BRANCHING OUT

THE US FOREST SERVICE INTERNATIONAL VISITOR PROGRAM

HIGHLIGHTS
November 2012

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The US Forest Service International Visitor Program (IVP) facilitates participation in a wide variety of professional and educational exchanges, which encourage scientific collaboration and discovery, increase intercultural understanding, and promote cooperation among people of many cultures and countries.

SPOTLIGHT:

HOST ANDREW HUDAK AND VISITOR CARLOS ALBERTO SILVA FROM BRAZIL

Host: Andrew Hudak
US Forest Service Rocky Mountain Research Station, Forestry Sciences Laboratory, Moscow, ID

I am a Research Forester, stationed in Moscow, Idaho. My specialty is in applying remote sensing technologies to forest inventory, rangeland management and fire management. We relate field measures of biomass, wildfire fuels or effects, and wildlife habitat to remote sensing data collected from satellites or aircraft. By developing empirical relationships between field and remotely sensed data, we can make improved maps of forests or rangeland attributes, which are tremendously beneficial to natural resource managers.
My interest in hosting international visitors stems from my own international work and travel. I was a US Peace Corps Volunteer from 1990-1992, teaching science courses at Mtendere Secondary School in central Malawi. The word "mtendere" means "peace" in Chichewa, the language of the Chewa tribe and one of many languages spoken in southeast-central Africa. Throughout my travels abroad, the more "different" types of people I met, the more I realized that we really weren't very different at all. The disparity in wealth and opportunity between the USA and so many other countries did leave a lasting impression on me.

I am currently hosting Carlos Alberto Silva, who is working with LIDAR (Light Detection and Ranging - see inset on next page) remote sensing datasets collected over longleaf pine forest on Eglin Air Force Base. The

base is larger than the state of Rhode Island and contains the largest remnant stands of longleaf pine. We have some high density LIDAR at select sites, from which individual trees can be accurately resolved and identified, as well as some low density LIDAR data collected across the entirety of the area. The low density data is expected to be less accurate at the tree level.
If the data from the low density LIDAR can be validated against the high density data, it will enable us to aggregate the biomass at the tree level and thereby justifiably estimate biomass and carbon stores across the entirety of this large area. Carlos is testing two different algorithms for automated detection of individual tree crowns on this high and low density LIDAR data.

Brazil is an especially up-and-coming nation that will likely figure prominently in the future on economic, social, and other fronts. Its vast stretches of forest also make it particularly important on the global ecological front. LIDAR remote sensing will be key for measuring and monitoring these forests. There is limited LIDAR expertise in Brazil currently, but by hosting industrious interns like Carlos (and another talented Brazilian intern Eder Moreira before him), we hope it will broaden technical expertise in a place where it's sorely needed.

Carlos has been a pleasure to host at the Moscow Forestry Sciences Lab. His eagerness to learn is like a breath of fresh air, as is the international flavor he brings to the lab, even just in the form of everyday conversations "around the water cooler." I invited Carlos because of his persistence in seeking a placement with me and his unmatched enthusiasm. I believe Carlos will be successful in the future because dedication and commitment are the most important qualities for success.

LIDAR Overview

What is it?
LiDAR (Light Detection and Ranging), is an airborne remote sensing technology that uses pulses of light from a laser to estimate the physical properties of a target below. The laser scanner, which is installed in an aircraft, emits a continuous pattern of pulses over a swath of terrain. The distance between the scanner and the object that reflects the pulse is computed using the time it takes for the pulse to reach the object and make the return trip to the scanner.[1] By increasing the density of the laser pulses, LIDAR returns even more specific information. The technology allows scientists to measure both the structure of imaged terrain and the vegetation in three dimensions as they are able to record the reflection of energy down through the a forest's canopy. When LIDAR measurements are associated with corresponding global positioning system (GPS) coordinates giving the precise location of each point, highly accurate terrain and vegetation maps can be produced.

