

A comparison of responses of a new and established managed realignment site to storm events

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One of the major aims of managed realignment schemes is to protect the hinterland from flooding caused by tidal surges or storm events. For this to be successful and sustainable the newly created habitat needs not only to adapt to the new inter-tidal environment but also needs to be resilient to larger events. At the end of 2015 and the beginning of 2016 the south coast of the United Kingdom was subject to a number of large storm events. The shingle coast of the Selsey Peninsular, south coast of England, is protected by two realignment schemes. The first Pagham Harbour was storm breached in 1910 and the second, Medmerry Nature Reserve, was deliberately breached in 2013.

These two sites are monitored continually for variations in suspended sediment, bed elevation and water levels. This therefore provides a comparative insight into how a two realignment systems, in the same locality, of similar size but different in age by 100 years respond and re-bound from the same storm events.

Many realignment sites, if monitored post-breach at all, only receive funding for a very limited period of time, most of which is generally focused on the fauna and flora. The sediment is the fundamental basis of the environmental ecosystem, but is often ignored especially in longer-term studies. To fully understand how these newly created habitats are functioning there needs to be more in depth understanding of the changes sedimentary processes over decadal periods.

By providing a direct comparison between a new and an established realignment system, the results of this research provide an insight into how newer systems may develop. Which will help scientists and engineers better understand the complex processes which occur within these anthropogenically restored systems, hence improve planning, construction and monitoring of current and future restoration projects.