

# The Warnell Continuing Education Program

Daniel B. Warnell School of Forestry and Natural Resources

## GPS for Beginners

December 5, 2012

Instructors: Pete Bettinger

Warnell School of Forestry and Natural Resources,

Building 4, Room 516

University of Georgia, Athens, Georgia



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SCHOOL OF FORESTRY AND NATURAL RESOURCES  
THE UNIVERSITY OF GEORGIA

### About the Program

The Global Positioning System (GPS) is an important tool for natural resource managers. Wildlife biologists use GPS to document the location of nests, survey points, and other critical habitats. Foresters use GPS to delineate treatment areas and develop standard geographic information systems (GIS) databases for roads and other management-related infrastructure. Fisheries biologists and hydrologists use GPS to map stream systems. Recreation resource managers use GPS to map trails systems. A variety of professionals use GPS in conjunction with wildfire monitoring and suppression activities. All natural resource managers, along with the general public, use GPS to navigate. While most people think of GPS in terms of the receivers that they use, GPS is actually a system of satellites, receivers, control stations, base stations, and software for navigation and mapping the earth's features.

This short, six-hour course will:

- Briefly introduce the basic features of satellite-based navigation systems of the U.S. and other countries
- Discuss the sources of error and the common methods used to assess data quality in forested conditions
- Provide introductory experience with GPS data collection using consumer-grade and mapping-grade GPS receivers

### Upon completion of this course, you should be able to:

- Understand the basic components of GPS
- Be able to understand many of the common terms associated with GPS (e.g., PDOP)
- Think critically about GPS error sources and data quality
- Understand how to collect data with a GPS receivers

### Who Should Attend?

Natural resource management professionals and realtors who have little to no background with GPS, yet have an interest in learning about the basics of GPS and the accuracy of the technology when used in forested conditions. Upper-level managers who need to communicate GPS-related requests with field personnel may find the course useful as well. Realtors who are involved in the valuation of rural land and timber should also attend.

### Registration Fees

The fee for this course is \$195, which includes instructional materials, one luncheon.

### Format

The course involves lecture presentations that provide an overview of satellite-based navigational systems, sources of error, accuracy, and planning. In addition, participants will briefly use two or more GPS receivers to gain an understanding of how they operate. The material will be presented in a logical manner, from a description of satellite-based navigational systems, to the equipment involved, to field data collection procedures. Handouts will be provided to summarize the material presented.

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### Instructor

Dr. Pete Bettinger is a professor in the Warnell School of Forestry and Natural Resources. He has more than 25 years of operating, teaching, and research experience in forestry and natural resources, including roles with the U.S. Forest Service, several forest products companies, and Oregon State University. Dr. Bettinger has taught courses on forest measurements, forest planning, and harvest scheduling, as well as GIS applications in natural resource management. In 2009, Academic Press published his book *Forest Management and Planning*, and in 2008 Oxford University Press published his book *Geographic Information Systems: Applications in Natural Resource Management*. Dr. Bettinger earned BS and MS degrees from Virginia Tech; and a PhD from Oregon State University.

### Course Itinerary

December 5, 2012

Time	Event
8:30 AM	Registration
9:00	Brief introduction to satellite navigational systems (GPS)
9:30	GPS terminology
10:00	Sources of error in GPS data
10:30	GPS signal augmentation
11:00	GPS data collection planning exercise
12:00	Lunch
12:30	GPS data collection exercises
2:00	GPS receivers available today
2:30	GPS accuracy discussion
3:15	Discussion and summary
3:30	Adjourn

### Continuing Education Credits

- 6.0 Continuing Forestry Education credit hours—Category 1 (approved)
- 6.0 Continuing Logger Education (CLE) hours—Environment (approved)

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You may register using the form below, or register online at

<http://conted.warnell.uga.edu/>

or by phone by calling Ingvar Elle at 706-583-0566.

### Registration Form

Name - please print

Preferred name for badge

☐ Business mailing address or ☐ Home address (please check one)

City State Zip County, if Georgia

Home phone Work phone Fax

Email address ☐ Please send me e-mails about other Warnell Continuing Education programs.

Position Organization/employer

*By registering for this event I agree to comply with all event and lodging cancellation policies.*

GPS for Beginners

Registration by December 4, 2012.....\$195.00

Total: \$\_\_\_\_\_

Enclosed is a check # \_\_\_\_\_

(payable to Warnell School of Forestry and Natural Resources)

Your registration will not be processed until payment is received.

#### **Cancellations:**

**Notice must be received by 5:00 p.m. November 21, 2012 to receive a refund. Call Ingvar Elle at 706-583-0566 to cancel.**

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### Mail payment to:

Attn: Ingvar Elle

Warnell School of Forestry & Natural Resources

The University of Georgia

Athens, Georgia 30602

### Parking and Directions

A visitor parking deck is located just north of the Georgia Center. Parking is \$10.00 per day.

For a map and directions go to:

[http://www.warnell.uga.edu/h/aboutWSFR/directions/index\\_html](http://www.warnell.uga.edu/h/aboutWSFR/directions/index_html)

### Special Services

If you require special services or dietary considerations, please contact Ingvar Elle at 706-583-0566 or e-mail him at [ingvar@uga.edu](mailto:ingvar@uga.edu) prior to July 22, 2012.