

The North American Great Plains: land, water, life

The North American Great Plains, extending from central Canada to west Texas, is a vast, flat, nearly featureless landscape. Few rivers travel across it, and few lakes dot its surface. Here, west of the 100th meridian and east of the Rocky Mountains, there is enough rain to qualify the place as semiarid, but barely: even into the late 19th century it was mapped as the Great American Desert, a place to be crossed, not settled. But Euroamericans did settle there, just as Native Americans had over ten thousand years earlier. To all it was a land of relentless sun and wind, but it is water that drives plant, animal, and human life on the Plains. Even today.

This course will look across disciplinary boundaries, to see what geology, climate, ecology, archaeology, ethnology, and history tell us of life on the Great Plains past and present. The goal of the class is ambitious, but perhaps not impossible: we hope to take what we know of the of the prehistory and history of the Great Plains, and in the end say something about its future. How we will get there is outlined in detail below, followed by all the usual administrative details about the course.

Course schedule and selected topics:

January 13 COURSE INTRODUCTION. Topics: What is the Great Plains? What makes it unique and why study it? An overview of the geology, hydrology, environments, climate, and life of the Great Plains.

Readings:

Flores, D. (2001) *The Natural West: environmental history in the Great Plains and Rocky Mountains*. University of Oklahoma Press, Norman. Read **Chapter 9**.

Webb, W.P. (1931) *The Great Plains*. University of Nebraska Press, Lincoln. Read **Chapter I**.

January 18 & 20 GEOLOGICAL AND HYDROLOGICAL HISTORY OF THE GREAT PLAINS. Topics: Deep time and the Plains oil, coal, and gas reservoirs. Economic minerals of the Plains: few and far between. The formation of the Great Plains as a physiographic unit. Origin and evolution of the High Plains Aquifer. Geology and hydrology of the Ogallala aquifer.

Readings:

Gutentag, E.D., F.J. Heimes, N.C. Krothe, R.R. Luckey, and J.B. Weeks (1984) Geohydrology of the High Plains aquifer in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming. United States Geological Survey *Professional Paper* 1400-B.

Webb, W. (1931) *The Great Plains*. University of Nebraska Press, Lincoln. Read **Chapter II**.

January 25 & 27 CLIMATE, PAST AND PRESENT. Topics: Spatial and temporal patterns in the present climate of the Plains. Severe weather: thunderstorms and tornadoes. Droughts past and present, causes and consequences. Past climates on the Plains: what we know and how we know it. The Great Plains during the Pleistocene (Ice Age). Holocene climates. A drought like no other: the Altithermal on the Great Plains.

Readings:

Borchert, J.R. (1950) The climate of the central North American grasslands. *Annals of the Association of American Geographers* 40:1-39.

Dean, W., T. Ahlbrandt, R. Anderson, and J.P. Bradbury (1996) Regional aridity in North America during the Middle Holocene. *The Holocene* 6:145-155.

Woodhouse, C.A. and J. Overpeck (1998) 2000 years of drought variability in the central United States. *Bulletin of the American Meteorological Society* 79:2693-2714.

February 1 & 3 ECOLOGY OF THE GREAT PLAINS. Topics: The early (Miocene/Pliocene) evolution of the Plains environment. Ice Age plants and animals. Extinction of the Pleistocene megafauna on the Great Plains. The post-Pleistocene bison population explosion. Holocene environments of the Plains. Adaptation under stress: Altithermal plants and animals. Recolonization and repopulation.

The Great Plains grasslands. Natural history of some Great Plains animals.

Readings:

Brown, L. (1985) **Grasslands**. (Audobon Society Nature Guide). A.A. Knopf, New York. Read only pages 19-63 (portions on Reserve)

Opie, J. (2000) **Ogallala: water for a dry land**. University of Nebraska Press, Lincoln. Read **Chapter 1**.

February
8 & 10

PLAINS PREHISTORY - THE FIRST 5000 YEARS. Topics: The first settlers: when and where? The Clovis complex. The hunting hypothesis: were Paleoindians big-game hunters? Late Paleoindian occupations of the Great Plains. The co-evolution of humans and bison. Hunting bison: early and late. Late Paleoindian sites. Altithermal human adaptations on the Great Plains. What do Plains hunter-gatherers do when water and bison disappear?

