Summary of Bigelow Observations Leg 1 TN376

1. Microscopy (compound FFT)
   1. Cocco abundance moderate to high
   2. Overall diversity of coccolithophore assemblages
      1. Still dominated by E. hux
      2. A number of other spp including Syracosphaera, Michaelsarsia, Acanthoica, Discosphaera, Rhabdosphaera, Umbellisphaera
   3. Very few diatoms anywhere!
   4. Moderately abundant dinos throughout
   5. Moderately to highly abundant cyanos (Synechococcus)
   6. Flowcam still to be worked up, more quantative
2. Remote sensing and underway measurements
   1. Both features showed regions of
      1. high PIC only
      2. plus regions of elevated PIC and chlorophyll fluorescence
   2. Both features, Highest bb’/bbtot in internal eddy features
      1. Eddy 1- in center and internal bands
      2. Eddy 2- only in internal eddy bands
      3. Highest bb’/bbtot not in highest velocity region but in in internal (mid-velocity region: qualitative impression based on ADCP)
      4. Highest bb’/bbtot at salinity fronts. Salinities in center lower than in mid-band
   3. Bb’ levels in eddy 2 were lower than in Eddy 1 (related to age?) yet satellite algorithm detected relative pattern relatively well compared to ship along-track. Probably due to the bb’/bbtot values approaching 0.5 for both features
3. CTD
   1. Eddie 2 Double peaked profiles of fluorescence and beam c, with high atten/low fluor above a high atten/high fluor
   2. Shallow peak in eddy 2 was associated with more detritus, not coccolithophores, as observed in the microscope
4. 14C observations Eddy 1
   1. Int C/P
      1. South edge highest
      2. Agulhas samples low
   2. Int Prod
      1. PIC max sample (stn 5) highest
      2. Agulhas samples lowest
   3. Int Calc
      1. South edge highest
      2. Agulhas samples lowest
   4. Int Chl
      1. PIC max stn (stn 5) highest
      2. Lowest North edge Agulhas
   5. Int Pb
      1. Highest: West edge and eddy center
      2. Lowest N edge Agulhas
   6. Int Cb
      1. Highest Eddy center and south edge
      2. Lowest N edge Agulhas
5. Carboy experiments
   1. Chlorophyll
   2. PIC
   3. POC
   4. Flowcam
   5. BSi
   6. Nuts
   7. TMs