AUSTRAL FISHERIES PTY LTD

The business of fishing in a changing ocean

Right now…

- 7.5 billion humans heading to 9-10 billion by 2050
  - 800 million over weight
  - 800 billion under nourished
- Food production accounts for 1/3 of all GHG
- 1/3 of all food produced is wasted
- Food production is a key driver for loss of biodiversity
- Adequate nutrition in the first 1000 days of life is essential
- Marine protein is high quality

Our Oceans by 2050

- Potential loss of 90% of coral reefs
- Acidification already impacting some species
- Microplastics increasing
- Increased storm activity
- Lower equatorial productivity
- Species shifts
- Currents changing
- More demands for food, transport, energy and recreation

Planetary boundaries

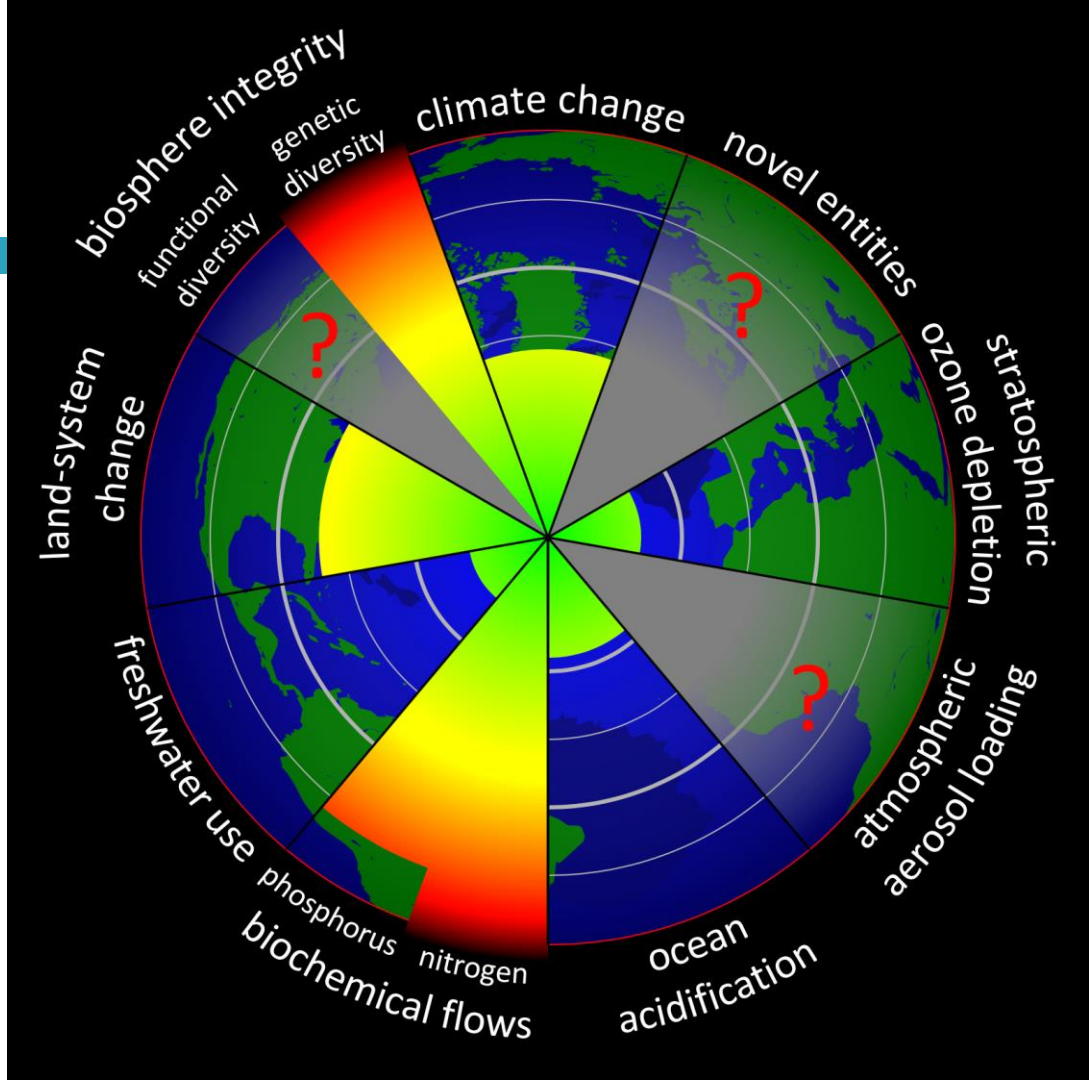
- Originally proposed by Johan Rockstrom and Will Steffen
- 9 life support systems
- Attempts to define a safe operating space for humanity

Planetary Boundaries

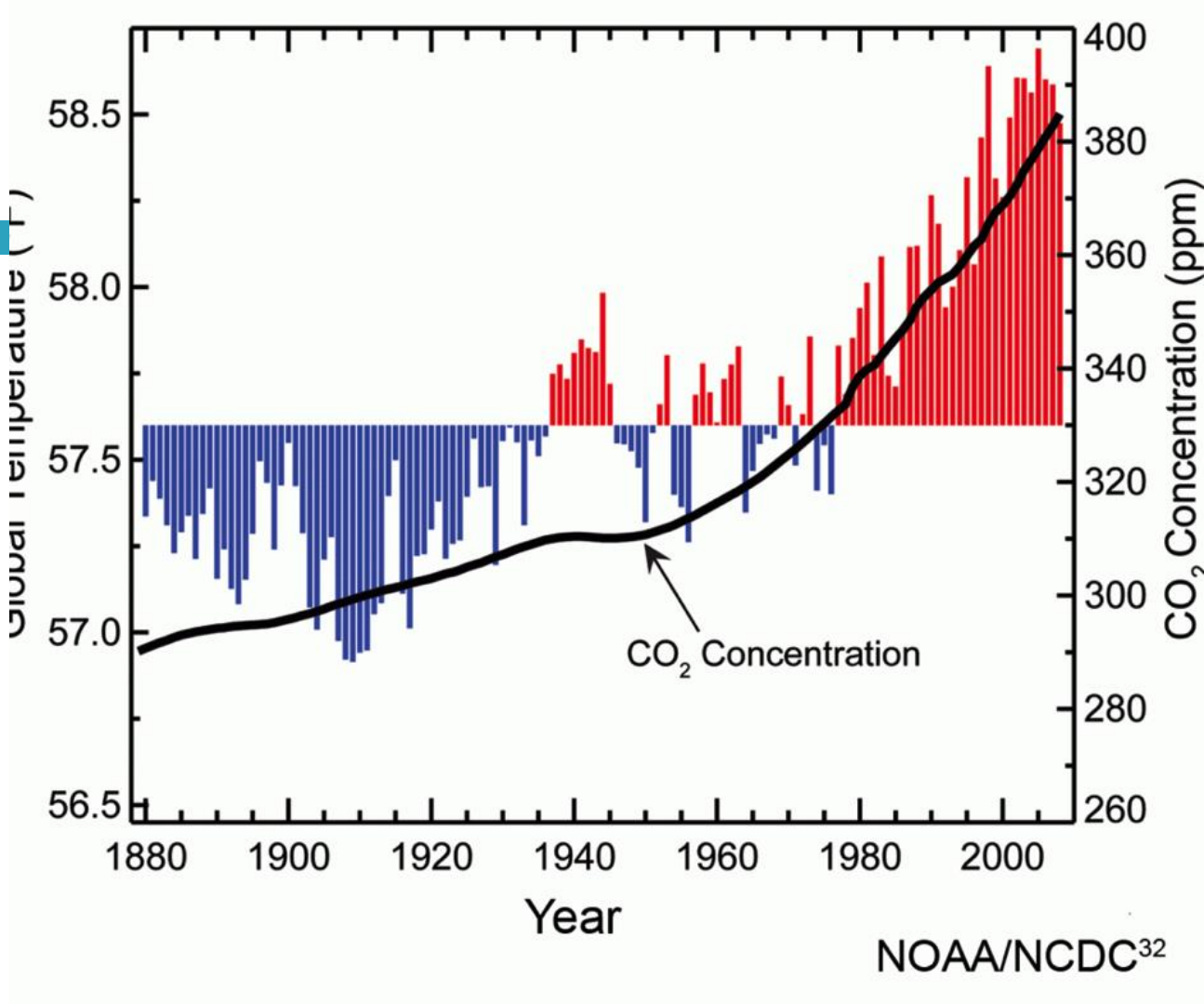
We appear to have crossed boundaries for:

- Climate
- Biodiversity loss
- Biogeochemical flow

Change is non linear and systems are connected



- Atmoshperic CO2
- Global temperatures

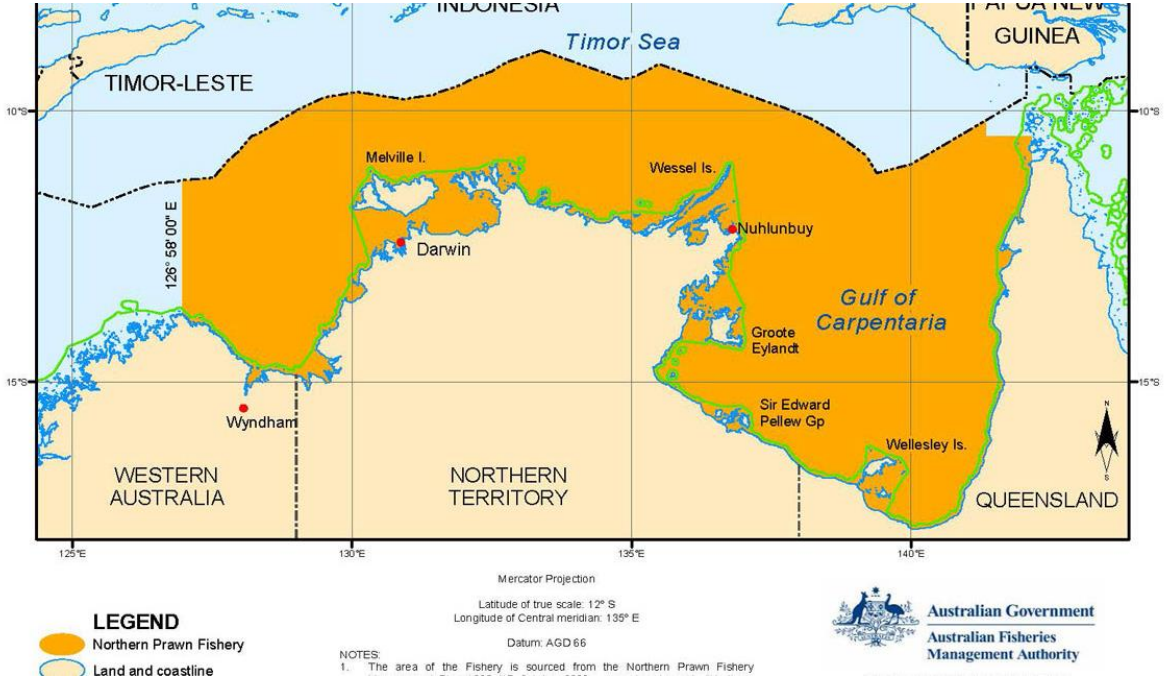


Austral Fisheries

- Tropical Prawn
- Patagonian Toothfish
- Seafood Import
- Perth based
- MSC Certified
- Carbon Neutral

Northern Prawn Fishery

- Total fleet just 52 boats
- Total area almost 1M km2
- Total production around 8000 tonnes all species
- Annual crop based on multiple environmental factors



Mangrove Dieoff

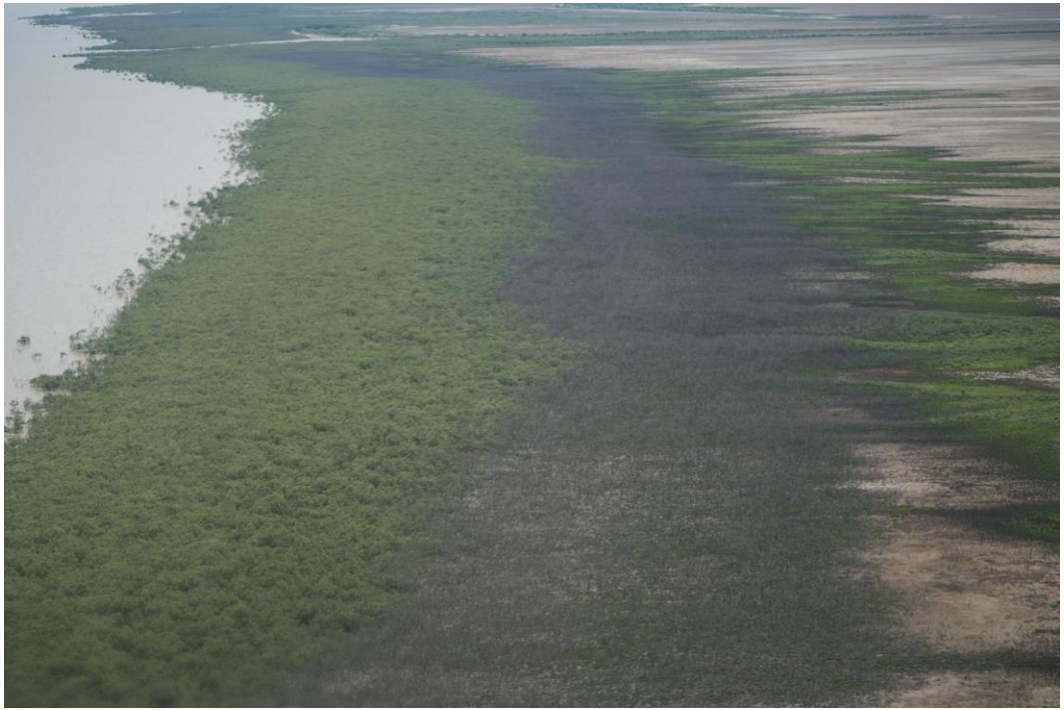
7000 ha dead in the Eastern GoC

2015

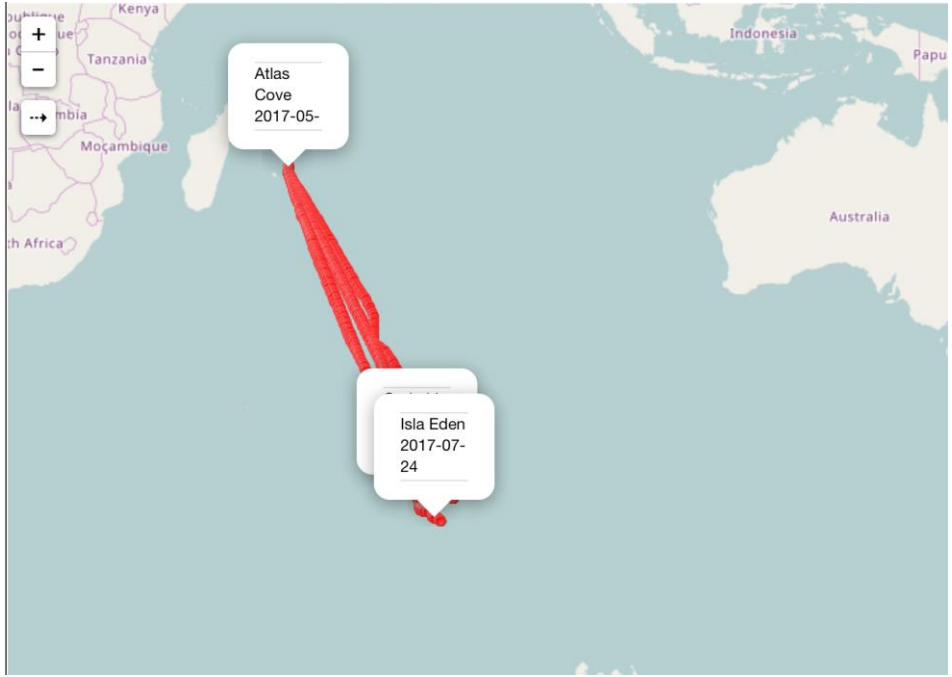
- Impact on productivity?

