords:</b> Wildlife, Predator, Ecology, Cascades, Corridors
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<b>Wednesday, May 21</b>	<b>Oral Session: Insects and Invasives in Landscapes</b> Chair: Tuula Kantola, Texas A&M University
<b>Room 5:</b>	<b>BOARDROOM #311</b>
9:20am	<b>Remote Sensing Canopy Structural Impacts of the Invasive Old World Climbing Fern (<i>Lygodium microphyllum</i>)</b> Alexis Maldonado — University of Central Florida, Department of Biology; John F. Weishampel — University of Central Florida <b>Keywords:</b> Remote Sensing, LiDAR, Invasive Species, Forest Ecology
9:40am	<b>Variation in Urban Forest Composition and Function Detected Using Hyperspectral and Lidar Data</b> Huan Gu, Philip A. Townsend, Aditya Singh — University of Wisconsin Madison <b>Keywords:</b> Species Composition, Urban Forest, Hyperspectral, LiDAR
10:00am	<b>Regional- and Landscape-scale Factors Influence Invasion: The Importance of Climate and Anthropogenic Disturbance for Determining <i>Bromus tectorum</i> Distribution in the Western U.S.</b> Caroline Curtis — University of Massachusetts Amherst; Matthias Leu — The College of William and Mary; Bethany A. Bradley — University of Massachusetts Amherst <b>Keywords:</b> Invasion Ecology, Cheatgrass, Climate Change, Disturbance
10:20am	<b>Adjusting to Landscapes of Change: Avian Responses to Wildfire and Mountain Pine Beetle Outbreak in British Columbia</b> Kimberly House, Meg A. Krawchuk — Simon Fraser University <b>Keywords:</b> Disturbance, Wildfire, Mountain Pine Beetle, Avian
10:40am	<b>Determining the Spatial Scale of Spruce Budworm Larval Parasitoids' Response to Spatial Heterogeneity</b> Simon Legault, Patrick MA James — Université de Montréal <b>Keywords:</b> Landscape Ecology, Forest Structure, Scale, Spruce Budworm, Parasitoids
11:00am	<b>Disturbance History Alters Understory Community Recovery in Lodgepole Pine Forests</b> Michael Ton — Simon Fraser University, Burnaby Canada <b>Keywords:</b> Disturbance, Fire, Logging Understory, Plant Community
11:20am	<b>Temporal Pattern of Hemlock Mortality During Hemlock Woolly Adelgid Infestations in the Southern Appalachians</b> Tuula A. Kantola, Maria D. Tchakerian — Texas A&M; Päivi Lyytikäinen-Saarenmaa, Markus Holopainen — University of Helsinki; Hannu Saarenmaa — University of Eastern Finland; Robert Coulson — Texas A&M; Douglas Street — USDA Forest Service <b>Keywords:</b> Eastern Hemlock, Forest Disturbance, Hemlock Woolly Adelgid, Multi-Temporal, Remote Sensing
11:40am to 12:00pm	<b>Do Québécois Orthopteran Communities Partition Their Acoustic Space?</b> Irene Roca, Raphaël Proulx, Pierre Magnan — UQTR <b>Keywords:</b> Soundscape, Acoustic Partitioning, Acoustic Heterogeneity, Public Sound Libraries, Orthoptera

<b>Wednesday, May 21</b>	<b>Oral Session: Simulations and Model Predictions of Landscapes I</b> Chair: David Lieske, Mount Allison University
<b>Room 6:</b>	<b>BOARDROOM #308</b>
9:20am	<b>Using HexSim to Link Demography and Genetics in Animal and Plant Simulations</b> Allen Brookes, Nathan H. Schumaker — U.S. EPA; Jennifer Day — University of Washington <b>Keywords:</b> HexSim, Landscape Genetics, Population Modeling, Demography, Genetics
9:40am	<b>The Site-scale Processes Affect Species Distribution Predictions of Forest Landscape Models</b> Yu Liang — Chinese Academy of Sciences; Hong He, Wen Wang, Jacob Fraser — University of Missouri; ZhiWei Wu — Chinese Academy of Sciences <b>Keywords:</b> Forest Landscape Models, Site-Scale Processes, Stand-Scale Processes, LANDIS, Species Distribution Predictions
10:00am	<b>How Fast Do Migratory Songbirds Have to Adapt to Keep Pace with Rapid Environmental Change?</b> Kimberly With — Kansas State University <b>Keywords:</b> Habitat Loss and Fragmentation, Population Model, Adaptive Response, Migratory Songbirds, Dynamic Landscapes
10:20am	<b>Modeling the Relative Impacts of Climate and Land-cover Change on Bird Species Distributions from 2001 to 2075</b> Terry Sohl — U.S. Geological Survey, Earth Resources Observation and Science Center <b>Keywords:</b> Model, Climate, Land Cover, Bird, Distribution
10:40am	<b>Geostatistical Simulation of Multi-categorical Land-cover Changes</b> Hui Xu — University of Michigan; Amy Burnicki — University of Connecticut; Dan Brown — University of Michigan <b>Keywords:</b> Land Cover Change, Simulation, Geostatistics
11:00am	<b>A Framework for Evaluating Forest Landscape Predictions Using Forest Inventory Data and Stand Density Management Diagrams</b> Hong He, Wen Wang — University of Missouri; Frank Thompson, Stephen Shifley — U.S. Forest Service Northern Research Station; Jacob Fraser — University of Missouri; Martin Spetich — U.S. Forest Service Southern Research Station <b>Keywords:</b> Forest Landscape Models (FLMs), LANDIS Pro, FLM Evaluation, U.S. Forest Service Inventory and Analysis (FIA) Data, Oak Forests
11:20am – 11:40am	<b>Forecasting Climate Change Impacts on Subtropical Threatened and Endangered Species Ranges</b> David Bucklin — University of Florida; Stephanie Romanach — U.S. Geological Survey; James Watling — University of Florida; Laura Brandt — U.S. Fish & Wildlife Service; Carolina Speroterra — University of Florida <b>Keywords:</b> Climate Envelope Model, Florida, Species Distribution Model

# WEDNESDAY, MAY 21 continued

## 1:00 PM – 3:00 PM

SUSITNA ROOM	YUKON ROOM	KUSKOKWIM WEST	KUSKOKWIM EAST	BOARDROOM #311	BOARDROOM #308
<b>SPECIAL SYMPOSIUM 9:</b> Open Science for the Public Good	<b>SPECIAL SYMPOSIUM 10:</b> Impacts of Global Change: Linking Across Scales I	<b>SPECIAL SYMPOSIUM 11:</b> Integrating Measurements and Models of Terrestrial and Aquatic Ecosystems Phenology I	Movements and Connectivity in Landscapes	Urban Landscape Ecology I	Simulations and Model Predictions of Landscapes II

## 3:20 PM – 5:00 PM

Landscape Changes and Scenarios  <i>{please note 6:00pm end time}</i>	<b>SYMPOSIUM 10</b> <i>continued:</i> Impacts of Global Change: Linking Across Scales II	<b>SYMPOSIUM 11</b> <i>continued:</i> Integrating Measurements and Models of Terrestrial and Aquatic Ecosystems Phenology II		Urban Landscape Ecology II	Simulations and Model Predictions of Landscapes III
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## SPECIAL SYMPOSIUM 9: Open Science for the Public Good

