Western Oregon State College

ES 202 WINTER 2016

TERM PAPER OUTLINE #1

TAYLOR FEED BACK & POINTS...

3/1/16

Vanessa Alarcon

Geology 202

Outline for Term Paper

I. Introduction
II. Geologic Overview — PLATE TECTONIC SETTING
  A. Volcano — CASCADE VOLCANIC ARC
    i. Stratovolcano
    ii. Andesitic Rock
  B. Geologic History
    i. Eruption History
    ii. Glacial History
    iii. Founders

4/4

III. Active Glaciers — GLACIAL HISTORY LATE PLEISTOCENE PRESENT DAY
  A. Zigzag
  B. Reid, Sandy
  C. Glisan
  D. Ladd, Coe
  E. Langille
  F. Eliot
  G. Newton Clark
  H. White River
  I. Coalman
IV. Hazards — LAHARS, RECEDING ICE
  A. Hazard Forecast and Warnings
V. Summary and Conclusion
VI. References

Goal 4-5 references

Glaciers of the American West, 2011, Glaciers of Oregon: Internet Web Resource, URL: http://glaciers.research.pdx.edu/glaciers-oregon

Portland State University and the Oregon Historical Society, 2016, Mount Hood: Internet Web Resource, URL: http://oregonencyclopedia.org/articles/mt_hood/#.VtNWcTj2YaI

U.S Department of the Interior U.S Geological Survey, 1997, Volcano Hazards in the Mount Hood Region, Oregon: Internet Web Resource, URL: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0ahUKEwjJmZCYrpvLAhUQ_WMKHT_bDWEQFggrMAI&url=http%3A%2F%2Fpubs.usgs.gov%2Fof%2F1997%2F0089%2Fpdf%2Fof1997-0089.pdf&usg=AFQjCNGh73QX0QSXhElocPx5pDGDHw5KUg

check on Author: Foundation, Portland State

Vanessa Marrow

USGS, 2012, Glaciers at Mount Hood, Oregon: Internet Web Resource, URL: http://volcanoes.usgs.gov/volcanoes/mount_hood/mount_hood_geo_hist_97.html

Jacob Bannister

ES 202W

Outline for Term Paper

2/28/2016

Coastal erosion and hazards in Oregon

O.K. next page

7

See next page

I. Introduction
- A. Overview of Coastal Hazards
  - 1. Catastrophic
  - 2. Chronic
- B. Overview of Oregon coastal erosion
  - 1. Oregon littoral cells

II. Oregon Coastal Dynamics
- A. Beach Morphology
- B. Longshore Drift and Coastal Morphology

III. Geologic Overview of Coastal Erosion and Hazards of Oregon
- A. Coastal Hazards
  - 1. Types
    - *a) Catastrophic*
    - *b) Chronic*
      - (1) Wave Attack and Ocean Water Levels
      - (2) Floods
      - (3) Landslides
      - (4) Human Activities
- B. Coastal Erosion
  - *a) Southern Oregon*
    - (1) Brookings
    - (2) Pistol
    - (3) Gold Beach
    - (4) Nesika
    - (5) Humbug
    - (6) Port Orford
  - *b) Bandon*
    - (1) Bandon
  - *c) Coos*
    - (1) Coos
    - (2) Heceta
  - *d) Lincoln County*
    - (1) Newport
    - (2) Beverly Beach
    - (3) Lincoln
  - *e) Tillamook County*
    - (1) Neskowin
    - (2) Sand Lake
    - (3) Netarts
    - (4) Rockaway
  - *f) Cannon Beach*
    - (1) Cannon Beach
  - *g) Clatsop Plains subcell*
    - (1) CRLC

MITIGATION

IV. Influences of Coastal Erosion and Hazards
   A. Zoning and Other Techniques

V. Summary and Conclusion

VI. References Cited

A. How the Local Effects of Climate Change Could Affect Sediments in the Coos Estuary and Lower Coos Watershed | Partnership for Coastal Watersheds

B. "Oregon Coastal Management Program Shoreland Processes and Hazards." Oregon Coastal Management Program Shoreland Processes and Hazards.

C. "National Assessment of Coastal Change Hazards." *Long-Term Coastal Change*

NEED 4-5 References

EMAIL YOU NEED

KOMAR, 1996,

PAPER

COMPREHENSIVE

REVIEW

Austin Barnes
Outline

Active tectonics of Oregon

Intro:

Records of past earthquakes in Oregon (north western America) indicate that this area is over due for another catastrophic tectonic event. Due to the nature of the tectonic plate movement in this area, a lack of earthquakes has been observed in the past 300 hundred years. However, this does not mean tsunamis and earthquakes have never hit the Oregon shore. evidence indicates that in the near future another earthquake is pending. Evidence has been brought to light that a tectonic movement deep in the earth is rapidly approaching. In turn Oregon has made warning systems and modifications to several important structures to mitigate the destruction that is soon to come.

