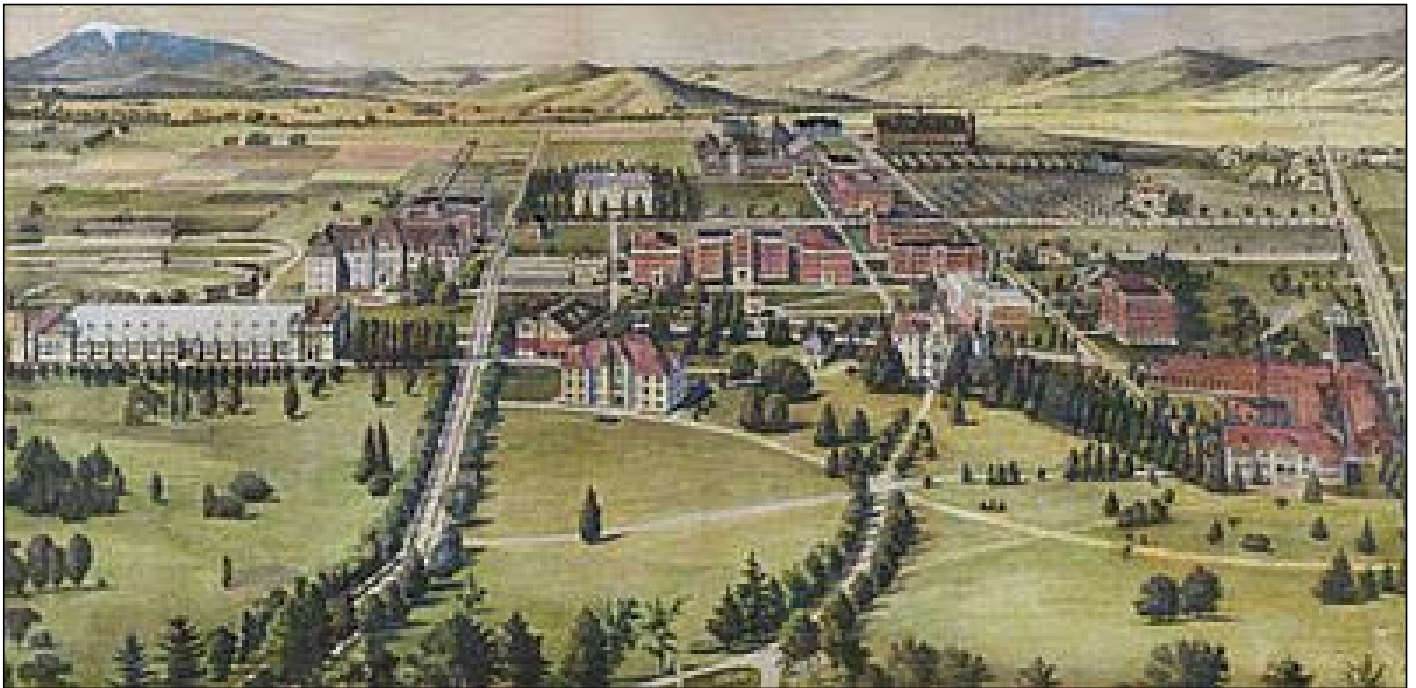




A BRIEF HISTORY OF GEOLOGY AT OREGON STATE UNIVERSITY, 1913–2014



Painting of the campus circa 1912. Mary's Peak and Bald Hill in background. The Mines Building, under construction at that time in the cluster of buildings on lower right, would house geology until 1940. From OSU Libraries University Archives.



2014

Disclaimer

This document was prepared by Anita Grunder, OSU professor of geology, and Jenda Johnson, alumna OSU geology BS 1992, MS 1995, with assistance from Mike DiCianna at OSU archives, Henri Sanville, OSU geology BS 2009, MS candidate, and John Dilles, OSU professor of geology. Errors in , and omissions of important facts are guaranteed. Hopefully fixed we did the workst of the problems in bad syntax and grammar.



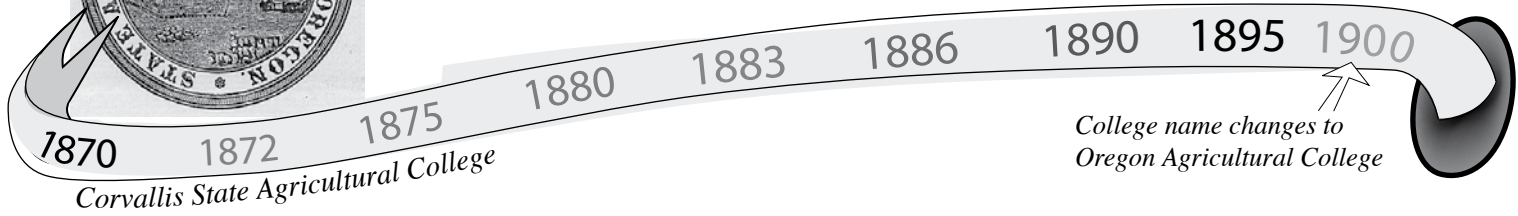
Composite cyanotype photograph of Oregon Agricultural College buildings. Buildings shown starting at the top left are: Mechanical Hall, Fairbanks Hall and The Greenhouses. View of campus with Benton Hall in background. Women's Center Building (Station Building), Alpha Hall, The Farm and Benton Hall in the center of photo. From OSU Archives.

Source Acknowledgments:

Images in this document are from the Oregon State University Archives, the Geology Archives, and from yearbooks and catalogs of OSU.



A Brief History of Geology at Oregon State University, 1913–2014



Institutional Framework

Corvallis College, established in 1858, became the Corvallis College and Agricultural College of Oregon in 1868. The college carried various names including the word agriculture until the name Oregon Agricultural College (OAC) was first used in 1890. OAC became Oregon State Agricultural College (1899) and then Oregon State College (1937) and finally, in 1961, the institution became Oregon State University.

A Department is Established

Geology appears as a subject on the 1870 transcript of Alice E. Biddle, who graduated from Corvallis College at the age of 16. She was the first woman graduate and earned scores of 96 and 98 in geology (see Appendix 1 for gossip).

In 1872, OAC geology courses were taught in the School of Physics, Natural Philosophy, Geology and Mineralogy. Five terms of geology were included in the Preparatory Department in 1890, which “is provided with commodious, well-ventilated, well-lighted rooms and all the appliances necessary for thorough instruction.”

Mining courses were taught as early as 1900 and geology courses existed as service courses to mining engineering, forestry and agriculture. The U.S. Bureau of Mines was created in 1910 and on July 19, 1913, the Oregon legislature established the School of Mines at the Oregon Agricultural College. The School of Mines had four departments: Mining Engineering, Ceramic Engineering, Chemical Engineering, and Geology. The College had fewer than 1,500 students.

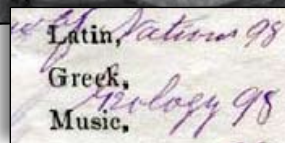
Trivia of 1890

College enrollment: 152 at all levels; 85 at college level.
Population in Corvallis: 1,527 (More trivia Appendix 5)

A Brief and Incomplete History

This brief history celebrates the centennial of the geology program at Oregon State University. Development of the program is set against the state and national political, economic, and scientific climate. From a strong emphasis in mining geology in the early days, geology expanded to support petroleum resource development, embraced the plate tectonic revolution, and participated in technological developments in the cold war years that fueled basic science and the space program that, in turn, drove inquiry into our own planet. Basic and applied geology, while always serving a resource backbone of energy, mineral and water resources, has more recently expanded to include natural hazards and a wide range of environmental concerns.

Approximately 2,000 graduate and undergraduate students have come through the geology program.



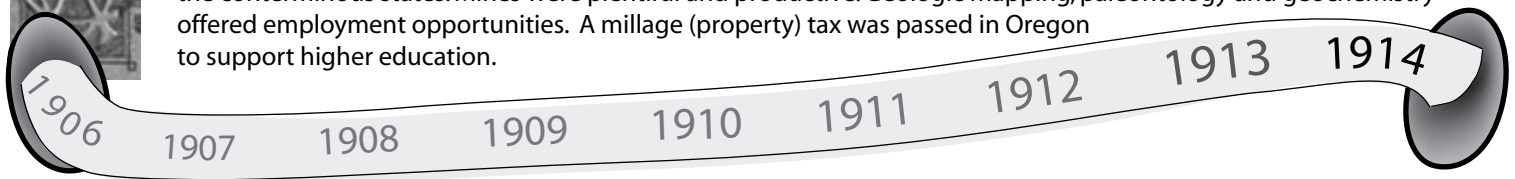
ABOVE: Entire first graduating class of Corvallis College. Alice read a paper at commencement, “Progress of Mind.”

