We present an investigation into the relationship between patterns of East Antarctic fast-ice formation/breakout and atmospheric forcing on both local and hemispheric scales. Fast ice is a ubiquitous feature of the Antarctic coastline, and change/variability in its distribution have important physical and biological ramifications. The local-scale analysis focuses on several anomalous fast-ice formation/breakup events identified in new satellite-derived regional time series of fast-ice extent near Syowa (34-42 degrees E), Mawson/Cape Darnley (60-71 degrees E), Dumont d’Urville (134-145 degrees E) and the Mertz Glacier region (145-154 degrees E). The analysis includes model and observed surface air temperature and wind velocity data, as well as information on regional pack-ice distribution and concentration. Anomalous wind speed and direction are found to play an important role in both fast-ice formation and breakout, confirming previous studies. Strong surface air temperature anomalies are observed in conjunction with anomalous fast-ice growth/breakout events in some regions, with high (low) temperatures coinciding with anomalous fast-ice breakout (growth). The influence of large-scale atmospheric modes i.e. the Southern Annular Mode (SAM), El Nino-Southern Oscillation (ENSO), Zonal Wave 3 (ZW3), on East Antarctic fast-ice extent is also assessed. Strong correlations are found between the Southern Oscillation Index (SOI) and fast-ice extent, particularly in the Indian Ocean sector (20-90 degrees E). Although the mechanism of teleconnection is unclear, similar correlations between SOI and overall sea-ice extent have been previously reported from this region. No significant correlation is found between SAM index and fast-ice extent.