Readings:

Hofman, J. (1998) The Paleo-Indian cultures of the Great Plains. In **Archaeology on the Great Plains**, edited by W.R. Wood, pp. 87-139. University Press of Kansas, Lawrence.

Meltzer, D.J. (1999) Human responses to Middle Holocene (Altithermal) climates on the North American Great Plains. **Quaternary Research** 52:404-416.

February
15 & 17

PLAINS PREHISTORY - THE LAST 7000 YEARS. Topics: The subsistence revolution: the origin of intensive gathering on the Great Plains. The end of the Altithermal. The Late Prehistoric Period on the Southern High Plains. Interaction and exchange between Plains and Pueblo. The Late Prehistoric Period on the Central and Northern Plains. Prehistoric warfare on the Plains.

Readings:

Dyck, I. and R. Morlan (2001) Hunting and gathering tradition: Canadian Plains. In **Handbook of North American Indians – Plains, Volume 13**, R. DeMaille, editor, pp. 115-130. Smithsonian Institution Press, Washington, D.C.

Spielmann, K. (1983) Late prehistoric exchange between the southwest and southern Plains. **Plains Anthropologist** 28:257-272.

Vehik, S. (2001) Hunting and gathering tradition: Southern Plains. In **Handbook of North American Indians – Plains, Volume 13**, R. DeMaille, editor, pp. 146-158. Smithsonian Institution Press, Washington, D.C.

Zimmerman, L.J. and L.E. Bradley (1993) The Crow Creek massacre: Initial Coalescent warfare and speculations about the genesis of Extended Coalescent. **Plains Anthropologist** 38:215-226.

February
22 & 24

THE PROTOHISTORIC AND EARLY HISTORIC PERIODS (EUROPEAN CONTACT TO 1803). Topics: When cultures collide - European Contact and its consequences. Spaniards on the southern Plains – looking for gold in Kansas. In search of the Northwest Passage: the French try the northern Plains. Horses return to the Plains. The mustang as an economic and political engine. A more efficient means of killing: the introduction of guns onto the Plains. The 'global economy' of the 16th and 17th centuries. War in the tribal zone. The most deadly scourge: introduced infectious diseases on the Plains.

Readings:

Brown, J. (2001) History of the Canadian Plains until 1870. In **Handbook of North American Indians – Plains, Volume 13**, R. DeMaille, editor, pp. 300-312. Smithsonian Institution Press, Washington, D.C. [read pages 300-305 only!]

Owsley, D.W. (1992) Demography of prehistoric and early historic northern Plains populations. In **Disease and demography in the Americas**, edited by J. Verano and D. Ubelaker, pp. 75-86. Smithsonian Institution Press, Washington, D.C.

Swagerty, W. (2001) History of the United States Plains until 1850. In **Handbook of North American Indians – Plains, Volume 13**, R. DeMaille, editor, pp. 256-280. Smithsonian Institution Press, Washington, D.C. [read pages 256-268 only!]

March
1 & 3

INDIANS OF THE GREAT PLAINS. Topics: Adaptations and ethnography of the Plains Indians. Life cycles. Military societies and counting coup. Origin myths of the Plains Indians. Riverine and grassland tribes. Scalping. Sun Dance and Ghost Dance

Readings:

DeMaille, R. (2001) Introduction. In **Handbook of North American Indians – Plains, Volume 13**, R. DeMaille, editor, pp. 1-13. Smithsonian Institution Press, Washington, D.C.

Wedel, W. and G. Frison (2001) Environment and subsistence. In **Handbook of North American Indians – Plains, Volume 13**, R. DeMaille, editor, pp. 44-60. Smithsonian Institution Press, Washington, D.C.

March 8 CATCH-UP ON LECTURES

March 10 *** MIDTERM EXAM ***

March 15 & 17 SPRING BREAK - NO CLASS

March 22 & 24 AMERICANS ON THE PLAINS (1803 TO 1865). Topics: The Great Plains of the United States. Lewis and Clark's Expedition. Zebulon Pike and the Great American Desert. Emigrant trains: the Santa Fe Trail. Jeff Davis' folly - camels on the Great Plains. The fur trade on the northern Plains. The 1837-1838 smallpox epidemic and its aftermath. On the Oregon Trail.

Readings:

Swagerty, W. (2001) History of the United States Plains until 1850. In **Handbook of North American Indians – Plains, Volume 13**, R. DeMaille, editor, pp. 256-280. Smithsonian Institution Press, Washington, D.C. [read pages 269-280 only!]

