



A 35-year history of deglaciation on the Quelccaya Ice Cap, Peru from multispectral imagery

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The Quelccaya ice cap is the largest single ice mass in the tropics and has long been held as an excellent indicator of regional climate changes. Since 1975, the ice cap has lost over 30% of its area in a relatively steady retreat of approximately 0.5 sq. km per year.

Here I present a detailed history of this retreat using approximately 40 satellite images from multiple sensors including Landsat TM, MSS, ETM+, ASTER and SPOT. The rapid retreat of Quelccaya is also placed in a regional context of the deglaciation pattern throughout the northern Andes and in a climatic context of the region in an attempt to explain the cause of the steadiness and speed at which the ice cap is deglaciating.