School of Earth and Climate Sciences



5790 Edward T. Bryand Global Sciences Center, Room 111 Orono, Maine 04469-5790 Tel: 207-581-2152 Fax: 207-581-2202 E-mail: Dianne.Perro@umit.maine.edu umaine.edu/earthclimate

February 28, 2013

belknap@maine.edu

Dr. Rolfe D. Mandel Senior Scientist & Executive Director Odyssey Geoarchaeology Research Program University of Kansas Kansas Geological Survey 1930 Constant Avenue Lawrence, KS 66047 Phone: <u>785-864-2171</u> Email: <u>mandel@kgs.ku.edu</u>

Dear Dr. Mandel,

I have the great pleasure of endorsing the nomination of Dr. Daniel H. Sandweiss for the Ripp Rapp Award in the Archaeological Geology section of GSA. I have known Dan for more than 25 years as a colleague in the Climate Change Institute at UMaine, we have served on 3 Ph.D. and 3 MS committees together, and have been in the field together in Peru on multiple projects between 1997 and 2010 (with more to come, I hope). I also served on the recent review committee for his service as Dean of the Graduate School and Associate Provost at UMaine. I consider him at the top of his field of South American archaeology, and he truly embraces geoarchaeology as a critical component of much of his research.

Dan Sandweiss's geoarchaeological approach is well displayed in his work on coastal Peruvian sites and landscapes, utilizing tools of geomorphology, fossil mollusk paleoenvironmental reconstructions, integration of artifacts and paleoenvironments (especially pre-ceramic coastal cultures), and recent innovative use of GPR over an early mound site at Los Morteros. I have found him to be the consummate scientist in his approach, asking relevant questions to form hypotheses about humans and paleoenvironments. He is extremely dedicated and hardworking in the field, the consummate organizer and director. I have personally placed my life and wellbeing in his hands several times on Peruvians roads and in "iffy" situations far from civilization. He is also outstanding in bringing research of his own, his students, and his colleagues to fruition in well-written papers in prominent journals (see a few examples, below). Finally, I have few colleagues that come even close to Dan in his ability to mentor students. He truly cares about his advisees in particular, from entrance to professional placements. Similarly, his relationships with colleagues are invigorating and enjoyable. He has very strong feelings for Peru, speaks Peruvian Spanish so well that he could be taken for a local, and is sincerely interested in helping Peruvian scientists and the cultural and economic challenges that the country faces. Although we are in somewhat different fields and I am somewhat his senior in tenure, we have developed a very strong bond in conception of ideas, fieldwork, co-advising, and writing, and I consider him a good friend. Finally, perhaps the most amazing aspect of Dan's career over the past few years is his maintenance of very viable research and advising while serving as Dean of the Graduate School, also extremely effectively.

As most workers in the field know, the simplistic view of environmental determinism is a seriously distracting viewpoint; Dan is clearly an anthropologist and archaeologist first, understanding human cultural influences are deeper and stranger than just a deterministic

School of Earth and Climate Sciences



5790 Edward T. Bryand Global Sciences Center, Room 111 Orono, Maine 04469-5790 Tel: 207-581-2152 Fax: 207-581-2202 E-mail: Dianne.Perro@umit.maine.edu umaine.edu/earthclimate

cartoon. However, he also understands the importance of the records of changes in landscape and climate, as recorded in geological and archaeological data, to understanding cultural change. His early work on the Peruvian coast included the first suggestion of changes in the frequency and intensity of El Niño ca. 5000 yBP, through analysis of beach ridges and the warm and coldwater faunas at the Ostra Site (Rollins et al., 1987, 1990; Sandweiss et al., 1983, 1996; 2001. He studied the beach ridges in northwestern Peru in relationship to human occupations as well as sea-level and climate changes (Sandweiss, 1986; Sandweiss et al. 1998; Rogers et al., 2004). He discovered the earliest coastal human occupation of South American, ca. 13,000 BP, at Quebrada Jaguay (Sandweiss et al., 1998). Our recent work at Los Morteros may be revealing the earliest monumental site in the Americas (Sandweiss et al., 2010). A recent PNAS paper gives a good perspective on Dan's overall view of environmental change and archaeology on the coast of Peru (Sandweiss et al., 2009). These examples only scratch the surface of Dan's overall career, mainly in areas with which I am most familiar, and some that we have worked on together. In my opinion, he is a type example of a geoarchaeologist, and has trained several others.

