



## Astronomical Observations of the 1869 Powell Expedition Through the Grand Canyon

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### Summary

During his 1869 expedition down the Green River and through the Grand Canyon, Major John Powell made astronomical observations using a sextant and artificial horizon to fix the locations of key points along the rivers that were only poorly known at the time. Latitude was obtained from the altitude of Polaris or meridian transits of stars or Saturn. Local mean time was determined from equal altitude observations of the Sun. The swamping of one of the expedition's small boats ruined the chronometers, meaning that they could not be used to keep Greenwich mean time and hence find longitude. As a substitute a series of lunar distance observations were undertaken. In this paper observations recorded in Powell's journal are reduced and analysed.

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