

HSAC Faculty Committee Meeting –

MINUTES

APRIL 14, 2016

CONVENED: 10:35 AM

ADJOURNED: 11:50 PM

MEETING CALLED BY	David Kaplan, Chair
TYPE OF MEETING	Biannual
FACILITATOR	
NOTE TAKER	Mary Garvin
TIMEKEEPER	
ATTENDEES	Joann Mossa, Bin Gao, Antonio Yaquian, Greg Kiker, Liz Screamon, Tom Frazer, David Kaplan, Damian Adams

Agenda topics

REVIEW/APPROVAL OF PRIOR MINUTES

DISCUSSION	Minutes are available online for review and a copy was circulated to faculty committee members before the meeting.	
CONCLUSIONS	Motion to approve minutes as presented: Joann Mossa	
	2 nd to approve: Greg Kiker	
	Vote to approve: unanimously approved	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
Remove "Draft" from online posted minutes.	Mary Garvin	4/14/16

NOMINATIONS FOR ROTATION B (HYDROLOGIC BIOLOGY AND HYDROLOGIC POLICY)

DISCUSSION	<p>Several names of potential nominees were discussed, some of which were not HSAC affiliate faculty. Discussion was held regarding the requirement that faculty committee members must be affiliate faculty. This led to further discussion about how to increase affiliate faculty participation, whether personal invitations to prospective participants would be beneficial, whether there is value in faculty from non-participating departments being affiliated if they can't have their students participate, whether the program, as currently structured, provides value to participants, and whether the program needs to be broadened to a less hydrologic-focused concentration. The program is perceived to be too constraining due to the hydrology-based focus, thereby limiting the participation by students.</p> <p>A proposed change to Article III of the by-laws was recommended (to widen the potential participating affiliate faculty pool: strike the word graduate from the first sentence (see below). Motion to approve: David Kaplan, seconded by Greg Kiker, unanimously approved to seek vote on amending by-laws.</p> <p>Article III: Faculty Membership</p> <p>All interested graduate faculty at the University of Florida are invited to participate in the HSAC. Applicants will be required to apply on-line at http://www.hydrology.ufl.edu/index.asp) and submit condensed curriculum vitae for inclusion in the collective curricula vitae for the HSAC. The Hydrologic Sciences Faculty Committee (HSFC) will review all applications and approve admission by a simple majority vote. Admission will be based solely upon the demonstrated research and teaching interests of the applicant that are pertinent to the HSAC purpose.</p> <p>All members shall be accorded full voting privileges, should be available for service upon HSAC committees, and are responsible for ensuring HSAC graduate students' compliance with HSAC academic requirements and policy</p> <p>Potential nominees in the area of Hydrologic Biology are: Mark Brenner, Andrew Ogram. Potential nominees in the area of Hydrologic Policy are: Robert Ries, Tatiana Borisova, Ray Huffaker.</p>
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CONCLUSIONS	The program needs to be analyzed to determine if changes could be recommended for approval to broaden the scope of the program that would allow for more student participation.	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
Tom Frazer will meet with Water Institute staff to discuss facilitating a detailed analysis of the program to address the issue of broadening the scope of the concentration.	Tom Frazer	
Email to potential nominees to determine their willingness to participate in election for the Rotation B members. Once the willing nominees have been identified, an electronic vote will be presented to entire HSAC affiliate faculty for voting.	David Kaplan	
Send proposed amendment to the By-Laws to the entire HSAC affiliate faculty for voting.	Mary Garvin	

STUDENT REPRESENTATIVE ELECTION UPDATE

DISCUSSION	No student-elect representative has been identified. Several students have been approached but no interest was determined. Discussion was held about the requirement that the student-elect representative must be a current HSAC participant with at least 2 years left in their studies. A review of the list of current students was done and a possible student-elect representative was identified by David Kaplan. Student-elect term will begin Fall 2016 and run for one year. Beginning Fall 2017 student-elect will become student representative.	
CONCLUSIONS	Antonio Yaquian will continue as student representative and David Kaplan will contact potential student-elect individual to determine their interest.	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
David Kaplan will contact student to determine interest in being considered for the student-elect representative beginning Fall 2016 term and will notify Antonio Yaquian when student agrees.	David Kaplan	Before Fall 2016 semester
Student-elect nominee will be presented to current HSAC participating students for vote.	Antonio Yaquian	Before Fall 2016 semester.

