

Effect of global warming on the reproductive success of whales

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Introduction

- There has been a rapid increase in global warming all around the world.
- This has affected reproductive success of mammals like whales.
- This has resulted in the increase in the surface water temperature of oceans and seas.

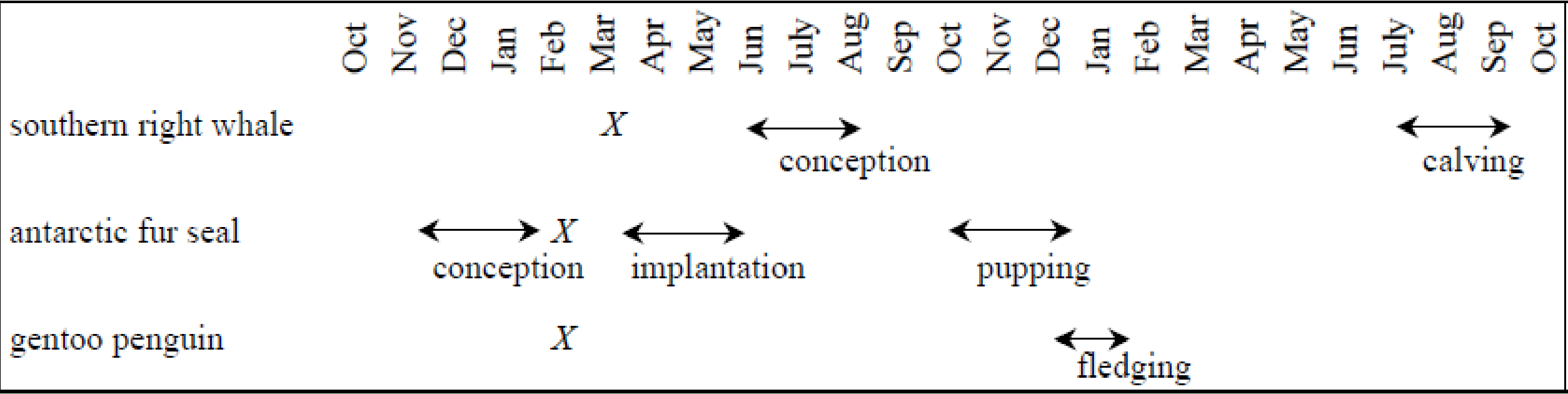
Motivation

- The experimental process is non invasive.
- The whole process is environment friendly.
- By measuring the reproductive success of the whales, we can get an idea about the heating of the water surface in that area.