- Implications for the future?

- Future Govt policy on irrigation?

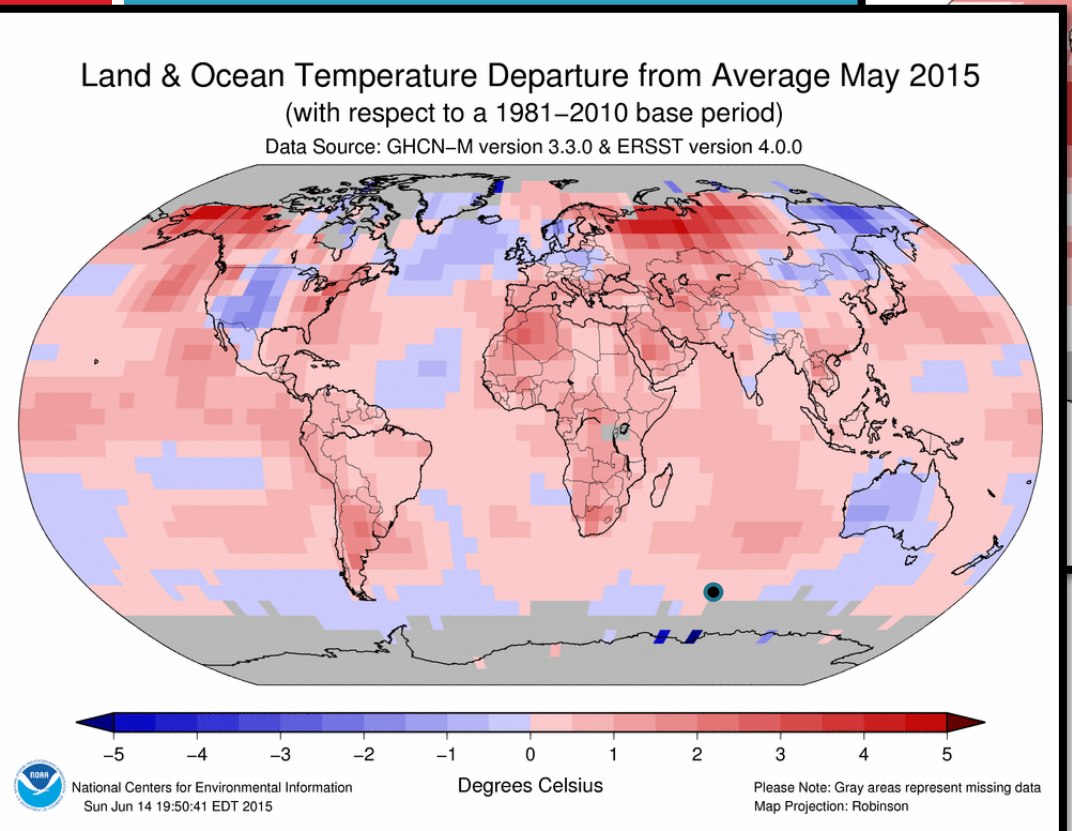


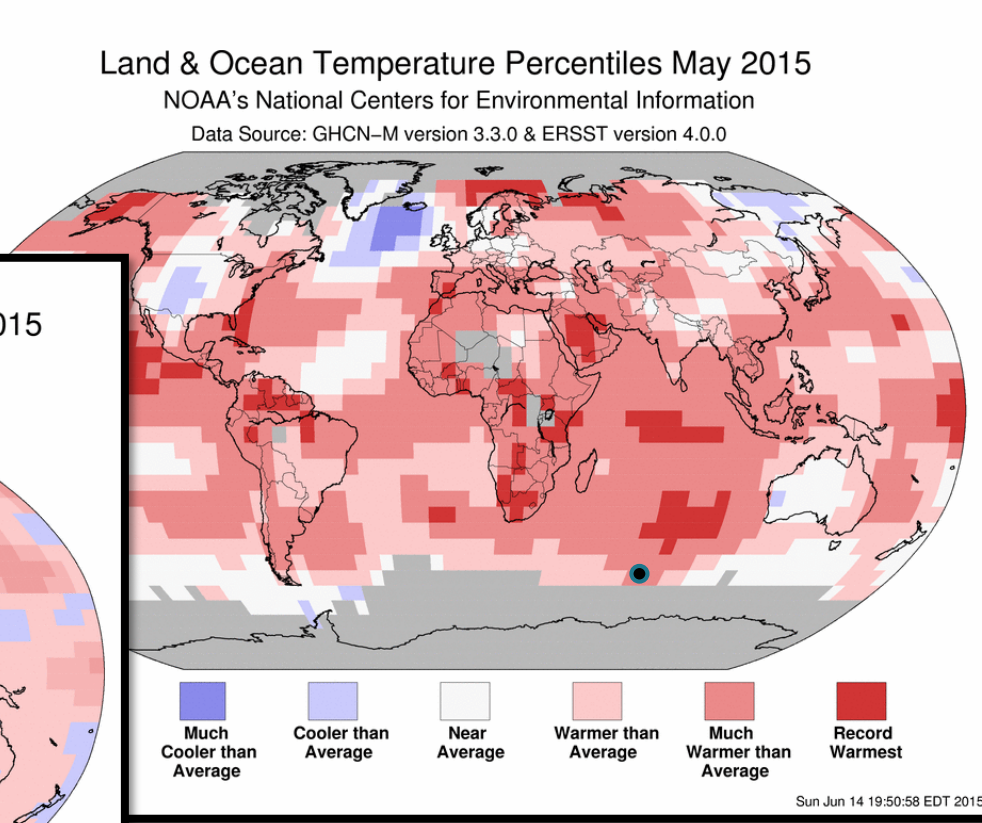
Toothfish – Heard Island



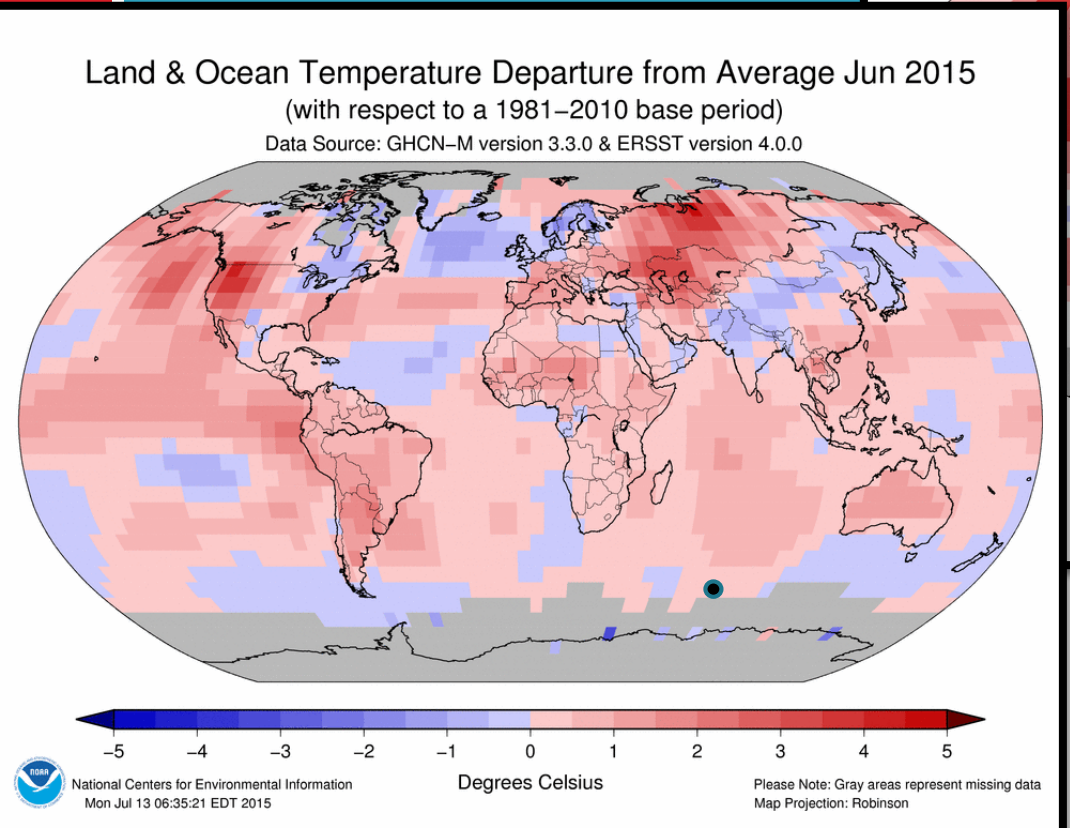
- Australian territory
- Inside convergence
- 3405 tonnes TAC
- Total of 4 boats
- In 2016 catch rates fell

