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


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 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

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; Heartly & alii, 2007; Kohler & 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).