



Significant wave height is a representative parameter of the average height of the top third of the highest waves

Storm Domingos leaves an absolute record for significant wave height measured in the buoy networks of Puertos del Estado

- The Estaca de Bares buoy, located about 20 miles offshore, marked a significant wave height of 13.95m on Saturday, November 4

7-11-2023 (State Ports Public Body). The Domingos storm that hit the Galician and Cantabrian coast last weekend, has left an absolute record in significant wave height measured in **the buoy networks of Puertos del Estado**.

The Estaca de Bares buoy, belonging to the External Network and operational since 1996, registered a significant wave height of 13.95m on Saturday, November 4 at 10 p.m., which is the highest height recorded since the measurement networks of Puertos del Estado began to operate, exceeding the 13.72m recorded at the Bilbao Vizcaya buoy during the passage of extratropical cyclone Klaus in 2009.

The rest of the operational buoys in the area obtained high records during the passage of the three almost consecutive storms of the last few days (Celine, Ciarán and Domingos), but without reaching record levels.

The **significant** wave height represents the average value of the third highest waves recorded over a period of half an hour, as opposed to the maximum wave height, which is limited to the measurement of a single wave. For this reason, it is a very useful statistical parameter to describe the intensity of the waves at the position of the buoy and therefore more defining of the harshness of the storm.

The Estaca de Bares buoy does not have the capacity to transmit the maximum wave height parameter in real time, so it will be necessary to



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wait to download the onboard data to know the records corresponding to this parameter during the storm. The maximum wave height values recorded at the Cabo Silleiro buoy, which marked 16.47m on November 5 at 4 a.m., and at the Langosteira buoy, which marked 15.89m on November 4 at 7 p.m., are available. These figures are very high in both cases, but they have not been record values.

MEASUREMENT NETWORKS OF STATE PORTS.

Puertos del Estado has an Outer Network of Buoys (or deep-water buoys) consisting of 15 measurement positions, a Coastal Buoy Network with 12 measurement positions, a Network of 41 Tide Gauges along the Spanish Coast, and a High-Frequency Radar network with 9 stations All the information is received in real time by Puertos del Estado, which is responsible for its management and distribution of the data (http://portus.puertos.es/Portus_RT/?locale=es)

Puertos del Estado obtains wave records on our coasts through the two buoy networks, the Coastal Network and the Outer Network. The Outer Network buoys are characterized by being anchored far from the coastline at great depths, between 200 and 1,800 meters, and are usually large, up to 3 meters in diameter and 7 meters in length, with satellite transmission. The Coastal network buoys are located near ports, at depths of less than 100 meters, and transmit measurements to the coast via radio and GPRS.