COURSE DESCRIPTION

GEOS 424/624: INTERNATIONAL VOLCANOLOGICAL FIELD SCHOOL KATMAI TRIP (3 CREDITS)

INSTRUCTORS

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Dates: June 5-19, 2024

Estimated costs: \$2,830 plus UAF tuition & fees plus roundtrip airfare to Anchorage*

Application deadline: February 28, 2024

The <u>strenuous</u>, two-week field trip to the Katmai National Park, Alaska (figure 1) provides a unique opportunity to visit the site of the largest volcanic eruption on Earth in the 20th century. Participants learn about volcanic processes through direct examination of volcanic products while exploring the Valley of Ten Thousand Smokes and the neighboring volcanoes - Mount Katmai, New Trident, and Mageik (figure 2). The session will be taught by Pavel Izbekov.

PREREQUISITES

^{*} Please refer to the section COST for details

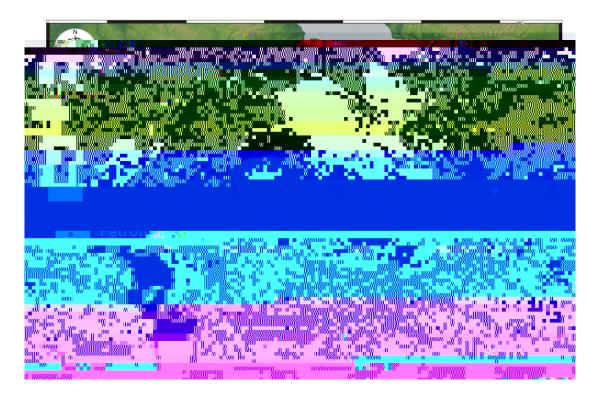


Figure 1: Map showing the Kamchatka Peninsula (left) and a portion of Alaska (right). Yellow diamonds denote locations of the Mutnovsky/Gorely (left) and Katmai (right) school sites.

STUDENT LEARNING OUTCOMES

GEOS 424:

Students will learn to identify pyroclastic flow deposits, lava flows, and tephra fall deposits, as well as to describe characteristics and to discuss origin of aforementioned volcanic deposits

Students will be able to make informed decisions conducting scientific field works in a remote environment while following safety requirements and communication protocols

Students will develop / improve skills of effective communication with peers from different cultures

GEOS 624:

All of the above.

Students will develop / improve skills of presentation of scientific concepts to peers

Students will be able to make informed decisions on research opportunities in the North Pacific subduction region and discuss current topics and controversies in volcanology

Students will establish collegial relationships with students from other countries for future collaborative research

COURSE STRUCTURE

The course consists of daylong hikes interspersed with lectures. During hikes, students will examine lava flows, pyrodastic flows, air fall tephra, craters, fissures, faults, vents, crater lakes, and fumaroles spanning the common range of volcanic rock types from basalt to rhyolite. Discussions in the field and following lectures will explore why and how these phenomena occur.

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guides, and have a dinner together. We will discuss safety requirements and communication protocols. We will practice using MSR cooking stoves and setting up our tents.

Day 3: Flying to Brooks Lodge via King Salmon

We will leave Anchorage for King Salmon on the Alaska Peninsula. We will fly above Cook Inlet volcanoes and, if weather permits, we will see Redoubt, Iliamna, and St. Augustine volcanoes. In King Salmon, we will be distributed among two-three small floatplanes and fly to Brooks Lodge located at Naknek Lake. We will be briefed about bear safety by the National Park Service and get assigned to cabins. Each cabin sleeps four and has a shower. We will have a dinner at the lodge (all meals at the Brooks Lodge are included into the class fees) and prepare our backpacks for a long hike next day.

Day 4: Getting to the Valley of Ten Thousand Smokes

bears

catch salmon at Brooks Falls where most of the brown bear pictures you have seen were probably taken.

STUDENT PROTECTIONS AND SERVICES STATEMENT

Every qualified student is welcome in our classroom. As needed, we are happy to work with you, disability services, veterans' services, rural student services, etc. to find reasonable accommodations. Students at this university are protected against sexual harassment and discrimination (Title IX), and minors have additional protections. As required, if we notice or are informed of certain types of misconduct, then we are required to report it to the appropriate authorities. For more information on your rights as a student and the resources available to you to resolve problems, please go the following site: www.uaf.edu/handbook/

COST (\$3,437-\$6,438 plus round trip airfare to Anchorage, Alaska) The cost of the Katmai trip in 2024 includes \$2,

Packable down/synthetic sweater or jacket

Cold-weather hat (fleece or wool)

Cap or hat for rain

Oothing: socks, underwear, shirts, pants (quick drying material recommended)

Trekking poles - highly recommended, yet not required

Goggles (for ash; glacier goggles or cheap plastic safety goggles will do)

<u>Sunglasses</u>

Sun block

Goves or mittens

<u>Gaiters</u> (mostly to keep snow and loose pumice out of your boots)

Seeping bag good to at least 0°C, maybe a bit colder to be safe

Dinner: We will prepare Mountain House dry-freeze dinners with boiled water 5 times. Each of you will carry five pouches of the Mountain House food. We will use them after strenuous day hikes. In addition, we will cook four dinners on the days of light physical activity. Each member of a food group will have to provide one (1) dinner for his/her group, which will include him/herself and 2-3 peers. There is always some sort of competition in culinary art between groups, so please think ahead, if you wish to impress your team members. Food groups will be shopping together to make sure that there are no big surprises in terms of the dinner selections.

People will be individually responsible for selecting and carrying their food for breakfasts and lunches. All camp food will be purchased at Fred Meyer during the first half of Day 2. This is covered by course fees. All meals in Brooks Lodge are covered by course fees as well. Students are responsible for their meals in Anchorage during Day 1-3.

During our field trip, we will use water collected from the snowfields, which is safe to drink untreated. You are welcome to bring your own water purification/treatment means if you choo7.7.048ple w -0.0221s

be first offered to students registered through UAF and willing to pay the cost of UAF tuition and fees. On February 28, 2024 all remaining vacancies will be made available at the special guest price to qualified participants. Please contact Pavel Izbekov to check if you qualify for that option.

READING MATERIALS

- * Required for all students
- ** Required for students taking this course at the 600 level

Coombs, M., J. Eichelberger, and M. Rutherford, 2000, Magma storage and mixing conditions for the 1953-1968 eruption of Southwest Trident Volcano, Katmai National Park, Alaska, *Contr. to Mineral. and Petrol.*, 140: 99-118.

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