



10th BIENNIAL WORKSHOP on JAPAN-KAMCHATKA-ALASKA SUBDUCTION PROCESSES (JKASP-2018)

20th ANNIVERSARY OF JKASP FOUNDATION

VOLCANISM AND SEISMICITY IN THE SUBDUCTION ZONE

Institute of Volcanology and Seismology FEB RAS (IVS)
Petropavlovsk-Kamchatsky, Russia, August 20th -26th, 2018



SECOND CIRCULAR CALL FOR ABSTRACTS and ON-LINE REGISTRATION

OBJECTIVES

The 10th international workshop on the Japan- Kurile-Kamchatka-Aleutian volcanic arcs will be held **August 20th -26th, 2018 in Petropavlovsk-Kamchatsky, Russia**. The region is a part of the transitional zone between the Pacific Ocean and the continent of Asia, and is among the most volcanically and seismically active areas on Earth. It presents a variety of specific geodynamic settings including back arc rifting induced by oblique convergence, arc-arc and arc-continent collision, interaction of minor lithospheric plates and others. The interdisciplinary and international nature of the workshop brings together scientists to solve problems that cross unchanged through international borders.

SESSION THEMES

- **Recent or ongoing volcanic eruptions and recent major earthquakes;**
- **Tectonic, volcanological, seismological, and marine studies in the ocean-continent transition zone;**
- **Ground-, air-, and satellite-based techniques of monitoring of ongoing geologic processes;**
- **Studies of Geothermal Systems;**

JKASP provides a unique opportunity for many scientists and students working in the Far Northern Pacific to meet, as well as an excellent introduction for those who wish to become involved in research in this exciting region. In 2018, the workshop starts immediately after the International Volcanological Field School that will be held at Mutnovsky volcano, so students of the school can participate in the 10th International Workshop.

THE LANGUAGE OF THE WORKSHOP IS ENGLISH

FORM OF THE WORKSHOP

Participants may submit one oral (including invited) and/or one poster presentation(s). Students are encouraged to give presentations. The Program Committee reserves the right to assign abstracts that were selected for an oral presentation to a poster presentation till **JULY 1st, 2018**.

ABSTRACTS GUIDELINES

Abstracts from participants should be submitted in English and are limited up to three pages in PDF format with figures (GIF or JPEG) and references (no more than 5 MB). The title of the file should contain author last name and first letters of the first name in English, ex. [IvanovAV.pdf](#).

Abstracts must be centered in Times Roman 11 point with 20 mm margin on all sides with line spacing 1. The indent on the first line of the paragraph is 10 mm. Page numbering is not needed. Word wrapping is not allowed.

[Example of thesis submission](#).

To submit abstracts use [on-line registration](#) on JKASP website.

GUIDELINES FOR POSTER PRESENTATIONS

The size of poster should fit a portrait A0 format.

*Organizing Committee asks participants to send the tentative titles of presentations with authors names and affiliations before **April 1, 2018** to evdokimova@kscnet.ru in order to search funds from the Russian Foundation for Basic Research.

KEY DATES AND DEADLINES

1 MARCH, 2018 ONLINE REGISTRATION and ABSTRACT SUBMISSION OPEN

1 JUNE, 2018 ABSTRACT SUBMISSION AND REGISTRATION DEADLINE

1 JULY, 2018 CONFIRMATION OF ABSTRACT SUBMISSION

1 MAY, 2018 LETTERS OF INVITATION DEADLINE

30 MAY, 2018 HOTEL RESERVATION DEADLINE

06 AUGUST, 2018 THIRD CIRCULAR

20 AUGUST REGISTRATION at IVS

SCHEDULE

21 AUGUST (Tuesday) REGISTRATION and SESSION OPEN

22 AUGUST (Wednesday) SESSION

23 AUGUST (Thursday) SESSION

24 AUGUST (Friday) FIELD TRIPS TO AVACHINSKY, MUTNOVSKY AND GORELY VOLCANOES*

25 AUGUST (Saturday) HELICOPTER TRIP*

26 AUGUST (Sunday) CLOSING SESSION, DINNER

***dates of field trips can be updated during the workshop based on weather conditions**

REGISTRATION FEE

Registration fee is **1500 rubles** to cover group events and transportation. The registration fee will be paid at IVS in cash (Rubles, US Dollars, or Euro). Please note that foreign currency must be free of any marks or tears.

