



## **The 10ka Grímsvötn tephra series in Iceland (usually referred to as the Saksunarvatn ash). A review.**

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The Saksunarvatn ash was first identified as a single layer in sediment cores from lake Saksunarvatn in the Faroe Islands and its origin was traced to the volcanic system Grímsvötn in Iceland. With time more and more tephra in the North Atlantic region were identified and correlated to this single layer and thereby the layer became a well-dated (10.4-9.9ka) and widely used, early Holocene tephra marker layer in the North Atlantic region. However, tephra studies on sediment cores from Iceland and the Greenland shelf show that during these 500 years the Grímsvötn volcanic system produced several tephra layers of essentially identical major element composition, changing the Saksunarvatn ash marker layer to a marker horizon consisting of several tephra layers. Hence, the use of the name Saksunarvatn ash as a common nominator for the entire tephra horizon is inadequate. Furthermore, and more importantly, this revelation complicates its use as a marker horizon in the North Atlantic region, especially in light of higher time resolution for these types of sediment archives and much improved correlation techniques. Thus, we prefer to refer to the marker horizon as the 10ka Grímsvötn tephra series.

In this presentation we present a review on current state of knowledge concerning the 10ka Grímsvötn tephra series in profiles across Iceland. We describe their occurrence and state of preservation as well as assessing the number of tephra layers preserved at each locality. Our collective data base on the 10ka Grímsvötn tephra in Iceland will aid investigations on and improve the age resolution for this marker horizon elsewhere.