

The LIP Reader

Newsletter of the Task Group on Large-Volume Basaltic Provinces
International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)



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Greetings to researchers of large-volume basaltic provinces! The LIP (Large Igneous Provinces) Reader is the newsletter of IAVCEI's Task Group on Large-Volume Basaltic Provinces, and aims to foster communication among scientists studying continental flood basalts, oceanic plateaus, volcanic passive margins, submarine ridges, and seamounts. If you are interested in LIPs, please complete the enclosed questionnaire and return it to either of us—you will then become a member of the Task Group and will receive all future communications. Furthermore, if you know of anyone interested in LIPs who did not receive this newsletter, please circulate it.

Task Group on Large-Volume Basaltic Provinces

Recent research has documented important temporal, spatial, and compositional relationships among continental flood basalts, oceanic plateaus, volcanic passive continental margins, submarine ridges, seamount chains, and ocean basin flood basalts. Recognition of genetic similarities among these large-volume basaltic provinces, coined "large igneous provinces" (LIPs), which traditionally have been studied by disparate groups within the earth science community, prompted the formation of this Task Group. Knowledge of each different environment from a variety of geoscientific perspectives should lead to better understanding of the others. Large-volume basalt provinces are distributed world-wide, and many problems associated with them can best be tackled through international cooperation.

Four major scientific themes will be addressed by Task Group members: 1) processes in the mantle, crust, and core related to the genesis of large-volume basaltic provinces; 2) emplacement mechanisms responsible for large volumes of basalt; 3) post-emplacement evolution of such provinces; 4) consequences of emplacement and evolution on the hydrosphere, atmosphere, and biosphere. The subject matter of the Task Group will thus include volcanology, petrology, geochemistry, geophysics, oceanography, palaeontology, palaeomagnetism, climatology, geodynamics, and other relevant disciplines.

The primary aims of the Task Group are to encourage and promote interest in and research on large-volume basaltic provinces, to foster interchange of ideas and relevant data among earth scientists, and to maintain and distribute up-to-date bibliographic data bases and compendia of active research projects. Although interests of members will vary widely, the Task Group will endeavor to link the various disciplines relevant to LIPs research, with the goal of applying the broadest possible range of expertise to signifi-

cant and focused problems. The Task Group will encourage the organization of and participation in conferences and workshops, which will provide forums for education and discussion of major themes and problems. Eventually, the Task Group hopes to develop recommendations for national and international scientific organizations, with the aim of promoting enhanced opportunities for research on large-volume basaltic provinces.

Communication among Task Group members will be both personal, through meetings, symposia, workshops, short courses, and conferences, and via print, in the form of this newsletter. The LIP Reader will include articles and

correspondence on major research themes, announcements of forthcoming Task Group activities, a list of relevant meetings, reports on past meetings, inquiries from members, and other general information on large-volume basaltic provinces.

The Task Group has commenced its work by identifying researchers in appropriate fields. All researchers who are interested in any aspect of large-volume basaltic provinces are invited to join and thus contribute to our understanding of large-volume basaltic provinces. All membership inquiries should be directed to either Mike Coffin or John Mahoney.

IAVCEI

IAVCEI represents the primary international focus for (1) research in volcanology, (2) efforts to mitigate volcanic disasters, and (3) research in closely related disciplines, such as igneous geochemistry and petrology, geochronology, volcanogenic mineral deposits, and the physics of the generation and ascent of magmas in the upper mantle and crust. It is run by an Executive Committee whose membership changes every four years. The Executive determines policies for the Association, enacting them through a series of Commissions and Task Groups. IAVCEI aims

to be outward-looking, seeks relationships with other international scientific organizations, and participates in international scientific projects. It aims also to maintain a robust publishing policy, encouraging the presentation of high-caliber volcanological research results, mainly through its premier international journal, the *Bulletin of Volcanology*. IAVCEI is a member Association of IUGG (International Union of Geodesy and Geophysics), which is in turn a member of the International Council of Scientific Unions (ICSU).

Upcoming Meetings

First and foremost, the inaugural Task Group Symposium, *Continental Intraplate and Passive Margin Volcanism*, will be held during the 1993 IAVCEI General Assembly (see below). Conveners are A. Ewart (Dept. of Geology and Mineralogy, University of Queensland, St. Lucia, Queensland 4072, Australia. Telephone 61.7.3653464. Facsimile 61.7.8704993 or 3651277) and Keith G. Cox (Dept. of Earth Sciences, University of Oxford, Parks Rd., Oxford OX1 3RR, United Kingdom. Telephone 44.865.272000. Facsimile 44.865.272065). Related symposia at

the General Assembly include *Modern Ocean Floor Volcanism*, *Modeling of Magmatic and Volcanic Processes*, *Impact of Volcanism on the Atmosphere*, and *Chemical Evolution of the Mantle*.

Subsequent to the IAVCEI General Assembly in Canberra, meetings and workshops will be convened during relevant international conferences to facilitate exchange of views and experience. Furthermore, if members are interested, field workshops will be planned to share research results, ideas, and experience in informal but stimulating settings.

What more?

Contributions to The LIP Reader are welcomed, as are ideas for Task Group activities and products. Contact Mike Coffin or John Mahoney—we look forward to hearing from you!



