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LAST INTERGLACIAL SEA-LEVEL HIGHSTAND DEDUCED FROM NOTCHES AND INNER MARGINS OF MARINE TERRACES AT PUERTO DESEADO, SANTA CRUZ PROVINCE, ARGENTINA

ABSTRACT: BINI M., ZANCHETTA G., RIBOLINI A., SALVATORE M.C., BARONI C., PAPPALARDO M., ISOLA I., ISLA F.I., FUCKS E., BORETTO G., MORIGI C., RAGAINI L., MARZAIOLI F. & PASSARIELLO I., *Last Interglacial sea-level highstand deduced from notches and inner margins of marine terraces at Puerto Deseado, Santa Cruz Province, Argentina.* (IT ISSN 0391-9839, 2017).

A detailed geomorphological survey was undertaken in the area of Puerto Deseado (Santa Cruz Province, Argentina) to reconstruct the Relative Sea-level (RSL) position during the Last Interglacial highstand. The presence of active and well-preserved abrasive notches and inner margins of terraces related to the MIS5e and to the Holocene, measured with DGPS, allowed to accurately estimate the RSL change from the present to the MIS5e highstand at ca. 21 m. The geomorphological and geochronological analyses support the notion of the presence of a significant regional tectonic uplift in the Atlantic Patagonia, which can be locally estimated at ca. 0.12 mm/yr.

KEY WORDS: Abrasive notches, MIS5e, Relative Sea-level, Patagonia, Argentina

RESUMEN: BINI M., ZANCHETTA G., RIBOLINI A., SALVATORE M.C., BARONI C., PAPPALARDO M., ISOLA I., ISLA F.I., FUCKS E., BORETTO G., MORIGI C., RAGAINI L., MARZAIOLI F. & PASSARIELLO I., *Niveles altos del mar durante el Último Máximo Interglacial deducidos mediante muescas de abrasión y márgenes internos de terrazas marinas en Puerto Deseado, Provincia de Santa Cruz, Argentina.* (IT ISSN 0391-9839, 2017).

Se realizó un estudio geomorfológico detallado en la zona de Puerto Deseado (provincia de Santa Cruz, Argentina) para reconstruir la posición relativa del nivel (RNM) del mar durante el Último Máximo Interglacial. La presencia de muescas de abrasión activas y bien conservadas, y la posición de los márgenes internos de las terrazas relacionadas con el MIS5e y el Holoceno, medido con GPS diferencial, permitió estimar con precisión el cambio RNM desde el presente hasta la transgresión MIS5e en aproximadamente 21 m. Los análisis geomorfológicos y geocronológicos sustentan la noción de la presencia de un significativo levantamiento tectónico regional en la Patagonia Atlántica, que puede estimarse localmente en alrededor de 0,12 mm/año.

PALABRAS CLAVES: muescas de abrasión, MIS5e, nivel relativo del mar, Patagonia, Argentina

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INTRODUCTION

There is a general consensus that the Last Interglacial period (LIG), dated between ca. 130 and 115 ka (e.g. Stirling & *alii*, 1998), also known as marine isotope stage MIS 5e (Railsback & *alii*, 2015), was characterized by eustatic sea-level (ESL), ranging from 4 to 9 m above m.s.l. (Stirling & *alii*, 1998; Muhs, 2002; Hearty & *alii*, 2007; Rohling & *alii*, 2008; Kopp & *alii*, 2009; Thompson & *alii*, 2011; Dutton & Lambeck, 2012; O'Leary & *alii*, 2013; Vaskogg & *alii*, 2015), and by global mean temperature that was warmer than in the pre-industrial period (e.g. Otto-Bliesner & *alii*, 2006; Clark & Huybers, 2009). The different sea-level estimations for this particularly warm interglacial can be justified by considering, among other factors, the different rates of melting of Greenland and/or the Antarctic ice sheets (e.g. Cuffey & Marshall, 2000; Dutton & Lambeck, 2012; O'Leary & *alii*, 2013).