How is it used?
LIDAR has applications in many different fields, including geography, geology, archaeology, seismology, atmospheric physics, and natural resource management. Natural resource managers especially benefit from having LIDAR terrain and 3-dimensional vegetation maps. While terrain mapping missions usually occur in winter in "leaf-off" conditions, LIDAR can also capture layers of vegetation data. Researchers found that "noise" in LIDAR data produced by leaves and trees interrupting the pulses on their way to the ground can be extremely useful. When the attributes of trees are included in the model, high density LIDAR data can be analyzed to detect tree crown dimensions, tree height, diameter, species, canopy height, stem density, understory, and more. Compared with other samples taken over time, foresters and researchers can determine the growth rates and mortality patterns of stands of trees, or even individual trees. Detailed data on the forest canopy can also be used for fuel mapping, which can help in fire behavior modeling and fuel mitigation. Remote sensing technology and applications in natural resource management is a high priority for the US Forest Service. LIDAR is now a focus area for USFS Forest Inventory, Monitoring and Analysis research efforts and it is gaining increasing importance in international collaboration coordinated by USFS International Programs.

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[1] *Reutebuch, S.E., Andersen, E. & McGaughey, R. (2005). Light Detection and Ranging (LIDAR): An emerging tool for multiple resource inventory. Journal of Forestry. September 2005, 286-292.*

Visitor: Carlos Alberta Silva

My name is Carlos Alberto Silva and I am from São Paulo state, Brazil.

I began my studies at the age of 15, studying at the Agriculture Technical School in Santa Catarina. It was there that I learned to view the world from a new perspective. This is also where I came to appreciate remote sensing. My favorite area in Agriculture Technical School was silviculture and my desire to learn more about forests was increasing more every day.

In 2007, I was accepted at the University of the State of Santa Catarina (UDESC) and I began my undergraduate studies in Forest Engineering and ended up finishing my degree at the University of Sao Paulo (USP). My first research project concerned silviculture and management of eucalyptus plantations at the Institute of Research and Forestry Studies (IPEF). My main area of research was assessing carbon stock in eucalyptus plantations under different management strategies.

In 2011, I first saw LIDAR technology explained at a conference in remote sensing organized by the National Institute for Space Research (INPE) in Brazil. It was from this moment I knew that I wanted to learn more about LIDAR. I am now pursuing a master's degree at the University of Sao Paulo. My graduate project is to assess carbon stock in eucalyptus plantations using LIDAR in Brazil.

For now, the immediate goals of my program with the USFS are to learn more about LIDAR and complete my master's degree. My long-term goal is to become a PhD student and a good researcher in remote sensing, particularly in using LIDAR for forestry applications. Although forestry applications of LIDAR technology are becoming commonplace in some countries like the United States, Finland and Sweden, there are countries, like Brazil, where this technology is still novel. US Forest Service collaboration is very important to help in the formation of knowledge about LIDAR in Brazil. Remote sensing in Brazil has been a good alternative to monitoring and management in Amazon´s forest. After learning more about this technology, Brazil can apply it in forest conservation, and produce worldwide benefits to biodiversity of fauna and flora, water, food and about climate change mitigation with stock carbon.

The most rewarding aspect about being here is meeting and working with good researchers in remote sensing, like Dr. Hudak of the USFS and Dr. Vierling of the University of Idaho. It is also rewarding to have the opportunity to learn more about LIDAR and make new friends. I hope I do a good job and have the opportunity to return next year to work on a PhD in 2014. This is a very special moment in my life, and I hope that when I return to Brazil I'm renewed, both professionally and culturally, to diffuse LIDAR technology to others there. I would like to thank Dr. Hudak and others from the US Forest Service that welcomed me with such care and attention!

Customs and Border Protection Warns I-94 Data Entry to Be Delayed

U.S. Customs and Border Protection (CBP) has issued a notice stating that it may take up to 30 days to enter data from Form I-94 Arrival-Departure Records into the Systematic Alien Verification for Entitlements Program (SAVE) database. It is possible that information in the SAVE database will remain inaccurate for many travelers for up to one month, which may delay applications for driver's licenses and social security numbers. They delay may be due to CBP efforts to automate the I-94 process.