Convener: Andy Baltensperger, University of Alaska Fairbanks

Room 1:	SUSITNA ROOM
1:00pm	<b>Data, Data Everywhere: Detecting Spatial and Temporal Patterns in Fine-scale Forest Health Information Collected Across a Continent</b> Kevin Potter — North Carolina State University <b>Keywords:</b> Forest Health, Spatial Pattern, Temporal Pattern, Monitoring, Fire
1:20pm	<b>Googling Trends in Conservation Biology</b> Philippe Massicotte, Raphael Proulx, Marc Pépino — Université du Québec à Trois-Rivières <b>Keywords:</b> Biodiversity, Ecosystem Services, Public Awareness (Google Trends), Species Distribution
1:40pm	<b>Characterizing the Relationship Between Vegetation Volume, Building Volume and Urban Heat Islands</b> Amelie Davis — Miami University; Jinha Jung, Bryan C. Pijanowski — Purdue University; Emily S. Minor — University of Illinois at Chicago <b>Keywords:</b> LiDAR, Urban Heat Island, Nighttime Temperature, Environmental Justice, Chicago
2:00pm	<b>Predictive spatial niche and biodiversity hotspot models for the small mammal fauna of Alaska: Applying machine learning to environmental and conservation planning</b> Andrew Baltensperger, Falk Huettmann — University of Alaska Fairbanks <b>Keywords:</b> Alaska, Biodiversity, Machine-Learning, Small Mammals, Spatial Niche Modeling
2:20pm	<b>Using citizen-science research and open-access data to help combat the global amphibian crisis</b> Mark Spangler — FrogWatch USA <b>Keywords:</b> citizen-science research, open-access data, amphibian conservation
2:40pm – 3:00pm	<b>BLM Alaska's Assessment, Inventory and Monitoring Pilot Project</b> Scott Guyer — Bureau of Land Management; Tina Boucher — University of Alaska Anchorage

<b>Wednesday, May 21</b>	<b>SPECIAL SYMPOSIUM 10: Impacts of Global Change: Linking Across Scales I</b> Chair: Pep Serra Conveners: Janet Franklin, Josep M.(Pep)Serra-Diaz –Arizona State University; Lynn Sweet, Earth Research Institute, University of California–Santa Barbara
<b>Room 2:</b>	<b>YUKON ROOM</b>
1:00pm	<b>Predicting Tree Species Recruitment in Mountainous Environments: Scaling up From the Plot to the Landscape</b> Lynn Sweet, Frank W. Davis — University of California, Santa Barbara; Janet Franklin — Arizona State University; Ian McCullough — University of California, Santa Barbara <b>Keywords:</b> Seedling Recruitment, Species Distribution Model, Microclimate
1:20pm	<b>Phenology, Climate Change, and Phenological Control of Biosphere–Atmosphere Interactions: Insights from the PhenoCam Network</b> Andrew Richardson — Department of Organismic & Evolutionary Biology, Harvard University <b>Keywords:</b> Phenology, Macrosystems biology, Climate Change, Models, Remote Sensing
1:40pm	<b>Increasing the Use of “First Principles” to Reliably Model Future Landscape Ecological Dynamics in a Rapidly Changing World</b> Eric Gustafson — USDA Forest Service, Northern Research Station; Arjan De Bruijn — Purdue University; Brian R. Sturtevant — USDA Forest Service, Northern Research Station <b>Keywords:</b> Landscape Modeling, Climate Change
2:00pm	<b>The Pace of Species Exposure to Climate Change</b> Josep Serra-Diaz, Janet Franklin — Arizona State University; Frank Davis — UC Santa Barbara; Alexandra Syphard — Conservation Biology Institute; Helen Regan — UC Riverside <b>Keywords:</b> Conservation Biogeography, Global Change, Climate Change, Climate Velocity, Exposure
2:20pm	<b>Vegetation Recovery Following Fire and Harvest Disturbance in Central Labrador: A Landscape Perspective</b> Brian R. Miranda, Brian R. Sturtevant — USDA Forest Service, Northern Research Station; Isabelle Schmelzer — Government of Newfoundland and Labrador, Department of Environment and Conservation; Frédéric Doyon — Université du Québec en Outaouais, Département des sciences naturelles; Peter Wolter — Iowa State University, Natural Resource Ecology & Management <b>Keywords:</b> Disturbance, Vegetation Recovery, Woodland Caribou, Site Productivity, Lichen Woodland
2:40pm	<b>Perspectives of Spatial Scale in a Wildland Forest Epidemic</b> Whalen Dillon — Department of Forestry & Environmental Resources, North Carolina State University; Sarah E. Haas — North Carolina State University; David M. Rizzo — University of California Davis; Ross K. Meentemeyer — North Carolina State University <b>Keywords:</b> Host Density, Landscape Epidemiology, Multilevel, Multiscale
3:00pm – 3:20pm	Break

<b>Wednesday, May 21</b>	<b>SPECIAL SYMPOSIUM 11: Integrating Measurements and Models of Terrestrial and Aquatic Ecosystems Phenology I</b> Chair: William Hargrove, USDA Forest Service Conveners: William W. Hargrove, Steven P. Norman, Forrest M. Hoffman, Jiafu Mao
<b>Room 3:</b>	<b>KUSKOKWIM WEST</b>
1:00pm	<b>Bridging Spatial Scales with Phenology in Atmosphere-biosphere Interaction Studies</b> Mark Schwartz — Geography Department, University of Wisconsin-Milwaukee <b>Keywords:</b> Phenology, Global Change, Atmosphere-Biosphere Interaction, National Phenology Networks
1:20pm	<b>Spatial Scaling and Prediction of Vegetation Phenology on Local to Continental Scales</b> David Medvigy, Su-Jong Jeong — Princeton University <b>Keywords:</b> Phenology, USA Phenology Network, Temperate Forests, Ecosystem Modeling, Climate Change
1:40pm	<b>Global Vegetation Growth Tendencies During the Past 3 Decades: A Study with Multiple Satellite LAI Products and Model Simulations</b> Jiafu Mao — Oak Ridge National Laboratory; Binyan Yan — The University of Texas; Xiaoying Shi, Forrest M. Hoffman, Peter E. Thornton — Oak Ridge National Laboratory
2:00pm	<b>Land Surface Phenologies and Seasonalities Using Cool Earthlight in the Major Grain Production Areas of Russia, Ukraine and Kazakhstan</b> Woubet G. Alemu, Geoffrey M. Henebry — South Dakota State University <b>Keywords:</b> Microwaves, VNIR, Phenology, AMSR-E, Convex Quadratic Model
2:20pm	<b>Comparisons of Global Land Surface Phenology from AVHRR, MODIS AND VIIRS DATA</b> Xiaoyang Zhang — South Dakota State University; Mark A. Friedl — Boston University; Yunyue Yu — NOAA <i>Satellite and Information Service (NESDIS)</i> , Center for Satellite Applications and Research (STAR)
2:40pm	<b>Potential for Expanding the Near Real Time ForWarn Regional Forest Monitoring System to Include Alaska</b> Joseph P. Spruce — Computer Sciences Corporation; William W. Hargrove — USDA Forest Service; Gerald E. Gasser — Lockheed Martin Civil Programs; James C. Smoot, Philip D. Kuper — Computer Sciences Corporation <b>Keywords:</b> Forest Disturbance Monitoring, Near Real Time, Early Warning System, MODIS NDVI, Alaska
3:00pm	Break
<b>Wednesday, May 21</b>	<b>Oral Session: Movements and Connectivity in Landscapes</b> Chair: Andrew Shirk, University of Washington
<b>Room 4:</b>	<b>KUSKOKWIM EAST</b>
1:00pm	<b>Telecoupling of Mangoes and Mangroves: Migration of <i>Apis dorsata</i> in the Ganges Basin</b> Marufa Akther, Md Saiful Khan — Lakehead University <b>Keywords:</b> Telecoupling, <i>Apis dorsata</i> , Ganges Basin, Honey Bee Migration
1:20pm	<b>Empirical Validation of Landscape Resistance Models: Insights From the Greater Sage-grouse (<i>Centrocercus urophasianus</i>)</b> Andrew Shirk — University of Washington; Michael A. Schroeder — Washington State Department of Fish & Wildlife; Leslie A. Robb — Independent Scientist; Samuel Cushman — USDA Forest Service <b>Keywords:</b> <i>Centrocercus urophasianus</i> , Gene Flow, Validation, Lek, Resistance

