Max Czapanskiy, PhD

UC Santa Barbara, Assistant Professor of Teaching

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Ecologist, data scientist, and educator. I teach scientists at all career stages how to improve their data analysis skills through innovative course design and hands-on mentorship. My research integrates software engineering and ecology to promote open and reproducible science.

Education

Stanford University — *Pacific Grove, CA*

PhD in Biology — *2022*

- Advised by Jeremy Goldbogen
- Dissertation: Baleen whale physiology revealed through the integration of bio-logging and ecoinformatics

San Francisco State University — *San Francisco, CA*

MS in Geographic Information Systems — *2018*

- Advised by Ellen Hines
- Thesis: Using energy landscapes to understand seabird movement and spatial ecology
- Graduate hood, College of Science & Engineering

Columbia University — *New York, NY*

BS in Computer Science — *2014*

Teaching and Mentoring

Data Science for Eco/Evo — *UC Santa Cruz*

Lead instructor — *2023*

- Graduate seminar in the Department of Eco and Evo Bio covering scientific programming, project management, and open science.
- Course website: flukeandfeather.github.io/BIOE215fall23/

Undergraduate researcher mentor — *Stanford University*

REEFS Mentor — *2022*

Just Enough Software Engineering (For Scientists) — *Stanford University*

Lead instructor — *2021*

- Two-week self-directed, mastery-oriented software engineering course for biosciences graduate students

Introduction to Physiological Ecology — *Stanford University*

Teaching assistant — *2021*

Undergraduate researcher mentor — *CSU Monterey Bay REU*

NSF REU Mentor — *2019*

- Mentee Hayden Smith presented his work at a conference and published it in the *Journal of Exp. Bio.* (Gough et al., 2021).

Data Carpentry — *The Carpentries*

Certified Instructor — *2018 - present*

Introduction to Ecology — *Stanford University*

Teaching assistant — *2018*

Introduction to GIS — *San Francisco State University*

Teaching assistant — *2016 - 2017*

Publications

Sea-Ice and Macrozooplankton Distribution as Determinants of Top Predator Community Structure in Antarctic Winter — *Marine Ecology Progress Series*

Czapanskiy, M.F., Santora, J.A., Dietrich, K.S., Cimino, M.A., Hazen, E.L., ..., Veit, R.R. — *2024*

Ecosystem Sentinels as Early-Warning Indicators in the Anthropocene — *Ann. Rev. of Environment and Resources*

Hazen, E.L., Savoca, M.S., Clark-Wolf, T., **Czapanskiy, M.F.**, Rabinowitz, P.M., Abrahms, B. — *2024*

Energy Densities of Key Prey Species in the California Current Ecosystem — *Frontiers in Marine Science*
Price, S.E., Savoca, M.S., Kumar, M., **Czapanskiy, M.F.**, McDermott, D., ..., Goldbogen, J.A. — *2024*

Field measurements reveal the risk of microplastic ingestion by filter-feeding megafauna — *Nature Communications*
Kahane-Rapport, S.R., **Czapanskiy, M.F.**, Fahlbusch, J.A., Friedlaender, A.S., Calambokidis, J., ..., Savoca, M.S. — *2022*

Fast and furious: energetic tradeoffs and scaling of high-speed foraging in rorqual whales — *Integrative Organismal Biology*
Gough, W.T., Cade, D.E., **Czapanskiy, M.F.**, Potvin, J., Fish, F.E., ..., Goldbogen, J.A. — *2022*

Blue whales increase feeding rates at fine-scale ocean features — *Proceedings of the Royal Society B*
Fahlbusch, J.A., **Czapanskiy, M.F.**, Calambokidis, J., Cade, D.E., Abrahms, B., ..., Goldbogen, J.A. — *2022*

Baleen whale inhalation variability revealed using animal-borne video tags — *PeerJ*
Nazario, E.C., Cade, D.E., Bierlich, K., **Czapanskiy, M.F.**, Goldbogen, J.A., ..., Friedlaender, A.S. — *2022*

How reproducibility will accelerate discovery through collaboration in physio-logging — *Frontiers in Physiology*
Czapanskiy, M.F., Beltran, R.S. — *2022*

An accelerometer-derived ballistocardiogram method for detecting heartrates in free-ranging marine mammals — *Journal of Exp. Bio.*
Czapanskiy, M.F., Ponganis, P.J., Fahlbusch, J.A., Schmitt, T.L., Goldbogen, J.A. — *2022*