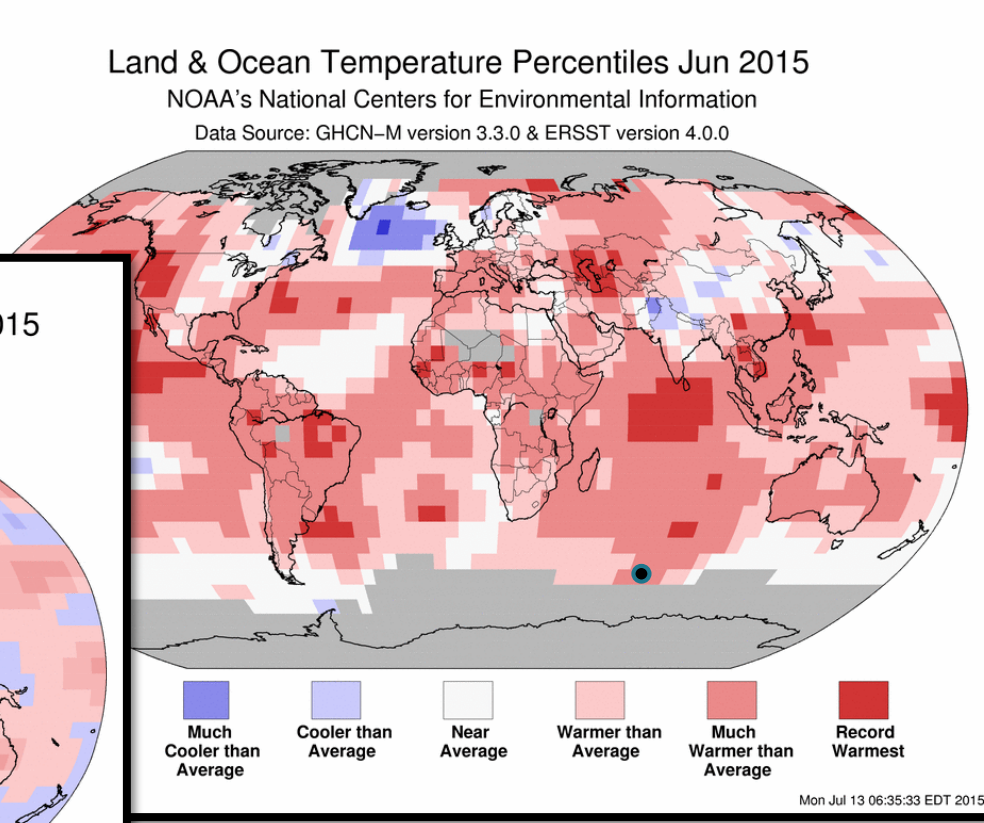
May 2015 sea surface temperature



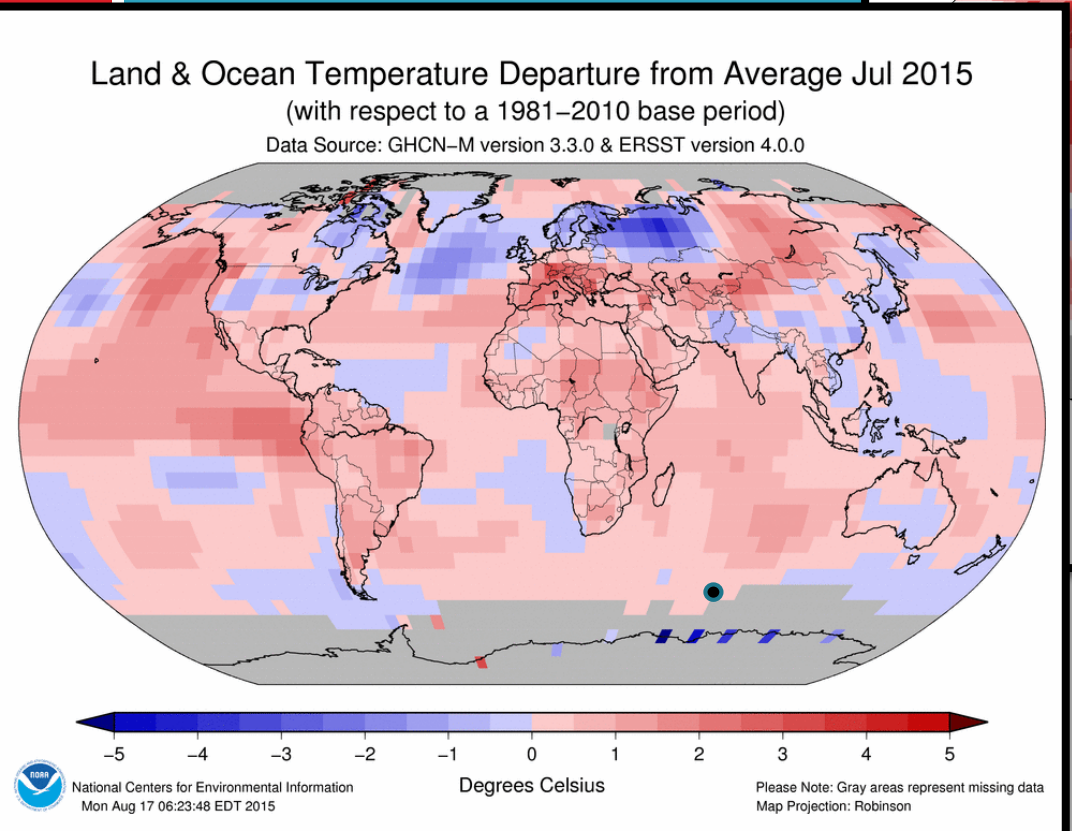


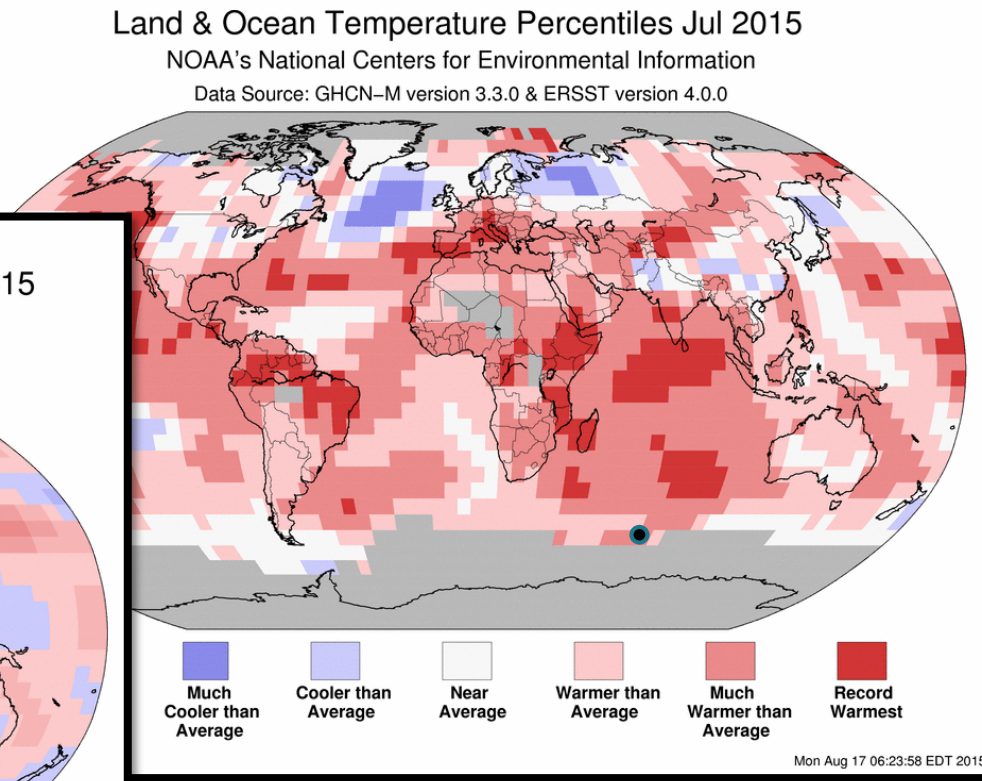
June 2015 sea surface temperature





Jul 2015 sea surface temperature



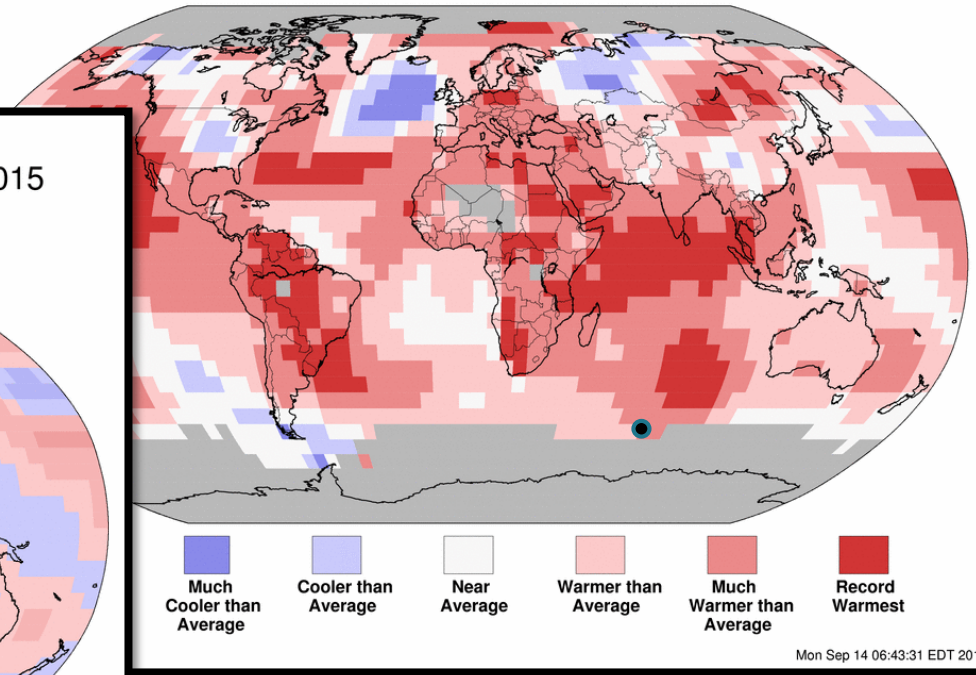


Aug 2015 sea surface temperature

Land & Ocean Temperature Percentiles Aug 2015

NOAA's National Centers for Environmental Information

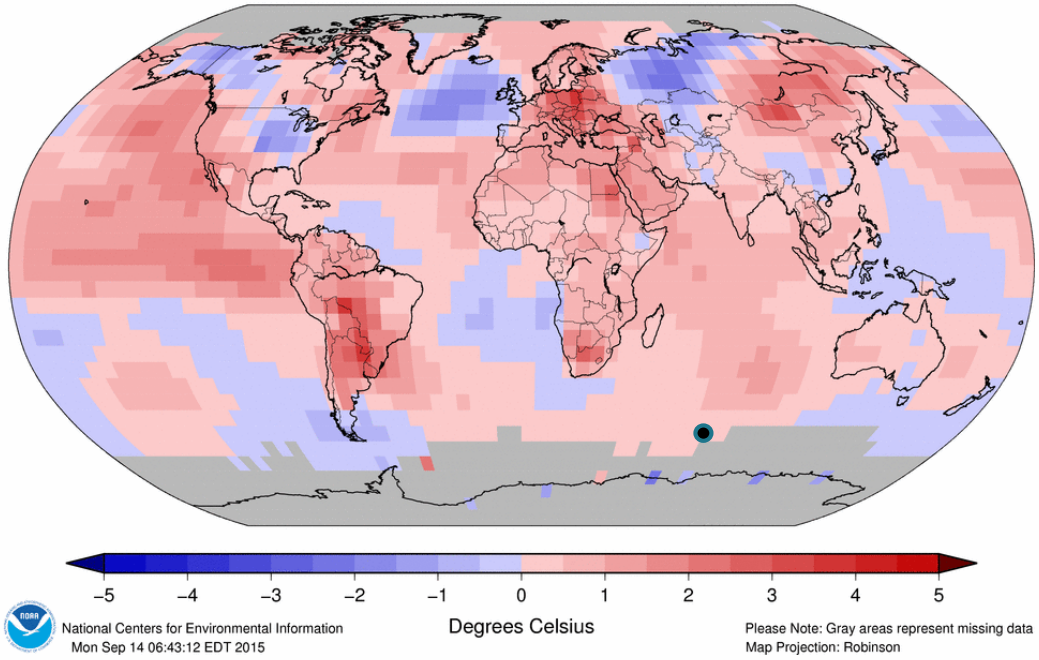
Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



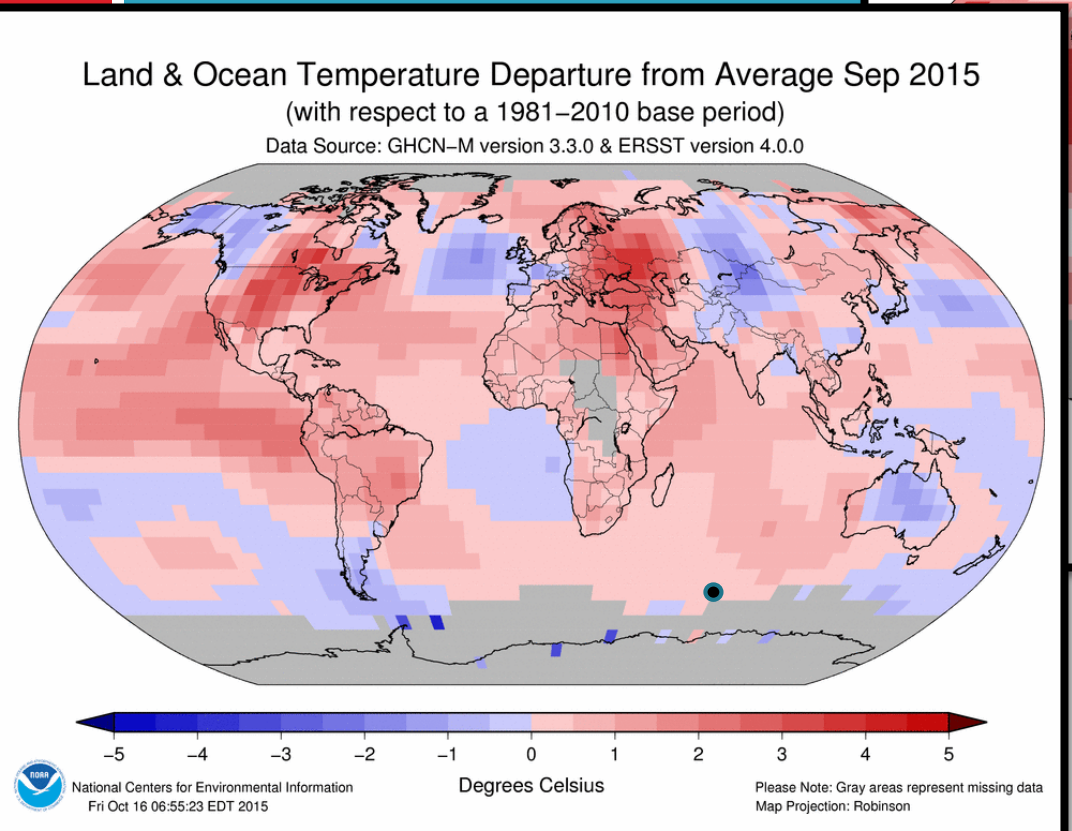
Land & Ocean Temperature Departure from Average Aug 2015

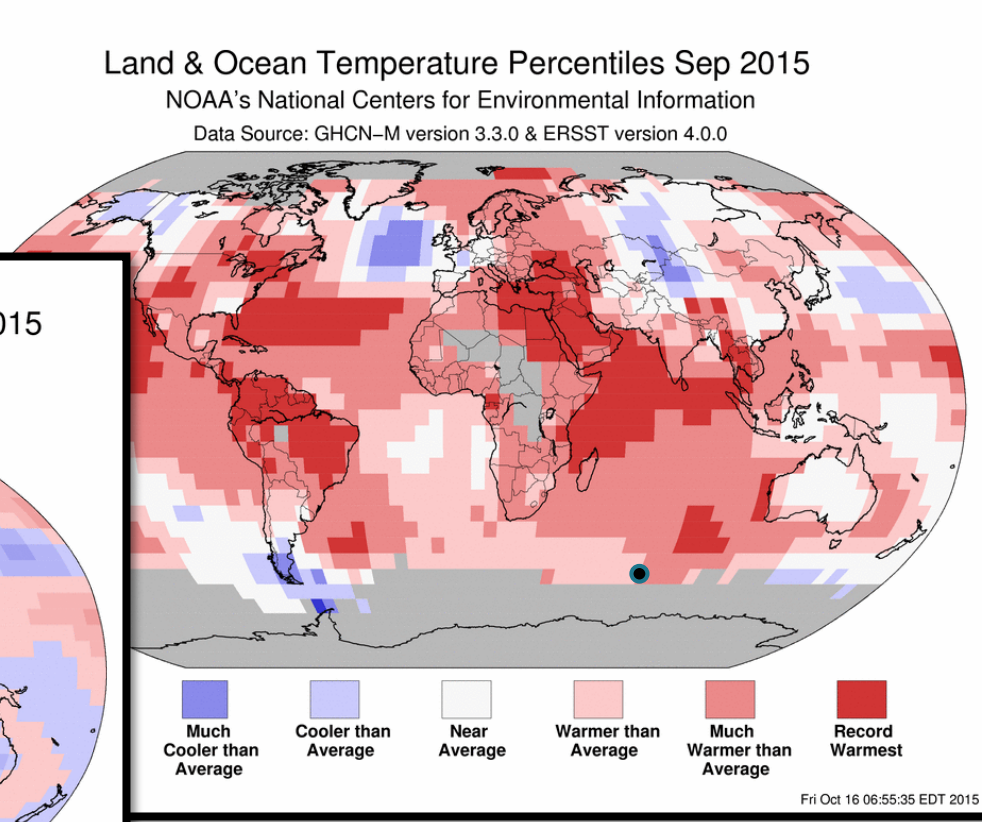
(with respect to a 1981–2010 base period)

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



Sep 2015 sea surface temperature



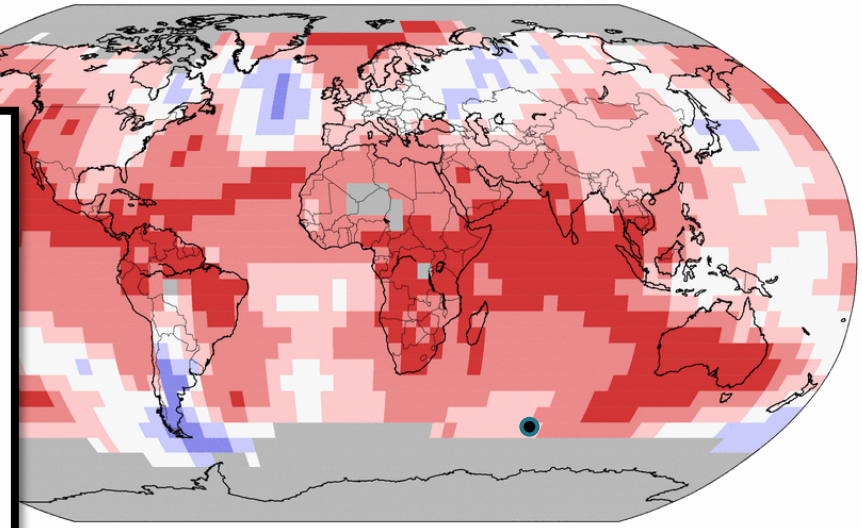


Oct 2015 sea surface temperature

Land & Ocean Temperature Percentiles Oct 2015

NOAA's National Centers for Environmental Information

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



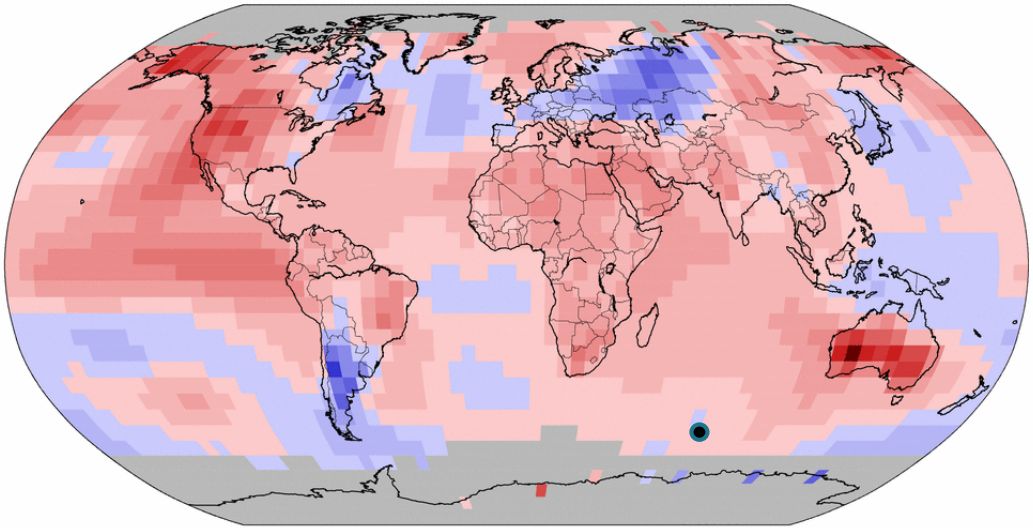
Much Cooler than Average | Cooler than Average | Near Average | Warmer than Average | Much Warmer than Average | Record Warmest

