

Should we apply SO HNLC approaches to other systems?

What are critical factors to examine?

1. Knowledge of SO systems and factors controlling PP is currently incomplete. Seems premature to move on yet, and SO important to global climate and C cycle. Useful example of perturbation of nutrient field (Fe here) in the global ocean- SO good location to follow re-equilibration, or responses to perturbations, where Fe limitation dominates system response.
2. However another possible interesting location for studies in the Galapagos system. Return to this systems and carry out detailed modern study. Contrast to SO as higher T and different ecosystem being perturbed.
3. Need seasonal coverage in SO to fully follow bloom evolution and collapse (from initial Fe field to final depleted state) and associated C fluxes. Issue of ship time to cover austral winter and through other seasons. Possibility of international collaboration to cover but difficulties with ship access /timing. Would need consistency of technologies/ data collection. Not possible for US ships to work N of 60S.
4. Lagrangian approach desirable but logistically difficult. Alternatively investigate down stream of island / peninsula plume if have measure of age. Important for following ecological evolution of waters.
5. Possible target areas in separate table
6. Timescale ideally 12 months. Now need at least 6 ships over this period – 2x US, 1-2 UK (some ad hoc), D, N Korea, China F
7. Strong argument for international programme BUT significant effort would be involved.

Possible locations for further studies

Location	Pros	Cons
BWZ	US access, S Korea, China Good background knowledge AMLR time series Potential to link to S Georgia	Physically dynamic system If S. Georgia than linkage between US UK and other activities
Kerguelen	Good background knowledge Well defined form PO perspective Large plateau system	Logistics; improbable US ships. OK for French UK Australian ships. KEOPSII means well done?
Crozet	Good background knowledge Well defined form PO perspective Smaller size so easier to get down stream	Logistics; improbable US ships. UK Ships and RSA, possibly F