



## Media Release

### Chiefs of Staff, News Directors

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## Nature offers a loyalty scheme for Southern seals

Scientists have found that Antarctic fur seals are returning to remote Southern Ocean foraging grounds time and time again - but are now pondering potential shifts in behaviour in response to future ocean habitat changes.

Since 2008, researchers at the University of Tasmania's Institute for Marine and Antarctic Studies, University of Pretoria and the British Antarctic Survey have tracked almost 200 female Antarctic fur seals during their winter excursions from the South African sub-Antarctic territory of Marion Island in the Indian Ocean and South Georgia Island in the South Atlantic Ocean.

What they found is that individual animals consistently return to the same foraging grounds each year - despite access to many other foraging options.

The study was published last week in the journal PLOS ONE. PhD student and lead author Ben Arthur said it was surprising that seals were consistently returning to the same foraging sites, logging up to 16,000 kilometres on individual journeys.

"Fur seals embark on long foraging trips during the cold and stormy Southern Ocean winter, with some trips lasting nine months."

"They have an enormous choice of potential foraging habitat on these trips but can show intense loyalty in travelling large distances to reach the same foraging sites year after year - and we have identified the rewards on offer."

"We found the regions consistently re-visited by the seals have had highly variable water temperatures over recent decades because of movement of oceanic fronts in the Southern Ocean."

"This often indicates increased long-term productivity and prey availability. Although these areas are highly variable and might not be consistent from one year to the next, over the long-term these areas could deliver an increased energy intake to the animals."

Mr Arthur said this behavioural strategy is most likely a long-term one, with the pay-off to animals occurring over the course of their lifetime.

"We know from other studies that wide-ranging animals which settle on a general foraging strategy early in life are most likely better off."

"The basic dictum seems to be that when you're on a good thing stick to it because there may be a cost associated with changing your strategy."

The results raise interesting questions about the ability of long-lived animals, such as seals, to respond to future changes in the marine environment.

"We know the Southern Ocean is a rapidly changing environment. What we don't know is how well an individual that has one or two favoured foraging sites that it visits every year, will be able to respond to future changes to those areas."

See a video on the research here: <http://youtu.be/eF3Bh10cFr8>

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