Tue Nov 17 06:54:45 EST 2015

Land & Ocean Temperature Departure from Average Oct 2015

(with respect to a 1981–2010 base period)

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



−5 −4 −3 −2 −1 0 1 2 3 4 5

Degrees Celsius

National Centers for Environmental Information

Tue Nov 17 06:54:34 EST 2015

Please Note: Gray areas represent missing data

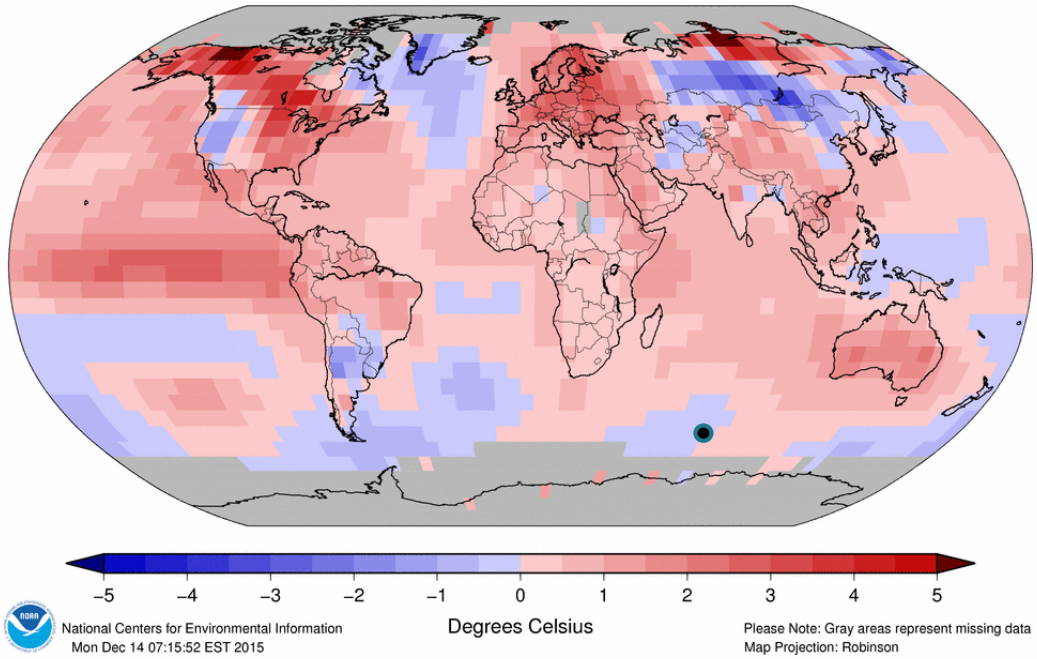
Map Projection: Robinson

Nov 2015 sea surface temperature

Land & Ocean Temperature Departure from Average Nov 2015

(with respect to a 1981–2010 base period)

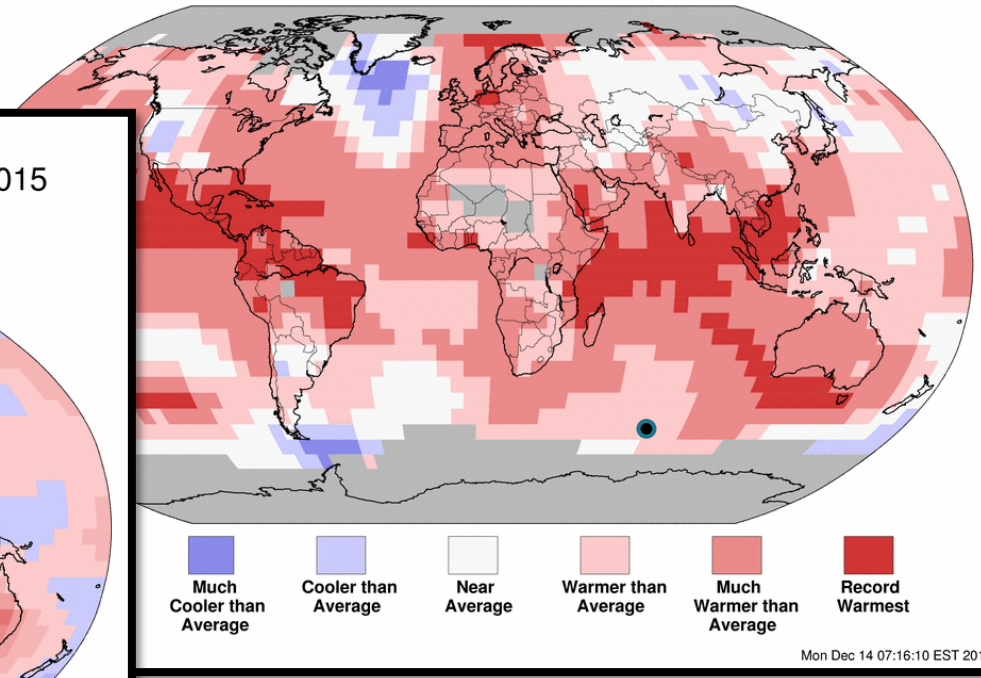
Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



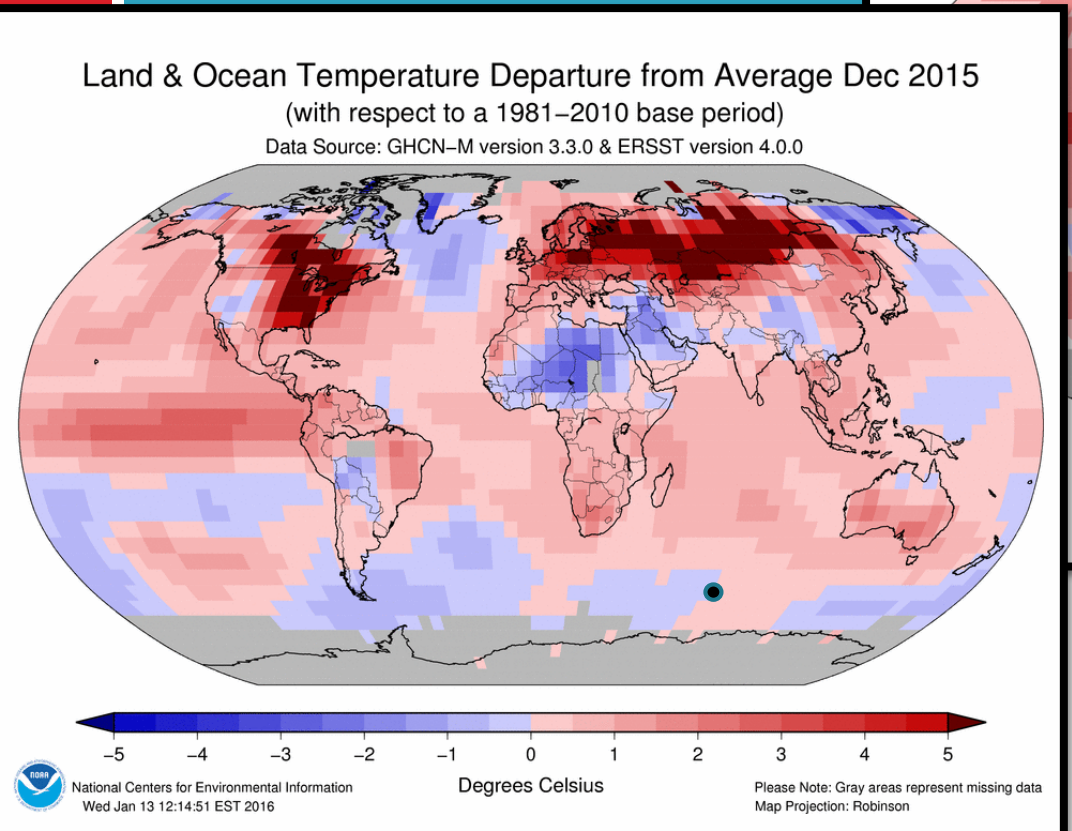
Land & Ocean Temperature Percentiles Nov 2015

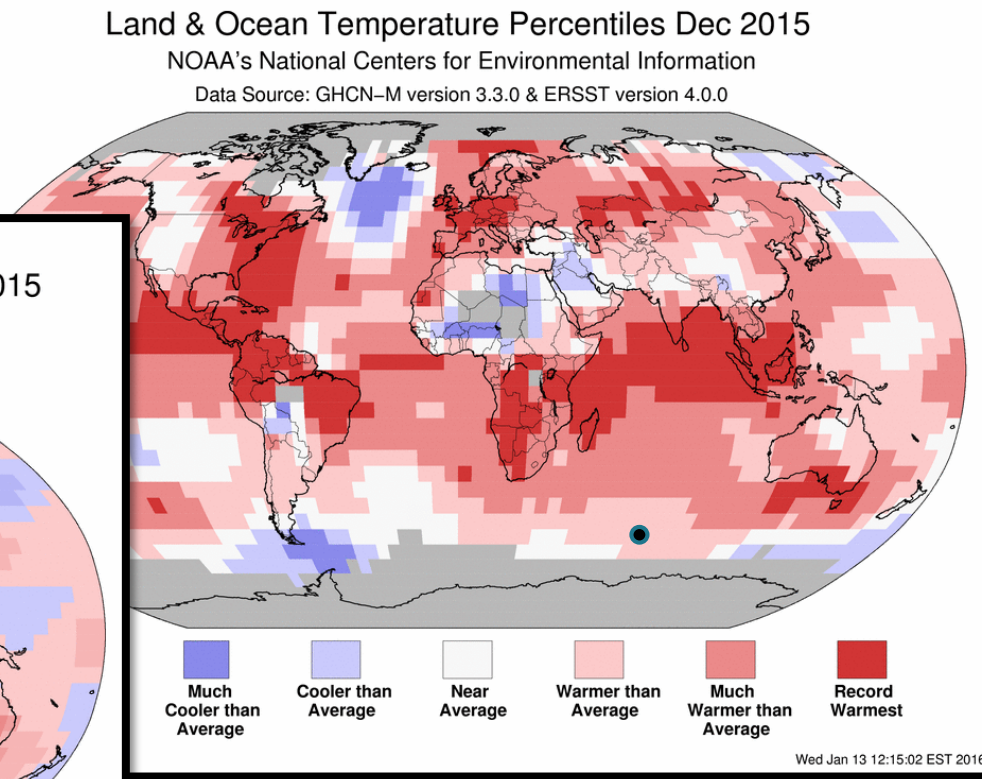
NOAA's National Centers for Environmental Information

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



Dec 2015 sea surface temperature



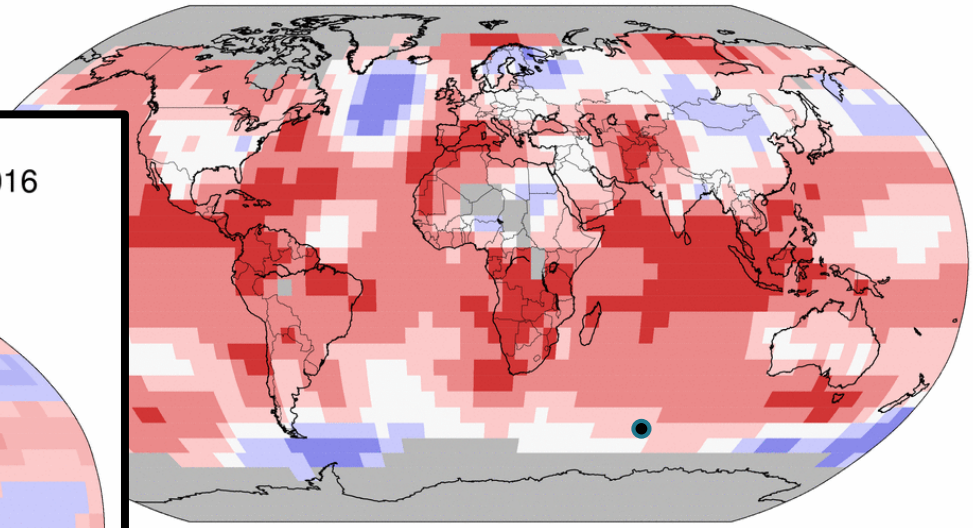


Jan 2016 sea surface temperature

Land & Ocean Temperature Percentiles Jan 2016

NOAA's National Centers for Environmental Information

Data Source: GHCN-M version 3.3.0 & ERSST version 4.0.0



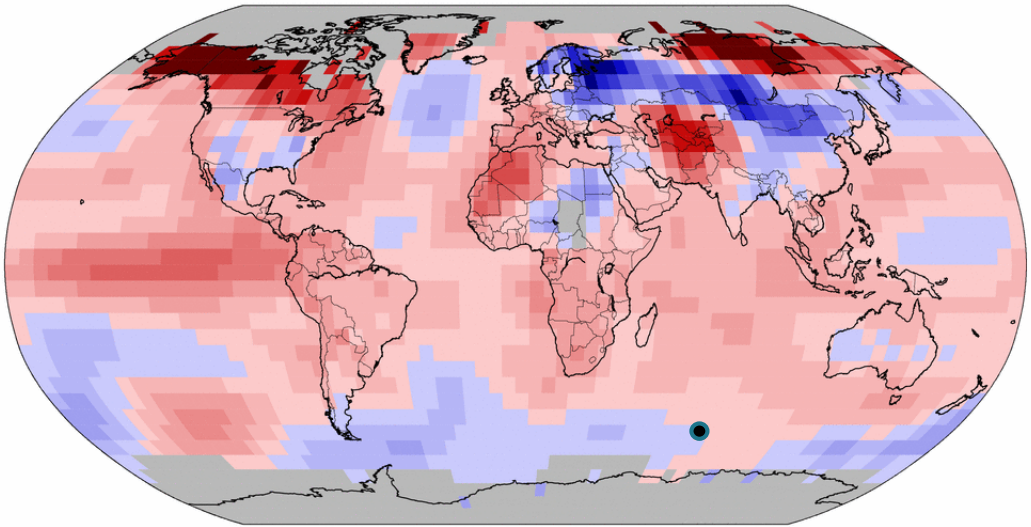
Much Cooler than Average | Cooler than Average | Near Average | Warmer than Average | Much Warmer than Average | Record Warmest

Fri Feb 12 06:41:00 EST 2016

Land & Ocean Temperature Departure from Average Jan 2016

(with respect to a 1981–2010 base period)

