The following application was submitted to the MARGINS Office:

Name:
J.P. Walsh

Category: Post-doc Researcher

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Statement of interest:
Active continental margins with large sediment supply are exciting areas for sedimentological research due to their ability to record discrete river-discharge events in the seabed and move sediment (and associated carbon) off the continental shelf. My desire to attend the NSF-Margins Workshop on the Waipaoa Focus Area stems from my curiosity of the Holocene sedimentary record on continental shelves and the dynamics of off-shelf sediment transport. Furthermore, I am interested in how sediment dispersal of the Waipaoa system contrasts with that of the Fly River in the Gulf of Papua, the focus of my doctoral research and the other Margins-Source to Sink study area. Due to its tectonic setting, large tectonic basins have developed on the mid-shelf seaward of the Waipaoa, Uawa, and Waiapu River mouths, and seismic-reflection profiles indicate they have filled with Holocene sediments (Orpin et al., Margins Newsletter 2002). Examination of this potentially very-high-fidelity re! cord not only may provide insight into long-term (beyond recorded history) changes in sediment-supply and flood-magnitude/frequency but also would give an excellent contrast to subaqueous delta clinoform stratigraphy of the Gulf of Papua. Elevated sediment accumulation rates evident on outer shelf areas of the Waiapoa margin suggest a significant fraction of the modern sediment load may be transported to the upper slope (Orpin et al., Margins Newsletter 2002). Interestingly, research on the Eel margin in northern California has shown that flood material can move rapidly to slope areas by nepheloid layers and gravity-driven flows (i.e., fluid muds). Study of the Waipaoa system may help constrain how discharge characteristics and margin geometry impact the mechanisms and quantity of off-shelf sediment transport.

Short resume:

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Born: 10 July 1973 Citizenship: USA Marital Status: Married

Education

Ph.D. October 2001, Geological Oceanography, University of Washington, Seattle, WA
Dissertation Title: Continental-margin sedimentation: a wet-tropical perspective from New Guinea.
M.S. 1997, Marine Science, State University of New York, Stony Brook, NY
Masters Thesis Title: Observations of sediment flux to the Eel continental slope, northern California.
B.A. 1995, Geology, Colgate University, Hamilton, NY

Awards

1997 Boudewijin H. Brinkhuis Award, State University of New York, Stony Brook

Research Interests

Continental-margin sediment accumulation, shelf and off-shelf sediment-transport processes, coastal sedimentary record of rivers (e.g., paleochannels), sedimentation dynamics in wetlands and estuaries, tsunami-related sedimentation, climate and sea-level change, carbonate-siliciclastic transition zones.

Employment

Oct. 2001- present Postgraduate Research Geologist (Supervisor: N. Driscoll)
Scripps Institution of Oceanography, UCSD
1998- Sept. 2001 Research Assistant, Sedimentology (Supervisor: C.A. Nitttrouer)
School of Oceanography, University of Washington
1995-1998 Research Assistant, Sedimentology (Supervisor: C.A. Nittrouer)
Marine Sciences Research Center (MSRC), SUNY-Stony Brook
1995-1996 Teaching Assistant, MSRC, SUNY-Stony Brook
1994-1995 Research Assistant, Structural Geology (Supervisor: A. Goldstein)
Geology Department, Colgate University
1992-1995 Outdoor Education Instructor/Trip Leader, Colgate University
1993 Coastal Geology Environmental Consultant
First Coastal Corporation, Westhampton, NY

Membership in Professional Societies: AGU, GSA, SEPM, IAS

Research Grants

Office of Naval Research, 1/1/2003-12/31/2004, “Predicting the Distribution and Properties of Buried Submarine Topography On Continental Shelves”, $148,438 (with N.W. Driscoll).

National Geographic Society, 2000-2001, "Sedimentation in Mangrove Areas of the Remote Tropics", $25,000 (with C.A. Nittrouer, G. Brunskill and H. Davies).

Publications

Walsh, J.P., C.A. Nittrouer, C. Palinkas, A.S. Ogston and R.W. Sternberg. Accepted. Clinoform mechanics in the Gulf of Papua, New Guinea. Continental Shelf Research.

Walsh, J.P. and C.A. Nittrouer. Submitted. Contrasting styles of off-shelf sediment accumulation in New Guinea. Marine Geology.

Walsh, J.P. and C.A. Nittrouer. Submitted. Mangrove sedimentation in the Gulf of Papua, New Guinea. Journal of Coastal Research.

Walsh, J.P. and C.A. Nittrouer. 1999. Observations of sediment flux to the Eel continental slope, northern California. Marine Geology, 154, No. 1-4: 55-69.

Matsuyama, M., J.P. Walsh and H. Yeh. 1999. The effect of bathymetry on tsunami characteristics at Sisano Lagoon, Papua New Guinea. Geophysical Research Letters, 26, No. 23: 3513-3516.

Tappin, D.R., T. Matsumoto, P. Watts, K. Satake, G.M. McMurtry, M. Matsuyama, Y. Lafoy, Y. Tsuji, T. Kanamatsu, W. Lus, Y. Iwabuchi, H. Yeh, Y. Matsumoto, M. Nakamura, M. Mahoi, P. Hill, K. Crook, L. Anton and J.P. Walsh. 1999. Sediment slump likely caused 1998 Papua New Guinea tsunami. Eos, Transactions, 80, No. 30: 329, 334, 340.

Selected Published Abstracts

Walsh, J.P., N.W. Driscoll, W.C. Schwab, P.T. Gayes and W.E. Baldwin. 2002. Distribution and Architecture of Channels Preserved on Continental Shelves: A Comparison of the Carolinas and the U.S. East Coast. Eos Transactions, 83, No. 47: OS71B-0272.

Walsh, J.P. and C.A. Nittrouer. 2001. Contrasting styles of off-shelf sediment accumulation in New Guinea. Proceedings of the Australian Marine Sciences Association and the New Zealand Marine Sciences Society (3-6 July, Townsville). James Cook University. Townsville, Australia. 15-3.

Walsh, J.P. and C.A. Nittrouer. 2001. Mangrove stratigraphy: observations from the Gulf of Papua, New Guinea. 8 ème Congrès Français de Sédimentologie. Association des Sedimentologistes Français. Orleans, France: 357.

Walsh, J.P., C.M. Palinkas, A.S. Ogston, C.A. Nittrouer and R.W. Sternberg. 2002. Clinoform mechanics in the Gulf of Papua, Papua New Guinea. Proceedings of the Australian Marine Sciences Association and the New Zealand Marine Sciences Society (3-6 July, Townsville). James Cook University. Townsville, Australia: 4-6.

Nittrouer, C.A. and J.P. Walsh. 1999. Sepik submarine canyon: evidence for modern sedimentation. Eos, Transactions, Vol. 80, No. 49: 218.

Walsh, J.P. and C.A. Nittouer. 1999. The effect of first-order physiographic features on continental-margin sedimentation patterns: insights from coastal New Guinea. Eos, Transactions, 80, No. 49: 219.

Walsh, J.P. and C.A. Nittrouer. 1996. Transport of lithogenic sediment to the northern California slope. Eos, Transactions, 77, No. 46: 330.

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ABSTRACT

Title:

Authors:

Abstract:

Wish to include graphics:

Server protocol: HTTP/1.1
Remote host: mudlover.ucsd.edu
Remote IP address: 132.239.122.213