LEFT: A statue of Alice E. Biddle is located near the Memorial Union.

BELOW LEFT: Note on her transcript of receiving 98 in her Geology class in 1870.



In 1913 Woodrow Wilson was elected to his first term as US President, the suffragette movement was gaining momentum and the income tax was implemented. Geology and mineral exploration were chiefly focused within the conterminous states. Mines were plentiful and productive. Geologic mapping, paleontology and geochemistry offered employment opportunities. A millage (property) tax was passed in Oregon to support higher education.



Early Program in Support of Mining

The Mines Building was completed in 1913 and Professor Parks was Dean of the School of Mines and professor of Mining Engineering. The faculty grew from 3 to 6 in the next year. Dean C. E. Newton was a professor in mining engineering and taught crystallography and mineralogy courses. Geology classrooms and laboratories were on the second and third floor of the “commodious” Mines Building, with shared storage in the basement. When the School of Mines was closed in 1932, the faculty numbered five.

Coursework

In the 1913-14 academic year, freshmen in the School of Mines took chemistry, public speaking, hygiene and other fundamentals. In their sophomore year, they learned Crystallography and Blowpipe Analysis (Min 101), Determinative Mineralogy (Min 102), General Geology (Min 140) and Practical Mining, meaning work in the minerals industry. In their junior year, geology majors continued with Geochemistry (Min 181, 182) and as seniors took Petrology (Min 121), Economic Geology (Min 160), Ore Deposits (Min 185), Field Geology (Min 131), Historical Geology (Min 192) and Mine Surveying and Mining Law (Min 220). Students were required to do geological fieldwork and to spend a summer working for the mining industry. Those who pursued mining could enroll in courses entitled “Power Equipment” or “Blasting and Excavation.”

Over the next few decades, the basic courses required of geology undergraduates in earth materials diversified in content and declined in number (Appendix 2). The range of geology service courses to the university increased and also diversified. From early service courses in Geology for Engineering and for Agriculture, a wider slate of introductory geology courses became available, with recent additions in earthquake and volcanic hazards, resource distribution, climate change and environmental justice.

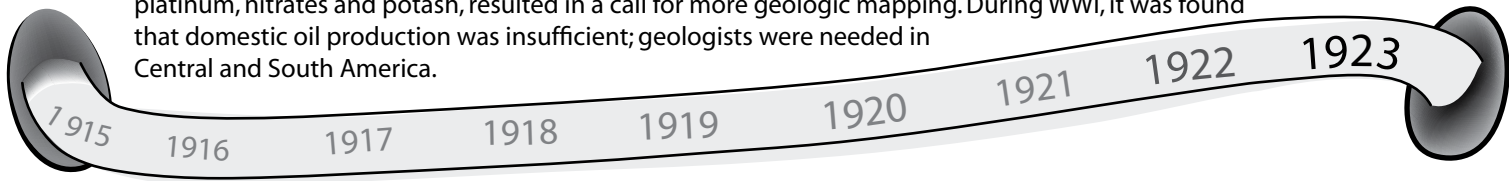


The Mines Building was completed for the beginning of school year 1913. The Mines Building was renamed Batcheller Hall in 1965 in honor of Dr. James H. Batcheller, “Gentleman Jim”. See Appendix 3.



Paleontology lab, 1910, where Minerology 101 (Blowpipe Analysis, required) was taught.

Geopolitical climate: Oil reserves and iron were regarded as limitless, but increased need for tin, nickel, platinum, nitrates and potash, resulted in a call for more geologic mapping. During WWI, it was found that domestic oil production was insufficient; geologists were needed in Central and South America.



Dean H.M. Parks* of the School of Mines turned the reins over to E.K. Soper in 1918, who was followed by Newton. One of the secretaries of the dean was Marguerite L. Klopfenstein (stone-tapper in German), a quirkily geological name. Geology as a major emerged, rather than being one of four options in Mining Engineering. The Miners Club included all students in the School of Mines, and students presented their summer work at the monthly meetings.

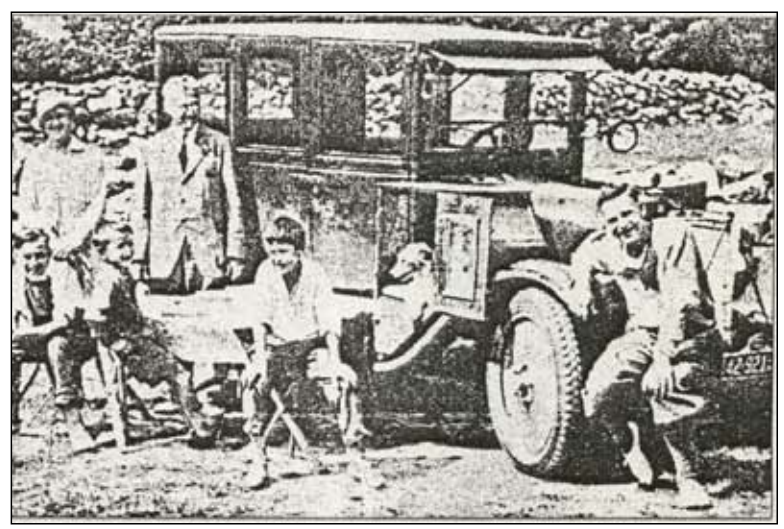
In 1920, the first assistant professor of geology, J.W. Gruner, together with J. H. Batcheller (photo right) delivered most of the geology curriculum. In 1928, Douglas Clermont Livingston, the first full professor of geology, carried much of the teaching and delivered the geology curriculum together with Newton, L. T. Abele (instructor of geology), and Batcheller. Livingston published on “Tungsten, cinnabar, manganese, molybdenum and tin deposits of Idaho” and on “Copper Deposits of the Seven Devils Terrane” in the period 1912-1923.

A graduate program was established and three graduate (600) level courses were offered, titled Oil Geology, Geology of Igneous Rocks, and Problems in Economic Geology.

The 1921-1922 catalog reads: “The curriculum in Mines is designed to give thorough training in the fundamentals of the science of Geology, and the arts of Mining and Metallurgy, and to prepare for positions of responsibility in the industrial life of the country, particularly in the mining field. The curriculum is of such a comprehensive character that a graduate finds it of aid in varied employments.”



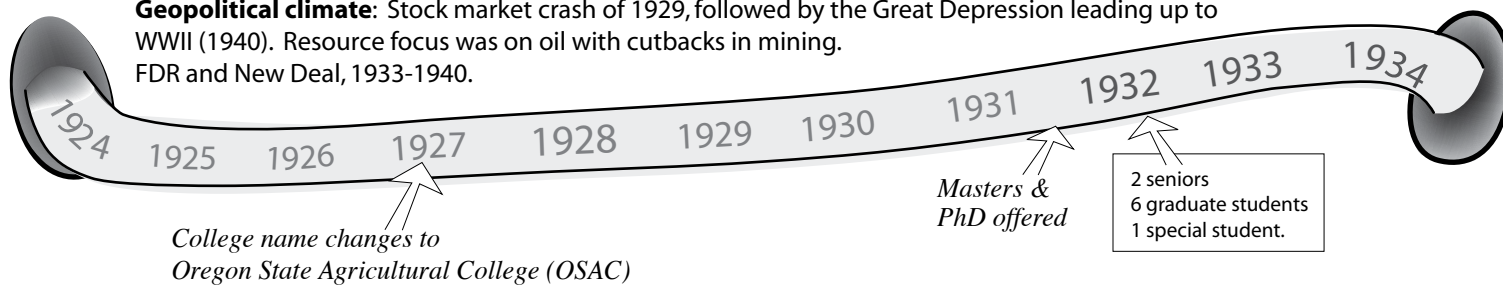
LEFT: These students posing in front of the Mines Building (later Batcheller Hall) are sporting “Mines breathers” in this 1926 photograph



Dr. Batcheller, mining engineering professor who taught mineralogy and crystallography, used his mechanical ingenuity to redesign the family Dodge into a field vehicle and what may have been America’s first true recreational vehicle, complete with running water and fireless cooker built right on the engine.