Data Source: GHCN-M version 3.3.0 & ERSST version 4.0.0



−5 −4 −3 −2 −1 0 1 2 3 4 5

Degrees Celsius

National Centers for Environmental Information

Fri Feb 12 06:40:51 EST 2016

Please Note: Gray areas represent missing data

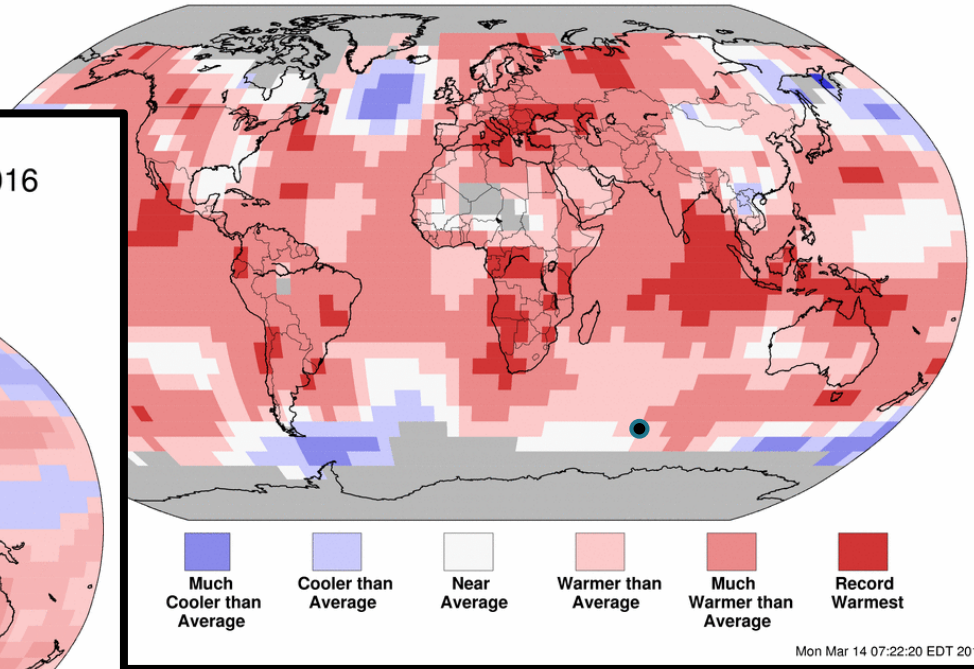
Map Projection: Robinson

Feb 2016 sea surface temperature

Land & Ocean Temperature Percentiles Feb 2016

NOAA's National Centers for Environmental Information

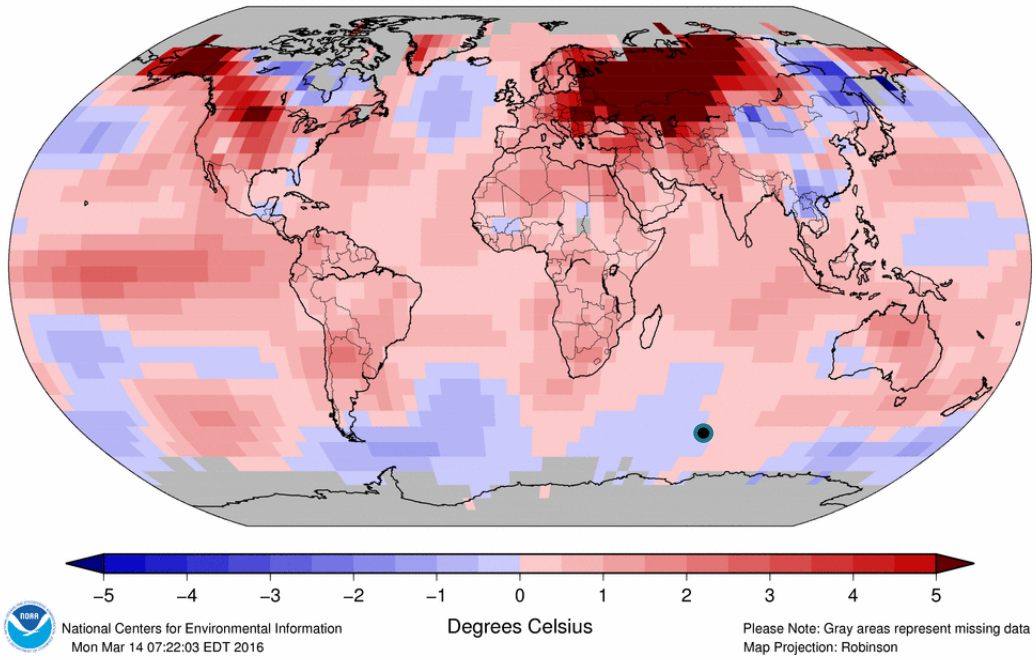
Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



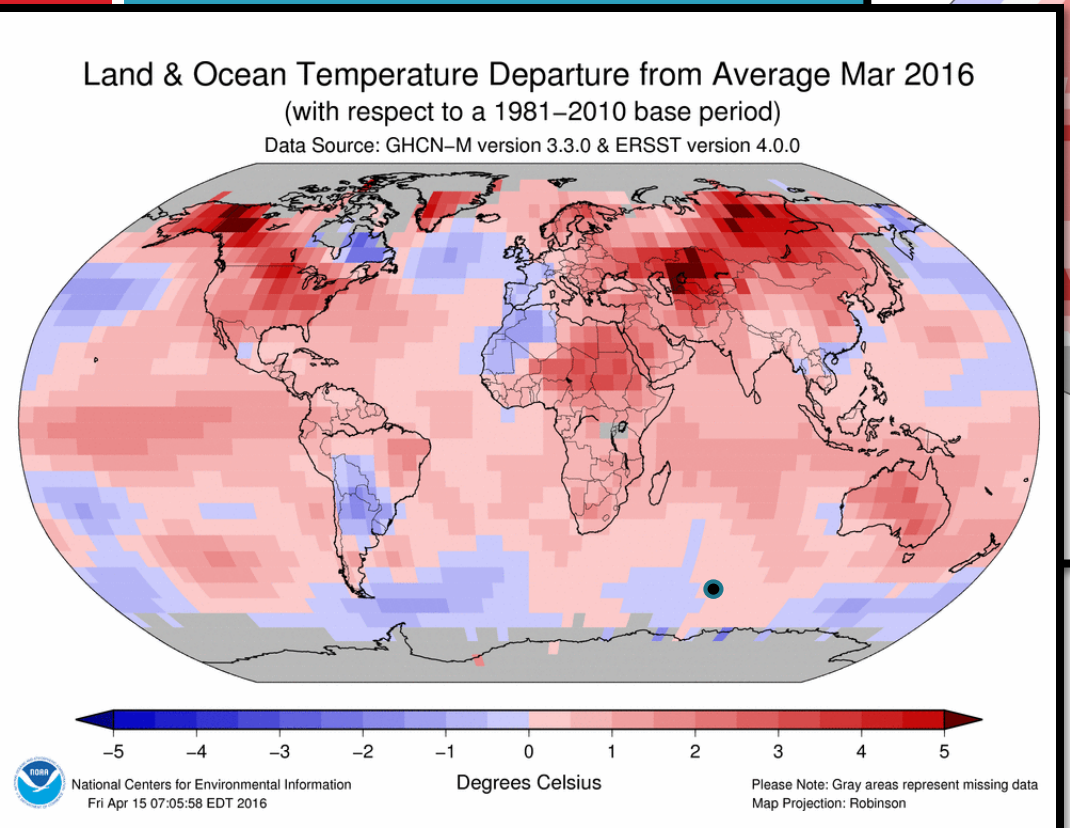
Land & Ocean Temperature Departure from Average Feb 2016

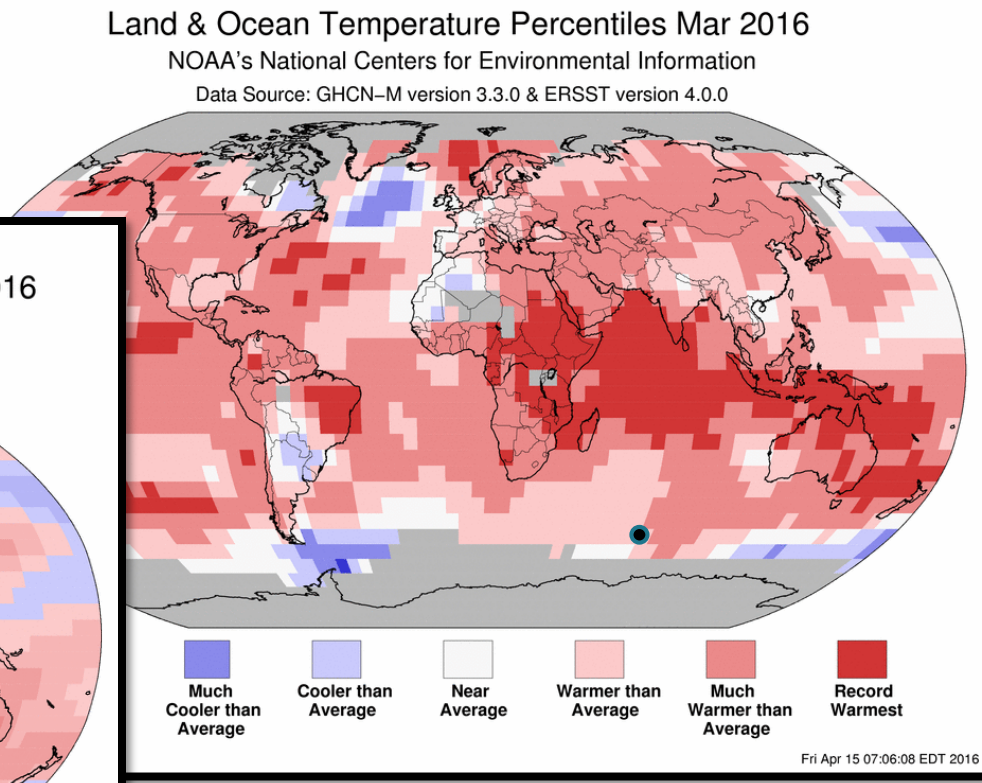
(with respect to a 1981–2010 base period)

