

Figure 1. Primary sections and fixed stations sampled in the Maritimes/Gulf regions.

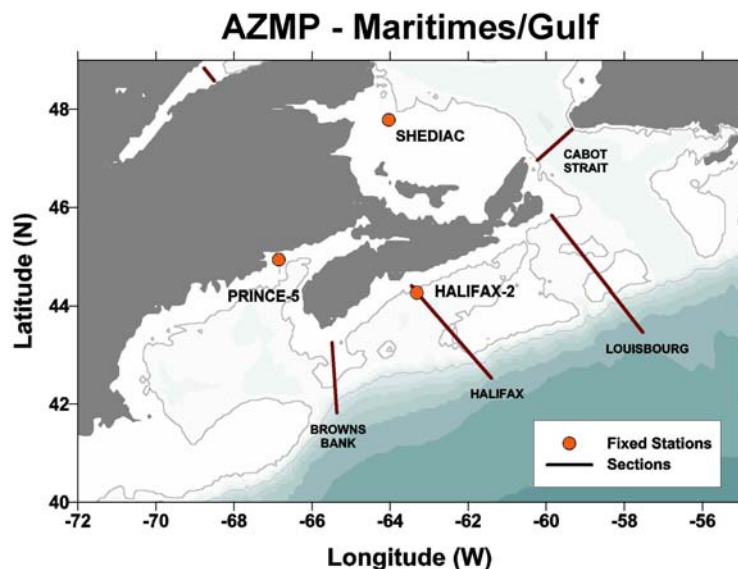


Figure 2. Stations sampled during the 2003 spring, summer and fall section surveys. Station locations superimposed on bi-weekly SST composite images.

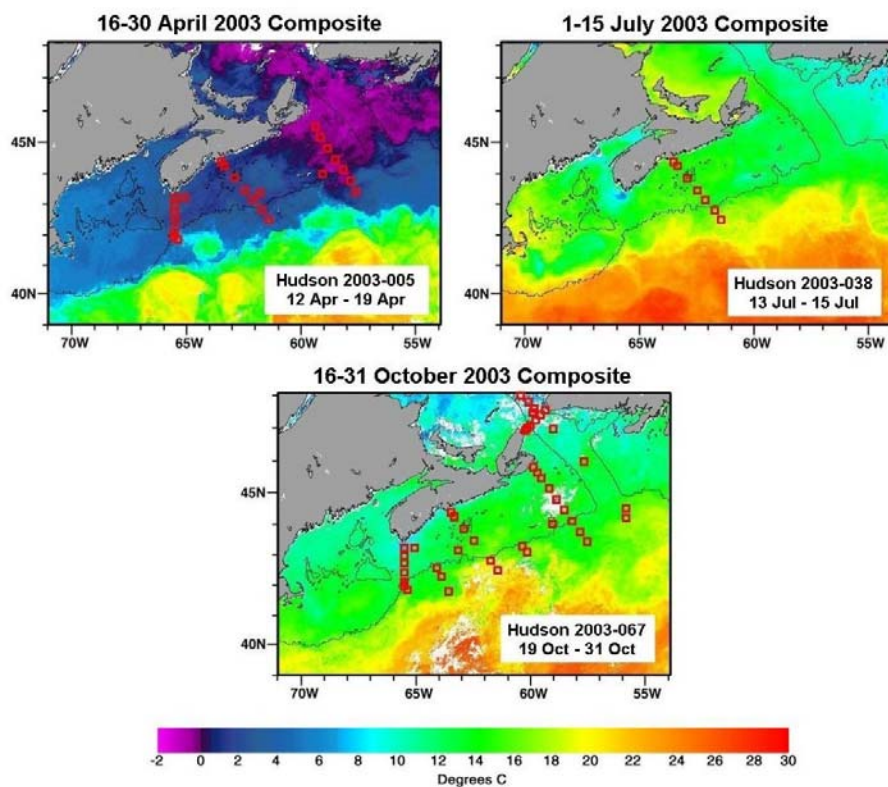


Figure 3. Stations sampled during major groundfish surveys in 2003. Black symbols are hydrographic stations; red symbols are stations where vertical nets hauls were taken in addition to hydrographic measurements.

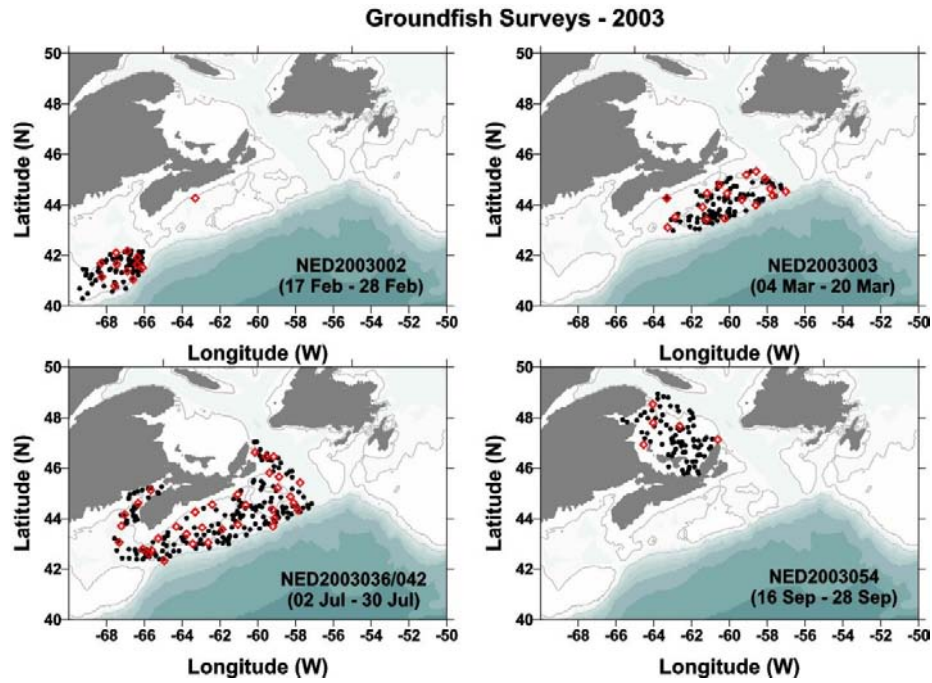


Figure 4. CPR lines and stations, 1961 to 2001 (2002 highlighted).

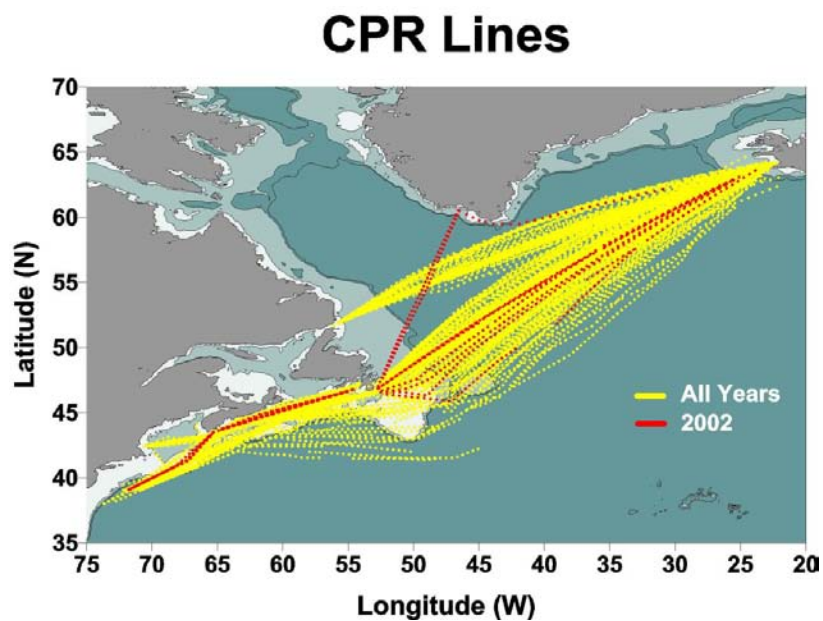


Figure 5. Statistical sub-regions in the Northwest Atlantic identified for spatial/temporal analysis of SeaWiFS ocean colour data.

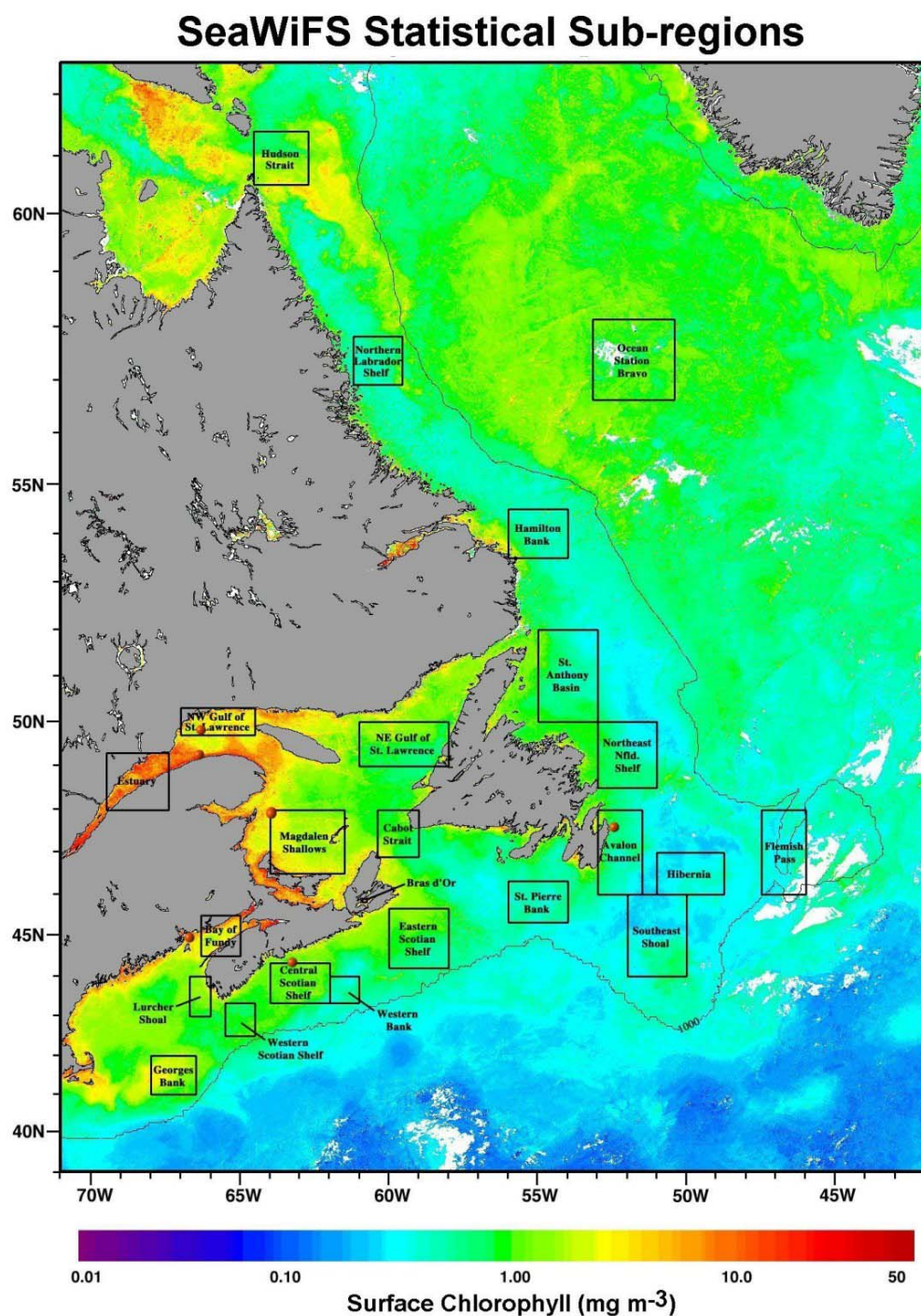


Figure 6. Time-series of optical properties (vertical attenuation coefficient, euphotic depth), mixed-layer depth and stratification at the Shediac Valley fixed station, 1999-2003.

