

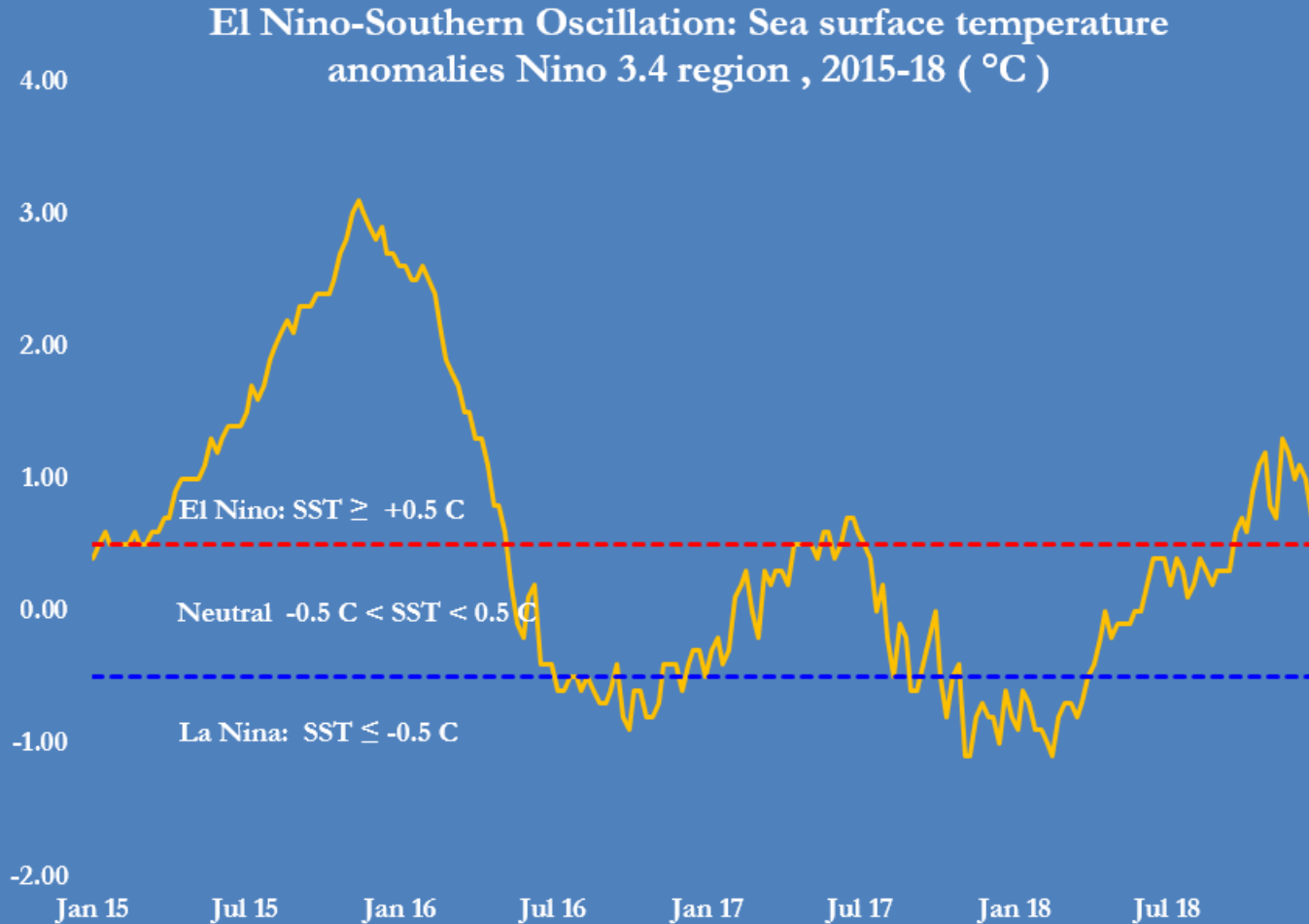
El Nino-Southern Oscillation

Selected indicators

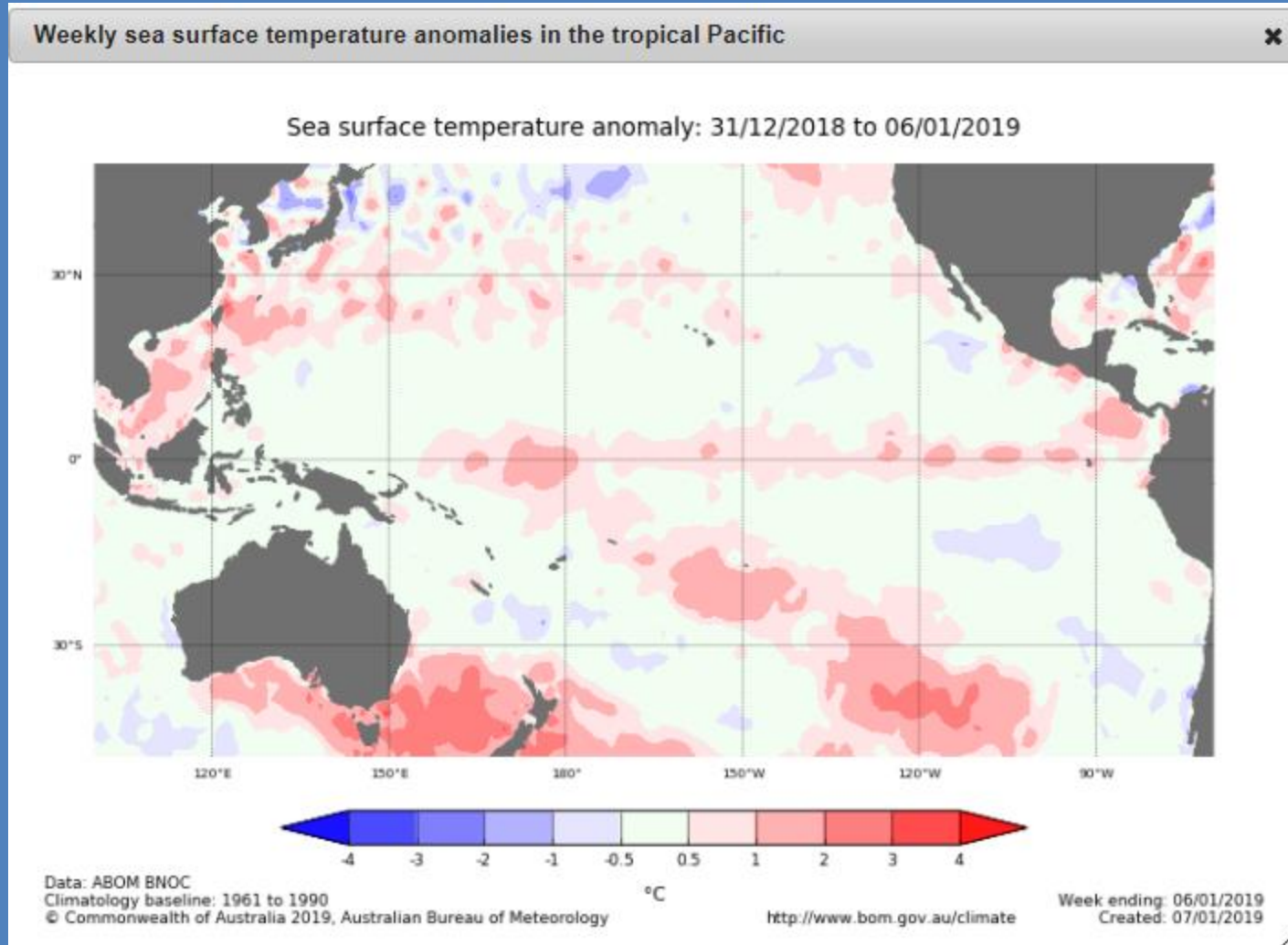
JOHN KEMP
REUTERS

Data for the week centred on 2 Jan 2019