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0

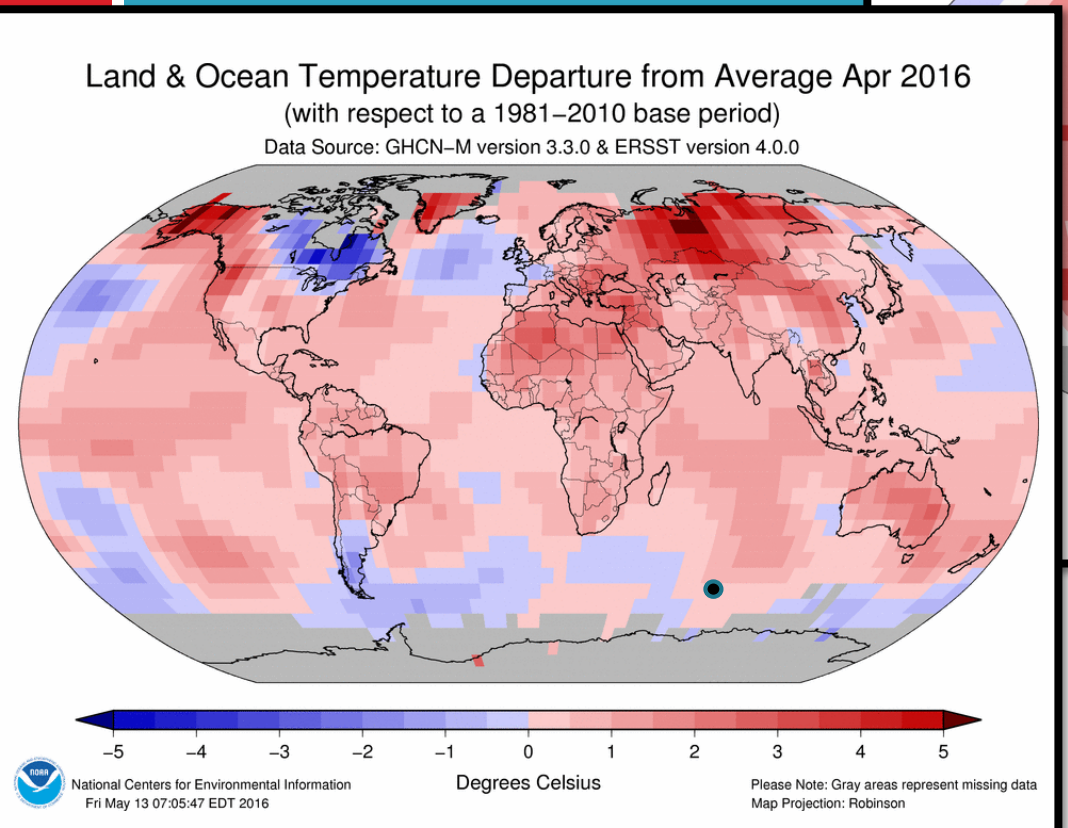


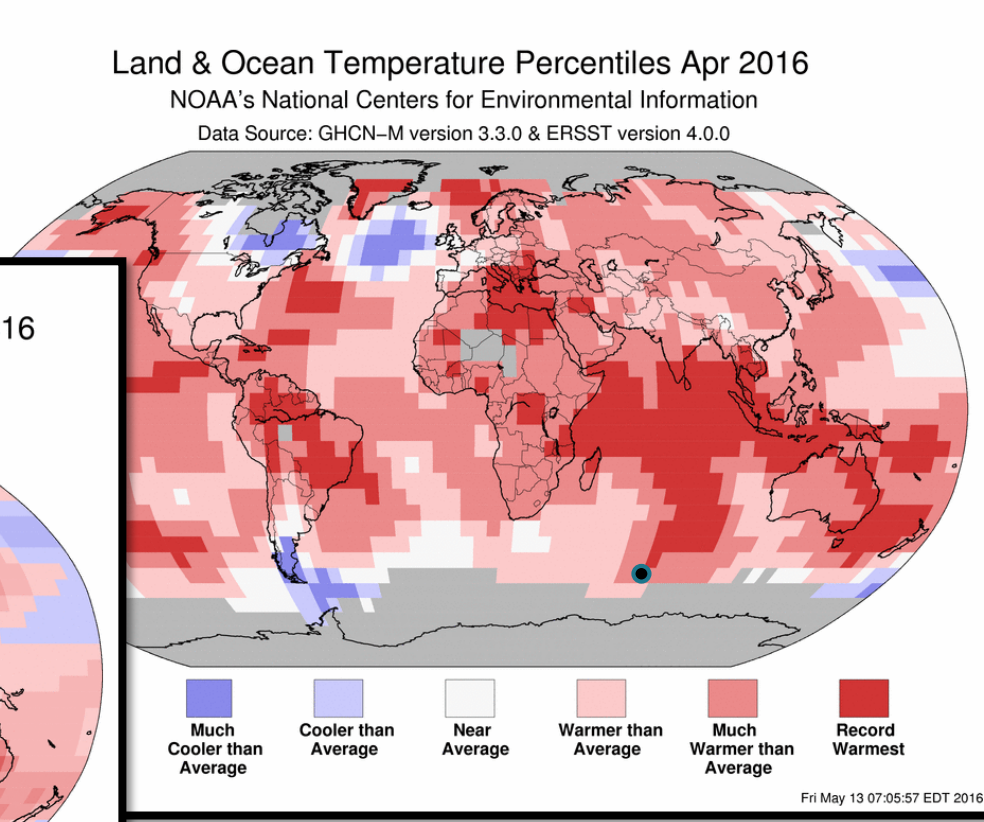
March 2016 sea surface temperature



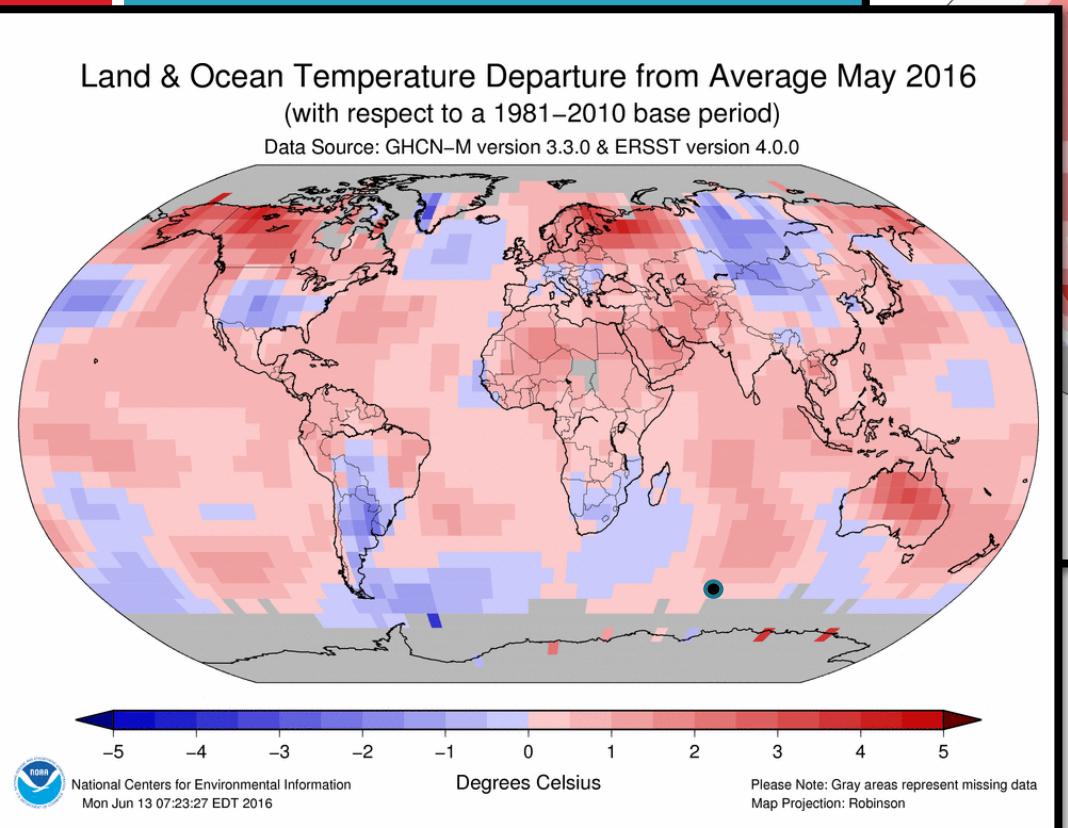


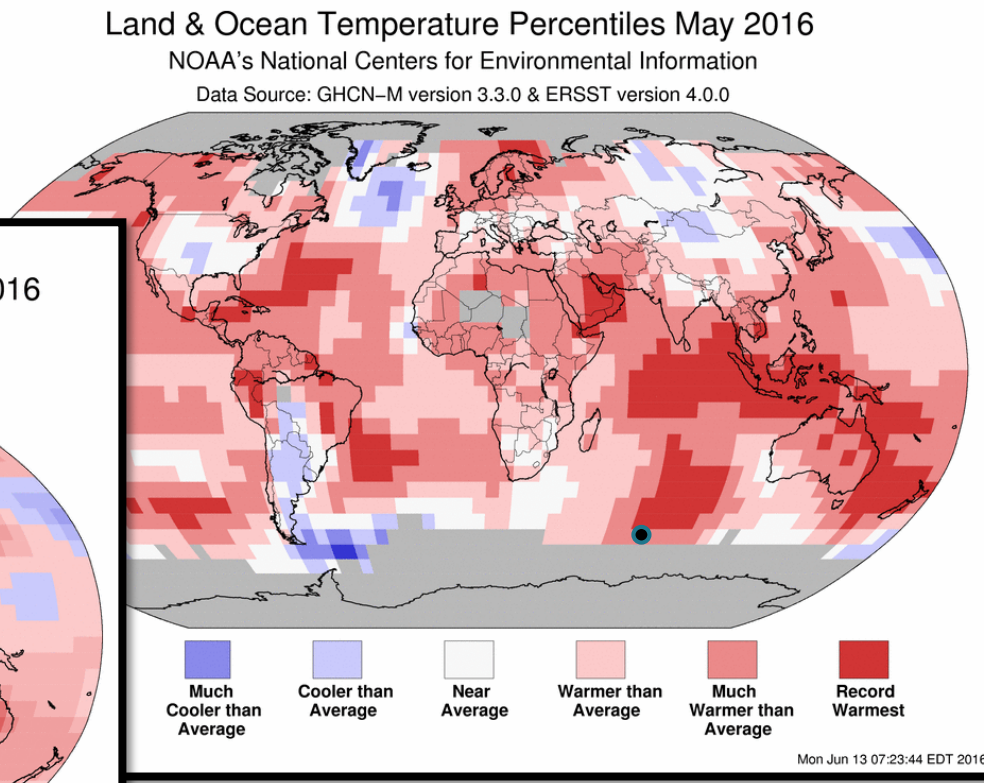
April 2016 sea surface temperature



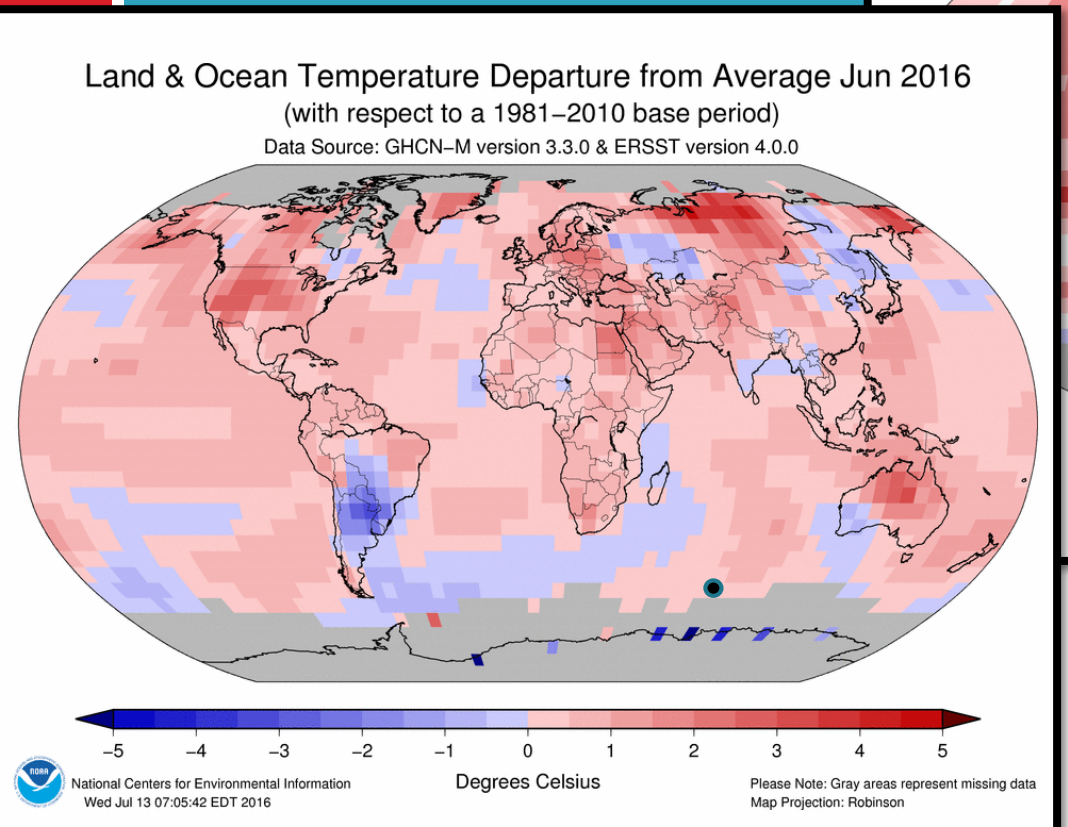


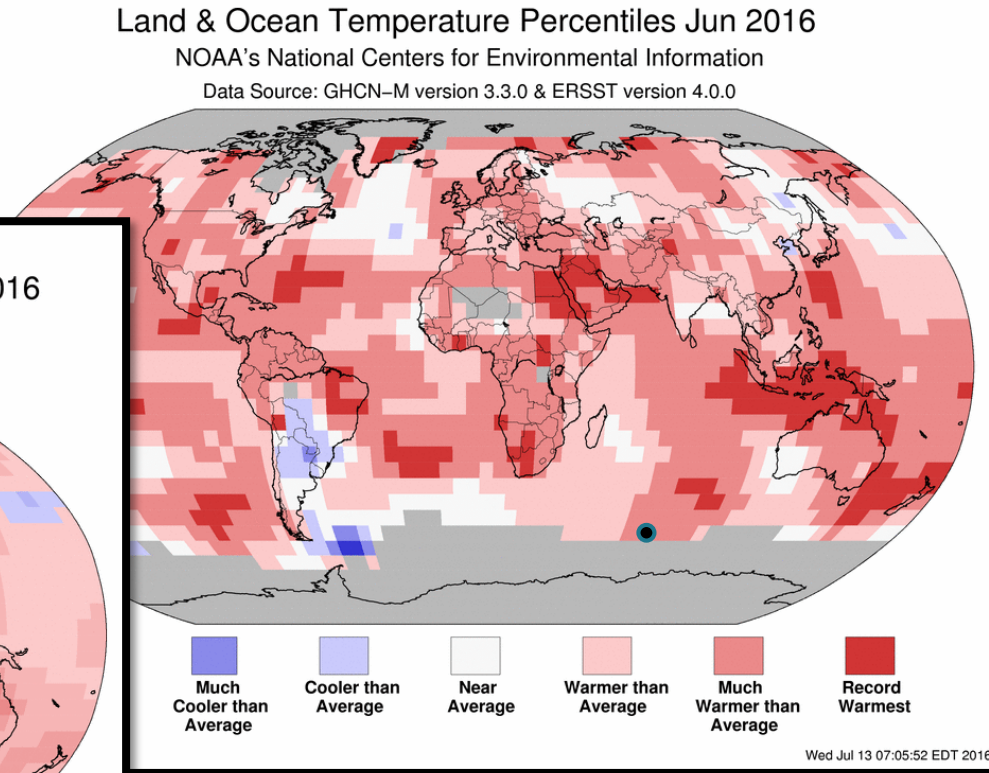
May 2016 sea surface temperature



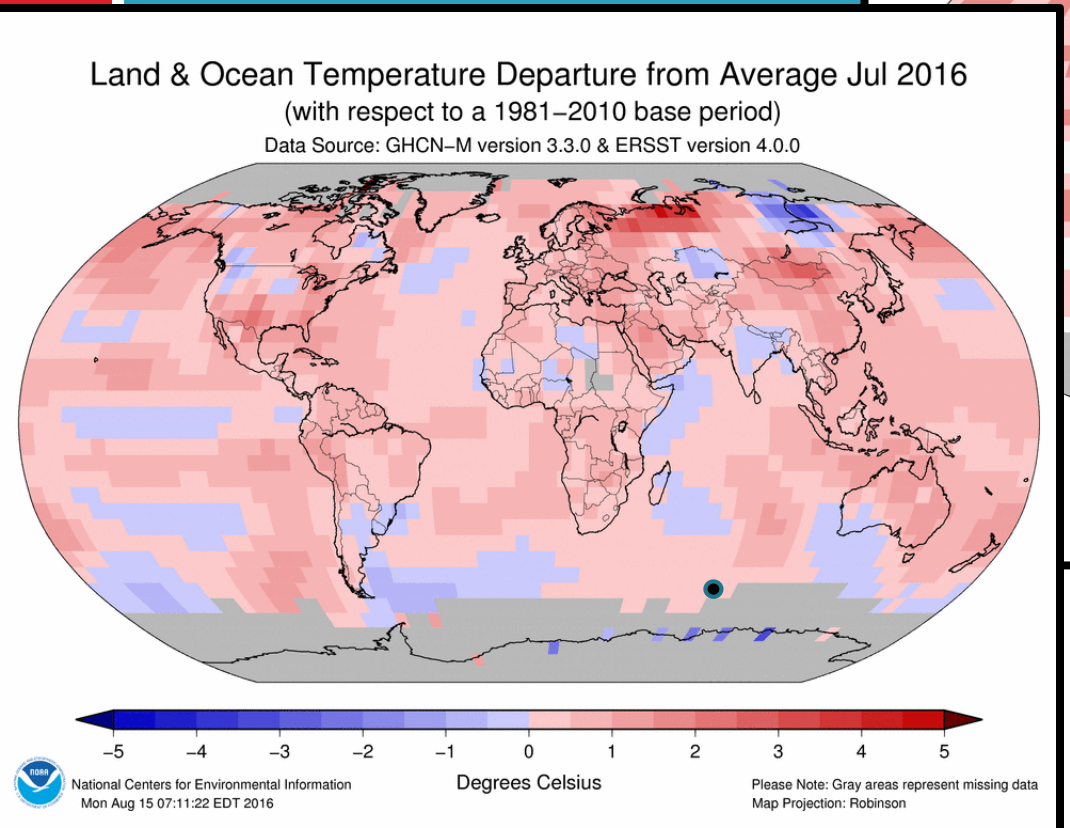


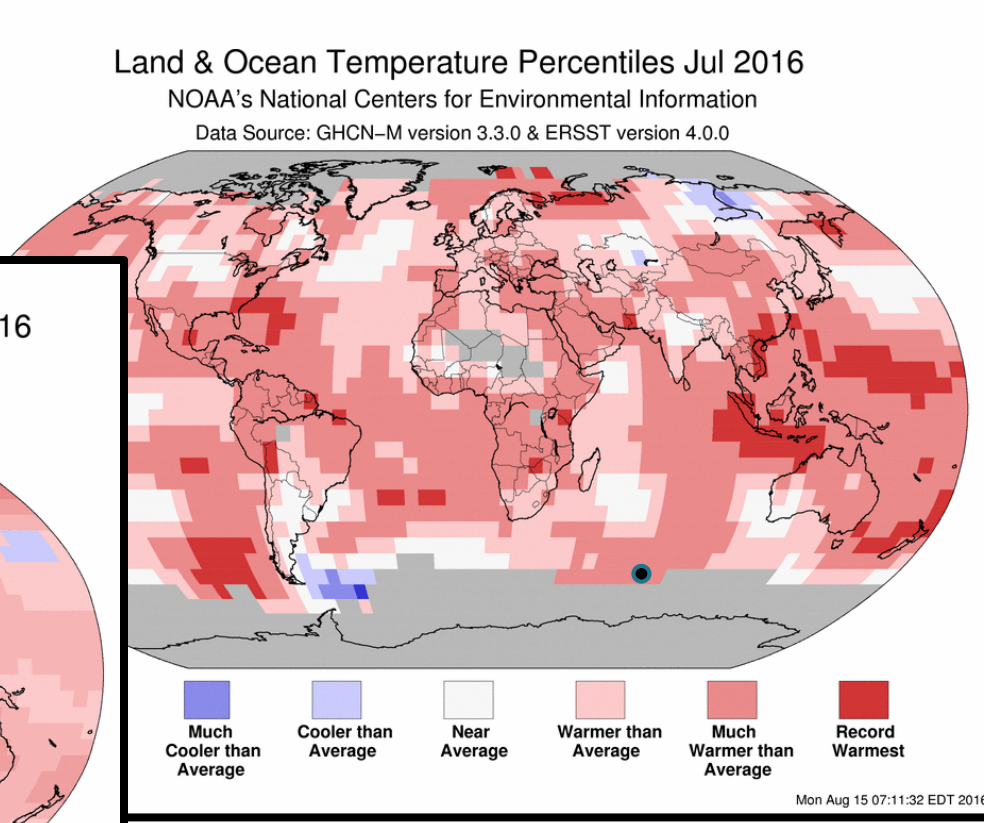
June 2016 sea surface temperature





July 2016 sea surface temperature



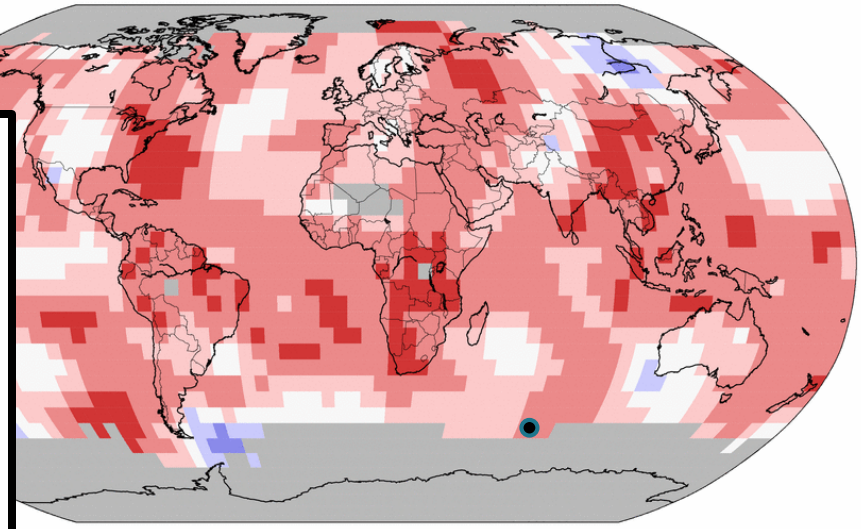


Aug 2016 sea surface temperature

Land & Ocean Temperature Percentiles Aug 2016

NOAA's National Centers for Environmental Information

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



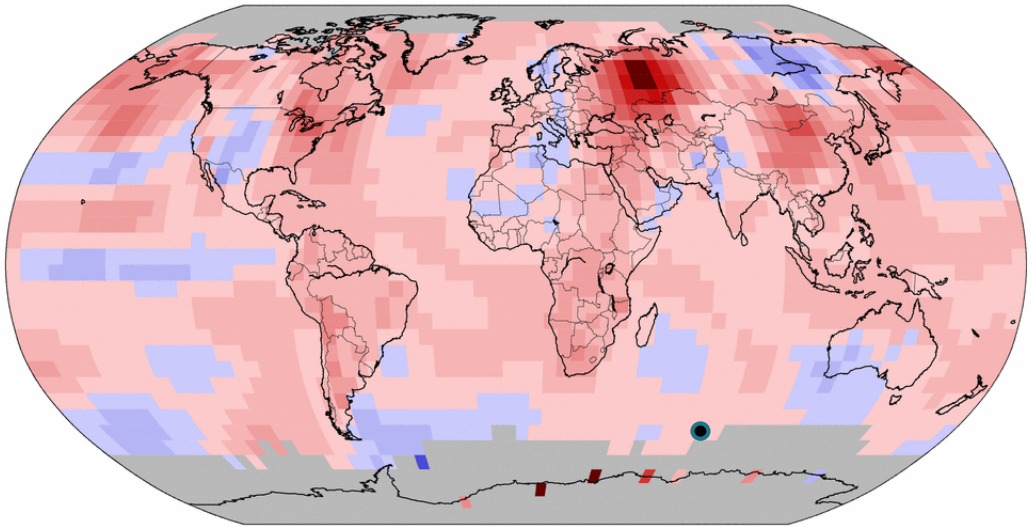
Much Cooler than Average | Cooler than Average | Near Average | Warmer than Average | Much Warmer than Average | Record Warmest

Fri Sep 16 09:45:33 EDT 2016

Land & Ocean Temperature Departure from Average Aug 2016