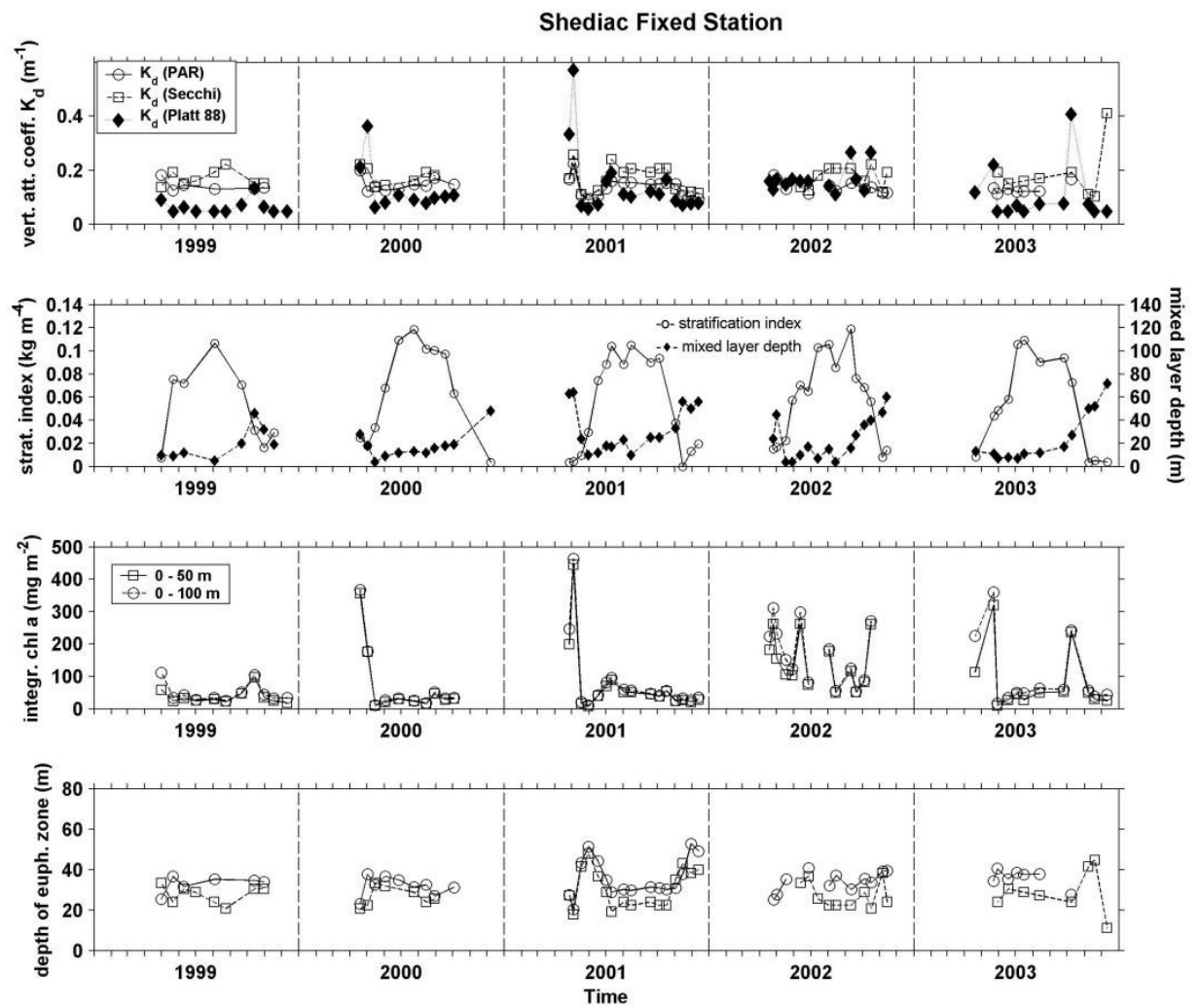




Figure 7. Time-series of optical properties (vertical attenuation coefficient, euphotic depth), mixed-layer depth and stratification at the Halifax-2 fixed station, 1999-2003.

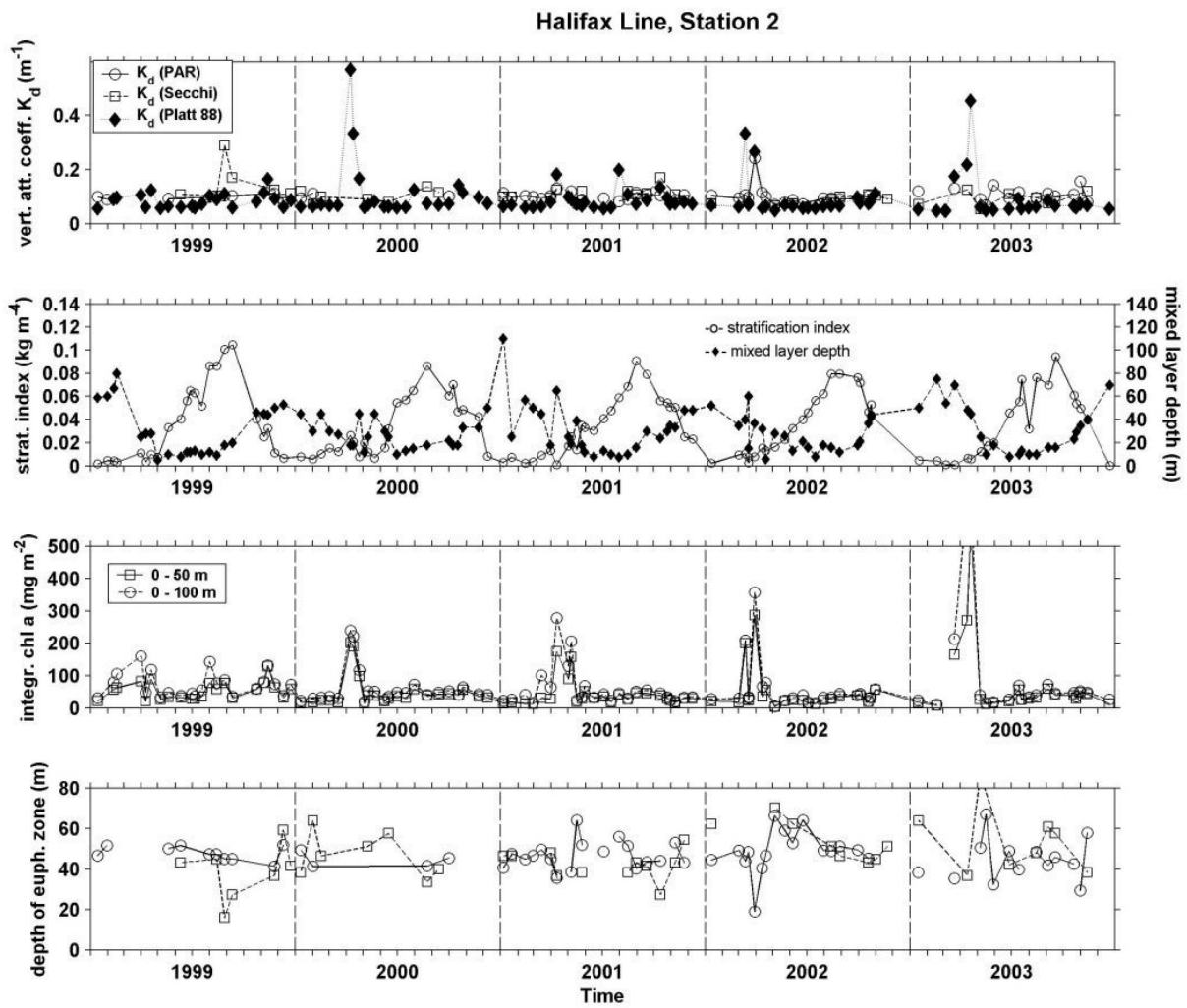


Figure 8. Time-series of optical properties (vertical attenuation coefficient, euphotic depth), mixed-layer depth and stratification at the Prince-5 fixed station, 1999-2003.

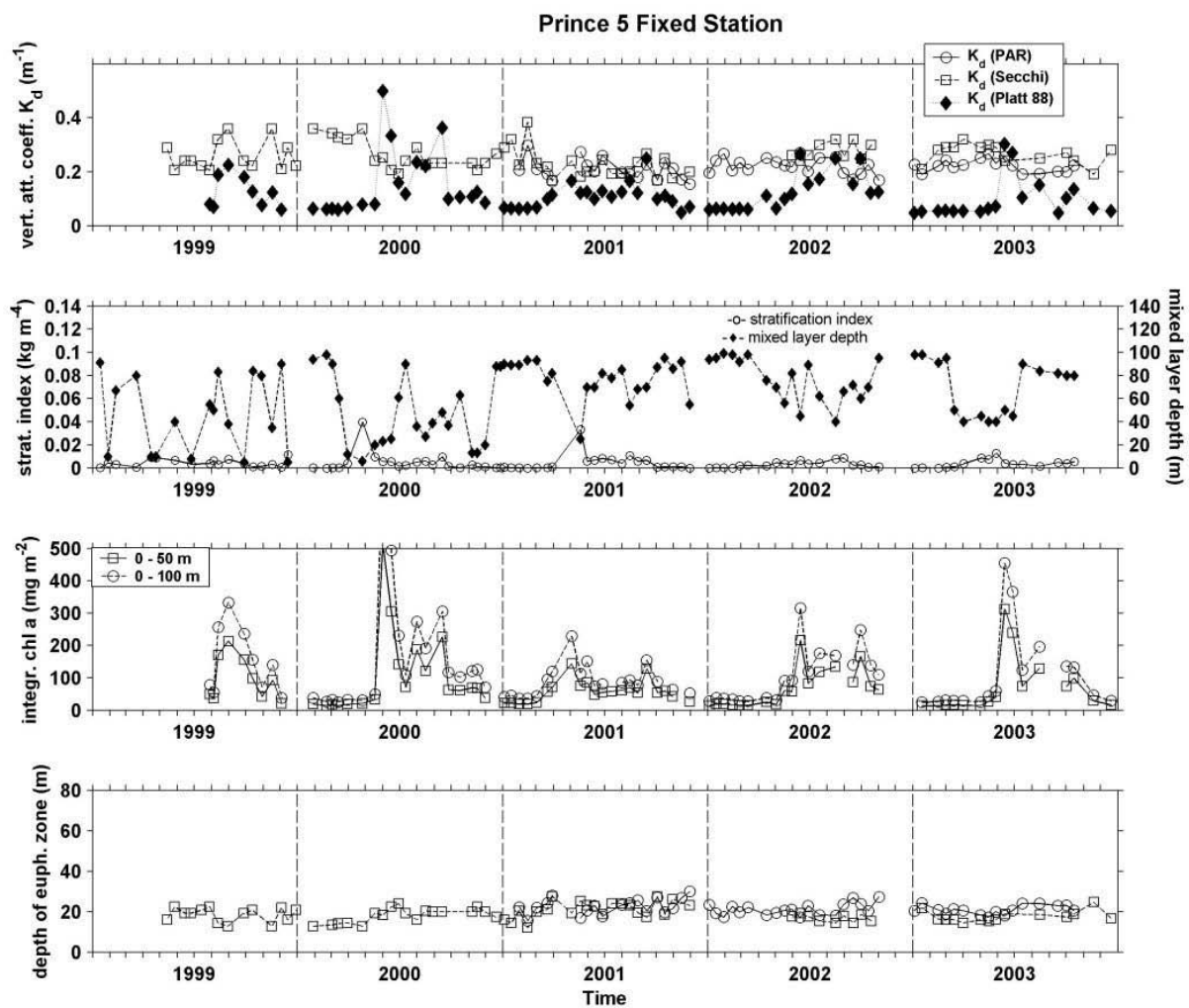


Figure 9. Time-series of vertical nitrate structure at the Maritimes/Gulf fixed stations, 1999-2003. Bottom panel: nitrate anomaly (yearly values minus long-term mean).

