

7th BIENNIAL WORKSHOP on JAPAN-KAMCHATKA-ALASKA SUBDUCTION
PROCESSES:
MITIGATING RISK THROUGH INTERNATIONAL VOLCANO, EARTHQUAKE, AND
TSUNAMI SCIENCE
JKASP-2011



Institute of Volcanology and Seismology FEB RAS
Kamchatkan Branch of Geophysical Service RAS
Petropavlovsk-Kamchatsky, Russia

August 25-30, 2011

THIRD CIRCULAR

Steering committee:

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

Local organizing committee:

Evgeny Gordeev (chairman), Yaroslav Muravyov, Vladimir Leonov, Olga Girina, Sergey Ushakov,
Oxana Evdokimova, Victor Chebrov, Vadim Saltykov, Yulia Kugaenko.

Form of Workshop:

Invited speakers are asked to talk for 15 minutes. Multi-media projectors are provided.
Posters should be presented in A0 format on the day of our session of workshop.

Meeting venue:

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

Registration:

Registration of the participants starts at 9 a.m. – 6 p.m. on August 23-25 at the Institute of
Volcanology and Seismology, 9 Piip Blvd, Petropavlovsk-Kamchatsky.

Coordination:

Russian participation will be coordinated by Oxana Evdokimova (evdokimova@kscnet.ru);
Japan participation - by Hiroaki Takahashi (hiroaki@mail.sci.hokudai.ac.jp);
Participation by scientists from all other countries – by Pavel Izbekov (pavel@gi.alaska.edu).

WORKSHOP SCHEDULE

Wednesday, August 24

15:00 – 18:00 Arrival of participants, pick up, accommodation in a hotel and registration at IVS

19:00 – 21:00 Reception

Thursday, August 25

09:00 – 09:30 Workshop Opening and Welcome

09:30 – 13:05 Scientific Session: Recent or Ongoing Eruptions and Recent Major Earthquakes

Lunch

14:30 – 18:00 Scientific Session: Recent or On-Going Eruptions and Recent Major Earthquakes

Friday, August 26

09:00 – 13:00 Scientific Session: New Results from Tectonic, Volcanological, Seismological, and Marine Research

Lunch

14:30 – 18:00 Scientific Session: New Results from Tectonic, Volcanological, Seismological, and Marine Research

Saturday, August 27

Field Excursions to Ksudach, Gorely, Mutnovsky and Avachinsky (depending on weather)

Sunday, August 28

Field Excursions to Ksudach, Gorely, Mutnovsky and Avachinsky (depending on weather)

Monday, August 29

09:00 – 13:00 Scientific Session: New Results from Tectonic, Volcanological, Seismological, and Marine Research

Lunch

14:30 – 17:30 Scientific Session: New developments in ground-, air-, and satellite-based monitoring techniques and in modeling and forecasting hazard events

19:00 – 22:00 Farewell Dinner

Tuesday, August 30

09:00 – 11:30 Discussion of new international projects on cooperation and educational exchange

11:30 – 12:30 Concluding remarks

Lunch

Free time and departure of participants.

SCIENTIFIC PROGRAMME

August 25, Thursday

09:00 – 09:30 **OPENING AND WELCOME**

09:30 – 09:50 **INVITED**

SOME OPPORTUNITIES FOR INTERNATIONAL SCIENTIFIC COLLABORATION
IN THE JAPAN-KAMCHATKA-ALASKA REGION

John Eichelberger

09:50 – 18:00 **SESSION: RECENT OR ONGOING ERUPTIONS AND RECENT MAJOR
EARTHQUAKES**

Oral Session

Chairs: Evgeny Gordeev, Russia, and John Eichelberger, USA

09:50 – 10:05 THE MAGMATIC FEEDING SYSTEM OF THE KLYUCHEVSKAYA GROUP
OF VOLCANOES (KAMCHATKA), ITS DEEP STRUCTURE, PROPERTIES
AND ACTIVITY. THE GEOPHYSICAL MODEL

S. Fedotov, N. Zharinov, L. Gontovaya

10:05 – 10:20 VARIABLE FEEDING REGIMES OF THE KLJUCHEVSKOY GROUP
VOLCANOES (KAMCHATKA, RUSSIA) DERIVED FROM TIME-DEPENDENT
SEISMIC TOMOGRAPHY

I. Koulakov, E. I. Gordeev, N. L. Dobretsov, V.A. Vernikovskiy, S. Senyukov,
A. Jakovlev, and K. Jaxybulatov

10:20 – 10:35 RECENT SEISMICITY AND CRUSTAL DEFORMATION AROUND MT. FUJI
Yuhki Kohno, Hideki Ueda, Eisuke Fujita, Toshikazu Tanada, Tomofumi Kozono,
Masashi Nagai, Tetsuya Jitsufuchi, Taku Ozawa, Motoo Ukawa

10:35 – 10:50 MONITORING PRECURSORY UNREST AND THE 2009 ERUPTION OF REDOUBT
VOLCANO, AK BY HIGH-RESOLUTION SATELLITE AND AIRBORNE
THERMAL INFRARED IMAGING

Rick Wessels, R. Greg Vaughn, Matt Patrick and Michelle Coombs

10:50 – 11:05 *Coffee Break*

11:05 – 11:20 VOLCANIC ASH ADVISORY FOR TRANSPORTATION (PART 1)

Marco Magnani, Naoko Taki, Hiroaru Suyama

11:20 – 11:35 KVERT PROJECT: DANGER FOR AVIATION DURING ERUPTIONS
OF KAMCHATKAN VOLCANOES IN 2009-2010

O. Girina, A. Manevich, D. Melnikov, S. Ushakov, A. Nuzhdaev, O. Konovalova,
Y. Demyanchuk

11:35 – 11:50 MONITORING OF VOLCANIC ACTIVITY IN THE KURILE ISLANDS BY SVERT
GROUP (SAKHALIN VOLCANIC ERUPTIONS RESPONSE TEAM)

Rybin A.V., Chibisova M.V.