Body:

- Plate boundary/ tectonic plates involved(convergent boundary, Subduction Zone/Juan de Fuca+North American plate)
- Evidence of past massive earthquakes
- Accretionary wedge
- measures to deal with damage from earthquake/tsunami, warning systems, structure modification

-1 3/4

Needs work

I. Introduction
II. Geologic Setting
Plate Tectonics
III Coastal Deformation
- Uplift
- Terrace Development
- Geodetic Surveys
Tsunami Hazards
IV
V. References Cited
Need 4-5

email me
I have references

Jeremy Bione

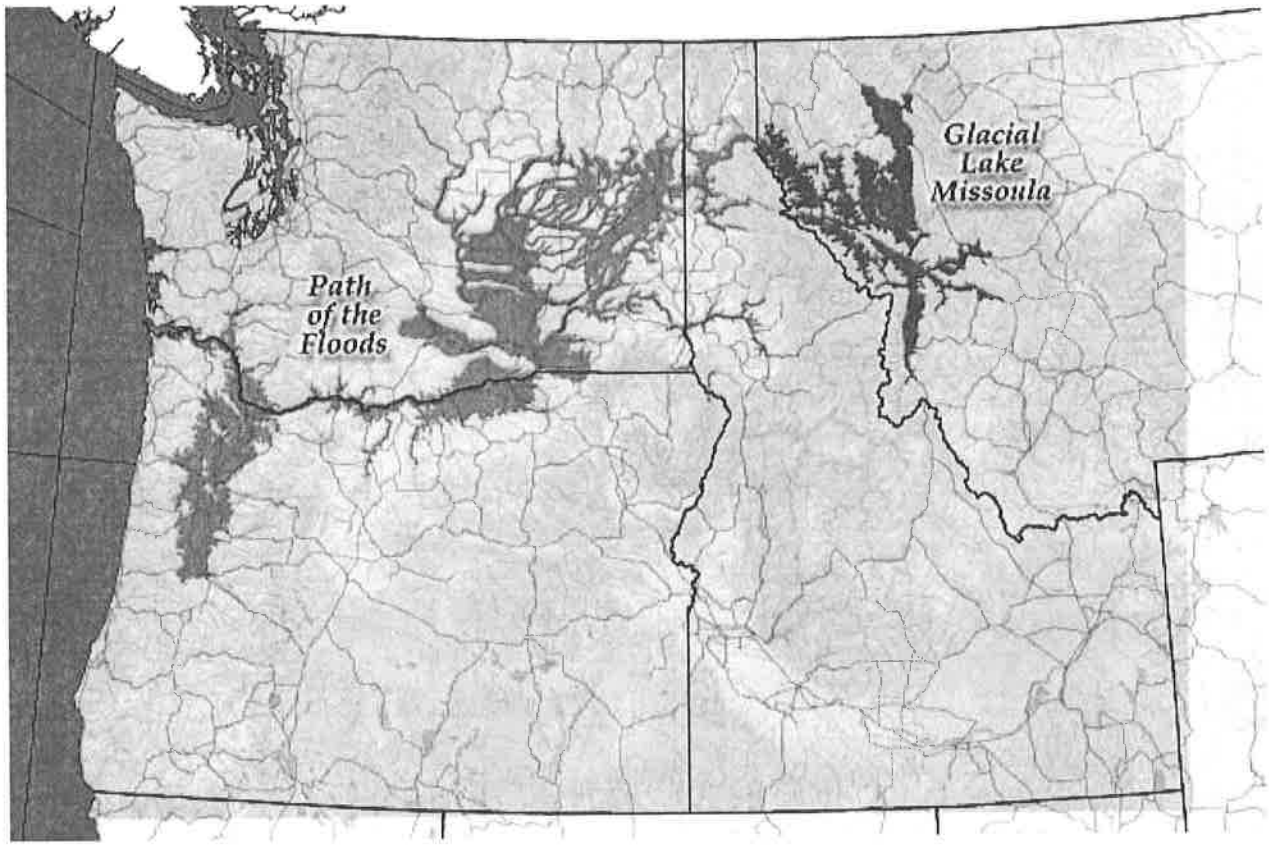
ES 202

February 28, 2016

Final paper

4/4

Missoula Floods: Wiping the Slate Clean



I. **Introduction**

About 15,000 years ago, during the last ice age, there was a lake about the size of the current great lakes called Glacial Lake Missoula. This lake was usually dammed up by the Canadian ice sheets but every 100 years or so the waters would breach the dam and flood the surrounding landscape. In this paper we will be discussing the massive erosion that took place as a result of the floods. In particular we will be studying the Channeled Scablands. This Landscape was completely wiped clean leaving behind a rough barren landscape with absolutely no agricultural potential.

II. **Geologic Setting**

III. **Geologic history** — Pleistocene Climate - Geologic Record

IV. **Present Day Land Use** Influences on

V. **Conclusion**

VI. References Cited

New 4 - 5 — o.k. next page

References cited

Bretz, J.H., 1969, The Lake Missoula floods and the channeled scabland: Journal of Geology, v. 77, p. 505-543.

O'Connor, James E.; Waitt, Richard B.; Johnston, David A.; Benito, Gerardo; Cordero, David; Burns, Scott, 1995b, Beyond the Channeled Scabland; a field trip to Missoula flood features in the Columbia,Yakima, and Walla Walla valleys of Washington and Oregon, Part 1; Field trip, day one: Oregon Geology, v. 57, n. 4, p. 51-60.

Scott, W. Frank, 1980, Geology of the Columbia Basin: Journal of Forestry, v. 78, n. 9, p. 537-541.

Shaw, J., Munro-Stasiukm M., Sawyer, B., Beaney, C., Lessemann, J., Mussacchio, A., Rains, B., Young, R.R., 6

Atwater, B.F., Smith, G.A., and Waitt, R.B., 1999, The Channeled Scabland; back to Bretz?; discussion and reply: Geology, V. 27, p. 605-608.

