

SUMATRA TSUNAMI DETECTED IN SOUTHERN BRAZIL

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The Sumatra Tsunami of Dec/26th/2005 was recorded at Imbituba Port, Santa Catarina (28°13' S; 48°39' W) by a traditional pen-and-paper tide gauge (see Fig 1 below) operated by *Companhia Docas de Imbituba* and kindly made available to the Maritime Hydraulics Laboratory of the Federal University of Santa Catarina by the port's chief engineer. Mr. *Candido Jorge*.

Unfortunately, the instrument's paper speed was set very low making it difficult to visualize the details of the record. To improve that, the record was scanned with a high resolution scanner which substantially improved the original appearance of the plot. Due to the low speed of the paper, it was not possible to expand the record in time making it difficult to infer much information about wave periods. We could, however, identify a set of waves with periods of about 30 minutes. It was not possible to fully digitize the record to perform further analysis. Nevertheless, with the scanned version we were able to digitize most of the crests and troughs of the waves and reconstruct the record with better vertical (height) resolution (Fig 2). With that we were able to identify with reasonable accuracy almost all waves present, specially the "queen wave" which reached a height (crest to trough) of 1.22 m.

The first signs of the tsunami were discernible at about the first hour of December 27th (Local Brazilian Summer Time). Since the most energetic waves reached Brazil during the night, the tsunami passed unnoticed by the general public. To our knowledge, there were no problems or damages reported in Santa Catarina.

