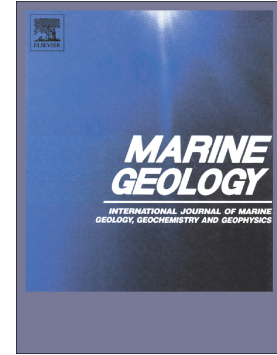


Accepted Manuscript

An unusual Holocene fan-shaped subaqueous prograding body at the back of the Cíes Islands ridge (Ría de Vigo, NW Spain): Geomorphology, facies and stratigraphic architecture

Natalia Martínez-Carreño, Soledad García-Gil, Víctor Cartelle



PII: S0025-3227(16)30346-2
DOI: doi: [10.1016/j.margeo.2016.11.015](https://doi.org/10.1016/j.margeo.2016.11.015)
Reference: MARGO 5551
To appear in: *Marine Geology*
Received date: 4 August 2016
Revised date: 21 November 2016
Accepted date: 30 November 2016

Please cite this article as: Natalia Martínez-Carreño, Soledad García-Gil, Víctor Cartelle, An unusual Holocene fan-shaped subaqueous prograding body at the back of the Cíes Islands ridge (Ría de Vigo, NW Spain): Geomorphology, facies and stratigraphic architecture. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. *Margeo*(2016), doi: [10.1016/j.margeo.2016.11.015](https://doi.org/10.1016/j.margeo.2016.11.015)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**An unusual Holocene fan-shaped subaqueous prograding body at the back of the
Cíes Islands ridge (Ría de Vigo, NW Spain): Geomorphology, facies and
stratigraphic architecture**

Natalia Martínez-Carreño, Soledad García-Gil, Víctor Cartelle

University of Vigo, Department of Marine Geosciences, Spain

ABSTRACT

The internal structure of a new subaqueous sedimentary body with a 3D morphology of a fan was studied using an interdisciplinary approach based on geophysical, geomorphological, sedimentological and radiocarbon data. The genesis of the sedimentary body is controlled by two main factors: (1) the presence of a basement ridge that constitutes the Cíes archipelago, acting as a barrier that protects the ria from high-energy marine events; and (2) the W-SW swell direction under stormy conditions, which sweeps the sediment from the platform and introduces it into the ria through the narrow entrance between Faro and San Martiño Islands.

The sedimentary body that has grown inside the ria under low-energy conditions progrades in a landward direction (from the shelf to the ria). Sedimentological analysis indicates that the facies associations are coarse-grained bioclastics in the proximal areas of this body, changing laterally to mixed fine-grained sediment in its distal parts.

The combination of geophysical and radiocarbon data leads us to establish the beginning of the progradation of the sedimentary body subsequent to the Younger Dryas cold event, associated with the Holocene sea level rise. The seismic analysis of the high-resolution seismic records allows us to recognize three main seismic units inside the subaqueous prograding sedimentary body, which can be attributed to sea level changes during the Holocene.

Keywords: clinoforms, prograding wedge, seismic stratigraphy, geomorphology, Holocene, sea-level changes.

Download English Version:

<https://daneshyari.com/en/article/5784390>

Download Persian Version:

<https://daneshyari.com/article/5784390>

[Daneshyari.com](https://daneshyari.com)