- 11:50 – 12:05** UNDERSTANDING THE RELATION BETWEEN PRE-ERUPTIVE BUBBLE SIZE DISTRIBUTION AND OBSERVED ASH PARTICLE SIZES: PROSPECTS FOR PREDICTION OF VOLCANIC ASH HAZARDS
Alex Proussevitch, Gopal Mulukutla, Kim Genareau, and Dork Sahagian
- 12:05 – 12:20** EXPERIMENTAL MODELING OF PERIODICITIES IN THE DYNAMICS OF LAVA FOUNTAINING
A.Yu. Ozerov
- 12:20 – 12:35** THE ERUPTION OF KIZIMEN VOLCANO DURING 2010-2011 ACCORDING TO SEISMIC DATA
V. T. Garbuzova, O.V. Sobolevskaya
- 12:35 – 12:50** THE VOLCANIC ERUPTIONS ON KAMCHATKA: ONE DECADE OF NASA SATELLITE OBSERVATIONS
Michael Ramsey, Rick Wessels, Jonathan Dehn, Kenneth Duda, Adam Carter and Shellie Rose
- 12:50 – 13:05** THE ERUPTION OF EKARMA VOLCANO IN 2010
Rybin A.V., Degterev A.V., Chibisova M.V., Neroda A.S., Melekestsev I.V., Izbekov P.E., Chashchin S.A., Koroteev I.G.
- 13:05 – 14:30** *Lunch*

Chairs: Minoru Kasahara, Japan, and Pavel Izbekov, USA
- 14:30 – 14:45** STATIC STRAIN AND STRESS CHANGES IN EASTERN JAPAN DUE TO THE 2011 TOHOKU EARTHQUAKE, JAPAN, AS DERIVED FROM GPS DATA
Hiroaki Takahashi
- 14:45 – 15:00** SIMULATION OF TSUNAMI AND LONG-PERIOD GROUND MOTIONS DURING THE M9.0 2011 TOHOKU-OKI EARTHQUAKE
Anatoly Petukhin, Kunikazu Yoshida, Ken Miyakoshi
- 15:00 – 15:15** HOW MANY PEOPLE WERE KILLED BY TSUNAMI OF 2011 EAST JAPAN SUPERGIANT EARTHQUAKE?
Kimata Fumiaki, Makoto Takahashi and Shigeyoshi Tanaka
- 15:15 – 15:30** CRUSTAL DISPLACEMENTS OF EAST ASIA CAUSED BY THE TOHOKU EARTHQUAKE OF MARCH 11, 2011, MW =9.0.
N.V. Shestakov, Hiroaki Takahashi, Mako Ohzono, V.G. Bykov, M.D. Gerasimenko, A.S. Prytkov, V.A. Bormotov, M.N. Luneva, A.G. Kolomiets, G.N. Gerasimov, N.F. Vasilenko, J. Baek, P.-H. Park, A.A. Sorokin, V.F. Bakhtiarov, N.N. Titkov, S.S. Serovetnikov

- 15:30 – 15:45** 1977-2010 ACTIVITY OF BEZYMIANNY VOLCANO
Olga A. Girina
- 15:45 – 16:00** MAGMA SYSTEM RESPONSE TO VOLCANO EDIFICE COLLAPSE: RESULTS OF THE 2005-2011 NSF-PIRE PROJECT AT BEZYMIANNY VOLCANO, KAMCHATKA
Pavel Izbekov and PIRE team
- 16:00 - 16:15** *Coffee Break*
- 16:15 - 16:30** CHARACTERIZATION AND INTERPRETATION OF VOLCANIC ACTIVITY AT BEZYMIANNY VOLCANO FROM 2007 THROUGH 2010: A VOLCANIC-GAS PERSPECTIVE
Taryn Lopez, Sergey Ushakov, Pavel Izbekov, Cindy Werner, Cathy Cahill and Simon Carn
- 16:30 – 16:45** SEISMIC TRENDS IN RECENT BEZYMIANNY ERUPTIONS
Michael West
- 16:45 - 17:00** SURFACE DEFORMATION OF BEZYMIANNY VOLCANO, KAMCHATKA, RECORDED BY GPS: THE ERUPTIONS FROM 2005-2010 AND LONG-TERM, LONG-WAVELENGTH SUBSIDENCE
Ronni Grapenthin, Jeffrey T. Freymueller, Sergey Serovetnikov
- 17:00 – 17:15** DEFORMATIONS IN BEZYMIANNY VOLCANO AREA ACCORDING TO GPS AND INSAR DATA
S. Serovetnikov, N. Titkov, D. Melnikov, S. Senukov, R. Grapenthin
- 17:15 – 17:30** EVALUATING THE UNCERTAINTIES OF THE ESTIMATED VERTICAL VELOCITIES OF BEZYMIANNY GPS NETWORK
R.M.S. Fernandes, J. Freymueller, M.S. Bos, Ronni Grapenthin
- 17:30 – 18:00** **Posters Session**
- Chairs: Vadim Saltykov, Russia, and Mike West, USA*
- 25- 1 THE 1955-2010 PERIOD OF ERUPTIVE ACTIVITY AT BEZYMIANNY VOLCANO, KAMCHATKA: STORY IN ROCKS
Pavel Izbekov and PIRE team
- 25- 2 PETROLOGY OF MAFIC ENCLAVES IN ANDESITES OF OCTOBER 2007 ERUPTION OF BEZYMIANNY VOLCANO (KAMCHATKA)
V. Davydova, V. D. Shcherbakov, P. Yu. Plechov, P. E. Izbekov
- 25- 3 WHOLE-ROCK GEOCHEMISTRY, GEOTHERMOMETRY, AND COMPUTER-BASED MODAL ANALYSIS OF THE 1956-PRESENT ERUPTIVE PRODUCTS OF BEZYMIANNY VOLCANO, KAMCHATKA, RUSSIA
Jill S. Shipman, Maxim G. Gavrilenko, and Pavel E. Izbekov
- 25- 4 VOLUMETRIC CHANGES OF BEZYMIANNY VOLCANO
Dvigalo V.N., Ushakov S., Svirid I.Yu., Shevchenko A.V. and Izbekov P.E.