1:40pm	<b>Assessing the Comparability of Landscape Connectivity Maps: An Experimental Approach</b> James Watling, Allison A. Benscoter — University of Florida; Laura A. Brandt — U.S. Fish & Wildlife Service; Carolina Speroterra, David Bucklin — University of Florida <b>Keywords:</b> Connectivity, Landscape, Circuit Theory, Least Cost Paths, Resistance
2:00pm	<b>Corridor Design Using Geomorphometric Parameters on Regional Scale</b> Ricardo Sartorello, Julia C. Assis — University of Sao Paulo; Milton C. Ribeiro — UNESP; Sueli A. Furlan — University of Sao Paulo <b>Keywords:</b> Connectivity, Simulation, Brazilian Atlantic Forest, Relief
2:20pm	<b>Functional Connectivity of Restored Wetlands in the Missouri River Flood Plains</b> Ashley VanderHam, Michelle Hellman — Nebraska Cooperative Fish and Wildlife Research Unit, University of Nebraska-Lincoln
2:40pm – 3:00pm	<b>The Pace of Species Exposure to Climate Change</b> Josep Serra-Diaz, Janet Franklin — Arizona State University; Frank Davis — UC Santa Barbara; Alexandra Syphard — Conservation Biology Institute; Helen Regan — UC Riverside <b>Keywords:</b> Conservation Biogeography, Global Change, Climate Change, Climate Velocity, Exposure

<b>Wednesday, May 21</b>	<b>Oral Session: Urban Landscape Ecology I</b> Chair: Weiqi Zhou, Chinese Academy of Sciences
<b>Room 5:</b>	<b>BOARDROOM #311</b>
1:00pm	<b>The Flowering Phenophase Response of Early Spring Herb to the Urbanization Process in Beijing</b> Qing Chang, Jing Wang — China Agricultural University <b>Keywords:</b> Flowering Phenology, Urbanization Gradient, Early Spring Herb, Urban Heat Island (UHI)
1:20pm	<b>Relationships Between Land Cover and Surface Urban Heat Island: Seasonal Variability and the Effects of Spatial and Thematic Resolution of Land Cover Data</b> Weiqi Zhou, Yuguo Qian — State Key Laboratory of Urban and Regional Ecology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences <b>Keywords:</b> Urban Landscape, Land Use/Land Cover, Scale Effect, Urban Heat Island, Remote Sensing
1:40pm	<b>Within and Among Patch Variability in Patterns of Insect Herbivory in Response to Forest Fragmentation</b> Dorothy Maguire, Elena M. Bennett, Christopher M. Buddle — McGill University, Department of Natural Resource Sciences <b>Keywords:</b> Forest Fragmentation, Herbivory, Ecosystem Process, Canopy, Insects
2:00pm	<b>Stand to Landscape Level ANPP: Using Tree-cores and Disturbances to Model Forest Growth Patterns</b> Alec M. Kretchun — Portland State University; E L. Loudermilk — USDA Forest Service; Robert M. Scheller — Portland State University; Matthew D. Hurteau, Soumaya U. Belmecheri — Pennsylvania State University <b>Keywords:</b> ANPP, Tree Growth, Drought, Tree Ring, LANDIS-II
2:20pm	<b>Heat-related Mortality for Different Function Areas of Beijing</b> Qinghua Sun — Institute of environmental health and related product safety, China CDC; Ganlin Huang — Beijing normal University; Tiantian Li — Institute of environmental health and related product safety, China CDC <b>Keywords:</b> Heat-related Mortality, Regional Variation, Exposure-Response Relationship
2:40pm – 3:00 pm	<b>Multi-scale Effects of Exurban Development on Birds at Protected and Unprotected Sites: An Application of an Occupancy Model Accounting for False Positive and False Negative Detections</b> Paige F. Barlow, Michael J. Conroy, Jeffrey Hepinstall-Cymerman — University of Georgia <b>Keywords:</b> Occupancy Modeling, False Positive Detection, Exurban Development, Forest Birds

<b>Wednesday, May 21</b>	<b>Oral Session: Simulations and Model Predictions of Landscapes II</b> Chair: David Lieske, Mount Allison University
<b>Room 6:</b>	<b>BOARDROOM #308</b>
1:00pm	<b>Combined Influence of Landscape Composition and Nutrient Inputs on Lake Trophic Structure</b> Betty Kreakie, Bryan Milstead, Jeff Hollister — US EPA <b>Keywords:</b> Chlorophyll a, Trophic State, Random Forest, National Lake Assessment
1:20pm	<b>Developing a Standardized Spring Index for Tracking Geographically Variant Phenological Response to Climate Change</b> Liang Liang — University of Kentucky <b>Keywords:</b> Phenology, Landscape Phenology, Geographic Variation, Climatic Change, Growth Efficiency
1:40pm	<b>Management and Climate Change in Coastal Oregon Forests: The Panther Creek Watershed as a Case Study</b> Megan Creutzburg, Robert M. Scheller, Melissa S. Lucash — Portland State University; Stephen D. LeDuc, Mark G. Johnson — Environmental Protection Agency <b>Keywords:</b> Forests, Simulation Modeling, Landscape Ecology, LANDIS-II
2:00pm	<b>Seasonal Changes in Core Wetland Connectivity for a Threatened Freshwater Turtle in Southern Ontario</b> Amy Mui, Yuhong He, Marie-Josée Fortin — University of Toronto <b>Keywords:</b> Connectivity, Remote Sensing, Circuit Theory, Wetland, Seasonal
2:20pm	<b>Differential Life Stage Niche Modelling: Can We Construct Species Fitness Landscapes From Species Distribution Models?</b> Thomas Edwards — U.S. Geological Survey; Jacob R. Gibson — Utah State University; Gretchen G. Moisen, Tracey S. Frescino — US Forest Service; Niklaus E. Zimmermann — Swiss Federal Research Institute WSL <b>Keywords:</b> Climate Change, Species Distribution Models, Life Stages, Conifers
2:40pm – 3:00pm	<b>Testing Landscape Genomic Methods for Detecting Loci Under Selection Across Spatially Complex Landscapes</b> Brenna Forester — Duke University; Matthew R. Jones — University of Montana; Stéphane Joost — Ecole Polytechnique Fédérale de Lausanne; Erin L. Landguth — University of Montana; Jesse R. Lasky — Columbia University <b>Keywords:</b> Adaptive Genetic Variation, Computer Simulations, Landscape Configuration, Landscape Genomics, Spatial Selection Gradients



# WEDNESDAY, MAY 21 3:20 PM – 5:00 PM

<b>Wednesday, May 21</b>	<b>Oral Session: Landscape Changes and Scenarios</b> Chair: Falk Huettmann, University of Alaska Fairbanks
<b>Room 1:</b>	<b>SUSITNA ROOM</b>
3:20pm	<b>Land-use History (1840-2005) and Physiography as Determinants of Southern Boreal Forests</b> Yan Boucher, Pierre Grondin, Isabelle Auger — Quebec's ministry of natural resources <b>Keywords:</b> Fire, Logging, Historical Ecology, Disturbances Legacy, Anthropogenic Impact
3:40pm	<b>Relationships Between Forest Tree Biodiversity and Invasive Plant Success Across the Southeastern United States</b> Kevin Potter — North Carolina State University; Christopher M. Oswalt — USDA Forest Service; Basil Iannone — Purdue University; Sonja Oswalt — USDA Forest Service; Songlin Fei — Purdue University <b>Keywords:</b> Biodiversity, Invasive Species, Forest Health, Forest Ecology, Evolution
4:00pm	<b>Mapping Historical Ecosystem Service Tradeoffs in an Interior Columbia Floodplain</b> Stephanie Tomscha, Sarah E. Gergel — University of British Columbia <b>Keywords:</b> Aerial Photography, Floodplain, Agriculture, Topographic Position, Urbanization
4:20pm	<b>The Relationship at a Fine Scale of Coniferous Land Cover and Climate Trends in an Arid, Mountainous Watershed</b> Jonathon Donald, Scott Bassett — University of Nevada, Reno <b>Keywords:</b> Vegetation Change, Trend Analysis, Climate, Landscape Change, Arid Landscapes
4:40pm	<b>Is There any Practical Difference Between Resilience and Sustainability? A Spatial Test of Concepts</b> Sarah Gergel, Stephanie A. Tomscha, Ian MS Eddy — University of British Columbia <b>Keywords:</b> Resilience, Sustainability, Landscape Change, Riparian Forests, Historical Aerial Photography
5:00pm	<b>Links Between The Great Recession and Urban Plant Diversity</b> Julie Ripplinger, Janet Franklin — Arizona State University <b>Keywords:</b> Urban, Biodiversity, Vegetation, Disturbance, Socioeconomics
5:20pm	<b>From Landowners to Landscapes: Landscape Context and Perceived Ecology Influence Land Management Decisions</b> Monica Dorning — University of North Carolina at Charlotte; Ross K. Meentemeyer — North Carolina State University <b>Keywords:</b> Human-Environment Relationships, Landscape Change
5:40pm – 6:00pm	<b>Conservation Development: How Does This Alternative to Rural Sprawl Contribute to Protected Lands in Colorado?</b> Miranda H. Mockrin — RMRS, Forest Service; Sarah E. Reed — Wildlife Conservation Society and Colorado State University; Liba Pejchar — Colorado State University