Keszthelyi, L. P., & Jaeger, W. L. (2015). A field investigation of the basaltic ring structures of the Channeled Scabland and the relevance to Mars. Geomorphology, 24034-43. doi:10.1016/j.geomorph.2014.06.027

Baker, V. R. (2009). The Channeled Scabland: A Retrospective. Annual Review Of Earth & Planetary Sciences, 37(1), 393-411. doi:10.1146/annurev.earth.061008.134726

Bethany Blancher

ES 202

Preliminary Outline

Flood Hazards of the Willamette Valley

I. Introduction

II. Geologic Overview
- A. Tectonic Setting
  - 1. Convergent Plate

III. Geologic History
- A. River Levels
  - 1. Rising
- B. Former Floods
  - 1. Christmas Floods of 1964
  - 2. Flood of 1996

4/4

IV. Causes of Flooding
- A. Excessive Rainfall
- B. Snow Melt

V. Flood Impact
- A. Landslides
- B. Damage of Buildings
- C. Deaths

VI. Summary and Conclusion

SET EMAIL ME I HAVE I SENT OTHER REFERENCES

References:

Global Change Master Directory, 1996, Case Studies of the Oregon Floods of February and November 1996: Internet Web Resource, URL: http://gcmd.gsfc.nasa.gov/KeywordSearch/Metadata.do?Portal=GCMD&MetadataType=0&MetadataView=Full&KeywordPath=&EntryId=%5BGCMD%5DOREG_CLIM_FLOOD_96

Killen, John, February 10, 2015, Flood of 1996: Nearly two decades ago, huge flood struck Portland, Oregon City: The Oregonian via Internet Web Resource, URL: http://www.oregonlive.com/history/2015/02/flood_of_1996_two_decades_ago.html

Oregon Department of Fish and Wildlife, 1998, Preliminary Assessment of 1996 Flood Impacts: Channel Morphology and Fish Habitat: Internet Web Resource, URL: http://odfw.forestry.oregonstate.edu/freshwater/inventory/pdffiles/Flood%201996%20Assessment.pdf

Oregon Department of Land Conservation & Development, 2000, Planning for Natural Hazards: Flood TRG: Internet Web Resource, URL: http://www.oregon.gov/LCD/HAZ/docs/floods/04_flood.pdf

Geologic History and Coastal Erosions of Yaquina Bay

by Kolby Childers

Introduction

Yaquina Bay is located in Newport, along the coast of Oregon. The Miocene geologic events are recorded in the rock units that make up the coast range and the formations of the coast are still visible today. Yaquina Bay is rare to the unconformities that take place in Oregon where the Yaquina formation are located on both sides of the cascade range.

GEOLOGIC OVERVIEW

tectonic setting

Yaquina Bay are made up of the Nye Mudstone formation,Astoria formation, yaquina formation and columbia river basalts.

- Ginko flow member of the CRB'S

bedrock geology

- *sandstone*
- *siltstone*
- *mudstone*
- *conglomerate*

Nye Mudstone-

- fine grained strata
- siltstone mudstone of early miocene
- concealed by terrace deposits, sand dunes, and mud bays
- medium to olive gray massive mudstone and siltstone

Astoria Formation-

- on top of Nye Mudstone
- yellow-gray sandstone and gray siltstone

Yaquina Formation-

- 22-25ma
- late Oligocene-early miocene
- not well exposed
- mud and silt deposited in deep water and buried formation

geologic history

Sedimentary and volcanic rocks are exposed along the coast and record a history of uplift and erosion along the shoreline.

INFLUENCE OF GEOLOGY ON LAND USE AND COASTAL EROSIONS

- sea level rise
- ice glaciers
- landslide
- mass wasting

Summary and Conclusion

4/4

from Geology of PNW Field Trip Guide?

Focus on Comm Hazards — email me for references

References cited

need Komar, 1996

Matt Coyle

ES 202

Glacial History of Pacific NW

Matt Coyle

Introduction

1. Brief description of formation of Cascades/ Olympic mountains
2. Give the basic information on glaciers

1. Historical glacial history and records of Puget Sound
2. Present day glaciers / glacier change
   a. Cordilleran ice sheet
   b. Drainage of strait of Juan de Fuca

Summary/ Conclusion

References Cited

Brown, Robyn. "The Puget Sound Glaciation." *The Puget Sound Glaciation*. Emporia State University, Nov. 2011. Web. 25 Feb. 2016.

"Glaciers of Washington." N.p., n.d. Web. 25 Feb. 2016.

"Retreating Glaciers Create Puget Sound and Grand Coulee." N.p., n.d. Web.

Drew Donahue

Geo 202

Preliminary Outline

Missoula flood story of Washington/Oregon

I **INTRODUCTION**

- When and where
- How much land was affected
- How humans were affected

II **GEOLOGIC SETTING** 4/4

Ice Age

- Cordilleran ice sheet
- Purcell ice dam
- Dry falls

~~**Geologic History**~~ REGIONAL GEOLOGY

Tectonic Setting

III ~~**GEOLOGIC IMPACT**~~ MISSOURA FLOOD ~~IMPACTS~~ EVIDENCE

~~**Geologic formations**~~ DEPOSITS

- Glacial lake Missoula
- Clark Fork River
- Giant ripple marks in Montana
- Glacial lake sediment deposits

~~**Flood impact**~~ EROSION

- Palouse soils
- Gravel bars
- Scablands

IV **CONCLUSION**

- Benefits
- How it affects todays life

V REFERENCES CITED NEED 4-5, email me if needed

OK NEXT PAGE

REFRENCES CITED

Alt, David, 2008, Glacial Lake Missoula: Internet Web Resource, URL: http://hugefloods.com/LakeMissoula.html

Oard, Michael, 2000, Only One Lake Missoula Flood: Internet Web Resource, URL: http://nwcreation.net/articles/missoulaflood.htm

Picture Tomorrow, 2005, Glacial Lake Missoula and the Ice Age Floods: Internet Web Resource, URL: http://www.glaciallakemissoula.org/virtualtour/

Sterling, Jessica, Museum of the City. The Great Missoula Floods; Internet Web Resource, URL: http://www.museumofthecity.org/project/the-great-missoula-floods/

Nathaniel Dunaway
ES 202 Principles of Geology
Term Paper Preliminary Outline
2/29/16

4/4

Topic: Rivers, Lakes, and Alkaline Playas in the Oregon High Desert (paper title tbd)

1. Introduction

2. Geologic Overview (major bodies of water, overview of alkaline, important geologic structures, other relevant information concerning High Desert geology)

3. Geologic History (origins of river/lake systems in the desert basin)

4. Climate Change (its effect on desert conditions)

5. Current Geologic Issues in Eastern Oregon (groundwater, water use, management, etc.)

References:

McDowell, P.F., 1992, An Overview of Harney Basin geomorphic history, climate, and hydrology, in Land and life at Malheur Lake: Preliminary geomorphic andarchaeologic investigations, Raven, C. and Elston, R.G., eds., p. 13-34, U.S. Department of the Interior, Fish and Wildlife Cultural Resource Series, Number 8, U.S.D.I. Fish and Wildlife Service, Portland, Oregon.