- 25- 5 FEATURES OF ASHES FROM THE 2009 KORYAKSKY VOLCANO ERUPTION
Anikin K.P., Vergasova L.P., Maximov A.P., Ovsiannikov A.A., Chubarov V.M.
- 25- 6 VOLCANIC ASH ADVISORY FOR TRANSPORTATION (PART 2)
Naoko Funabasama, Marco Magnani, Hiroharu Suyama
- 25- 7 VOLCANO MONITORING AND WARNING SYSTEM IN HOKKAIDO, JAPAN
Tomoyuki Matsumura
- 25- 8 KAMCHATKAN VOLCANIC ERUPTION RESPONSE TEAM (KVERT) PROJECT
IN 2009-2011
Olga A. Girina and Christina A. Neal
- 25- 9 IVS FEB RAS GEOPORTAL AS A SINGLE POINT OF ACCESS
TO VOLCANOLOGICAL AND SEISMOLOGICAL DATA
I.M. Romanova
- 25- 10 2010-2011 ERUPTIVE ACTIVITY OF SHINMOEDAKE VOLCANO, KYUSHU,
JAPAN
Koji Kato, Shin'ichi Matsusue, Hiroshi Yamauchi
- 25- 11 QUATERNARY ERUPTIVE HISTORY OF SARYCHEV PEAK VOLCANO,
MATUA ISLAND, THE KURILES
A.V. Degterev, A.V. Rybin, I.V. Melekescev, N.G. Razjigaeva
- 25- 12 ERUPTION OF EBeko VOLCANO AT 2009-2010 (PARAMUSHIR ISLAND,
THE KURILES
Kotenko T., Kotenko L., Sandimirova E., Shapar' V., Timofeeva I.
- 25- 13 SEISMOLOGICAL STUDY ON PRECURSORS OF THE SMALL PHREATIC
ERUPTIONS AT MEAKAN-DAKE VOLCANO IN 2006 AND 2008
Hiroshi Aoyama and Masashi Ogiso
- 25- 14 ABOUT THE PERIPHERAL MAGMA CHAMBER OF THE KLYUCHEVSKOI
VOLCANO
S.A. Khubunaya, L.I. Gontovaya, S.V. Moskalyova, A.V. Sobolev, V.G. Batanova,
D.V. Kuzmin, O.B. Kuzmina
- 25- 15 REFLEXION OF DEVELOPMENT OF VOLCANIC ACTIVITY OF
KLYUCHEVSKOI VOLCANOES GROUP IN DYNAMICS OF *P*-WAVES VELOCITY
FIELD (UNDER THE SEISMOLOGICAL DATA)
L. B. Slavina, N. B Pivovarova, S.L. Senyukov
- 25- 16 LAHAR DANGER OF KLIUCHEVSKOY VOLCANO MASSIF (KAMCHATKA)
Ludmila Kuksina, Elena Klimenko, Yaroslav Muravyev
- 25- 17 DYNAMICS OF THE GLACIERS OF THE KLUCHEVSKOY GROUP
OF VOLCANOES: REMOTE SENSING DATA
Melnikov D.V., Muravjev Y.D.

- 25- 18 FEATURES OF DYNAMICS OF ICE FILES ON ACTIVE VOLCANOES,
KAMCHATKA
Muravjev Y.D., Muravyev A.Ya., Osipova G.B.
- 25- 19 GRAVITY CHANGE AND CRUSTAL DEFORMATION OBSERVED
AT TOKACHI-DAKE VOLCANO, HOKKAIDO, JAPAN
Noritoshi Okazaki and Hiroaki Takahashi
- 25- 20 SOLFATARIC AND HYDROTHERMAL ACTIVITY OF VOLCANOES
OF KUNASHIR ISLAND (SOUTHERN KURILES, RUSSIA)
Rafael V. Zharkov
- 25- 21 THE PHREATIC EXPLOSION CONSEQUENCES IN GOLOVNINA CALDERA
(KUNASHIR, THE KURIL ISLES)
Kozlov, Dmitry N.
- 25- 22 SENSITIVITY STUDY OF ERUPTION SOURCE PARAMETERS IN NUMERICAL
MODELS FOR VOLCANIC ASH TRANSPORT AND DEPOSITION
K. B. Moiseenko, N. A. Malik
- 25- 23 THE IMAGING A LAVA DOME DENSITY STRUCTURE IN UNZEN WITH
COSMIC-RAY MUONS
Seigo Miyamoto, Nicola D'Ambrosio, Giovanni De Lellis, Mitsuhiro Nakamura,
Toshiyuki Nakano, Pasquale Noli, Hiroshi Shimizu, Paolo Strolin, Cristiano Bozza,
Hiromichi Taketa, and Hiroyuki K.M. Tanaka
- 25- 24 CO- AND POST-SEISMIC DEFORMATION OF THE 2011 OFF PACIFIC COAST
OF TOHOKU EARTHQUAKE, JAPAN
Mako Ohzono, Yusaku Ohta, Takeshi Iinuma, and Satoshi Miura
- 25- 25 EARTHQUAKES AND TSUNAMIS AS SOURCES OF NATURAL-
TECHNOLOGICAL DISASTERS: THE EXAMPLE OF MARCH 11, 2011 TOHOKU
EVENTS IN JAPAN
E. Petrova
- 25- 26 THE 2011 TOHOKU EARTHQUAKE TSUNAMI RECORDED BY STRAIN AND
TILT SENSORS AT ERIMO, HOKKAIDO, JAPAN
Akinari Shinjo and Hiroaki Takahashi

