

Supplementary Material of the article:

# Late-Quaternary Evolution of the Semi-Confined Alluvial Megafan of Isonzo River (Northern Adriatic): Where the Fluvial System of the Southern Alps Meets the Karst

Livio Ronchi <sup>1</sup>, Alessandro Fontana <sup>1,2,\*</sup>, Ana Novak <sup>3</sup>, Annamaria Correggiari <sup>4</sup> and Sašo Pogljajen <sup>5</sup>

<sup>1</sup> Department of Geosciences, University of Padova, Via G. Gradenigo 6, 35131 Padova, Italy; livio.ronchi@gmail.com

<sup>2</sup> CoNISM, Consorzio Nazionale Interuniversitario per le Scienze del Mare, Rome, Italy

<sup>3</sup> Geological Survey of Slovenia, 1000 Ljubljana, Slovenia; ana.novak@geo-zs.si

<sup>4</sup> Istituto di Scienze Marine (ISMAR CNR), 40129 Bologna, Italy; anna.correggiari@bo.ismar.cnr.it

<sup>5</sup> Sirio d.o.o., 6000 Koper, Slovenia; pogljaj@gmail.com

\* Correspondence: alessandro.fontana@unipd.it; Tel.: +39–0498279118

In this file some supplementary figures and data are reported. In particular, Figures S1, S2, S3 and S4 are the magnified version of part of Figures 2 and 3 in the main text and their dimensions allow to appreciate some of the particulars of the CHIRP profiles and of the DEM of the area of Trieste. Figure S5 is the CHIRP profile of one of the aeolian dunes located slightly north-west of Trieste. –The core MDN-1 reported in Figure S6 is a key stratigraphic information for the chronology of the Trieste-Piran plaeochannel.

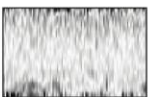
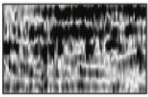
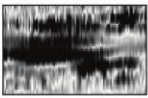
Unit	CHIRP	Description	Interpretation
F1		Transparent, very low amplitude. Occasional horizontal layering.	Highstand submarine deposit
F2	A	Chaotic internal geometry, channel-shaped and inclined reflectors.	Channel belt / generic fluvial channel deposits
	B	Quite transparent. Chaotic internal geometry, channel-shaped and inclined reflectors.	Channel belt / generic fluvial channel deposits
F3		Horizontal to chaotic reflectors with a moderate to high amplitude	Proximal alluvial plain
F4	A	Horizontal layering, medium amplitude.	Distal alluvial plain
	B	Horizontal layering, low amplitude, almost transparent.	Distal alluvial plain
F5		Thick, high-amplitude horizontal stratification	Waterlogged environment

Figure S1: Legend of the seismic facies recognized in the study area, with indication of their description and sedimentary interpretation.