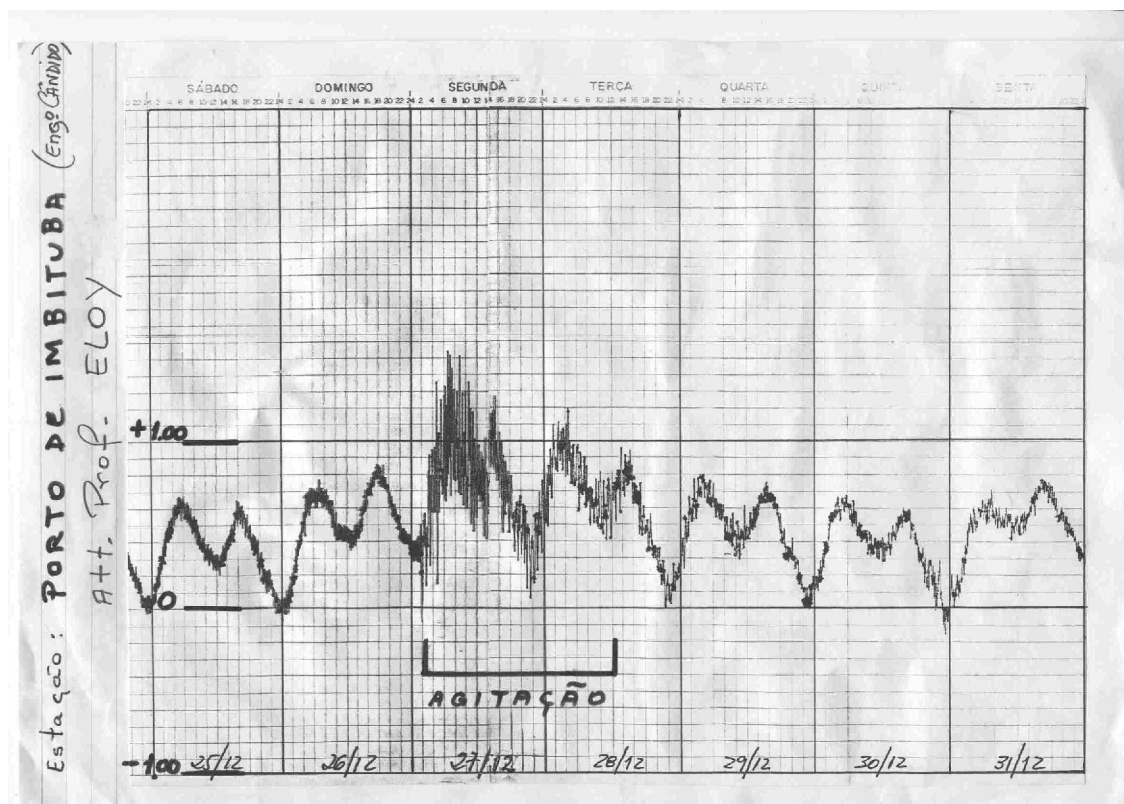


Fig. 1 - Original tide record at Imbituba Port, Santa Catarina, Brazil

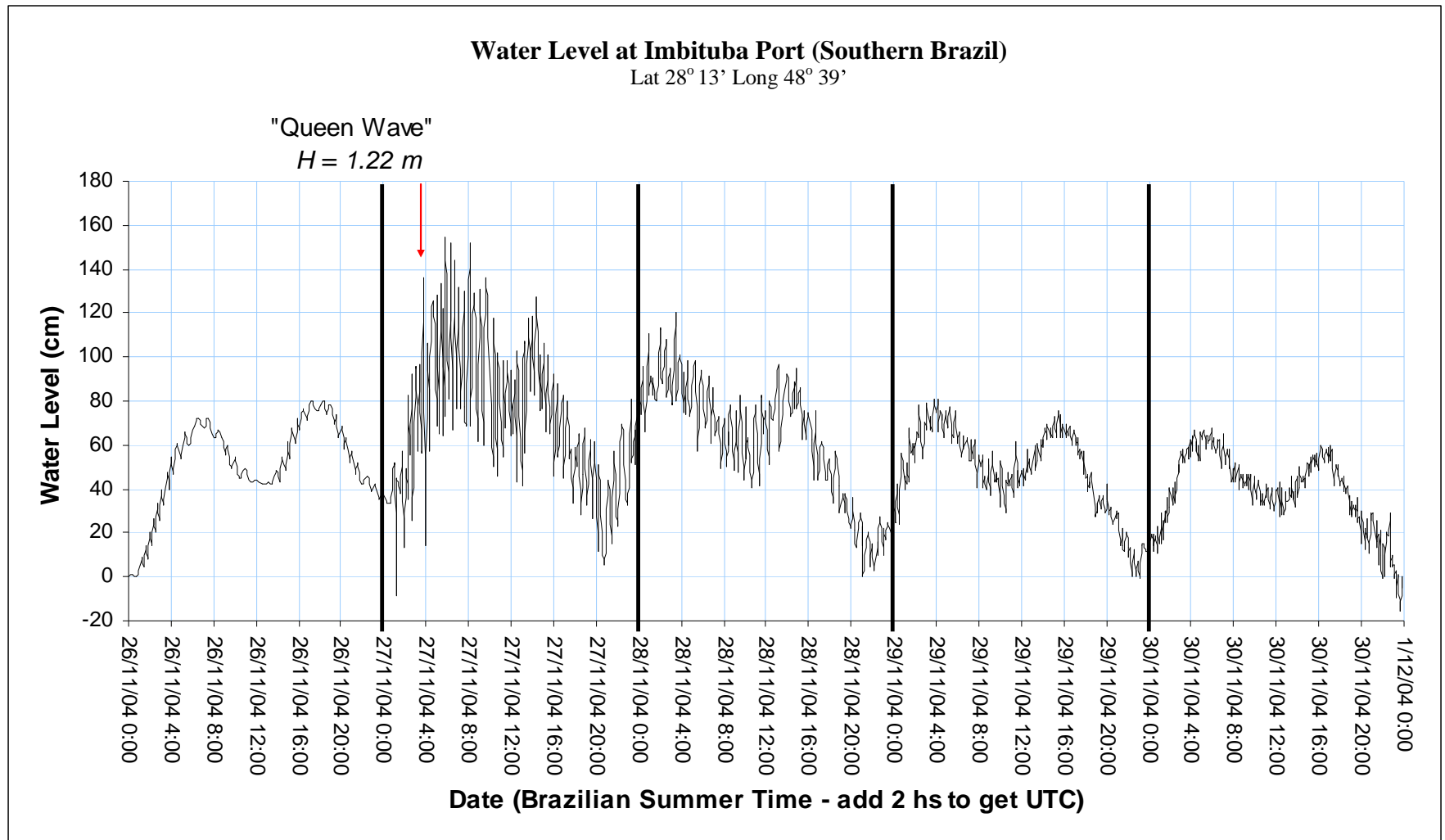
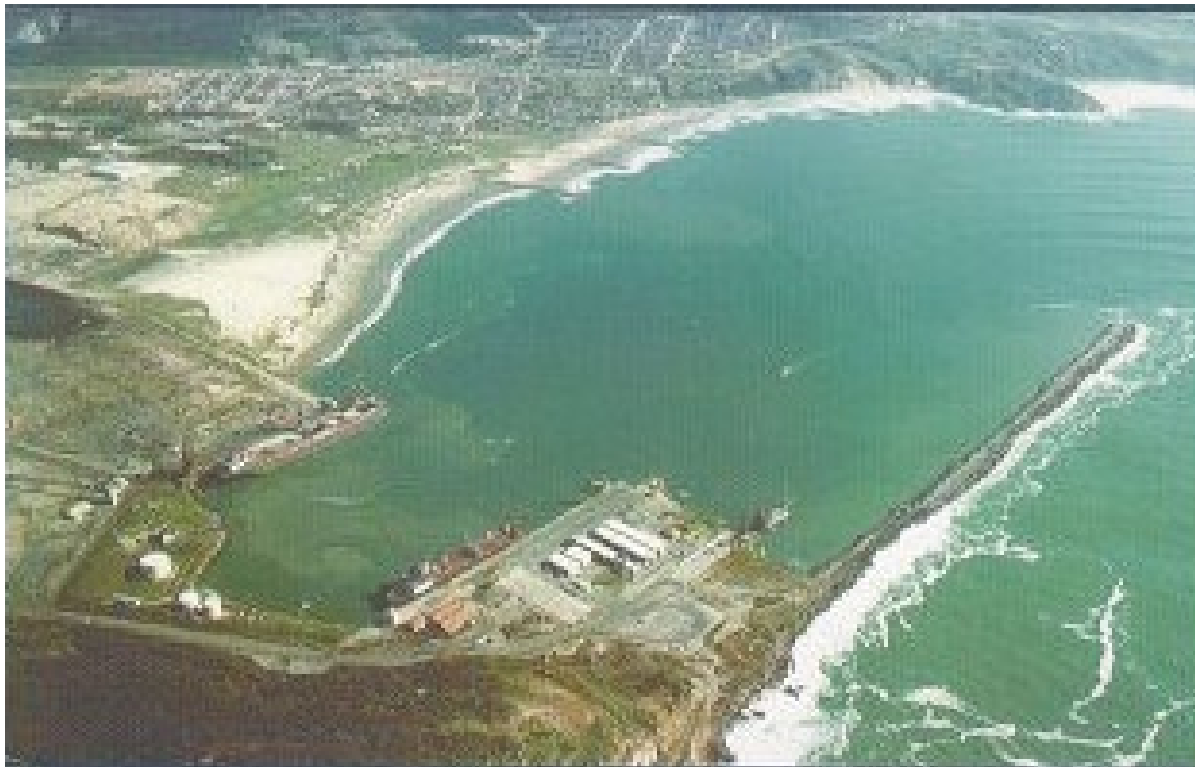


Fig 2 – Improved (scanned) record.



Aerial views of Imbituba Port. Note that the port is located on an open stretch of coast (not a bay or harbor)

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