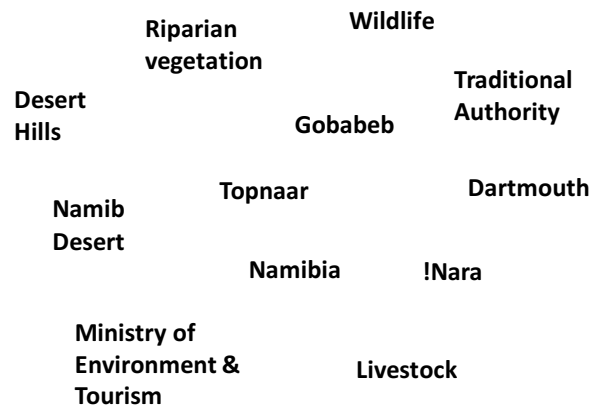


During this course, you will be embedded within the social-ecological system (SES) surrounding Gobabeb Namib Research Institute in the Kuiseb River watershed. Your task in this course is to design and complete an original group research project. Working with Gobabeb collaborators and Dartmouth mentors, you will move through the stages of the research process: question generation, study design, field data collection, analysis, writing, and the presentation of results.

The figure below represents some of the major components of the SES (there could be others) that you will enter in ENVS 84. Note that “Dartmouth” (representing our FSP, you) is part of the system. We want to be self-reflexive and aware of our position in this dynamic SES; to engage in a thoughtful, productive, and scholarly way.

ENVS 84 Social-ecological System



You can begin to reach a deeper understanding of the system by rigorously examining the relationship among any two (or more) of these components. What questions can you ask about the relationship between the !Nara and the Namib, between Gobabeb and the Topnaar, between Dartmouth and the Wildlife, etc.? You can also deepen your understanding by examining the complexity within each component.

As with the rest of the FSP, the great challenge of ENVS 84 is to try to synthesize the theoretical with the empirical. What concepts or theories from your academic background can you use to describe and understand these relationships?

It's important to understand the nature of this project. To be clear, this is a research project. It is not a service project, though it could be of service to some in the community. This is not a development project, though it could inform those efforts also. It's important to recognize that this is real research, not a “canned” research experience. It will require that you all take ownership of this project. You will be the primary drivers of the project. However, you also must keep in mind that this is a collaboration between you, Dartmouth instructors, Gobabeb community. So it's best to think of this as a coproduction of knowledge. Also, recognize that, as with all research projects, there are constraints on

what you can do. Some of those constraints are logistical and involve limitations in terms of time, people power, money, facilities, or technology. Other constraints are intrinsic to working with partners. We have to be sensitive to their opinions and priorities. We will have to reach consensus with them about what activities are feasible, ethical and productive.

Schedule:

Date	Day	Location	Activity
24-Oct	Tuesday	Gobabeb	Arrival, Intro
25-Oct	Wednesday	Gobabeb	Intro, Project Proposals
26-Oct	Thursday	Gobabeb	Field Work
27-Oct	Friday	Gobabeb	Field Work
28-Oct	Saturday	Gobabeb	Field Work
29-Oct	Sunday	Gobabeb	Field Work
30-Oct	Monday	Gobabeb	Field Work
31-Oct	Tuesday	Gobabeb	Field Work, Halloween Party
1-Nov	Wednesday	Gobabeb	Field Work
2-Nov	Thursday	Gobabeb	Field Work
3-Nov	Friday	Gobabeb	Field Work
4-Nov	Saturday	Gobabeb	Field Work
5-Nov	Sunday	Gobabeb	Field Work
6-Nov	Monday	Swakopmund	Analysis & Writeup
7-Nov	Tuesday	Swakopmund	Analysis & Writeup
8-Nov	Wednesday	Swakopmund	Analysis & Writeup
9-Nov	Thursday	Swakopmund	Analysis & Writeup
10-Nov	Friday	Swakopmund	Analysis & Writeup
11-Nov	Saturday	Gobabeb	Final Presentations
12-Nov	Sunday	Gobabeb	Wrap up
13-Nov	Monday	Windhoek	Travel to Windhoek
14-Nov	Tuesday	Windhoek	Wrap up
15-Nov	Wednesday	Windhoek	Depart Namibia

How the project areas are chosen:

The choice of project topics in any year is in part a consequence of what previous Dartmouth groups have done, what the Topnaar community has expressed interest and support for, and what is useful to Gobabeb. In addition, each year there are opportunities presented by what other human resources and expertise are available and what issues are timely. This year we have a particularly rich supply of ecological expertise (see below). You will notice that some projects in previous years focused on social components of the system and included community-embedded work with the Topnaar. Because this is our first year returning to Gobabeb with the FSP since 2019, we will not be working directly with the Topnaar community as we need time to rebuild connections with community

members. However, all groups will work to frame their research in the context of the broader SES.

