

FROM THE ICE TO THE OPEN OCEAN
~THREATS TO PHYTOPLANKTON PRODUCTIVITY
IN THE ANTARCTIC MARINE ECOSYSTEM FROM A
CHANGING CLIMATE~



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CERTIFICATE OF AUTHORSHIP/ORIGINALITY

I certify that the work presented in this thesis and the research to which it pertains, are the product of my own work and to the best of my knowledge, original. Any quotations, ideas or work conducted by others, published or otherwise, are fully acknowledged in accordance with the standard referencing practices of the discipline. Co-authors of published, submitted papers or articles in preparation have been acknowledged for their contributions and for each publication herein my personal contribution and role clearly described. Furthermore, I certify that this thesis has not previously been submitted, in whole or in part, for a degree at this or any other university.

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*And now there came both mist and snow,
And it grew wondrous cold:
And ice, mast-high, came floating by,
As green as emerald.*

*And through the drifts the snowy clifts
Did send a dismal sheen:
Nor shapes of men nor beasts we ken –
The ice was all between.*

*The ice was here, the ice was there,
The ice was all around:
It cracked and growled, and roared and howled,
Like noises in a swound!*

*Samuel Taylor Coleridge
The Rime of the Ancient Mariner*

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*“The sea, once it casts its spell, holds one
in its net of wonder forever.”*

Jacque Cousteau