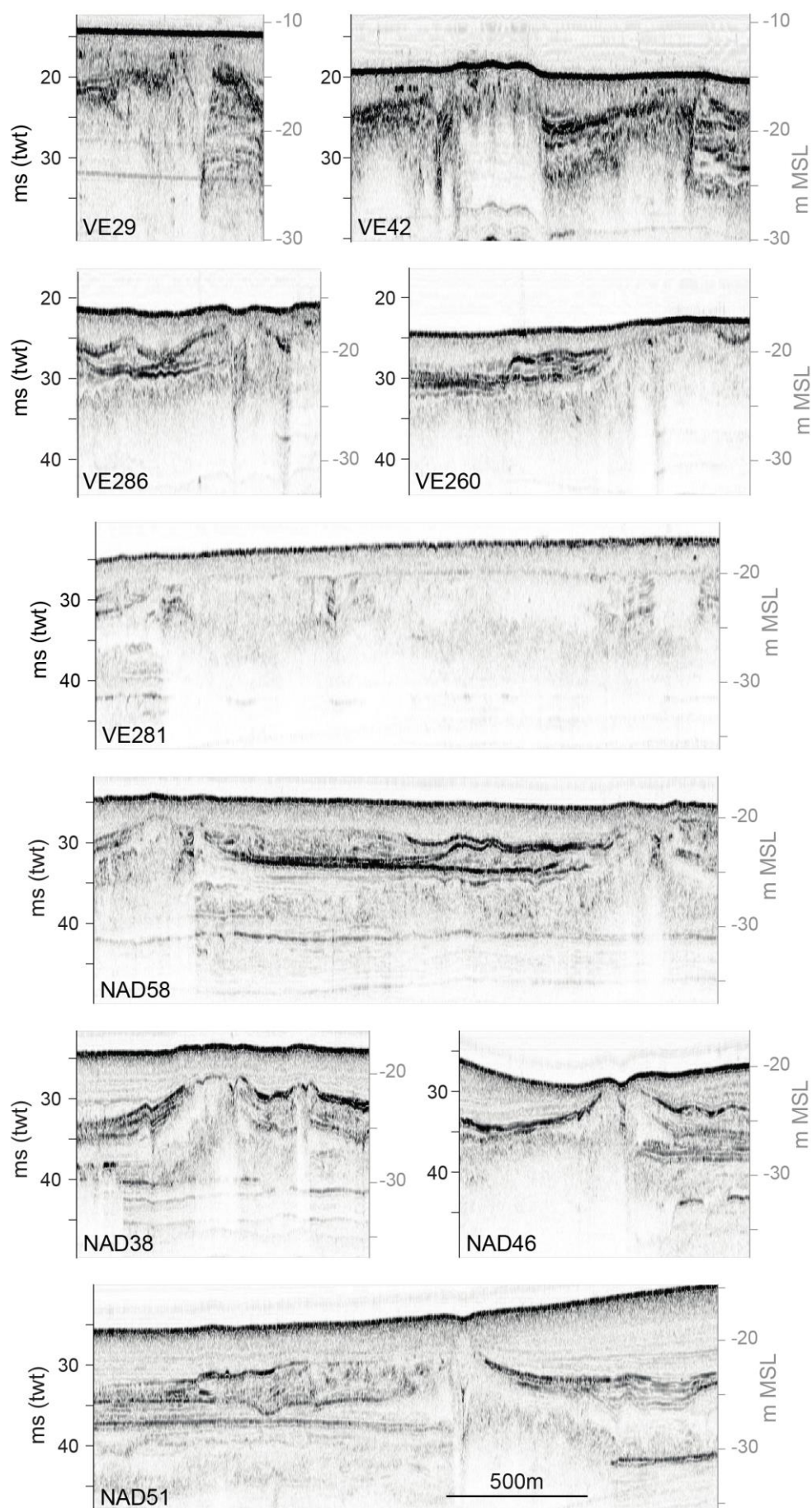


Figure S2: Selected CHIRP profiles crossing the Trieste-Piran paleochannel; magnified version of the ones reported in Figure 2.