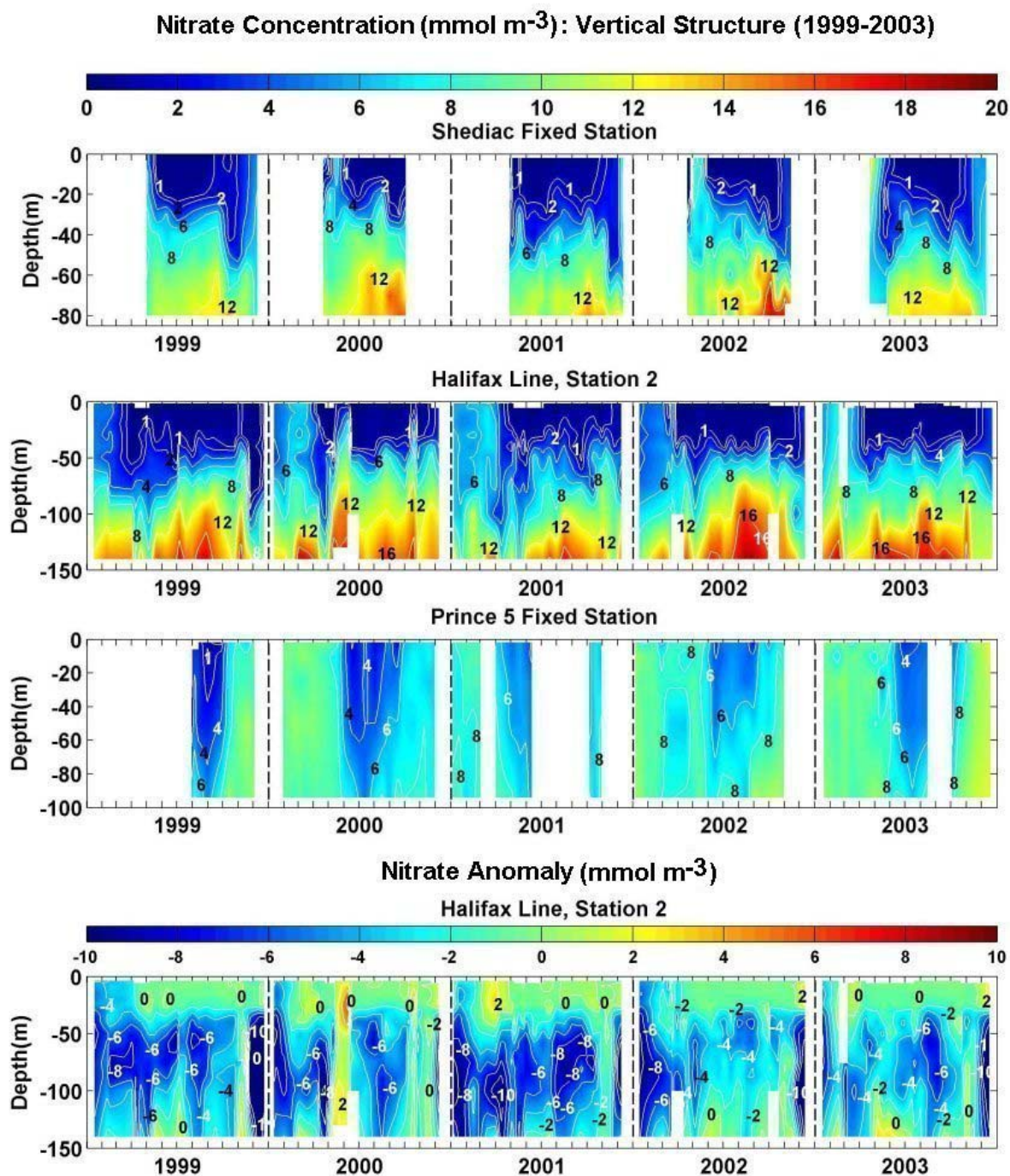


Figure 10. Time-series of nitrate (surface-50 m integrals) and chlorophyll concentrations (surface-100 m integrals) at the Maritimes/Gulf fixed stations, 1999-2003.

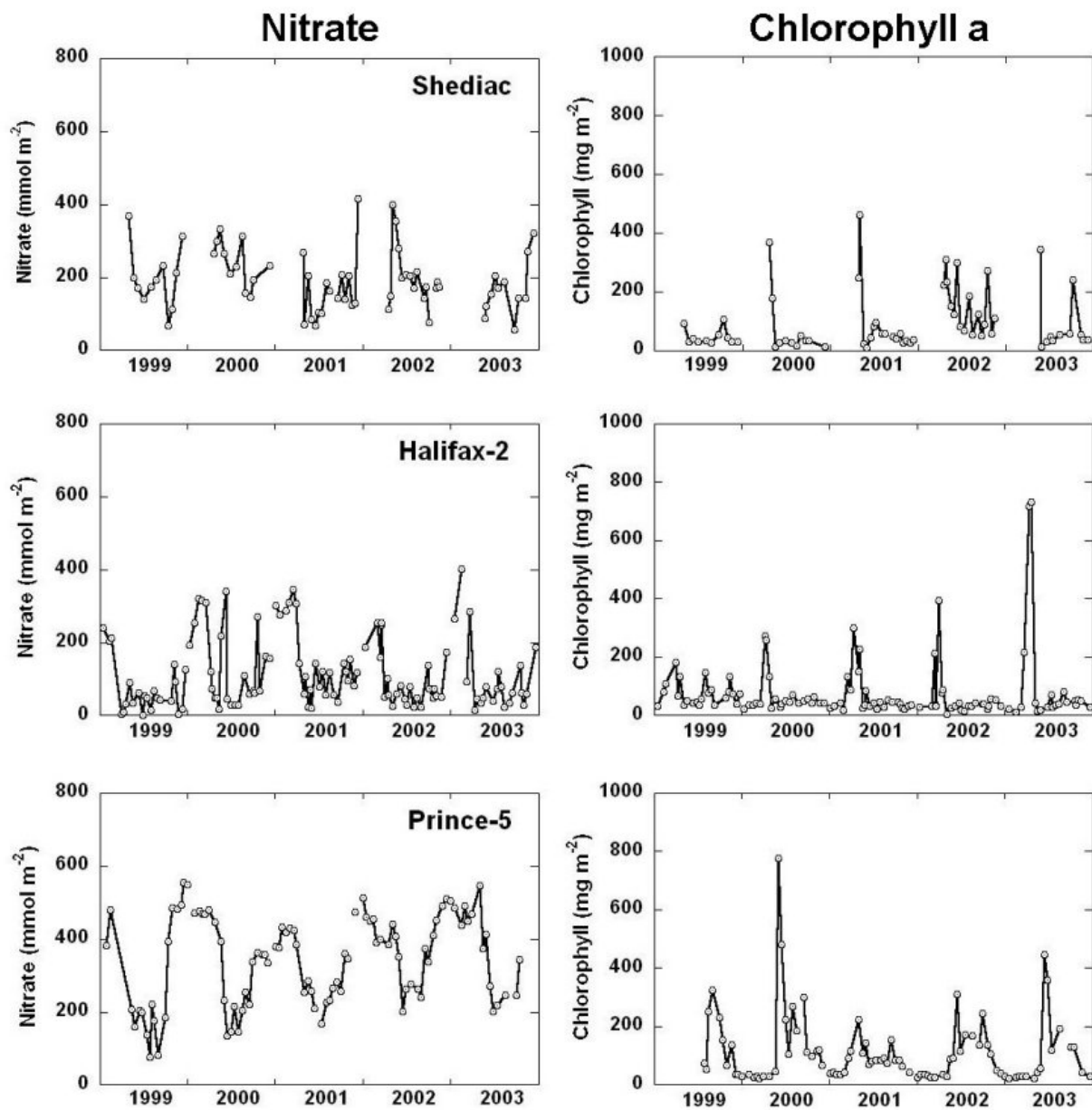




Figure 11. Time-series of vertical chlorophyll structure at the Maritimes/Gulf fixed stations, 1999-2003. Bottom panel: chlorophyll anomaly (yearly values minus long-term mean).

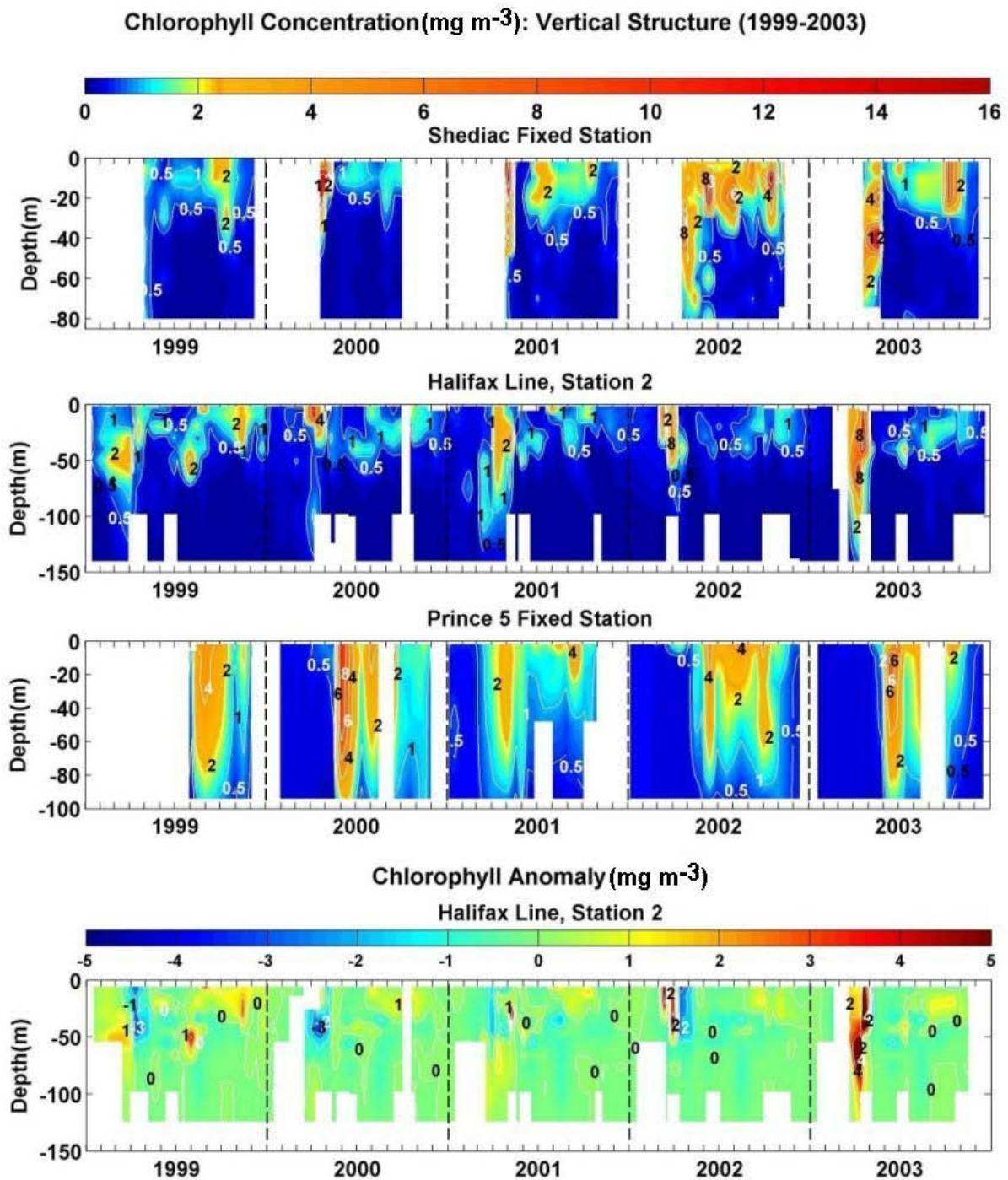


Figure 12. Time-series of microplankton abundance and community composition at the Maritimes/Gulf fixed stations, 1999-2003.