Friday, August 26

09:00 – 18:00 **SESSION: NEW RESULTS FROM TECTONIC, VOLCANOLOGICAL, SEISMOLOGICAL, AND MARINE RESEARCH**

Oral Session

Chairs: Hiroaki Takahashi, Japan, and Yuri Taran, Mexico

- 09:00 – 09:15** GEODYNAMIC CONDITIONS FOR ADAKITES AND INTRAPLATE LAVAS GENESIS IN SUBDUCTION ZONE OF EASTERN KAMCHATKA
G.P. Avdeiko, O.V. Kuvikas, A.A. Palueva
- 09:15 – 09:30** ISLAND-ARC MAGMA SOURCES AND ISLAND-ARC VOLCANISM EVOLUTION
Plechov P.Yu.
- 09:30 – 09:45** MECHANISM OF THE INTRAPLATE EARTHQUAKES IN AND AROUND THE KOREAN PENINSULA
Myung-Soon Jeon
- 09:45 – 10:00** HE ISOTOPES AND GEODYNAMICS OF THE MEXICAN PACIFIC COAST
Yuri Taran and Vladimir Kostoglodov
- 10:00 – 10:15** STUDY ON DEEP-FOCUS EARTHQUAKES BENEATH NORTH-WESTERN MARGIN OF EAST SEA
Geunyoung Kim
- 10:15 – 10:30** SLOW SLIP EVENTS AND NONVOLCANIC TREMOR IN THE MEXICAN SUBDUCTION ZONE
V. Kostoglodov, A. Husker, N.M. Shapiro, M. Campillo, N. Cotte, A. Walpersdorf
- 10:30 – 10:45** ACTIVE FAULTING IN THE KAMCHATSKY PENINSULA AS EVIDENCE FOR THE KAMCHATKA-ALEUTIAN COLLISION
A. Kozhurin, T. Pinegina
- 10:45 – 11:00** *Coffee Break*
- 11:00 – 11:15** MULTISCALE STUDIES OF SUBDUCTION ZONES BASED ON SEISMIC TOMOGRAPHY
Ivan Koulakov
- 11:15 – 11:30** SPECIAL FEATURES OF THE DISTAL TEPHRA INTERLAYER FORMING ON THE BOTTOM OF THE MARINE DEEP BASIN (THE CATASTROPHIC EXPLOSION OF THE BAEGDUSAN VOLCANO AS AN EXAMPLE)
I.V. Utkin
- 11:30 – 11:45** MAIN STAGES OF FORMATION OF STRUCTURE "NON-VOLCANIC" ISLANDS OF THE ALEUTIAN ISLAND ARC IN THE PLEISTOCENE
Bulochnikova A.S.

- 11:45 – 12:00** HUMAN RESPONSES TO PREHISTORIC EARTHQUAKES AND SEISMIC UPLIFT ON THE NORTHEAST COAST OF KAMCHATKA
Dustin Keeler
- 12:00 – 12:15** TEPHROSTRATIGRAPHY AND PETROLOGICAL STUDY OF CHIKURACHKI AND FUSS VOLCANOES, WESTERN PARAMUSHIR ISLAND, NORTHERN KURILE ISLANDS
Takeshi Hasegawa, Mitsuhiro Nakagawa, Mitsuhiro Yoshimoto, Yoshihiro Ishizuka, Wataru Hirose, Sho-ichi Seki, Vera Ponomareva and Rybin Alexander
- 12:15 – 12:30** IMPACTS OF POWERFUL VOLCANIC ERUPTION OF SARYCHEV PEAK VOLCANO (2009, KURIL ISLANDS) ON ECOSYSTEMS
Sergei Yu. Grishin
- 12:30 – 12:45** ERUPTIVE HISTORY AND STRUCTURE OF YOTEI VOLCANO, SOUTHWESTERN HOKKAIDO, JAPAN
Shimpei Uesawa and Mitsuhiro Nakagawa
- 12:45 – 13:00** GEOCHEMISTRY OF THE STRATOVOLCANO KAMEN ROCKS
T. G. Churikova, B.N. Gordeychik, G. Wörner, B. V. Ivanov
- 13:00 – 14:30** *Lunch*
- Chairs: Jeff Freymueller, USA, and Pavel Plechov, Russia*
- 14:30 – 14:45** KALMAR – "KURILE-KAMCHATKA AND ALEUTIAN MARGINAL SEA-ISLAND ARC SYSTEMS: GEODYNAMIC AND CLIMATE INTERACTION IN SPACE AND TIME" – A RUSSIAN - GERMAN RESEARCH INITIATIVE
Christel van den Bogaard, C. Dullo, B. Baranov, P.P. Shirshov
- 14:45 – 15:00** MARINE VOLCANOLOGICAL AND PETROLOGICAL STUDIES WITH R/V SONNE IN THE NW PACIFIC AND BERING SEA: SO201 KALMAR CRUISE RESULTS
Portnyagin M, Hoernle K, Werner R, Hauff F, Meicher D., Yogodzinski G, Baranov B, Silantiev S, Wanke M, Krasnova E
- 15:00 – 15:15** ESTIMATES OF CURRENT PLATE MOTIONS AROUND THE BERING SEA AND NORTHEAST ASIA BASED ON GPS MEASUREMENTS
Jeffrey T. Freymueller, Grigory M. Steblov, Dmitry I. Frolov, Mikhail G. Kogan
- 15:15 – 15:30** FIRST DATA ON GEOCHEMISTRY OF OCEANIC PERIDOTITES FROM NW PACIFIC AND THEIR POSSIBLE CONTRIBUTION TO VOLCANISM IN KAMCHATKA AND ALEUTIAN ARC
Krasnova E, Portnyagin M, Silantiev S, Werner R, Hoernle K
- 15:30 – 15:45** GEOCHEMICAL EVIDENCE FOR SUBDUCTION RELATED ORIGIN OF THE BOWERS AND SHIRSHOV RIDGES (BERING SEA, NW PACIFIC)
Maren Wanke, Maxim Portnyagin, Reinhard Werner, Folkmar Hauff, Kaj Hoernle, Dieter Garbe-Schönberg