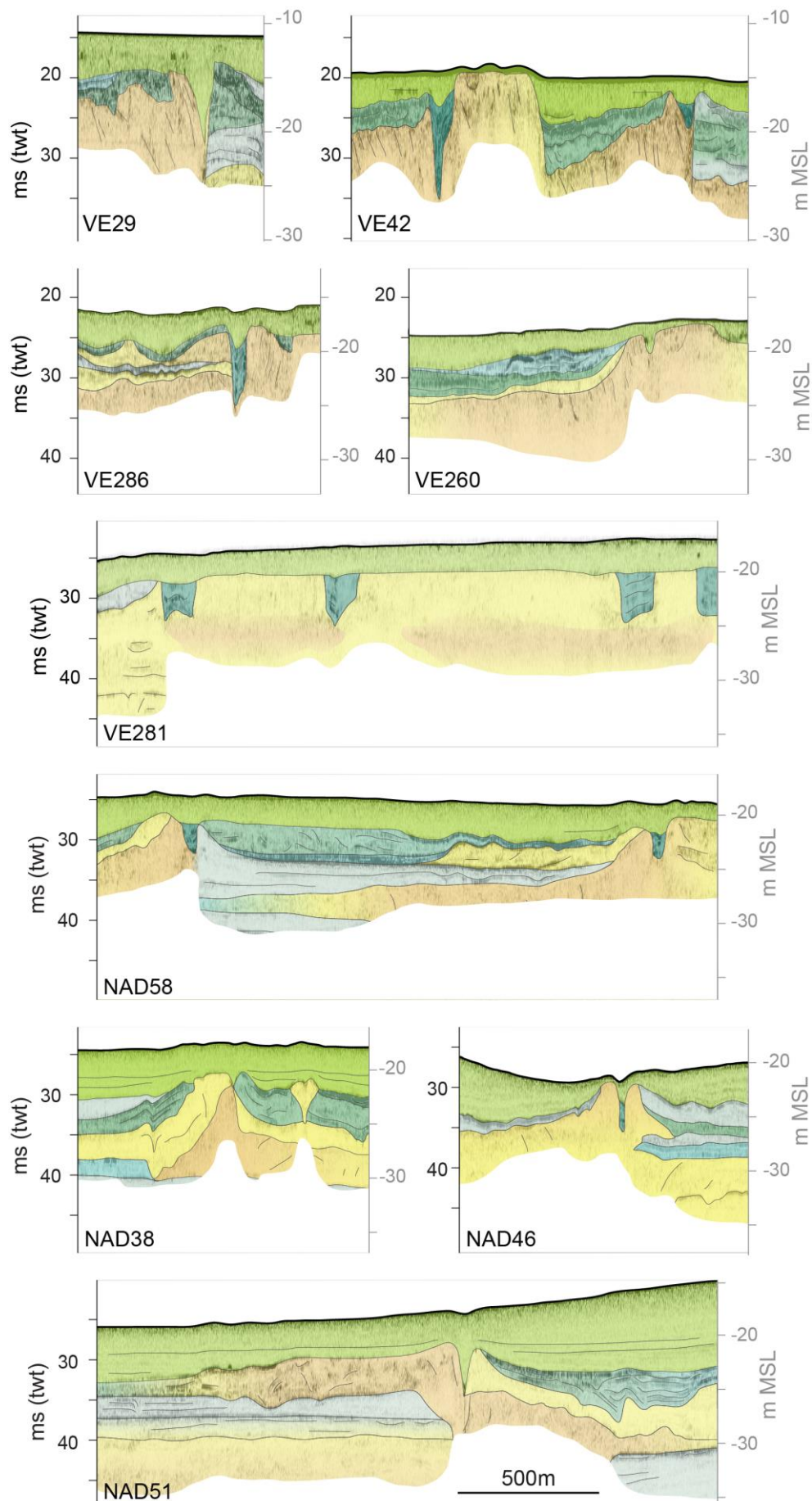


Figure S3: Interpretation of the CHIRP profiles reported in Figure 2 and Figure S2; magnified version of Figure 2.