<b>Wednesday, May 21</b>	<b>SPECIAL SYMPOSIUM 10 continued:</b> <b>Impacts of Global Change: Linking Across Scales II</b> Chair: Lynn Sweet, University of California–Santa Barbara
<b>Room 2:</b>	<b>YUKON ROOM</b>
3:20pm	<b>Scaling from Molecules to Landscapes: Using Community–level Models to Map Current and Future Spatial Patterns of Adaptive Genetic Variation</b> Matthew Fitzpatrick, Stephen Keller — University of Maryland Center for Environmental Science <b>Keywords:</b> Landscape Genetics, Evolution, Traits, Intraspecific Variation, Genomics
3:40pm	<b>Locally–measured vs. Remotely–derived: The Most Effective Predictor Variables in Stream Biodiversity Models</b> Miriam Johnston, Matthew C. Fitzpatrick, Andrew J. Elmore — University of Maryland Appalachian Laboratory; Karel Mokany — CSIRO Ecosystem Sciences; Steven M. Guinn, Matthew D. Lisk — University of Maryland Appalachian Laboratory <b>Keywords:</b> Biogeography, Biodiversity, Community–Level Models, Scaling, Stream
4:00pm	<b>Cross–scale Linkages Among Wetland Management and Climate: A Connectivity and Habitat Quality Conflict</b> Kerry L. Griffis–Kyle, Nancy E. McIntyre — Texas Tech University <b>Keywords:</b> Connectivity, Wetland, Management
4:20pm	<b>Estimating Effects of Land Cover at Multiple Scales on Habitat for the Endangered Arroyo Toad</b> Michael Treglia — Applied Biodiversity Science Doctoral Program, Department of Wildlife and Fisheries Sciences, Texas A&M University; Gerard T. Kyle — Human Dimensions of Natural Resources Laboratory, Department of Recreation, Park and Tourism Sciences, Texas A&M University <b>Keywords:</b> Conservation Planning, Multi–Scale Conservation, Amphibians, Structural Equation Modeling, Watersheds
4:40pm	<b>Dynamic Pressures, Static Conservation: The Effectiveness of Forest Conservation Scenarios Under Changing Regional Timber Demand</b> Amanda Swearingen — Nelson Institute, University of Wisconsin Madison; Janet Silbernagel, Jessica Price — University of Wisconsin Madison; Nicholas Miller, Randy Swaty, Kristina Nixon — The Nature Conservancy <b>Keywords:</b> Forest Management, Conservation, Timber Policy
5:00pm	<b>Pushing Broad–scale Species Distribution Models Down to More Manager–relevant Scales of Operation Under Climate Change</b> Louis Iverson, Anantha M. Prasad — Northern Research Station, US Forest Service; Stephen N. Matthews — Northern Research Station, US Forest Service and School of Environment and Natural Resources, Ohio State University <b>Keywords:</b> Climate Change, Suitable Habitat, Species Distribution Model, Range Shifts, Models

<b>Wednesday, May 21</b>	<b>SPECIAL SYMPOSIUM 11: Integrating Measurements and Models of Terrestrial and Aquatic Ecosystems Phenology I</b> Chair: Jiafu Mao, Oak Ridge National Laboratory
<b>Room 3:</b>	<b>KUSKOKWIM WEST</b>
3:20pm	<b>Utility and Behavior of National Phenoregions for Characterization of Vegetation, Habitat and Seasonal Changes</b> William Hargrove — USDA Forest Service; Forrest M. Hoffman, Jitendra Kumar — Oak Ridge National Laboratory; Serra J. Hoagland — USDA Forest Service; Yasemin Erguner-Baytok — Oak Ridge National Laboratory <b>Keywords:</b> Clustering, Start of Spring, Habitat, NDVI, MODIS
3:40pm	<b>A Diagnostic and Predictive Tool for Landscape Fire Regimes</b> Steven Norman — USDA Forest Service; Jitendra Kumar — US DOE Oak Ridge National Laboratory; William W. Hargrove — USDA Forest Service <b>Keywords:</b> Wildland Fire, Cluster Analysis, Phenology, Monitoring, Hotspots
4:00pm	<b>Exploring Urban Land Surface Phenologies Using Web Enabled Landsat Data (WELD)</b> Geoffrey Henebry, Cole P. Krehbiel, Jessica J. Walker — South Dakota State University; Kirsten M. deBeurs — University of Oklahoma <b>Keywords:</b> Great Plains, Cities, Phenology, Landsat
4:20pm	<b>Potential of Pest and Host Phenological Data in the Attribution of Regional Forest Disturbance Detection Maps According to Causal Agent</b> Joseph Spruce — Computer Sciences Corporation; William W. Hargrove, Steven P. Norman, William M. Christie — USDA Forest Service <b>Keywords:</b> Forest Disturbance, Phenology, MODIS NDVI, Near Real Time Monitoring

<b>Wednesday, May 21</b>	<b>Oral Session: Urban Landscape Ecology I</b> Chair: Weiqi Zhou, Chinese Academy of Sciences
<b>Room 5:</b>	<b>BOARDROOM #311</b>
3:20pm	<b>Patch or Mosaic: Bat Activity Responds to Fine-scale Urban Heterogeneity in a Medium-sized City in the United States</b> Han Li, Kenneth T. Wilkins — Baylor University <b>Keywords:</b> Urban Heterogeneity, Bats, Distribution Patterns, Socioeconomic Heterogeneity
3:40pm	<b>An Analysis of Landscape Ecology, Urban Planning, Landscape Architecture and Urban Sustainability</b> Barbara Andersen — Ball State University <b>Keywords:</b> Urban, Cities, Landscape Architecture, Urban Planning, Sustainability
4:00pm	<b>Composition, Structure, and Spatial Patterning of Urban Residential Yards</b> Emily Minor, Magaly Franco — University of Illinois at Chicago; Amelie Davis, Meimei Lin — Miami University <b>Keywords:</b> Urban Ecology, Residential Yard, Human-Environment Interactions
4:20pm	<b>Regulation and Consequences of Parcel-scale Microclimate Variation in Phoenix, AZ</b> Darrel Jenerette — University of California Riverside; Sharon Harlan — Arizona State University; Alex Buyantuyev — State University of New York Albany; William Stefanov — Lyndon B Johnson Space Center; Juan Decalet-Barreto — Arizona State University <b>Keywords:</b> Urban, Temperature, Airborne, Vulnerability
4:40pm	<b>Resident Coyotes in Calgary, Alberta: Seasonal Functional Connectivity in Cityscapes</b> Karina Lamy, Alessandro Massolo — University of Calgary