FIELD TRIPS AND EXCURSIONS

August 24, 2018: field trips to Mutnovsky, Gorely and Avachinsky volcanoes will be held on the same day. Please make sure you chose only one field trip. Tentative cost of one field trip is US\$50. **The date of field trips will be specified during the workshop due to weather conditions.**

August 25, 2018: a helicopter flight over Eastern Kamchatka volcanoes (with landings at Ksudach and Khodutka volcanoes and swimming in hot thermal springs) .

The flight cost is roughly estimated to be US\$250-350 and will be specified after the registration is closed. **In case of unfavorable weather, the date and route of the flight will be changed.**

SUGGESTED GEAR FOR FIELD TRIPS

Hiking boots, water resistant and windproof wear, cap, gloves, sunglasses, flashlight, trekking poles (optional).

ACCOMMODATION

Organizing Committee reserves booking for participants, =about \$100 per day, in Golubaya Laguna Resort (45 minutes by bus from Petropavlovsk-Kamchatsky), and a limited number of rooms in Edelweiss Hotel in Petropavlovsk-Kamchatsky. Participants will be picked up from the resort. If you need rooms in Golubaya Laguna or Edelweiss, **advance notice is required up to May 30, 2018**. It should be sent to Oxana Evdokimova evdokimova@kscnet.ru.

Budget accommodation is available in Petropavlovsk-Kamchatsky at booking.com and hotellook.com and should be done as soon as possible because of high tourist season.

Accommodation for Japanese participants will be reserved in Golubaya Laguna and should be arranged with Hiroaki Takahashi.

VISA FOR INTERNATIONAL PARTICIPANTS AND ACCOMPANYING PERSONS

All those from outside Russia who would like to participate in JKASP-2018 must plan to apply for Russian visa well in advance. An invitation letter is required for your visa application. So that we can provide the letter, please fill out the [questionnaire](#) and send it together with an electronic copy (JPEG) of the two first pages of your passport to Oxana Evdokimova evdokimova@kscnet.ru as soon as possible, but no later than **MAY 1ST 2018**.

STEERING COMMITTEE

Evgeny Gordeev and Danila Chebrov, Petropavlovsk-Kamchatsky, Russia
Hiroaki Takahashi and Mitsuhiro Nakagawa, Sapporo, Japan
John Eichelberger and Pavel Izbekov, Fairbanks, Alaska, USA

LOCAL ORGANIZING COMMITTEE

Evgeny Gordeev, (chairman), Andrei Kozhurin, Yaroslav Muravyev, Alexandr Ovsianikov, Alexey Ozerov, Tatyana Samkova, Oxana Evdokimova, Iraida Romanova, Olga Khubaeva, Danila Chebrov, Vadim Saltykov, Yulia Kugaenko.

MEETING VENUE

Institute of Volcanology and Seismology FEB RAS (IVS), Petropavlovsk-Kamchatsky (PK).

TRANSPORTATION

There are daily flights between Moscow and Petropavlovsk, as well as frequent flights from Novosibirsk, Khabarovsk and Vladivostok. Participants from the West coast of the United States may consider a direct flight from Anchorage to Petropavlovsk-Kamchatsky. Participants from Japan can take an advantage of the connecting flights via Vladivostok.

WEATHER

August in PK is generally sunny with occasional rain and a typical daytime temperature of 18°C. Heavy rains are possible.

FINANCIAL SUPPORT

The organizers anticipate support from Federal Agency of Science Organization (FASO), Russian Foundation for Basic Research (RFBR), US Geological Survey (USGS), National Scientific Foundation (NSF), and University of Alaska, Fairbanks, USA.

For any questions related to the workshop, please contact Oxana Evdokimova (evdokimova@kcsnet.ru). Participants from Japan may contact Hiroaki Takahashi (hiroaki@mail.sci.hokudai.ac.jp) and participants from the United States may contact Pavel Izbekov (peizbekov@alaska.edu) for additional information pertinent to their travel and participation in the meeting.

The updated information will be posted at

<http://www.kcsnet.ru/ivs/conferences/jkasp2018/>.

FIELD TRIPS

Field trips to Gorely, Mutnovsky and Avachinsky will be held on the same day. Note that the priority will be given to the helicopter flight to volcanoes of the Eastern Kamchatka if the weather permits. If this happens, field trips to Gorely, Mutnovsky and Avachinsky will be performed on any other day.

1. GORELY VOLCANO

Moderate to strenuous hiking

Cost of one field trip is \$50 that covers transportation and food.

