

## ***Interactive comment on “Thickness of marine Holocene sediment in the Gulf of Trieste (Northern Adriatic Sea)” by Ana Trobec et al.***

**T. M. Cronin (Referee)**

tcronin@usgs.gov

Received and published: 27 December 2017

Trobec Copernicus ESSD paper “Thickness of marine Holocene sediment in the Gulf of Trieste (Northern Adriatic Sea)”

Review. This is a well-written paper on Holocene sediment patterns in the shallow northern region of the Adriatic, carried out by experts in the field. In this sense, one must ask the question, is there much new information given earlier compilations such as Trincardi's and other cited references? I conclude that there is enough to warrant this synthesis; the cross sections and maps are excellent. To a stratigrapher/paleoceanographer like me, my primary interest in this study would be a) potential sites for coring and b) control on sedimentation by sea level rise. Consequently, there

C1

are three main issues the authors could consider when writing the revision: 1) sea level rise – can a relative sea level curve be constructed? The Mediterranean has a rich SL record, including the Holocene. The geophysical mapping in this paper would seem to help construct a new curve if the following two issues are also addressed too. 2) Chronology for the Holocene sedimentation is critical, including control points used to date the reflectors. Were selected cores used [or taken] with the express purpose of dating the seismic units? On page 8 and in Table 1 published cores and well data are mentioned but nothing specific is given on age/environment, sampling, repository etc. In Fig. 2 wells are shown but no specific information is given on age tiepoints [like C14 ages] or the specific proxies used to identify marine and paralic sediment facies [see # 3]. 3) Section 3.2 after using base on the Holocene in the earlier text, the term base of marine Holocene is used. How is marine sediment distinguished from non-marine [perhaps Holocene transgressive fluvial deposits?]. There must be at least a brief discussion of proxies used to infer paleoenvironment of deposition. In sum, given the large literature cited in Tables 1 and 2, which is unrealistic for a reader to review, it is incumbent on the authors of a synthesis paper to at least include a short section discussing controls of the key topics of sediment age & environment. These are essential for a correct interpretation of the geophysical records and require only minor revisions. Minor points: Section 1.1. Technically the Holocene began ~ 11.6-11.7 ka after the Younger Dryas. Fig 6 caption. Purple arrows indicate. ... Fig 8 caption. SF signifies?

---

Interactive comment on Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2017-135, 2017.

C2