

## **Problems with Coastal Hazard Lines** (identified by Angus Gordon)

### **1. Risk avoidance not risk management**

“Historically the approach taken to obtain “coastal hazard lines” has been scientifically conservative, arguably too conservative because of the tendency for direct addition of individual components which, in themselves, have each been conservatively assessed using the more extreme values of threat. This has been driven by the traditionally approach to coastal zone management that has tended to focus mainly on risk avoidance of natural processes and their associated threats.

“In recent times a number of investigators have sought to address the uncertainties of coastal hazard definition using a risk based approach. The methodologies of this approach have become increasingly sophisticated. This shift focuses on risk management whereas the traditional approach was centred on risk avoidance.”

### **2. Predictions of where the shoreline will be when a 1-in-100 year storm arrives:**

“..the probability of the shoreline actually being where it is predicted to be must arguably be less than 1%.” A suggested alternative approach is to “generate a table of 95%, 50% and 5% values for likely, possible, unlikely and rare outcomes.”

### **3. Use of the Bruun Rule to convert sea-level rise into coastal recession**

The most commonly used (method is the) “Bruun Rule” (Bruun and Schwartz, 1985). (This) has significant limitations in both its general applicability and particularly in its usefulness on a littoral drift coast. Woodroffe et al (2012) present a comprehensive criticism of the use of the Bruun Rule and conclude, “The reality that the Bruun Rule has been widely applied probably reflects its simplicity rather than its appropriateness.”

### **4. Use of the Precautionary Principle to manage uncertainty such as**

#### *(a) sea-level rise*

“The use of the precautionary principle to justify the selection of the high range sea level rise projections and their application to define the threat to all built assets, infrastructure and land-use planning is clearly inappropriate and illogical.”

#### *(b) coastal management generally*

“.. the application of the precautionary approach to coastal management generally focuses only on the environmental hazard and takes no account of social and/or economic hazards.”  
“..” a very risky business if effective outcomes are to be achieved in a political environment.”