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The World Today - Jelly blobs may hold key to climate change

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Reporter: Simon Lauder

ELEANOR HALL: Australian scientists say a jellyfish-like creature which has the ability to double its numbers in one day could play an important role in battling climate change.

If you swim or surf on the east coast, you've probably already noticed the small jelly-like blobs, which are now being found in the area in far greater numbers than ever before.

Not a lot is known about the creatures but scientists at the CSIRO are hopeful that their carbon storing capacity may be useful in slowing down global warming.

Simon Lauder reports.

SIMON LAUDER: If you've felt something brushing against your leg while you've been swimming at the beach lately, or seen strange blobs in the water - you're not alone.

JASON EVERETT: We often get word from surfers etc that we have large abundances or swarms of them off Sydney which wash up on the beaches.

SIMON LAUDER: Jason Everett is a post-doctoral researcher at the University of New South Wales. Dr Everett says the creatures swarming off east coast beaches this spring are called salps. They're barrel shaped animals made of jelly and they are about the size of a fingernail.

JASON EVERETT: The salps have been washing up on Sydney beaches for example for the last month or so. We've had a few calls from surfers and swimmers in rock pools that have been noticing small jelly balls in the water column and you can also obviously, you feel them when you go swimming. So they are very noticeable.

SIMON LAUDER: They don't hurt you thought?

JASON EVERETT: No, they're not dangerous at all. You just notice small little blob of jelly brushing against your arm or your leg.

SIMON LAUDER: Last month a CSIRO team took to the water to survey salp numbers. Dr Everett says the researchers found many times the number of salps a similar expedition counted 70 years ago.

JASON EVERETT: Why they are becoming more abundant over time, we are not 100 per cent sure. We are going to go back through some historical zooplankton samples and try to trace how much they have increased. But just from spot sampling which has been done over the previous decades, for example some sampling that was done back in the 40s, we were finding approximately up to 10 to 15 times the bio mass that they were reporting.

SIMON LAUDER: As the fastest reproducing multi-celled animal on the planet, salps have the ability to more than double their numbers in one day and the algae eating creature could be a part of the ocean's fight against climate change.

JASON EVERETT: Because salps are eating such a wide range especially smaller phytoplankton, they are able to consume the carbon or the phytoplankton very quickly. Because of their large size relative to others zooplankton, they actually sink very quickly and the fact that they have asexual reproduction where they bud off and form long chains, this compounds the sinking.

And so potentially they could sink to the bottom of the ocean rather quickly and be locked up in the sediment.

SIMON LAUDER: If the salps were to sink to the bottom of the ocean and remain there, would that mean that the carbon the salps have taken out of the ocean would also be trapped in the sediment?

JASON EVERETT: Yes, when they sink to the bottom, they will just sink into the sediment and start degrading down there and it could be locked up for tens of years to thousands of years.

SIMON LAUDER: So salps potentially could play a significant role in climate change?

JASON EVERETT: Yes, due to their really fast growth rates and their large sinking rates, they are able to take a lot of carbon out of the top surface of the water column and transport it down to the sediment.

SIMON LAUDER: So far the science of salps is a wobbly one and it's too early to declare the living blobs of jelly nature's answer to carbon sequestration.

But Dr Everett says if dead salps take the carbon with them all the way to the bottom of the ocean, without being eaten by other marine creatures on the way down, they should be taken into account in climate modelling. He says more research is needed.

JASON EVERETT: We can begin to talk the salp population into account in climate modelling but we need to understand more about the food web and where they carbon is actually transported to. So we still need to understand more about the ecological characteristics of whether it is consumed by other species of fish or whether it is actually transported to the bottom of the ocean.

We are really only looking at one small part of what the distribution is on the surface, what species they are co-inhabiting with in different water masses and what their

abundance is.

So we are really just touching the tip of the iceberg about salp abundance and bio mass and exactly what happens to them when they are consumed by other species, fish for example, and whether that carbon does sink out of the water column are very important questions.

If they are increasing in abundance over time then we are potentially looking at a very large sink of carbon.

SIMON LAUDER: While floating blobs of jelly could be good news for the climate, there is a downside. They share a food source with whales, including southern right and humpback whales, and a greater abundance of salps will make it harder for whales to feed.

ELEANOR HALL: Simon Lauder reporting.