* See Appendix 4 for all faculty 1914-2014

Geopolitical climate: Stock market crash of 1929, followed by the Great Depression leading up to WWII (1940). Resource focus was on oil with cutbacks in mining. FDR and New Deal, 1933-1940.



From School of Mines to School of Science

This decade saw a lot of important developments for Geology. Ira Allison joined the faculty in 1928 and launched a productive career of teaching and publishing. He co-authored 6 versions of the text book “Geology,” 1932-1980, and was first author on the last two editions (1974, 1980). He is best known for his 1933 GSA Bulletin publication titled “New version of the Spokane Flood”, and his work on Pleistocene Lake Chewaukum of south-central Oregon. His house is now a bed and breakfast on Harrison St., where many a geological visitor has been lodged.

The School of Mines was closed in 1932 as part of a major reorganization of the Oregon System of Higher Education. The institution name changed to Oregon State College, although the catalog did not change until 1937. Mining courses were moved to the School of Engineering, and lower division geology courses were delivered at the University of Oregon in Eugene. With the move to the School of Science BS, BA, MS, MA, and PhD degrees in Geology were offered. Earl LeRoy Packard was dean (1932-1938) and also was head of the department of geology (1932–1951). The remaining faculty were professors Edward Hiram Hodge and Ira S. Allison and instructor William Donald “Doc” Wilkinson, who became full professor in 1949.

Under Packard’s leadership, the geology program refocused from the intimate relationship with mining to a more modern distribution of courses. Basic courses in structural geology and in stratigraphy were added as well as a slate of paleontology courses (Appendix 2). An expert paleontologist, he published prolifically mainly on invertebrate fauna in his early years, with attention on vertebrates later. He was a mentor to many and launched a fifty year focus on paleontology in the department. A Geologic Society of America Memorial article on Packard (1885-1983) was written by Ira Allison in 1985.

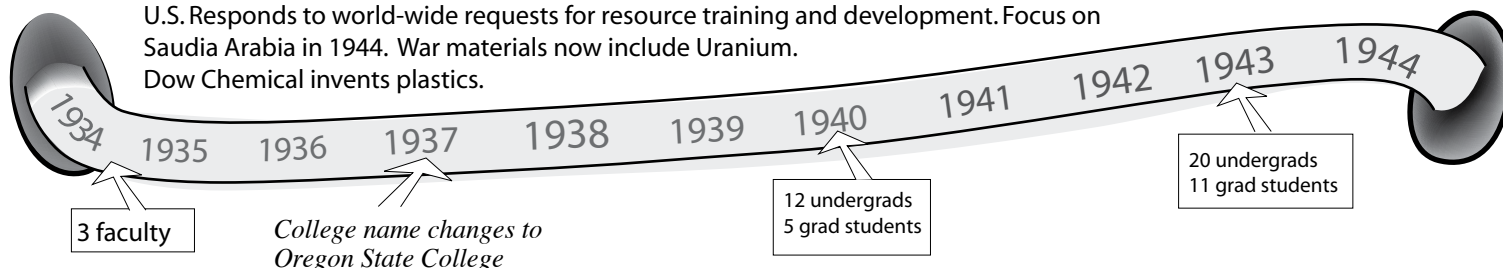


Dean Earl L. Packard, ca 1920s. Packard came to Oregon State College in 1932 to teach paleontology in the Geology Department; he served as the chair of the department from 1932 to 1950 and the Dean of the School of Science from 1932 to 1938. He amassed fossil collection of the Mesozoic and Cenozoic periods from the Pacific Coast. The Packard Award in the Geology program is awarded annually to an undergraduate for scholarly excellence and service and was endowed by Ellen Moore née James (OSU Geology BS 1946) and George Moore.



A special session on geomorphology was organized in 1988 by Peter Clark (right) in honor of Ira Allison who served the department for 37 year (longest service to date).

Geopolitical climate: World-wide depression, the Great Depression, followed in 1940-44 by World War II. U.S. Responds to world-wide requests for resource training and development. Focus on Saudia Arabia in 1944. War materials now include Uranium. Dow Chemical invents plastics.



Department changes:

In 1940, geology moved from the Mines Building to Education Hall (built in 1902 and remodeled in 1939. See Appendix 3.)

“Doc” Wilkinson had joined the faculty in 1932, and enlisted in the U. S. Army in 1942. His discharge in 1946 coincided with unprecedented enrollments at O.S.C. stimulated by the post-WW2 “G.I. Bill”. Many of these highly motivated veterans were attracted to geology and the fieldwork associated with it. In Wilkinson, they found a mentor who had also served in the military, although on deferred status owing to age. And so they followed him to field camp and pursued MS degrees under his field-based supervision.

Geology Field Camp:

Professor R. L. Lupher of Washington State University taught the first Oregon State College (O.S.C.) geology summer camp in 1934, at Cottonwood Creek on the Mascall Ranch near Picture Gorge in central Oregon. Doc Wilkinson assumed responsibility for the camp in 1935 and sustained it for 25 years, staging it in Cottonwood Creek, near Paulina, on the Crooked River, on the Rogue River. In 1951, the camp moved to the Mitchell area of central Oregon, where it has been taught annually since 1951

OSU Distinguished Alumnus

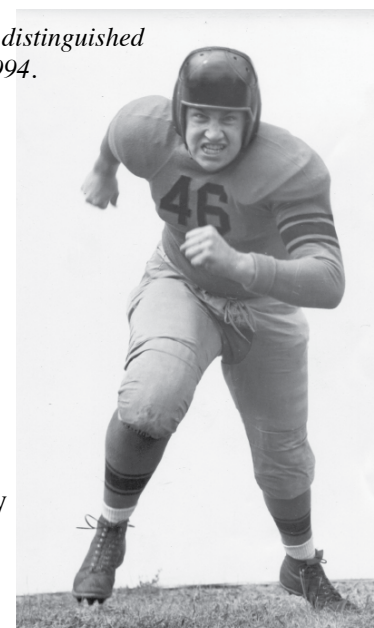
Geology has many distinguished alumni. One is Robert G. Coleman. Bob played as a lineman on O.S.C.’s football team (see photo right). He enlisted in US Armed Forces during WWII and returned to complete his BS from OSC in 1948. He then served as instructor for one year. Bob received his MS in 1950 and PhD from Stanford in 1957. He led a distinguished scientific career specializing in the formation and tectonic setting of ophiolites and ultramafic rock. He worked with the U.S Geological Survey through 1979. In 1980 he joined the Stanford faculty as a professor and was elected to the National Academy of Sciences. A long-time friend to the department, he donated the royalties from his landmark book “Ophiolites” to fund student field trips.

First female geology major Jean Bowman (later “Clark”) tips a beer at field camp. A 1939 graduate, Jean was housed at a ranch house in Mitchell, rather than at the camp. Jean did a masters thesis on Hampton Butte under the direction of Doc Wilkinson. Women were banned from camp during the post-war years. Her family has endowed a student award in her name.

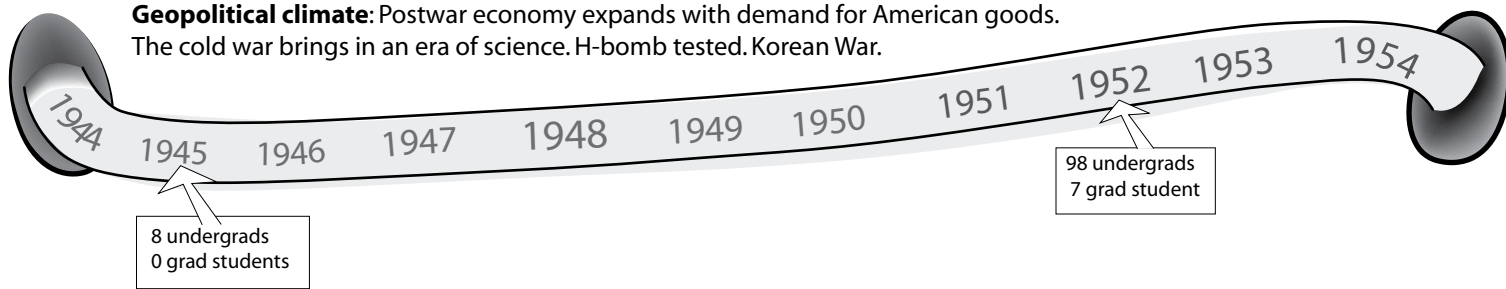


Field camp, 1934. It is uncertain who these people are.

