

TALK TO FCRA – 5 June 2015

The winter of 2013/14 has been widely reported as the wettest since records began. The south coast of England was exposed to an unusual and prolonged combination of severe storms. Some of the highest tides for a decade were elevated by a series of vicious storms that led to significant damage. Winds in excess of 90mph, waves of up to ten metres and storm surges over one metre caused loss of life, damage to infrastructure and advanced coastal erosion.

Wave conditions are measured using wave-buoys located along the English Channel with many sites experiencing between 5 and 8 storms during the winter period (Oct to Feb). A 'storm' is defined as having wave heights above that which would be expected, on average, once a year i.e. the 1 year return period. Over a typical year (not just winter) we could expect between 3 and 4 storms. The south coast experience 7 storms over the winter alone.

50% of all storms during the last 10 years occurred in 2013/14. Furthermore, not only were there many more storms during the winter, but they were also larger storms than occurred in previous years. Many storms exceeded 1 in 10 year, or 1 in 50 year return period (50 to 1 chance of occurrence).

The sequence of storms had a considerable impact on many of the south coast beaches. The alarming erosion rates reflect a combination of the intensity and the clustering of the storms. During a typical winter, storms are more widely spaced (in time), allowing time for natural recovery of the beaches, particularly the upper beaches. However, during the winter 2013/14 a string of severe storms occurred in just a few weeks; sometimes the beach had less than a week's recovery period before the next storm, hence each storm was working on a progressively weakened and lowered beach.

- Numerous sites along the south coast experienced erosion rates 25 times greater than the annual average expected
- Typical average beach volume losses per km of coastline was 25,000m³
- Over a 25km frontage of the south coast, a loss of more than 470,000m³ was observed
- Sedimentation loss at some sites is likely to be temporary, and natural processes are expected to partially rebuild the beaches but very slowly
- Emergency repairs undertaken in two phases (see below)
- Future work planned (capital funded scheme for new groynes at Avon and Friars Cliff) in +2020
- Sacrificial beach material – first line of coastal defence Non statutory duty – work undertaken by CBC under powers of the Coast Protection Act 1949
- Routine coast protection maintenance will resume 2015 (hopefully)

- EA funded Emergency Recovery & Repairs Work (two phases): Phase1 - Avon prom repairs, Friars Cliff groyne repairs and Mudeford Quay Flood Defence Wall repair (still to be undertaken). Overall cost approaching £180,000. Money received back from EA £163,000.
Phase 2 – work on Highcliffe rock groynes (approx. £250,000), Avon/Gundimore groyne repairs (approx. £100,000) and Beach replenishment scheme for Gundimore, Avon & Friars Cliff beaches (approx. £900,000). Work to commence between September and March). Beach replenishment scheme (between 20,000 and 25,000m³) – material won from natural sedimentation store off the tip of Mudeford Sandbank and pumped ashore to Gundimore where it will be moved by large dumptrucks. An alternative would be to bring material to depleted beaches using lorries from a local quarry. This scheme is very dependent on stable weather and tidal conditions in February 2015.

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