Gehr, K. D.; Newman, T. M., 1978, Preliminary note on the late Pleistocene geomorphology and archaeology of the Harney Basin, Oregon: The Ore Bin, v. 40, n. 10, p. 165-170.

Keen, F. P., 1937, Climate Cycles in Eastern Oregon as Indicated by Tree Rings: Monthly Weather Review

Allison, Ira S., 1979, Pluvial Fort Rock Lake, Lake County, Oregon: Special Paper - Oregon, Department of Geology and Mineral Industries, , n. 7, 72 p.

Hooper, P.R., Binger, G.B., Ages of the Steens and Columbia River flood basalts and their relationship to extension-related calc-alkalic volcanism in eastern Oregon

Blake Egli
202 geology
Mon 29th, February

Outline

1. Introduction Columbia Gorge
    a. discovery
    b. Landscape
    c. timeline
2. missoula floods
    a. floods
    b. significant events
    c. Evidence
3. History of columbia gorge
    a. The history
    b. voyages
    c. Scientists research
4. Conclusion
    a. What we've learn
    b. What we have yet to learned
    c. Summarize

That categories in this outline don't do the paper justice, or gives a good sense of what details I will be covering.

References:

- Duncan trussel
- Christopher Ryan
- Wikipedia
- Documentaries

4/4 +1

Good start

Neotectonics of Southern Oregon Coast

Joseph Freitag

Western Oregon University

ES 202

2/29/2016

THE CASCADIA SUBDUCTION ZONE

Southern Oregon is part of a tectonically active area known as the Cascadia Subduction Zone. This zone consists of the North American plate pushing east as well as the Juan de Fuca plate pushing west. This creates tectonic uplift where the plates converge, which creates terraces when combined with wave erosion action. These terraces sit just under sea level and are flattened off over 10' of thousands of years. Along with the wave erosion, tectonic uplift slowly raises the land above, or sometimes below, the influence area of the waves. After the land area has been lifted out of the influence of the waves, we can see a relatively flat piece of land that has historically been used for human settlement (Wikipedia, 2016).

SOUTHERN OREGON MARINE TERRACES

The Coastal Plain

There is a coastal plain 38 miles long that runs from the Seven Devils area south to Port Orford. This plain contains the terraces of Seven Devils, Pioneer, and Whiskey Run (Griggs, 1944, p. 117).

The Terraces of Southern Oregon

-Seven Devils

-Pioneer

-Whiskey Run

My families' farm sits at 100 ft. above sea level and there are sand deposits mixed in with other dirt and sand mixtures. We have a sand pit that it the size of a basketball court and around 20 feet deep, surrounded by red shot on all sides.

CONCLUSION

Marine terraces are stepped plateaus that have been lifted above the influence of waves, or subsided below the influence of waves. They take 10's of thousand so f years to form. We can see that they carry vital materials with them, such as sand. We can also see that they are vital to human development as they are a relatively flat piece of land.

REFERENCES

Documents

Adams, J., 1984, Active Deformation of the Pacific Northwest Continental Margin: Tectonics, vol. 3, p. 449-472.

Griggs, A., 1944, Chromite Bearing Sands of the Southern part of the Coast of Oregon: United States Department of the Interior, Bulletin 945-E, p. 113-150.

Kelsey, H., McInelly, G., 1990, Late Quaternary Tectonic Deformation in the Cape Arago-Bandon Region of Coastal Oregon as Deduced from Wave-Cut Platforms: Journal of Geophysical Research, vol. 95, p. 6699-6713.

Kelsey, H., 1990, Late Quaternary deformation of Marine Terraces on the Cascadia Subduction Zone near Cape Blanco, OR: Tectonics, vol. 9, p. 983-1014

Kelsey, H., Bockheim, J., 1994, Coastal Landscape evolution as a function of eustasy and surface uplift rate, Cascadia margin, southern Oregon: Geological Society of America, vol. 106, p. 840-854.

Kelsey, H., Engebretson, D., Mitchell, C., Ticknor, R., 1994, Topographic form of the Coast Ranges of the Cascadia Margin in relation to coastal uplift rates and plate subduction: Journal of Geophysical Research, vol. 99, p. 12245-12255

Riddihough, R., 1984, Recent Movements of the Juan de Fuca plate system: Journal of Geophysical Research, vol. 89, p. 6980-6994.

Wikipedia, 2016, Marine Terrace: Internet Web Resource, URL: https://en.wikipedia.org/wiki/Marine_terrace (last updated February, 2016).

Pictures

Wikipedia, 2016, Marine Terrace: Internet Web Resource, URL: https://en.wikipedia.org/wiki/Marine_terrace (last updated February, 2016).

TITLE?

General purpose: To inform about ecosystem at crater lake — Lily Hume
Specific purpose: To inform my peers about CL ecosystem — 2/24/16
Central idea: Deforestation in America has created environmental problems, economic impacts, but with sustainable practices we could save our planet.

