#### **IUFRO Wind and Trees Workshop**

# Wind impacts on coastal forests including mangrove forests

Location: Hobcaw Barony 177 Hobcaw Road Georgetown, South Carolina, 29440

#### Hosted by:

Baruch Institute of Coastal Ecology and Forest Science Clemson University 130 Heriot Road Georgetown, South Carolina, USA, 29440

#### Note: NOT located on Clemson's main campus

Date: February 10-12, optional field trip February 13, 2025

## **Workshop Topics**

- LIDAR in coastal forests and mangroves: Jeff Cannon and Chuck Price
- Winching studies and Low-cost sensors to measure strain: Toby Jackson, Skip Van Bloem, Oskars Krišāns
- Communicating climate change threats and management responses for coastal forests. Steve McNulty and Puskar Khanal

## Arrival Sunday, February 9, or Monday, February 10, before 13:00.

Registration deadline: January 25, 2025.

## **CLICK HERE FOR REGISTRATION LINK**

## About registration: The workshop cost is \$275. Select 1 ticket. If you are paying for others, please register each person separately.

February 10, 2025 · 8:30am - Februa				
Tickets				
Registration	<b>–</b> 1 <b>+</b>	Order summary		
	45 Demoirie	1 x Registration	\$275.00	
<b>\$275.00</b> +\$16.12 Fee Sales end on Jan 25, 2025	45 Remaining	Subtotal	\$275.00	
		Fees	\$16.12	

If you want to stay on-site, you should review the housing options below and select your preference when you register. Our registration site does not allow for selecting individual dates for housing, so to accommodate various travel schedules we have set up a base housing charge for 3 nights: Monday through Wednesday Feb 10-12. If you are arriving Sunday, please select Sunday from the same dorm/cottage. If you are staying Thursday night, please select Thursday. Example below shows someone registering for housing in Dorm A from Sunday-Thursday. Descriptions of housing unit are below.

USC Baruch Marine Field Lab Dorm \$36.00—\$126.00	^
Dorm A (Monday-Wednesday)	<b>-</b> 1 <b>+</b>
\$108.00 +\$6.93 Fee	8 Remaining
Sales end on Jan 25, 2025	
The dorms have four bedrooms with two twin bunk bed bathrooms, kitchen, and dining area. (8 total beds)	ls, two shared
Dorm A (add Sunday)	- 1 +
\$36.00 +\$2.97 Fee	8 Remaining
Sales end on Jan 25, 2025	



Order summary	
1 x USC Baruch Marine Field Lab Dorm Dorm A (Monday- Wednesday)	\$108.00
1 x USC Baruch Marine Field Lab Dorm Dorm A (add Sunday)	\$36.00
1 x USC Baruch Marine Field Lab Dorm Dorm A (Add Thursday)	\$36.00
Subtotal	\$180.00
Fees	\$12.87

## **Daily Schedule**

Monday, February 10					
13:00 - 14:30	Registration	BICEFS Front Desk			
14:30 - 14:45	Introduction: Dirk Schindler and Skip Van Bloem	Multi-Purpose Room			
14:45 – 15:15	What is a Coastal Forest: Skip Van Bloem	Multi-Purpose Room			
15:15 – 16:00	Measuring Wind Strain on Trees. Toby Jackson	Multi-Purpose Room			
16:00 – 16:30	Break				
16:30 – 17:15	What Is the State of Climate-Smart Communication for Forest Owners and Managers? Puskar Khanal and Steve McNulty	Multi-Purpose Room			
17:15 – 18:00	Lidar and TLS for Biomass Estimation of Mangrove Forests. Practical, or Practically Impossible? Chuck Price	Multi-Purpose Room			
18:20 – 19:15	Dinner as group	Kimball Lodge			
19:15 – 20:30	Social time	Kimball Lodge and area			
Tuesday, Februa	ary 11				
Time	Activity	Location			
8:00-8:30	Morning: Registration	BICEFS Front Desk			
Communicatin	g Climate Smart Forestry to Landowners and	professionals (Part 1)			
08:30 – 10:00	Morning Session: Climate Smart Forestry: Online Resources Puskar Khanal, Steve McNulty, Michelle Thompson	MP Room			
10:00 - 10:30	Break	MP Room/Hall			
Wi	inching studies and Low-cost sensors to meas	ure strain			
10:30 – 12:30	Instruments, sensors, and configuration: Toby Jackson, Tristan Allerton, Oskars Krišāns, Skip Van Bloem Strain gages types and installation, pros and cons. Winching theory and practice Instruments/sensors/ropes/etc. installed in	Start MP Room, then field next to HQ			

