Vegetation Mapping
In Conjunction with Aerial Information Systems & the CA Dept. of Fish & Wildlife

Dates: February 25-27, 2020 (Tuesday - Thursday)
Location: Redlands, CA
Instructors: Rachelle Boul, Jennifer Buck-Diaz, Julie Evens, & John Menke
Registration: $665 CNPS Members / $695 Non-Members

Target Audience: Professional botanists, ecologists, resource managers, GIS and vegetation mapping specialists. Participants should have an initial understanding of the subject matter, and should be able to perform basic GIS functions (e.g. creating, splitting, attributing polygons).

Description: Through a combination of field and computer exercises, participants will learn techniques for fine-scale vegetation mapping. Participants will practice creating a vegetation map using Geographic Information Systems (GIS) and techniques of photo interpretation, delineation, and attribution, collect reconnaissance samples to support the 2nd edition of A Manual of California Vegetation classification, and validate a vegetation map through accuracy assessment.

Participants will learn:
- Principles of vegetation sampling, classification, and photo interpretation
- How to map and assess different types of vegetation, including locations and acreages
- To measure biodiversity through fine-scale vegetation mapping
- How to identify specific habitat requirements of target species and monitor habitat changes over time
- How to perform detailed landscape and watershed analyses with vegetation maps
- “Heads up” digitizing techniques in ArcGIS while assigning specific vegetation map attributes

Schedule (subject to change):
Day 1 - Tuesday, February 25: Meet at University of Redlands, all day in the classroom/GIS lab
9:00 am Introductions and overview of vegetation mapping and field verification
11:00 am Integrated vegetation classification and mapping: techniques (manual photo interpretation, heads-up digitizing, automated approaches, attribution, etc.), tools and information used in photo interpretation and delineation, use of GIS with ArcGIS or other software, examples of AIS delineations and attributions
Noon Lunch break (please bring your own lunch and water)
1:00 pm Mapping exercise: interpretation of imagery, delineation examples, techniques for heads-up digitizing
2:30 pm Exercise in delineation and attribution
5:00 pm Break for the day

Day 2 - Wednesday, February 26: Carpool to designated field site in western Riverside County (TBA), field exercises all day
8:30 am Site visits and field reconnaissance: identifying stands of vegetation
Noon Lunch in the field (please bring your own lunch and water)
12:30 pm Site visits and field reconnaissance: collect field data, discuss need to further inventory area using other protocols (e.g., vegetation rapid assessment or plot-based methods), esp. for accuracy assessment and vegetation classification
5:00 pm Break for the day

Day 3 - Thursday, February 27: Meet at University of Redlands, all day in the classroom/GIS lab
9:00 am Importance of field verification and map accuracy assessment (AA): number of samples and reconnaissance points to verify/validate the classification and map, basics for accuracy assessment and revisions of mapping
10:00 am Continue exercise in delineation/attribution with input from prior day’s field recon
10:30 am Mapping exercise with field verification/AA analysis: provide AA data to review mapping of previous day, make corrections and updates to delineated area
Noon Lunch break (please bring your own lunch and water)
1:00 pm Complete mapping exercise
3:00 pm Wrap-up discussion: comparison of different mapping techniques, costs, and maps produced, applications of vegetation maps for local management efforts, values of integrated sampling and mapping project, current or potential applications and mapping projects of workshop participants
4:00 pm Q&A, course evaluations
4:30 pm End of workshop

Venue: Indoor lecture/lab portions of this workshop will be held at the University of Redlands’ GIS lab (Lewis Hall 102) in Redlands, CA, with field sites approx. 30 minutes from Redlands in western Riverside County. Additional details will be provided to registered participants about a week before the workshop.

Materials Required: Please bring...
- Clipboard, notebook, and pencil
- Sturdy boots, sunscreen and field clothes appropriate for the weather and conditions
- Plenty of water for the field; lunch and snacks for all 3 days
- Optional items: compass and/with clinometer, binoculars, digital camera, GPS unit

Materials Provided: CNPS will provide course materials for the field and computer exercises (e.g., slides, map printouts, exercises, reference material, and other handouts), and workstations for the vegetation mapping exercises.

Physical Requirements: Participants should be physically able to hike over uneven terrain and remain in the field for up to 8.5 hours at a time. This workshop will be held rain or shine. We will spend approximately 33% of the time in the field.

About the Instructors:
Rachelle Boul has been with the Vegetation Classification and Mapping Program (VegCAMP) of the California Department of Fish and Wildlife (CDFW) since 2006. She has worked in a variety of different landscapes across California including marsh, desert, chaparral, riparian, coastal, and forest habitats. She has a B.S in Biology from California State University Chico.

Jennifer Buck-Diaz is a vegetation ecologist and botanist with the CNPS Vegetation Program. She brings to CNPS extensive work experience with different plant communities across the western United States. Prior to joining CNPS, Jennifer worked as an ecologist with The Nature Conservancy at the Cosumnes River Preserve. She holds a B.S. and M.S. in Plant Biology from the University of California, Davis.

Julie M. Evens is the Vegetation Program Director for CNPS, where she has directed vegetation projects and analyzed vegetation data for over twenty years. She currently manages CNPS sampling protocols and databases, coordinates vegetation sampling and training sessions, collaborates on mapping projects with other agencies, and writes reports on vegetation classification across CA. Previously, she worked as a crew leader for major vegetation projects in Sequoia & Kings Canyon National Parks and the central Mojave Desert. She recently co-authored California’s Botanical Landscapes: A Pictorial View of the State’s Vegetation with Michael G. Barbour, Todd Keeler-Wolf, and John O. Sawyer, and compiled the CNPS Fire Recovery Guide. Julie received her BA degrees from UC Santa Cruz and MA in biology from Humboldt State.

John Menke is the Senior Vegetation Mapping Specialist at Aerial Information Systems, Inc. With over 30 years of experience, he has been the lead photo interpreter for the National Park Service’s Vegetation Mapping Program at Yosemite, Sequoia-Kings Canyon, Joshua Tree, Point Reyes and Golden Gate National Parks. He has also conducted mapping efforts for the Marin Municipal Water District, western Riverside County, the Sacramento Delta region, Napa County, and numerous other locations throughout CA.

Registration Information: Visit www.cnps.org/workshops to sign up for this class. Registration fees are discounted for CNPS members; please visit www.cnps.org/join if you would like to become a member. Class size is limited to 20 participants. The last day to sign up for this workshop is Sunday, February 9, 2020.

Before registering, please review the CNPS workshop cancellation policy, registration and payment policy, and participant expectations at www.cnps.org/workshops. The last day to cancel your registration and receive any refund for this workshop (less the cancellation fee) is Monday, January 27, 2020. Contact Becky Reilly, breilly@cnps.org with any questions.