I. Introduction- (?)"There is a delight in the hardy life of the open. There are no words that can tell the hidden spirit of the wilderness that can reveal its mystery, its melancholy and its charm. The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased and not impaired in value. Conservation means development as much as it does protection." - Theodore Roosevelt, President of the United States(?)

II. Food chain
- A. Fish
  - 1. Types and purpose
    - i. Example
- B. Animals
  - 1. Types and purpose
    - i. EX
- C. Trees, shrubs, wildflowers
  - 1. Types and purpose
    - i. EX
- D. Fungi/Fungus (?)
  - 1. Types and purpose
    - i.EX

II. GEOLOGIC SETTING
- PLATE TECTONICS
- MT MAZAMA
- CASCADES

4/4

III. Aquatic ecosystem — OVERVIEW
- A.Depth
- B. Temperature
- C.Water content/ quality

IV. Ecoregion AND ~~ECOSYSTEM~~ WATER RESOURCES
- A . landscape/ geologic features
  - 1. Why this is its setting

V. Conclusion-(insert bitchin nature quote here)

VI. REFERENCES CITED need 4-5

Bibliography

1.http://www.craterlakeinstitute.com/natural-history/ecology-aquatic-ecosystems.htm
2.http://oe.oregonexplorer.info/craterlake/life.html
3.http://www.craterlaketrust.org/clt-science
4.http://www.nps.gov/crla/planyourvisit/upload/Climate-Change-at-Crater-Lake-2.pdf

Nicole Inman
Earth Science 202W
Term Paper Outline

TITLE??

I. Introduction
II. Causes/Factors
  A. That affect coastal sea level
    1. El Nino / La Nina
    2. Glacier/ice sheet gravitational pull
    3. Glacial melting
    4. Basin depression from water weight
    5. Warm sea water expansion
  B. That affect land elevation
    1. Land ice melting
    2. Tectonics
    3. Subsurface reservoirs

4/4

III. Short general world history overview
  A. Sea level rise not uniform over planet
  B. Climate cycle
IV. Focus in on Pacific NW
  A. History
  B. Where we are in cycle/current status
    1. Our major factors specifically for NW
  C. Future NW sea level rise predicted vs rest of world's
    1. Pacific NW specific concerns
      a. Infrastructure
        i. Glacial melting = higher river levels? Dam/bridge issues...
        ii. Coastal towns at risk, how many and by how much...
      ~~b. Legality/Prep~~
        ~~i. Home/land now under water~~
        ~~ii. State/Federal intervention~~
    ~~2. Health/Environment~~
      ~~a. Warm moist = mold~~
      ~~b. Vegetation / animal adaption and species loss~~
      ~~c. Marine ecosystems adaption and loss~~
V. Conclusion

VI. REFERENCES CITED → given O.K.

Lund, Ernest H., 1972, Coastal landforms between Yachats and Newport, Oregon: The Ore Bin, v. 34, n. 5, p. 73-91.

Shugar, Dan H., et al., 2014, Post-glacial sea-level change along the Pacific coast of North America: Quaternary Science Reviews, v97 pp 170-192.

http://www.nap.edu/read/13389/chapter/2#6
http://www.nap.edu/read/13389/chapter/3#13

http://oregonstate.edu/ua/ncs/archives/2014/aug/study-provides-new-look-ancient-coastline-pathway-early-americans

http://www.atmos.washington.edu/academics/classes/2001Q1/211/Group_projects/group_D_F00/index.html

https://www.wunderground.com/climate/SeaLevelRise.asp?MR=1

Need to Format

David Jaquez

ES 202W

Sea Level History of the Pacific North West

Introduction

Sea Level

- Current
- Past
- Possible Future

Climate Change

- Causes
- Effects

Glacial Affects

- Glacial History
- Glacial water

Cascadia Subduction Zone

- Tectonic forces

Conclusion

References:

"'CSZ' - A Key Factor for Pacific Northwest Sea-Level Rise - Yale Climate Connections." *Yale Climate Connections*. N.p., 26 July 2012. Web. 29 Feb. 2016.

Komar, Paul D., Jonathan C. Allan*, and Peter Ruggiero. "Sea Level Variations along the U.S. Pacific Northwest Coast: Tectonic and Climate Controls." *Journal of Coastal Research* 276 (2011): 808-23. Web.

Nicholls, Robert J., and Anny Cazenave. "Sea-Level Rise and Its Impact on Coastal Zones." *Science* 329.5992 (2010): 628. Web.

Aspen Johnson
ES 202 – Winter 2016
February 28, 2016
Term Paper Outline

History of Soils in the Umatilla Basin

I. **Introduction**
   a. Location (map – state of Oregon with insert of Umatilla basin)
   b. Types and textures of soil

II. **Geologic Overview (Past)**
   a. Soils
      i. How was the soil deposited?
   b. Water
      i. Was the basin ever flooded?
   c. Tectonic Setting
      i. How was the Blue Mountain range formed?