CURRICULUM REVIEW

DISCUSSION	General curriculum review was discussed in the broader context of program value, scope, etc. See agenda item 1 for more detail.	
	2 new courses were presented by Joann Mossa for inclusion in the curriculum. GEO 6282 Fluvial Morphology and Processes (Surface Hydrology) and GEO 6348 Floods Seminar (Hydrologic Policy). Detailed information on courses is at end of this document.	
CONCLUSIONS	Motion to approve 2 new courses: David Kaplan, 2 nd : Tom Frazer. Unanimously approved.	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
Add two new courses to online curriculum list.	Mary Garvin	4/14/16

REVIEW OF LTD STUDENT/ADVISOR/DEPARTMENT DATA

DISCUSSION	As requested at last meeting, a list of the number of departments/faculty(student committee chair)/students life-to-date was presented. Numbers were obtained from graduate school data for concentration participation.	
CONCLUSIONS		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
None		

FLUVIAL MORPHOLOGY AND PROCESSES, GEO 6282

Spring 2016, 3012 Turlington Hall, MWF 5 (11:45-12:35 P.M.)

Instructor: Dr. Joann Mossa

Office Location: 3131 Turlington

Office Hours: MWF 9:30-11:30 AM or by appointment

Phone: 294-7510

E-mail: mossa@ufl.edu (please communicate when appropriate)

CATALOG DESCRIPTION: Examines the nature and variety of fluvial processes and the origin and modification of fluvial landforms; includes discussion of environmental changes in rivers and human activities in drainage basins

COURSE REQUIREMENTS AND/OR RECOMMENDATIONS:

Physical Geography (GEO 2200), Physical Geology (GLY 2010), equivalent or permission of instructor

COURSE MATERIALS

Canvas, <http://elearning.ufl.edu>, Has readings, power points, data sets, etc.

BASIC TEACHING APPROACH

Want to create a positive learning environment

Variety of assignments, experiential, applied, visual

Questions welcome, will come in both directions

Attendance/responsible behavior encouraged by in-class assignments

Many items graded (2-20% of grade apiece). You will not be anonymous.

If you tend to miss classes, want to be anonymous, or prefer exams to assignments, give consideration to dropping this class in favor of one more suited to your learning style

ASSIGNMENTS, ATTENDANCE AND MAKE-UP POLICY

Class attendance is highly recommended, and missed classes are likely to seriously impact your grade due to the number of in-class assignments. In certain circumstances (family emergency, illness), I will work with students who need to make-up an in-class assignment out of class.

IMPORTANT DATES

-January 15, 2015 at a meeting, no class but will give some take-home work

-January 18, 2015, MLK holiday

-Spring Break: February 26-March 6, no classes

-March 29 - April 2, 2016 at a meeting part or all week, will give some take-home work

GRADING AND ASSIGNMENTS:

A = 92 or above; A- = 90-91.9; B+ = 88-89.9; B = 82-87.9; B- = 80-81.9; C+ = 78-79.9;

C = 70-77.9; C- = 68-69.9; D+ = 66-67.9; D = 60-65.9; D- = 58-59.9; E = < 58

GRADING COMPONENTS

FOUR QUIZZES (10% Each, Total 40%)

Quiz 1: Background Terminology and Drainage basins

Quiz 2: Hydrographs and Channel processes

Quiz 3: Sediments, Erosion, Deposition and Transport

Quiz 4: Channel Morphology and Channel Change

IN-CLASS AND SHORT TAKE-HOME ASSIGNMENTS (40%)

After they are returned, keep these to help with quiz review. Assignments may include:

- 1) map and data analysis assignments regarding fluvial systems. Some will be done individually and some in groups, in and out of class. This will familiarize students with a variety of with data sources, and teach through problem-based learning. These will typically be worth 5% each. Some potential assignments include:
 - a. Drainage basin delineation
 - b. Network analysis for connectivity
 - c. Assessment of Q data and hysteresis loops of stage and Q
 - d. Flow duration curves and dimensionless flow duration curves
 - e. Plotting channel cross sections
 - f. Sediment rating curves
 - g. Channel geometry changes using varied data sources
 - h. Data extraction from USACE hydrographic surveys to examine longitudinal profiles
 - i. Google Earth assignments
- 2) Field trip participation, usually during class period, usually worth 2 pts.