(with respect to a 1981–2010 base period)

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



−5 −4 −3 −2 −1 0 1 2 3 4 5

Degrees Celsius

National Centers for Environmental Information

Fri Sep 16 10:01:08 EDT 2016

Please Note: Gray areas represent missing data

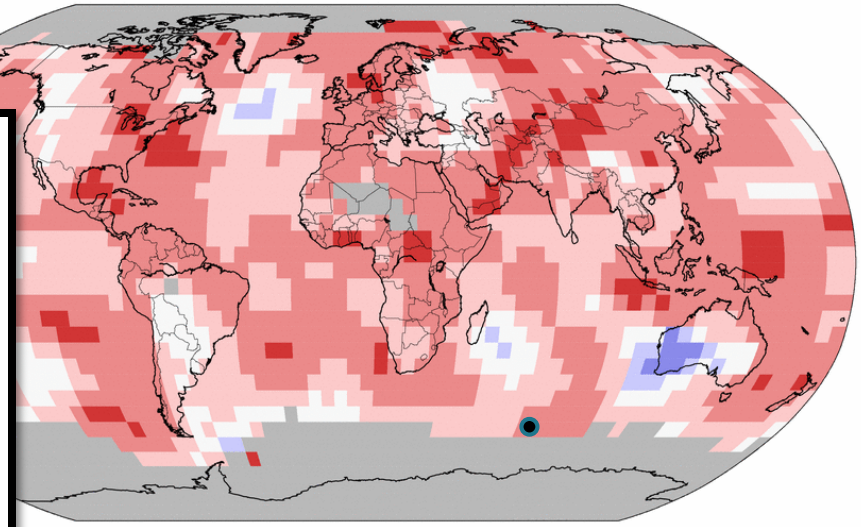
Map Projection: Robinson

Sep 2016 sea surface temperature

Land & Ocean Temperature Percentiles Sep 2016

NOAA's National Centers for Environmental Information

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



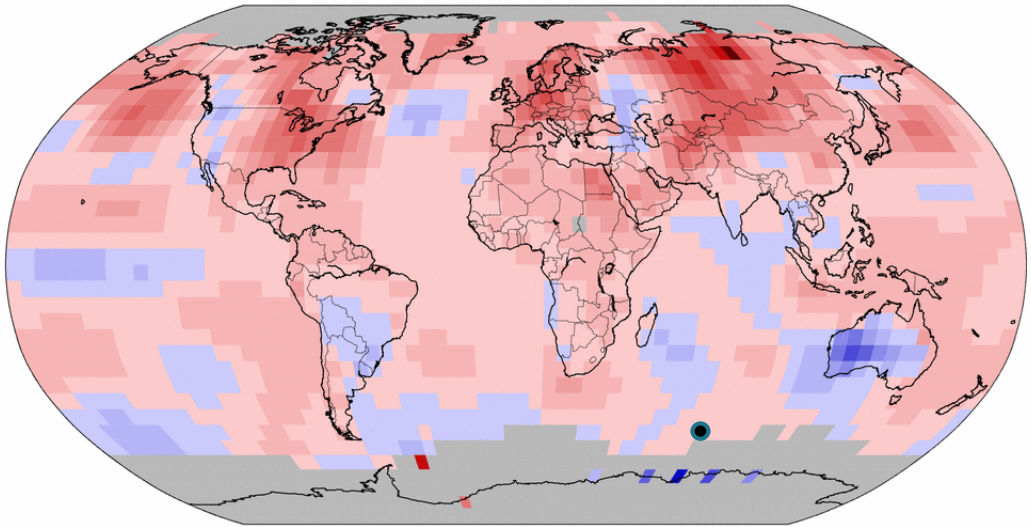
Much Cooler than Average | Cooler than Average | Near Average | Warmer than Average | Much Warmer than Average | Record Warmest

Thu Oct 13 07:09:39 EDT 2016

Land & Ocean Temperature Departure from Average Sep 2016

(with respect to a 1981–2010 base period)

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



−5 −4 −3 −2 −1 0 1 2 3 4 5

Degrees Celsius

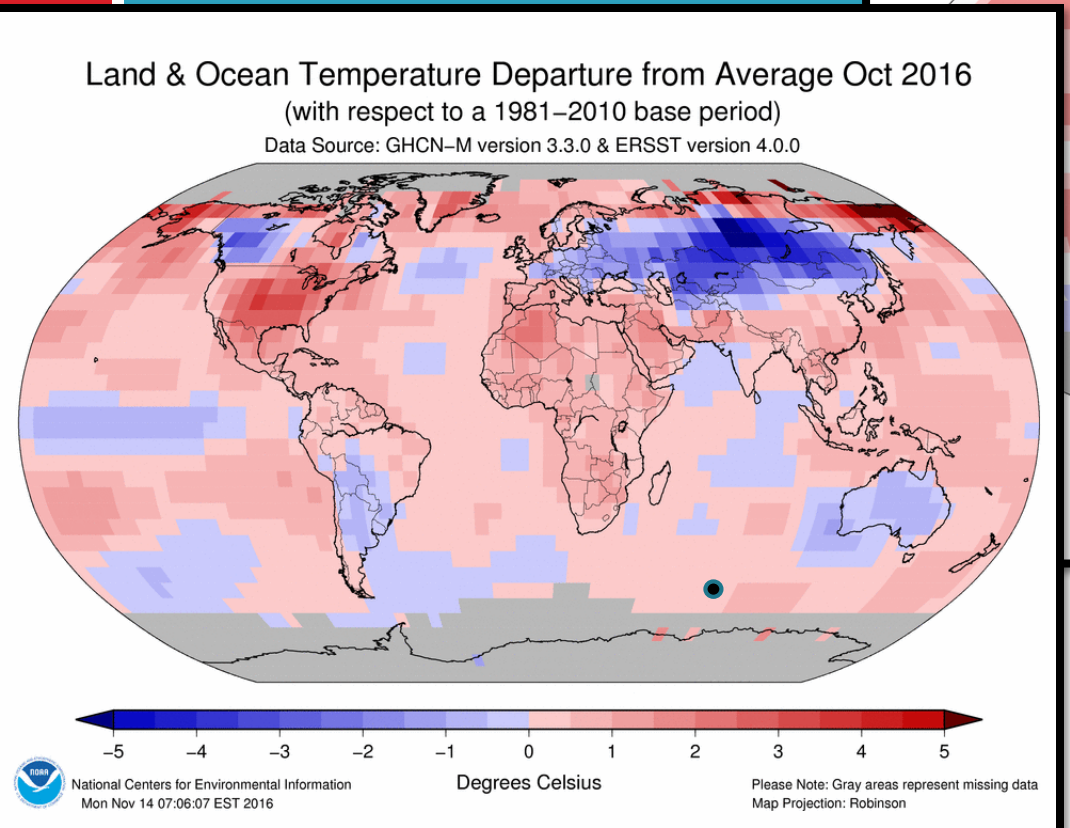
National Centers for Environmental Information