- 15:45 – 16:00** SWATH BATHYMETRIC INVESTIGATIONS OF THE SUBMARINE VOLCANOLOGISTS MASSIF, KOMANDORSKY BASIN
Boris Baranov, Reinhart Werner, Nikolay Tsukanov, Karine Dozorova
- 16:00 - 16:15** *Coffee Break*
- 16:15 - 16:30** HOLOCENE ERUPTIVE ACTIVITY OF THE SOUTHERNMOST KAMCHATKAN VOLCANOES
V. Ponomareva, N. Zaretskaya, L. Sulerzhitsky, O. Dirksen
- 16:30 – 16:45** EARLY EOCENE STAGE OF THE MAGMATISM IN THE SREDINNIY RANGE OF KAMCHATKA
A.V. Soloviev, M.V. Luchitskaya
- 16:45 - 17:00** OXYGEN ISOTOPES IN MIOCENE-QUATERNARY VOLCANIC ROCKS FROM SREDINNY RANGE, KAMCHATKA
Anna Volynets, Gerhard Wörner, Rheinhold Przybilla
- 17:00 – 17:15** U-PB AGE OF CALDERA UXICHAN ROCKS AT SREDINNIY RIDGE, KAMCHATKA – APPLICATION OF LA-ICP-MS TO YOUNG ZIRCON DATING
Yu.A. Kostitsyn, M. O. Anosova
- 17:15 – 17:30** MAGMATIC EVOLUTION OF AVACHINSKY VOLCANO (KAMCHATKA) DURING THE HOLOCENE REVEALED FROM COMPOSITION OF TEPHRA, THEIR MATRIX GLASSES AND MELT INCLUSIONS IN MINERALS
Krashennnikov S.P., Portnyagin M.V., Bazanova L.I., Ponomareva V.V.
- 17:30 – 18:00** **Posters Session**
- Chairs: Vadim Levin, USA and Takeshi Matsushima, Japan*
- 26- 1 STRUCTURE OF THE UPPERMOST SEDIMENTARY LAYERS IN KAMCHATKA - ALEUTIAN ISLAND ARC JUNCTION AREA FROM HIGH RESOLUTION ECHOSOUND DATA (SO-201 LEG 1A, LEG 2 KALMAR)
N.V. Tsukanov, Ch. Gaedike, K. A. Baranov, K. A. Dozorova, R. Freitag
- 26- 2 THE KRUSENSTERN FAULT, NW PACIFIC: A REACTIVATED CRETACEOUS TRANSFORM FAULT?
Ralf Freitag, Christoph Gaedicke, Nikolay Tsukanov, Udo Barckhausen, Dieter Franke, Ingo Heyde, Stefan Ladage, Rüdiger Lutz, Michael Schnabel
- 26- 3 SURFACE UPLIFT AND ROCK EXHUMATION OF MORPHOTECTONIC BLOCKS AT THE ACTIVE FORE-ARC OF KAMCHATKA, RUSSIA
Ralf Freitag, Dorthe Pflanz, Christoph Gaedicke, Nikolay Tsukanov, Boris Baranov, Matthias Krbetschek
- 26- 4 RELATIONSHIP BETWEEN THE INTERPLATE QUASI-STATIC SLIP AND THE FOCAL REGION OF M7-CLASS INTERPLATE EARTHQUAKES IN THE HYUGA-NADA, SW JAPAN SUBDUCTION ZONE
Yusuke Yamashita, Hiroshi Shimizu, Kenji Uehira, and Mikio Fujii

- 26- 4 DEFORMATIONS ON THE BOUNDARY BETWEEN THE EURASIAN AND AMURIAN PLATES
S.V. Ashurkov, V.A. Sankov
- 26- 5 SIGNIFICANCE RADIOLARIAN DATA FOR THE SOLUTION OF THE TECTONIC AND PALEO GEOGRAPHIC PROBLEMS ON THE RUSSIAN FAR EAST
T. Palechek
- 26- 6 THE MANIFESTATION OF STRONG SUBDUCTION EARTHQUAKES AND LOCAL GEODYNAMIC ACTIVATION IN CHANGES OF WATER LEVEL IN WELL E-1 KAMCHATKA
Kopylova G.N., Boldina S.V.
- 26- 7 HOLOCENE VERTICAL MOVEMENT OF THE EAST COAST OF KAMCHATSKY PENINSULA (KAMCHATKA) BASED ON COASTAL MARINE TERRACES
T. Pinegina, J. Bourgeois, A. Kozhurin, E. Kravchunovskaya
- 26- 8 RECONSTRUCTING TSUNAMIGENIC EARTHQUAKES ON THE NORTHERN KAMCHATKA SUBDUCTION ZONE: THE 1997 KRONOTSKY EARTHQUAKE AND TSUNAMI AND THEIR PREDECESSORS
Joanne Bourgeois, Tatiana Pinegina
- 26- 9 IDENTIFICATION AND ANALYSIS OF TOPOGRAPHY ACCORDING TO SRTM, BASED ON APPLICATION OF THE SCALE-SPACE THEORY
O.V. Rybas, G.Z. Gilmanova
- 26- 10 REGIONAL INFORMATIONAL-PROCESSING CENTER "PETROPAVLOVSK" IN 2010–2011: OPERATIONAL EXPERIENCE FROM THE POINT OF REGULATIONS OF TSUNAMI WARNING SYSTEM AND SEISMIC URGENT MESSAGE SERVICE
V.N. Chebrov, D.V. Chebrov, D.A. Ototuk, S.A. Vikulina
- 26- 11 RELATIONS OF GREAT KURILE EARTHQUAKES ESTIMATED FROM TSUNAMI WAVEFORMS
Kei Ioki and Yuichiro Tanioka
- 26- 12 EFFECTS OF THE 1971 KAMCHATSKY PENINSULA EARTHQUAKE ON NORTHERN KAMCHATSKY BAY
Sean Paul La Selle, Joanne Bourgeois, Randall J. Leveque
- 26- 13 THE 20-S REGIONAL SURFACE-WAVE MAGNITUDE FOR THE RUSSIAN FAR EAST
O.S. Chubarova, A.A. Gusev, S.A. Vikulina
- 26- 14 REGIONAL PLENTY SEISMICITY OF KAMCHATKA AND KOMANDORSKY ISLANDS ACCORDING TO THE CATALOGUE OF KB GS THE RUSSIAN ACADEMY OF SCIENCES
Zoya A. Nazarova
- 26- 15 AN ALGORITHM FOR CALCULATION OF SYNTHETIC SEISMOGRAMS IN A LAYERED HALF-SPACE WITH APPLYING MATRIX IMPEDANCE
V. Pavlov