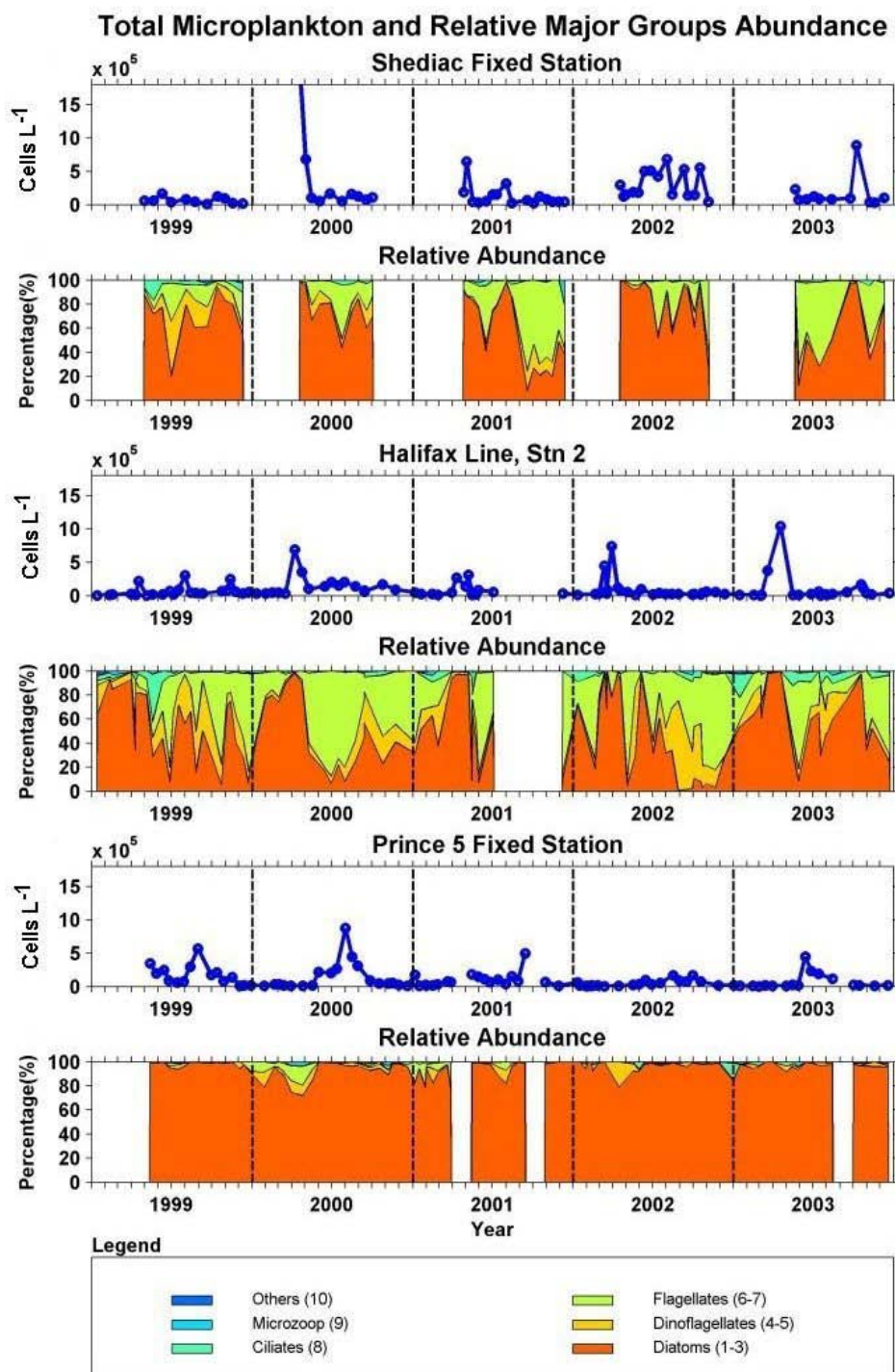


Figure 13. Time-series zooplankton biomass (surface-bottom) and *C. finmarchicus* abundance (surface-bottom) at the Maritimes/Gulf fixed stations, 1999-2003.

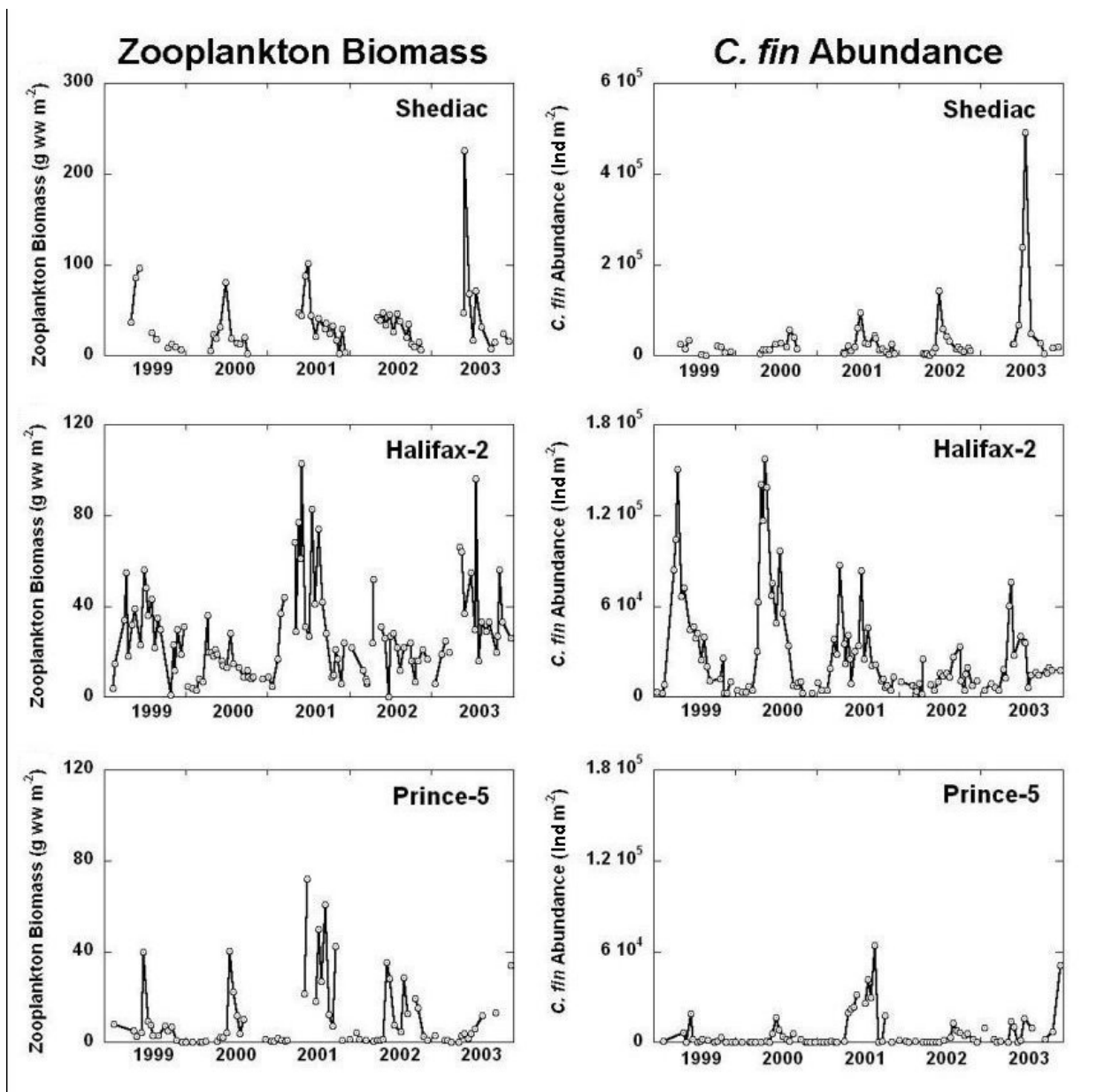


Figure 14. Time-series of zooplankton abundance and community composition at the Maritimes/Gulf fixed stations, 1999-2003.

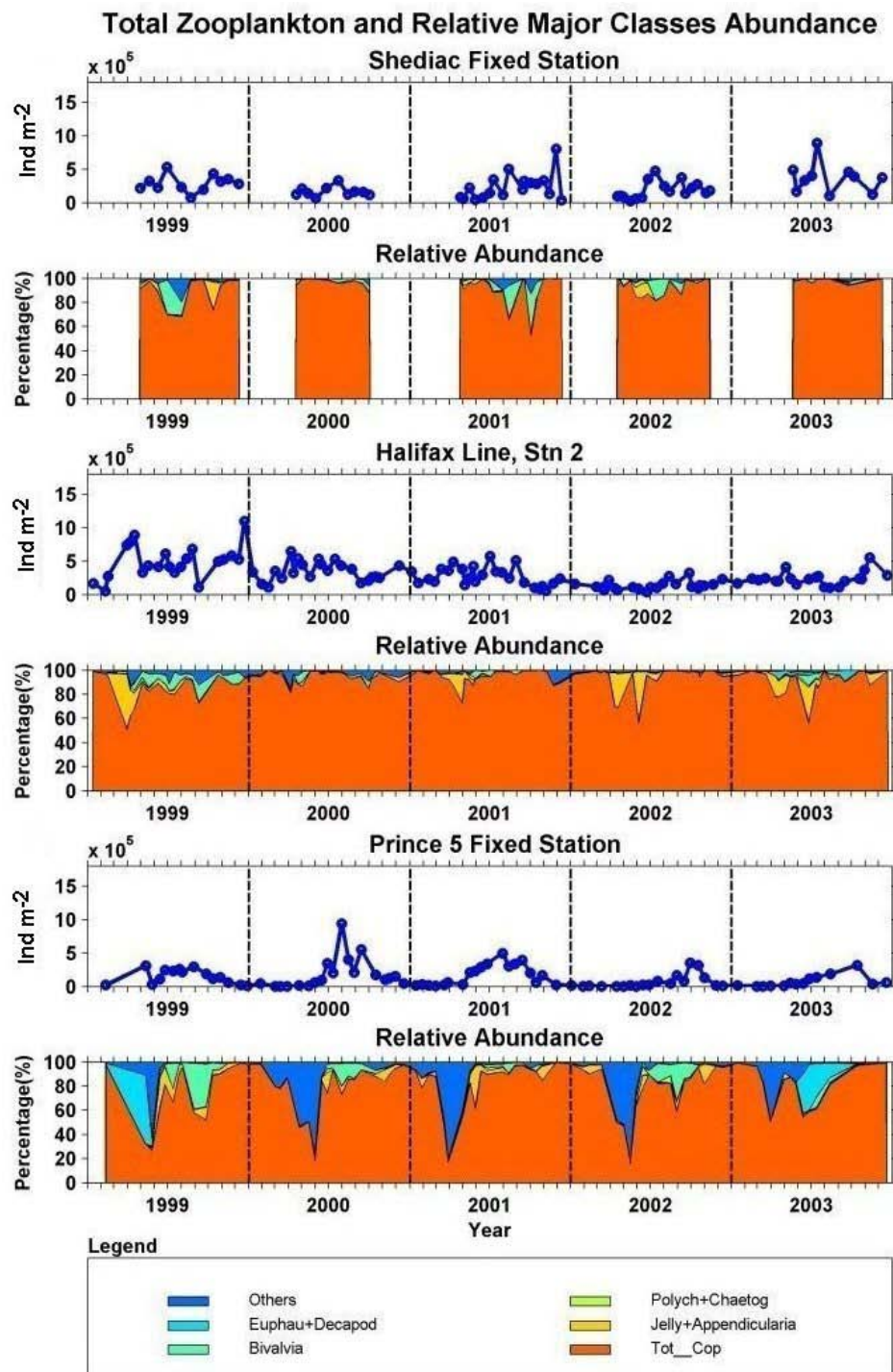




Figure 15. Time-series of copepod abundance and community composition at the Maritimes/Gulf fixed stations, 1999-2003.

