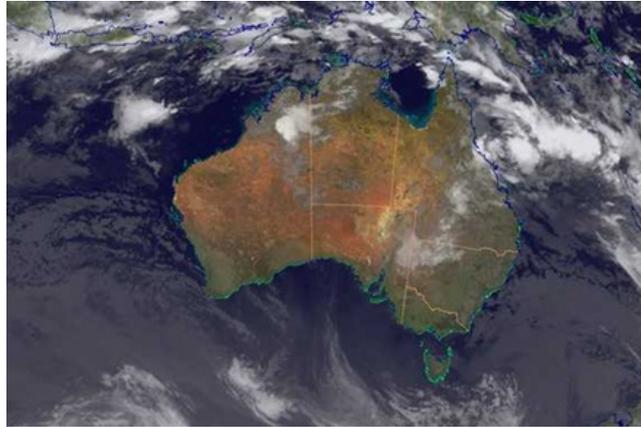


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BOM to use new model



AUSTRALIA'S top weather forecasters will soon shift to a new dynamic climate model as the use of historical records becomes a less reliable guide in a warming world.

From May, the Bureau of Meteorology will issue its winter weather outlook based on its Predictive Ocean Atmosphere Model for Australia (POAMA).

POAMA uses current data on ocean and atmosphere conditions - such as sub-surface sea temperatures - to create its forecasts.

Until now, the bureau has relied on statistics based on historical sea surface temperatures and rainfall patterns alone.

That model searches the climate record from 1950 to 1999 to find similarities between current and past temperature patterns in the Indian and Pacific oceans. It then uses past Australian rainfall and ocean temperature relationships to generate climate outlooks.

Increased computer power has enabled scientists to make greater use of the data collected by sources ranging from ocean buoys and ships to satellites. But it is also the departure from history - such as this past summer, now officially the hottest in 103 years of records - that is driving the switch in models.

"One of the big assumptions that the (statistical) model makes is that the climate is going to behave in the future as it has in the past," Andrew Watkins, manager of climate prediction services at the bureau, said.

"We are increasingly of lower confidence that the past gives you the future."

POAMA has been tested, particularly in Western Australia, where it has been "enormously valuable" in helping farmers decide which crops to plant, said Peter McIntosh, principal research scientist with the CSIRO's Marine and Atmospheric Research unit.



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More than a decade in the making, the joint bureau-CSIRO project to develop the model is funded partly by the Grains and Development Corporation.

Many challenges remain in the path of seasonal prediction. Dynamic - and historical - models have struggled with the so-called "predictability barrier" in autumn when ocean patterns, such as the El Nino Southern Oscillation, reset.

Seasonal models can also struggle with certain types of weather. One example is the blocking atmospheric high pressure systems which stall in the Tasman and can result in the lingering east coast lows that bring heavy rains to the eastern seaboard.

The outlook for the next three months? "It's not going to be drier or wetter than normal ... for almost all of Australia," Dr McIntosh said.