- 26- 16 ON THE SHORT-TERM PREDICTABILITY OF STRONG EARTHQUAKES.
NEEDED DATA VOLUME INCREASE AND SPECIFIC AND NONSPECIFIC
PRECURSORS
M.V. Rodkin
- 26- 17 SPECTRAL COMPONENTS IN THE WAVEFORMS OF VOLCANO SEISMIC
EVENTS
Kugaenko Yulia, Nuzhdina Irina
- 26- 18 THE SPATIAL GROUPING FEATURES OF THE KAMCHATKA'S EARTHQUAKE
HYPOCENTERS
A.N. Krolevets, A.M. Makeev
- 26- 19 CRUSTAL STRUCTURE AROUND THE SOURCE AREA OF THE 1952 TOKACHI-
OKI EARTHQUAKE, OFF HOKKAIDO, BY AN AIRGUN-OBS SEISMIC
EXPERIMENT
R. Azuma, Y. Murai, K. Mochizuki
- 26- 20 CRUSTAL DEFORMATION DUE TO VOLCANIC ACTIVITY BY CONTINUOUS
GPS OBSERVATION NETWORK IN SHINMOEDAKE, KIRISHIMA, JAPAN
Shigeru Nakao, Yuichi Morita, Kazuhiko Goto, Hiroshi Yakiwara, Shuichirou Hirano,
Jun Oikawa, Hideki Ueda, Tomofumi Kozono, Yasuhiro Hirata, Hiroaki Takahashi,
Yusaku Ohta, Takeshi Matsushima, Masato Iguchi
- 26- 21 SHARP TECTONIC AND VOLCANIC UNREST AT 2800-2900 ¹⁴C BP –
EVIDENCES FROM RIVER TERRACE AND MONOGENETIC VOLCANOES
DATING
O. Dirksen, C. van den Bogaard, T. Danhara, B. Diekmann
- 26- 22 MORPHOMETRY AND DYNAMIC OF THE DESTRUCTION OF PLEISTOCENE-
HOLOCENE CINDER CONES IN KAMCHATKA
Melnikov D., Gilichinsky M., Melekestsev I., Inbar M.

Monday, August, 29

Oral Session

- 09:00 – 11:45** **SESSION: NEW RESULTS FROM TECTONIC, VOLCANOLOGICAL, SEISMOLOGICAL, AND MARINE RESEARCH**
Chairs: Vera Ponomareva, Russia, and Mitsuhiro Nakagawa, Japan
- 09:00 – 09:15** PHASE EQUILIBRIA CONSTRAINTS ON PRE-ERUPTIVE CONDITIONS OF THE 1956 BEZYMIANNY MAGMA
V. D. Shcherbakov, O. K. Neill, P. Izbekov, P. Yu. Plechov
- 09:15 – 09:30** TRACE ELEMENT CONSTRAINTS ON THE ORIGIN OF MAGMA DIVERSITY AT BEZYMIANNY VOLCANO, KAMCHATKA
Stephen Turner, Jill Shipman, Pavel Izbekov, and Charles Langmuir
- 09:30 – 09:45** SPECIAL CIRCUMSTANCES: GEOPHYSICAL AND GEOCHEMICAL EVIDENCE FOR AN AUXILIARY MAGMA SOURCE OF KLYUCHEVSKOY VOLCANO LAVAS
Alex Nikulin, Vadim Levin, Michael Carr, Claude Herzberg and Michael West
- 09:45 – 10:00** MICROSEISMIC PROFILE ACROSS TOLBACHIK DOL (KAMCHATKA)
Yu.A. Kugaenko, V.A. Saltykov, I.F. Abkadyrov, A.V. Gorbatikov, M.Yu. Stepanova
- 10:00 – 10:15** LOCAL GEOINFORMATIC SYSTEMS AS A PART OF GENERAL PROJECT «VOLCANIC HAZARD OF KURIL-KAMCHATKA ISLAND ARC»
Klimenko E., Muravyev Y.
- 10:15 – 10:30** FORMATION OF A ZONED MAGMA CHAMBER AND ITS TEMPORAL EVOLUTION DURING THE HISTORIC ERUPTIVE ACTIVITY OF TARUMAI VOLCANO, JAPAN: PETROLOGICAL IMPLICATIONS FOR A LONG-TERM FORECAST OF ERUPTIVE ACTIVITY OF AN ACTIVE VOLCANO
Mitsuhiro Nakagawa, Naoto Hiraga & Ryuta Furukawa
- 10:30 – 10:45** UPWARD MIGRATION OF EARTHQUAKE SWARMS BENEATH MAMMOTH MOUNTAIN, CALIFORNIA –EVIDENCE FOR MOVEMENT OF MAGMA IN THE LOWER CRUST?
David R. Shelly and David P. Hill
- 10:45 – 11:00** *Coffee Break*
- 11:00 – 11:15** RAPID GENESIS OF LARGE “SUPERVOLCANIC” VOLUMES OF SILICIC MAGMAS IN THE UPPER CRUST BASED ON MICROANALYTICAL ISOTOPE INVESTIGATION OF CRYSTALS IN ERUPTIVE PRODUCTS AND NUMERICAL MODELING OF MELTING AND SEGREGATION PROCESSES
Ilya Bindeman

