

## Wind-driven influx of Atlantic water in the southern North Sea

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At the end of September and the beginning of October 2017, after a prolonged period with hard winds from the west and southwest, we witnessed the stranding of a number of uncommon animals on Belgian beaches. These included large gooseneck barnacles *Lepas anatifera*, attached to floating debris, associated Columbus crabs *Planes minutus*, and a very decomposed bottlenose dolphin *Tursiops truncatus*. The stomach of the bottlenose dolphin contained the remains of prey that does not occur regularly in the southern North Sea. These strandings suggested the influx of a large volume of Atlantic (surface) water into the southern North Sea. This could be confirmed through the hydrodynamic modelling of water displacement using tidal current and meteorological data, which also indicated that the rapid influx was predominantly wind-driven.

Keywords: Gooseneck barnacle; Columbus crab; bottlenose dolphin stomach content; influx Atlantic water; hydrodynamic modelling