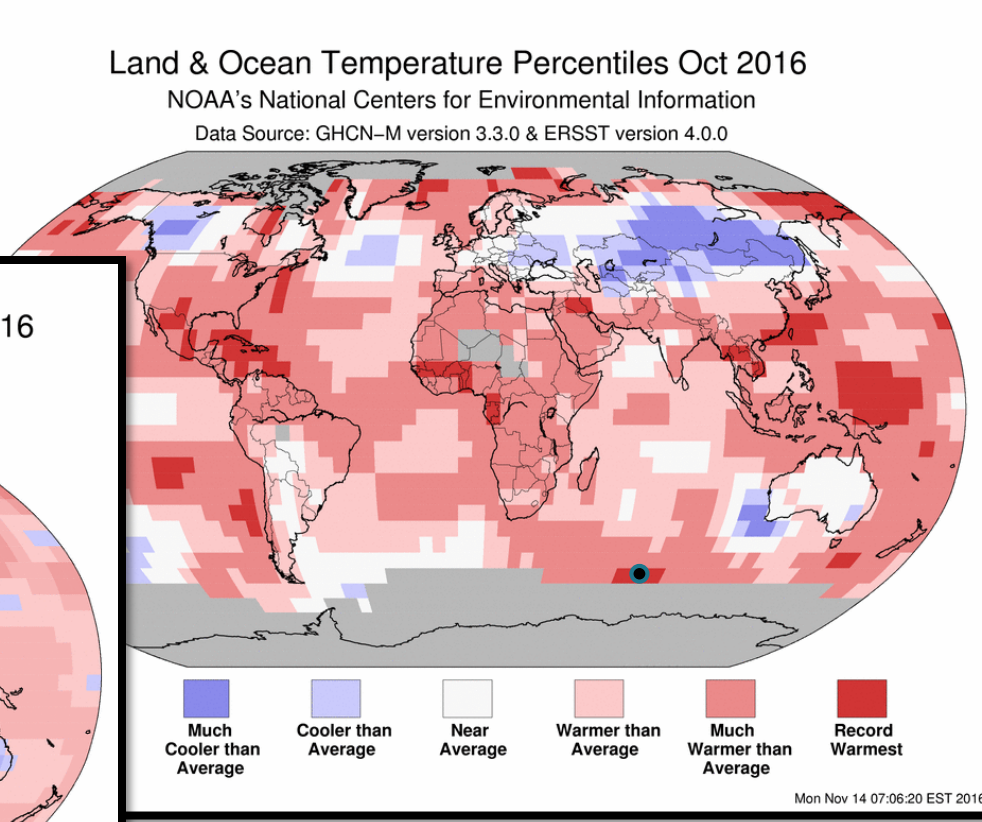
Thu Oct 13 07:09:27 EDT 2016

Please Note: Gray areas represent missing data

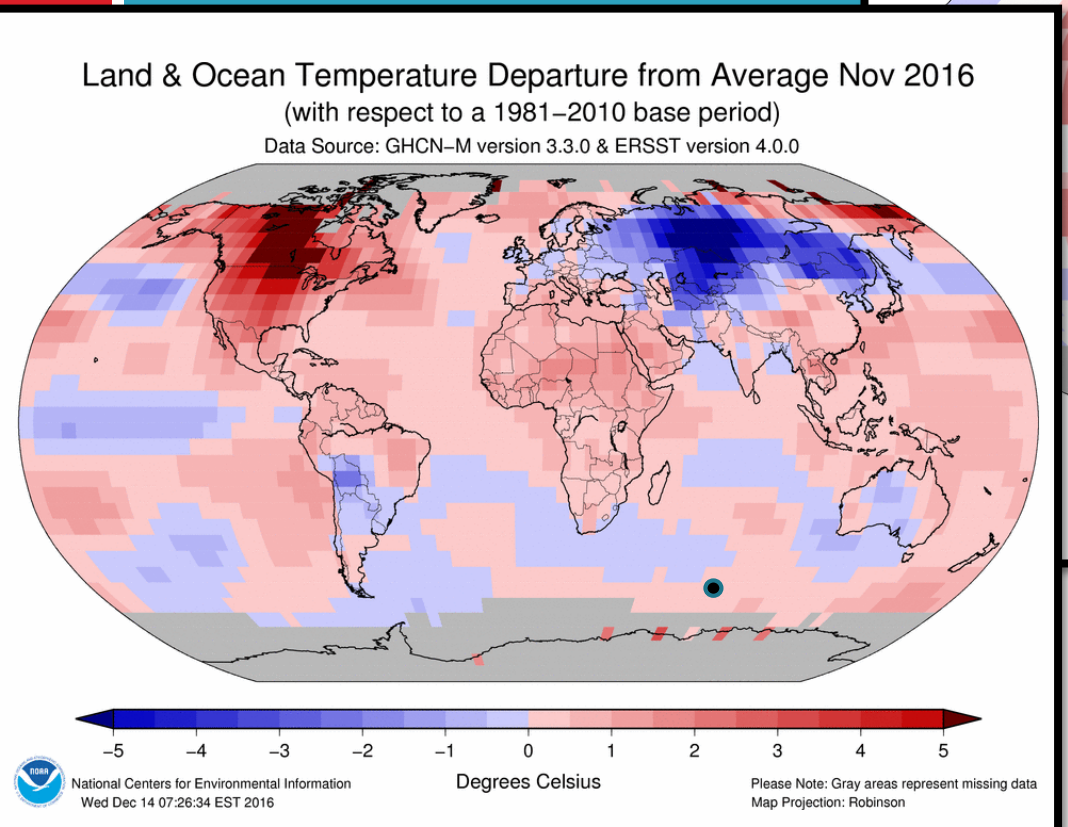
Map Projection: Robinson

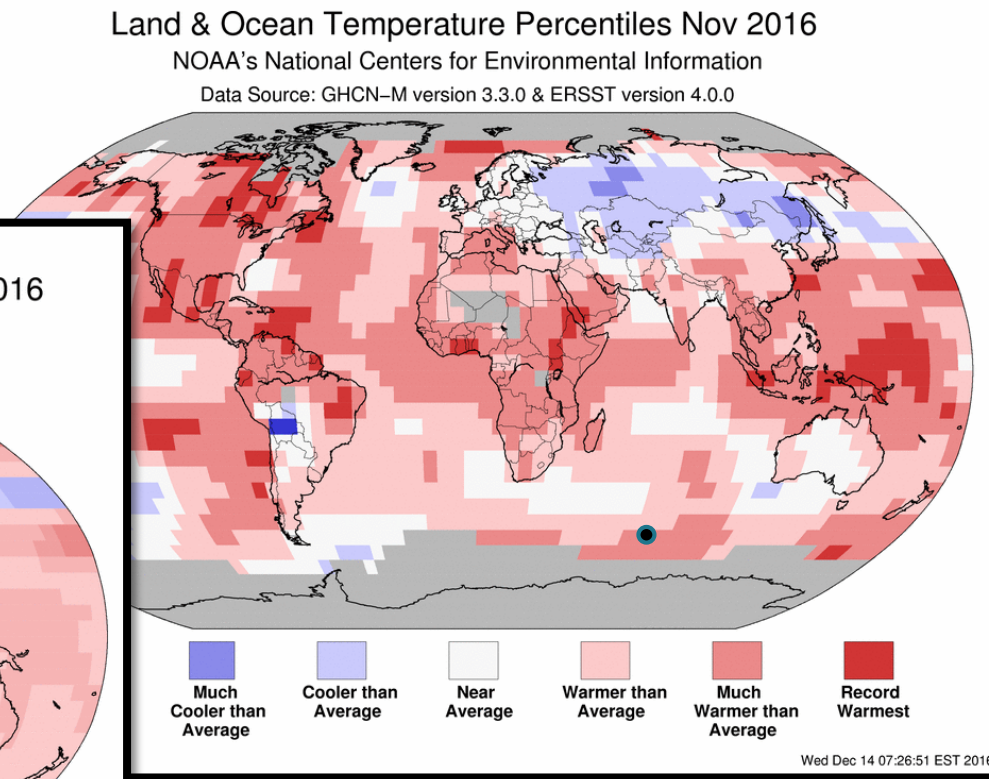
Oct 2016 sea surface temperature





Nov 2016 sea surface temperature



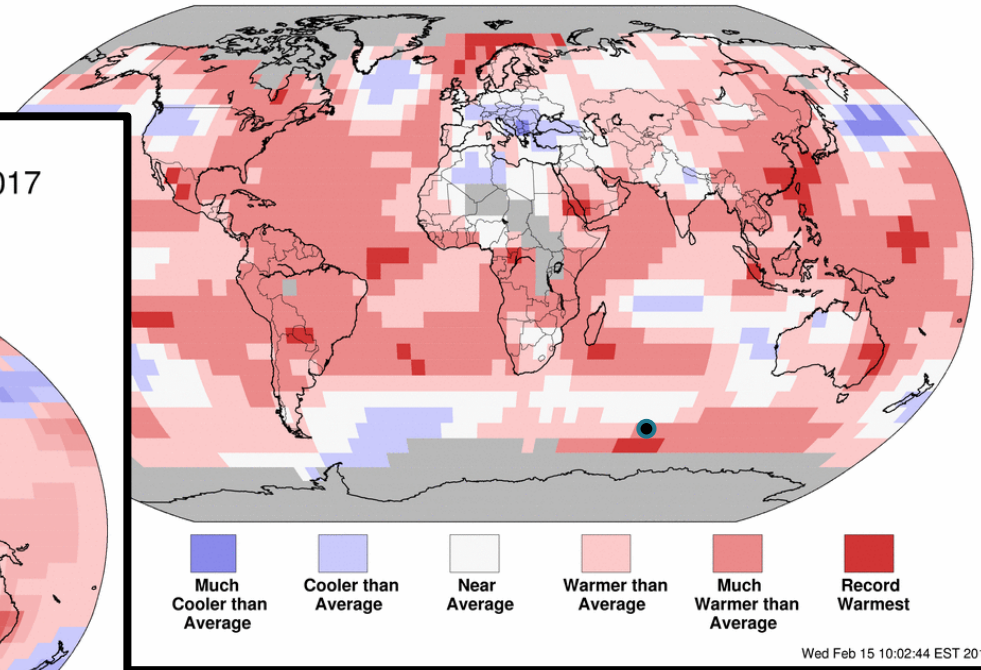


Jan 2017 sea surface temperature

Land & Ocean Temperature Percentiles Jan 2017

NOAA's National Centers for Environmental Information

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



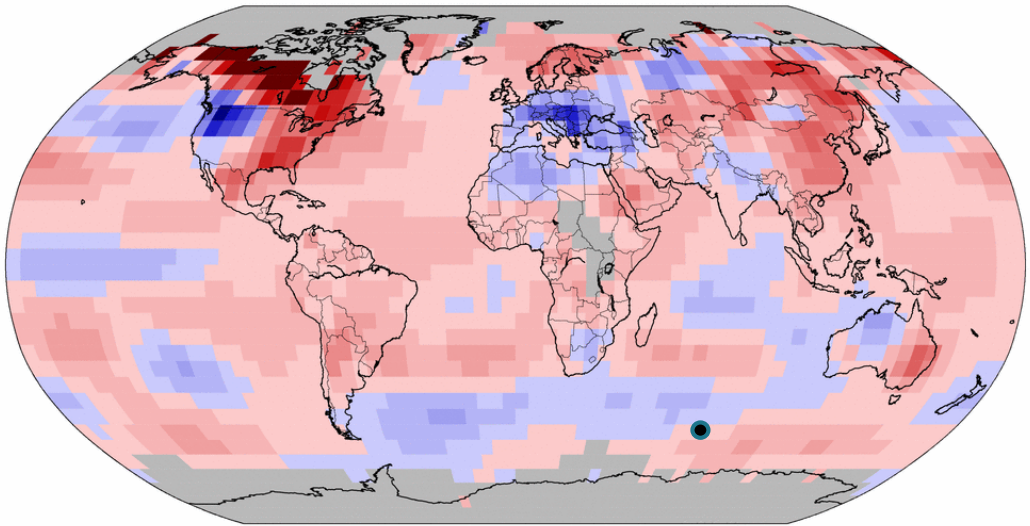
Much Cooler than Average | Cooler than Average | Near Average | Warmer than Average | Much Warmer than Average | Record Warmest

Wed Feb 15 10:02:44 EST 2017

Land & Ocean Temperature Departure from Average Jan 2017

(with respect to a 1981–2010 base period)

Data Source: GHCN–M version 3.3.0 & ERSST version 4.0.0



−5 −4 −3 −2 −1 0 1 2 3 4 5

Degrees Celsius

National Centers for Environmental Information

Wed Feb 15 10:02:38 EST 2017

Please Note: Gray areas represent missing data

Map Projection: Robinson

Toothfish catch rates

- On June 1 catches suddenly improved
- Lots of questions

What do we want to know?

- What happened?
- Why?
- Can we predict if (or when) it is likely to happen again?
- How can we best utilise the various opportunities for data collection, collation, and analyses to answer those and other questions?
- How can we improve our linkages with oceanographers, ecologists, and other researchers, to both inform their models and data sets, and improve our knowledge of specific regions of interest at the same time.

What do we want to know….

- Is there any correlation between apparent shifts in toothfish availability/catchability and oceanographic changes?
- How can we predict oceanographic conditions over the Kerguelen Plateau in 20 years time, or 50 years time
- Who can oversee a program of data collection and analysis that straddles numerous agencies and groups, and how is that best achieved.
- How can we improve our knowledge of the ecosystem, and ecologically related species that toothfish and icefish rely upon/or interact with
  - And what data collection is most informative to aide that

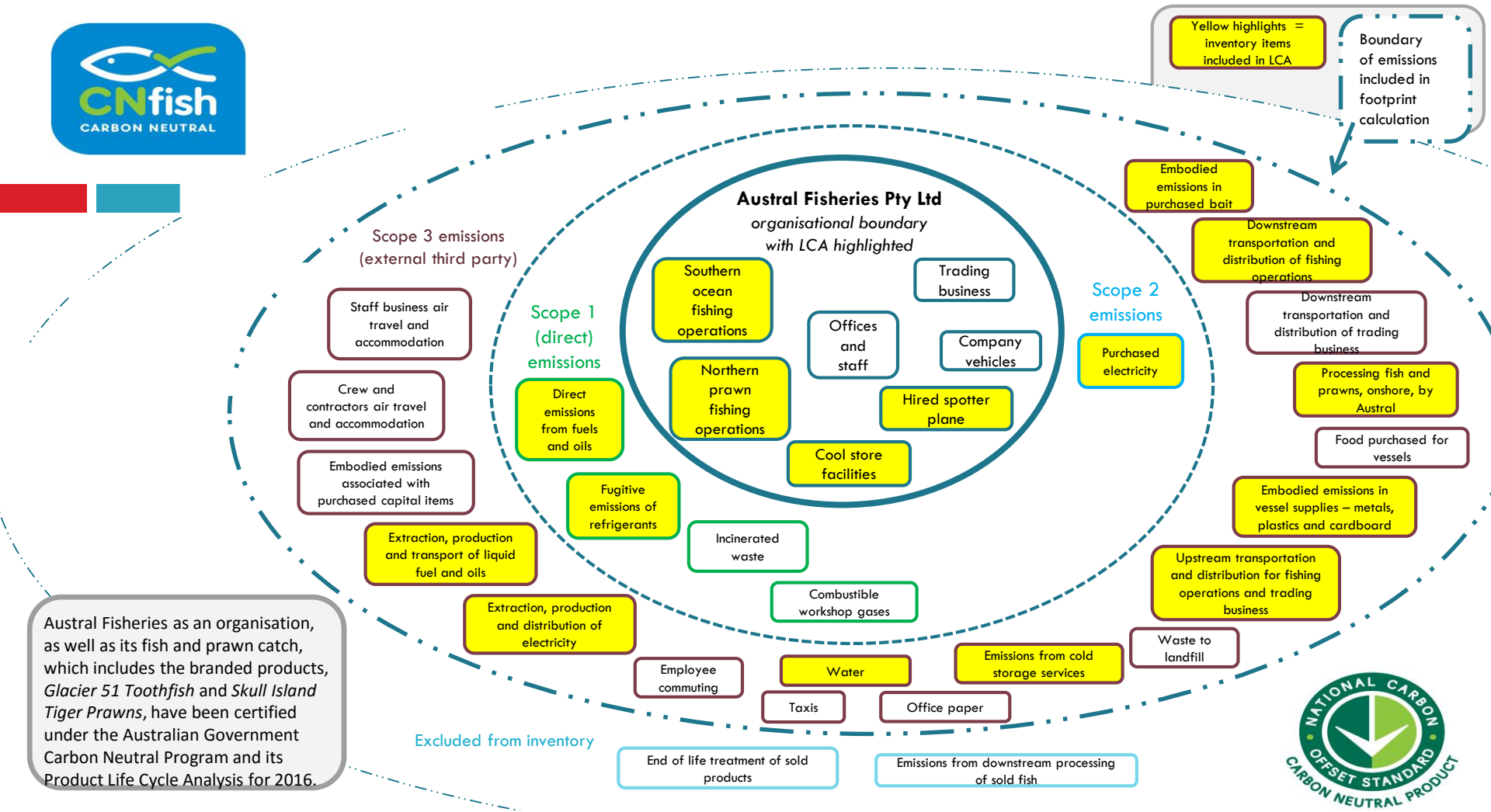
Industry collected data sets

- Acoustic data during steaming to and from fishing grounds
- Shot by shot catch, effort data
- Port to port satellite vessel position monitoring data
- Benthic camera footage
- Star Oddie data storage tags on longline shots (weekly, or more)
- Animal tracking CTD tags on trawl survey and longlines
- Vessel acoustic ‘signature recorders’ for whale depredation program
- Weather prediction charts/analyses (BOM, OSIS, Digitalglobe etc)
- Sea surface temperature not calibrated, not stored…..

The business of fishing in a changing ocean

- We are already feeling the impact of climate change
- Fisheries management in Australia is based on a strong property right and the value of that right is at risk
- We see an opportunity in helping to make a difference

Play video at http://www.australfisheries.com.au/sustainability-2/carbon-neutral/



Austral Fisheries as an organisation, as well as its fish and prawn catch, which includes the branded products, *Glacier 51 Toothfish* and *Skull Island Tiger Prawns*, have been certified under the Australian Government Carbon Neutral Program and its Product Life Cycle Analysis for 2016.

For more information, see www.australfisheries.com.au or contact Rhys Arangio, on +61 8 9217 0146 or rarangio@australfisheries.com.au

Our Brands


glacier 51
glacier 51
glacier 51
glacier 51


Skull Island®
Ocean Caught Tiger Prawns

Objectives

- To use our premium products and brands to have a conversation with customers and consumers about the impact of their choices
- To secure our social licence to operate
- Inspire others to follow our lead
- To prove that it is possible to have purpose and profit

Planet – People - Product

Unfinished business

- We are very early to this space
- Concepts around carbon neutral are complex
- Branding, messaging and the supply chain have to be right because the initial reaction is skepticism and suspicion

Conclusion

Business as usual is not an option

Questions/Discussion