

The LIP Reader

Newsletter of the Commission on Large-Volume Basaltic Provinces
IAVCEI International Association of Volcanology and Chemistry of the Earth's Interior



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Newsletter Production

Janelle L. Berry, Lisa Gahagan
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Planning is well underway for the 1998 IAVCEI Congress in Cape Town, South Africa—we hope to see you there! In this issue, summaries of recent meetings in Mexico, France, and South Africa are highlighted. Contributions to *The LIP Reader*, including recent research results, are welcomed. Please inform your colleagues about the CLVBP and our activities.

IAVCEI News

The next IAVCEI Congress will be held in Cape Town, South Africa, from 11-17 July 1998. The theme of the congress is "MAGMATIC DIVERSITY: VOLCANOES AND THEIR ROOTS." The organizing committee is currently planning the scientific program, which will include a *Large Igneous Provinces* symposium to be convened (provisionally) by Goonie Marsh and Mike Coffin (and anybody else who might volunteer). Ten symposia will form the core of the scientific program, but there will be open sessions, so nobody should feel that their contribution will be out of place.

Three parallel sessions will run over the five days of the congress. Apart from symposia that individual commissions may wish to organize, several symposia which have specific relevance to IAVCEI-related aspects of southern African geology will be scheduled. The conference will feature both pre- and post-congress field trips which will complement the symposia. Depending on demand, these will include Carbonatites and Alkaline Ring Complexes; Karoo Volcanic Rocks (Lesotho and Lebombo); Kimberlites; Bushveld Complex; Etendeka Volcanic Province, Namibia; Damaraland Ring Complexes, Namibia; Archean Komatiites; and Granites.

Large igneous provinces feature strongly in this list, and IAVCEI 98 represents a not to be missed opportunity to see these petrogenetically and volcanologically fascinating rocks for yourselves.

Cape Town is one of the most scenic cities in the world, and July is one of the best times of the year for field trips into the hinterland. The conference will be held on the campus of the University of Cape Town (UCT) and accommodation is available within reasonable walking distance of the campus. None of the registration fees will be used to pay expenses of keynote speakers. Instead, keynote presentations will be chosen from the pool of submitted abstracts. The congress will include oral and poster sessions.

Anybody interested in attending IAVCEI 1998 who has not received the first circular can request one from ivc98@geology.uct.ac.za, and the Congress has a home page at <http://www.uct.ac.za/depts/geolsci/ivc98>. Anybody with suggestions about symposia is invited to contact Chris Harris (Organizer of Scientific Program) at: kv@geology.uct.ac.za or Geological Sciences, University of Cape Town, Rondebosch 7700, South Africa.

CLVBP News

Leadership

The CLVBP has been led by Mike Coffin and John Mahoney since its inception as an IAVCEI Task Group in 1992. Although IAVCEI does not stipulate term lengths for Commission leaders, the current CLVBP leaders believe that a change in leadership in late 1997 will bring new ideas, directions, and enthusiasm to the CLVBP. Nominations for leadership of the CLVBP are now being accepted; please send your nominations to either Mike Coffin or John Mahoney by 1 July 1997. The Steering Committee will select the new leadership from the nominations.

CLVBP-U.S. National Science Foundation Dialogue

Discussions with U.S. National Science Foundation (NSF) program officers have resulted in an invitation for CLVBP representatives to visit NSF in Washington in mid- to late 1997. The purpose of the visit will be to present and discuss a potential "LIP initiative" with the appropriate NSF program officers. Although such a visit will not commit NSF to funding a LIP initiative in any way, the invitation is encouraging, and at the least will begin a formal dialogue between CLVBP and NSF.

What the CLVBP group will need to present in Washington includes: 1) the fundamental scientific issues involving LIPs, 2) the rationale for NSF to fund a LIP initiative, and 3) a rough 10-year projected budget for a LIP initiative. At this stage, your (and this includes the non-U.S. CLVBP members as well) views and ideas on a potential LIP initiative are most welcome. Please send your input to Mike Coffin or John Mahoney by 1 July 1997.

Volume on Large Igneous Provinces

Papers are undergoing final paste-up by the American Geophysical Union, which is publishing the LIP volume as part of their Geophysical Monograph series. Publication is expected in mid-1997.