PAPER (20%): This can be a topical or data analysis/research paper. If topical, find a subject of interest. It can be of a topical nature (bank erosion; point bars; braided rivers; bed load, river restoration-prospects and problems), about cause and effect relationships (effects of urbanization on channel morphology; effects of beavers on river form and process), or about rivers associated with a particular environmental setting (arctic rivers, glaciofluvial rivers, ephemeral rivers, headwater rivers, karst rivers, large rivers, mined rivers, dammed rivers, etc.). The data analysis project related to your thesis or dissertation, or can be of a different type of data set. If needed, I can help with ideas. This type of paper would have an introduction and short literature review, with methods, results, discussion and conclusion. Begin with a title page. In your introduction, state what questions the paper will answer, and why it is important. It will help you write and organize if you develop an outline. Then, divide the body into appropriate sections using subheadings. In the body, present data (facts, statistics, photocopies of figures, photographs) and other information from the references you are using. Give credit to the source(s) in your captions, figures, and in your sentences. Specific facts, numbers, and opinions should be cited; general knowledge or your interpretations should not be. Describe how the data contributes to the questions or issues that you are discussing. In your conclusion, summarize the information and facts that you have presented. Submit 10-12 page double-spaced paper with at least 10 references from refereed journals.

Maps and graphics are a part of the grade but are not included in the page length. The grading rubric is as follows: 10% originality, 20% breadth and depth of research, 20% organization and structure including use of subheadings, 20% writing quality and grammar, 10% use of maps, data, tables and graphics, 20% quality and quantity of references and citations. Be consistent with the use of punctuation, quotes, complete citations, and references (e.g. follow any legitimate style guide that you like, but follow it consistently). Papers should be typed with 1-inch margins, double-spaced, 11-12 pt. font, figures and citations, and appropriate credits. I will be happy to assist with ideas. Due Date: mid-April

WEEKS:	TOPIC
1:	Background terminology and concepts Significance of fluvial studies PP Introduction to Fluvial Systems, Geomorphic Concepts
2, 3, 4:	Drainage basin form and processes/Quiz 1 PP: Basics of Drainage Systems, Hydrology & Hydrographs,
5, 6, 7:	Channel processes/Quiz 2 PP: Stage and Stage-Q relations, Velocity, Discharge & Measurement, Flood and Drought Analysis
8, 9:	Sediments, erosion and transport PP: Hillslope Erosion, Bank Erosion, Sediments & Transport
10:	Sediments, deposition and stratigraphy/Quiz 3 PP: Deposition, Sedimentary Deposits and Floodplain Features
11, 12:	Channel morphology PP: Channel Geometry and Cross Sections
12, 13:	Channel planform and pattern, channel profiles PP: Channel Planform and Pattern, PP: Channel Profiles
14, 15:	River channel changes, paleohydrology Human activities/river management Applied fluvial geomorphology/Quiz 4 PP: Channel Changes

ATTENDANCE POLICIES

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

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

HONOR CODE: UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.” On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor of this class.

STUDENTS WITH DISABILITIES AND OTHER CONCERNS

"Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. Please take care of your health and be aware that the University Counseling Center (392-1575, <http://www.counseling.ufl.edu/cwc/Default.aspx>), the Student Health Care Center (392-1161) and Student Mental Health (392-1171) can assist students as they work through personal, academic and social issues. Provide advance notice and obtain documentation for excused absences where possible. If needed, University Police Department can be contacted at 392-1111 or Dial 9-1-1 for emergencies. Please minimize distractions to yourself and others during class time (cell phones off, no ancillary conversations, quiet typing only).

EVALUATIONS: Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu> Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>

FLOODS SEMINAR (GEO 6348)
MWF 4 (10:40-11:30)

FALL 2015

Instructor: Dr. Joann Mossa
Office Location: 3131 Turlington
E-mail: mossa@ufl.edu (please communicate when appropriate)

Phone: 392-0494 or 294-7510
Office Hours: MWF 9:30-10:30 A.M., 1-2 P.M.

CATALOG DESCRIPTION: Examines the world's most extreme floods from the Pleistocene through present due to various causes. Discusses physical and human aspects of flood warning, preparedness, response and recovery throughout the world.