- 11:15 – 11:30** OXYGEN ISOTOPES AND U-TH-PB DATING OF ZIRCONS FROM POST-COUGAR POINT TUFF LAVAS OF THE BRUNEAU-JARBIDGE ERUPTIVE CENTER OF THE YELLOWSTONE HOTSPOT
Angela Seligman, Barbara Nash, Henrietta Cathey, John Valley, Jorge Vazquez, Joe Wooden
- 11:30 – 11:45** EVIDENCES OF MAGMA MIXING EVENT UNDER UNZEN VOLCANO (JAPAN) DURING 1991-1995 ERUPTION
Ilya S. Fomin, Pavel Yu. Plechov, Alexandra E. Tsay
- 11:45 – 12:00** FORMATION OF PARASITIC CONES ON POLYGENETIC VOLCANOES
I. Yokoyama
- 12:00 – 12:15** SCANNING UV GAS IMAGING SYSTEM (SUGIS) FOR REMOTE MEASUREMENTS OF VOLCANIC GAS EMISSIONS
Olga Neussypina, Hendrik Fischer, Arne Krueger, Peter Rusch, Roland Harig
- 12:15 - 12:30** MECHANISMS OF LAHAR FORMATION IN KAMCHATKA
Chernomorets S.S., Seynova I.B., Tutubalina O.V., Brichevsky A.S.
- 12:30 – 12:45** “DRY” RIVERS HYDROLOGY ON THE TERRITORY OF ACTIVE VOLCANISM IN KAMCHATKA
Ludmila V. Kuksina
- 12: 45 – 14:30** *Lunch*
- 14:30 – 17:30** **SESSION: NEW DEVELOPMENTS IN GROUND-, AIR-, AND SATELLITE-BASED MONITORING TECHNIQUES AND IN MODELING AND FORECASTING HAZARD EVENTS**

Chairs: Nikolay Shestakov, Russia, and Fumiaki Kimata, Japan
- 14:30 – 14:45** THE LONG-TERM EARTHQUAKE FORECAST FOR THE KURIL-KAMCHATKA ARC FOR 2011 – 2016
Sergei A. Fedotov, Alexey V. Solomatin, Sergey D. Chernyshev
- 14:45 – 15:00** GLOBAL HIGH-RESOLUTION EARTHQUAKE FORECASTS AND THEIR TESTING
Yan Y. Kagan
- 15:00 – 15:15** USING LOCAL AND REMOTE INFRASOUND RECORDINGS TO DETECT AND CHARACTERIZE EXPLOSIVE VOLCANIC ACTIVITY
David Fee, Stephen R. McNutt, Taryn M. Lopez, Kenneth M. Arnoult, Curt A. L. Szuberla, John V. Olson, Michael West
- 15:15 – 15:30** DETECTION OF STROMBOLIAN ACTIVITY IN SATELLITE DATA
Anna Worden, Jonathan Dehn, Maurizio Ripepe, Andrew Harris
- 15:30 – 15:45** DETERMINATION OF SPACE-TIME CHARACTERISTICS OF SOURCES OF LARGE EARTHQUAKES FROM TELESEISMIC HIGH-FREQUENCY RECORDS
A.A. Gusev, E.M. Guseva

- 15:45 – 16:00** SEMIAUTOMATIC MOMENT TENSOR INVERSION USING REGIONAL BROADBAND SEISMOGRAMS
Victor Pavlov, Iskander Abubakirov
- 16:00 - 16:15** *Coffee Break*
- 16:15 - 16:30** STUDYING VOLCANOES AND FAULTS BASED ON CORRELATIONS OF AMBIENT SEISMIC NOISE
Nikolai Shapiro
- 16:30 - 16:45** A STATISTICAL ESTIMATION OF SEISMICITY LEVEL: THE METHOD AND RESULTS OF APPLICATION TO ALASKA AND ALEUTIAN ISLANDS
V. Saltykov, N. Kravchenko
- 16:45 – 17:00** NUMERICAL MODELING OF THE NATURAL STATE OF THE GEYSERS VALLEY HYDROTHERMAL SYSTEM (KRONOTSKY NATURE RESERVE, KAMCHATKA) PRECEDING OF THE GIANT LANDSLIDE
A.V. Kiryukhin, T.V. Rychkova, I.K. Dubrovskaya
- 17:00 – 17:15** SYSTEM OF SEISMIC OBSERVATIONS IN THE TSUNAMI WARNING SURVEY ON THE FAR EAST RUSSIA
V.N. Chebrov, A.A. Gusev, D.V. Droznin, V.N. Mishatkin, V.A. Sergeev, Y.V. Shevchenko, D.V. Chebrov
- 17:15 – 17:30** RESULTS OF WORK OF THE REGIONAL PERMANENT GNSS NETWORK “KAMNET”
Titkov N.N., Bahtiarov V. F.
- 17:30 – 18:00** **Posters Session**
- NEW RESULTS FROM TECTONIC, VOLCANOLOGICAL, SEISMOLOGICAL, AND MARINE RESEARCH**
- Chairs: Tatiana Churikova, Russia, and Joanne Bourgeois, USA*
- 29- 1 ESTIMATION OF SUBSURFACE STRUCTURE USING MICROTREMOR H/V SPECTRAL RATIO AROUND UNZEN VOLCANO
Natsumi Itoya and Takeshi Matsushima
- 29- 2 THE STRUCTURAL EQUILIBRIA IN SILICATE MELTS: APPLICATION TO PETROLOGICAL ESSENTIAL HETEROGENEOUS REACTIONS
O. A. Khleborodova
- 29- 3 SR AND ND ISOTOPIC COMPOSITION OF ~1.7MA VOLCANIC ROCKS IN HOKKAIDO, JAPAN: IMPLICATION FOR MAGMA SOURCE AT THE ARC-ARC JUNCTION
Ayumi Kosugi and Mitsuhiro Nakagawa
- 29- 4 PETROLOGY OF THE KIWIKIWI FORMATION
A. Auer, J.D.L. White, Mike Palin