RIGHT: Bob Coleman, geology distinguished alumnus, recognized in 1994. This picture is from 1944.



Geopolitical climate: Postwar economy expands with demand for American goods. The cold war brings in an era of science. H-bomb tested. Korean War.



Science notes

Airborne magnetic surveys helped geologists “see through” non-magnetic rock and vegetation to map below ground. Double helix of DNA discovered. Seafloor spreading and paleomagnetism discovered. Subduction linked to volcanism. The K-Ar method of obtained the age of rocks and minerals was developed in early 1950’s as a result of the study of radioactive Potassium. [Today: In the new college of Earth, Ocean, and Atmospheric Sciences (CEOAS) where geology is now housed, geology students have access to two state-of-the art argon dating facilities.]

Packard retires

Earl Packard became professor emeritus in 1951 and can be credited for laying the groundwork of a modern geology program. The 1951 catalog states that:

“Geology is the science of the earth. Some knowledge and appreciation of the earth on which we live is essential for those who wish to face intelligently the problems of modern life.”

The Department of Geology offered three types of undergraduate majors:

- Geology for a liberal-arts degree
- Professional in economic geology
- Professional in paleontology.

Ira Allison succeeded as chair and served until 1960. The department moved to occupy the first floor of Education Hall. The building had a complete overhaul and seismic retrofit in 2011-12, because the sandstone building blocks were set with the bedding plane parallel to the walls, causing bits of sandstone to spall off unexpectedly. The department also occupied most of the Paleontology lab, which was to become the Women’s center. Rumor has it some lost rock collections still lurk in the basement (Appendix 3).

The Packard paleontological legacy continued with David Bostwick who joined the faculty in 1953.



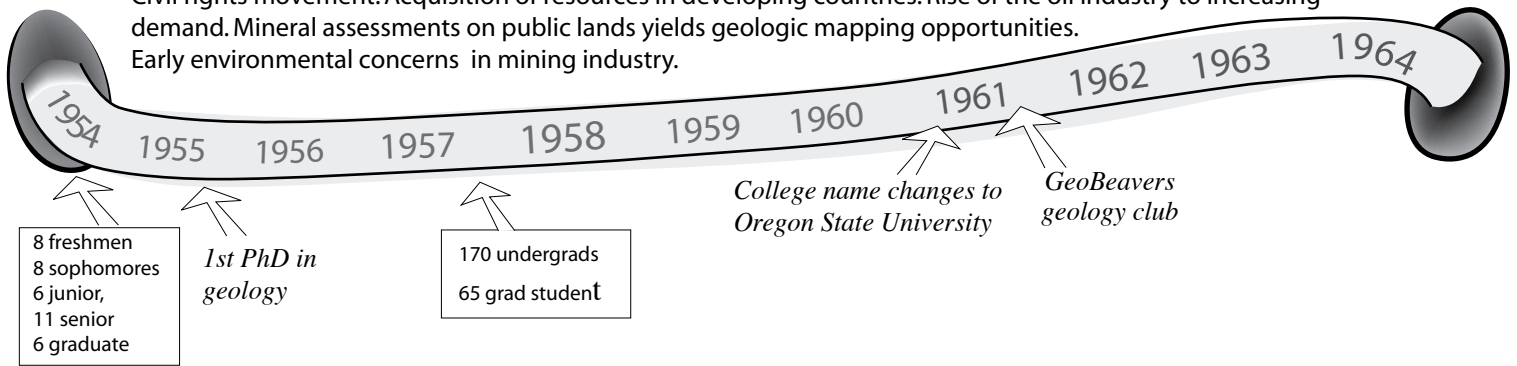
Bill is a lover of wildlife and spent every summer in and around the Willowa Mountains.

Taubeneck Legacy begins

William “Bill” Taubeneck received his BS in Geology from OSU in 1950. He is listed as a teaching assistant in 1950-51 and as an instructor in 1953. He was working on his PhD thesis at Columbia while instructing at OSU. A possibly apocryphal story is that he left the only copy (hand-typed!) of his advisor-edited copy of his thesis on the New York subway and it was lost. He had to write it again and received his PhD from Columbia in 1955. Bill worked his way up the professorial ranks and was noted for his passion for Beaver sports and especially his dedication to field geology. He was also passionate about recruiting excellent graduate students, and has donated funds to support geology graduate-student stipends. Bill turned his attention to lobbying the administration and the legislature and was the main force behind getting approval for building Wilkinson Hall, which became the home for Geology in 1971. Bill was a dedicated teacher of the G352 class, The Geology of Oregon. He would recruit sorority students to the class by reciting a long poem. A sample stanza is:

*“Perhaps you can already bake a cake
but for general education’s sake
you should know about Crater Lake
GEOLOGY OF OREGON you should take”*

Geopolitical climate: Continued economic expansion and general prosperity in US continue; Berlin wall 1961. Civil rights movement. Acquisition of resources in developing countries. Rise of the oil industry to increasing demand. Mineral assessments on public lands yields geologic mapping opportunities. Early environmental concerns in mining industry.



Science notes

Plate Tectonic Theory revolutionizes the understanding of geology.

Department news

The number of undergraduate options in paleontology and sedimentary geology reached an all-time high with addition of Invertebrate Paleontology, Sedimentary Petrology, Micropaleontology and Palynology, heralding a boom in enrollment and demand for geologists during the upcoming oil boom.

Ira Allison was the leader of a team of eight OSU-wide faculty who undertook a three-year (1954-1957) exchange program with Kasetsart University in Bangkok, Thailand, as part of an economic development program.

Doc Wilkinson served as acting in Alison’s absence, and as chair from 1960 until 1968. His professional specialty was guiding young people toward successful careers and rewarding lives.

John Huntington (1962 BS in Geology) offers his remembrances in 2014 email:

“I owe a great deal to Doc Wilkinson. I went to the 1961 Geology Field Camp in Mitchell, OR. The write-up was the hardest thing I ever did. Got a C, probably should have gotten a D. Doc Wilkinson waived my 2 remaining classes and I was able to get leave form the Army to graduate...Without that degree that Doc Wilkinson made possible, the last 52 years would have been a lot different. I owe him a lot.”

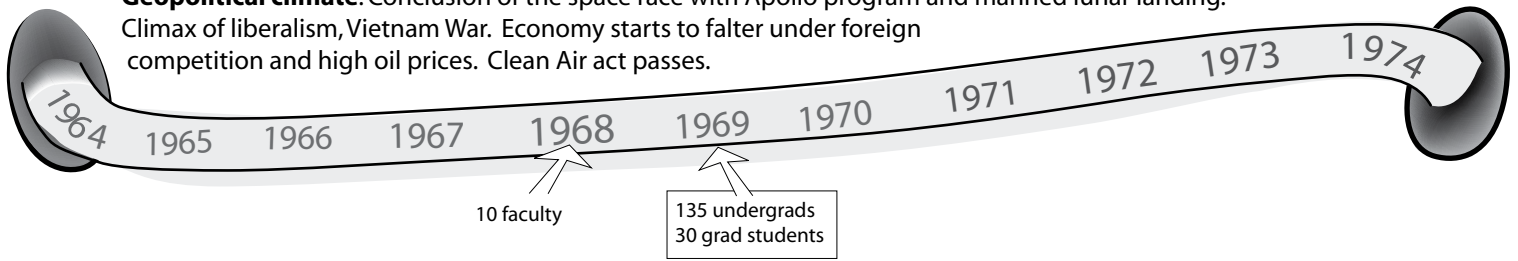
Four important teachers were added to the staff. In 1961, Keith Oles came on as associate professor and inspired generations of students in his sedimentary and historical geology courses. In 1962, Ed Taylor who had done his BS and MS at OSU, was recruited

as instructor. The Oles-Taylor undergraduate fellowship is a gift of Tim Jensen (OSU, BS) as a credit to these educators. Generations remember Oles for his once-a-year appearance in full Scottish regalia. Taylor’s dry humor and long snake stick/walking stick/rock hammer impressed many a field camper. Cyrus Field, assistant professor in Economic Geology was hired in 1963. In his career at OSU, he served twice as department chair, advised 47 graduate students, and helped both undergraduates and graduates find jobs in the minerals industry. He was known for his work on sulfur isotopes in ore deposits around the world and was noted for his sincerity and integrity. He also enlisted some of his sons to cook for the field camp. Harold “Sharkey” Enlows was also hired in 1963 as a petrologist, and later became department chair and led field camp instruction and volcanic rock research in the Mitchell area. Paul Robinson (1963, volcanology) was hired, and departed OSU in 1969.



