## COASTAL PHOTOGRAPH BY CYRIL GALVIN



Breaker point travel. **Upper photo:** A plunging wave crest at a slight angle to the shoreline has a breacker point which moves alongshore (from right to left in photo) with a longshore speed that decreases as the angle increases. If the angle is large, it is possible that the longshore current created by the angle carries the breaker point with it, further increasing the angle. The plunging breaker in this photo is probably augmented by offshore winds (see faint clouds of spray) in the manner described by experiments of Douglass and Weggel. Photo taken Christmas Day, 1988, Belmar, New Jersey. *Imbricated concrete slabs and riprap design.* **Lower photo:** These concrete slabs dip seaward at an angle somewhat steeper than the sand foreshore, presenting a relatively streamlined surface to the incoming waves. This arrangement is not man-made; rather it is produced by the waves which move or overturn any of the slabs that deviate markedly from this imbricated arrangement. The overturning occurs when the velocity of the water exceeds by a factor of 3 or 4 a term related to the slab thickness  $\sqrt{gc}$ , where c is slab thickness. It can be shown that this factor is closely related to the critical stability number separating mobile and more or less static riprap on revetments and breakwaters. (Photos: Cyril Galvin, Coastal Engineer, Box 623, Springfield, Virginia 22150.)