COURSE OBJECTIVES INCLUDE:

- *Understanding of the causes of floods* including excessive precipitation, excessive snowmelt, climatic oscillations, tsunamis, coastal storm surges, glacial lake outburst floods (GLOFs), ice jams, landslides, natural dam failures and other physical processes. Floods are also caused or augmented by failures, overtopping, mismanagement or intentional destruction of constructed dams and artificial levees and floodwalls.
- *Examining methods for assessing paleofloods*, paleoclimate and historical change with PSI-SWD-(paleostage indicators slack water deposits) and varied geologic and chronologic techniques (radiocarbon dating, tephrochronology, dendrochronology, lichenometry, stratigraphic methods), remote sensing for interpreting landscapes and change; Use of GIS and GPS for flood response, recovery and mitigation including search and rescue, flood frequency analysis, hydrologic modeling, and floodplain mapping
- Knowing that *values, attitudes and norms of different cultures and nationalities affect flood decisions and responses*. Extreme floods are influenced by settlement choices, land use change, governmental behaviors, and public education about disasters. *Individuals of different nationality, age, culture, gender, race, and income may be disproportionately and differentially affected by floods* in terms of lives, homelessness, displacement, and property damage due to variations in vulnerability and resilience in differing parts of the world.
- Examining *problems beyond direct inundation* including the erosion done by water, the debris brought in by water, ensuing famines, the spread of disease due to poor drinking water, disrupted sanitation facilities, inadequate and dysfunctional medical care, contamination of water (sewage, dam failures at mines), etc.
- Considering *varied outcomes of floods and lessons learned*. Discussing how floods have influenced history, culture, art, music, historic preservation, race relations, migration patterns, crime and crime-control attempts, mental health, seismology, animals, agriculture, livelihoods, engineering, policy, relief efforts, fund raising, tourism and more. Some stories regarding public education, advertising, memorializing, policy, government conflicts, and engineering.

DISCLAIMER/WARNING

Please use your judgment as to whether the content of this course is suitable given your history, background and personality, especially if you have experienced trauma or distress due to a disaster. I do not focus on the negative aspects of floods, but we view some documentaries and witness accounts of recent floods that are sad or disturbing.

GRADING SCALE

A = 92 or above; A- = 90-91.9; B+ = 88-89.9; B = 82-87.9; B- = 80-81.9; C+ = 78-79.9; C = 70-77.9; C- = 68-69.9; D+ = 66-67.9; D = 60-65.9; D- = 58-59.9; E = < 58

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

NO CLASSES: Monday, September 7: Labor Day; November 6: Homecoming; Wednesday, November 11: Veterans Day; Wednesday-Friday November 25-28: Thanksgiving break

BASIC TEACHING APPROACH

- Some readings, posted on Canvas (no \$ out of pocket for books)
- Want to create a positive learning environment
- Content and teaching style appeals most to visual and kinesthetic/experiential learners
- Big believer in resource availability, all Power Points posted on Canvas; Use them

- I ask open questions in class to help in retention, learning and thinking
- Bring your questions to assist in understanding and recollection
- Attendance, responsible behavior and engagement encouraged by in-class work
- Some in-class discussion after shorter videos
- Some Canvas discussion, posting, thinking
- Many items graded (more than 15). You will not be anonymous.
- *If you tend to miss classes, want to be anonymous, or prefer exams to assignments, consider dropping this class in favor of one more suited to your learning style*

ASSIGNMENTS, ATTENDANCE AND MAKE-UP POLICY

Class attendance is required, with exceptions given in the university policy on attendance.

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

MINI (MOSTLY IN-CLASS) ASSIGNMENTS

One type of in-class assignment will be answering questions about documentaries or videos of floods associated with a variety of causes. Soon after class begins, the door will be closed as to not have distractions during the movie, so it is important to be on time. These answer sheets will be turned in at the end of class (*worth 1-3 pts. each, will be specified*). After they are returned, keep these to help with your exam review. Remaining assignments will include participation in Canvas discussions and in-class small group work, and short take-home assignments designed to assist in learning terminology, thinking skills, concepts and questioning (35 pts.)

PLEISTOCENE AND EARLY HOLOCENE EXAM

The exam will consist of multiple choice questions. A review will be held the class before with some sample questions. It will be given near Week 6 of the semester in early October after these units are completed, 40 question multiple choice (20 pts.)

