HIGH FLYER



Helping students set their sights sky high, Associate Professor Scott Graves establishes a new scholarship — and then there are the drones.



By Natalie Missakian

In April 2010, Scott Graves was watching news coverage of the BP Deepwater Horizon oil disaster in the Gulf of Mexico. A geologist and oceanographer who spent his early career making maps from aerial views of the landscape, Graves began wondering: How would scientists document the spread of the spill along the coastline and into surrounding marshes?

Curious, he started poking around the internet. The federal government had basically shut down flights over the area, but Graves learned a small group of researchers was getting aerial shots by dangling cameras from kites and balloons.

Thinking it would be great to bring the technique to Southern, Graves, associate professor in the Department of the Environment, Geography, and Marine Sciences, decided to learn what he could and worked with his department to acquire a balloon and a kite.

"I just started 'MacGyvering' camera systems together," he recalls, referencing the 1980s TV character known for cobbling together everyday items to get out of tough situations. Then, a few years later, drones became widely available, and Graves thought: "That's it."

Today, Graves is a pioneer in the growing movement to use drones for environmental research and conservation — and he's passionate about sharing that technology with Southern students. Over the last year, he has donated about $10,000 worth of drones, mapping software, and other related equipment to forward the effort at Southern.

He has also gifted about $70,000 to establish the Osprey Endowed Scholarship for Environmental and Marine Studies, named for the coastal bird that flies at the same altitude as his drones. The scholarship is earmarked for undergraduate and graduate students who are conducting research with a faculty mentor through the Werth Center for Coastal and Marine Studies or the Center for Environmental Literacy and Sustainability Education, both research centers at Southern. Although it's not required, the first two recipients have included drone technology as a focal point of their projects.

Peter Broadbridge, who is pursuing a master's degree in science education at Southern, notes that receiving the scholarship in 2015 changed his perspective on life — and possibly his career path. Broadbridge, who studied the health of marshes along West Haven's Cove River, worked with Graves to parlay the scholarship into a NASA-funded grant

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MEETING OF THE (SCIENTIFIC) MINDS

The 21st GLOBE Annual Meeting and Student Research Exhibition/ Field Experience will be held at Southern on July 30 – Aug. 3.

Scott Graves, associate professor, has had a long association with GLOBE — The Global Learning and Observations to Benefit the Environment program. The organization connects students, teachers, scientists, and citizens from around the world and invites them to conduct hands-on science.

GLOBE is sponsored by NASA and the National Science Foundation, with support from other government agencies.



TIMOTHY B. CONNELL, M.S. '79, 6th Yr. '81, Aug. 30, 2016, North Haven, Conn.

ILENE FERNALD, '79, June 2, 2016, West Hartford, Conn.

LUIS GARCIA-ABRINES, '79, May 17, 2016, New Haven, Conn.

CATHERINE ANNE MONAHAN, M.S. '79, April 30, 2016, Shelton, Conn.

ROSE ANNA MORROW, M.S. '81, 6th Yr. '95, June 26, 2016, North Branford, Conn.

MARY ELLEN PHAELAN RACCUIA, '81, Sept. 13, 2016, Woodbridge, Conn.

JOHNSON CLAYTON JONES III, '82, July 20, 2016, Waterbury, Conn.

DIANE E. PARRISH, M.S. '82, July 23, 2016, Clinton, N.Y.

GEORGE JOHN CAFFREY, M.S. '83, M.S. '86, Nov. 18, 2016, Meriden, Conn.

PHYLLIS FRYE FORD, '83, Aug. 3, 2016, Wallingford, Conn.

TREVOR TRINKAUS, M.S. '83, July 8, 2016, Spring Hill, Fla.

JOAN ROBERTA CALLI, M.S. '84, April 20, 2016, Branford, Conn.

BION FRANCIS JR., M.S. '84, April 22, 2016, Easton, Conn.

LAUREL BLAUVELT, '85, M.S.N. '91, July 9, 2016, East Haven, Conn.

MARGARET CASTELLON, '85, Aug. 12, 2016, North Haven, Conn.

CARL E. KIMMONS, 6th Yr. '86, Aug. 4, 2016, Waterford, Conn.

ANTOINETTE TARINI, '87, M.S. '93, Jan. 14, 2016, Orange, Conn.

DARLENE HORTON, M.S. '88, Aug. 3, 2016, Tallahassee, Fla.

EDWIN REYNOLDS "TED" FLETCHER, M.S.W. '89, Sept. 10, 2016, Hamden, Conn.

CHRISTOPHER ZIEMNICKI, '90, July 27, 2016, Granby, Conn.

ELIZABETH HARRISON BUCKLEY, '91, July 21, 2016, Killingworth, Conn.

LORI DOLINSKI ANTONIK, '93, May 9, 2016, Charlotte, N.C.

JOSEPH V. ROSSI, '93, June 4, 2016, Edgewater, Md.

