ABSTRACT V51A-2503;
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TITLE: Newly combined 40Ar/39Ar and U-Pb ages of the Upper Cretaceous timescale from Hokkaido, Japan
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SESSION V51A. A 100 Year Quest to Graduate the Geological Column With an Accurate Time
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ABSTRACT The main targets for GTS next project (www.gtsnext.eu) are to develop highly refined
BODY: geological time scales, including the Upper Cretaceous.

The Cretaceous period is characterised by numerous global anoxic events in the marine realm, rich ammonitic fossil assemblages and specialised foraminifera. However, lack of age diagnostic macro and micro fossils in the North Pacific sections has made it difficult to link these with global sections such as the Western Interior Basin (North America). Using advances with terrestrial C-isotope and planktic foraminifera records within Central Hokkaido we are able to correlate these sections globally. The Cretaceous Yezo group in Central Hokkaido comprises deep marine mudstones and turbidite sandstones interbedded with acidic volcanic tuffs. Using various sections within the Yezo group, we radiometrically dated tuffs at the main stage boundaries in the Upper Cretaceous. The samples derive from the Kotanbetsu, Shumarinai, Tiomiuchi and the Hakkin river sections, spanning the time from the Albian-Cenomanian up until the Campanian-Santonian boundaries, and were dated using 40Ar/39Ar, K/Ar and U-Pb techniques. Recent age constraints in the Hokkaido counterparts (Kotanbetsu sections) show good coherence between radiometric chronometers on the various Upper Cretaceous stage boundaries. These additional ages together with our isotope ages from the different sections around the Hokkaido basin are well linked by the various faunal assemblages and C-isotope curves. The combined radio isotope ages contribute to previous attempts (such as those focused in the Western Interior Basin) supporting the synchronicity of events such as global oceanic anoxic events. Finally, the ages obtained here also compliment the previous C-isotope and planktic foraminifera records allowing for a more precise climatic history of the Northwest Pacific during the Cretaceous.

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