Good teaching is forever. Ed Taylor (left; emeritus) and Keith Oles share a moment with Tim Jensen (right, B.S. 1977)

Geopolitical climate: Conclusion of the space race with Apollo program and manned lunar landing. Climax of liberalism, Vietnam War. Economy starts to falter under foreign competition and high oil prices. Clean Air act passes.



Science

Plate tectonics gains wide acceptance. The Apollo lunar program advances analytical, remote sensing and computer aspects of earth sciences. NASA satellites offer remote sensing and GPS location data. Digital data sets revolutionize dissemination of data.

The neutron activation method for trace element analysis was pioneered by Roman Schmitt, faculty member in nuclear chemistry at OSU, for nondestructive analysis of lunar samples. [Today: The facility remains one of the few research reactors and for irradiation for the more precise ^{40}Ar - ^{39}Ar method of dating done in CEOAS.]

Department news

This period set off several decades of high enrollment particularly amongst masters students. A raft of new faculty and instructors were hired.

Famous Paleontologist Arthur Boucot was hired to be chair of Geology in 1969. Things went badly. Personality clashes with the faculty were cast in terms of “research” versus “teaching”, an old saw in universities.

Ed Taylor (1966, petrology), Julius Dasch (1970, isotope geology), Robert Lawrence (1970, structural geology), and Alan Niem (1970, sedimentology) were hired as assistant professors as part of a broad expansion of the department as it moved into the newly completed Wilkinson Hall (1971).

Boucot was replaced by Harold Enlows the next year. Boucot brought with him John G. (Jess) Johnson as an assistant professor in 1969.

Despite debilitated health from polio as a graduate student, Jess published ~200 papers, 25 of which are incisive contributions to eustatic events, extinction, speciation, and tectono-stratigraphic concepts. He taught for 25 years.

Another Move:

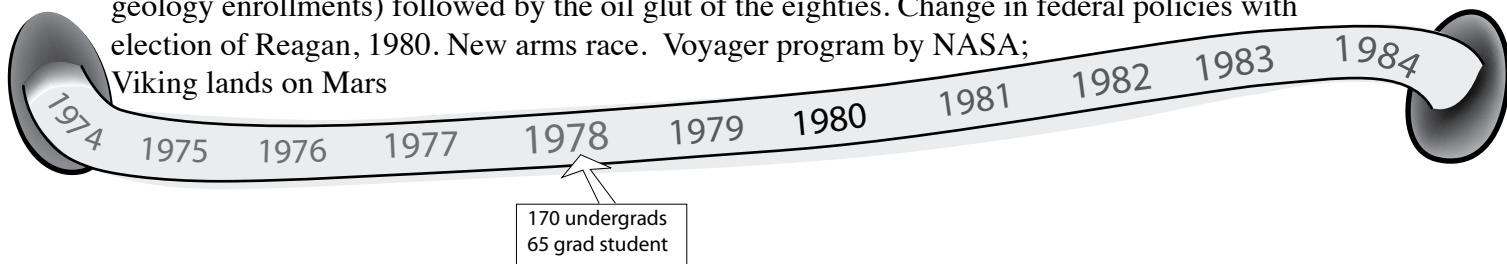
After diligent politicking, Wilkinson Hall was finally built and was named in tribute to Doc Wilkinson who served the department for 34 years. Geography occupied the second floor and Geology the basement and ground floor, foreshadowing the merger to the Department of Geosciences in 1991. Wilkinson was set between Burt Hall and opposite Oceanography Administration, presaging the merger to the College of Earth Ocean and Atmospheric Sciences in 2011. The efforts of Julius Dasch annexed the Dawes House to Geology.

Much of the copious basement storage in Wilkinson was soon filled with the Packard fossil collection and with the Boucot brachiopod (and other fossils) collection; years later the Boucot collection was packed and sent to the Smithsonian Institution. The basement labs were built with windows so that rocks and minerals could be viewed in natural light. Over the years, many a student and teacher have been grateful for the foresight.



1971 field camp at the Fitzgerald Property, upper Bridge Creek. Field Professor Keith Oles is lower left.

Geopolitical climate: Deregulation of oil leads oil crisis and extreme oil prices of 1980 (and high geology enrollments) followed by the oil glut of the eighties. Change in federal policies with election of Reagan, 1980. New arms race. Voyager program by NASA; Viking lands on Mars



Science

Flourishing of computer technology; PCs appear. NASA satellites offer remote sensing and GPS location data. S.J. Gould introduces punctuated equilibrium as a way of understanding past (and future) life. Meteorite impact cause of Cretaceous-Paleogene extinction proposed by the Luis and Walter Alvarez. Isotopic and geochemical techniques advance rapidly, and computer applications to geophysics.

Faculty news

Bob Yeats was hired as chair in 1979. Together with Bob Lawrence, also a structural geologist, and Bob Lillie, geophysicist hired in 1983, the era of the Bobs began. The three Bobs and their students launched a highly productive research campaign and collaboration in Pakistan. Over the years, many Pakistani students and scholars came to do research at OSU. Rocks from those campaigns remain in the basement of Dawes House and are an archive of areas that are now politically sensitive. Also working with the Bobs was Larry Snee, associate professor in petrology, hired in 1984 to replace the retired Sharky Enlows. There was

Big Bob, goes without saying which one, Bhagwan Bob, a.k.a. Bob Lawrence, noted for his stylish sporting of the shalwar qameez and the rolled-brim hat, and Bean Bob, a.k.a. Bob Lillie and who had his main office at The Beanery the local coffee haunt. Bhagwan Bob undertook two Fulbright terms in Pakistan. Later John Dilles also joined the Bob team.

The department had two major foci during this time, one was the structural and tectonic emphasis brought by the Bobs. The second was solid training of students in soft-rock geology and structure. Many found work in the oil industry, thanks to the work of Jess Johnson, Keith Oles, Alan Niem, and the Bobs.

Field Camp

The site of the present field station was purchased in 1979. The building was designed by faculty member Ed Taylor and was completed in 1983, putting an end to legendary “blue lagoon” sanitation. Many faculty taught for a summer or three, but the litany of legendary field camp instructors includes Doc Wilkinson, Harold Enlows, Keith Oles, Bill Taubeneck, Ed Taylor, and John Dilles.

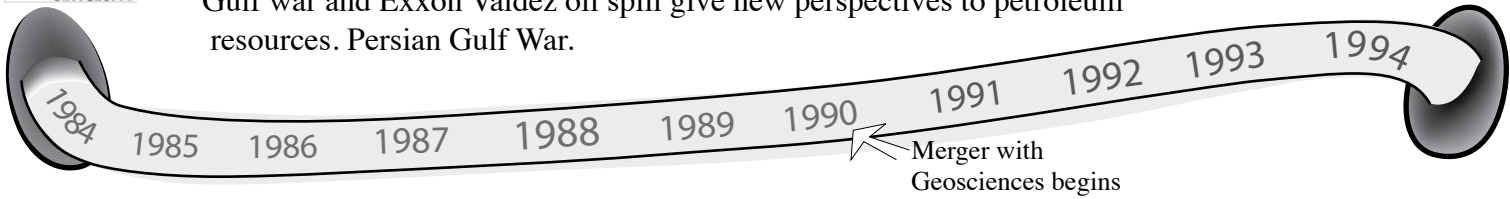


John (Jess) Johnson and graduate student John Graham review a problem in Devonian biostratigraphy in Nevada.



Field camp, 1983. Britt Hill, (student) Ed Taylor and Cyrus Field

Geopolitical Climate: Second-largest stock market crash. Berlin Wall comes down in 1989. Gulf war and Exxon Valdez oil spill give new perspectives to petroleum resources. Persian Gulf War.