12:30 - 13:30	Lunch	MP Room / Porch				
13:30-15:00	Field practice: Instrument configuration and attachment	Field site near HQ				
	Start up strain gage apparatus, Pull over a Tree					
15:00 - 15:30	Break	MP Room				
15:30 – 17:30	Data cleaning and analysis: Strain and failure (strain gages, load cells, and	MP Room				
	accelerometers)					
17:30 –	Dinner on own	Wherever				
Wednesday, F	ebruary 12					
Time	Activity	Location				
Communicatir	ng Climate Smart Forestry to Landowners and	professionals (Part 2)				
8:00 – 9:30	Morning Session: Climate Smart Forestry: A deep dive on online and other resources that illustrate forest responses to various climate scenarios Puskar Khanal, Michael Gevazzi	MP Room				
9:30 - 10:00	Break	MP Room/Hall				
	LIDAR in coastal forests and mangroves	6				
10:00 – 12:30	Terrestrial Laser Scanning and Drone-based remoted sensing for biomass estimation in mangroves and coastal forests: Instruments and configurations Chuck Price	Start MP Room, then field next to HQ				
12:30 – 13:30	Lunch	MP Room Porch weather permitting				
13:30 – 15:00	Field practice: Pine forest and possibly denser wetland edge or young pine stand with TLS	Field site near HQ				
15:00 – 15:30	Break	MP Room				
15:30 – 17:30	Data manipulation and analysis Using data from PR and SC	MP Room				
17:30 –	Dinner on own	Wherever				
Thursday, February 13						
Time						
8:00-8:15	Gather for field trip	Front parking lot of Hobcaw				
8:15	Depart for field trip					
15:00	Return from field trip	Front parking lot of Hobcaw				

## How to get here

#### By Air

The airports that are closest to Georgetown, South Carolina are Myrtle Beach (MYR), SC and Charleston (CHS), SC. We recommend Myrtle Beach. It is about a 40 minute drive from Hobcaw Barony. Charleston is about 1:45. Most major carriers serve both airports. Common layover airports are New York JFK, Charlotte (CLT), and Atlanta (ATL).

Uber from the Myrtle Beach airport to Hobcaw Barony is about \$60. But it is less reliable getting back to the airport than leaving the airport.

#### By Car:

Hobcaw Barony is on US Route 17 just North of the Waccamaw River and Georgetown, SC. Hobcaw is at lat/long 33.36385194966518, -79.2292989839832 or 177 Hobcaw Road, Georgetown, SC, 29440, USA.

Heading South from the Myrtle Beach airport and Pawley's Island, Hobcaw Barony is about 5 miles after the last of the suburban development (Hog Heaven Restaurant). You'll see the entrance to Debordieu Colony on the left and then the Little Red Barn on the right, about ½ mile (0.8 km) from Hobcaw, which is on the left. If you cross the river, you just missed it.

Heading north from Georgetown, after you cross the Peedee and Waccamaw Rivers, Hobcaw is the first right, about  $\frac{3}{4}$  of a mile (1.2 km) after the bridge.

## What is this place, Hobcaw Barony?

It's confusing, but Hobcaw Barony was the private property of Belle W. Baruch who purchased it from her father, Bernard Baruch, a Wall Street Financier and Presidential advisor. When Belle died in 1964, she placed her property in a non-profit trust with the charge to work with the public universities of South Carolina to further research and education in forestry, wildlife, and marine science. Her partner, Ella Severin, helped guide the Foundation until her death in 2001. In 1968 the Clemson Baruch Institute was founded (Non-Marine Natural Resources). On the same property is the University of South Carolina Baruch Marine Field Lab, established in 1969. A few years ago, Coastal Carolina University and Francis Marion University co-sponsored a new SC Studies Institute (Anthropology and History). So from 1 visionary woman we have 1 property, 16,000 acres, 3 institutes, 4 universities, 2 fully-staffed field stations (Clemson and USC), and 10,000 years of history. Clemson's Baruch Institute, now called the Belle W. Baruch Institute of Coastal Ecology and Forest Sciences (BICEFS), is your host. www.clemson.edu/cafls/baruch

## **IUFRO Workshop Housing**

Housing on site is limited (30 beds) and is typical to field station lodging – no frills, mostly twin beds, some top bunks. Please see description of housing options below. All beds include blanket, sheets, pillow, bath towel and washcloth. All housing units include full kitchens with utensils and dining/living space. <u>Rates are in addition to registration costs.</u>

There are numerous other housing options within a 15-minute drive. Beach and other AirBnB or VRBO rentals abound and February is generally a low season. Look at Georgetown, Pawleys Island, or Litchfield, roughly 15 min from Hobcaw. Murrells Inlet or Garden City are about 30 minutes away.

#### Area hotels:

#### Walking distance to food and drinks:

Hampton Inn (Georgetown) Georgetown's new boutique hotel, The George. Best Western (Pawleys Island) Hampton Inn (Pawleys Island)

Georgetown is more quaint than Pawleys and has more food options within walking distance.