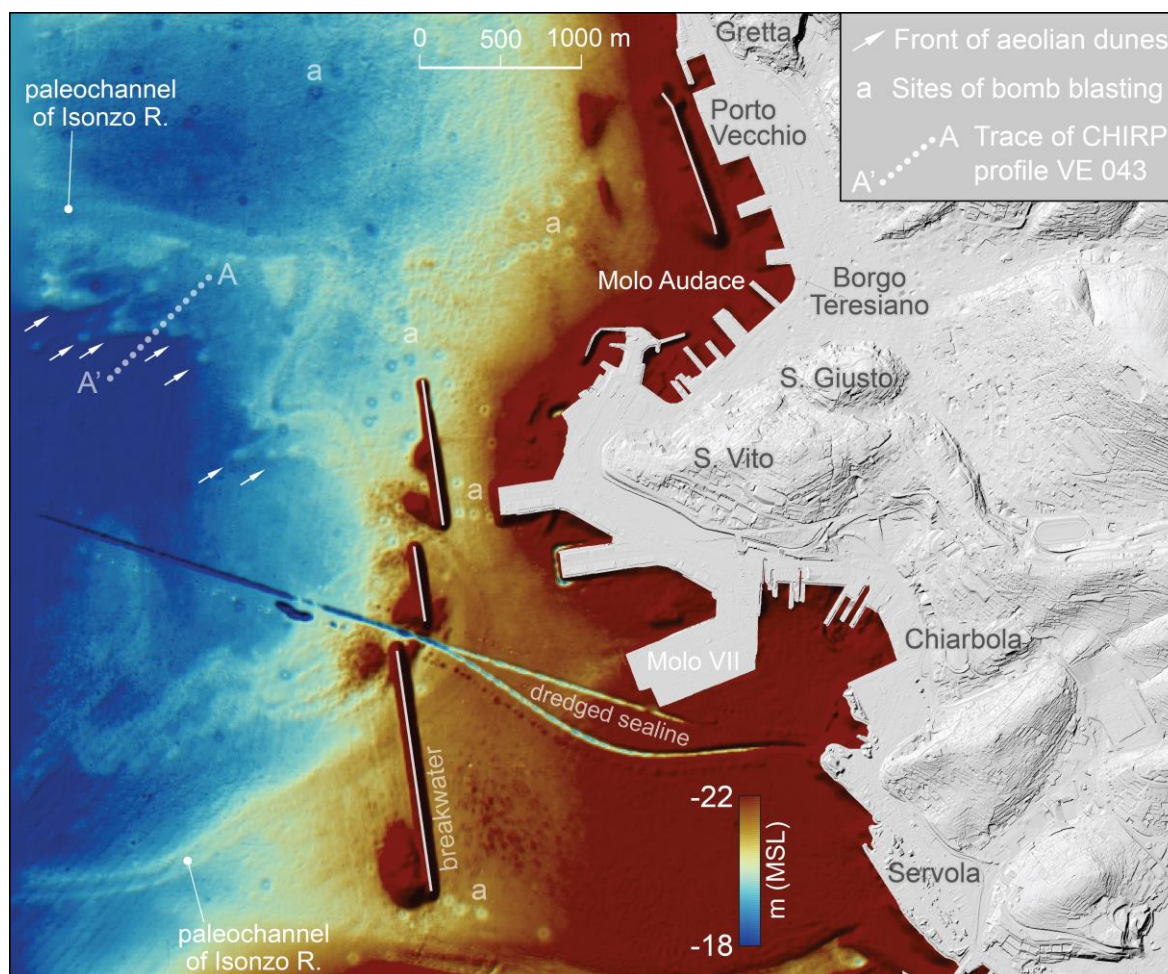


Figure S4: Detailed DEM of the area of the harbor of Trieste, obtained by processing of multibeam data from [1]. White arrows evidence the occurrence of landforms located west of the paleochannel Trieste-Piran, that are interpreted as continental aeolian dunes; the line A-A' indicates the trace of the part of the CHIRP profile VE043 that is reported in Figure S5.

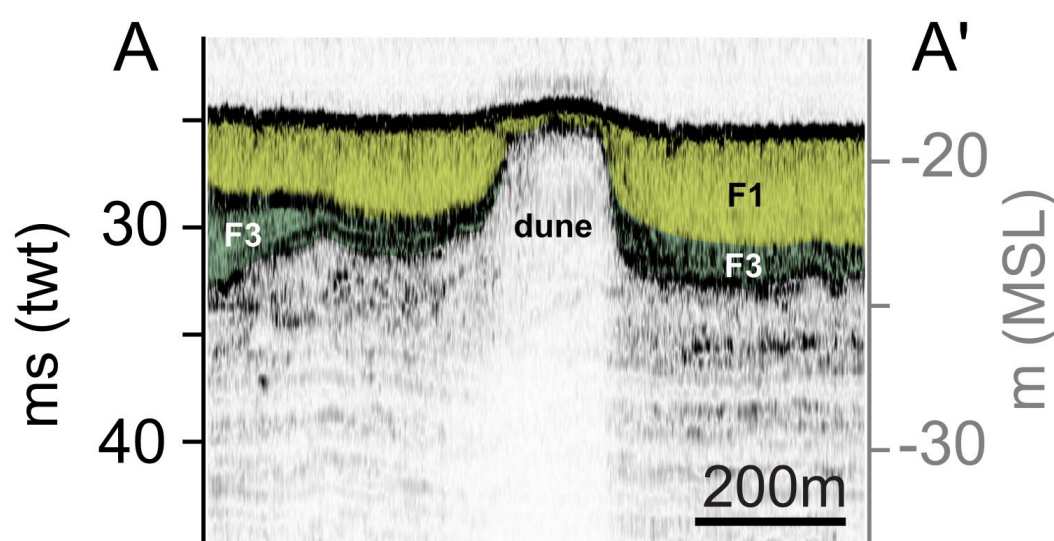


Figure S5: Tract of the interpreted CHIRP profile VE043 where it crosses one of the landform interpreted as one of the continental aeolian dunes that are documented along the western side respect the Trieste-Piran paleochannel of Isonzo River. See Figure S4 for the location of the trace and Figure S1 for description of acoustic facies.