Previous Meetings

29th International Geological Congress Kyoto, Japan, 24 August-3 September 1992

Covering all talks involving LIPs at this meeting was impossible for one person. Although no sessions were devoted exclusively to large-volume basaltic provinces, at least four sessions included talks on basaltic provinces. The "Basaltic Rocks of Various Tectonic Settings" session, organized by Rodey Batiza and Hiroaki Sato, included talks on the Columbia River, Deccan, and Rajmahal flood basalts. "Beyond Plate Tectonics: Tectonomagmatic Pulses and Mantle Dynamics," a session organized by Paul Hoffman, Asahiko Taira, and the late Lev Zonenshain, included several presentations on large-volume basaltic volcanism globally and its relation to mantle circulation. Overviews of oceanic plateaus and volcanic passive margins were presented in the "Ocean Drilling Program Special Symposium: Summary, Highlights, and Progress of International Geoscience Programs"

session organized by James Austin and Asahiko Taira. Finally, the "Imaging Deep Crustal Structures of Continental Margins" sessions, organized by Kiyoshi Suyehiro and Manik Talwani, included presentations on volcanic passive margins around the North Atlantic.

American Geophysical Union, Fall 1992 Meeting

San Francisco, California, 7-11 December 1992

A special session, Oceanic and Continental Flood Basalt Events, was organized by Bob Duncan and Mike Coffin. Abstracts of the presentations appeared in the 1992 Fall Meeting Supplement of *EOS*. Both observational and modeling results were presented in the session; provinces covered included the Paraná, Siberian, Ontong Java, Kerguelen, Caribbean, Wrangellian, Ferrar, East African, Grenville, Réunion, Midcontinent Rift, North Atlantic, Southeastern US, and Tuamotus.

LIPs and ODP

The largest international earth sciences research project, the Ocean Drilling Program (ODP), and its predecessor, the Deep Sea Drilling Project, have advanced knowledge of submarine large-volume basaltic provinces significantly by drilling oceanic plateaus, volcanic passive margins, submarine ridges, and seamount chains. The program is proposal-driven; guide-

lines for writing and submitting drilling proposals may be obtained from the JOIDES Planning Office, School of Oceanography, University of Washington, WB-10, Seattle, WA 98195. Phone 1.206.543.2203. Facsimile 1.206.685.7652. Internet: joides@ocean.washington.edu. Information on ODP's long-range thematic plans can be obtained from the same address.

Data Bases

The Task Group is compiling a bibliography of references on large-volume basaltic provinces using EndNote software operating on Apple Macintosh computers. At present, the list contains approximately 1000 references.

An annual directory of Task Group members, contact addresses and numbers, and research interests is planned for first distribution at the IAVCEI General Assembly in Canberra.

For digital copies of the bibliography and/or directory, send a blank diskette to Mike Coffin.



1993 Meetings Schedule

9-11 May: **Magmatism and Mass Fluxes at Margins**, Planning Conferences/Workshops for the Margins Research Initiative, Austin, Texas. Information: Bill Leeman, Rice University, Houston, TX 77251, USA. Telephone: 1.713.527.4892.

24-28 May: **American Geophysical Union Spring Meeting**, Baltimore, Maryland, USA. Information: AGU-Meetings Dept., 2000 Florida Ave., N.W., Washington, D.C. 20009, USA. Telephone: 1.202.4626900. Facsimile: 1.202.3280566. Internet: sbell@kosmos.agu.org

2-7 August: **International Workshop of Intraplate Volcanism - The Polynesian Plume Province**, Tahiti, French Polynesia. Abstract deadline: 1 May 1993. Information: H.G. Barszczus - Workshop Tahiti 1993, Centre Géologique et Géophysique - CP 060, Université Montpellier II Sciences et Techniques, 34095 Montpellier Cedex 5, France. Telephone 33.67.634983. Facsimile 33.67.523908. Internet: barszczus@orstom.orstom.fr

8-12 August: **The Stratigraphic Record of Global Change**, Society for Sedimentary Geology (SEPM) 1993 Meeting, University Park, Pennsylvania, USA.

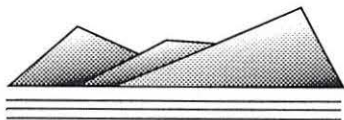
Abstract deadline: 1 February 1993. Information: M.A. Arthur, Dept. of Geosciences, Pennsylvania State University, University Park, PA 16802, USA. Telephone: 1.814.8636054. Facsimile: 1.814.8637829. Internet: arthur@geosc.psu.edu

25 September-1 October: **Ancient Volcanism and Modern Analogues**, IAVCEI General Assembly, Canberra, Australia. Abstract deadline: 30 April 1993. Information: IAVCEI ACTS, GPO Box 220C, Canberra, ACT 2601, Australia. Telephone 61.6.2573299; Facsimile 61.6.2573256.

25-28 October: **Geological Society of America Annual Meeting**, Boston, Massachusetts, USA. Abstract deadline: 7 July 1993. Information: GSA Meetings Dept., P.O. Box 9140, Boulder, CO 80301, USA. Telephone 1.303.4472020. Facsimile: 1.303.4471133.

6-10 December: **American Geophysical Union Fall Meeting**, San Francisco, California, USA. Abstract deadline: 9 September 1993. Information: AGU-Meetings Dept., 2000 Florida Ave., N.W., Washington, D.C. 20009, USA. Telephone: 1.202.4626900. Facsimile: 1.202.3280566. Internet: dsolomon@kosmos.agu.org

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