**Keywords:** Urban, Ecology, Conservation Planning, Canada

<b>Wednesday, May 21</b>	<b>Oral Session continued: Simulations and Model Predictions of Landscapes III</b> Chair: David Lieske, Mount Allison University
<b>Room 6:</b>	<b>BOARDROOM #308</b>
3:20pm	<b>Combined Effects of Mortality and Landscape Resistance on Landscape Genetic Diversity</b> Karl Jarvis — Northern Arizona University; Samuel A. Cushman — USDA Forest Service; Brett G. Dickson — Conservation Science Partners, Northern Arizona University; Jason A. Wilder, Paul Beier — Northern Arizona University <b>Keywords:</b> Landscape Genetics, Simulation Modeling, Wildlife Movement, Road Ecology, Dispersal
3:40pm	<b>Projected Habitat Connectivity in Prairie Pothole Landscapes Under Climate Change</b> Chris Wright — Geospatial Sciences Center of Excellence, South Dakota State University; Ganming Liu — School of Earth Sciences, Ohio State University; Frank Schwartz — School of Earth Sciences, Ohio State University
4:00pm	<b>The Future of Gopher Tortoise: Habitat Modeling and the Role of Private Landowners</b> Rachel L. Bormann, Jeffrey A. Hepinstall-Cymerman, Clinton T. Moore — University of Georgia; Lora L. Smith — Joseph W. Jones Ecological Research Center; Matt J. Elliott — Georgia Department of Natural Resources <b>Keywords:</b> Gopher Tortoise, Maxent, Habitat Model, Privately-Owned Land, Incentive Program
4:20pm	<b>Large Area Landscape Mapping Through a Method of Chain Standardization of Landsat Images</b> Qingmin Meng — Department of Geosciences, Mississippi State University <b>Keywords:</b> Remote Sensing, Land Cover, Support Vector Machine, Landsat
4:40pm	<b>Quantifying Climatically Driven Ecological Change: A Simulation Study Using the ED2 Model</b> Paul Duffy — Neptune and Company Inc.; Michael Dietze — Boston University <b>Keywords:</b> Hierarchical, Ecology, Space-time, Uncertainty, Bayesian
5:00pm	<b>Abundance Models Improve Systematic Conservation Planning in the Pacific Northwest</b> Dennis Jongsomjit, Sam Veloz, Leo Salas, Nathan Elliott, Doug Moody, Sherie Michale, Michael Fitzgibbon, Grant Ballard — Point Blue Conservation Science; Bob Altman — American Bird Conservancy; John Alexander — Klamath Bird Observatory <b>Keywords:</b> Species Distribution Models, Prioritization, Conservation Planning, Abundance Models
5:20pm – 5:40pm	<b>Economic Trophic Levels: Implications for Sustainable Landscapes</b> Brian Czech — Center for the Advancement of the Steady State Economy <b>Keywords:</b> Economic Model, Sustainability, Carrying Capacity, Global Simulations

# POSTER PRESENTATIONS

**POSTER SOCIAL:** Monday, April 19<sup>th</sup>, 5:30 – 7:30 p.m., Howard Rock Ballroom

Posters will be located in the Howard Rock Ballroom starting on Monday at 5:30 p.m. until Wednesday noon. Posters will only be attended by their authors on Monday night during the Poster Social. Posters are listed in alphabetical order by last name of the presenting author.

1	<b>Rich Lizards: How Affluence, Cars, and Land Cover Influence the Diversity and Abundance of Desert Reptiles Persisting in Phoenix, AZ</b> Jeffrey W. Ackley, Jianguo Wu, Michael Angilletta, Soe Myint, Brian Sullivan — Arizona State University
2	<b>Seascape Ecology of Nest Site Selection by White-bellied Sea Eagles</b> Margaret E. Andrew, Jill M. Shephard — Murdoch University
3	<b>The Richness – Heterogeneity Relationship at the Landscape Scale: Linear, Unimodal, or Both?</b> Avi Bar-Massada — University of Haifa
4	<b>Macrophytes Structural Complexity Explains Zooplankton Communities Structure Variation and Functional Diversity</b> Patricia Bolduc, Andrea Bertolo, Bernadette Pinel-Alloul, Philippe Massicotte — Université du Québec à Trois-Rivières
5	<b>Cumulative Effects of Landscape Change on the Abundance and Distribution of Furbearers in Central British Columbia</b> Chris J. Johnson, Mike P. Gillingham — University of Northern BC; Eric C. Lofroth — BC Ministry of Environment
6	<b>The Effects of Human Pressures on Spatial Patterns of Wildfire in British Columbia: A Preliminary Analysis of Road Effects on Ignition Points</b> Philip E. Camp, Meg A. Krawchuk — Simon Fraser University
7	<b>Integrated Approaches to Assess Community Perceptions of Ecosystem Goods and Services in the Kanchenjunga Landscape of the Eastern Himalayas</b> Annesha Chowdhury — ATREE
8	<b>Conservation of Local Biodiversity Through Increased Connectivity in Agricultural Landscapes, the Case of <i>Ocotea uxpanapana</i> an Endemic Vulnerable Tree</b> Marinés de la Peña-Domene, Emily Minor, Henry F. Howe — University of Illinois at Chicago
9	<b>Building the Ecological Security Shelter Zone Based on Landscape Sustainability in Southwest China</b> Rencai Dong, Siyuan Li, Yan Yan — Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences
10	<b>Evaluating Matrix Resistance to Generate Ecological Functional Corridors in the Brazilian Atlantic Forest</b> Juliana S. dos Santos — INPE; John W. Ribeiro, Milton C. Ribeiro, Bernardo FT Rudorff — UNESP/Rio Claro
11	<b>Teaching Critical Evaluation and Synthesis of Sustainability Concepts: Linking Landscape Change and Lifecycle Approaches</b> Ian MS Eddy, Sarah E. Gergel — University of British Columbia
12	<b>The Impact of Urbanization and Landuse Change on Non-point Source Pollution Load in Junshan basin</b> Zheng Luo — Nanchang University; Qun Xu — Jiangxi Institute of Environment Science
13	<b>Evaluation of the Management of Two Community Forests in the Eastern Region Cameroon (ASDEBYM and CODECBOM) Under the FLEGT</b> NSOM ZAMO Annie-Claude, MALA William — Université Yaoundé I
14	<b>Local and Landscape Factors Driving Tropical Anuran Communities in Temporary Ponds</b> Mauricio A. Gomes — Universidade Federal do Rio de Janeiro; Carlos F. Rocha — Universidade do Estado do Rio de Janeiro; Marcus V. Vieira — Universidade Federal do Rio de Janeiro
15	<b>The Impacts of Landscape and Climate Change on Grassland Bird Population Trends in North Dakota</b> Brett J. Goodwin — Department of Biology, University of North Dakota; Bradley C. Rundquist — Department of Geography, University of North Dakota

