

# *Natural Resources in a Changing Climate*

*FOR 6934 (3 credits) Spring, 2017*  
*Sections 18DE (on campus), 1A43 and 2C49 (distance)*

## **Course Description**

Our collective focus has been on protecting natural resources as they are, restoring them to what they were, or using them based on past experience. ***The world is changing.*** We need to reconsider our objectives and the tools we use to meet them. This course will explore conservation and management tools and their vulnerabilities to global climate change (GCC), how they can be implemented in new ways to maintain or increase their effectiveness, options for integrating the needs of humans and natural resources, and how governance mechanisms might be improved to support adaptation efforts. *Be prepared to think creatively!*

## **Instructor**

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## **Teaching assistants**

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**Please check *Announcements* in Canvas on a regular basis**

## **Contacting the instructor and/or TAs:**

Please use the Canvas message system. Messages sent by email or posted in the Canvas discussion area may get lost.

**Meeting Times:** This course is taught in a mixed mode for both on-campus and distance students.

**Face-to-face delivery:** M 4 (10:40-11:30), T 2-3 (8:30-10:25)

**Distance delivery:** Lectures will be recorded and posted to the course Canvas site. Discussions will be streamed for live participation and recorded.

## **Required Texts/Readings**

1. Hansen, L.J. and J.R. Hoffman. 2011. *Climate Savvy; Adapting Conservation and Resource Management to a Changing World*. Island Press, Washington DC. 245 pp.
2. Peer-reviewed literature, technical papers, interactive websites, and outreach documents will be posted on the course Canvas site.

## Student Learning Outcomes

At the end of this course, each student will be able to:

- Explain the mechanisms and broad implications of GCC.
- Analyze vulnerabilities of current conservation and management strategies to GCC.
- Compare strategies to reduce vulnerability of natural resources to GCC.
- Evaluate and design conservation and management tools to adapt to GCC.
- Assess the effectiveness of natural resource policies in adapting to GCC.

## Class Format, Policies on Attendance and Make-up Exams

### Course format:

This course will consist primarily of lecture and discussion. Students are expected to have read assigned materials prior to class sessions.

### Late assignments:

Late materials will have 10% of the total possible points deducted for every day late.

### Quiz policy:

Quizzes are open for a generous amount of time. Once a quiz closes, it will NOT be reopened.

## Assignments

**Introduction: 1 @ 5 points each.** Distance (DE) and Face-to-Face students will introduce themselves by asynchronously sharing an audio/video on *VoiceThread* and leaving comments for their peers. Instructions will be provided.

### Quizzes: 4 @ 10 points each

Quizzes will be administered through Canvas (see schedule). Quizzes will consist of short answer and short essays. Questions will be “open notes” but will require critical thinking, integration, and application of interdisciplinary concepts. Quizzes will open at 8am and close at 11:59pm (midnight) on the dates noted.

### Discussion participation: 9 @ 5 points each.

**F2F Students:** Weekly discussion sessions will take place on Tuesdays. The class will discuss papers from the primary literature, documentaries, and other materials. F2F students will be expected to become familiar with the materials *prior* to class and to *actively* participate in *every* discussion. Although there are 12 discussion periods throughout the semester, two will be graded as Discussion Leadership (see below) and will not “double-count.” Students can miss one discussion week without penalty. A second missed discussion will result in a score of zero for that week’s discussion. Readings will be posted on Canvas. A grading rubric will be provided.

**DE Students:** The class will discuss papers from the primary literature, documentaries, and other materials. DE students will be expected to become familiar with the materials and to *actively* participate in *every* discussion. Although there are 12 discussion periods throughout the semester, two will be graded as Discussion Leadership (see below) and will not “double-count.” Students can miss one discussion week without penalty. A second missed discussion will result in a score of zero for that week’s discussion. Readings will be posted on Canvas. A grading rubric will be provided.

DE students may participate in one of two ways:

**Synchronous** – When possible, DE students will join the F2F classroom discussion on Tuesdays via *LiveStream* and “Chat” on Canvas.

