

**ES473 Environmental Geology
Klamath Basin Poster Project**

Due Tuesday April 25, 2006 – Each student chooses a Klamath topic for poster presentation at WOU student academic day.

Homework Assignment: I have created a “Klamath Basin” section on the class web site with a preliminary list of references, reports and articles to download, and related web links. Your job is to go to the class web site and evaluate what resources are already available to apply to your topic. Some of the reports are very extensive summaries and include aspects of many of your topics. All of them have tables of content, peruse the sections of these reports and find relevant information to your topic. You can print out / save this information to your own hard-drive folder.

Using internet and library resources, find at least two additional references, articles, or web-based publications that can be used for your poster topic

Due Thursday April 27, 2006 - Provide a list with 5 references, articles, or report sections that can be used for your poster topic. Most favored student status will be given to those who not only provide a list, but also put some “meat” on the table in terms of preliminary notes, print-outs, maps, etc.

Due May 4, 2006 – 100-word abstract due, succinctly summarizing the key points of your chosen poster presentation. Format of the abstract:

Title of poster/abstract: Your abstract and poster needs to include a title that is catchy and tells the reader what your topic is about. Your title is essentially a one-line summary of your poster.

Body of Abstract: The abstract is a very brief overview of your ENTIRE study. It tells the reader WHAT you did, WHY you did it, HOW you did it, WHAT you found, and WHAT it means. The abstract should briefly state the purpose of the research (introduction), how the problem was studied (methods), the principal findings (results), and what the findings mean (discussion and conclusion). It is important to be descriptive but concise--say only what is essential, using no more words than necessary to convey meaning.

Think of the most important items that crystallize each part of your project. Leave out unimportant details. As a first draft (using the Abstract Worksheet), write one or two sentences that summarize each section. For your final draft, make sure the abstract "flows" logically. Give it to a friend to read. Ask them to tell you what they think you actually did and what you found. Revise as necessary.

Klamath Basin Topics – Each Student Choose One / Different Topic

Theme Session Title: **Environmental Geology of the Upper Klamath Basin:
Crisis at the Crossroads of Science and Society**

Topics with focus on Upper Klamath Basin (Oregon side); topics organized in order of appearance relative to story we are trying to tell.

- (1) **Physiography of Klamath Basin – Upper and Lower** (location maps, physical description of landscape, physiographic regions (e.g. Cascades, Basin and Range, etc) topography, climate/rainfall patterns, vegetation types, soils) – maps are good to use with descriptive text for this sort of thing!

- (2) **Geologic Setting of the Upper Klamath Basin** (bedrock geology, regional geologic history / stratigraphy, tectonic setting; must focus on Quaternary geology of the Upper Klamath Basin (Quaternary = the past 0-1.5 million years of geologic history; story will include Quaternary climate change, glaciation, pluvial lake history, active tectonics / neotectonics, volcanic eruptive history).
- (3) **Cultural History, Landuse and Land Cover in Upper Klamath Basin:** Cultural History of the Upper Klamath Basin (native people, European settlers / homesteaders, present day demographics); historic/modern landuse / land cover classification of Upper Klamath Basin (will include overview of economic census of region)
- (4) **History of Dam Building in Klamath Basin – Upper and Lower:** include upper and lower (overview, construction history, locations, uses, environmental impacts; relationship to present day Klamath Lake and Klamath river system; current licensing status, dam removal / upgrade issues).
- (5) **Historic Surface Water Hydrology of Upper Klamath Basin** (river networks, rainfall inputs, runoff characteristics, discharge histories, recurrence intervals, flood history, surface water budgets, summary of surface water use).
- (6) **Hydrogeology (groundwater) of Upper Klamath Basin** (aquifers, aquifer types, confined vs. unconfined, regional water table levels / trends, groundwater use / irrigation system, summary of groundwater use).
- (7) **Water quality in Upper Klamath Basin** (surface water and groundwater, water quality related to land use, runoff, fertilizers, pesticides, natural water chemistry, what is the status of water quality and what are the present contamination concerns?)
- (8) **Fisheries and Aquatic Ecosystem of Klamath Basin – Upper and Lower** (types of fish, historic distribution, relevance to native economics, status of endangered species, present distribution, population dynamics, economic impacts of fisheries in region)
- (9) **Water Law / Water rights / History of Water Use in the “Klamath Basin Project”** (overview of applicable water law, history of Klamath basin project, water users in basin, conflicts and interests, status of adjudication proceedings, Oregon vs. California politics on Klamath, include a piece on the Trinity River which drains into the lower Klamath, but is diverted south to the Sacramento valley)
- (10) **Synopsis of “Hot-Button” Environmental Issues in Upper Klamath Basin** (2001 water revolt, ongoing water wars, 2002 fish kill, population growth/development, endangered species, fish ecosystems, farming/fisheries economics, tree-hugger environmental concerns, irrigation systems, causes-effects-projections into future) What is this mess all about anyhow? What are the future prospects for environmental catastrophe in the Klamath Basin?