TOPICAL FLOOD RESEARCH: Relate Extreme Floods to something of a topical nature such as: Art Inspired from Extreme Floods, Calculating Economic Costs of Extreme Floods, Pets and Extreme floods, The Elderly and Floods, Disease and Extreme Floods, Gender and Extreme Floods, Mental Health and Extreme Floods, Hospitals and Extreme Floods, Schools and Extreme Floods, Engineering for Extreme Floods, Climate Change and Extreme floods, Children and Extreme Floods, Water Contamination and Extreme Floods, Fires and Floods: How are they connected?, Recovery from Extreme Floods, Homelessness and Extreme Floods, Humanitarian Assistance and Extreme Floods, Housing and Extreme Floods, Vegetation Changes from Extreme Floods, Construction and Extreme Floods, Planning and Extreme Floods, Music Inspired from Extreme Floods, Ancient Civilizations and Extreme Floods, Race and Extreme Floods, Poverty and Extreme Floods, Dysfunctional Governments and Extreme Floods, Geomorphology and Extreme Floods, Livestock and Extreme Floods, Cropland and Extreme Floods, Donations and Extreme Floods, Migration following Extreme Floods, Memorializing Victims of Extreme Floods, Mapping of Extreme Floods, Boats and Extreme Floods, etc. (see me if considering another potential topic) Draw from multiple events, and include at examples from outside the U.S. Submit 10-12 page double-spaced paper with at least 10 references from **refereed journals** (discussed in class). Maps and graphics are a part of the grade but are not included in the page length. The grading rubric is as follows: 10% originality (look at examples and topics discussed outside of class, 20% breadth and depth of research (do not focus on one flood, compare your topic across different events and locations), 20% organization and structure including use of subheadings, 20% writing quality and grammar, 10% use of maps, data, tables and graphics, 20% quality and quantity of references and citations. Due mid-November (20 pts.)

EXAM 2: MODERN FLOODS

Given early December. A fun review will be held the class before with some sample questions. Not comprehensive, 40 question multiple choice (20 pts.)

PARTICIPATION: The class experience is improved with your involvement, questions, and interaction (5 pts.). (5=Student is engaged in class discussion and/or activity by appropriately adding to the class's learning during all class sessions.). Infrequent attendance will affect participation grade.

GENERAL OUTLINE: COURSE TOPICS

Weeks 1, 2 and 3: Background and Overview

- Introduction to Class and Class Environment
- Physical Causes of Floods:
 - What is a flood?
 - How are they measured?
 - What are some important floods in the geologic past and their effects?
 - How do we know about their magnitude, causes and dates?
 - What are the physical causes of extreme floods?
- Floods and Society:
 - How do humans affect floods?
 - What are some important historical floods and their impacts?
 - How can humans best manage floods and other disasters?
 - Who is most affected by extreme floods?
- Discovery Channel Flood **movie** (global coverage)

Readings that Provide Background on Floods

O'Connor, Jim E. and John E. Costa, 2004, The World's Largest Floods, Past and Present: Their Causes and Magnitudes, U.S. Department of the Interior, U.S. Geological Survey Circular 1254 (pdf file on Canvas)

O'Connor, Jim E. and John E. Costa, 2003, Large Floods in the United States: Where They Happen and Why. , U.S. Department of the Interior, U.S. Geological Survey Circular 1245
<http://pubs.usgs.gov/circ/2003/circ1245/pdf/circ1245.pdf> (pdf file on Canvas).

Weekly topics...may change slightly or be reduced

Weeks 3, 4 and 5: Some Pleistocene Megafloods

- Discussion of the Pleistocene and climate change
- Glacial Lake Missoula; dry falls, megaripples: Mystery of Megaflood **movie**
- Lake Bonneville and its lake basin overflow floods
- Megafloods making island Britain through the English channel

Readings about Pleistocene Floods

Baker, V.R. 2002. The Study of Superfloods: Science, Vol 295 2379-2380.

Costa, J.E. and R. L. Schuster, 1988, The formation and failure of natural dams: Geological Society of America Bulletin, v. 100: 1054-1068.

Gupta, S., Collier, J.S., Palmer-Felgate, A. and Potter, G., 2007, Catastrophic flooding origin of shelf valley systems in the English Channel, Nature, v. 448: 342-346.