Webb, W.P. (1931) **The Great Plains**. University of Nebraska Press, Lincoln. Read **Chapters IV-V**

March 29 & 31 ULTIMATE CONFLICT: THE PLAINS INDIAN WARS. The US Army at the end of the Civil War. The only good Indian? Philip Sheridan and the US Army move west. Conflict and confrontation: the Plains Indian Wars, from Sand Creek to Little Big Horn. Hunted to death: the Great Buffalo slaughter. The end of an era: massacre at Wounded Knee.

Readings:

Isenberg, A. (2000) The destruction of the bison. Cambridge University Press, Cambridge. Read **Chapter 5**.

Gard, Wayne (1959) **The Great Buffalo hunt**. A.A. Knopf, New York. Read **Chapter 1**.

Utley, R. (1988) Indian-United States military situation, 1848-1891. In **Handbook of North American Indians – History of Indian-White Relations, Volume 4**, W. Washburn, editor, pp. 163-184. Smithsonian Institution Press, Washington, D.C.

April 5 & 7 CONQUERING NATURE: AMERICAN SETTLEMENT OF THE PLAINS. Topics: Laying track: the westward expansion of the railroads. The Cattle kingdom and the great cattle drives. Fencing the Plains: barbed wire. The windmill and the search for water. Breaking up the sod - the invention and spread of the proper plow. Railroads and the settlement of the Plains. Selling the Great American Desert. Greeley's Colony. The Oklahoma Land Rush.

Readings:

Opie, J. (2000) **Ogallala: water for a dry land**. University of Nebraska Press, Lincoln. Read **Chapter 2**.

Webb, W.P. (1931) **The Great Plains**. University of Nebraska Press, Lincoln. Read **Chapters VI, VII, and VIII**

April 12 & 14 NATURE FIGHTS BACK. Topics: World War I, wheat, and the Plains. Land and technology to meet the demands of the world. The Great Depression and the Dust Bowl. Grapes of Wrath - the Oklahoma Land Runaway. Images of the Dust Bowl: Dorothea Lange and Arthur Rothstein. The responses to the Dust Bowl. Taming drought and tapping the Ogallala aquifer. (and we'll see the film, **The plow that broke the Plains** [1936])

Readings:

Opie, J. (2000) **Ogallala: water for a dry land**. University of Nebraska Press, Lincoln. Read

Chapter 3.

Parfit, M. (1989) The Dust Bowl; half a century ago, parts of the Great Plains blew away, and the question now is: Could it be happening all over again? *Smithsonian* 20:44-56.

Worster, D. (1979) **Dust Bowl: the Southern Plains in the 1930s**. Oxford University Press, Oxford. Read **Chapter 1**.

April 19 & 21 **CONTEMPORARY LAND USE ON THE GREAT PLAINS.** Topics: Irrigation before the Dust Bowl. The Dust Bowl and World War II. Watering the Plains - Frank Zybach and the center-pivot irrigator. Post World War II use of the Ogallala aquifer: watching the water fall. The current and future status of the Ogallala aquifer. Irrigation vs. dry farming - a moral issue or a legal one?

Readings:

Opie, J. (2000) **Ogallala: water for a dry land**. University of Nebraska Press, Lincoln. Read **Chapters 4, 5 & 7**.

April 26 & 28 **WHITHER THE FUTURE?** Topics: The irony of the Ogallala. The future of farming on the Plains. What will be (should be) the role of the federal government in saving the Plains? A grotesque pipe dream: the NAWAPA project. Restoring the land: can we afford the Conservation Reserve Program? Should we give up on the Plains altogether? The Greenhouse Effect and the lessons of the Plains.

Readings:

Opie, J. (2000) **Ogallala: water for a dry land**. University of Nebraska Press, Lincoln. Read **Chapter 9**.

Popper, D.E. and F. Popper (1987) The Great Plains: from dust to dust. *Planning* 53:12-18.

Worster, D. (1994) **An unsettled country**. University of New Mexico Press. Read **Chapter 4**.

****PAPERS DUE AT THE END OF CLASS APRIL 28***

May 3 **FINAL EXAM 8-11 AM**

THE USUAL ADMINISTRATIVE DETAILS

There are no pre-requisites for this class, though a background in any of the subjects of the course will prove useful. Although run in the past as a seminar, there are far too many of you to do so this semester, so the course format will be primarily lecture. However, I hope and expect you to raise questions and discussion points. If you sit there quietly the entire semester, it will not count against you. If, however, you ask questions and speak on occasion, you will be rewarded (see below).