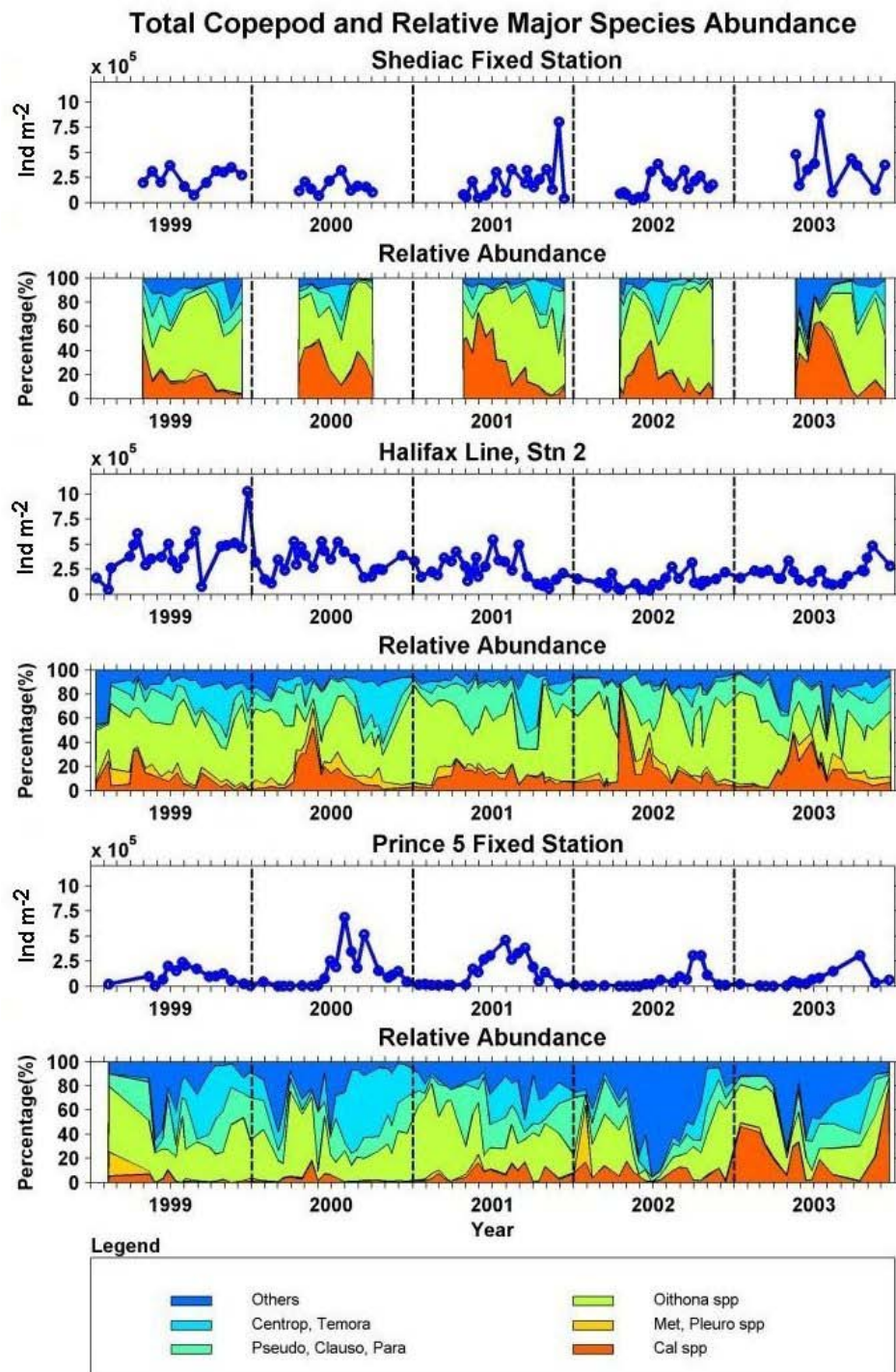


Figure 16. Time-series of *C. finmarchicus* abundance and developmental stages at the Maritimes/Gulf fixed stations, 1999-2003.

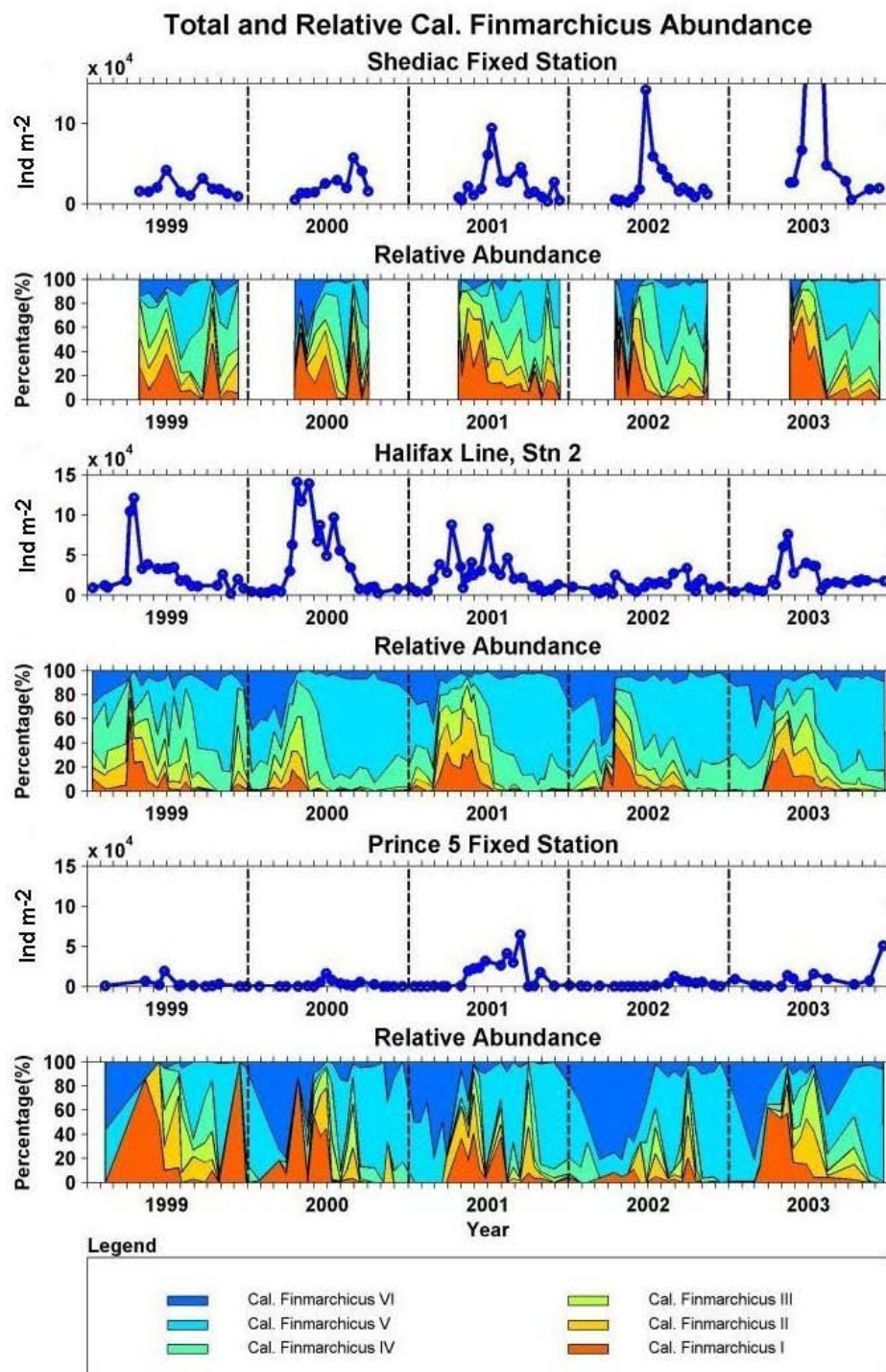


Figure 17. Vertical nitrate structure along the Scotian Shelf sections during the spring survey in 2003.

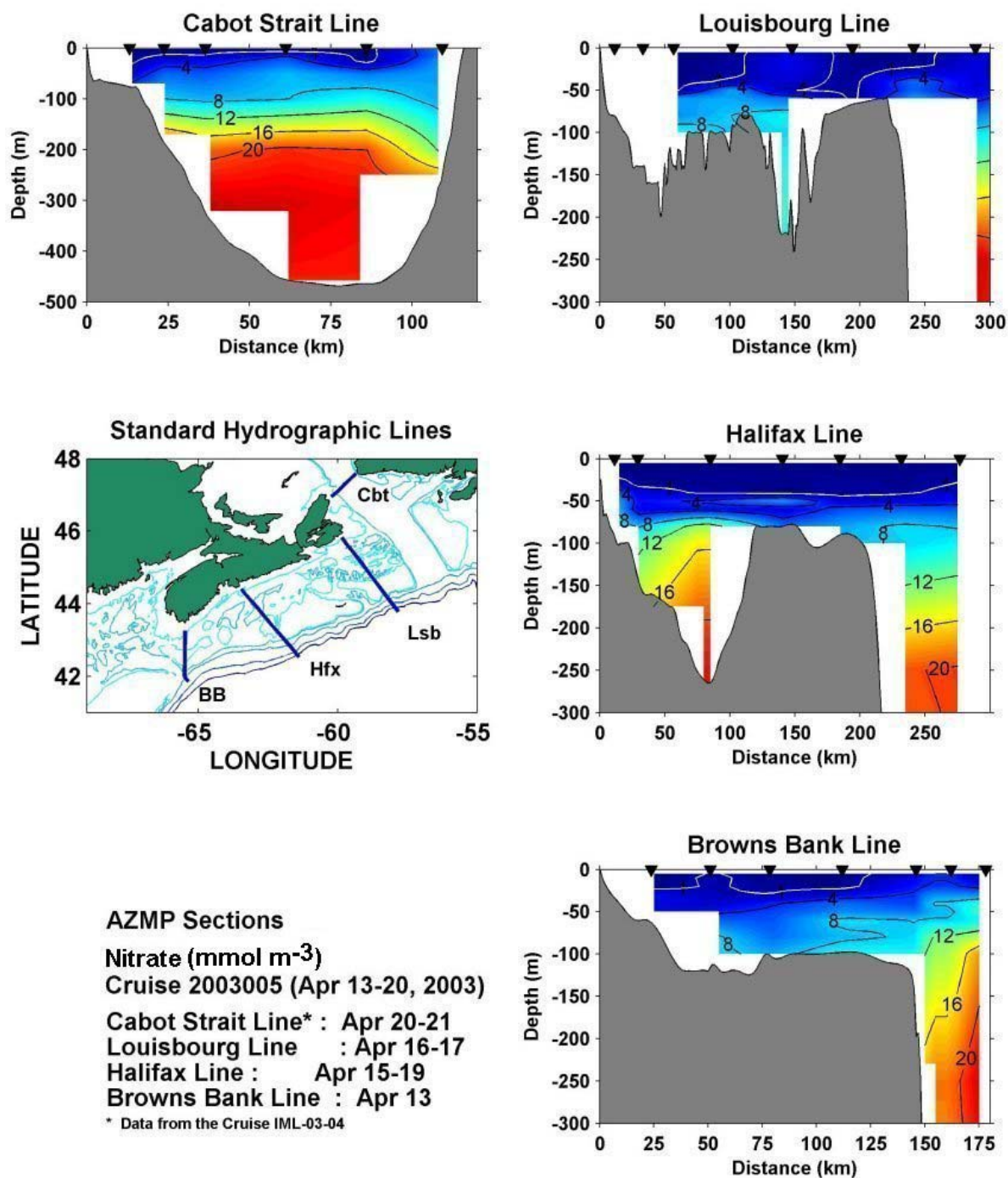




Figure 18. Vertical nitrate structure along the Scotian Shelf sections during the fall survey in 2003.