Lee, K., 2004, The Bonneville Flood, <http://geology.mines.edu/faculty/Klee/Bonneville.pdf>

O'Connor, J.E., and Baker, V.R., 1992, Magnitudes and implications of peak discharges from glacial Lake Missoula: Geological Society of America Bulletin, v. 104, p. 267-279.

Saint-Laurent, D., 2004, Palaeoflood hydrology: an emerging science *Progress in Physical Geography* 2004; 28; 531-542.

Review and Exam 1: Overview, and Pleistocene floods

Target Date : early October, target is Monday October 5

Weeks 6 and 7: Some Megafloods of the Holocene to the Modern (1800 A.D.)

- Aniakchak, Alaska caldera breach 3500 BP (appx. 2000 BC)
- Repeat floods in the Netherlands dating back more than 2 millenia
- Columbia River Landslide dam failure, circa 1450 AD or 1700 AD?
- Possibly linked to 1700 tsunami Japan
- 1755 - Lisbon, Portugal tsunami (earthquake & fires, too), birth of seismology compared to Japan 2011 tsunami & nuclear disaster

Readings about Holocene to Modern (pre-1800) floods

Atwater, B.F., Musumi-Rokkaku, S., Satake, K., Tsuji, Y., Ueda, K., and Yamaguchi, D.K., 2005, The Orphan Tsunami of 1700: Japanese Clues to a Parent Earthquake in North America, U.S. G. S. Professional Paper 1707, 133 pp. <http://pubs.usgs.gov/pp/pp1707/pp1707.pdf>

Waythomas, C.F., Walder, J.S., McGimsey, R.G., and Neal, C.A., 1996, A catastrophic flood caused by drainage of a caldera lake at Aniakchak Volcano, Alaska, and implications of volcanic hazards assessment: Geological Society of America Bulletin, v. 108, no. 7, p. 861-871.

Weeks 8, 9 and 10: Modern Megafloods of Marine, Lacustrine or Mixed Origin

- Vulnerable places with multiple flood drivers
 - Venice, Italy: a sinking city with sea level rise, Venice **movie**
 - New Orleans: the soup-bowl, Hurricane Katrina 2005 and NOVA **movie**
 - Bangladesh a country of poverty, bank erosion, and floods
 - Contrast of physically vulnerable nations across the world and the role of social factors
- Tsunamis, Coastal Storm Surges, and Lowland Lake Floods
 - Galveston 1900, bad forecasting, changed fate of Texas towns
 - The Okeechobee Florida Hurricane of 1928, race & memorials
 - The Great Hurricane of 1938, NE U.S., American Experience **movie**
 - North Sea, Europe 1953 winter storm flood
 - Lituya Bay, Alaska megatsunami, 1958: a > 500m landslide splash
 - Indian Ocean 2004 tsunami and NOVA **movie**: A worldwide killer
- Comparative discussion of how different countries facing the Indian, Pacific and Atlantic Oceans have responded differently to tsunamis and cyclones based on cultural differences and global inequality in a variety of factors (<http://ucatlas.ucsc.edu/>)

Readings about Marine, Lacustrine or Mixed Megafloods

Brammer, H. 1990, Floods in Bangladesh: Geographical Background to the 1987 and 1988 Floods [*The Geographical Journal*](#), Vol. 156(1), pp. 12-22.

Brammer H., 1990, Floods in Bangladesh: II. Flood Mitigation and Environmental Aspects, *The Geographical Journal*, Vol. 156(2), pp. 158-165.

Cannon Terry, 2002, Gender and Climate Hazards in Bangladesh. [*Gender and Development*](#), Vol. 10, No. 2, pp. 45-50

Dimitri D. Deheyne, Lisa R. Shaffer (2007) Saving Venice: Engineering and ecology in the Venice lagoon *Technology in Society* 29: 205–213.