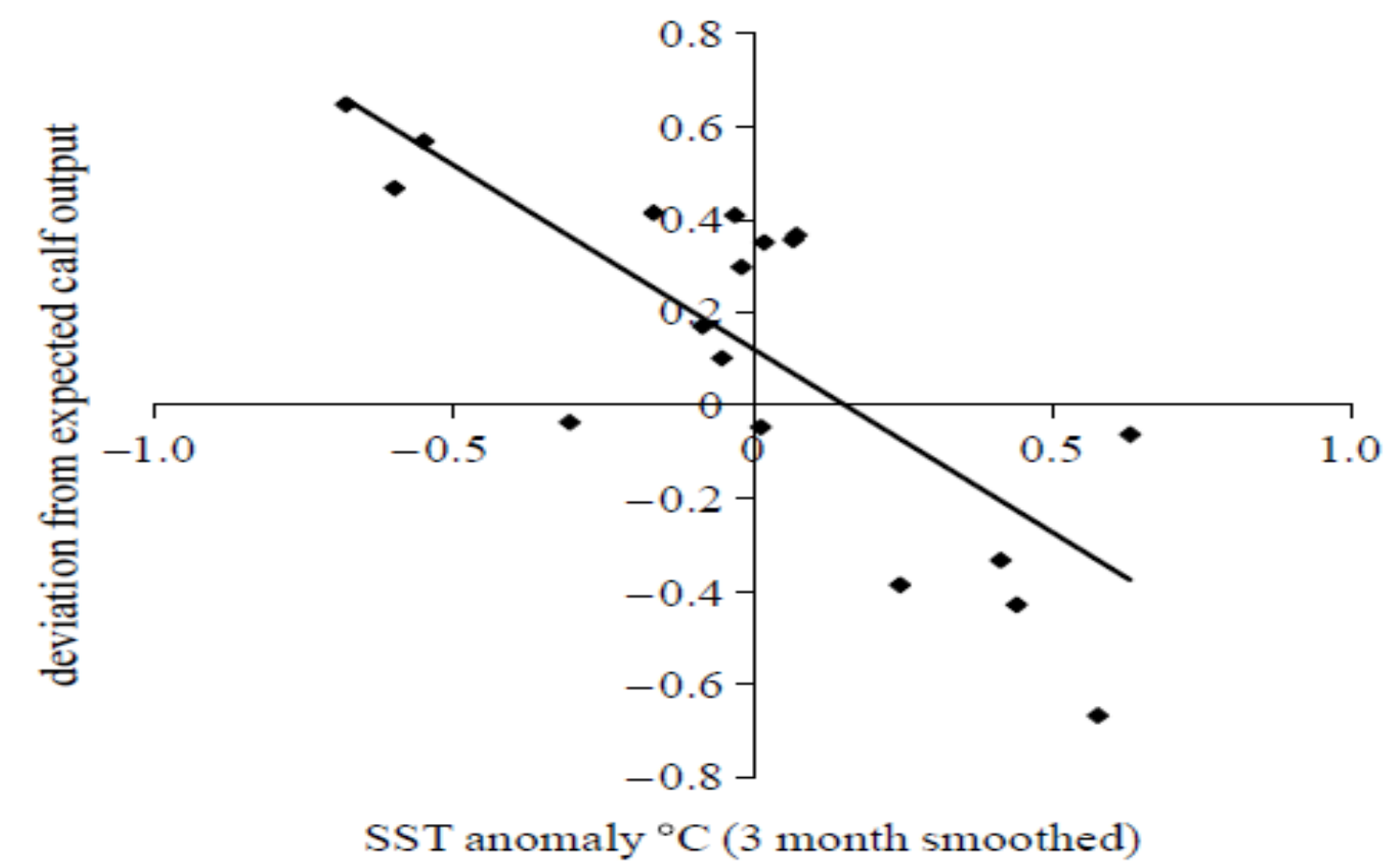
Methodology

- Photo identification method was performed on the Southern Right Whales, that flock together from the Peninsula Valdes of Argentina.
- Annual deviation from the expected calf output for the females was also measured.

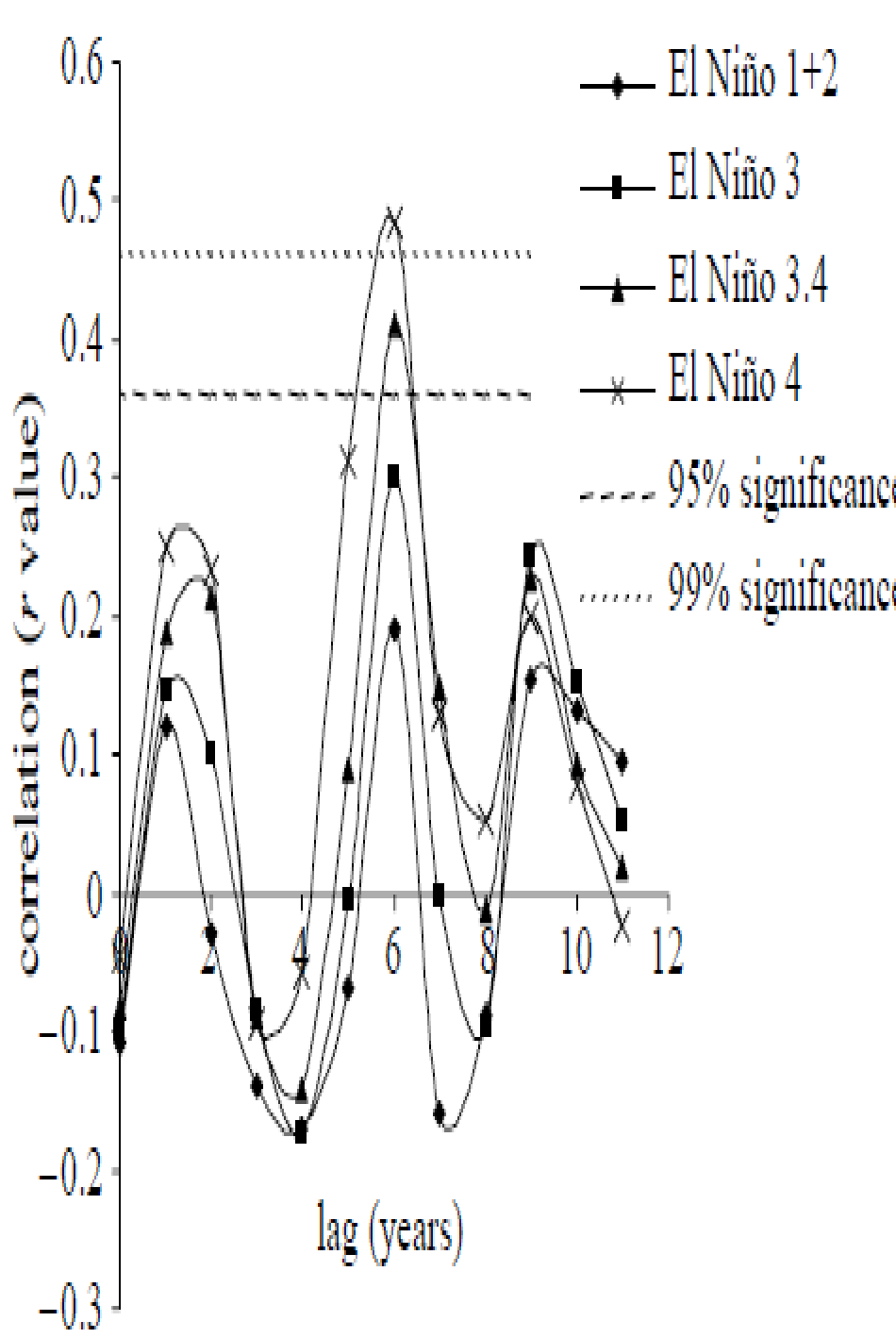
Results



Timeline of events in whale breeding success.



Deviation from expected calf output against sea surface temperature anomalies at South Georgia.



Correlation between deviation from expected calf output and lagged, mean June–May, El Niño SST anomalies,

Conclusion

- Early abortions or failure in early lactation affects reproductive success of the whales directly.
- Periodicity in whale breeding success with temperature exists in South Georgia and Pacific.

Acknowledgement

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Reference

Leaper, R., Cooke, J., Trathan, P., Reid, K., Rowntree, V., & Payne, R. (2006). Global climate drives southern right whale (*Eubalaena australis*) population dynamics. *Biology Letters*, 2(2), 289-292.