Gorely (1829 m) is an active volcano located 70 km southwest of Petropavlovsk-Kamchatsky. The present-day edifice occupies the central part of the caldera. It consists of three closely spaced cones that constitute a mountain range stretching to west-north-west.

The summit is capped by 11 superimposed craters. About 40 flank vents with lava flows reside slopes of the summit. Composition of erupted lavas varies from basalts to andesites. The first historic record of eruptive activity dates from the 19th century. Explosive eruptions from the summit crater occurred in 1828, 1832, 1855, and 1869. In the 20th century Gorely produced seven eruptions in 1929, 1930, 1931, 1932, 1947, 1961, 1980-1981, 1984-1986 and 2010-2014.

The 1980-1981 eruption produced up to 65,000 tons of material that covered an area of 500 sq. km. During the 1984-1986 eruption the height of gas-ash clouds reached 5300 m above sea level. During the 2010-2014 eruption, the acid lake located in the crater has vanished under the action of the intensive heat flux. Information on the on-going activity can be seen at: <http://www.kscnet.ru/ivs/kvert/volc.php?name=Gorely&lang=en>.



A view of Gorely from the southwest. Photograph by Pavel Izbekov (UAF)

We offer a day trip to Gorely volcano on a 4WD cabin lorry. Departure at 9 am from IVS. It takes about two and a half hours to get to the basement on unpaved road. Moderate to strenuous hiking will last about 6 hours. Lunch is provided. Estimated time of return to Petropavlovsk-Kamchatsky is 8 pm.

MUTNOVSKY VOLCANO

Strenuous hiking, late return to PK.

Cost: \$50 including food and transportation. Note that this field trip will be held on the same day in parallel with the trip to Gorely. Participants of both trips depart and come back at the same time.

Mutnovsky (2323 m) is an active volcano located 70 km southwest of Petropavlovsk-Kamchatsky and 17 km south-east of Gorely. Mutnovsky is one of the most picturesque and compositionally diverse volcanoes in southern Kamchatka. The volcano is a complex edifice formed by four-intergrown stratovolcanoes. The active vent 440x100 m in size is embedded into the western rim of the main crater. Temperature of fumaroles in the active vent reaches 600°C. The known explosive eruptions occurred in 1848, 1852-1854, 1898, 1904, 1916-1917, 1927-1929, 1938-1939, 1960-1961, 2000, 2007, 2013.

On 17 March 2000 two phreatic bursts occurred in the active vent and in the neighboring crater. A 80 m in diameter funnel was formed in the active vent. As a result of interaction of bursts and flux of hot gas, the crater glacier was melted substantially and a lake formed in the neighboring crater. A funnel of 200 m in diameter and 30 m deep emerged during the 17 April 2007 phreatic explosion in the active vent. An ash cloud persisted for 6 hours in satellite images. On July 3, 2017 weak emissions of ash plumes were observed from the Active vent. Information on the on-going activity can be seen at:

<http://www.kscnet.ru/ivs/kvert/volc.php?name=Mutnovsky&lang=en>.



A view of the Mutnovsky crater in 2003. Photograph by Pavel Izbekov (UAF)

Participants of this one-day trip hike the crater and will see a variety of recent hydrothermal processes: boiling mud pods, hot acid lakes and fumarolic fields. These processes result in deposition of many different minerals: native sulfur, alunite, opal, hematite, ammonium chloride, gypsum, pyrite, marcasite, cinnabar, chalcopyrite, pyrrhotite, etc.

AVACHINSKY VOLCANO

Strenuous hiking, late return to PK

Field trip fee is \$50 including food and transportation.

Avachinsky is a typical Somma-Vesuvius type volcano located 30 km north of Petropavlovsk-Kamchatsky. The maximum height is 2751 m, while the height of the somma in its eastern part is 2317 m. The active cone rises 400-1000 m above the somma edge. At the base, this cone is about 4 km in diameter, and is crowned by the crater 350 m in diameter. During the last 250 years eruptions occurred in 1737, 1772, 1779, 1789, 1827, 1837, 1855, 1878, 1881, 1894-1895, 1901, 1909, 1926-1927, 1938, 1945, 1991 and 2001.



