



Off to a stormy start

Australian scientists have worked out what kind of weather the First Fleet experienced during the voyage to Botany Bay, writes Science Reporter **CLARE PEDDIE**

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IERCE winds, high seas, severe storms and snow in summer greeted convicts and crew aboard the

First Fleet bound for Botany Bay. They must have thought it was Hell on Earth.

Now, more than two centuries later, climate scientists have reopened the history books to delve a little deeper into the world's weather.

On board the flagship HMS Sirius, a young marine named William Bradley kept meticulous records of daily noon temperatures, barometric pressure and winds. His good work is now being put to use.

University of Melbourne researchers have compared the readings to modern climate data for each day's position, given by the ship's latitude and longitude, during the eight-month journey. They also delved into the diaries of others on board to paint a colourful picture of the harsh conditions faced by the British as they sailed towards an isolated outpost in the Southern Ocean.

"In terms of the actual journey, it would have been pretty harrowing by anyone's standards," said

Joëlle Gergis, climate research fellow and science writer in the uni-

versity's School of Earth Sciences.

The fleet of 11 ships left Portsmouth, England early on Sunday, May 13, 1787. After stormy seas soon after, they experienced warm weather and favourable winds on the way to

Rio de Janeiro by August 1787.

The worst of the voyage came after the ships left the Cape of Good Hope on the southernmost tip of Africa.

"As they started coming across the Southern Ocean and the Indian Ocean, they hit the Roaring Forties and they really started to rip sails," Dr Gergis said.

"It was a really tempestuous ordeal if you like. We're talking about 1400 (mostly) convicts all cramped in the wet hulls of these ships – it was really just a floating prison.

"As they came across they actually had a really bad storm that hit them on New Year's Day in 1788, or the first of January 1788.

"They had big swells and waves flooding the ships and their blankets were actually floating away.

"People were on their knees praying for their life.

"It had been an epic eight month journey. People were starving and cold."

Aboard the HMS Supply, Lieutenant Philip Gidley King described the violent summer storms: "Very strong gales with a very heavy sea running, which keeps this vessel almost constantly under water and renders the situation of everyone on board her, truly uncomfortable."

Smoother sailing may have been expected as the ships navigated the east coast of Tasmania in January, but even then there were patches of snow. Temperatures were probably the lowest they felt since leaving England.

"As they were coming around Tasmania it was actually quite cold, you can see that from the temperature record. There were patches of snow in Tasmania at

the height of summer, which is fairly unusual," Dr Gergis said.

"As they started coming up along the east coast of Australia, again they were hammered by really severe winds. They ripped more sails and there was another severe storm that was centred on about the 10th of January."

When the fleet finally limped in to Botany Bay, they soon realised the water supply was not sufficient and had to move on.

"They tried to get out of Botany

Bay and it took them about two days. They had huge headwinds and again the seas were rough," she said.

"They were really scared they were going to be driven along the rocky coastline and just smashed to pieces basically.

"Eventually they did get out and they made it into Port Jackson, settled at Sydney Cove, which is where the modern day Sydney Harbour Bridge and the Opera House stand today."

The weather of the First Fleet voyage to Botany Bay, 1787-1788, is published this week in the journal *Weather*.

Dr Gergis is leading an Australian Research Council-funded project to develop a climate history for south-eastern Australia using historical, palaeoclimate and early weather data.

"What we are trying to do with this project is target some of the key records that might be able to take us back in time, prior to 1910 – a lot of our rainfall and temperature records start in 1910," she said.

"In many instances we have long records that are available all the



way back to 1850 and even prior to that as well... what we're doing is looking at these old Government Gazettes, newspapers, ship logs and pastoral farm records, to try and extend our climate record for our region, to get a better handle on climate variability. It really is fascinating work going through some of these old resources... it's a really

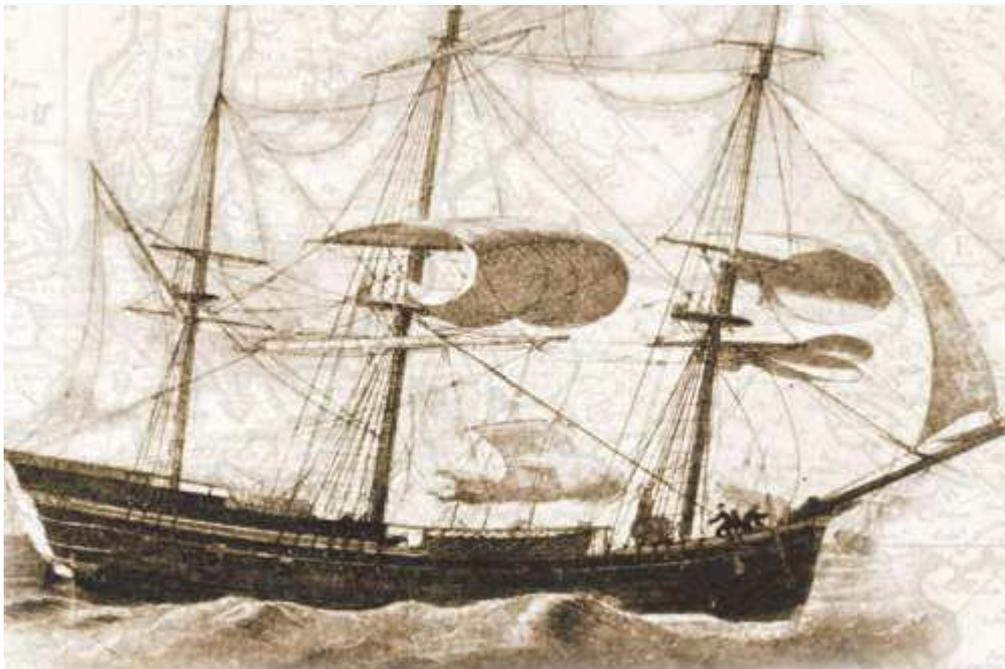
overlooked area of research in Australia."

The First Fleet experiment proves millions of potentially valuable observations lie buried in ship logbooks and diaries of early European voyages, written decades before official meteorological stations were established.

International climate scientists are meeting in New Zealand this

month as part of a global effort to recover lost weather data from the past. They will also showcase data visualisation techniques, including a Google Earth animation showing the difficult weather conditions endured day by day on a First Fleet voyage.

Other interesting sources include the *Dirty Weather Diaries* of Reverend Davis, Northern NZ, 1839-1851.



TEMPESTUOUS: First Fleet ship Lady Juliana and, bottom right, Lieutenant Colonel George Johnston, the first man ashore when the fleet arrived in Botany Bay.


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