

IAVCEI/IACS Joint Commission for Volcano-ice Interactions

ISSUE 4, 2012



Summary of Commission Goals

The joint IAVCEI-IACS Commission on Volcano-Ice Interactions (CVII) was established in 2008 and supercedes the Volcano-Ice Interactions Working Group that functioned from 2006-2008. Since the full establishment as a commission, CVII has relied on a solid structure and a significant range of activities.

The goals of the CVII are to:

1. Foster the study of terrestrial and extraterrestrial volcano-ice interactions;
2. Promote internationally the exchange of ideas, results and collaborative research opportunities within the volcanological community and with non-volcanological societies relevant to this highly transdisciplinary field;
3. Provide a recognized point of contact for issues relevant to volcano-ice interactions.

Leadership

2012

Chair Hugh Tuffen (U. of Lancaster UK)
Vice-Chair Tracy Gregg (U. at Buffalo)
Secretary Lucia Capra (UNAM, Mexico)
Ex-Officio Chair Christian Huggel (U. of Zurich)

2011

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Vice-Chair Hugh Tuffen (U. of Lancaster UK)
Secretary Tracy Gregg (U. at Buffalo)
Ex-Officio Chair Mary Chapman (USGS)



2012 Meetings

**European Geophysical Union
General Assembly, Vienna, 22 - 27
April**

<http://meetings.copernicus.org/egu2012/>



Relevant Sessions:

1) **GMPV4.4: Recent explosive eruptions: Conduit processes, ash dispersal and effects on aviation**
<http://meetingorganizer.copernicus.org/EGU2012/session/9145>

Convener: M.T. Gudmundsson
Co-Conveners: K. Vogfjord , F. Prata ,
T. Thordarson , C. Witham

2) **GMPV4.7
Physics and dynamics of magma ascent, emplacement, eruption and deposition in volcanic systems**
<http://meetingorganizer.copernicus.org/EGU2012/session/10022>

Convener: O. Galland
Co-Conveners: J. Kavanagh , C. Annen ,
N. Le Corvec , S. Burchardt , G. Gisler ,
E. P. Holohan , M. Kervyn , G.
A. Douillet , D. M. Doronzo

3) **GMPV4.10/GM2.7
Spatio-temporal perspectives on volcanological processes and volcanic landforms**
<http://meetingorganizer.copernicus.org/EGU2012/session/10032>

Conveners: D. Karátson , H. Tuffen ,
A. Germa

Co-Convener: B. Székely

4) **TS1.2/GMPV4.14/PS2.10
Volcanism and Tectonics in the
Solar System**

<http://meetingorganizer.copernicus.org/EGU2012/session/9605>

Convener: T. Platz

Co-Conveners: M. Massironi ,
G. Caprarelli , P. Byrne , P. Allemand ,
H. Hiesinger

Invited Speakers:

Louise Prockter (Johns Hopkins University Applied Physics Laboratory): "Composition of bands in Argadnel Regio, Europa: Implications for Volcanic Resurfacing"

Laura Kerber (The Laboratoire de Météorologie Dynamique, Paris): "The Dispersal of Pyroclasts from Ancient Explosive Volcanoes on Mars: Implications for the Friable Layered Deposits"

**AGU Chapman Conference on
Volcanism and the Atmosphere,
Selfoss, Iceland, 11 - 15 June
Registration Deadline: 3 May 2012**
<http://www.agu.org/meetings/chapman/2012/bcall/program/index.php>



Confirmed Invited Speakers:

Mark Baldwin, Northwest Research Associates
Lindy Elkins-Stanton, Carnegie Institution for Science

Áslaug Geirsdóttir, U. of Iceland
Hans-F. Graf, University of Cambridge
Wes Hildreth, University of Hawaii
Bruce Houghton, University of Hawaii
Phil Jones, University of East Anglia
Mike Mann, Penn State University
Giff Miller, University of Colorado
Brian Toon, University of Colorado

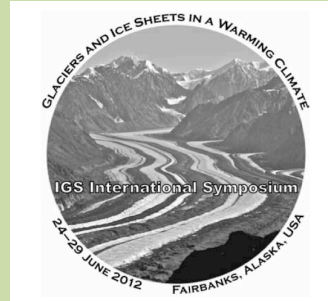
3rd Volcano-Ice Interactions on Earth and Mars Conference, Anchorage, Alaska, 18 – 22 June
Abstract deadline: 31 March, 2012
http://volcanoes.dickinson.edu/iavcei_iacs_viic/meetings/2012_Call_for_Abstracts_VII3.pdf



Conference Themes

- Recent eruptions: Huila 2007-08, Redoubt 2009, Eyjafjallajökull 2010, Grimsvötn 2011, Puyehue-Cordón Caulle 2011
- Jökulhlaups
- Wet volcanic mass flows associated with eruptions at snow and ice clad volcanoes
- Glacier-volcano dynamics associated with changing glacier ice loads: past, current, future
- Hazards and risks at snow- and ice-clad volcanoes
- Glacier-volcano interactions during recent eruptive activity at Aleutian arc and Andes volcanoes
- Heat transfer mechanisms during glaciovolcanic events, lava-scale to edifice-scale
- Paleoenvironmental studies of volcano-ice interactions, dating glacial events and ice-sheet implications
- Planetary volcano-ice interactions

International Symposium on Glaciers and Ice Sheets in a Warming Climate, Fairbanks, Alaska, 24 – 29 June



http://glaciers.gi.alaska.edu/sites/default/files/Circular2_Final.pdf

Confirmed Invited Speakers:

Bob Bindaschadler, NASA
Roger Braithwaite, U. of Manchester
Christian Schoof, U. of British Columbia
Martin Sharp, U. of Alberta
Michiel van den Broeke, Utrecht University

2011 Meetings

- 1) April: European Geoscience Union General Assembly, Vienna, Austria, April 3 – 8. Session title: “The 2010 flank and summit eruption at Eyjafjallajökull volcano (Iceland): History of an eruption from source to the atmosphere (co-organized)”
- 2) June – July: IUGG, Melbourne, Australia, June 28 – July 7. Session titles:
 - a. “Subglacial and subaqueous volcanism: Processes, products and impacts”
 - b. “Subaerial and subaqueous lava flows”
- 3) March: 42nd Lunar and Planetary Science Conference, Houston, TX, March 7 – 11. Session titles: “Poster Session I: Mars: Terrestrial Analogs”

2011-2012 Selected Publications

- Barrows, T.T., G. Hope, M.L. Prentice, K.L. Fifield and S.G. Tims, 2011, Late Pleistocene glaciation of the Mt. Giluwe volcano, Papua New Guinea, *Quat. Sci. Rev.* 3(19-20):2676-2689.
- Belousov, A., B. Behncke and M. Belousova, 2011, Generation of pyroclastic flows by explosive interaction of lava flows with ice/water-saturated substrate, *J. Volcanol. Geotherm. Res.* 202(1-2):60-72.
- Curtis, A. and P. Kyle, 2011, Geothermal point sources identified in a fumarolic ice cave on Erebus volcano, Antarctica, using fiber optic distributed temperature sensing, *Geophys. Res. Lett.* 38(16), doi: 10.1029/2011GL048272.
- Edwards, B.R., J.K. Russell and K. Simpson, 2011, Volcanology and petrology of Mathews Tuya, northern British Columbia, Canada: Glacioclastic constraints on interpretations of the 0.730 Ma Cordilleran paleoclimate, *Bull. Volcanol.* 73(5):479-496.
- Geyer, A. and I.N. Bindeman, 2011, Glacial influence on caldera-forming eruptions, *J. Volcanol. Geotherm. Res.* 202(1-2):127-142.
- Hall, Kevin, I. Meiklejohn and A. Bumby, 2011, Marion Island volcanism and glaciation, *Antarctic Science* 23(2):155-163.
- Hamilton, C., S.A. Fagents and Th. Thordarson, 2011, Lava-ground ice interactions in Elysium Planitia, Mars: Geomorphological and geospatial analysis of the Tartarus Colles cone groups, *J. Geophys. Res. E: Planets* 116(3), doi: 10.1029/2010JE003657.
- Hooper, A., B. Ofeigsson, F. Sigmundsson, B. Lund, P. Einarsson, H. Geirsson and E. Sturkell, 2011, Increased capture of magma in the crust promoted by ice-cap retreat in Iceland, *Nature Geosci.* 4(11):783-786.
- Oladottir, B.A., G. Larsen and O. Sigmarsson, 2011, Holocene volcanic activity at Grimsvotn, Bardarbunga and Kverkfjoll subglacial centres beneath Vatnajokull, Iceland, *Bull. Volcanol.* 73(9):1187-1208.
- Oladottir, B.A., O. Sigmarsson, G. Larsen and J.-L. Devidal, 2011, Provenance of basaltic ephra from Vatnajokull subglacial volcanoes, Iceland, as determined by major- and trace-element analyses, *Holocene* 22(7):1037-1048.
- Ryane, C., B.R. Edwards and J.K. Russell, 2011, The volcanic stratigraphy of Kima 'Kho Mountain: A Pleistocene tuya, northwestern British Columbia, *Geol. Sur. Canada, Current Res.* 2011, 14:12.
- Schmidt, B.E., D.D. Blankenship, G.W. Patterson and P.M. Schenk, 2011, Active formation of "chaos terrain" over shallow subsurface water on Europa, *Nature* 479(7374):502-505.
- Seifert, P., A. Ansmann, S. Gro, V. Freudenthaler, B. Heinold, A. Hiebsch, I. Mattis, J. Schmidt, F. Schnell, M. Tesche, U. Wandinger and M. Wiegner, 2011, Ice

formation in ash-influenced clouds after the eruption of the Eyjafjallajokull volcano in April 2010, *J. Geophys. Res. D: Atmospheres*, 116(18), doi: 10.1029/2011JD015702.

Smellie, J.L., S. Rocchi and P. Armienti, 2011, Late Miocene volcanic sequences in northern Victoria Land, Antarctica: Products of glaciovolcanic eruptions under different thermal regimes, *Bull. Volcanol.* 73(1):1-25.

Stern, C.R., P.I. Moreno, R. Villa-Martinez, E.A. Sagredo, A. Prieto and R. Labarca, 2011, Evolution of ice-dammed lakes in Ultima Esperanza, Chile: Implications from the late-glacial R1 eruption of Reclus volcano, Andean Austral Volcanic Zone, *Andean Geology* 38(1):82-97.

Stevenson, J.A., J.S. Gilbert, D.W. McGarvie and J.L. Smellie, 2011, Explosive rhyolite tuya formation: Classic examples from Kerlingarfjoll, Iceland, *Quat. Sci. Rev.* 30(1-2):192-209.

Worni, R., C. Huggel, M. Stoffel and B. Pulgarin, 2012, Challenges of modeling current very large lahars at Nevado del Huila volcano, Columbia, *Bull. Volcanol.* 74:309-324.