16	<b>Human Vulnerability to Climate Change and Telecoupled Processes in Southeast Mexico</b> Lisa E. Green — Utah State University; Birgit I. Schmook — El Colegio de la Frontera Sur-Chetumal
17	<b>Mapping High Topographic Relief Croplands for Cellulosic Biofuel Crop Developments in Eastern Nebraska</b> Yingxin Gu — ASRC InuTeq, Contractor to USGS Earth Resources Observation and Science (EROS) Center; Bruce K. Wylie — USGS EROS
18	<b>Meteorologic Conditions Associated With Increased Incidence of West Nile Virus Disease in the United States, 2004–2012</b> Micah B. Hahn — Centers for Disease Control and Prevention (CDC)/National Center for Atmospheric Research (NCAR); Andrew J. Monaghan, Mary H. Hayden — National Center for Atmospheric Research (NCAR); Rebecca J. Eisen, Mark J. Delorey — Centers for Disease Control and Prevention (CDC)
19	<b>Using Graph Theory to Assess the Impacts of Certification on Landscape Connectivity of Coffee Farms in Brazil</b> Elisa Hardt — Institute of Agricultural and Forest Management and Certification – Imaflora; Edoardo Borgomeo, University of Oxford; Rozely F. dos Santos, University of São Paulo – USP; Luís Fernando G. Pinto — Institute of Agricultural and Forest Management and Certification – Imaflora; Jean Paul Metzger — University of São Paulo – USP; Gerd Sparovek, University of São Paulo – ESALQ/USP
20	<b>The Unseen Iceberg: Plant Roots in Arctic Tundra</b> Colleen M. Iversen, Victoria L. Sloan — Oak Ridge National Laboratory; Paddy F. Sullivan — University of Alaska, Anchorage; Eugénie S. Euskirchen — University of Alaska, Fairbanks; Andrew D. McGuire — U.S. Geological Survey; R J. Norby, A P. Walker, J. M. Warren, S D. Wullschlaeger — Oak Ridge National Laboratory
21	<b>Multi-Scale Factors Affecting Herpetofauna of Aquatic Systems in a Managed Forest</b> Bethany Johnson, Robert Baldwin, Kyle Barrett — Clemson University; Jessica Homyack, Weyerhaeuser Company
22	<b>Stand to Landscape Level ANPP: Using Tree-cores and Disturbances to Model Forest Growth Patterns</b> Alec M. Kretchun — Portland State University; E. L. Loudermilk — USDA Forest Service; Robert M. Scheller — Portland State University; Matthew D. Hurteau, Soumaya U. Belmecheri — Pennsylvania State University
23	<b>Forest Fragments in an Urban Area in Brazil</b> Lucas P. Angelini, Federal University of Mato Grosso (UFMT)); Nadja G. Machado, (IFMT and UFMT); Marcelo S. Biudes (UFMT); Christopher MU Neale, Thomas C. Edwards — Utah State University
24	<b>Can Bird Community Structure be Explained From Simple Forest Geometric Measures?</b> Charles A. Martin, Raphaël Proulx — Université du Québec à Trois-Rivières
25	<b>Matrix Effects Revisited</b> Lucas McEachron, Robert Fletcher, Emily Williams, Jennifer Seavey — University of Florida; Anna D. Chalfoun — Wyoming Cooperative Fish and Wildlife Research Unit
26	<b>Water for Electricity: Impacts of Habitat Degradation and Loss of Connectivity on Freshwater Mussels</b> Alan R. Johnson, Snehal S. Mhatre — Clemson University
27	<b>Evaluating Tradeoffs Among Carbon, Wildlife Habitat, and Forest Products Across Pacific Northwest Forests</b> Anita T. Morzillo, Blair Csuti, Mark E. Harmon — Oregon State University; Jeff Kline — US Forest Service; Brenda McComb, Keith Olsen, Rob Pabst, Frank Schneckeburger — Oregon State University; Tom Spies — US Forest Service
28	<b>Vegetation Characteristics and Topsoil Under Cocoa Culture, Bahia – Brazil</b> Paulo V. Silva, Thiara H. Almeida, Paulo F. Meliani — Estate University of Santa Cruz; Andre B. Negreiros — Federal University of São João del Rei
29	<b>Roadkill of Wildlife on the Road to the Coast of Tabasco, Mexico</b> Coral J. Pacheco Figueroa, Ruth C. Luna Ruiz, Juan de Dios Valdez Leal, Eduardo J. Moguel Ordoñez, Lilly Gama — UJAT-DACBio; Elías Gordillo Chavez; Ena E. Mata Zayas; Louis J. Rangel Ruiz; Stefan L. Arriaga Weiss
30	<b>Incorporating Intra-patch Movement Costs Into Estimates of Habitat Availability in Landscapes</b> Jayme A. Prevedello — University of São Paulo; Renato Crouzeilles — Federal University of Rio de Janeiro; Leandro R. Tambosi — University of São Paulo

31	<b>The Habitat Geometry Hypothesis: A New Explanation for Differential Species Sensitivity to Habitat Loss</b> Jayme A. Prevedello — University of São Paulo; Renato Crouzeilles, Mauricio Almeida-Gomes — Federal University of Rio de Janeiro
32	<b>Interaction Between Human Activity and Urban Forest Landscape Connectivity: Combining Graph Theory and Geographical Detector Model</b> Yin Ren, Shudi Zuo, Yunjian Luo — Institute of Urban Environment Chinese Academy of Sciences
33	<b>Effects of Fire, Invasive Species and Illegal Grazing on Asian Elephant Habitat Use</b> Christie L. Sampson — Clemson University; Peter Leimgruber — Smithsonian Institution; David Tonkyn — Clemson University
34	<b>Modeling Plant–Environment Interactions in the Mojave Desert: A Species–specific Approach</b> Sarah M. Schmid — University of Nevada, Reno
35	<b>Forest Inventory Analysis: The Nation’s Forest Census Provides Data for Many Uses</b> Bethany K. Schulz — US Forest Service Pacific Northwest Research Station
36	<b>Quantifying Introduced Plant Species Occupancy in Forest Ecosystems</b> Bethany K. Schulz — US Forest Service Pacific Northwest Research Station
37	<b>Long–Term Monitoring of Spatial Differences in Species Recovery after Hurricane Hugo on South Carolina Coastal Forests</b> Bo S. Song, Thomas M. Williams — Clemson University, Baruch Institute of Coastal Ecology and Forest Science; Carl C. Trettin — USFS, Center for Forested Wetlands; Charles A. Gresham, Clemson University — Baruch Institute of Coastal Ecology and Forest Science
38	<b>Assessments of Carbon Stock Hotspots in Nicaragua and Costa Rica</b> Moritz S. Schmid — Takuvik Joint International Laboratory, Laval University; Andrew Baltensperger — EWHALE Lab, Department of Biology and Wildlife, University of Alaska Fairbanks; Jordan Grigor — Takuvik Joint International Laboratory, Laval University; Falk Huettmann — EWHALE Lab, Department of Biology and Wildlife, University of Alaska Fairbanks; Mark Spangler — Maderas Rainforest Conservancy
	<b>Satellite Monitoring of Plant Phenology: Decadal Norms, Anomalies, and Spectral Unmixing</b> Joseph O. Sexton, Jyoteshwar Nagol — Global Land Cover Facility, Department of Geographical Sciences, University of Maryland; Thomas C. Edwards, Jr. — U.S. Geological Survey, Utah Cooperative Fish and Wildlife Research Unit, & Utah State University, Logan, UT
39	<b>Influence of Ownership on Historic Fire and Forest Management and Forest Landscape change (1935–1955) in the Eastside Cascades of Oregon: A Coupled Human and Natural Systems Analysis (CHANS)</b> Michelle Steen-Adams, Mark D. Adams — University of New England; Dale Weyermann, Susan Charnley, Thomas A. Spies — USDA Forest Service
40	<b>Popular Warm Islands in the North: Rare and Invasive Plants at Hot Springs</b> Lisa Strecker — University of Alaska Fairbanks
41	<b>Innovative Instruments for Managing Urban Ecology and Sustainable Urban Development: India Case Study</b> Teki Surayya — Adikavi Nannaya Univeristy, Rajahmundry-533105, India
42	<b>Geographic Object–Based Image Analysis for Detection and Quantification of Nonindustrial Forest Harvests in the Western Upper Peninsula of Michigan, USA</b> Riccardo Tortini, Audrey L. Mayer — Michigan Technological University; Pieralberto Maianti — Politecnico di Milano
43	<b>Developing Monitoring Standards to Support Regional–scale Freshwater Temperature Trends and Forecasts</b> E. Jamie Trammell — University of Alaska, Anchorage; Rebecca Shaftel — Alaska Natural Heritage Program; Sue Mauger — Cook Inletkeeper; Marcus Geist — Alaska Natural Heritage Program
44	<b>Richness and Diversity of Birds and Their Relationship with Characteristics of Landscape, in Tabasco, Mexico</b> Juan D. Valdez Leal, Elías J. Gordillo Chavez, Coral J. Pacheco Figueroa, Lilly Gama — UJAT–DACBiol; Eduardo J. Moguel Ordoñez (UJAT–DACBiol); Stefan L. Arriaga Weiss; Ena E. Mata Zayas; Louis J. Rangel Ruiz
45	<b>São Mateus River Estuary and its Abrupt Changes in the Coastal Landscape</b> Cláudia C. Vale, Thayana C. Wanderley — Universidade Federal do Espírito Santo
46	<b>Exploring Annual Dynamic of Ecological–geographical Boundary Using Spatial Wavelet Transformation</b> Zhiqiang Zhao, Shuangcheng Li — Peking University; Meng Cai — China’s National Center for Climate Change Strategy and International Cooperation; Yanglin Wang — Peking University

# AWARDS

## US-IALE Foreign Scholar Travel Award Program

Through the Foreign Scholar Travel Award Program, US-IALE annually provides travel funds to two landscape ecologists from foreign countries to present their research at the annual meeting. The FSTA program is not only an outreach effort, but also a mechanism that fosters international exchange about advances in landscape ecology and helps build collaborative relationships.