**Asynchronous** – DE students will discuss the literature with their peers, the TAs, and the instructor via “Discussions” on Canvas.

### **Synchronous discussion with instructor/TAs: No additional points, optional**

For DE students unable to participate in the Synchronous F2F classroom discussion on Tuesdays and desiring more F2F interaction with the instructor. A chat session will be set up for every other week at a mutually agreed upon time. Platform to be determined.

**Discussion Leadership: 2 @ 10 points each.** Twice during the semester, students will be expected to lead the literature discussion session for the week. F2F students will lead the synchronous discussions; DE students will lead the asynchronous discussions. A leadership schedule will be posted on Canvas. Further details and a grading rubric will be provided.

### **Social media participation: No points, optional**

We encounter climate change-related information on an almost daily basis in the media. We will use Facebook to engage in sharing and discussing climate change information. The intent is to keep the conversation going from week to week, and to have face-to-face and distance students communicate with each other. We will have a “secret” FB page so that your FB friends, employers, etc. will not see your posts or even your membership in the group. ***Participation is optional but highly encouraged.***

I will invite you to the secret course FB group. ***If you elect to participate,*** join the course FB group and introduce yourself. Post links to interesting or controversial GCC-related news or scientific articles, pose questions, or comment on other’s posts and links.

## **EDIS document: 45 points total**

Students will develop an “EDIS document” (Electronic Data Information Source, <http://edis.ifas.ufl.edu/>) on a natural resource climate change topic over the course of the semester. Each of six assignments must be submitted to Canvas by midnight on the due date (see schedule). The assignment will be graded, edited, and returned. When submitting the next assignment (e.g., Assignment #3), students are expected to submit the new section as well as improve the previous section (e.g., Assignment #2). Each assignment will add to the EDIS document. Further details and a grading rubric will be provided.

Assignment #1: Topic selection & justification, 5 pts

Assignment #2: Introduction, outline, and primary resources to be used, 10 pts

Assignment #3: “What is the problem” section(s), 10 pts

Assignment #4: “What can the stakeholder do about it?” section(s), 10 pts

Assignment #5: Supporting materials (figures, tables, photos, hyperlinks, definitions, other resources), 5 pts

Assignment #6: Final EDIS document, 5 pts

## **Speed Talk – EDIS Presentation: 1 @ 10 points**

Students will present their climate change EDIS document to the class as a presentation of *no more than 10* minutes. Due on the student’s assigned date – TBA.

**F2F Students:** Students will present in class, followed by a discussion. Further details and a rubric will be provided.

**DE Students:** Students will present asynchronously via *VoiceThread*. Students will discuss asynchronously. Further details and a rubric will be provided.

**Presentation participation: 2 @ 5 points each.** Presentations are scheduled for the last two weeks of class. All students will be expected to actively participate in the presentations.

**F2F students:** 1) Must be present in class, actively listen to the F2F presentations, and participate in the discussion, **and** 2) Watch the *VoiceThread* presentations, either in class or on your own time, and actively participate in *VoiceThread* responses.

**DE students:** 1) Watch the *VoiceThread* presentations and actively participate in *VoiceThread* responses, **and** 2) Watch F2F student presentations synchronously and actively participate in the synchronous discussion via Chat on Canvas **or** 2) Watch recorded F2F presentations and actively participate in the asynchronous Discussion on Canvas. Further expectations and a grading rubric will be provided.