III. **Geologic Overview (Current)**
   a. Typical soils
      i. Uses
   b. Water
      i. Ground water
      ii. Rivers/Streams
   c. Tectonic Setting
      i. Mountain ranges
      ii. Location on the North American tectonic plate (map)

IV. **Summary and Conclusion**

V. **References**

a. Oregon Department of Environmental Quality, 2008, Water Quality: Lower Umatilla Basin Groundwater Management Area: Internet Web Resource, URL: http://www.deq.state.or.us/wq/groundwater/lubgwma.htm
   i. Provides information on the management of ground water in the lower Umatilla basin, is a database of various information about the soil and ground water
b. Umatilla County SWCD, 2015, Soil & Water Conservation District – Protecting Natural Resources: Internet Web resource, URL: http://www.umatillacountyswcd.com/home.html
   i. A database on protecting soil and groundwater in the Umatilla basin
c. U.S. Department of Agriculture, 2013, Web Soil Survey: Internet Web Resource, URL: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm
   i. A resource on the current soils across the U.S., can select an "area of interest" and find the soil types and what the land can be used for (including crops/range plants, what types of buildings can be built, water resources…)
d. Worldatlas.com, 2016, Oregon: Internet Web Resource, URL: http://www.worldatlas.com/webimage/countrys/namerica/usstates/orland.htm

Ryan Johnson

Feb. 29, 2016

Geologic History of Oregon's Dunes NATIONAL MONUMENT

Preliminary Outline

I Intro DUCTN

- Recreational uses
- Size
- Flora & Fauna

Description of Oregon dune environment

- Modern vs Historical
- Depositional environments
- Involved formations

Case studies

- Choose multiple popular dune environments
  - e.g. Sand Lake, Winchester Bay, Florence
- More detailed, proximal summary of modern vs historical

Geohazards associated with dunes

Conclusion

4/4

I. INTRODUCTION
II. GEOLOGIC SETTING
- PLATE TECTONICS
- PLEISTOCENE HISTORY
III. DUNE PROCESSES
IV. LANDUSE & HAZARDS
V. CONCLUSION
VI. REFERENCES CITED ??

Check in
I have some
NEED 4-5 PUBLICATIONS

Sierra Johnston

ES 202

Taylor

2/29/26

Flooding in the Willamette Valley

I. Introduction

II. Geographic overview

- Floodplains/how floods occur
- Sediment discharge/effect on rivers

III. History of the Willamette valley floodplains

- Flood of 1996
- Present day flooding →
- How floods effect the environment
- Improvements to planning for floods

IV. Summary/reflection

V. Conclusion

VI. References

Josh Lucas

Mass Wasting Outline

ES 202

I. What is mass wasting?
   A. "The gravitationally caused downslope transport of rock, regolith, snow, or ice."

I. Types of mass wasting
B. Classifications based on certain characteristics.
   1. Type of material
      a. bedrock
      b. regolith
   2. Speed
      a. Slow, medium, or fast
   3. How the mass is moving
      a. Coherent, chaotic, or slurry
   4. Environment of event
      a. subaerial or submarine
C. Types (In order of speed: slowest to fastest)
   1. Creep
      a. slow movement of soil on a slope.
         i. Due to freezing and thawing/ wetting and drying of sediment on a slope.
         ii. Particles expand and contract and pushed downward by gravity.
   2. Slumping
      a. Slow moving rock or soil that moves as a large coherent block.
         i. Occur on planar surfaces, but are common on "spoon shaped" surfaces
         ii. Wet weather facilitates slumping
   3. Mud flows, debris flows, and lahars
      a. Mud flows – mixture of mud
      b. Debris flow- mixture of mud and varying sizes of rock fragments
      c. Lahars- volcanoes- volcanic ash, mud, ice, water, and rock debris
         i. Usually caused by volcanic activity
      d. All three have similar features
         i. Speeds of these vary based on water content and angle of slope
         ii. The steeper the slope + more water = faster movement/ less friction
         iii. Follow channels in mountains

TITLE: MASS WASTING IN WESTERN OREGON 4/4

I. INTRODUCTION
II. MASS WASTING PROCESSES OREGON
III. MASS WASTING HAZARDS IN WESTERN OREGON
IV. HAZARDS MITIGATION
V Conclusion
VI. Bibliography Cited need 4-5
Email me I have a bunch

4. Rockslides debris and debris slides
    a. Rock slide – rocks
    b. Debris slide- regolith
        i. "Rock or soil detaches from a slope and slides down a slope on a failure surface"

5. Rock falls and Debris Falls
    a. Faster than slides
    b. occur on steeper slopes/ cliffs
    c. Occur on road cuts especially new ones

II. Forces behind Mass Wasting

A. Gravity
B. Slope angle/ gradient
C. Mass wasting/ mass movement is not guaranteed.
    1. Not all slopes are created equal: stable vs. unstable
        i. Stable = friction of sediment > the force of gravity
        Unstable = friction < force of gravity = slope failure
D. Changing slopes
    1. Weathering = weakens
    2. Vegetation = strengthens
        a. Plants hold soil together
        b. Plants absorb water
    3. Water
        a. Too much = bad
            i. Pushes soil particles apart = looses soil
        b. Just enough = good
            i. Holds soil together – water tension
E. Other Causes
    1. Tectonic activity- earthquakes, volcanoes
    2. Human influence- construction- blasting rock

III. Mass wasting in Western Oregon

A. Western Oregon is prone to a variety of mass wasting/ movement
B. Examples
C. Factors
D. Human activity
    1. Logging
    2. construction
E. Examples
F. Effects on: wildlife/roads/streams and rivers/houses/ safety

References

Swanson, Frederick J., George W. Lienkaemper, and James R. Sedell. "History, physical effects, and management implications of large organic debris in western Oregon streams." (1976).

Mersereau, R. C., and C. T. Dyrness. "Accelerated mass wasting after logging and slash burning in western Oregon." *Journal of Soil and Water Conservation* 27.3 (1972): 112-114.

Marshak text

SUGGESTED TITLE: "HYDROGEOLOGIC SETTING OF MID-WILLAMETTE VALLEY & GROUNDWATER ISSUES IN POLK AND MARION COUNTIES"

Jennifer Menkel
ES202
Preliminary outline

Salinity: Ground water and aquifer quality issues in Polk, and Marion counties, and ~~the related geology that contributes~~ to the problem.

