



## **The closure of the Panama Seaway and the onset of northern hemisphere glaciation: Cause or coincidence?**

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A variety of paleodata points to the fact that the final closure of the Panama Seaway and the onset of northern hemisphere glaciation happened at approximately the same time, during the Pliocene. It has been widely suggested that there is a causal link between the two events, with the closure of the seaway leading to an increase in Atlantic overturning, and an increased transport of moisture to high latitudes which was necessary to 'feed' the growing ice sheets. We use a state-of-the-art GCM and ice sheet model to test this hypothesis. We find that although there is a slight increase in ice volume following a closure of the Panama Seaway, the effect is small. We also present sensitivity studies to the prescribed level of atmospheric CO<sub>2</sub>, the orbital forcing, and the depth of the seaway.