Elephant seals time their long-distance migrations using a map sense — *Current Biology*
Beltran, R.S., Yuen, A.L., Condit, R., Robinson, P.W., **Czapanskiy, M.F.**, ..., Costa, D.P. — *2022*

Scaling of maneuvering performance in baleen whales: larger whales outperform expectations — *Journal of Exp. Bio.*
Segre, P.S., Gough, W.T., Roualdes, E.A., Cade, D.E., **Czapanskiy, M.F.**, ..., Goldbogen, J.A. — *2022*

Tools for integrating inertial sensor data with video bio-loggers, including estimation of animal orientation, motion, and position — *Animal Biotelemetry*
Cade, D.E., Gough, W.T., **Czapanskiy, M.F.**, Fahlbusch, J.A., Kahane-Rapport, S.R., ..., Goldbogen, J.A. — *2021*

Baleen whale prey consumption based on high-resolution foraging measurements — *Nature*
Savoca, M.S., **Czapanskiy, M.F.**, Kahane-Rapport, S.R., Gough, W.T., Fahlbusch, J.A., ..., Goldbogen, J.A. — *2021*

Modelling short-term energetic costs of sonar disturbance to cetaceans using high-resolution foraging data — *Journal of Applied Ecology*
Czapanskiy, M.F., Savoca, M.S., Gough, W.T., Segre, P.S., Wisniewska, D.M., ..., Goldbogen, J.A. — *2021*

Scaling of oscillatory kinematics and Froude efficiency in baleen whales — *Journal of Exp. Bio.*
Gough, W.T., Smith, H.J., Savoca, M.S., **Czapanskiy, M.F.**, Fish, F.E., ..., Goldbogen, J.A. — *2021*

Cervical air sac oxygen profiles in diving emperor penguins: parabronchial ventilation and the respiratory oxygen store — *Journal of Exp. Bio.*
Williams, C.L., **Czapanskiy, M.F.**, John, J.S., St Leger, J., Scadeng, M., Ponganis, P.J. — *2021*

Why whales are big but not bigger: Physiological drivers and ecological limits in the age of ocean giants — *Science*
Goldbogen, J.A., Cade, D.E., Wisniewska, D.M., Potvin, J., ..., **Czapanskiy, M.F.**, ..., Pyenson, N.D. — *2019*

Extreme bradycardia and tachycardia in the world's largest animal — *PNAS*
Goldbogen, J.A., Cade, D.E., Calambokidis, J., **Czapanskiy, M.F.**, Fahlbusch, J., ..., Ponganis, P.J. — *2019*

Diving behavior of Pink-footed Shearwaters *Ardenna creatopus* rearing chicks on Isla Mocha, Chile — *Marine Ornithology*
Adams, J., Felis, J.J., **Czapanskiy, M.F.**, Carle, R., Hodum, P. — *2019*

Collision and displacement vulnerability to offshore wind energy infrastructure among marine birds of the Pacific Outer Continental Shelf — *Journal of Env. Mgmt.*
Kelsey, E.C., Felis, J.J., **Czapanskiy, M.F.**, Pereksta, D.M., Adams, J. — *2018*

Employment

UC Santa Barbara, Bren School of Environmental Science and Management & College of Creative Studies
Assistant Professor of Teaching — *2024 - Present*

NOAA / UC Santa Cruz
Postdoctoral Scholar — *2022 - 2024*

Stanford University
Stanford Data Science Scholar — *2019 - 2021*

U.S. Geological Survey Western Ecological Research Center
Biological Sciences Technician — *2014 - 2017*

University of Montana Avian Science Center

Avian Point Count Technician — *2014*

Friends of Cooper Island

Field Assistant and Data Analyst — *2012 - 2013*

Point Blue Conservation Science

Marine Ecology Intern — *2013*

Microsoft

Software Developer Engineer in Test — *2009 - 2012*

Conference presentations

Stickleback: A machine learning pipeline for detecting behavioral events in bio-logging data — *Online*

7th International Bio-Logging Symposium — *2021*

Quantifying the Influence of Energy Windscapes on Seabird Distributions — *Portland, OR*

Ocean Sciences Meeting — *2018*

Modeling Seabird Habitat Accessibility — *Pacific Grove, CA*

Society for Conservation GIS Annual Conference — *2017*

Taking the Plunge: Comparing Diving Behavior of Red-footed and Brown Boobies Breeding on Lehua Islet, Hawaii — *Turtle Bay, HI*

Pacific Seabird Group Annual Meeting — *2016*