- 29- 5 PETROLOGICAL CONSTRAINTS ON THE MECHANISMS OF CATASTROPHIC
EXPLOSIVE ERUPTIONS OF ANDESITIC AND ACID MAGMAS
A P. Maximov
- 29- 6 EVOLUTION OF A ZONED MAGMA CHAMBER DURING THE HISTORIC
ERUPTIONS OF HOKKAIDO–KOMAGATAKE VOLCANO, NORTHERN JAPAN
Ryo Takahashi and Mitsuhiro Nakagawa
- 29- 7 GEOCHEMISTRY AND MINERALOGY OF THE LATE PLEISTOCENE OLD
SHIVELUCH VOLCANO, KAMCHATKA
Natalia Gorbach, Maxim Portnyagin
- 29- 8 BASALTIC ACTIVITY EPISODE AT 4600-3100 ¹⁴C YEARS BP (3370-1400 CALBC)
AT ANDESITIC SHIVELUCH VOLCANO. Kamchatka
M.M. Pevzner, A.D. Babansky
- 29- 9 ON SOME RESULTS OF THE MIDDLE EAST AND KAMCHATKA EQS
CATALOGUES ANALYSIS
V. Prelov
- 29- 10 PETROCHEMICAL CHARACTERISTICS OF VOLCANIC ROCKS
OF ANAUN AREA
V. Rodin
- 29- 11 GEOCHEMICAL CHARACTERISTICS OF YOTEI VOLCANO AND
SHIRIBETSU VOLCANO, SOUTHWESTERN HOKKAIDO, JAPAN
Akane Umetsu, Mitsuhiro Nakagawa and Shimpei Uesawa
- 29- 12 THE PHYSICAL AND CHEMICAL PROPERTIES OF VOLCANIC ASHES
OF DIFFERENT AGES (KAMCHATKA)
Kuznetsova E., Muravyev Ya., Motenko R.
- 29- 13 VOLCANIC ASH LAYERS IN THE OKHOTSK SEA HOLOCENE-PLEISTOCENE
DEPOSITS
Derkachev A.N., Nikolaeva N.A., Gorbarenko S.A., Portnyagin M.V., Ponomareva
V.V., Sakhno V.G., Nürnberg D., Sakamoto T., Iijima K., Liu Hua Hua, Wang Kunshan,
Chen Zhihua
- 29- 14 THE ORIGIN OF MIOCENE ALKALINE BASALTS OF THE KRONOTSKY
ISTHMUS
Savelyev D.P., Kartasheva E.V., Savelyeva O.L.
- 29- 15 ALONG-ARC VARIATIONS OF K-AR AGES FOR THE SUBMARINE VOLCANIC
ROCKS IN THE KURILE ISLANDS
Yoshihiro Ishizuka, Mitsuhiro Nakagawa, Akira Baba, Takeshi Hasegawa,
Ayumi Kosugi, Shimpei Uesawa, Akikazu Matsumoto and Alexander Rybin
- 29- 16 MODERN TECHNIQUES FOR INTERDISCIPLINARY INVESTIGATION OF
SUBMARINE VOLCANOES IN THE KURILE ISLAND ARC
Y.I. Blokh, Y.I. Bondarenko, A.S. Dolgal, P.N. Novikova, V.A. Rashidov, A.A. Trusov

- 29- 17 SPATIAL COMPOSITIONAL VARIATIONS IN QUATERNARY VOLCANICS
FROM THE NORHERN KURIL ISLANDS, RUSSIA
O.V. Kuvikas, M. Nakagawa, G.P. Avdeiko, V.A. Rashidov
- 29- 18 HYDROTHERMAL SYSTEMS OF THE NORTHERN AND CENTRAL KURILE
ISLANDS
Elena G. Kalacheva
- 29- 19 DEEP STRUCTURE OF THE REGION OF THE UZON-GEYSER VOLCANIC-
TECTONIC DEPRESSION (KAMCHATKA) BY LOW-FREQUENCY
MICROSEISMIC SOUNDING
Yu. A. Kugaenko, V. A. Saltykov, A. V. Gorbaticov, and M. Yu. Stepanova
- 29- 20 CHANGING THE COMPOSITION, STRUCTURE AND PROPERTIES
OF ANDESITE KOSHELEV VOLCANO AND TUFFS GEOTHERMAL FIELD
PAUZHETKA IN THE SURFACE ZONE OF MODERN HYDROTHERMAL
SYSTEMS
Shanina V.V., Nuzhdaev A.A.
- 29- 21 GEOMAGNETIC AND NUCLEAR-GEOPHYSICAL INVESTIGATIONS
OF THERMAL TRAVERTINE AREAS IN THE NALYCHEVO HYDROTHERMAL
SYSTEM, KAMCHATKA
P.P. Firstov, V.A. Rashidov, A.V. Melnikova, V.N. Shulzhenkova
- 29- 22 THE HARMONIC AND SPECTRAL ANALYSIS OF THE GEOMAGNETIC FIELD
AND CORRELATION OF ITS COMPONENTS WITH EARTHQUAKE SOURCES
IN THE NORTHERN TIEN SHAN
Ekaterina V. Vorontsova
- 29- 23 CONCENTRATION OF MICROELEMENTS IN HYDROTHERMAL AND LAKE
WATERS OF KSUDACH VOLCANO CALDERA (SOUTH KAMCHATKA)
A.G. Nikolayeva, A.Yu. Bychkov
- 29- 24 GAS HYDRATES IN WESTERN PACIFIC
Renat Shakirov