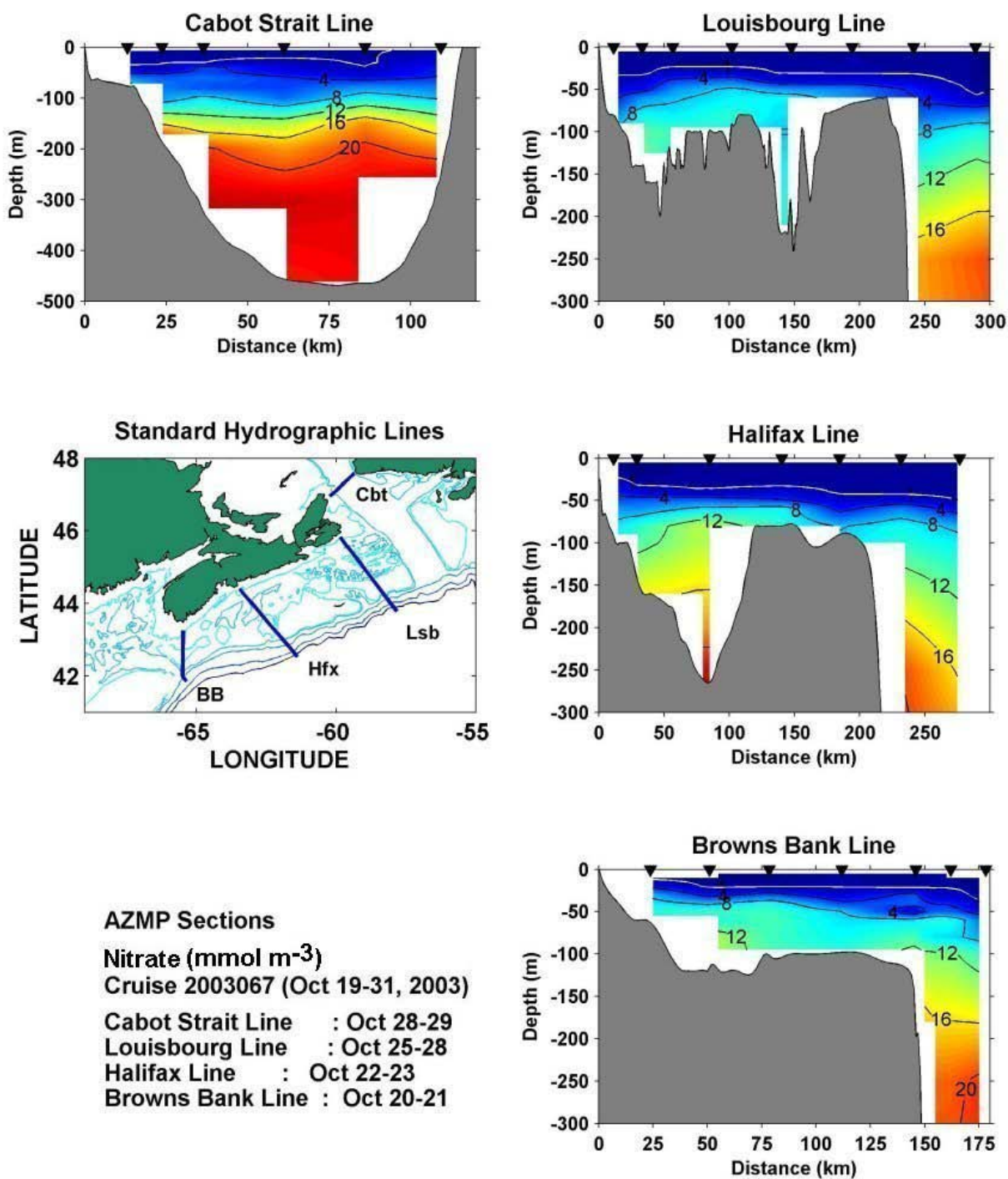




Figure 19. Mean nitrate concentrations (surface-50m integrals) along the Scotian Shelf sections during the spring and fall surveys, 1999-2003. Numbers above the vertical bars are the number of stations sampled along the sections.

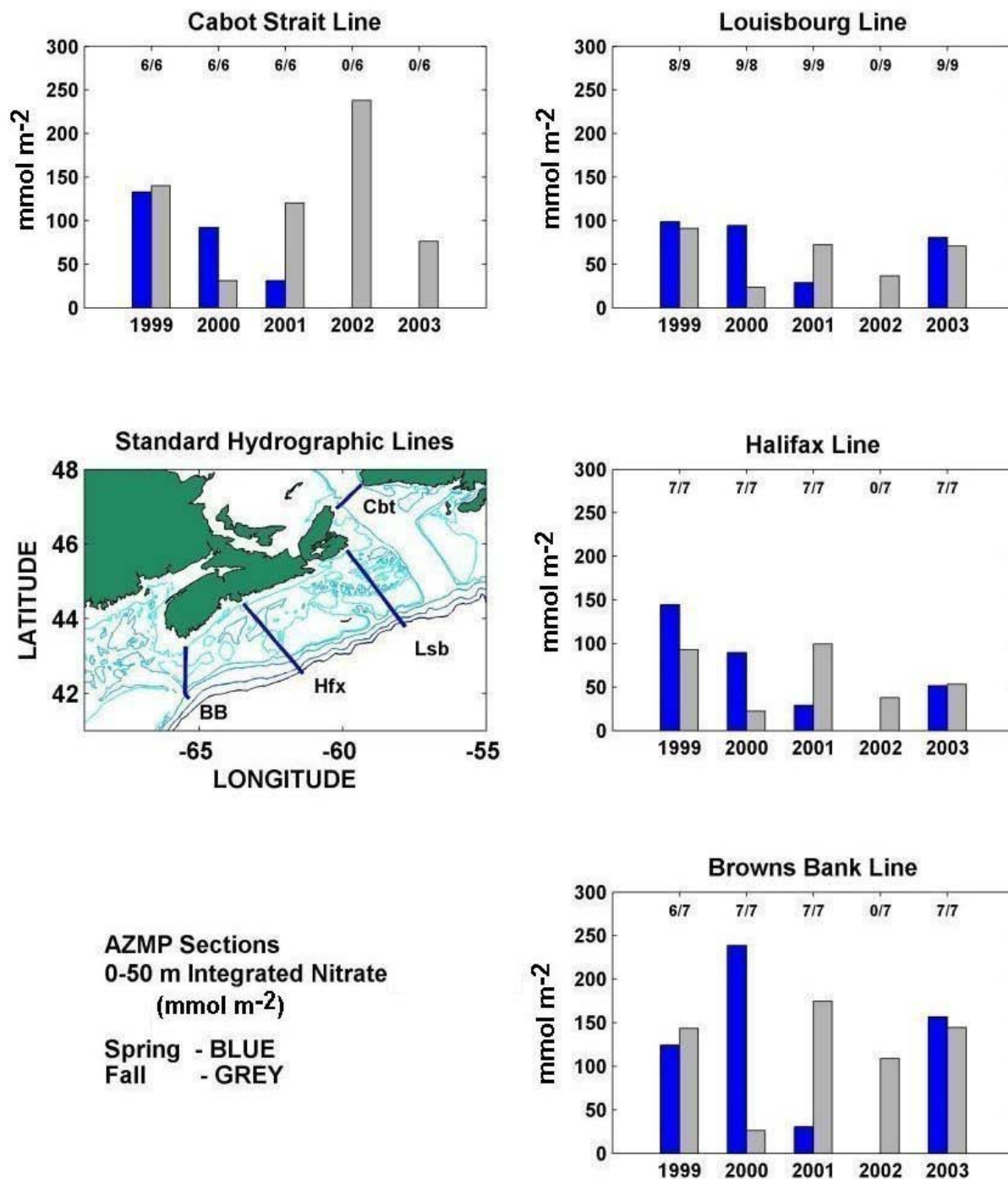


Figure 20. Vertical chlorophyll structure along the Scotian Shelf sections during the survey in 2003.

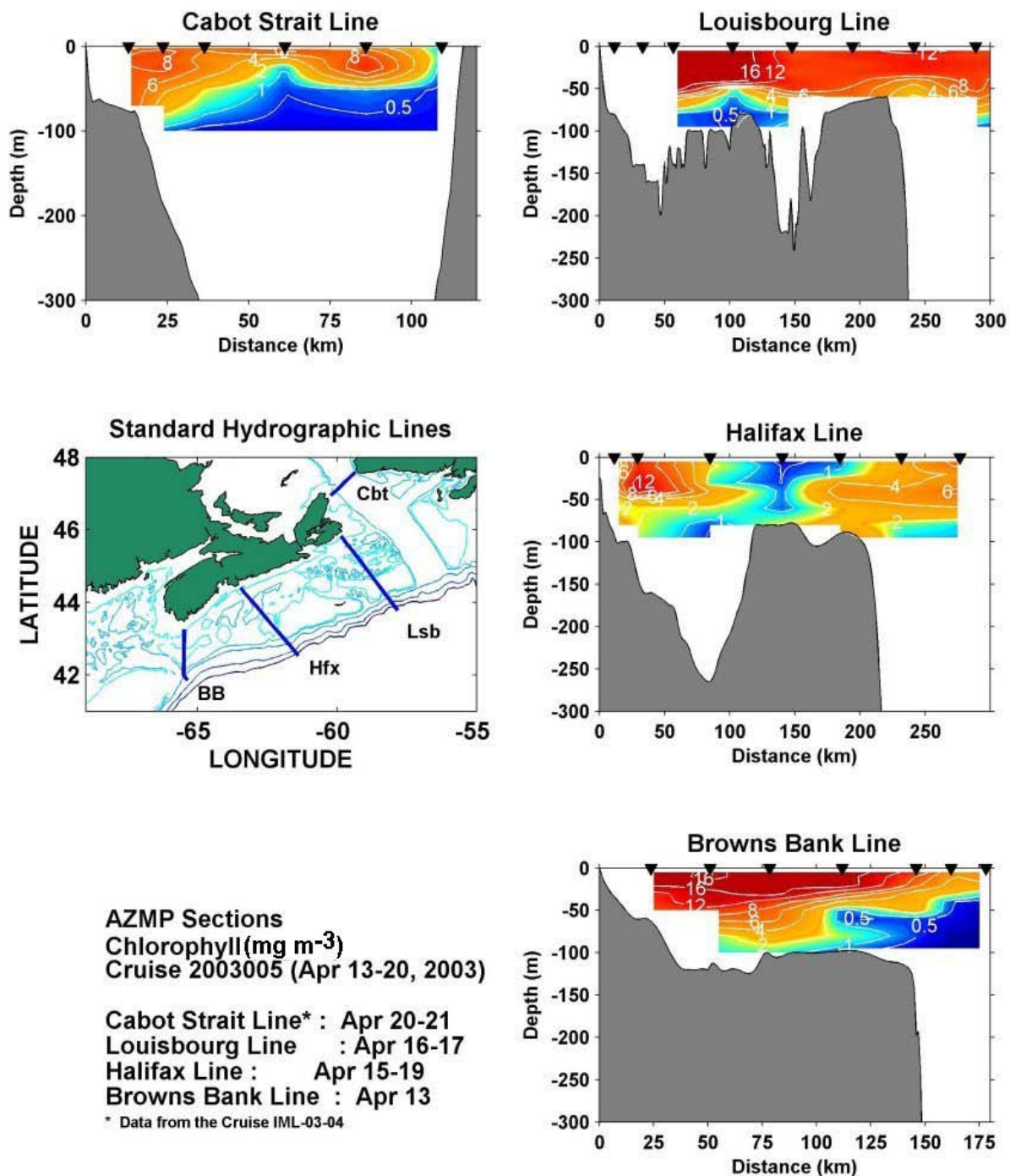


Figure 21. Vertical chlorophyll structure along the Scotian Shelf sections during the fall survey in 2003.