To read the complete notice, visit:
http://www.cbp.gov/xp/cgov/travel/id_visa/i-94_instructions/i94_data_entry.xml

CULTURE CORNER:

BEATING THE HOLIDAY BLUES

Being away from home and family during special holidays is difficult. While Americans start preparing for a long holiday season that includes Thanksgiving, Hanukkah, Christmas, Kwanzaa, and New Year's, international visitors are often thinking of their own holiday traditions, family and friends back home. While all might appear festive and bright on the surface, many people experience increased stress, anxiety and sadness at the holidays whether they are at home or abroad. Financial pressures, increased social commitments, homesickness, and unrealistic expectations of oneself and others can all bring on a case of the holidays blues. Here are a few ideas to help you beat the holiday blues while creating lasting memories.

Celebrate!

- Extend and accept invitations to celebrate!
  - o Whether or not you celebrate a particular holiday, learn more about others and reach out to those around you. Don't forget that just like international visitors, many Americans get the blues at the holidays as they, too, are living far away from family and friends.
  - o Invite international visitors to your home or to other community events to experience how you celebrate the holidays. These experiences create lasting memories and strengthen understanding and relationships.
  - o Share your own country's holiday traditions with your colleagues and friends. Make a special dish and bring it to the office, or perhaps invite a few colleagues or friends to your home to experience some of your traditions.

Reach Out & Express Yourself

- Catch up with friends and family back home, but try to stay focused on living in the moment in your new environment.
- Reach out to peers who might be experiencing similar feelings and challenges and let them know you are thinking of them.
- Talk to a trusted friend, coworker or your International Visitor Program Specialist. Sharing happy experiences or acknowledging sadness can help you get through hard times and make meaningful connections here in the United States.
- Record your thoughts and feelings in a journal, poem, story, or in letters and emails to friends and family. Writing can be very therapeutic and an important tool for reflection.

Be Good to Yourself

- Set realistic goals and don't overcommit yourself. Allow yourself time to breathe and reenergize yourself.
- Don't forget to prioritize your physical needs, such as exercise, eating right and getting enough sleep. Try not to overindulge at the holidays – excessive eating and drinking can make you feel worse.
- Stay busy and arrange activities with others. Avoid spending days alone in front of the television!

Lend a Helping Hand

- Volunteer your time to help others, assist charities and provide support to neighbors. Focusing on others naturally reduces stress and increases well-being.

Be Thankful

• Reflect on the positive things in your life. Create lists, draw pictures or take photos of things that make you happiest or things you have recently discovered and learned. Post them on your wall or bathroom mirror. These reminders can be great mood elevators and motivators.

IMMIGRATION NOTES:

TRAVEL SIGNATURES

If you plan to travel outside of the United States for the holidays, please be aware of immigration regulations that may impact your return to the United States. All holders of J-1 visas must have DS-2019s validated for travel outside the United States if they wish to return on the same J-1 program. Please follow these steps to avoid any travel problems:

1. Check the expiration date on your visa. Make sure it is still valid for another entry at the time of your return to the United States.
2. You must have a travel validation signature on your DS-2019 that is valid for the duration of your trip outside the US and valid upon your return to the US. If you are under the Government Visitor, Research Scholar or Intern category, the travel validation must have been signed within the past 12 months. If you are a Short-Term Scholar, the travel validation must have been signed within the past 6 months.
3. Remember to return your I-94 card at the airline counter once you depart the United States. You will be issued a new 1-94 card upon your return to the US, and please send us a scanned copy of the new card.
4. Remember to hand carry your DS-2019 form when you return to the United States.
5. If you must renew your J-1 visa during your trip outside of the United States, please contact **Misty Sidhu** at 202-273-3324 or msidhu@fs.fed.us or **Rima Eid** at 202-208-3785 or rimaeid@fs.fed.us to discuss the process.

If you need to have your DS-2019 signed for travel, please send it as soon as possible to Misty Sidhu or Rima Eid at least 2 weeks prior to travel.

Please mail it to this address:

USDA Forest Service
ATTN: International Programs, Misty Sidhu or Rima Eid
1099 14th Street NW, Suite 5500W
Washington, DC 20005
Telephone #: 202-273-3324

We wish you a safe and enjoyable holiday!

WHAT'S NEW?