Science

Ozone hole is discovered, building awareness of human impact on the environment. The term “global warming” used in congressional testimony. Yucatan meteorite impact site identified. Internet expands with world wide web.

A Swap

Larry Snee and his wife Karen Lund, a courtesy faculty member in Geology, moved to take positions at the US Geological Survey. In their places, in 1986, came Anita Grunder, assistant professor in volcanology and petrology and John Dilles, courtesy faculty in economic geology. Three years later, in a regime friendly to dual career couples, they both became ¾ time assistant professors. Dilles engaged in teaching field camp, field methods, and field mapping of ore deposits, while pursuing his research in copper deposits. Anita was the first female faculty member hired into geology and the first woman to receive the College of Science Carter award for teaching excellence. In 2004, a dual career hire of Adam Kent and Dorthe Wildenschild brought a second woman onto the faculty (Dorthe moved to engineering 2 years later).

Teaching Excellence

Teaching excellence is a long tradition in geology. Peter Clark, glacial geologist hired in 1987, came with a teaching award. In 1990, half the geology department faculty held teaching awards, the highest rate in the college of science. Student evaluations in geology classes are typically above university average for the same level. While the research emphasis in these decades was increasing through grant funding, Grunder, Taylor and Niem also obtained an NSF grant to purchase binocular microscopes for the petrography courses.

Great Gadgets

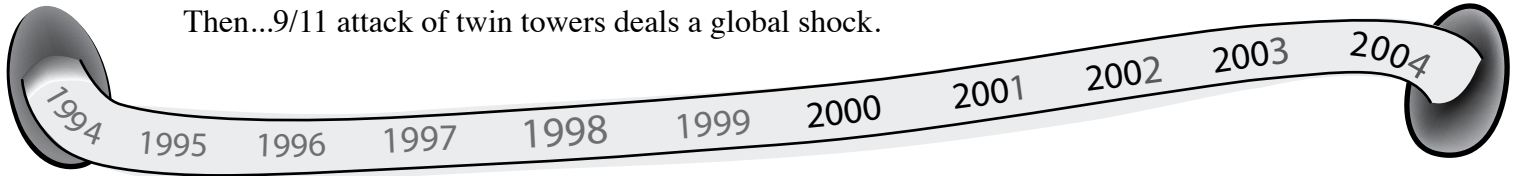
In an early collaboration with the College of Ocean and Atmospheric Sciences (COAS), geology participated in the purchase of an electron microprobe analyzer (EPMA) and in hiring a faculty member to run the lab and to teach students how to use the instrument. Roger Nielsen, igneous petrologist, was hired into this joint position. Later, a similar arrangement was struck to install and staff a state-of-the-art ICP-MS geochemical analytical lab. Together with the argon dating labs, access to great analytical facilities sparked extensive research and collaboration between geology and COAS faculty.



1990 field trip with leaders Cy Field, John Dilles, Anita Grunder, and Bob Lawrence. The rest of you know who you are.



Geopolitical Climate: Era of spreading Capitalism worldwide Booming economy, record low unemployment in US. Stock market reaches all-time high. Then...9/11 attack of twin towers deals a global shock.



Science

Dolly the Sheep is cloned. Increased availability of real-time information on natural disasters: 2004 Sumatra earthquake & tsunami. Mars Rovers Spirit and Opportunity arrive successfully. ICP and ICP-MS instruments gain wide acceptance for rapid analyses of rocks and fluids. 1992 World Wide Web, rapidly develops new ways of communicating.

Merger with Geoscience

Geography and geology were merged in 1990, with Cy Field as chair and Gordon Matzke, former chair of Geography, as associate chair. The departmental offices were merged to one and courses eventually changed to a GEO prefix.

As the result of an outside search to bring in a new chair to unite the new Department of Geosciences, igneous petrologist and marine geologist Sherman Bloomer was hired in 1995. He became the dean of the college of science in 1999. Sherm himself installed the first internet wiring through the ceilings of Wilkinson Hall, and moved computers, research, and service teaching forward. After a low in the early 1990's, the undergraduate geology enrollments grew steadily. In 1998, the field geology program began to run the summer program jointly with Central Washington University, which continues today. The collaboration has been productive, including several "mixed" marriages.

Changes

This decade saw the death of Jess Johnson, and retirement of Cy Field, Al Niem, and Bob Lawrence. New faculty were hired, despite the climate of financial hardship: Roy Haggerty (hydrogeology), Andrew Meigs (structure-geomorphology), and Stephen Lancaster (geomorphology). A shuffling of petrologists was precipitated by Bloomer's move to deanship. Adam Kent (petrology) was hired to fill the gap in part and to develop geochemical analytical facilities jointly with COAS. Roger Nielsen

transitioned from his position as research faculty in COAS responsible for the electron microprobe analyzer to a faculty appointment in Geosciences, and in 2003 started a five-year stint as chair of geosciences, succeeding geographer Gordon Matzke.

VIPER

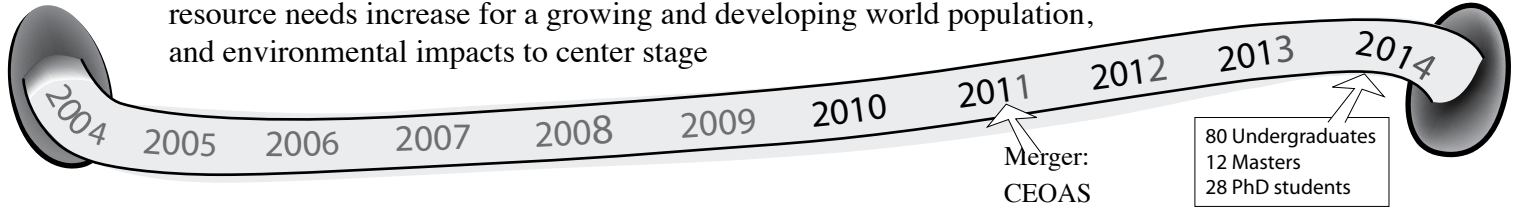
The VIPER (Volcanology, Igneous Petrology, and Economic Research) group grew and crystallized. In 2013, Frank Tepley was hired to run the newly installed microprobe lab, and in 2006 volcanologist Shan de Silva joined the VIPERs. Graduate students completed the branding; Denise Giles and Erik Klemetti devised the name, and Jeremiah Oxford designed the logo. Denise now works for an environmental company; Erik and Jeremiah have faculty positions, at Denison College and Western Oregon University, respectively. The VIPERs had become a vibrant and large group with members from COAS and Geosciences- now all under one roof as CEOAS: faculty (8); graduate students (10 to 15) and a constant stream of undergraduate researchers. Their research includes Pacific NW and central Andean volcanism, geochemistry and petrology of global magmatic rocks, and Cordilleran copper and gold deposits. The VIPERs continue to hold seminars each term, and make use of and maintain many analytical labs, including the probe, the Keck Collaboratory for Plasma Spectrometry, Ar-Ar dating facility, among others.

Logo for the VIPER (Volcanology, Igneous Petrology, and Economic Research) group. Designed by BS and MS student Jeremiah Oxford (now instructor at WOU). Even better in color!





Geopolitical Climate: Conflict in Middle East persists. Global financial recession. Evidence for anthropogenic climate change increases and is increasingly controversial. Tohoku earthquake, tsunami and radioactive contamination shake the world and precipitate anti-nuclear policies especially in Europe. Fracking for natural gas exploitation promises US fossil fuel independence. Energy and resource needs increase for a growing and developing world population, and environmental impacts to center stage



Science

Exploration of Mars by Rovers; Curiosity launched and looking for record of life. Anti-matter trapped at CERN. Attention to global cycling of carbon. IPCC (Intergovernmental Panel on Climate Change) issues its 2007 report that states most scientists accept global climate change and related warming, and shares the Nobel Prize with Al Gore. Continued advancement in remote sensing (LiDAR, Satellite), geophysical, and analytical methods.

Another Merger

The decade saw the end of the Department of Geosciences and the merger with COAS and the undergraduate environmental sciences program to form the new College of Earth, Ocean and Atmospheric Sciences (CEOAS) in late 2011. Following the merger, Anita Grunder assumed the CEOAS position of associate dean of academic programs to join dean Mark Abbott and associate dean of research Jack Barth. The geologists from Geosciences joined marine geologists and geophysicists from the COAS to form the Geology and Geophysics discipline group. With ~28 faculty (3 women), G&G is the largest unit in the CEOAS. The G&G faculty have taken a broad variety of leadership roles in the new college. We are a collegial, productive group. We like where and with whom we work, and we're good at what we do.