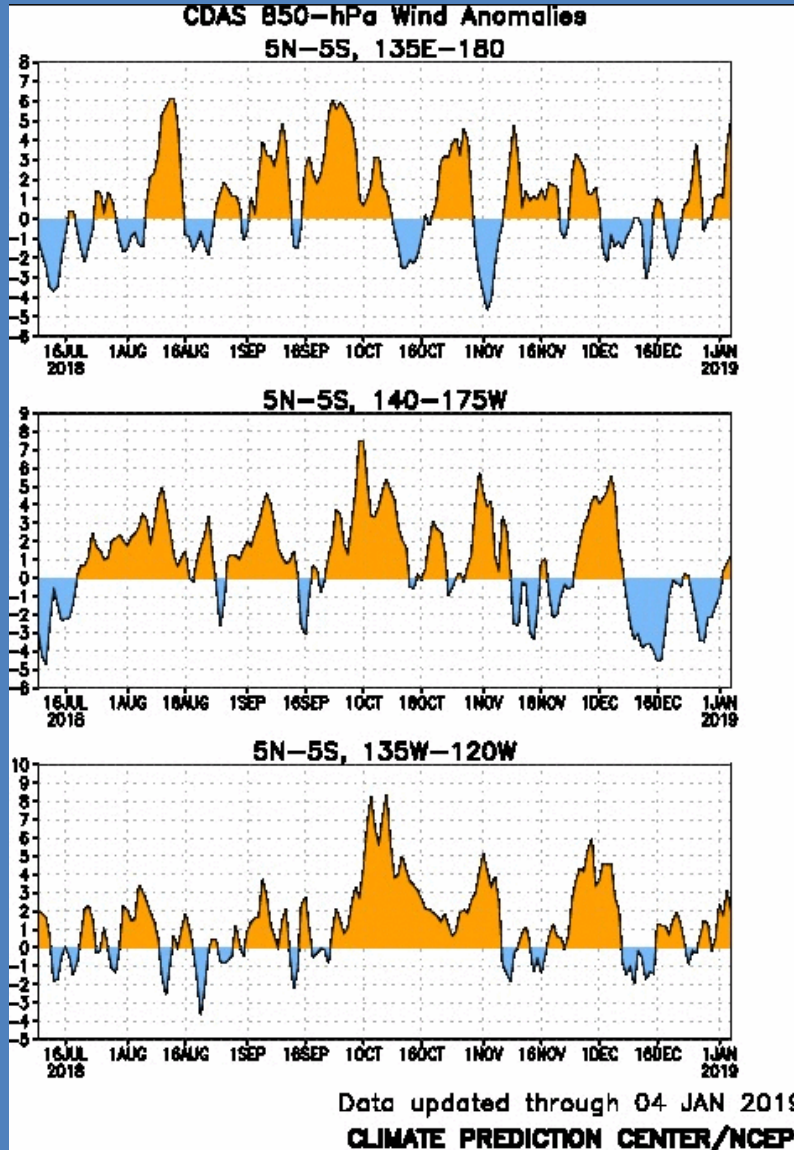
El Niño conditions continued but were very marginal with sea surface temperatures in central-eastern ocean +0.7C above long-term average



Sea surface temperatures are above seasonal average throughout the equatorial Pacific but only mildly



Trade winds have slackened across Pacific increasing the probability that oceanic and atmospheric components of ENSO will couple in future