**Special thanks to IALE International for providing support for two additional Foreign Scholar Travel Awards (FSTA) to early career scientists!**

Thank you to these companies who provided publications or software for the Foreign Scholar Travel Award silent auction. The proceeds from the silent auction conducted at each annual meeting support these travel grants.

- ❖ Clark Labs IDRISI Selva Software
- ❖ Springer
- ❖ Island Press
- ❖ John Hopkins University Press
- ❖ Sinauer Associates

## US-IALE Foreign Scholar Travel Award Recipients

- \* **Johannes Rüdiger, Austria, Institute of Ecology, University of Innsbruck**  
**Presentation:** Distance to nature – a feasible environmental indicator and its relation to bird species richness in Austria / **Monday, Biodiversity and Wildlife in Landscapes I, 9:40 AM**
- \* **Luciana Signorelli Faria Lima, Brazil, Departamento de Ecologia, Universidade Federal de Goiás**  
**Presentation:** Factors affecting landscape occupancy for Hylidae tree frogs in the Brazilian Cerrado / **Monday, Tropical Landscape Ecology, 10:00 AM**
- \* **Leandro Reverberi Tambosi, Brazil, Instituto de Biociências, Universidade de São Paulo**  
**Presentation:** Restoration optimization using a spatially explicit approach / **Monday, Tropical Landscape Ecology, 10:20 AM**
- \* **Elisa Hardt Alves Vieira, Brazil, Institute of Agricultural and Forest Management and Certification – Imaflora**  
**Presentation:** Using graph theory to assess the impacts of certification on landscape connectivity of coffee farms in Brazil / **Monday, Poster Session, 5:30 PM**

## US-IALE Student Travel Awards

Up to ten travel awards were made available to students to attend this year's US-IALE meeting with funding generously provided by **US-IALE** and **The Alaska Natural Heritage Program**. Ten students were selected by the US-IALE Awards Committee to receive these awards, which include up to \$500 for travel to the conference.

### 2014 Student Travel Awardees:

**Woubet Alemu, South Dakota State University**

**Christopher Bobryk, University of Missouri-Columbia**

**Marinés de la Peña-Domene, University of Illinois-Chicago**

**Monica Dorning, University of North Carolina-Charlotte**

**Huan Gu, University of Wisconsin-Madison**

**Margaret Massie, Oregon State University**

**Amy Mui, University of Toronto**

**Sarah Schmid, University of Nevada-Reno**

**Ian Seiferling, Université du Québec à Trois-Rivières**

**Douglas Shoemaker, North Carolina State University**



# AWARDS

## NASA-MSU Professional Enhancement Awards Program

The NASA-MSU Professional Enhancement Awards are made possible by the support from the National Aeronautics and Space Administration (NASA) and Michigan State University (MSU). This is the 17<sup>th</sup> consecutive year of the program. The selected students have opportunities to meet at a special dinner gathering, to learn the latest developments in landscape ecology, and to build professional networks with other conference attendees. Each year, approximately 20 awards (up to \$700 each) are given to the selected students to cover expenses associated with attending the annual conference of US-IALE. Applications are judged according to the merit of the applicants' abstracts, professional background, career goals, and financial needs. There are 15 awardees this year. The 2014 NASA-MSU Awards Committee consists of Jianguo (Jack) Liu (Chair), Garik Gutman (NASA), Shannon Davis (MSU), and Shuxin Li (MSU).

### NASA-MSU Awardees (Class of 2014)

<b>Name</b>	<b>Affiliation</b>
<b>Marufa Akther</b>	<i>Lakehead University, Canada</i>
<b>Caroline Curtis</b>	<i>University of Massachusetts - Amherst</i>
<b>Whalen Dillon</b>	<i>North Carolina State University</i>
<b>Lisa Green</b>	<i>Utah State University</i>
<b>Karl Jarvis</b>	<i>Northern Arizona University</i>
<b>Binbin Li</b>	<i>Duke University</i>
<b>Dorothy Maguire</b>	<i>McGill University, Canada</i>
<b>Alexis Maldonado</b>	<i>University of Central Florida</i>
<b>Katherine Renwick</b>	<i>Clemson University</i>
<b>Danica Schaffer-Smith</b>	<i>Duke University</i>
<b>Eric Taber</b>	<i>Pennsylvania State University</i>
<b>Stephanie Tomscha</b>	<i>University of British Columbia, Canada</i>
<b>Michael Treglia</b>	<i>Texas A &amp; M University</i>
<b>Hui Xu</b>	<i>University of Michigan</i>
<b>Hongbo Yang</b>	<i>Michigan State University</i>



With funding from NASA and Michigan State University (MSU), the program has supported more than 350 students from approximately 140 institutions worldwide since 1998 to present their research and interact with leading scientists and other attendees at meetings of US-IALE and IALE. It has also sponsored many symposia and workshops.



# SPONSORS & EXHIBITORS

★ *Please plan to stop by and visit with displays in the Atrium starting on Sunday afternoon through Wednesday afternoon.*

## Alaska Chapter of The Wildlife Society

## ECOSYSTEM LEVEL CONTRIBUTOR

Jerry Hupp  
2627 Ingra Street  
Anchorage, AK 99508  
Phone: 907-242-1140  
Email: twsalaska@gmail.com  
[www.wildlife.org/alaska](http://www.wildlife.org/alaska)



The Alaska Chapter was founded in 1971. It is a nonprofit organization of professional wildlife biologists dedicated to excellence in wildlife stewardship through science and education. Our Chapter is one of the largest in the country. We have over 200 members in state and federal agencies, academic institutions, non-governmental conservation organizations, and private industry.

## Alaska Coastal Rainforest Center

## ECOSYSTEM LEVEL CONTRIBUTOR

Allison Bidlack  
11120 Glacier Hwy  
Juneau, AK 99801  
Phone: 907-796-6269  
Email: allison.bidlack@uas.alaska.edu  
<http://acrc.alaska.edu>



The Alaska Coastal Rainforest Center at the University of Alaska Southeast builds science partnerships across the north Pacific temperate rainforest region. We facilitate the development of programs and infrastructure in support of transboundary ecosystem research, and we link community needs with applied science to drive local economic development and regional sustainability.

## Alaska Natural Heritage Program, University of Alaska Anchorage

## STUDENT TRAVEL SPONSOR

Tracey Gotthardt  
707 A Street  
Anchorage, AK 99501  
Phone: 907-786-6352  
Email: tagotthardt@uaa.alaska.edu  
<http://aknhp.uaa.alaska.edu>



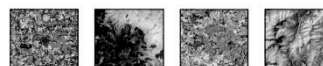
Our mission is to provide the scientific basis for effective biological conservation in Alaska. We collect, synthesize, and validate information on Alaska's animal and plant species of concern and their habitats, ecosystems of concern, and invasive species. We provide this information to government, business, land managers, scientists, conservation groups, and the public. Additionally, we help organizations develop conservation plans.

## ★ Clark Labs

## SUB CONTINENTAL LEVEL CONTRIBUTOR

Diane Sutter  
Clark University, 950 Main St.  
Worcester, MA 01610  
Phone: 508-793-7526  
Email: clarklabs@clarku.edu  
[www.clarklabs.org](http://www.clarklabs.org)

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Clark Labs produces the IDRISI geospatial software for monitoring and modeling the Earth system with special tools for analyzing time-series Earth Observation imagery. Since 1988, IDRISI has been used by professionals in a varied range of industries worldwide. The software is feature-rich, with nearly 300 modules for the analysis and display of spatial data.

