

## PALEOENVIRONMENTAL EVOLUTION OF POTTER PENINSULA DURING THE HOLOCENE, KING GEORGE ISLAND, SOUTH SHETLAND ISLANDS

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The first Holocene marine transgression reached the inner fiords of King George Island approximately at 9.5 ka BP according to Sugden and John (1973). This age marks today the minimum age of the end of the last glacial period obtained on land and the start of the Holocene in this Antarctic sector. Following the first Holocene marine transgression, Watcham et al. (2011) reconstructed a relative sea level curve for the South Shetland Islands with a relative sea level rise of 15.5 m amsl for Fildes Peninsula between 8 and 7 ka BP. The curve shows that a delay occurred in the isostatic uplift after 7.2 ka BP related to a glacier still-stand resulting in a relative sea level rise. This is followed by a drop of the relative sea level after 7 ka BP due to the rate of glacial unloading and isostatic rebound exceeding the rate of eustatic sea level rise. The aim of this presentation is to show new evidence, which will help to understand the post-glacial paleoenvironmental changes on King George Island. Our chrono-stratigraphical and geomorphological studies in Potter Peninsula suggest, that the Holocene post-glacial marine transgression was not just initiated before 7.7 ka BP but also reached 14 m amsl, and was locally interrupted by a glacier advance after 7.3 ka BP. This glacier advance can be correlated to Watcham´s et al (2011) curve, showing a drop of relative sea level between 7.2 and 7 ka BP. In conclusion, we consider that a glacier readvance took place between 7.2 and 7 ka BP in the Southern sector of King George Island. Additionally our findings show that the age of 9.5 ka BP as a minimum age of the onset of the Holocene transgression in the South Shetland Islands has to be reconsidered.

### References

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