

Building land with a rising sea

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In the Scheldt estuary, effective sea-level rise is up to 15 mm per year since 1930. This is a much higher rate than sea-level rise at the coast: wetland embankment has triggered extra sea-level rise, because storage area for flood waters is lost, causing water levels to rise faster in the remaining channels of the estuary. New nature-based engineering solutions should include the restoration of large wetlands between rivers and human settlements, which can provide extra water storage, slow down flood propagation, and reduce flood risks in populated parts of a delta.

In the Belgian part of the Scheldt estuary, around 4000 ha of historically embanked floodplains will be restored by 2030. These efforts should lower a 1-in-100-year storm surge by 60 to 80 cm and are more cost-efficient than conventional heightening of dikes.

Source: Temmerman and Kirwan, 2015. Science 6248: 588-589.

Photo: Wilfried ten Brinke