Summary from yesterday

- Three studies at varying stages of maturity but all yielding unique insights
- Diversity of physical and ecosystem settings
- Diversity of programme structures
- Despite this some common messages emerging – similarity to blooms in other regions, broad consensus on rough size of many features (c export, iron supply) stimulation of large diatoms, recognition that particles are important
- Also some unexpected things (reduction in e ratio, stimulation of microbial foodweb)
- Do we need to stop thinking about these programmes as specific to the HNLC regions and rather just as case studies for understanding how iron impacts high latitude foodwebs

Suggested working groups

- How does the iron get to the system, how does it become bioavailable?
- How does iron impact the foodweb?
- The SE – is it a useful metric of anything,
- How to apply knowledge from studies of Fe in HNLC systems to rest of ocean

- Suggest focus on first two initially (this am) and then second two on back of first two (this pm/ tomorrow am)

Suggested working groups am

- How does the iron get to the system, how does it become bioavailable, what experiment/ observations/ modelling should you do to establish the significance of particulate matter? Is the low oxygen on shelf manganese hypothesis right – is the aeolian deposition hypothesis significant, is vertical mixing of subsurface maxima enough to satisfy production
- How does iron impact the foodweb – stimulation of classical diatoms copepods fish food chain vs stimulation of microbial foodweb. Does the e ratio go down as suggested by the crozex and keops data ? What about bloom stage

Suggested working groups PM (version A)

The SE – is it a useful metric of anything, if so how should we calculate it, what are the biggest uncertainties in our current estimates of the relationship between Fe supply and C export?

How to apply knowledge from studies of Fe in HNLC systems to rest of ocean – is the logical next step somewhere else not in the SO? Or are plume studies with intermediate levels of enrichment what need to be done – is this best done by building on our current knowledge

Suggested working groups PM (version B)

The SE – is it a useful metric of anything, if so how should we calculate it, what are the biggest uncertainties in our current estimates of the relationship between Fe supply and C export?

1. Particles: bioavail., sediment systems as a source,

2. Key measurements that need to be made on future process studies

Suggested working groups PM (version C)

1. Particles: bioavail., sediment systems as a source,

2. Key measurements that need to be made on future process studies

Suggested working groups Wed AM (version A)

Sequestration Efficiency – is it a useful metric of anything, if so how should we calculate it, what are the biggest uncertainties in our current estimates of the relationship between Fe supply and C export?

How to apply knowledge from studies of Fe in HNLC systems to rest of ocean – is the logical next step somewhere else not in the SO? Or are plume studies with intermediate levels of enrichment what need to be done – is this best done by building on our current knowledge

Working group tasks

- Synthesise information from yesterday – how can we make our knowledge larger than the sum of the insights from the three individual programmes
- Suggests novel imaginative next steps to take – practical things (experiments/ cruises/ models)
- Produce punchy text on why the problem is important and why we should care
- Cookbook