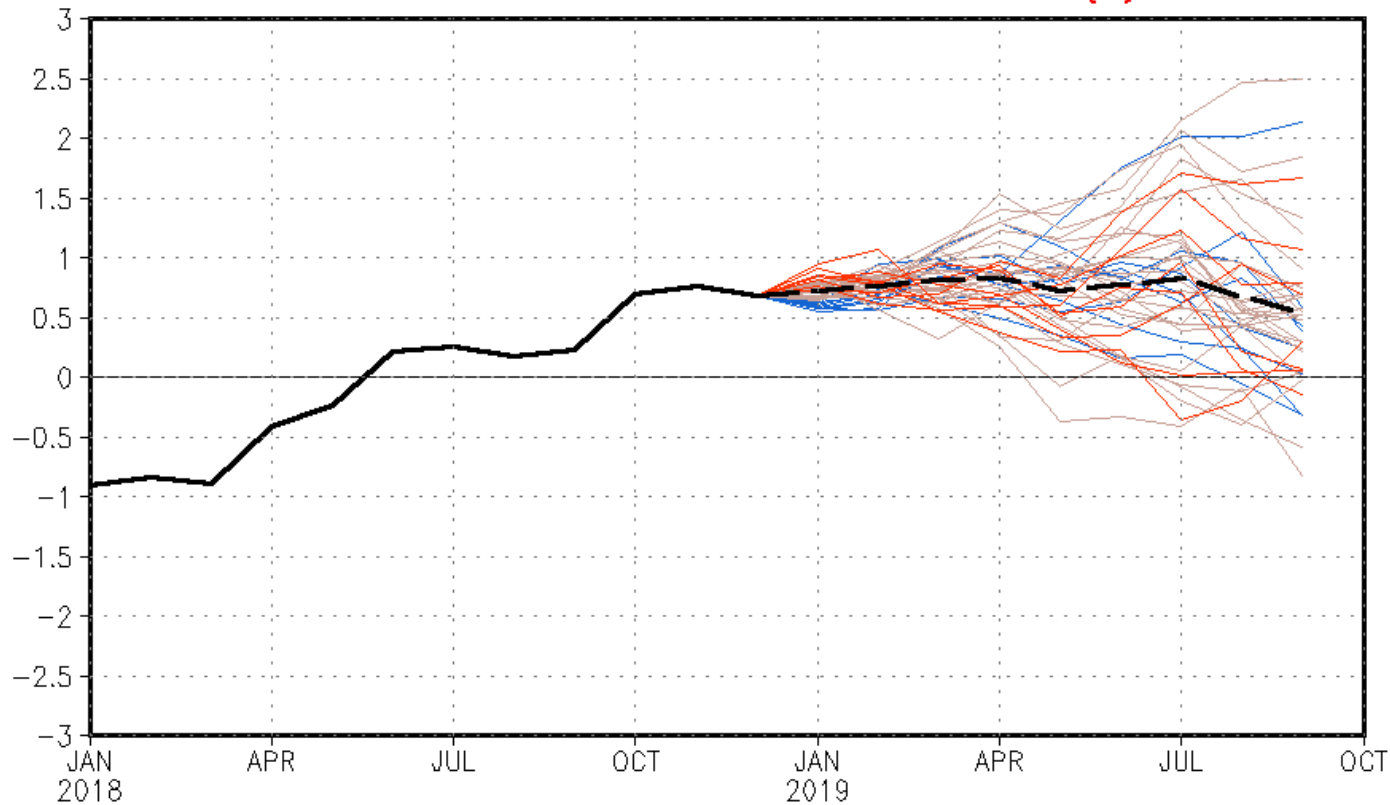
U.S. government projection shows El Niño conditions persisting for the next few months



NWS/NCEP/CPC

Last update: Tue Jan 8 2019
Initial conditions: 28Dec2018-6Jan2019

CFSv2 forecast Nino3.4 SST anomalies (K)



- Latest 8 forecast members
- Forecast ensemble mean
- Earliest 8 forecast members
- NCDC daily analysis
- Other forecast members

(Model bias correct base period: 1999–2010; Climatology base period: 1982–2010)

Australia maintains El Niño Alert, but notes atmospheric counterpart has so far failed to emerge and couple with the ocean warming

Some recent cooling in the tropical Pacific Ocean

Tropical Pacific Ocean surface waters have returned to ENSO-neutral temperatures after exceeding El Niño levels in November and early December. The Bureau's [ENSO Outlook](#) remains at El Niño ALERT.

While waters at and beneath the surface of the tropical Pacific have been warmer than average since mid-2018, atmospheric indicators of ENSO such as cloudiness, trade winds and the Southern Oscillation Index (SOI) have not responded and have mostly remained neutral. For an El Niño to become established, the atmosphere needs to reinforce and respond to the warmer waters at the ocean's surface. This reinforcement is what allows the widespread global effects on weather and climate to occur.

The recent cooling of tropical Pacific waters may partly reflect the movement of the [Madden–Julian Oscillation](#) (MJO), which has recently encouraged stronger trade winds over the tropical Pacific. However, the MJO is moving east, weakening the trade winds once again, which may allow the ocean surface to warm again.

Most models indicate sea surface temperatures in the tropical Pacific are likely to remain near El Niño levels at least until early autumn 2019. Models typically have less skill when forecasting through autumn compared with other seasons. If sea surface temperatures do maintain their anomalous warmth through summer, it increases the chance of El Niño emerging in 2019.