

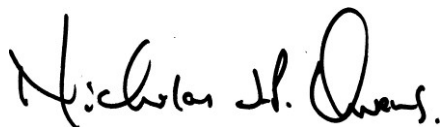
**Review of:
LOHAFEX Iron Enrichment Experiment, Southwest Atlantic**

1. **EXECUTIVE SUMMARY.** This is an excellent world-class research proposal that will do much to help our understanding of the ocean and will be a major contribution to, among other things, Climate Change research. I can find no reason why the LOHAFEX experiment should not proceed. The study has been well formulated with an excellent Risk Assessment that has paid full cognisance to the Convention of Biodiversity and the Meeting of the London Convention and London Protocol. The experiment is small-scale and will mimic natural conditions in the area proposed and will have no conceivable negative effects on the environment.
2. The LOHAFEX experiment will be one of several experiments that have been carried out in various parts of the world ocean that have as their central tenet the testing of the hypothesis that phytoplankton growth is limited in various regions of the world ocean by the availability of the element iron. All living organisms require iron to some degree and growth will be reduced in the absence of sufficient quantities.
3. Previous iron enrichment experiments have been variations on the primary theme and have been conducted to examine various facets of the main hypothesis. For example: different regions of the ocean; different times of year; focus on the response of different types of organisms; focus on different biogeochemical processes.
4. The focus of the LOHAFEX experiment is to examine the response of the biological community in a region of the South Atlantic that experiences relatively high inputs of iron, naturally introduced from the various land masses in the region, notably Southern South America and the Island of South Georgia. In this respect LOHAFEX will examine the subtle differences that occur in a region that receives sometimes substantial quantities of iron compared with regions that rarely receive any iron which characterised the majority of the other experiments.
5. The LOHAFEX experiment will add vanishingly small quantities of iron compared to that which is added sporadically through natural processes. It is not possible to quantify the exact difference between the proposed addition and that which occurs naturally because the latter is a major unknown in atmospheric and ocean science and a major research question in its own right. However the proposed addition must be several orders of magnitude less.
6. Similarly the area to be enriched by the experiment is a very small localised eddy which will contain the iron compared to the area naturally enriched; this is also several orders of magnitude smaller.
7. The conclusion from paragraphs 4, 5 and 6 can only be this is a SMALL SCALE SCIENTIFIC RESEARCH STUDY within the context of the various

Conventions and WILL NOT HAVE ANY DETRIMENTAL EFFECT ON THE ENVIRONMENT.

8. With regard to the need to "... use utmost caution and the best available guidance", within the context of the resolution of the Meeting of the London Convention and London Protocol, I find that the AWI and NIO scientists have conducted a THOROUGH AND EXCELLENT RISK ASSESSMENT. The REVIEW is COMPLETE and SUPPORTED BY THE MOST UP TO DATE INTERNATIONALLY PEER REVIEWED LITERATURE. In the absence of any specific guidance, which does not yet exist, this COULD NOT HAVE BEEN BETTERED.
9. It is quite clear from all the documentation that THIS IS A RESEARCH STUDY AND DOES NOT REPRESENT ANY ATTEMPT TO GENERATE OR SELL CARBON OFFSETS or support any other COMMERCIAL PURPOSE.
10. Coastal Waters. The introduction of the notion of coastal waters in the CBD has no scientific basis and is totally spurious in the sense that offshore communities are as resilient or sensitive as coastal communities. Thus I believe this is an irrelevance. Nevertheless, there is no agreed scientific definition of coastal waters which are not necessarily restricted to the proximity to land in the sense that ocean regions may be significantly influenced by the land even when some distance offshore. In this instance the region to be studied could be interpreted as coastal in that as identified above the area is influenced significantly by airborne inputs of, at least, iron from the land. Furthermore, the planktonic composition is expected to reflect this in the species composition which is expected to have coastal water characteristics. THUS I DO NOT BELIEVE THE "COASTAL WATERS REQUIREMENT" IS LIKELY TO BE CONTRAVENED IN THIS INSTANCE.

This is an excellent world-class research proposal that will do much to help our understanding of the ocean and will be a major contribution to, among other things, Climate Change research. The AWI-NIO team are to be congratulated on proposing this important research programme. The team is world-leading and I believe this experiment will be seen to be a landmark experiment in this crucially important field.



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