*A View of Avachinsky from Petropavlovsk-Kamchatsky.
Aleksandr Sokorenko (IVS)*

One of the largest eruptions June 15-16, 1779, produced an ashfall that dusted the ships of the Cook's expedition anchored in Avacha Bay. The 1894-1895 eruption was preceded by an earthquake. Lava flows happened in 1827, 1901, 1909, and 1938. The latest eruption of 13 January 1991 produced lava that completely filled the crater and poured a flow of 600 m length down the south-eastern slope of the cone. A short gas explosion occurred on 5 October 2001 and the lava "cork" in the crater was broken. Nowadays, vigorous superheated steam plumes issue from both ends of the crack. Information on the on-going activity can be seen at: <http://www.kscnet.ru/ivs/kvert/volc.php?name=Avachinsky&lang=en>.

Departure to Avachinsky starts at 8 am from IVS. The ride takes about 3 or more hours depending on the state of the road. The strenuous 4-5 hour hiking to the top (about 1500 m ascent) is suitable for physically fit outdoor participants. Descent takes about one and a half hour. Lunch and slight snack are provided. Estimated time of return to Petropavlovsk-Kamchatsky is 8 pm.

KSUDACH VOLCANO

Helicopter tour is about \$250-300 including food and transportation. Final cost will be specified within the first days of the workshop due to requests from participants.

Ksudach is a caldera-type volcano. It is an eroded flattened cone with the base of 18x22 km. The edifice consists of calderas of different ages and remnants of intra-caldera volcanoes. The young Shtyubel cone in northern part is a center of the most recent volcanic activity of Ksudach. The absolute height of the edifice is 1079 m. Relative height is 500 m east and 700 m west. Several calderas are located at the summit of the volcano: two large calderas (I and II) formed in late Pleistocene; three calderas of smaller size (III, IV and V) formed in Holocene. The last caldera-forming eruption at volcano 250 AD, was one of the largest Holocene eruptions in the Kurile-Kamchatka region. The character and parameters of the eruption were similar to the 1883 eruption of Krakatau.



*Shtyubel Crater at the summit of Ksudach.
Photograph by Nikolai Smelov (IVS)*

The last eruption at Ksudach occurred in 1907, forming Shtyubel cone, with a crater of 1x1.7 km at its summit. A 4-5 m thick dacite pumice layer was deposited northward of the volcano. Pyroclastic deposits related to this eruption extended northeast for 40 km and 15 km southeast.

Atypical events associated with this eruption were noted. The episodes of eruptive activity produced black cinders of andesite – andesite-basalt composition that with no sign of a pause gave way sharply to jets of dacite pumice, with volcanic and basement lithics mixed pyroclastics including facies of ignimbrites. The eruption ended by producing phreatic jets that sent a great number of blocks of crystalline, allivalite-eucrite rocks.

Crater lakes Styubel and Klyuchevskoe are nested at the summit of the volcano. The shore of Klyuchevskoe Lake, called Goryachii Plage (Hot Beach), has a the temperature of 60°C extending for 250 m. Continuing gas and hydrothermal activity at volcano is observed at Paryashii Utes and Paryashii Greben extrusions. These are typical mofettes with a temperature of 80-90°C and emissions of CO₂ with traces of HCL and H₂S.

<http://www.kscnet.ru/ivs/kvert/volc.php?name=Ksudach&lang=en>.

QUESTIONNAIRE FOR GETTING AN OFFICIAL LETTER OF INVITATION

1. Full name (last, first, middle)
2. Date of birth (date, month, and year)
3. Place of birth (town, city, country)
4. Sex (female/male)
5. Citizenship
6. Place of residence
7. Passport number, date of issue/expiration
8. Authority issued the passport
9. Institution (full title) and address
10. Position
11. Telephone number, e-mail, fax
12. Clear and readable copy of the first two pages of the passport in JPG format
13. Dates of stay
14. Purpose of stay (full title of the workshop, field work or project)
15. City where visa is issued
16. City where you enter the Russian Federation
17. Cities to be visited in RF

* In case on-line registration is not available, please fill in the registration form below and send it to evdokimova@kcsnet.ru .

JKASP2018 REGISTRATION FORM

FOR PARTICIPANTS AND ACCOMPANYING PERSONS

REGISTRATION DEADLINE 1st JUNE, 2018

Last/ Middle/ First Name _____

E-mail address _____

Affiliation _____

Mail address _____

Position _____

Scientific session _____

Title of oral presentation _____

Title of Poster presentation _____

Field trips _____

Accompanying person _____

Accommodation _____

Arrival/ Flight number _____

Departure/Flight number _____