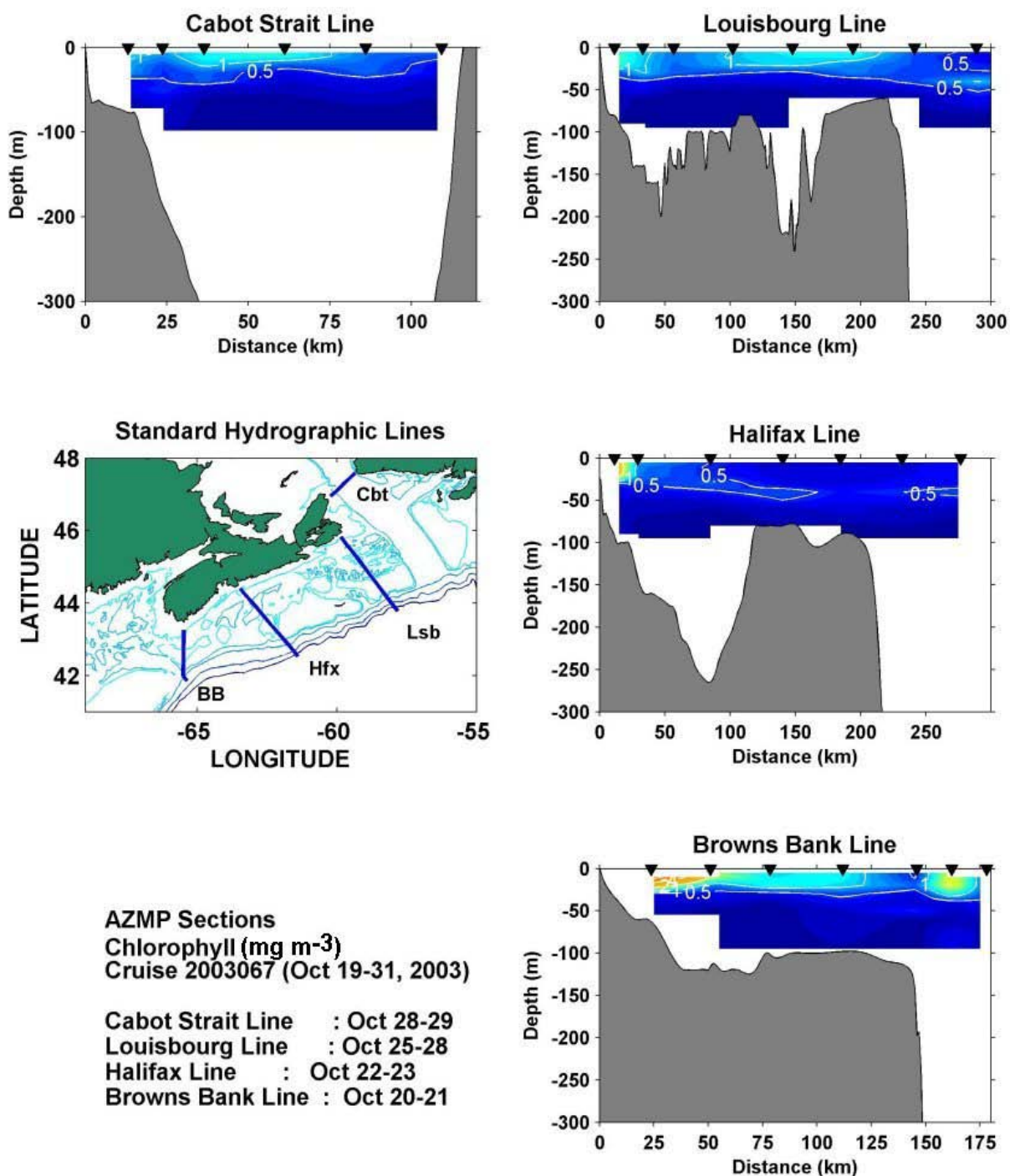


Figure 22. Mean chlorophyll concentrations (surface-100m integrals) along the Scotian Shelf sections during the spring and fall surveys, 1999-2003. Numbers above the vertical bars are the number of stations sampled along the sections.

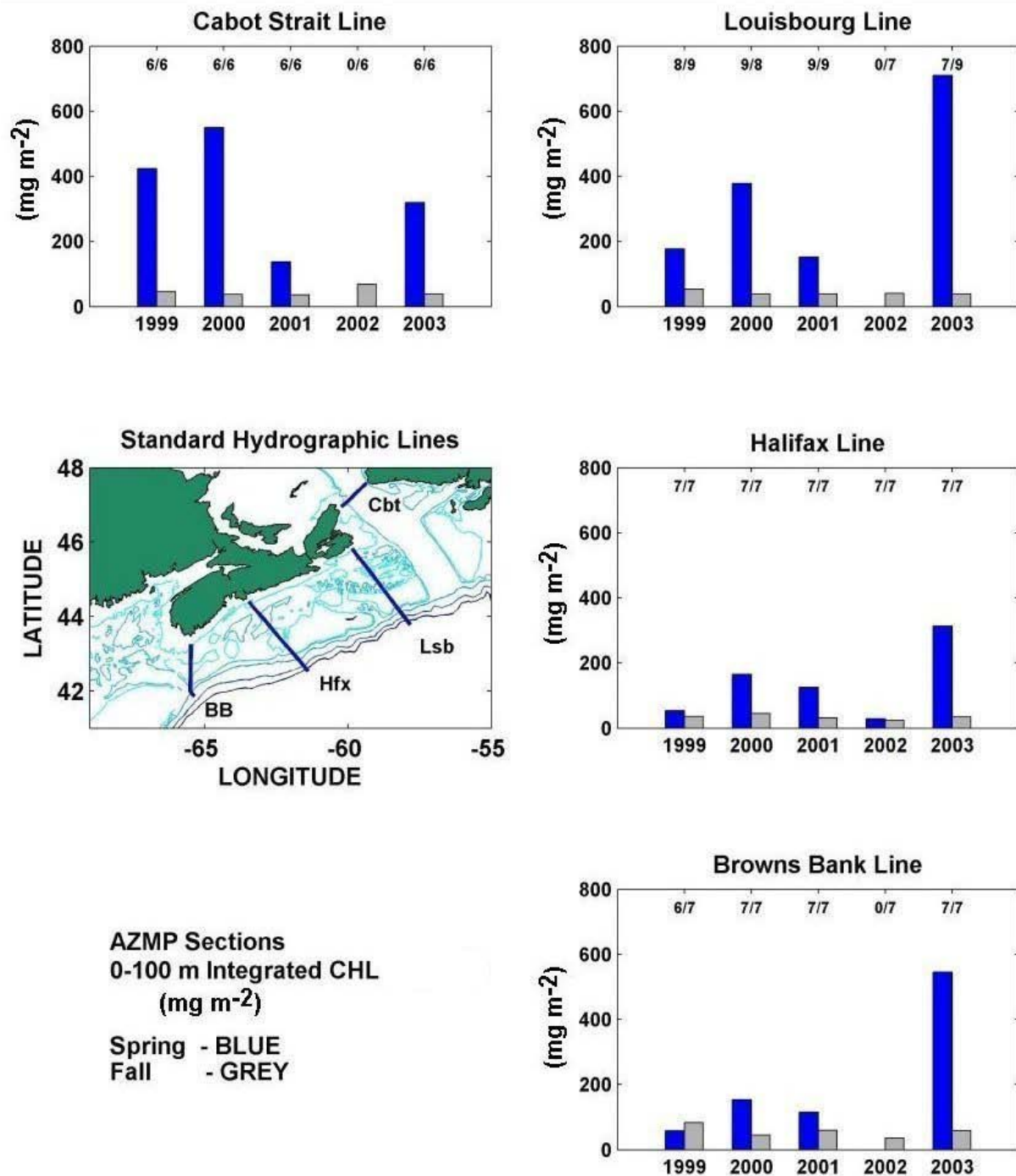
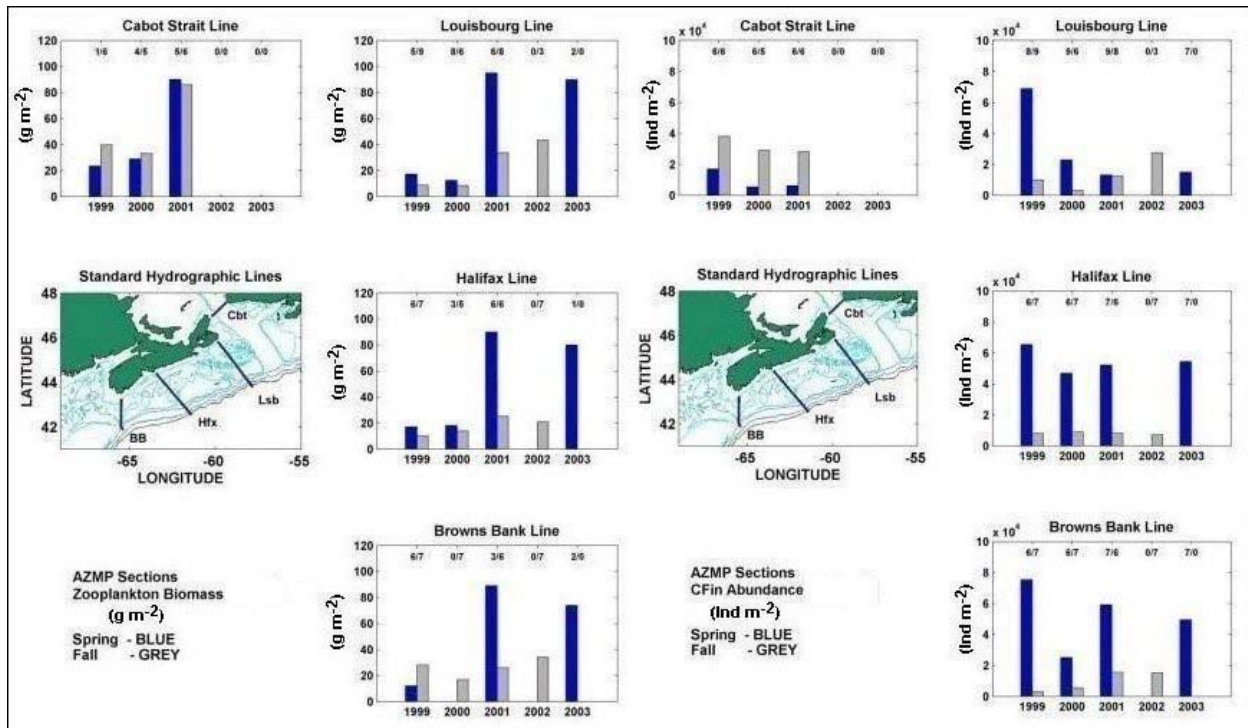
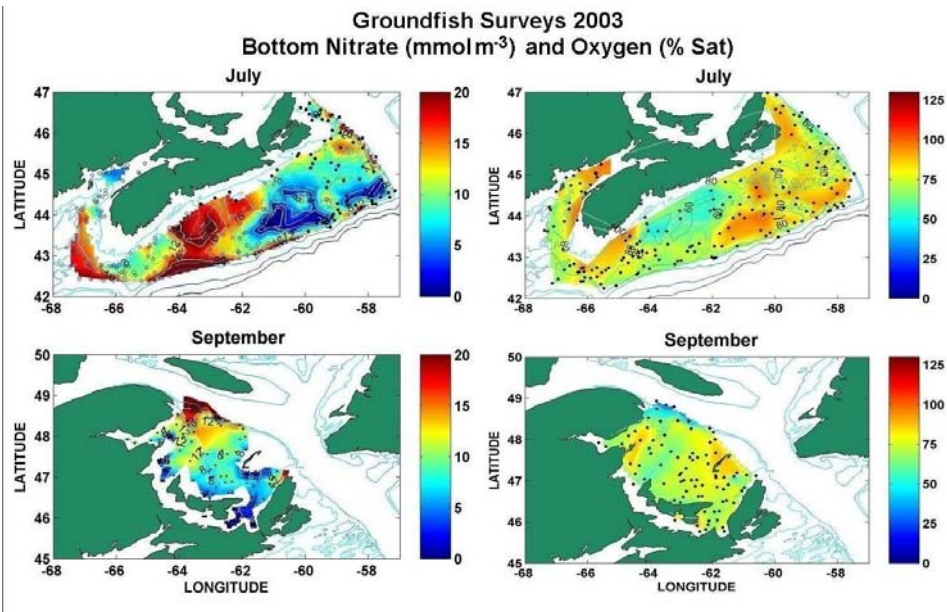




Figure 23. Mean zooplankton biomass and *C. finmarchicus* abundance (surface-bottom) along the Scotian Shelf sections during the spring and fall surveys, 1999-2003. Numbers above the vertical bars are the number of stations sampled along the sections.