I use lots of images, in order to show the Great Plains in all its past and present splendor. The images will give everyone a better sense of what we are talking about, and to prove the point, as if any proof were needed, that the Great Plains actually may *not* be the most breathtakingly dull landscape on earth (though sometimes, admittedly, it comes close, and I'll prove that too).

My policy on attendance is simple: I do not take attendance, but I expect everyone to attend every class. Because of the nature and scheduling of the course, if you miss a class you do so at your own peril: one cannot just do the reading to get by. The exam material will come primarily from what's discussed in the classroom (see below). If, on occasion, you are late for class, don't worry. I'd rather you arrive late than not at all. Habitual tardiness or absences, however, will be noted.

Because of the interdisciplinary range of the course, there is no single book that encompasses all of it - except perhaps for Webb's **The Great Plains** - one of the required texts. Although more than 70 years old, the book is surprisingly current on some matters, though dismally out of date in others. You'll figure out pretty quickly which is which once we start the reading. The other primary text is Opie's **Ogallala: water for a dry land** (2nd edition) which focuses on aquifer-related matters. To supplement these texts, we'll be reading a number of articles from scholarly and scientific journals and books. These will be put on reserve at the ISEM library, which is located on the first floor of Heroy Hall (enter the main door on the west side of the building, and just veer to your left - it's in Room 129).

My office is also in the Heroy building, in room 442, and the phone number there is (214) 768-2826; my email is dmeltzer@mail.smu.edu. My office hours are: TuTh 12:30-1:50 PM. It's no problem if you need to

see me some other time; call or talk to me after class, and we'll set up an appointment. If, over the course of the semester, you have questions on any of the matters above, please call or come see me.

THE USUAL ADMINISTRATIVE DETAILS EVERYONE REALLY WANTS TO KNOW ABOUT

Your course grade will be based on your performance on two **exams**, each worth 35% of your total: a midterm (**March 10**) and a final (**May 3**). Mark your calendars now so as not to miss these gala events! My policy on missed exams is to give a make-up if the absence was unavoidable. To demonstrate unavoidability, a note from your Advisor or Doctor (as appropriate) is required. Exam details will come when we get closer to the date. Here let me note they will include some identifications and short answers, but will be primarily essay.

For the remaining 30% of your grade, you will prepare a **research paper**. Details, helpful hints, etc., on the paper will follow, though three points should be noted here:

- The paper must be interdisciplinary in scope. I want you to take a topic – the Dust Bowl, say, or the argument for a "Buffalo Commons," and explore it from several perspectives, such as economic, ecological, political, geological, etc.
- In addition, the topic must be approved by me. That's not as restrictive as it sounds. I'm interested in lots of things, and we will have little problem finding a topic that's mutually agreeable. Plus, knowing what you will write about will give me the opportunity to recommend source material to get you started. On the matter of sources, I have included with your required texts Harvey's *Writing with sources: a guide for students*. This inexpensive and handy paperback should be consulted in the event of any question in your mind about how to properly use source material, especially the use of bits you may pull down off the web. And if it doesn't answer your question, come see me. Finally, some deadlines: your topic must be approved by **March 8** (before you leave for spring break – just in case you get the urge to work on it ...).
- Finally, the paper is due at the end of class **April 28**, at 3:20 PM. Late papers will be penalized $\frac{1}{2}$ grade each day they are late. As a special – but optional – service, I will accept papers on **April 21**, then read and return them to you with comments and suggestions for improvement *before* the weekend. This service comes to you at no charge; that is, I'm not grading the papers, only making suggestions as to how you can improve them (and your grade). Otherwise, again, the only hard deadline is **April 28** – and then I grade the papers for real.

In the exams and paper, you will be expected to follow the SMU Honor Code. Violators will be prosecuted to the full extent of the law. No exceptions.

I do not give extra credit. But I *generously* round up the grades of those who participate in class by asking questions, raising discussion points from the reading, or showing other signs of intelligent life.

Students who need academic accommodations for a disability, please contact Ms. Rebecca Marin, Coordinator, Services for Students with Disabilities, at 768-4563, who will establish eligibility and help make the appropriate arrangements. This process must be completed at least one week before the first exam.