NATALIE "NAT" BAKER, '96, April 19, 2016, Trumbull, Conn.

MARGARET CLARK LERCHEN, M.L.S. '96, May 12, 2016, Fairfield, Conn.

MARGARET GHERARD MCCORMACK, M.F.T. '96, July 31, 2016, Naugatuck, Conn.

G. PETER NUGENT, '96, Nov. 5, 2016, Bethany, Conn.

JOHN M. MARTIN, M.S. '03, Nov. 2, 2016, Gales Ferry, Conn.

JASON CZECH, '06, July 1, 2016, Branford, Conn.

M. TERESA SAKONCHICK, B.S. '07, May 8, 2016, Orange, Conn.

MEGHAN STARSON, M.A. '08, July 9, 2016, Stamford, Conn.

LUISA VAZ, M.S. '09, Sept. 7, 2016, Shelton, Conn.

LORENZO CUCCINIELLO, '16, Sept. 27, 2016, Hamden, Conn.

KATHERINE E. MCCARTHY, professor emeritus, Oct. 7, 2016, Woodbridge, Conn.

MARY LOUISE SEMMLER, assistant professor emeritus of music, Aug. 18, 2016, Hamden, Conn.

WILLIAM TAYLOR, professor emeritus of theatre, April 5, 2016, New Haven, Conn.

VICTOR A. TRIOLO, associate professor emeritus of information and library science, Aug. 7, 2016, Easton, Conn.

Class notes are compiled from submissions from alumni as well as announcements made in the media.

Top Owl

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Speaking of conversations, you've been talking to many constituencies — from students and alumni to faculty to legislators. Have you learned anything that surprised you?

One thing I am really excited about is the quality and the caliber of our student population. The academic excellence and rigor at Southern is far beyond what many realize. Our students are sometimes underestimated. In the sciences, a team of Southern students recently won a bronze medal at an international synthetic biology competition. Southern's Society of Professional Journalists was named the outstanding campus chapter in our region [Connecticut, Maine, Massachusetts, New Jersey, New York, Pennsylvania, and Rhode Island]. Our freshman class includes many top students, including three high school valedictorians. We are a community of scholars, artists, and community activists. I'm looking forward to seeing all that we accomplish. ■

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to continue his drone-assisted research. This year's winner, Christine Woehrle, is using drones to study the health of local vineyards.

In Graves' opinion, drones hold enormous potential as a less expensive, more effective way for environmental scientists to collect data from aerial perspectives. "This is an incredibly powerful tool for getting information on landscapes that might otherwise be inaccessible," says Graves. "In the past, if you wanted to have aerial photography, you either had to hire a helicopter or an airplane — either of which needed to fly very high. But now, for a couple thousand dollars, you can get a drone that carries a 4K camera, learn how to fly it yourself, and get very low-altitude imagery."

Graves' obsession with learning about his surroundings dates back to childhood. Growing up in Malibu, Calif., he spent hours with friends exploring the creek near his family's home.

"I'd get home from school and my mom would say, 'See you at sundown,'" he recalls.

During his senior year in high school, he took an earth science class and decided he wanted to become a geologist. After earning a bachelor's degree from the University of California-Santa Cruz, he took a job with the U.S. Geological Survey, where he was charged with producing a map of coastal erosion in the Arctic.

In 1986, Graves' quest to earn a doctorate in oceanography led him to the University of Rhode Island. But funding for research was sparse, and Graves ultimately graduated with a master's degree when his major professor retired abruptly before he could finish the program.

"I was devastated because I'd spent five years in a Ph.D. program and passed all the preliminaries and qualifications," Graves says. "Here's your dream. You're pursing it and the door slams right in your face. So what do you do? You have to change directions."

He took a break from academia to work as a snowboard instructor before landing a job with a nonprofit organization, where he co-designed an environmental education curriculum for middle schoolers. While presenting at a conference at the University of Idaho, he was recruited into a doctoral program, and earned his doctorate in science education in 1999.

It was there that he got his big break — authoring a successful $7.5 million federal grant to train teachers from New Jersey to Oregon in how to use GIS (geographic information system) technology to document 200 years of change along the Lewis and Clark Expedition Trail — a career highlight that would consume his time for the next five years.

In 2005, wanting to move to an urban area near the coast, he came to Southern and never looked back. "I fell in love with the programs and the people in this department," he says.

While he has made smaller donations to his various alma maters, he reserves the bulk of his philanthropy for Southern. Graves also was among a group of benefactors — that included the Werth Family Foundation and others — who recently bought the Southwest Ledge Lighthouse in New Haven for student research.

Reflecting on the ups and downs of his own career, Graves says his philanthropy is a "pay it forward scenario," noting he's "had some breaks along the way."

"I know what it's like to have your dreams shut down — and I know what it's like to suddenly see a new horizon and go for it," he says.

See Southern from the sky courtesy of a drone in flight: SouthernCT.edu/video-southern-above. ■