## ConocoPhillips Alaska

## REGIONAL LEVEL CONTRIBUTOR

Natalie M. Lowman  
Phone: 907-263-4153  
Email: n.m.lowman@cop.com  
**www.alaska.conocophillips.com**



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## Ecological Wildlife Habitat Data Analysis for the Land- and Seascape (EWHALE)

Falk Huettmann, Ph.D.  
University of Alaska Fairbanks  
Fairbanks, AK 99775  
Phone: 907-474-7882  
Email: fhuettmann@alaska.edu  
**www.iab.uaf.edu, uaf-iab@alaska.edu**



*EWHALE Lab is located at the University of Alaska Fairbanks. It carries out large-scale assessments and investigations in Alaska and worldwide. It is the host of many graduate students and researchers, publishing cutting edge science and data projects relevant for a sustainable management of the Earth, the Ocean and the Atmosphere.*

## ★ Springer Science & Business Media

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## The People's Endowment/ University of Alaska Fairbanks (UAF)

Office of the Provost  
Fairbanks, AK 99775  
Phone: 907-474-7096  
Email: jahoppough@alaska.edu  
**www.uaf.edu/provost/peoples-endowment**

*The People's Endowment was established with the intent to provide a source of funds for projects that will improve UAF. Projects funded through the fund include the Arctic Gardeners, Midnight Sun Writer's Series, Permafrost Literary Journal, the Sikuliaq project, Ethics Bowl, Innocent Eye: The Africa Photographs of Adrina Knutson, The Art of Nunavut-Inuit Tapestries from Baker Lake and Beyond, The Origins of Peace Making Circles Video, and many more.*

## ★ U.S. Forest Service, Research & Development

## CONTINENTAL LEVEL CONTRIBUTOR

Amy Daniels  
201 14th St SW, Mailstop #1115  
Washington, DC 20024-1115  
Phone: 703-605-5251  
Email: adaniels02@fs.fed.us  
**www.fs.fed.us/research/landscape-science**



*Forest Service Landscape Science cuts across research disciplines and organizational divisions to understand the drivers and implications of landscape change across land ownerships; to produce spatial data and models that evaluate management alternatives; and to highlight when, where and how partnerships are indispensable to achieving shared land management objectives.*



## **Geospatial Sciences Center of Excellence (GSCE) at South Dakota State University**

**<http://globalmonitoring.sdstate.edu>**

GSCE is a research and educational collaboration that combines the unique strengths of South Dakota State University and the USGS Earth Resources Observation and Science (EROS) center. *Our*

*mission* is to address fundamental questions about the functioning of the biosphere and its implications for the environment and human welfare in a rapidly-changing world.

Faculty research interests include quantitative remote sensing, land cover and land use change, geography, hydrology, ecological modeling, landscape ecology, climate change, phenology, urban dynamics, and fire science. Our substantial research portfolio includes funding support from NASA, NSF, NIH, NOAA, USAID, USGS, and more. Computational resources at the GSCE are outstanding and include 2PB in active storage across >25 servers.

### **Faculty at SDSU/GSCE**

**Mark Cochrane**

**Niall Hanan**

**Geoff Henebry (co-director)**

**David Roy**

**Mike Wimberly**

**Xiaoyang Zhang**

### **Faculty at USGS/EROS**

**Alisa Gallant**

**Kevin Gallo**

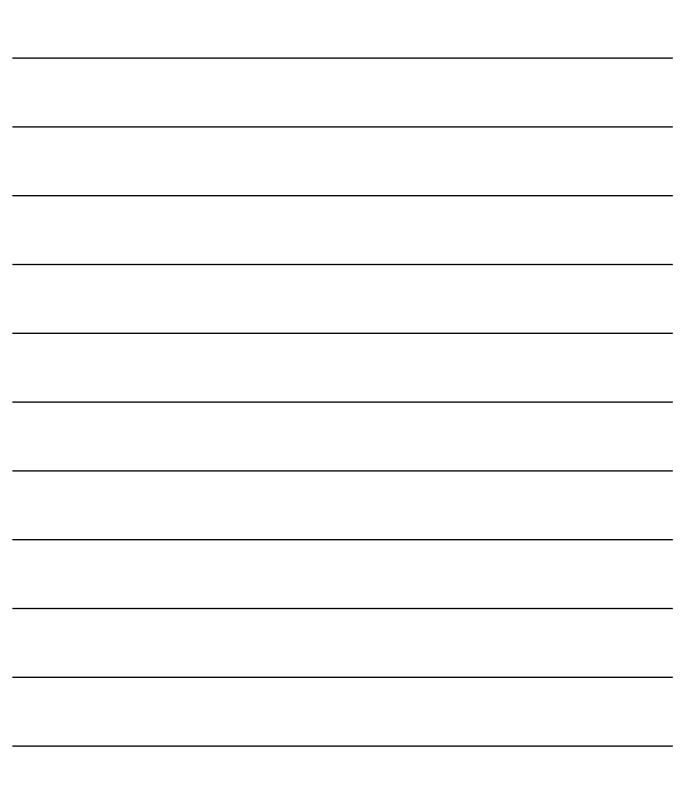
**Shuguang Liu**

**Tom Loveland (co-director)**

**Gabriel Senay**

**Jim Vogelmann**

We seek highly motivated and qualified applicants for the interdisciplinary Ph.D. program in Geospatial Science and Engineering (GSE) at SDSU. Prospective students are encouraged to contact faculty members in their area of interest to inquire about current research and funding opportunities. For more information about the GSE program, please contact Dr. Mike Wimberly, the program coordinator ([Michael.Wimberly@sdstate.edu](mailto:Michael.Wimberly@sdstate.edu)).



# ABOUT US-IALE

## The purpose of US-IALE is to:

- ☐ foster landscape ecology in the United States
- ☐ provide a link among practitioners in landscape ecology within the United States as well as the international community
- ☐ promote interdisciplinary research and communication among scientists, planners, and other professionals concerned with landscape ecology

## Become a Member Today!

Low Cost of Membership — Regular Member: \$55      Student: \$30

## Membership Rewards:

- Discount on subscription to *Landscape Ecology* journal, the flagship journal in the rapidly developing fields of ecology and sustainability science of landscapes
- Discount on registration fee for annual meetings
- Student engagement through workshops, networking and professional development
- IALE and US-IALE newsletters, which include feature articles on the latest research findings, updates on future meetings, progress reports from officers, and other news from the field
- Networking capability via listserve and member website, which provide efficient and powerful avenues for scholars from all over the world to interact and collaborate
- Free posting of job announcements on US-IALE website, a great way to advertise broadly regarding open positions to others sharing an interest in landscape ecology
- Resources for teaching and research in landscape ecology, compiled by leaders in the field



/usiale



#usiale

[www.usiale.org](http://www.usiale.org)



**US - IALE**



## **Save the Date!**

### **April 2 – April 8, 2016**

### **2016 US-IALE Meeting**

### **Asheville, North Carolina**

Following the 2014 US-IALE meeting in Anchorage, Alaska, and the 9<sup>th</sup> IALE World Congress in 2015 in Portland, Oregon, the Eastern Forest Threat Center (POC Bill Hargrove, [hnw@geobabble.org](mailto:hnw@geobabble.org)) will host the 2016 US-IALE meeting in **Asheville, North Carolina**.

Asheville has many attractive features, both cultural and natural, and is a popular vacation and retirement destination. The area is one of the most biologically diverse and natural regions in the eastern United States. Yet attendees can also enjoy many fine restaurants and bars, serving the finest foods, along with world-class, locally-made craft beers and wines. Asheville architecture ranges from Victorian to Arts and Crafts, from Art Deco to Modern design, and Asheville is still endearingly called the "Paris of the South." Famous examples include George Washington Vanderbilt's Biltmore Estate, the largest private home in the United States, and the Grove Park Inn. The creative energy of a progressive social climate and an active arts community, centered in the River Arts District, advises visitors to "Keep Asheville Weird."

**Theme:** The theme of the meeting will simply be "Landscape Change." With this simple zen-like theme, we strive to capture the defining characteristic and the inherent nature of our modern world in the anthropocene epoch.

# NOTES

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.