

# Max F. Czapanskiy

Hopkins Marine Station, 120 Ocean View Blvd, Pacific Grove, CA 93950

(240) 353-7071 · maxczap@stanford.edu

## Education

- Stanford University** 2018 – Present  
Hopkins Marine Station, Pacific Grove, CA  
PhD Student in Biology  
Advisor: Jeremy Goldbogen
- San Francisco State University** 2016 – 2018  
Estuary & Ocean Science Center, Tiburon, CA  
MS in Geographic Information Science  
Advisor: Ellen Hines
- University of Washington** 2013 – 2014  
Seattle, WA  
Post-baccalaureate classes in biology and computer science
- Columbia University** 2005 – 2009  
Fu Foundation School of Engineering and Applied Science, New York, NY  
BS in Computer Science

## Publications

### *In print*

- Goldbogen, J., Cade, D., Wisniewska, D., Potvin, J., Segre, P., Savoca, M., Hazen, E., **Czapanskiy, M.**, Kahane-Rapport, S., DeRuiter, S., Gero, S., Tønnesen, P., Gough, W., Hanson, M., Holt, M., Jensen, F., Simon, M., Stimpert, A., Arranz, P., Nowacek, D., Parks, S., Visser, F., Friedlaender, N., Tyack, P., Madsen, P., Pyenson, N. Why whales are big but not bigger: allometric scaling of drivers and limits in the age of ocean giants. *Science*. 366(6471), 1367-1372 (2019).
- Goldbogen, J., Cade, D., Calambokidis, J., **Czapanskiy, M.**, Fahlbusch, J., Friedlaender, A., Gough, W., Kahane-Rapport, S., Ponganis, K., Ponganis, P. Extreme bradycardia and tachycardia in the world's largest animal. *Proceedings of the National Academy of Sciences*, 116(50), 25329-25332 (2019).
- Adams, J., Felis, J., **Czapanskiy, M.**, Carle, R., Hodum, P. Diving behavior of Pink-footed Shearwaters *Ardenna creatopus* rearing chicks on Isla Mocha, Chile. *Marine Ornithology*. 47, 17-24 (2019).
- Kelsey, E., Felis, J., **Czapanskiy, M.**, Pereksta, D., Adams, J. Collision and displacement vulnerability to offshore wind energy infrastructure among marine birds of the California Current System. *Journal of Environmental Management*. 227, 229-247 (2018).

### *In review*

- Czapanskiy, M.**, Savoca, M., Gough, W., Segre, P., Wisniewska, D., Cade, D., Goldbogen, J. Large baleen and small toothed whales face greatest energetic consequences from sonar disturbance. In review, *Journal of Applied Ecology*.
- Savoca, M., **Czapanskiy, M.**, Kahane-Rapport, S., Cade, D., Gough, W., Fahlbusch, J., Bierlich, K., Segre, P., Clemente, J., Penry, G., Calambokidis, J., Nowacek, D., Johnston, D., Pyenson, N., Friedlaender, A., Hazen, E., Goldbogen, J. Fine-scale measurements of foraging reveal baleen whales as global climate engineers. In review, *Nature*.
- Czapanskiy, M.**, Adams, J., Felis, J., Kelsey, E., Hines, E. Effects of wind on Red-footed Booby (*Sula sula*) flight behavior. In review, *Movement Ecology*.

### *Technical reports*

- Kelsey, E., Adams, J., Felis, J., **Czapanskiy, M.**, Kaholoaa, R., Bailey, C. Trends in mammalian predator control trapping events intended to protect endangered Hawaiian Petrel ('Ua'u, *Pterodroma*

*sandwichensis*) at Haleakalā National Park, Hawai'i: 2000–2014. U.S. Geological Survey, Western Ecological Research Center, Santa Cruz Field Station, Santa Cruz, CA. Preliminary Interagency Report. Adams, J., Felis, J., **Czapanskiy, M.** Habitat Affinities and At-Sea Ranging Behaviors among Main Hawaiian Island Seabirds: Breeding Seabird Telemetry, 2013-2016. U.S Dept. of the Interior, Bureau of Ocean Energy Management, Pacific OCS Region, Camarillo, CA. Preliminary Interagency Report.

### Software

**Czapanskiy, M.** (2020). beats: Heartbeat Detection in Electrocardiogram Data. R package version 0.1.1. <https://cran.r-project.org/package=beats>

Cade, D., Barr, K., Calambokidis, J., Friedlaender, A., Goldbogen, J., **Czapanskiy, M.** (2019). Jiggle: Estimating Speed from Accelerometer Jiggle. R package version 0.0.0.9000. <https://github.com/flukeandfeather/jiggle>

### Conference Presentations

**Czapanskiy, M.**, Adams, J., Felis, J., Kelsey, E., Hines, E. (2018, February). *Quantifying the Influence of Energy Windscares on Seabird Distributions*. Ocean Sciences Meeting, Portland, OR.

**Czapanskiy, M.**, Adams, J., Felis, J., Kelsey, E., Hines, E. (2018, January). *Quantifying the Influence of Energy Windscares on Seabird Distributions*. Society for Integrative and Comparative Biology Meeting, San Francisco, CA.

**Czapanskiy, M.**, Adams, J., Hines, E. (2017, July). *Modeling Seabird Habitat Accessibility*. Society for Conservation GIS Annual Conference, Monterey, CA.

**Czapanskiy, M.**, Felis, J., Henry, R., Adams, J., Judge, S. (2016, February). *Taking the Plunge: Comparing Diving Behavior of Red-footed and Brown Boobies Breeding on Lehua Islet, Hawaii*. Pacific Seabird Group Annual Meeting, Turtle Bay, HI.