Paleoclimate & Active Earth Processes

The paleoclimate group (Peter Clark, together with COAS colleagues) expanded with the 2006 hire of Edward Brook, who installed an ice core gas chromatography lab to expand studies of Greenland ice and establish methane contents of atmosphere in the past 10,000 years. Brook shares a new noble gas mass spectrometry lab with former COAS colleague Dave Graham. Hires of instructor Kaplan Yalcin

and recently of CEOAS faculty member Anders Carlson (OSU PhD) have augmented the group and collaboration across CEOAS is wide. Peter Ruggiero brought expertise in coastal sedimentation and erosion processes to geology. Eric Kirby in surficial processes related to active tectonics holds the new Yeats Chair and augments Meigs and Chris Goldfinger's active tectonics work. The large faculty groups in paleoclimate, active tectonics, geomorphology, and hydrogeology have allowed expansion of undergraduate and graduate course offerings, and a large graduate research program. Several faculty are engaged with the interdisciplinary Water Resources graduate program

Curriculum

The merger to form CEOAS came with implementation of the new Earth Sciences degree, which has transcript-visible options in Geography, Geology, and, newly, Ocean Sciences. An option in Climate Sciences is slated for fall 2015. The Earth Sciences BS–Geology Option retains most of the curricular requirements of the predecessor Geology BS (Appendix 2), but includes ocean and atmospheric sciences in the core. In the past 25 years, the BS curriculum has included more offerings in hydrogeology, surface processes and paleoclimate, and geochemistry, and fewer in petrology, petrography, paleontology, and sedimentary rocks.

The Geology faculty also contribute a wide range of university service courses (Appendix 2). Kaplan Yalcin, Randy Keller and Rebecca Yalcin are providing critical instructional support, including distance education (e-campus).



Field camp group shot, 1970. Who are all these guys? Where are they now?



Dilligent Dilles reviewing maps.

Field Camp—Turns 80 in 2014!

More recently, the summer camp instructional activities and improvement of facilities have been supervised with great success by John Dilles, Andrew Meigs, Jeff Lee, and Shan De Silva. Close to one thousand students have received excellent field geology instruction in this 80-year program and it is clear that the Mitchell area has been studied by more geologists than any other locality of comparable size in the state of Oregon. The camp is one of the most affordable in the country owing to steadfast financial support by alumni and friends.



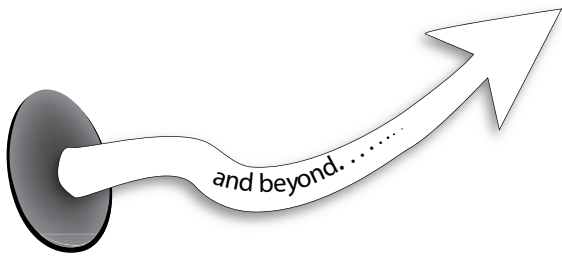
Evening map compilation. Beloved field camp cook Jeannie Holiday supervises.



The kitchen. Who hasn't spent time here?



Volleyball, the source of more injuries than any hammer-wielding or rattlesnake-chasing activities at field camp.



Post merger—Our Mission

The mission of the Geology Program is to understand and teach the history and processes of the earth's surface, solid earth, and earth systems. The program emphasizes five themes: Volcanology, Igneous Petrology and Economic Geology; Paleoclimate; Geophysics and Tectonics; Coastal and Sedimentary Processes; and Earth Surface Processes.

We look forward to another 100 Years, adapting to societal needs in teaching, in research and science. We especially thank all our alumni for the wonderful people you are and for your support. Happy Birthday to us all!

The CEOAS website has more information on research, academic programs, alumni new and support opportunities.



The Board of Advisors is a multidisciplinary group of dedicated alumni and friends who have been serving Geosciences and now CEOAS since 2001. They are engaged, helpful, dedicated and awesome.

Photograph is at the head of Kiger Gorge, Steens Mountain, 2011. Board members in **bold** include:

Back row: **Denny Tower**, **George Sharp**, Peter Clark, **Ken Barrow**, Mark Meyers, **Sharon Kelly** Front row: Sue Tower, Danielle Sharp, **Brian Butler**, Anita Grunder, John Dilles.

Appendix 1: Alice E. Biddle—Courses taken for a degree at Corvallis College

Alice graduated in the first class of OAC at age 16 in 1870. She married her science professor, W.W. Moreland (photo below) that summer! (The first Mrs degree.) In 1868 pressed the Oregon legislature to adopt Corvallis College “as the Agricultural College of the State of Oregon”. Moreland was one of three professors at that time.

CORVALLIS COLLEGE.

“Labor omnia vincit.”

Report of Scholarship and Department of

Mrs Alice E. Biddle
For..... *April* 1870

Reading,	<i>Butlers Analyz 95</i>	Polit'l Text Book,
Orthography,		Mechanics, 90
Writing,		Astronomy, 90
Geography,		Rhetoric,
Grammar,		Botany, 95-
Arithmetic,	<i>Palmer's Ev. 95-</i>	History,
Elocution,		Criticism, 95-
Physiology,		Eng. Literature,
Algebra,		Political Economy,
Geometry,		Chemistry, 98
Trigonometry,		Classical Literature,
Book-Keeping,	<i>Law of Nations 96</i>	Latin,
Navigation,		Greek,
Surveying,		Music, <i>96</i>
Analytics,		Composition, 95-
Nat. Philosophy,		Declamation,
Ment. Philosophy,	96	Department, 100
Moral Philosophy,	96	Attendance, 100

☞ 100 is the maximum.

W. A. FINLEY, President.
JOS. EMERY, Prof. Mathematics.
W. W. MORELAND, Prim'y Dep.
MRS. F. ARMSTRONG, Music.

CORVALLIS COLLEGE.

“Labor omnia vincit.”

Report of Scholarship and Department of

Mrs Alice E. Biddle
For..... *May* 1870

Reading,	<i>Butlers An. 98</i>	Polit. Text Book,
Orthography,		Mechanics, 98
Writing,		Astronomy, 98
Geography,		Rhetoric,
Grammar,		Botany, 98
Arithmetic,	<i>Palmer's Ev. 96</i>	History,
Elocution,		Criticism, 96
Physiology,		Eng. Literature,
Algebra,		Political Economy,
Geometry,		Chemistry, 98
Trigonometry,		Classical Literature,
Book-Keeping,	<i>Law of Nations 98</i>	Latin,
Navigation,		Greek,
Surveying,		Music, <i>98</i>
Analytics,		Composition, 98
Nat. Philosophy,		Declamation,
Ment. Philosophy,	98	Department, 100
Moral Philosophy,	98	Attendance, 100

☞ 100 is the maximum.

W. A. FINLEY, President.
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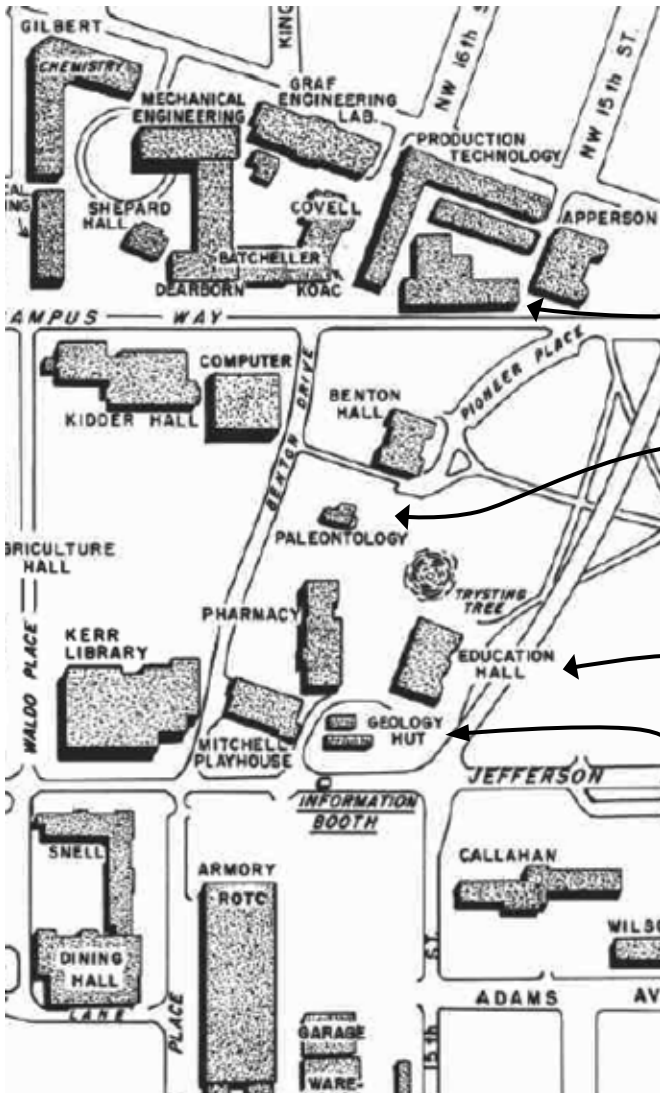
Appendix 3:

Early buildings that housed the geology department between 1913 and 1971.