FIRE SEASON EXCHANGES

The US Forest Service has been managing and fighting wildland fires for over 100 years. Over time, research on fire behavior, approaches to fire suppression, and fire management methods have evolved. The US Forest Service recognizes that fire plays a vital role in many ecosystems . Without fire, forests may be unable to regenerate and may face health risks, including overcrowding, loss of species, and extensive, catastrophic fires due to the resulting buildup of flammable materials. As a result, the Forest Service has invested greatly in making the necessary links between sustainable natural resource management and fire science related to wildland fires and controlled burns. The Forest Service often collaborates with other countries to

share knowledge on fire management and disaster management as a whole. Here's a look at some of the initiatives that the International Visitor Program helped facilitate in 2012.

Fuels Management Knowledge Partnership: USFS Pacific Northwest Region and Spanish Fire Behavior Analysts

In April, a group of 14 Spanish fire scientists visited Wallowa-Whitman National Forest as part of ongoing collaboration between the US Forest Service and the Spanish Grup d'Actuacions Forestals (GRAF), a division of the Catalonian Department of the Interior that focuses on forest fire science and prevention. The USFS-GRAF partnership began in 2001, when the first group of GRAF fire behavior analysts came to the US to observe and learn about alternative methods of controlling and mitigating forest and wilderness fires. For more than a decade, the USFS and GRAF have exchanged technology, methods, research data and training on controlled burns and fuels management methods. The mutually beneficial, long-term collaboration between the USFS Pacific Northwest Region and GRAF has helped promote professional exchange, safety, and the advancement of fire ecology science worldwide.

Wildfire Mitigation, Prevention and Community Outreach Study Tour for Russians

In June, the US Forest Service International Programs hosted a 9-person delegation from Russia to examine innovative US programs to mitigate and prevent wildfire with a particular focus on community-level programs and partnerships. The trip was part of a larger project between the US Department of State, the US Forest Service and the government of Russia to address open burning sources of arctic black carbon. The delegation traveled to Washington, DC, Virginia and Colorado to look at firewise communities, fire mitigation and prevention, and community outreach programs. Some of the highlights from the study tour included: observing a Junior Firefighter Program at Rocky Mountain

New Year's Eve Around the World

New Year's Eve around the world is a time to celebrate the fresh start of a new year with family, friends and loved ones. In many countries, it involves gatherings, concerts, fireworks, champagne and kissing at midnight. In the US, the famous "ball drop" and countdown to midnight in New York City's Times Square has become the quintessential event. Revelers gather in the streets of New York to watch the dropping of the mirrored ball, while others across the United States gather around the television at social events to watch.

In Mexico, New Year's Eve is called the víspera de año nuevo. As the clock strikes midnight, it is customary to eat one grape for each of the twelve chimes of the clock while making a wish.

Throughout much of Europe, New Year's Eve is closely tied to Saint Sylvester's Day celebrations. In Belgium, the last child to rise from bed on December 31 is nicknamed Sylvester for the year. In Austria and Hungary, it is custom to touch a pig, and in Germany and Slovakia they eat carp and keep the fish scales for good luck in the coming year. In Denmark, there is a special evening meal which ends with a dessert called kransekage, a towering cone of ringed cakes that looks a bit like a Christmas tree. Londoners celebrate at the famous tower of Big Ben. The event is televised and parties are held across the country while people watch fireworks around the base of the clock tower.

The reveillon, or New Year's Eve celebrated in France, includes special foods such as fois gras, seafood and champagne. The holiday ends on January 6, which is the day of the Epiphany, with a galette des rois. The King's Cake is a special cake baked witha small porcelain figurine inside called a fève (charm or favor). The person who finds the fève becomes king or queen for the day.

In Asia, New Year's is typically celebrated according to the Lunar calendar but in the big cities, such as Beijing and Shanghai, there are fireworks and celebrations at the time that the calendar changes from December to January. In Hong Kong, celebrations occur on the harbor and they have their own "ball drop" event.

Across the Middle East and Africa, each country has many different cultural traditions and ways of celebrating. Some celebrate by going to a religious gathering place, while others follow Western traditions by celebrating in groups or watching fireworks displays.

The IVP team hopes everyone will find a special way to celebrate New Year's Eve this year! May 2013 be an excellent year for all!