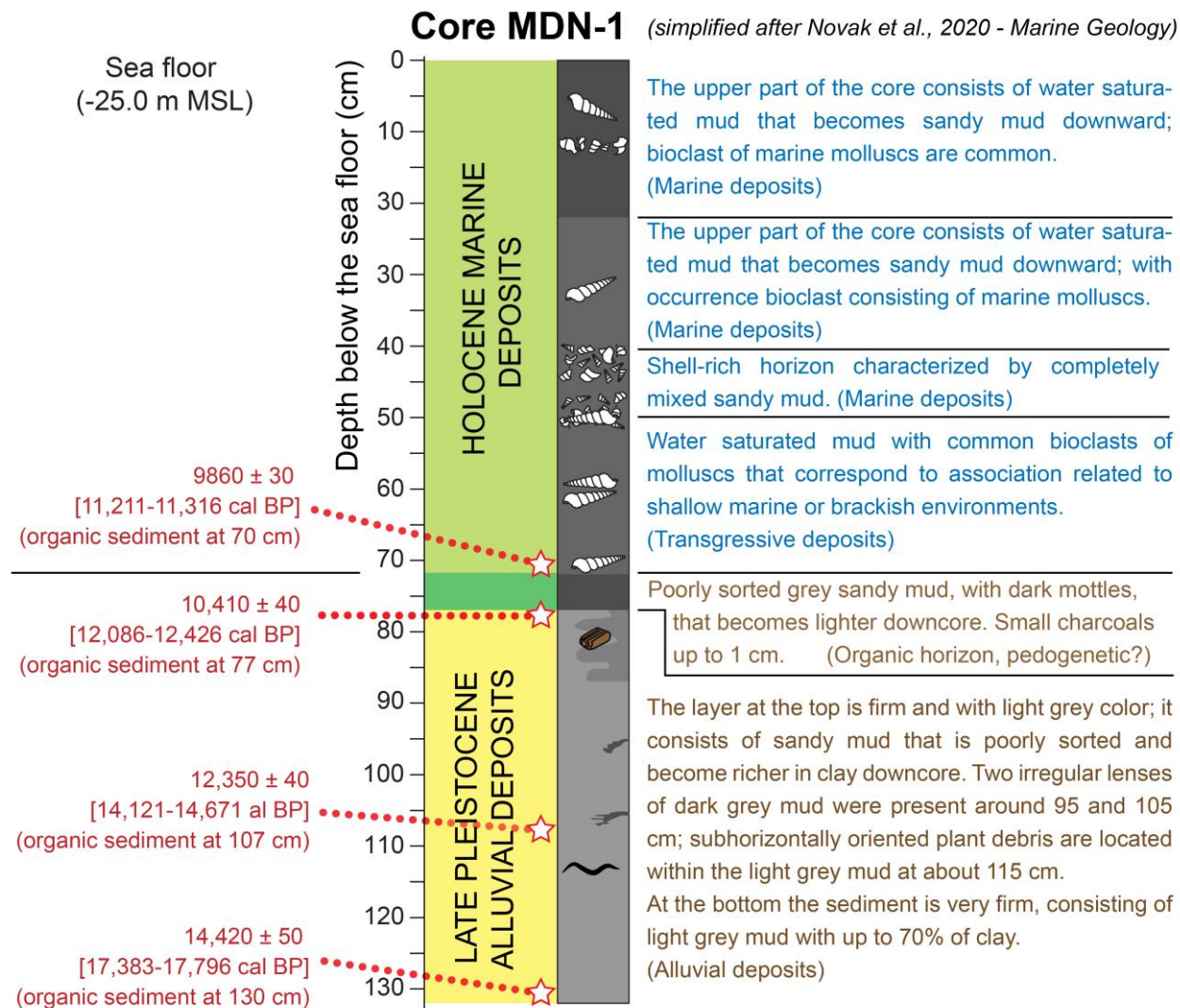


Figure S6: Stratigraphic log of the core MDN-1, drilled near Cape Madonna, offshore of Piran (simplified after [2]). This core is one of the most important ones for inferring the age of formation of the alluvial deposits related to the Triest-Piran paleochannel. On the left the available radiocarbon dates are reported, with indication of their calibrated age at 2  $\sigma$  and the depth of the sampled material.

## References

1. Foglini, F.; Bosman, A.; Correggiari, A.; Remia, A.; Madricardo, F.; Mariacristina, P.; Fontolan, G.; Biscotti, E.; Ferrero, S.; Pizzeghello, N.; et al. *Carta Batimorfologica dell'Adriatico Settentrionale*; Zenodo: Geneva, Switzerland, 2020. <https://doi.org/10.5281/zenodo.3754625>.
2. Novak, A.; Šmuc, A.; Poglajen, S.; Vrabec, M. Linking the High-Resolution Acoustic and Sedimentary Facies of a Transgressed Late Quaternary Alluvial Plain (Gulf of Trieste, Northern Adriatic). *Marine Geology* **2020**, *419*, 106061, doi:10.1016/j.margeo.2019.106061.

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