Steering Committee

An updated list of Steering Committee members and their addresses follows:

Nick Arndt (Univ. of Rennes, France) arndt@univ-rennes1.fr
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Full addresses and contact numbers for the above are available over the internet, on diskette, or as hard copy (see below) from Mike Coffin.



Recent Research Summary

Initial results of marine geophysical investigations into interactions between the Ontong Java Plateau and the Solomon Islands are available at: <http://www.ig.utexas.edu/research/projects/solomon/sol.links.html>

Previous Meetings

IAVCEI General Assembly, Puerto Vallarta, México, 19-24 January 1997

A symposium on *Large-Volume Basaltic Provinces* included 23 papers—12 oral and 11 posters. Studies focused on the Snake River Plain (USA), Pacific Northwest, Kamchatka, Western Mediterranean, Southeast Sicily, Northern Israel, Madagascar, Antarctica, Eastern Australia, Colombia (Caribbean) oceanic plateau, Paraná-Etendeka, and Kaapvaal in South Africa. Papers addressing the Mexican geology covered areas in and south of Mexico City as well as central Baja California. Two thematic papers dealt with correlation of continental flood basalt ages with mass extinctions, and new discrimination diagrams for arc, rift, and ocean island tectonic settings.

A special issue of the *Journal of Volcanology and Geothermal Research* is scheduled to be devoted to the general theme of "RIFT-RELATED VOLCANISM: GEOLOGY, GEOCHEMISTRY, AND GEOPHYSICS." It will include papers from this symposium as well as other contributions on this theme. About 20 papers are likely to be submitted to this issue between August and December, 1997. Anyone interested in contributing should contact Surendra P. Verma, CIE, UNAM, Apartado Postal 34, Temixco, Mor. 65280, Mexico. Internet: spv@mazatl.cie.unam.mx

contributed by Surendra P. Verma (Centro de Investigacion en Energia, UNAM, México)

European Union of Geosciences (EUG9), Strasbourg, France, 23-27 March 1997

The EUG meeting takes place every two years in Strasbourg. It attracts many European geoscientists (over 3000 in 1997), and more and more from North America and around the world. A LIP symposium was well attended and attracted a diverse audience of petrologists, geochemists and geophysicists. A group of presentations involved discussions of the characteristics of modern LIPs (Afar-Ethiopia, the Caribbean Igneous Province, Kerguelen Plateau-Broken Ridge and their relation to the Kerguelen plume), including aspects of plume birth and continental breakup. A second series of talks discussed the role of LIPs in crustal growth, and their identification in the geological record, from the Archean to the Phanerozoic. A poster session was

dedicated to the presentation of seismic and geochemical data on basalts from East Greenland, the Venezuelan volcanic plateau, the South Iberian margin, and the Ethiopian flood basalts.

In general, LIPs were a subject of hot discussion during the EUG meeting. A two-day plume session involved several aspects of LIP research, and indeed posed the problem of when does a LIP become a plume (and vice versa), particularly for those charged with assigning papers to different sessions. Vincent Courtillot, the president of the EUG, presented a stimulating address which discussed the role of LIPs in mass extinctions.

In Europe, LIP research is gaining momentum, specifically in terms of research on our own LIP in the North Atlantic province, and certain LIPs which have been "adopted" by the Europeans, e.g., Kerguelen and the Afar hot spot.

contributed by John Ludden (CRPG, Nancy, France) and Dominique Weis (Université Libre de Bruxelles, Belgium)

Plumes, Plates, and Mineralization '97, Pretoria, South Africa, 14-19 April 1997

The University of Pretoria was the setting for a five-day symposium addressing the impingement of mantle plumes on lithospheric plates, the resulting influence on crustal dynamics, and the possibilities of economic mineralization. The first two days of the program included seven keynote and 18 other oral presentations on plumes and plates, plus posters, and concluded with a traditional, festive South African braai. The third day provided a break in the program, and was devoted to workshops on the Kaapvaal craton, exploration models in Africa, the Witwatersrand Basin and Bushveld Complex, and computer-aided plate reconstructions. The concluding two days included five keynote and 21 other oral presentations focusing on mineralization, and included a formal banquet on the eve of the final day.

