



## DISCUSSION

### **Discussion of: Theiler *et al.*, 2000. The Use of Mathematical Models to Predict Beach Behavior for U.S. Coastal Engineering: A Critical Review. *Journal of Coastal Research*, 16(1), 48–70.**

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In their fine critical review of mathematical models THEILER *et al.* (2000) included some very specific statements about the earliest attempts to test the validity of the Bruun Rule (SCHWARTZ, 1965, 1967). Since I, obviously, was there I would like to clarify two fairly minor details in their review that were either missing or were poorly stated.

To begin with, THEILER *et al.* (2000) took great pains to describe the inadequacy of the small wave-basin experiment featured in my first paper on the subject (SCHWARTZ, 1965), pointing out that the water level was raised only 10 mm. What THEILER *et al.* (2000) left out was that in my second paper (SCHWARTZ, 1967), not only was the small wave-basin description repeated, but a somewhat larger wave-basin experiment, with the water level raised 3 and 6 cm, was fully described. Arguably, the use of slightly larger parameters may not have made a significant difference; yet, if Theiler *et al.* were conducting such a precise review of those early laboratory experiments it would have behooved them to include all of the readily available information contained in those two publications (SCHWARTZ, 1965, 1967).

Then too, if I may quibble over the use of the English language, THEILER *et al.* (2000) stated that "... SCHWARTZ (1967) measured several beach profiles on Cape Cod over a single neap-spring tidal cycle ..." I would maintain that I measured a single beach profile over each of several neap-spring tidal cycles. There is a difference in the meaning of

those two sentences, so much so that I enjoyed a stay on Cape Cod for the whole summer rather than for just one week.

THEILER *et al.* (2000) are quite correct when they say that my lab and field experiments would not stand up to scrutiny today; but those were simpler times. There was no great hue and cry from the coastal community when the two papers appeared in print. In fact, in reviewing the second paper (SCHWARTZ, 1967) for the *Journal of Geology*, Francis Shepard took exception only to the first sentence in the text, which had been suggested to me by my advisor, Rhodes Fairbridge. With that offending (feuding?) sentence removed the manuscript was resubmitted, accepted, and published.

My intent here and now is not to enter into the fray over mathematical models versus an empirical approach; I will leave that to my many good friends on both sides of the debate who are doing a very good job of getting their views into print. All I want to do is to set the record straight on the first attempts to examine the validity of the Bruun Rule those many years ago.

#### LITERATURE CITED

- SCHWARTZ, M., 1965. Laboratory study of sea-level rise as a cause of shore erosion. *Journal of Geology*, 73, 528–534.  
SCHWARTZ, M., 1967. The Bruun theory of sea-level rise as a cause of shore erosion. *Journal of Geology*, 75, 76–92.  
THEILER, E.R.; PILKEY, O.H., JR.; YOUNG, R.S.; BUSH, D.M., and CHAI, F., 2000. The use of mathematical models to predict beach behavior for U.S. coastal engineering: A Critical Review. *Journal of Coastal Research*, 16, 48–70.