Miller, D.J., 1960, Giant Waves in Lituya Bay, Alaska; U S. Geol. Survey Prof. Paper 354-C (<http://www.uwsp.edu/geo/projects/geoweb/participants/dutch/LituyaBay/Lituya0.HTM>)

Nosengo, N., 2003, Save Our City (Venice) *Nature*, Vol 424

Weeks 11, 12 and 13: Some Modern Megafloods along Rivers

- Big Rivers-Big Floods
 - Mississippi Flood of 1927: mass migration, Frontline **movie**
 - Yellow River (*Huang He*) floods: Lindbergh & 1-4 million dead
 - Yangtze River floods in 1998 and more: 14 million homeless
 - Comparing how differing nations plan for and respond to floods on big rivers: issues include global inequality, illiteracy, cultural adaptation, governmental suppression, land availability, disease and more
- Catastrophic Dam Failures/Overtopping/Mismanagement
 - Johnstown Flood 1889, the Red Cross effort and Johnstown flood
 - Malpasset France in 1959, arch dam safety, disaster tourism **movie**
 - Vaiont disaster, Italy 1963, landslide overtopping-know geology **video**
 - Florence, 1966; Flooded works=mud angels and historic preservation
 - An international view of dam failures, varied local reactions and global effects
- Catastrophic Levee and Floodwall Failures
 - Red River (ND, MN, Canada) flood from snowmelt, 1997 and more
- Intentional Floods
 - Blowing up dams and dikes in wartime (By allied forces in Germany, by Germans in Netherlands, by Chinese in China)
 - Dynamiting levees: flooding rural areas to save cities (China, U.S)
 - Dam-building/flooding >1 million people, Yangtze-Three Gorges, 2000-
 - Comparing perspectives of differing nations on intentional floods, especially those associated with dam building and forced displacement of its citizens

Readings Regarding Modern River Megafloods

Barry, John M. 1998, *Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America* (Paperback) by Publisher: Simon & Schuster Paperback: 528 pages, Language: English, ISBN: 0684840022

Hongfu Yin, Changan Li 2001. Human impact on floods and flood disasters on the Yangtze River. *Geomorphology* 41: 105-109

Alexander, D. 1980. The Florence Floods What The Papers Said. *Environmental Management*, Vol. 4, No. 1, pp. 27-34.

Topical Flood Research Paper Due (see assignments section) mid-November

Week 14: "What If" Floods: Might Have Been/Might Become

- Might Have Been a Megaflood
 - Mississippi-Atchafalaya 1973 (McPhee.The Control of Nature)
 - China and averting floods from earthquake landslide lakes 2008
- Might Become a Megaflood
 - Usoi Dam/Sarez Lake, Murghab River, Tajikistan, 1911 and holding
 - Three Gorges dam (Yangtze, China) landslides and seismic activity
- Comparing how different nations and cultures are (not) preparing for what-if floods

Readings for What-If Floods

McPhee, John, 1987 *Atchafalaya in The Control of Nature* (Paperback) and *The New Yorker* http://www.newyorker.com/archive/1987/02/23/1987_02_23_039_TNY_CARDS_000347146

Alford, D., Cunha, S.F. Ives, J. D. 2000. Lake Sarez, Pamir Mountains, Tajikistan: Mountain Hazards and Development Assistance Source: *Mountain Research and Development*, Vol. 20(1): 20-23.

Reviewing and Exam 2

Target Date: early December, target Monday December 7

Week 15: Speculation, The Future of Flooding

- Flood warning and preparedness: How has it changed and can it be improved?
- Flood response and recovery: How has it changed and can it be improved?
- Flood insurance/FEMA: **videos**
- Floodplain management: Where are we and others?
- Floods: climate change, sea level rise, land use change and settlement trends
- Lessons learned from floods across the world
- Insights and uncertainties about flooding: global inequality and more

Readings Regarding Flood Management

Gilbert F. White National Flood Policy Forum, *2004 Assembly, 2004*, Reducing Flood Losses: Is the 1% Chance(100-year) Flood Standard Sufficient?, National Academies Keck Center, Washington D.C., Sept. 21-22, 2004, <http://www.nlic.org/downloads/GilbertWhiteForum.pdf>

ATTENDANCE POLICIES

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

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

HONOR CODE: UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code." On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor of this class.

STUDENTS WITH DISABILITIES AND OTHER CONCERNS

"Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. Please be aware that the University Counseling Center (392-1575, <http://www.counseling.ufl.edu/cwc/Default.aspx>), the Student Health Care Center (392-1161) and Student Mental Health (392-1171) can assist students as they work through personal, academic and social issues. Please take care of your health. Provide advance notice and obtain documentation for excused absences where possible. If needed, University Police Department can be contacted at 392-1111 or Dial 9-1-1 for emergencies. Please minimize distractions to yourself and others during class time (cell phones off, no ancillary conversations, quiet typing only).

EVALUATIONS: Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu> Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>