I. **Introduction/Statement of purpose**

II. **Geologic Overview** SETTING
- Geologic History - Short overview — PLATE TECTONICS, REGIONAL STRATIGRAPHY, SURFICIAL GEOLOGY
  - Willamette Valley
  - Polk and Marion Counties
  - Property around Salt Creek

III. **Hydrology** HYDROGEOLOGY
- Hydrology of the Willamette basin- Short overview
- Polk and Marion Counties
- Groundwater — AQUIFERS VS. AQUICLUDES
  - Occurrence
  - Recharge
  - Movement
  - Discharge

IV. **Water quality**
- Oregon Water Resources Department
- Polk and Marion counties
- Case study of the local groundwater near Salt Creek
- Comparison with property lot 202, well drilling reports and well assessments
- Influence on human use and property values for Polk and Marion counties

V. **Summary and Conclusions**

VI. **Preliminary References:**

Caldwell, R.R., Geochemistry, Alluvial Facies Distribution, Hydrogeology, and Groundwater Quality of the Dallas-Monmath Area, Oregon, Masters thesis submitted, Portland State University, 1993

Conlon, T.D., et al, Ground-Water Hydrology of the Willamette Basin, Oregon, USGS Scientific Investigations Report 2005-5168

Gontheir, J.B., Groundwater Resources of the Dallas- Monmouth Area, Polk, Benton, Marion Counties, Oregon, U.S. Department of the Interior USGS, 1983

O'Connor, J.E., et al, Origin, Extent, and Thickness of Quaternary Geologic Units in the Willamette Valley, Oregon, U.S. Department of the Interior USGS professional paper 1620

Woodward D.G., et all, Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, U.S. Department of the Interior USGS professional paper 1424-B

Nathina Montgomery

TITLE ?

What are we working on again??

I. INTRODUCTION

II. GEOLOGIC OVERVIEW Setting

Tectonic activity

Stratovolcano

Volcano types

monogenetic, composite

Formation

Glaciation

Lava flows

River valleys

III. HAZARDS OF ERUPTION

History—result of past eruption

Different hazard zones

Debris avalanche and lahars

4/4

IV. LANDUSE ~~HAZARDS~~ MITIGATION

~~Human activity~~

V. SUMMARY

VI. REFERENCES

7

Kendra Pietrok
February 29, 2016
ES202 winter
Outline

Active Tectonics of Coastal Oregon

I. Introduction

II. Geological Overview

A. Tectonic setting

III. History of tectonics

A. Continental Drift- Alfred Wegner

IV. Modern plate tectonics

A. Basic Model based on Wegner

1. 3 types of plate boundaries

a) convergent

b) divergent

c) transform

V. Evidence to support modern plate tectonic theory

A. Magnetism and Paleomagnetism

B. Evidence from ocean drilling

C. Hot spots

1. hawaii

VI. Conclusion

VII. References

A. format in Geological Society of America (GSA)

Paul Rostad

ES202: Principles of Geology

Professor Steve Taylor

February 25, 2016

Outline of My Paper on Southeast Alaskan Glaciers, Isostasy and Rebound

I **Introduction**

- **Geological History**
- **Glacial History**

Isostasy and Rebound

- **What is Isostasy**
- **What is Rebound**
- **Concept of Isostatic Rebound Applied to Southeast Alaska**

4/4

Uplift vs Erosion

- **Evidence of a High Sea Level in Southeast Alaska**
- **Rates of Erosion vs Rates of Uplift**

Sources Provided

I. Introduction
II. Geologic setting
III. Late Pleistocene-Holocene glacial history
IV. Isostatic adjustment
V. Conclusion
VI. References cited

Sources-

Larsen, C., Motyka, R., Arendt, A., Echelmeyer, K., Geissler, P., 2007, Glacier Changes in Southeast Alaska and Northwest British Columbia and Contribution to Sea Level Rise., Journal of Geophysical Research, Vol 112, p. 1-11.

Larsen, C., Motyka, R., Freymueller, K., Echelmeyer, J., Ivins, E., 2005, Rapid Viscoelastic Uplift in Southeast Alaska Caused by post-Little Ice Age Glacial Retreat., Earth and Planetary Science Letters, Elsevier., p. 548-560.

University of Michigan, 1996, Isostatic Rebound: Internet Web Source, URL: http://www.umich.edu/~gs265/isost.html

NASA, 2015, Glacial Rebound: The Not So Solid Earth: Internet Web Source, URL: http://www.nasa.gov/feature/goddard/glacial-rebound-the-not-so-solid-earth

WUWT, 2015, A Shift in Climate 'Forcing" Led to Demise of Laurentide Ice Sheet 9,000 years ago: Internet Web Source, URL: http://wattsupwiththat.com/2015/06/23/a-shift-in-climate-forcing-led-to-demise-of-laurentide-ice-sheet-9000-years-ago/

David Solvedt

February 28, 2016

Geologic History of the Columbia River Gorge: Preliminary Outline

1. Introduction

2. Tectonic Setting of The gorge/ Oregon
    A. Plate Convergence
    B. Development of Cascades

3. Volcanic history of the Columbia region
    A. Rock types
    B. Cooling patterns

4. Gorge Formation
    A. Sources of erosion
        a. Presence of water
        b. Landslides
        c. Flood History
            i. Missoula Floods

5. Geologic transformation of the surrounding landscape
    A. Type of river and deposition
    B. Transportation of sediment to the valleys and ocean

6. References cited

4/4

I. INTRODUCTION
II. GEOLOGIC SETTING
A. TECTONICS
B. ~~GEOLOGIC~~ ROCK GEOLOGY
III CATASTROPHIC & COLUMBIA GORGE
IV Conclusion
V References CITED

Need 4-5
I HAVE SOME EMAIL ME

Kaleb Sorenson

2-29-16

Term paper outline

Title

- Introduction
- Background
  - General climate overview
  - Problems surrounding John Day area
- River Watershed dangers
  - Wetlands
  - Instream
  - Upland
- Restoration
  - Methods
    - Old vs. new
  - Treaty of middle Oregon 1855
  - Funding
    - Income vs. Investment
  - Plans in place
- Outcome/Results
  - Effectiveness of restoration efforts
  - Future restoration plans 'what's next?'
- Summary and conclusion
- References

QW Consulting, August 11, 2015, John Day River Watershed Restoration Strategies: Department of Fisheries 1p.