### Teaching & Mentoring Experience

#### Students mentored

**Hayden Smith**, Summer 2019 REU student. I taught Hayden how to organize data and write MATLAB scripts. He presented his project on the physics of whale movement at the Ocean Sciences Meeting and the Society for Integrative and Comparative Biology Meeting in 2020 and is preparing a manuscript for the Journal of Experimental Biology.

#### Data Science Curriculum

August 2019 – Present

##### Co-author

Atlanta, GA

Design of a modular, mastery-based data science curriculum in collaboration with Dr. Jonathan Cohen, Program Director Learning Technologies at Georgia State University. In progress.

#### Data Carpentry

October 2018 – Present

##### Certified Instructor

Teaching R and data science in 2-day workshops.

#### Stanford University

September 2018 – December 2018

##### Teaching Assistant

Stanford, CA

One quarter of introductory ecology for undergraduates.

#### San Francisco State University

August 2016 – December 2017

##### Teaching Assistant

San Francisco, CA

Two semesters teaching an introductory GIS lab to undergraduates.

### Work Experience

#### U.S. Geological Survey Western Ecological Research Center

May 2015 – August 2017

##### Biological Sciences Technician

Santa Cruz, CA

Field work in California, Oregon, and Hawaii to track movement and foraging of seabirds. Spatial analyses of tracking and environmental data sets in R and Python.

**U.S. Geological Survey Western Ecological Research Center** October 2014 – April 2015  
*Biological Sciences Technician* Vallejo, CA  
 Waterfowl and shorebird monitoring on restored San Francisco Bay wetlands. Implementation of WARMER model in R for projecting wetland survival under sea level rise.

**University of Montana Avian Science Center** May 2014 – July 2014  
*Avian Point Count Technician* Lewistown, MT  
 Breeding bird point counts and vegetation surveys.

**Friends of Cooper Island** March 2012 – May 2014  
*Field Assistant and Data Analyst* Seattle, WA  
 Colony breeding monitoring in Alaskan Arctic. Data management and visualization for analysis and presentation. Website updates, outreach content, blogging.

**Point Blue Conservation Science** April 2013 – July 2013  
*Marine Ecology Intern* Petaluma, CA  
 Colony demographics and breeding monitoring on Farallon Islands. Diet observations and sampling.

**Microsoft** July 2009 – February 2012  
*Software Development Engineer in Test* Redmond, WA  
 Manual and automated testing for in-development Excel. Development and administration of test tools in C# and VBA.

## Technical Skills

### Programming

Professional experience in several languages. Particular focus on R, Python, and MATLAB. Skills include data analysis and visualization, modeling, and package development.

### GIS

Conceptual and practical experience with modern systems, including task automation and spatial modeling with ArcGIS and ArcPy. Emphasis on animal-borne GPS tracking and remote sensing of the marine environment.

### Databases

Professional experience in design, implementation, and maintenance of relational databases. SQLite-based development.

## Awards and Scholarships

**Stanford Data Science Scholar Fellowship** – Stanford University, Stanford Data Science Initiative, 2020

**Stanford Graduate Fellowship** – Stanford University, Vice Provost for Graduate Education, 2018

**Graduate Hood** – San Francisco State University, College of Science and Engineering, 2018

**Esri Development Center Student of the Year** – Esri, 2018

**COAST Research Award** – California State University, Council on Ocean Affairs, Science & Technology, 2018

**Maxwell Memorial Scholarship** – San Francisco State University, College of Science and Engineering, 2017

**Pease Award** – San Francisco State University, Department of Geography and Environment, 2017

**CWEP Award for Graduate Student Writing** – San Francisco State University, 2017

**Honorable Mention Student Paper** – 43<sup>rd</sup> Annual Meeting of the Pacific Seabird Group, 2016

**San Francisco Bay Scholarship** – Romberg Tiburon Center, 2016

## Outreach Activities

**#WSTC3** – Co-chair of the World Seabird Union's 3<sup>rd</sup> annual World Seabird Twitter Conference. Featured 130 presentations from 57 countries and over 1,500 participants.

## Field Work

**Emperor Penguin Diving Physiology**, McMurdo Sound, Antarctica. UCSD [PI: P Ponganis] October – December 2020

**Humpback Whale Tagging Study**, Stellwagen Bank, MA. NOAA Sanctuary [PI: J D Wiley] June 2019  
**Rorqual Whales Tagging Study**, Monterey Bay, CA. Stanford [PI: J Goldbogen] June 2018 - Present  
**At-Sea Marbled Murrelet Surveys**, Santa Cruz, CA. USGS [PI: J Adams] June 2017  
**Hawaiian Seabird Tracking Study**, Kilauea Point, HI. USGS [PI: J Adams] Aug 2015, Apr 2016  
**Ashy Storm-Petrel Mist Netting**, Prince Island, CA. USGS [PI: J Adams] June - Sept 2015, 2016  
**Common Murre Tracking Study**, Yaquina Head, OR. USGS [PI: R Suryan] May 2015  
**Avian Point Counts**, Charles M. Russell Wildlife Refuge, MT. RMBO [PI: C Meny] May – July 2014  
**Seabird Research Intern**, Farallon Islands, CA. Point Blue [PI: P Warzybok] Apr – June 2013  
**Black Guillemot Field Technician**, Cooper Island, AK. FCI [PI: G Divoky] June 2012, July - Sept 2013