After the first day at Gobabeb, the Dartmouth mentors will take stock of the resources, opportunities, and expertise available. We will then outline 4-5 project areas and the number of participants needed to complete the projects. This part of the process requires our experience and prior communication with our partners to identify projects that are feasible and appropriate in terms of ethics, logistics and expertise. Once these areas have been identified, we will engage in a process wherein each of you will choose a project. We will help you to decide on what kind of process you'd like to use to choose these assignments.

Each group will be assigned a primary mentor (Rebecca, Saima, Jonathan, or Flora). Doug will be available for additional onsite support at the station, and other Gobabeb staff will contribute to projects based on their expertise and availability. In collaboration with your mentors and perhaps other partners you will then design the details of your project and carry it out.

This is an opportunity to engage constructively with a real social-ecological system. So, we must all endeavor to remain flexible, fully engaged, good-humored and alert to the opportunities for doing useful work.

Human Resources

We will be working with many members of the Gobabeb staff, including **Executive Director Dr. Gillian Maggs-Kolling**, and **Research Director Dr. Eugene Marais**.

Also joining us:

Saima Shikesho – TA for the program. We have worked with Saima at Gobabeb since 2016: First as an intern at Gobabeb, then as an M.S. student at the University of Cape Town, and now as a PhD student at Dartmouth. Saima's research focuses on a wide range of questions within the !nara system.

Dr. Elizabeth Wolkovich – Lizzie did her PhD at Dartmouth and is now a professor at the University of British Columbia. Her research focus is on plant phenology (the timing of plant life history events (e.g., flowering) and how this is affected by climate change.

(<http://temporalecology.org/>)

Dr. Jonathan Davies – Jonathan is a professor at the University of British Columbia. His research addresses how the evolutionary history of species—their phylogeny— informs our understanding of patterns of global extinction risk, species coexistence, and pathogen transmission and disease emergence. (<https://phyloecology.wordpress.com/>)

Dr. Rebecca Finger-Higgins – Rebecca did her PhD at Dartmouth and now works with the USGS Southwest Biological Science Center in Moab, Utah. She studies the ways in which landscape legacies and climate change impact dryland and Arctic ecosystems.

(<https://www.usgs.gov/staff-profiles/rebecca-finger-higgins>)

Learning Objectives and Outcomes

- Learn about and practice conducting original research related to the themes of conservation and development
- Collaborate effectively in a group project setting that requires problem-solving, creativity and adaptability
- Respond to constructive criticism about research design and analysis
- Recognize opportunities for constructive engagement in complex, messy social-ecological systems
- Collectively act on those opportunities by engaging in the system, with a balance of ambition and humility

At the conclusion of this portion of the trip, students will have developed the following skills:

1. Ability to conduct original research, including research question identification, study design, data collection and analysis, and communication
2. Negotiation skills working with other actors in the system to identify research projects
3. Ability to identify ethical considerations of community-based research and action in novel cultures and contexts
4. Capacity to work collaboratively to accomplish goals, particularly in dynamic and largely unfamiliar environments
5. Ability to analyze and develop solutions to/make progress on complex problems, particularly related to conservation and development

Assessment and Grading

Group products:

1. A **final presentation** at Gobabeb on November 11-12. More on this later.
2. A **research paper that presents the results of your project**. You will write an original research paper presenting the results of the project your group completes at Gobabeb. This paper will be in the format of a scientific paper (Introduction, Methods, Results, Discussion, Works Cited). One objective is for you to help pave the way for future FSP groups and others interested in this system. In addition to future FSPers, the audience for these papers includes Gobabeb staff and interested members of the Topnaar community. See the papers from the 2013-2019 groups on Mendeley. You will have access to the Gobabeb library and internet while there and internet access in Swakopmund for 5 nights. Once we return to Swakopmund, you will be given deadlines for submitting drafts. The final paper is due before we return to Gobabeb for the presentations.