Leoni, Melissa, 2009, John Day Basin: Oregon Watershed Enrichment Board. 1p.

Claeyssens, Paul, 2004, Treaty with the Tribes of Middle Oregon 1855: The Oregon History Project. 1p.

Cayla Stevenson

2/29/16

Term Paper Outline

TITLE!

1. **Introduction**

2. **Geologic Overview**

   - **Bedrock composition**
     Volcanic rock (Basalt)
     Top soil formation (Silt)
   - **Ice Age and Glacial formation**
     Creation of lakes
   - **Geology During the Ice Age**
     Processes occurring
     Impact on landscape

3. **Lake Missoula**
   - **The Massive Missoula Flood**
   - **Change of landscape**
     Formations, Erosion, and landforms left behind
   - **Evidence of occurrence**

4. **Summary & Conclusion**

4/4

I. Introduction
II. Geologic Setting
A – Plate Tectonics
B – Pleistocene Glaciation
III Lake Missoula & Flood History
C – Evidence
IV Conclusion
V References Cited

References Cited

Glacial Lake Missoula, 2005, Glacial Lake Missoula and the Ice Age Floods: Internet Web Resource, URL: http://www.glaciallakemissoula.org/story.html (Last updated 2005)

University of Wisconsin - Green Bay, 2003, Channeled Scablands: Overview: Internet Web Resource, URL: https://www.uwgb.edu/dutchs/VTrips/Scablands0.HTM (Last Updated July 1, 2012)

U.S. Geological Survey, 2006, The Channeled Scablands of Eastern Washington: Internet Web Resource, URL: http://www.nps.gov/parkhistory/online_books/geology/publications/inf/72-2/intro.htm (Last updated March 28, 2006)

need 3/5 — I have a bunch cause me...

Brent Sumner

2/29/16

Geology 202

Outline for term paper

Title?

4/4

I. Introduction
   a. What is the Columbia gorge
   b. The history of it
   c. The Missoula floods
   d. The evolution of the Columbia gorge
II. Geologic overview
   a. Columbia River flood basalts
   b. Surrounding areas
III. Geologic history
   a. Missoula flood
      i. Impact on the Colombia river
   b. The evolution of the Columbia gorge
IV. Impacts on environment
   a. The dams
   b. Human impacts
   c. Fish impact
V. Summary and conclusion
VI. References cited

O.K.

Need 4-5

Lexington Taylor

ES 202

Dr. Taylor

2/28/2016

TITLE: "River Restoration in the Crooked River Basin, Oregon"

The Crooked River (geologic setting and hydrology and fish restoration)

Introduction

Environment of the area (Description)

History/ past

Water sources

Environment

Water storage

Current Streamflow and other

Current sediments

Current H2O flow

Current H2O storage

Fish

Fish history

Current fish

Fish problems

Hydrologic

History

Present

Problems

Conclusion

4/4

I. History

II. Physiographic Setting

A. Regional Geology

B. Hydrology

C. Land-Use

III. River Restoration

IV. Conclusion

V. References Cited

Kyle Warren

4/4

The Channeled Scablands

Introduction

What has the ability to carve out massive amounts of rock, or produce dunes way bigger than ones we can observe today? Millions of gallons of water were released from an ice dam and are rushed across the terrane changing it forever. As the last ice age was ending there was a huge lake known as Lake Missoula and when the dam broke there was an immense amount of water released creating that we know today as the Channeled Scablands.

1. The Grand Coulee dam (Steamboat Rock)
   a. Part of a river that was as deep as 50 feet.
   b. Flood beds contain lots of silts and clays.
   c. Varves- a pair of thin layers of clay and silt of contrasting color and texture that represent the deposit of a single year (summer and winter) in a lake. Such layers can be used to determine the chronology of glacial sediments
2. The Moses Coulee
   a. Known for being one of the widest/deepest cavity cut out from water.
   b. Talk about the ripples in the ground and the amount of water that would have been required to make ripples of that magnitude.
   c. Mention the sediment deposits.
   d. Was originally compared to the Parallel Roads of Glen Roy in Scotland by TC Chamberlin in the 1880's.
3. Giant Boulders
   a. Boulders were transported from Ice Age glaciers and left in random areas.
   b. Huge boulder have been deposited downstream of the Moses coulee.
   c. discuss ways that they could have gotten there.
   d. Discuss the composition of them and what that means about them.
   e. Try find the origin of the boulders.
4. Malaga/Giant Dunes
   a. Lots of Gravel deposits
   b. Different ages of deposits suggest multiple flood/ amounts of water.
   c. Huge distance from crest to crest. Make the comparison to the difference to crests of the ocean or rivers, and to the distance for these crests.
5. Dry Falls
   a. Much larger than Niagara Falls
   b. Talk about the variation in rock/sediment deposits
   c. The fact that basalt was eroded away suggest that the flow of water must have been extremely powerful.

Conclusion

As far as we know the Channeled Scablands are the product of the largest release of water at one time. The shear amount of water release is almost impossible to understand. Water is an extremely powerful force and all of the areas along this field guide show how strong water can be.

Need to beef up pre-sections

I. Introduction
II. Geologic setting
III. Glacial Lake Missoula
IV. Channeled Scablands
V. Location
VI. References Cited

Need 4-5 references??