

MEDITERRANEAN SEA: MANY MODELS AND FEW NEW OBSERVATIONAL DATA FOR THE COAST, ONLY USING THE COMPUTER WILL BE DIFFICULT TO IMPROVE THE PROJECTIONS OF THE FUTURE SEA LEVEL

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ABSTRACT: Over the last few years many papers on sea level change was published without provide observational data in the field, only using large data base and computer, this involves frequent errors in the field data interpretation.

KEYWORDS: Sea level change, model, observational data

1. INTRODUCTION

Over the last few years, many papers on sea level change, projection for the future, observational data reviews, isostatic models based on ice melting, have been published, but statistically the reviews or modelling papers are much more frequent than new observational data papers. On the contrary, the Mediterranean coasts still reserve many discoveries (Geoswim project, Furlani et al., 2017a, b) and, less and less are the young researchers that observe in the field, study, date, using geomorphological, archaeological, biological markers strictly related with sea level.

2. DATA

Pedoja et al. (2011; 2014), published a review for the last interglacial highstand all over the world, taking in account 890 and 926 sites. But to treat them with analytical and statistical uniformity, Authors apply some forcing, for example establish zero-meter as the eustatic sea level during the MIS 5.5. The result is written in the title of the first paper: "Relative sea-level fall since the last interglacial stage: Are coasts uplifting worldwide?" Using the paper by Antonioli et al. (2006), Authors wrote, for example: "... two highstands during MIS 5e have been deduced, either from morphological analysis or deposits, in Tunisia (Jedoui et al., 2003), Italy (Antonioli et al., 2006)" while in Antonioli et al. (2006), Authors reported a tidal notch and a smoothed notch due to isostasy contribution, therefore due to only one highstand.

Evelpidou et al. (2012), returns to measure the same fishtanks (Punta della Vipera, Lambeck et al., 2004) measured by Pirazzoli (1976), again without the archaeologists (ignoring classical authors, included Plinius the Elder, Columella and Varro) measuring the wrong marker, a sea level of 2 ka BP at -50 cm, datum is confirmed by the predictive model Ice 5G/Selen. Using the same model three years before (Antonioli et al., 2009)

the same Author on the same site, predicted a sea level of -128 cm. This obviously creates a lot of confusion.

Roy and Peltier 2018, published a new model for the Mediterranean sea (ICE 7G) but, as example, comparing the observational data for northern Sardinia (Grotta Verde, -11 metres at 7300 yrs BP, by Palombo et al., 2017) with prediction, the "stable" northern Sardinia seems to be in subsidence. In addition, also here Authors (from Canada) established the sea level during Roman age at -48 cm, without ever having seen a fish-tank in the field.

3. REMARKS

A model before being validated must be tested on the field in the stable areas, and possibly changed if in disagreement with observational data (See Fig 1).

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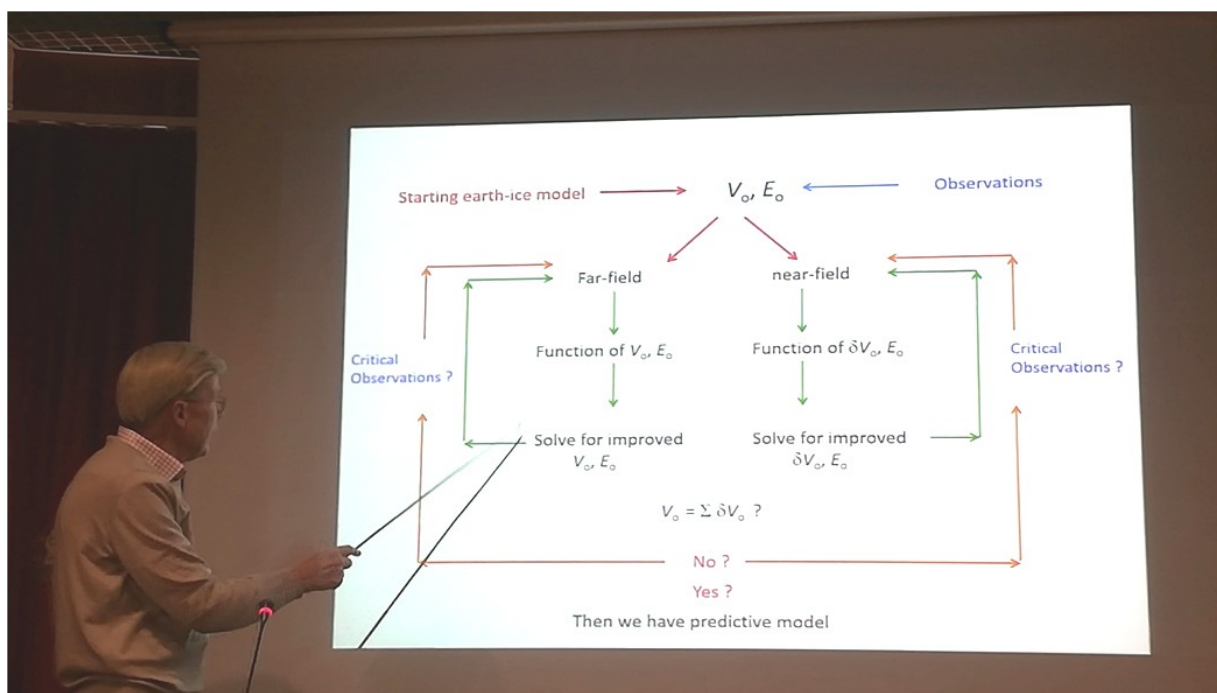


Fig 1 - Kurt Lambeck seminar at INGV on May 2018.

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