A pre-symposium excursion toured the Bushveld Complex and associated rocks for five days. Two post-symposium excursions examined 1) the Witwatersrand and Ventersdorp supergroups, and Kimberley diamond district for five days, and 2) Karoo flood basalts in Kruger National Park for three days. Highlights of the trips included inspecting the Merensky Reef and the Dwars River chromitite layers of the Bushveld Complex, visiting the Kimberley Big Hole, descending ~2700 m into the Kloof gold mine, and sharing the classic Olifants River Karoo flood basalt sequence in Kruger National Park with free-range lions, elephants, hippos, giraffes, crocodiles, and other typical zoo fauna, all under the watchful eyes of two well-armed park rangers. In Kruger, larger than Wales, *homo sapiens* are locked inside camps from 6 pm to 6 am; all other members of the animal kingdom, however, may roam freely.



The symposium was organized by the Department of Geology of the University of Pretoria and the Mineralogical Association of South Africa in collaboration with the Geological Society of South Africa. Other universities, the Division of Mining Technology of the CSIR, and mining houses provided generous support.

contributed by Mike Coffin (University of Texas Institute for Geophysics)

Synopses of recent meetings are welcomed—please send your ≤ 200 word review to Mike Coffin or John Mahoney.

LIPS and the Ocean Drilling Program

The recently approved basement drilling leg on the Kerguelen Plateau is scheduled for December 1998 to early February 1999. Our own Mike Coffin has been selected as a co-chief scientist of the expedition; atta boy, Mike!

The JOIDES science advisory structure has been remodeled significantly. The most relevant changes for scientists submitting proposals to use the JOIDES Resolution are (1) that the several previous thematic

panels have been reconstituted into two panels, an Earth's Interior "SSEP" (Science Steering and Evaluation Panel) and an Earth's Environment SSEP, and (2) that new drilling proposals are now peer-reviewed as part of the overall evaluation process. The next proposal deadline is 15 September 1997. For more information on planned legs, proposal guidelines, and panel structure, see the JOIDES web page (www.who.edu/joides). John Mahoney represents the CLVBP as a member of the Interior SSEP.

Commission Products and Services

LIPs on Internet

LIPs have an Internet presence, accessible via standard Internet tools. The Commission's LIP bibliography of ~4150 references, directory of ~500 members, and digital database of LIP areas (Figure 1 of Coffin & Eldholm, *Reviews of Geophysics*, 1994) are available, as well as the calendar of events and text versions of The LIP Reader. Should individual scientists have improved outlines of LIP areas available digitally and be willing to make these available over the Internet, please provide a digital file to Mike. The Internet site is currently set up as a Gopher server, which allows users to log in with anonymous ftp or WWW tools, such as Netscape, Internet Explorer, or NCSA Mosaic. As time allows, the site will be enhanced for WWW users. Ideas on how the site could be improved are most welcome. For copies of materials on Macintosh diskette, please send a blank 3.5-inch diskette to Mike.

Anonymous FTP

With ftp, open "utig.ig.utexas.edu", use the login name "anonymous" and your Internet address as the password. Change directory to "outgoing/lips".

Gopher

Using your Gopher client software, open "gopher.utexas.edu". Navigate to "UT-Austin", to "Colleges and Departments", to "Institute for Geophysics", to "Research Projects", and then to "Commission on Large Igneous Provinces".

World Wide Web

The Universal Resource Locator (URL) is <http://www.ig.utexas.edu/research/projects/lips.html>

Upcoming Meetings

17-22 June: **The History and Dynamics of Global Plate Motions**, Marshall, California, USA. Information: AGU Meetings Dept., Plate Motions Conference, 2000 Florida Ave., N.W., Washington, D.C. 20009, USA. Telephone: 1.202.462.6900. Facsimile: 1.202.238.0566. Internet: meetinginfo@kosmos.agu.org. WWW: <http://www.agu.org>