## Evaluation of Student Learning

<i>VoiceThread</i> Introduction & Comments, 1 @ 5 pts	5 points
Quizzes, 4 @ 10 pts each	40 points
Discussion participation, 9 @ 5 pts each	45 points
Discussion leadership, 2 @ 10 pts each	20 points
EDIS assignments #1, #5, and #6, 3 @ 5 pts each	15 points
EDIS assignments #2, #3, and #4, 3 @ 10 pts each	30 points
EDIS presentation, 1 @ 10 pts	10 points
<u>Presentation participation, 2@5 pts each</u>	<u>10 points</u>
<b>TOTAL</b>	<b>175 points</b>

## Grading Scale

Final grades will be assigned based on the percentage of total points earned. For additional information on UF grading policies, see

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

A = 90-100%
B+ = 85-89%
B = 80-84%
C+ = 75-79%
C = 70-74%
D = 60-69%
F = < 60%

<b>Schedule</b>			
<b>Week</b>	<b>Date</b>	<b>Topic</b>	<b>Assignments due</b>
<b>Introduction to global change</b>			
<b>1</b>	9 January	Introduction to course	
	10	Evidence of global change <i>Discussion #1</i>	<b>VoiceThread Intro</b>
<b>2</b>	16 January	<i>Holiday – Martin Luther King Day</i>	
	17	Causes of global change <i>Discussion #2</i>	<b>EDIS #1</b>
<b>3</b>	23 January	Anthropogenic drivers of global change	
	24	Climate models and projections <i>Discussion #3</i>	<b>Quiz #1</b>
<b>Impacts of global change on natural resources</b>			
<b>4</b>	30 January	Species impacts – Range shifts	
	31	Species impacts - Phenology <i>Discussion #4</i>	
<b>5</b>	6 February	Ecosystem impacts - Terrestrial	
	7	Ecosystem impacts – Marine and aquatic <i>Discussion #5</i>	<b>EDIS #2</b>
<b>Future impacts of global change on natural resources</b>			
<b>6</b>	13 February	Insights from experimentation	
	14	Modeling species and ecosystem response <i>Discussion #6</i>	<b>Quiz #2</b>
<b>Implications for conservation and management</b>			
<b>7</b>	20 February	Vulnerability assessment	
	21	Adaptive management <i>Discussion #7</i>	
<b>8</b>	27 February	Threatened species management	
	28	(Open date – make up day, guest lecture, or special topic) <i>Discussion #8</i>	<b>EDIS #3</b>
<b>Spring Break, 6– 10 March</b>			
<b>9</b>	13 March	Protected areas	
	14	Connectivity <i>Discussion #9</i>	<b>Quiz #3</b>

<b>Global change solutions</b>			
<b>10</b>	20 March	Natural resources and emissions reduction	
	21	Natural resources and offsetting emissions <i>Discussion#10</i>	<b>EDIS #4</b>
<b>11</b>	27 March	TBA	
	28	TBA <i>Discussion #11</i>	
<b>12</b>	3 April	Human dimensions of natural resource adaptation and management	
	4	(Open date – make up day, guest lecture, or special topic) <i>Discussion #12</i>	<b>EDIS #5, Quiz #4</b>
<b>13</b>	10 April	<i>Speed talks and Discussion</i>	
	11	<i>Speed talks and Discussion</i>	
<b>14</b>	17 April	<i>Speed talks and Discussion</i>	
	18	<i>Speed talks and Discussion</i>	<b>EDIS #6</b>

## Other Information

### **Academic Honesty, Software Use, UF Counseling Services, Services for Students with Disabilities**

In 1995 the UF student body enacted an honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students.

In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code.

**The Honor Pledge: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.**

On all work submitted for credit by students at the university, the following pledge is either required or implied: **"On my honor, I have neither given nor received unauthorized aid in doing this assignment."**

The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge is diminished by cheating, plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior.

Students should report any condition that facilitates dishonesty to the instructor, department chair, Student Honor Council, or Student Conduct and Conflict Resolution in the Dean of Students Office.

*(Source: 2011-2012 Undergraduate Catalog)*

It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor.

This policy will be vigorously upheld at all times in this course.



## **Software Use:**

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

## **Campus Helping Resources**

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu/cwc/](http://www.counseling.ufl.edu/cwc/)*  
Counseling Services  
Groups and Workshops  
Outreach and Consultation  
Self-Help Library  
Training Programs  
Community Provider Database
- *Career Resource Center, First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)*

## **Students with Disabilities**

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues.

0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)