

Safe Return Doubtful: Week 7

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Summary

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1. Biological research in Antarctica
 - Big creatures: photo essay
 - Orcas
 - Undersea alien worlds
2. SCINI and Deep-SCINI: Submersible Capable of Under Ice Navigation and Imaging

Big Creatures

TED-talk by world-reknowned photographer:

https:

[//www.ted.com/talks/paul_nicklen_tales_of_ice_bound_wonderlands?utm_campaign=tedsread&utm_medium=referral&utm_source=tedcomshare](https://www.ted.com/talks/paul_nicklen_tales_of_ice_bound_wonderlands?utm_campaign=tedsread&utm_medium=referral&utm_source=tedcomshare)

Orca Hunting Technique

The following is a quote from this week's reading, chapter 21 about Ponting, the photographer upon the **Terra Nova** landing.

they thought he was a seal and getting right under the floe bumped so hard they split off one piece with him on and it was only by the greatest agility he escaped ... what irony of fate to be eaten by a whale thinking one was a seal and then spat out because one was only a photographer.

Example of this behavior:

<https://youtu.be/g1VEwsI4SlY>

Undersea Alien Worlds

Several interesting features of life under ice shelves and sea ice:

1. Where is the food? *Benthic community*
2. Where is the light? How does photosynthesis take place?
3. How do we explore these areas?

Science Under the Ice: Explorer's Cove

<https://youtu.be/L6EsroRPZ4c>

SCINI and Deep-SCINI

SCINI and Deep-SCINI

SCINI: Submersible Capable of Under Ice Navigation and Imaging

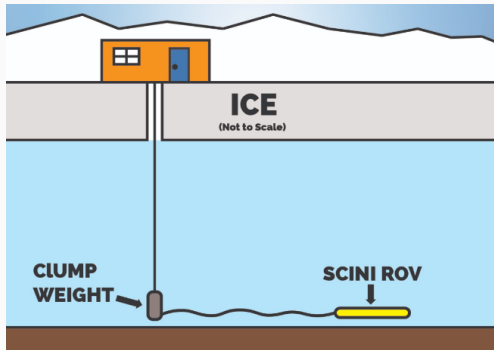


Figure 1: Part of the SCINI system is held down with the clump weight (left) and the cables and power flow through to the ROV at right.

SCINI and Deep-SCINI

What about a syntactic-foam encrusted ROV with sapphire windows on its cameras?

- Withstands enormous pressures
- Can take photos and videos
- Soil samples
 1. Benthic communities often thrive on detritis in soil
 2. Soil samples reveal no significant nutrients in the soil, though

SCINI and Deep-SCINI: ROVs

<https://youtu.be/vnVdR8goVXg>

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