- 2-6 June: **Seventh Annual V.M. Goldschmidt Conference**, Tucson, Arizona, USA. Symposium: *Large Igneous Provinces and Their Relation to Plumes and Climate*. Information: M.J. Drake (goldconf@lpl.arizona.edu). WWW: <http://cass.jsc.nasa.gov/lpi.html>
- 1-9 July: **Earth - Ocean - Atmosphere Forces for Change**, Melbourne, Australia. Information: IAMAS/ IAPSO Secretariat, Convention Network, 224 Rouse Street, Port Melbourne, Victoria 3207, Australia. Telephone: 61.3.9646.4122. Facsimile: 61.3.9646.7737. Internet: mscarlett@peg.apc.org
- 20-22 July: **CONCORD** (Conference on Cooperative Ocean Riser Drilling), Tokyo, Japan. Information: 1) International—H.C. Larsen, Danish Lithosphere Centre (concord@dlc.ku.dk); 2) Japanese—S. Takagawa, Japanese Marine Science and Technology Center (takagawa@mailgate.jamstec.go.jp) or I. Kushiro (kushiro@misasa.okayama-u.ac.jp). WWW: <http://www.dlc.ku.dk/>
- 15-18 September: **Volcanism and Volcanic Hazards in Immature Intraplate Oceanic Islands**, La Palma, Canary Islands, Spain. Information: W.J. McGuire, Dept. of Geological Sciences, University College London, Gower Street, London WC1E 6BT, UK. Internet: w.mcguire@ucl.ac.uk
- 28 September-2 October: **5th International Congress of the Brazilian Geophysical Society**, São Paulo, Brazil. Symposia: *Igneous Provinces; Geophysics and Geology of Continental Margins*. Field Trip: *Basaltic Magmatism in Paraná Basin*. Information: Y.R. Marangoni, Meeting Planejamento e Organização de Eventos, Caixa Postal 19232, CEP 04505-970, São Paulo, Brazil. Facsimile: 55.11.820.6818. Internet: cisbgf@iag.usp.br. WWW: <http://www.iag.usp.br/geofisica/CISBGf.html>
- 20-23 October: **Geological Society of America 1997 Annual Meeting**, Salt Lake City, Utah, USA. Information: GSA, PO Box 9140, Boulder, Colorado 80301-9140, USA. Special symposium: *Hotspots from the Top Down: What are They?* Discipline and Theme Sessions: *Plume Tails and Continental Lithosphere: A Multidisciplinary Approach to the Snake River Plain and Other Continental Plume Tracks; Submarine Plateaus and Hotspot Islands, Young and Old: Identification and Role in Continental Growth; Volcanic Eruptions: From the Deep Oceans to Deep Space*. Field Trips: *Bimodal Magmatism, Basaltic Volcanic Styles, and Tectonomagmatic Evolution of the Eastern Snake River Plain, Idaho; Bimodal Basalt-Rhyolite Magmatism in the Central and Western Snake River Plain, Idaho and Oregon*. Telephone 1.303.447.2020 or 1.800.472.1988. Facsimile: 1.303.447.0648. Internet: meetings@geosociety.org. WWW: <http://www.geosociety.org>
- 10-12 November: **Volcanic Margins Workshop**, International Lithosphere Program, Potsdam, Germany. Information: J. Erzinger, GeoForschungsZentrum Potsdam, Telegrafenberg A 50, 14473 Potsdam, Germany. Telephone: 49.331.288.1421. Facsimile: 49.331.288.1474. Internet: ilp@gfz-potsdam.de
- 8-12 December: **American Geophysical Union Fall Meeting**, San Francisco, California, USA. Information: AGU Meetings Dept., 2000 Florida Ave., N.W., Washington, D.C. 20009, USA. Telephone 1.202.462.6900. Facsimile: 1.202.238.0566. Internet: meetinginfo@kosmos.agu.org. WWW: <http://www.agu.org>
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- 7-8 January: **Volcanic and Magmatic Studies Group (VMSG) Annual Meeting**, Leicester, United Kingdom. Information: A. Kerr, Department of Geology, University of Leicester, University Road, Leicester LE1 7RH, UK. Internet: ack2@leicester.ac.uk. WWW: <http://www.le.ac.uk/geology/ack2/vmindex.html>
- 11-17 July: **IAVCEI Congress**, Cape Town, South Africa. Information: Secretariat, IAVCEI 1998, Department of Geological Sciences, University of Cape Town, Rondebosch 7700, Republic of South Africa. Facsimile: 27.21.650.3783. Internet: ivc98@geology.uct.ac.za. WWW: <http://www.uct.ac.za/depts/geolsci/ivc98>

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