6.3 Climate graphs

ADDITIONAL

Knowledge and understanding

N Numeracy **S Sustainability**

The Southern Oscillation Index (SOI) is a measure of the atmospheric and ocean conditions across the Pacific Ocean. It is calculated using the difference in air pressure between Tahiti and Darwin. Under 'normal' conditions the SOI is close to zero. During El Niño events, the SOI is strongly negative. During La Niña, the SOI is strongly positive.

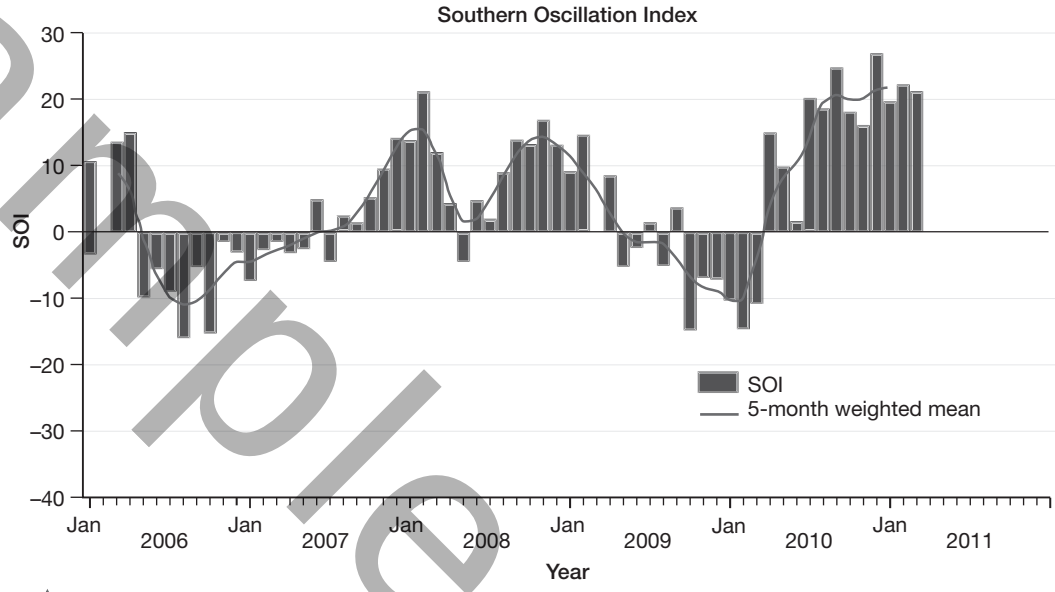

Figure 6.3.1 SOI from 2006 to 2011

1 **Interpret** the information presented in the Figure 6.3.1 to decide the number of La Niña events during that time.

2 **Explain** how you made your decision in question 1.

3 **Discuss** how likely it was that northern Queensland had a good wet season in early 2011.

6.3 ADDITIONAL

Weather in the southern parts of Australia is influenced by the Indian Ocean Dipole (IOD). The IOD is a cycle of change in the water temperature between the eastern and western regions of the Indian Ocean near the equator. A positive IOD leads to poor rainfall in central and southern Australia. A negative IOD has the opposite effect and leads to increased rainfall in central and southern Australia.

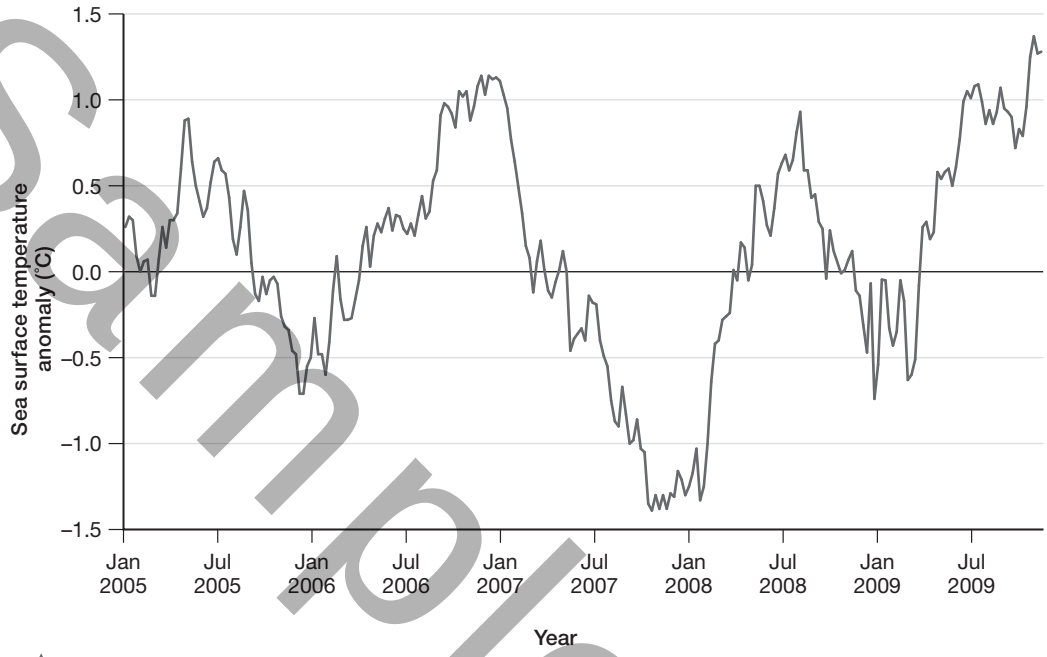

Figure 6.3.2 Changes in IOD from 2005 to 2009

4 (a) Interpret the information presented in Figure 6.3.2 to decide at which time southern and central Australia would have experienced drier than normal conditions.

(b) Justify your answer to part (a).

5 (a) Propose what conditions in southern Australia would have been like in late 2007 and early 2008.

(b) Justify your answer to part (a).