

Meeting of JOIDES Sea-Level Working Group

**Scripps Institute of Oceanography
La Jolla, California**

November 4-6, 1991

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Ans'd.....

Attending:

P. D. Crevello (Chairman, USA), D. Aissaoui (France), M.-P. Aubry (France), R. Carter (Australia), A. Droxler (USA), G. Eberli (Switzerland), R. Flood (USA), T. Loutit (USA), C. Kendall (USA), K. Miller (USA), G. Mountain (USA), W. Sager (USA), R. Tiedeman (Germany), J. Van Hinte (Netherlands), A. Watts (England), E. Winterer (USA)

Liaisons:

J. Watkins (USA), C. Fulthorpe (USA)

Regrets:

N. Christie-Blick (USA), P. Davies (Australia), R. Halley (USA)

Summary

- 1). The second meeting of the SL-WG was hosted by Jerry Winterer at Scripps Institute of Oceanography.
- 2). The SL-WG concurs that the scientific, technical, and international platform provided by JOI and the Joides Resolution is the only way to present a global and unified approach to study sea level issues.
- 3). The SL-WG recognizes the contributions of the JOI/USSAC El Paso workshop on sea level, but acknowledges the need for a position paper that will provide the state-of-knowledge of sea level issues, and that will serve as a reference of scientific and technologic guidelines for ODP review panels and for proponents of sea level proposals.
- 4). The SL-WG recognizes that important technological developments, for example core recovery, are needed to ensure successful recovery of rock material, which is critical for interpretations of sea level issues, and that supplemental drilling platforms and acquisition of land data will likely be necessary.
- 5). The SL-WG supports the proposal that stratigraphic data be documented for all drill sites regardless of the site objective, and that

centralized computer storage of stratigraphic data should be provided to permanently store and facilitate access to stratigraphic data..

6). The objective of the La Jolla meeting was to finalize the organization, content, and contributions to the position paper: this goal was met. After keynote presentations on Monday morning, the SL-WG split into four topic groups and finalized respective outline drafts and initiated writing preliminary texts. The four primary areas of investigation to be deemed important sea level issues follow the outline established at the Littleton SL-WG meeting (March 2-3, 1991); these include:

- a. Synchronic or determining timing of stratigraphic events.
- b. The stratigraphic record as a response to eustatic sea level changes.
- c. Estimating magnitudes and rates of change of sea level changes.
- d. Mechanisms of relative sea level change.

7). Two guest speakers, Michelle Kominz and Mike Steckler, presented topics that dealt with stratigraphic response to sea level mechanisms. Both topics provided important points for discussions and contributed to drafts of the final outline of the position paper. Kominz presented large-scale long-term mechanisms for sea level change, and Steckler demonstrated by stratigraphic modeling of sequence-scale depositional margins the variable influence of tectonics, sediment flux, and sea level on the timing of sequence boundaries, and development and distribution of systems tracts.

8). Craig Fulthorpe presented current ODP proposals that address various aspects of sea level issues. Crevello requested this presentation so that SL-WG members were familiar with current sea level proposals, realizing that the SL-WG does not have authority to discuss the merits nor vote on proposals. Fulthorpe also presented some general philosophical background which led to the initiation of the SL-WG (Attachment 1).

9). Tuesday morning group leaders presented updates of issues, strategies, etc. to the SL-WG and opened the floor for comments and additions to their respective outlines. After a short field trip on Tuesday afternoon, the subgroups initiated drafts of preliminary texts the topics listed in item 6.

10). The SL-WG agreed that in addition to the text each section will be complete with figures and references which address:

- a. State-of-knowledge for scientific issues,
- b. Technical issues,
- c. Strategy, and

d. Criteria for proposals.

11). Drafts for each topic section will be completed by the subgroups by March 15, 1992, and these drafts will be distributed to the SL-WG members for review and comments. Review and discussion of the topic drafts and merging of the drafts into a final report will be initiated at the third and final meeting of the SL-WG. The final draft of the position paper will be completed by August, 1991. The final paper will be written such that periodic updates of evolving techniques or new issues can be added to the text, thus prolonging the utility of the position paper.

12). The final SL-WG will focus on several aspects:

- a). Review drafts and finalize the position paper.
- b). Review the worldwide potential of sea level sites not already proposed to ODP and recommend priority areas.
- c). Discuss short-term versus long-term goals of the SL-WG and provide recommendations to ODP, which includes foreseen evolving and unpredicted scientific and technical issues, in addition to maintaining longevity or continuity of the SL-WG position paper and recommendations.
- d). The venue for the next meeting will be chosen based on its proximity to a nearby example of an exceptional outcrop and subsurface (i.e., industry) data set, which the SL-WG will undertake in a group workshop approach to demonstrate the application of strategies defined by the position paper.

13). The date for the next SL-WG meeting was discussed and it was agreed to by a majority of SL-WG members that the next meeting will have to take place between June 1-15, 1992. This narrow window is dictated by committee members previous commitments. Three venues were proposed that satisfy the workshop objectives listed in Item 9b, with The Isle of Wight and the Vercors recommended as best locations for achieving the workshop objectives. Venues nominated for the next meeting include:

- a). Oxford or South Hampton, England, hosted by T. Watts, Isle of Wight, for Cretaceous-Paleocene;
- b). Grenoble, Paris, or Pau, France (invited by Peter Homewood to use Elf Aquitaine's facilities), for Upper Cretaceous-Eocene of Pyrennes, Jurassic or Upper Cretaceous-Paleogene of Paris Basin, or Cretaceous of Vercors, French Alps.
- c). Alabama, for Tertiary of the U.S. Gulf Coast.

ATTACHMENT 1

Sea Level Working Group (SL-WG)

- Following the El Paso JOI/USSAC Workshop, it was the perception of the ocean-drilling community that further thought must be given to strategies for sea-level studies: SL-WG was created.

General Philosophy

- SL-WG is representative of the entire JOIDES membership (US and international). Its report will **supersede and replace** that of the El Paso JOI/USSAC Workshop (a purely US document). SL-WG report must, therefore, re-evaluate the strategies described in the El Paso document and endorse or modify them.
- SL-WG should consider the **scientific justification and general strategies** for the use of ocean drilling for sea-level studies.
- SL-WG should emphasize generic geological settings, rather than specific geographical locations. The latter are chosen by proponents and their prioritization or ranking is the prerogative of the thematic panels.
- The SL-WG report must assist thematic panels to review and rank sea-level proposals. It must also **provide general guidance to future proponents** in writing proposals aimed at sea-level objectives.

Note:

- The SL-WG report **might** also include an advertisement for publication in the *JOIDES Journal* soliciting proposals and providing guidelines to proponents.
- Specific proposals should **not** be ranked by SL-WG, or mentioned in its final report. (SL-WG is a Working Group, not a Detailed Planning Group.)

Future Meetings

- SL-WG should preferably meet only once more.
- The third meeting should be in February or early March, 1991, because the final report will feed into the 21-23 April, 1991, PCOM meeting.

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