National Park, visiting a local fire department, learning about Smokey Bear and fire prevention education, and visiting firewise communities.

Thai Disaster Management Leaders and the Incident Command System

Fifteen senior level Thai disaster management specialists traveled to Northern California and Colorado this summer to observe the Incident Command System (ICS) in action and to inform their own efforts of customizing ICS components for effective implementation within Thai and Southeast Asian contexts. The group observed roles and relationships among Incident Management Teams, Emergency Operations Centers, and Multi-Agency Coordinating Groups working across different levels of government. The visitors also saw the many different facets of the ICS in practice while observing the National Incident Management Team 4 lead coordination efforts at the Flagstaff fire in Boulder, CO. Team 4 is one of the 17 elite Incident Management Teams in the US that responds to particularly difficult-to-suppress fires and emergency situations. The Thai delegation members now represent Thailand on the Association of Southeast Nations (ASEAN) Incident Command System (ICS) Working Group (WG).

India and Ethiopia: Disaster Management and the Incident Command System

International Programs provided a 12-person delegation from India and a 9-person delegation from Ethiopia the opportunity to observe how the US applies disaster management systems, such as the Incident Command System (ICS), to address all-hazard situations, including forest fires. The delegation from India visited northern California and the delegation from Ethiopia traveled to Seattle, Washington. Both groups had the opportunity to observe USFS firefighters and other responders on the Chrandal Creek Wildfire on Bitterroot National Forest in Hamilton, Montana. They also interacted with a number of other emergency response centers, organizations, and training centers. Participants were able to see the operational aspects of ICS and gain on-scene exposure to skills they had been reading and studying about only in classroom setting prior to the visit.

These study tours, which were funded by the United States Agency for International Development (USAID), also included visits to national, state and local level emergency response coordination centers, which was a great opportunity for participants to interact with US colleagues from various levels of government on topics of mutual interest.

IDIOMS QUIZ:

An idiom is a construction of words or a phrase that means something different than what the words are literally saying. Idioms are passed down through tradition, culture, and history. Individuals are usually able to understand idioms in their first languages, but understanding idioms in another language can be challenging.

Here's a matching game to test your knowledge of English idioms that include words for body parts. Match the numbers from the idioms in the left column to the correct meaning in the right column. If you have idioms in your language that an English speaker might find silly when taken literally, share them with your colleagues and see if they can guess the meaning!

Please Share Your Stories!
We would like to invite everyone to share photos and stories about yourselves, your programs, and the exchange experiences you've had in the United States and abroad. Please submit your stories, pictures, ideas, and feedback to Emily Betz at eebetzclose@fs.fed.us.

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IDIOMS QUIZ:

1. Face the music	a. To memorize it
2. Hit the nail on the head	b. To be experienced
3. Bang your head against a brick wall	c. To have control of a situation
4. Learn it by heart	d. To take a risk
5. Be an old hand at something	e. To spend more money for something than something is worth
6. Keep everything under your thumb	f. To accept the consequences of your actions
7. To stick your neck out	g. To agree with one another
8. Get out of hand	h. To be right or correct
9. Pay through the nose	i. To get out of control
10. To see eye to eye	j. To get frustrated from not making any progress

**See answer key below.*

ON THE HORIZON

Upcoming US Holidays and Special Occasions

December 7	Pearl Harbor Remembrance Day
December 8-16	Hannukah
December 25	Christmas (US government closed)
December 26	Kwanzaa
January 1	New Year's Day
January 21	Martin Luther King Day
January 21	Presidential Inauguration Day
February 2	Groundhog Day
February 18	George Washington's Birthday

If you are a visitor to the US, ask your American hosts, friends and colleagues how they celebrate these holidays. You can also find more information on the internet. Here are some suggested sites to explore:

- http://www.usafederalholidays.com/
- http://www.calendar-365.com/holidays/2012.html
- http://www.timeanddate.com/calendar/

Hosts, we encourage you to use this opportunity to share an aspect of American culture with your visitor(s)!

Answer Key: 1.f, 2.h, 3.j, 4.a, 5.b, 6.c, 7.d, 8.i, 9.e, 10.g