During winter and spring, landfast sea ice contributes significantly to the Antarctic sea-ice volume. It moderates the atmospheric-oceanic exchange, while forming a buffer between glacial ice sheets and the open ocean. Furthermore, it provides a habitat for several species ranging from ice algae to Emperor Penguins. Embedded within the ocean-atmosphere system and largely driven by vertical processes, fast ice provides early signatures of climate variability or change, and is an invaluable tool to gauge the fate of sea ice with regard to thermodynamic processes. While weekly measurements of fast-ice and snow thickness have been carried out for several years off Davis Station (East Antarctica), in situ sensors, including a thermistor chain have been deployed in the fast ice to improve our understanding of its growth, destruction and removal. Here we present our analysis of data from a three-wire stress gauge, that was deployed off Davis from 2008 to 2010. We find that early in the fast-ice season, compressive stress peaked fortnightly. During austral winter the overall compressive stress reduced and did not show many spikes, before increasing episodically during austral spring. Using thermistor data and tilt meter records we currently explore the influence of atmospheric and tidal forcing on the strength of the fast ice.