In 1971 the geology department moved into Wilkinson Hall, not on this map.



Mines Building, 1913–1940; renamed Batcheller Hall to honor mining engineering professor (see page 3) .



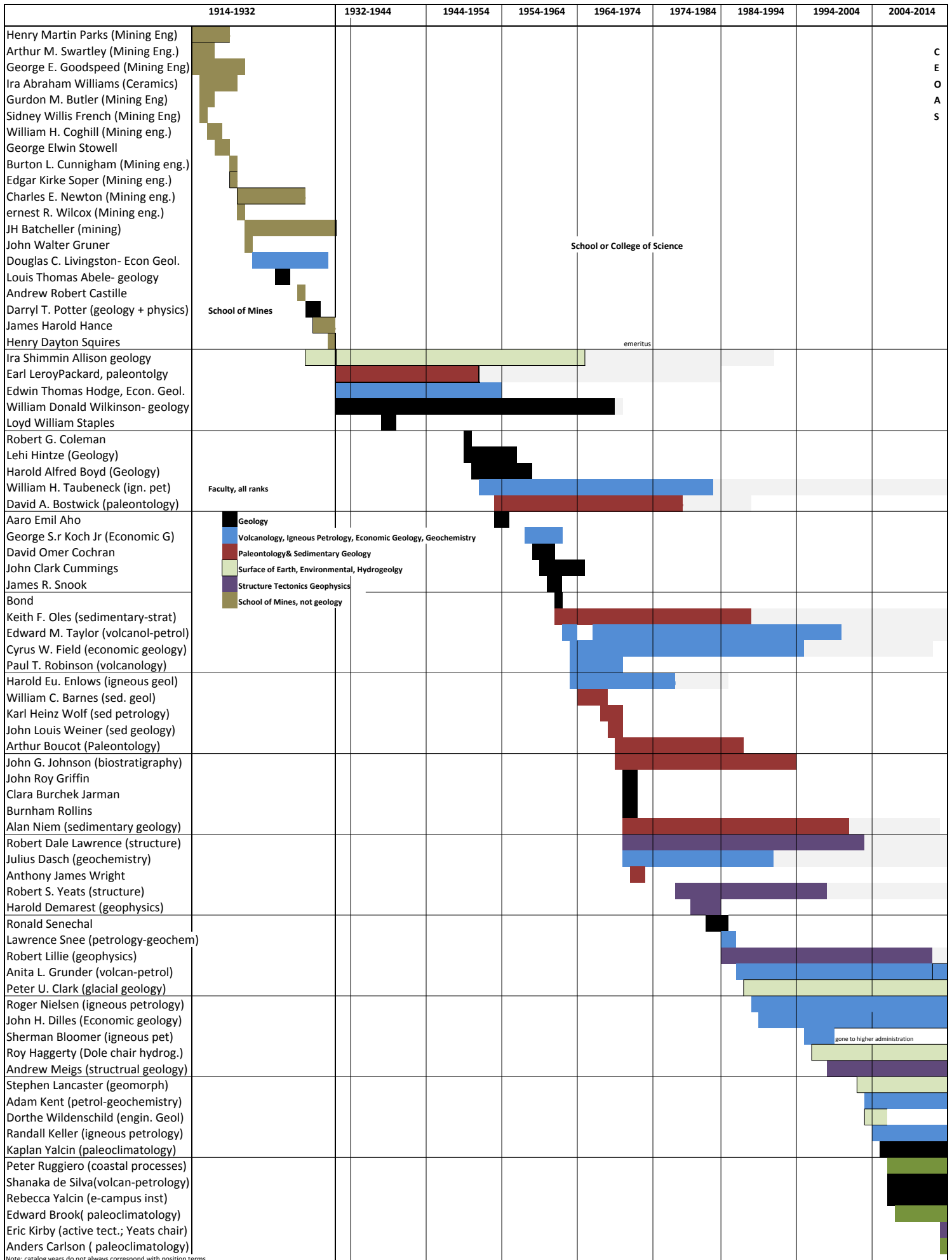
Paleontology lab building



Education (originally Science) Building, 1940–1971.

“Geology Hut”. Stone building no longer there.

Appendix 4: Faculty: 1914–2014



Note: catalog years do not always correspond with position terms.

Appendix 5: Trivia Quiz

1) Civil War Trivia Question:

Why was there no football game played in Corvallis or Eugene in 1913?



2) Mascot

Who/what were OSU's first mascots?



3) Why a beaver for mascot? And why Orange & Black?

4) Batcheller Hall (photo right):

A tower appeared on the roof in 1926. What was it for?

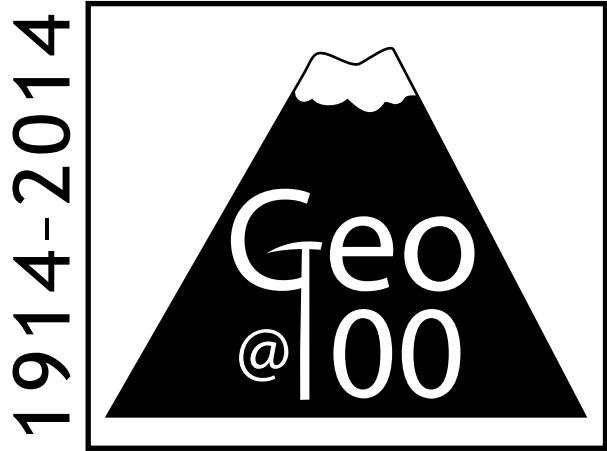
5) The beaver is an uncommon mascot or school representative

What other university used "The Beaver" to represent their institution in their publications?



ANSWERS: don't peek....

- 1) In order to avoid a repeat of the 1910 riot, the 1911 game was cancelled and 1912 and 1913 games were played in Albany, which was considered a "neutral" site. It was not called the "Civil War" until 1929.
- 2) Jimmy Coyote, a live coyote from 1892-1893; bulldog from 1906-1910 interspersed with human mascot between 1893-1928 (he was a Regent's board member and huge supporter of Oregon State). First reference to Beaver as mascot was around 1933, though the name Benny Beaver appeared circa 1941. There briefly was a Bernice Beaver throughout the 80's to mid 90's, but at some point a breakup happened. She has not been seen since; however, about 10 years after Bernice left a kid Benny shows up (see logo above for "mid 2000s").
- 3) The beaver represents engineering prowess. Orange and black were school colors for prestigious engineering colleges (ex. MIT)
- 4) KOAC Radio (still going, and part of NPR) placed their transmitter antenna on the roof of The Mines Building (Batcheller Hall) in 1926. The steel tower visible in photo at right afforded the landmark building an even more distinctive look.
- 5) The university's school newspaper is the first known organization on campus to adopt the beaver as its namesake and did so as early as 1908.[1] The school yearbook's long use of the name, known as "The Beaver" starting in 1916, eventually helped solidify the beaver as the university's official mascot.[2] The popularity of the beaver was also shared by students at University of Oregon. For several early publications, students at this school also used "The Beaver" as their yearbook's title.



Oregon State | College of Earth, Ocean,
UNIVERSITY | and Atmospheric Sciences

www.ceoas.oregonstate.edu