In summary, Dr. Daniel H. Sandweiss is an excellent candidate for the RIpp Rapp award. His name fits very well on the list of previous recipients of the award (13 of whom I know personally), and he will be a credit to GSA and the Archaeological Geology Division. I give him my absolute highest recommendation.

Sincerely,

il F. Bellun

Daniel F. Belknap, Professor of Earth and Climate Sciences

[References Cited, in Chronological Order]

- Sandweiss, D. H., Rollins, H. B. and J. B. Richardson III. 1983. Landscape alteration and prehistoric human occupation on the north coast of Peru. Annals of the Carnegie Museum 52: 277-298.
- Sandweiss, D.H., 1986, The beach ridges at Santa, Peru: El Niño, uplift and prehistory: Geoarchaeology, v. 1, p. 17-28.
- Rollins, H. B., Sandweiss, D. H., Brand, U., and J. C. Rollins. 1987. Growth increment and stable isotope analysis of marine bivalves: Implications for the geoarchaeological record of El Nino. Geoarchaeology 2(3): 181-197.
- Rollins, H. B., Sandweiss, D. H., and J. C. Rollins. 1990. Mollusks and coastal archaeology: A review. In Lasca, N. P. and Donahue, J. (eds.), Archaeological geology of North America. Boulder, CO, Geological Society of America, Centennial Special Volume 4, pp. 467-478.
- Sandweiss, D.H., Richardson, J.B. III, Reitz, E.J., Rollins, H.B. and Maasch, K.A., 1996, Geoarchaeological evidence from Peru for a 5000 years B.P. onset of El Niño: Science, v. 273, p. 1531-1533. 13 Sept.

MAINE'S LAND GRANT AND SEA GRANT UNIVERSITY A Member of the University of Maine System School of Earth and Climate Sciences



- Sandweiss, D.H., Maasch, K.A., Belknap, D.F., Richardson, J.B. III, and Rollins, H.B., 1998, Discussion of: Lisa E. Wells, 1996. The Santa Beach Ridge Complex, Journal of Coastal Research, 12(1), 1-17: Journal of Coastal Research, v. 14, p. 367-373.
- Sandweiss, D.H., McInnis, H., Burger, R.L., Cano, A., Ojeda, B., Paredes, R., Sandweiss, M. del C. and Glascock, M.D., 1998, Quebrada Jaguay: Early South American Maritime Adaptations, Science, v. 281, p. 1830-1832. September 18
- Sandweiss, D.H., Maasch, K.A., Burger, R.L., Richardson III, J.B., Rollins, H.B., and Clement, A., 2001. Variation in Holocene El Nino frequencies: Climate records and cultural consequences in ancient Peru: Geology, v. 29(7), p. 603-606.
- Rogers, S.S., Sandweiss, D.H., Maasch, K.A., Belknap, D.F., and Agouris, P., 2004, Coastal change and beach ridges along the northwest coast of Peru: image and GIS analysis of the Chira, Piura and Colán beach-ridge plains: Journal of Coastal Research, v. 20, no. 4, p. 1102-1125.
- Sandweiss, D.H., Shady, R.S., Moseley, M.E., Keefer, D.K. and Ortloff, C.R., 2009, Environmental change and economic development in coastal Peru between 5,800 and 3,600 years ago: Proceedings of the National Academy of Sciences, v. 106, p. 1359-1363.
- Sandweiss, D.H., Kelley, A.R., Belknap, D.F., Kelley, J.T., Rademaker, K. and Reid, D.A., 2010, GPR identification of an early monument at Los Morteros in the Peruvian coastal desert: Quaternary Research, v. 73, p. 439-448.