#### Not walking distance to food, but not far from Hobcaw Barony and recently remodeled:

Quality Inn (Pawleys)

We do not recommend the Baymont or the Budget Inn in Georgetown.

#### **Local Transportation**

Uber/Lyft exists, but there are not many drivers, especially early in the morning or late at night. Public transportation (bus) does not exist. If you want some freedom to get around, we recommend renting a car at the Myrtle Beach airport. Better yet, we recommend sharing rides with others who rent cars and share the costs. We'll provide a ride share sign up in January. Parking for rental cars in Georgetown and at our field station is free.



#### Walking from Georgetown to Hobcaw Barony

NOT ALLOWED. There are two bridges that cross the PeeDee and the Waccamaw Rivers on Highway 17. There are no sidewalks (UK: pavements) on the bridges and only about 30 cm of shoulder, so <u>IT IS NOT SAFE</u> to walk between Georgetown and Hobcaw.

#### **On-Site Housing at Hobcaw Barony**

#### Dorms – USC Baruch Marine Field Lab

Dorm A (\$36.00/night/person):

The dorms have four bedrooms with two twin bunk beds, two shared bathrooms, kitchen, and dining area. (8 beds available)





Dorm C (\$42.00/night/person)

The dorm has ten bedrooms with twin bunk beds, four shared bathrooms, kitchen, and combination living/dining room. (10 beds available)





#### Cottages – USC Baruch Marine Field lab (\$46.00/night/person):

Cottage 1 (5 beds available) The cottage has two bedrooms with one queen bedroom and one bedroom with two twin bunk beds, two shared bathrooms, kitchen, and combination living/dining room.



Cottage 3 (5 beds available) The cottage has two bedrooms, all twin bunk beds (max three), two shared bathrooms, kitchen, and combination living/dining room. (Rooms as above, but no queen bed.)

#### John B. Harris Cottage – Clemson University (\$46.00/night/person): (8 beds available)

The cottage has four bedrooms with a combination of two twin beds or one twin bed and a twin bunk bed, two shared bathrooms, washer/dryer, kitchen, and a combination living /dining room.



## Food

We will provide dinner Monday night and lunches Monday through Thursday. If you have dietary restrictions, please let us know in advance. Lexi Brandon abrand2@clemson.edu

## Weather and Terrain

February turns out to be a pretty good time to visit coastal South Carolina. Daily highs tend to range from 55-65°F and lows from 35-45°F. We rarely get snow. Usually days are sunny. Mosquitoes and other annoying insects are absent at this time of year. Check the forecast before you come, but in general you should not have to plan for snow or bitter cold. That said, Mother Nature can be surprising sometimes, and her demeanor is less predictable since we've been messing around with the climate.

The topography here if flat. Field portions of the workshop will not be strenuous. Terrain is mostly sandy soils in pine or mixed pine/hardwood forests. Cypress swamps are common, but we won't work in them. Bring good boots/shoes for being outside, but mud boots should not be necessary.

## Internet and Wi-Fi

There is wifi at the station, close to most buildings. At the Clemson-BICEFS buildings, those with access to **eduroam** can connect to the network that way. Others can use **clemsonguest**. After choosing the network, you will get a pop-up. You will need to accept the Terms of Use in order to connect. At the dorms, cottages and the Kimbel Center, the wifi name is **kimbel**. There is no password needed.

## Cell phone

There is cell phone reception in most places at the field station.

## Other Things to do in the Area

- **Brookgreen Gardens** (20 min drive north of Hobcaw Barony) open 9:30am to 5pm, \$22 admission per adult for 7 consecutive days. Large sculpture garden, endangered red wolves, and other local wildlife.
- Huntington Beach State Park (20 min drive north of Hobcaw Barony) open 6am to 6pm, \$8 admission per adult. Long, walkable beach, hiking through maritime forest, historic Anna Huntington home.
- **South Carolina Maritime Museum** (7 min drive south of Hobcaw Barony) open 11am to 5pm, closed Sundays, free admission donations appreciated
- **Gullah Museum of Georgetown** (7 min drive south of Hobcaw Barony) open 11am to 4pm, closed Sundays, \$10 donation admission. The Gullah Geechee culture developed from enslaved Africans brought from various locations in Africa to the US Southeast Coast to grow rice.
- **The Rice Museum** (6 min drive south of Hobcaw Barony) open 11am to 4pm, closed Mondays and Sundays, \$9 admission per adult

## Questions???

Program questions: Skip Van Bloem skipvb@clemson.edu

Food or housing questions: Lexi Brandon abrand2@clemson.edu

About IUFRO Wind and Trees Section: Dirk Schindler dirk.schindler@meteo.uni-freiburg.de

## Hobcaw Barony Map

15 minutes drive to Pawleys Island: 40 minutes to MYR