Individual products:

1. **Field Journal Entries.** You will complete 1-2 field journal entries based on your personal observations of the Gobabeb SES.

Approximate contributions to final grade:

Contributions to the group effort, paper and final presentation	95%
Field Journal Entries	5%

College Policies and Associated Resources

Academic Honor Principle

The faculty, administration, and students of Dartmouth College acknowledge the responsibility to maintain and perpetuate the principle of academic honor, and recognize that any instance of academic dishonesty is considered a violation of the [Academic Honor Principle](#).

We will discuss proper attribution as a part of our paper writing process. Dartmouth provides great web resources on this topic that you may wish to use:
<https://writing.dartmouth.edu/support/sources-and-citations>

Use of Generative AI

The use of ChatGPT and other AI tools is quickly becoming common. Teaching productive use of these tools is outside the scope of this course. Instead, ENVS 84 emphasizes the production of new knowledge and deep engagement with all stages of the research process.

I would prefer you not use these tools and instead commit to the productive struggle that is learning. However, I recognize that these tools are not going away. You may use generative AI to find basic information, help formulate ideas, and brainstorm-- in the ways you may have used Google search or Wikipedia in the past. Please realize, however, that the material generated by these programs may be inaccurate, incomplete, biased, or otherwise problematic. Beware that use may also stifle your own independent thinking and creativity.

You may not submit any work generated by an AI program as your own. Your research papers are expected to be entirely original work from your group. If you include material generated by an AI program, in any way, it should be cited like any other reference material (with due consideration for the quality of the reference, which may be poor). This link shows citation formats: <https://researchguides.dartmouth.edu/citingsources/AI>. Please consult with your Dartmouth mentors for more guidance.

Religious Observances

Dartmouth has a deep commitment to support students' religious observances and diverse faith practices. Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with me as soon as possible—before the end of the second week of the term at the latest—to discuss appropriate course adjustments.

Student Accessibility and Accommodations

Students requesting disability-related accommodations and services for this course are required to register with Student Accessibility Services (SAS; [Apply for Services webpage](#); student.accessibility.services@dartmouth.edu; 1-603-646-9900) and to request that an accommodation email be sent to me in advance of the need for an accommodation. Then, students should schedule a follow-up meeting with me to determine relevant details such as what role SAS or its [Testing Center](#) may play in accommodation implementation. This process works best for everyone when completed as early in the quarter as possible. If students have questions about whether they are eligible for accommodations or have concerns about the implementation of their accommodations, they should contact the SAS office. All inquiries and discussions will remain confidential.

Mental Health and Wellness

The academic environment is challenging, and the unpredictable setting of an FSP can intensify these challenges. Please reach out to me early and often if you need support.

There are a number of resources available to you on campus to support your wellness, including: the [Counseling Center](#) which allows you to book triage appointments online, the [Student Wellness Center](#) which offers wellness check-ins, and your [undergraduate dean](#). The student-led [Dartmouth Student Mental Health Union](#) and their peer support program may be helpful if you would like to speak to a trained fellow student support listener. If you need immediate assistance, please contact the counselor on-call at (603) 646-9442 at any time. Please make me aware of anything that will hinder your success in this course.

Title IX

At Dartmouth, we value integrity, responsibility, and respect for the rights and interests of others, all central to our Principles of Community. We are dedicated to establishing and maintaining a safe and inclusive campus where all community members have equal access to Dartmouth's educational and employment opportunities. We strive to promote an environment of sexual respect, safety, and well-being. Through the Sexual and Gender-Based Misconduct Policy (SMP), Dartmouth demonstrates that sex and gender-based discrimination, sex and gender-based harassment, sexual assault, dating violence,

domestic violence, stalking, etc., are not tolerated in our community.

For more information regarding Title IX and to access helpful resources, visit Title IX's website (sexual-respect.dartmouth.edu). As a faculty member, I am required to share disclosures of sexual or gender-based misconduct with the Title IX office.

If you have any questions or want to explore support and assistance, please contact the Title IX office at 603-646-0922 or TitleIX@dartmouth.edu. Speaking to Title IX does not automatically initiate a college resolution. Instead, much of their work is around providing supportive measures to ensure you can continue to engage in Dartmouth's programs and activities.