**Figure 24. Bottom nitrate concentrations and oxygen saturation on the Scotian Shelf in the Southern Gulf of St. Lawrence during the annual July and September groundfish survey in 2003.**



**Figure 25. Surface chlorophyll concentrations on the eastern Scotian Shelf during the annual March groundfish survey, 2000-2003**

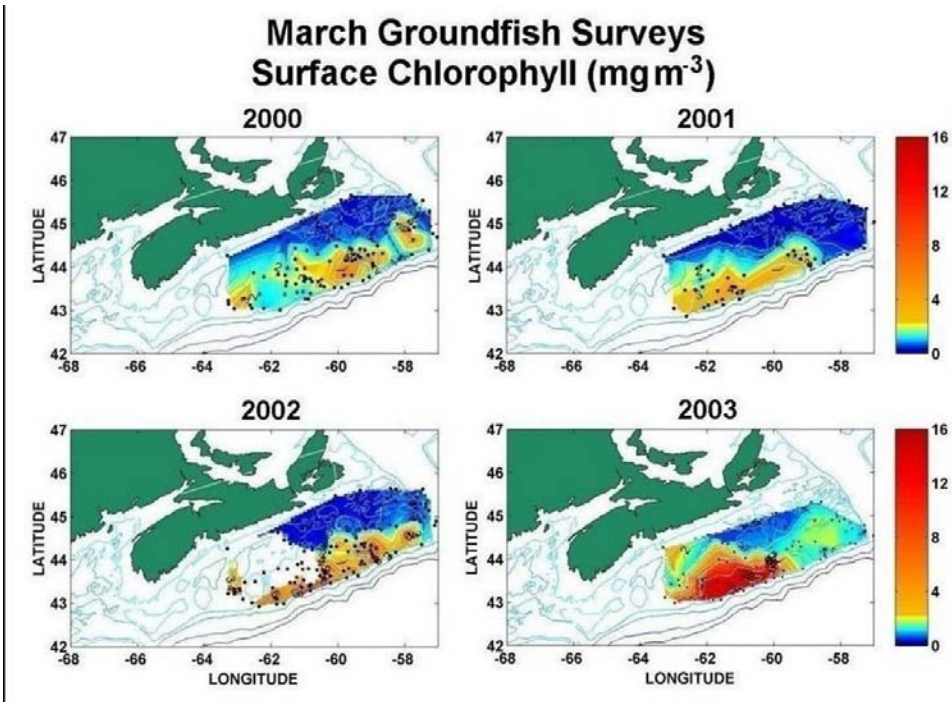


Figure 26. Surface chlorophyll concentrations on the Scotian Shelf and in the Southern Gulf of St. Lawrence during the annual July and September groundfish surveys in 2003.

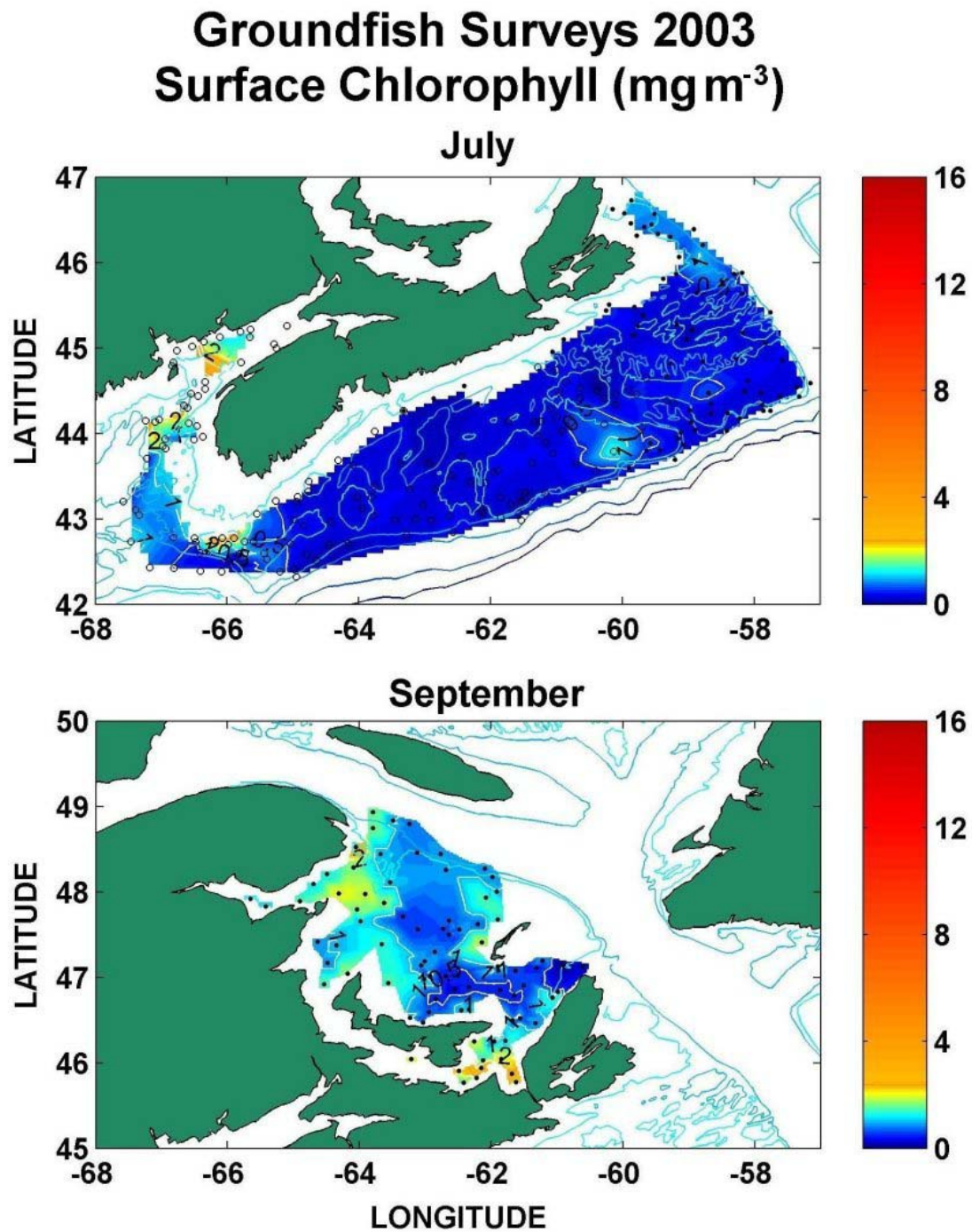




Figure 27. Zooplankton biomass on Georges Bank (February), the Scotian Shelf (March and July) and the southern Gulf of St. Lawrence (September) during the annual groundfish surveys, 1999-2003. Numbers are survey average biomass (g wt wt m<sup>-2</sup>).

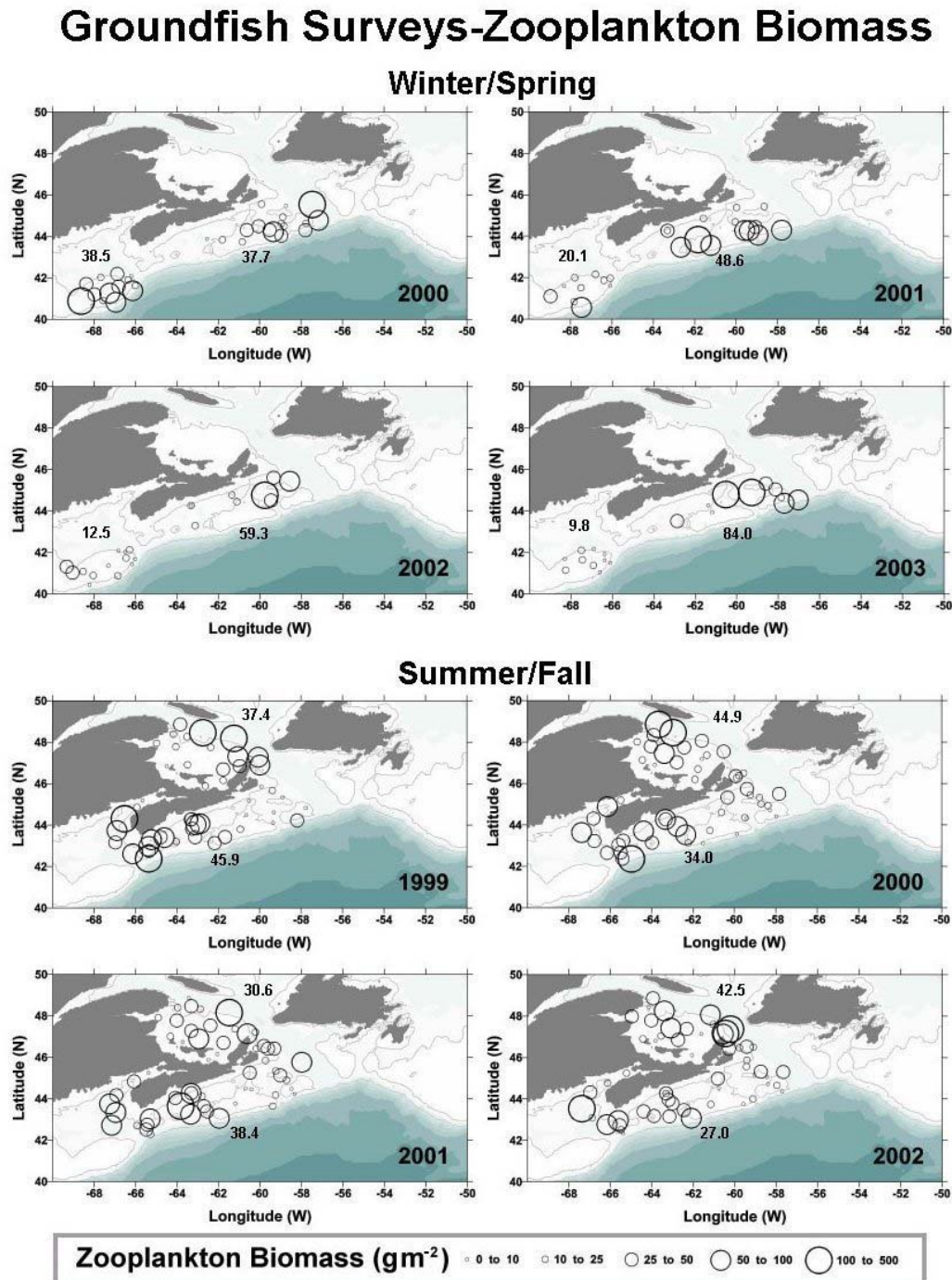




Figure 28. Time-series of surface chlorophyll concentrations (from SeaWiFS bi-weekly ocean colour composites) at the six AZMP fixed stations, 1998-2003.

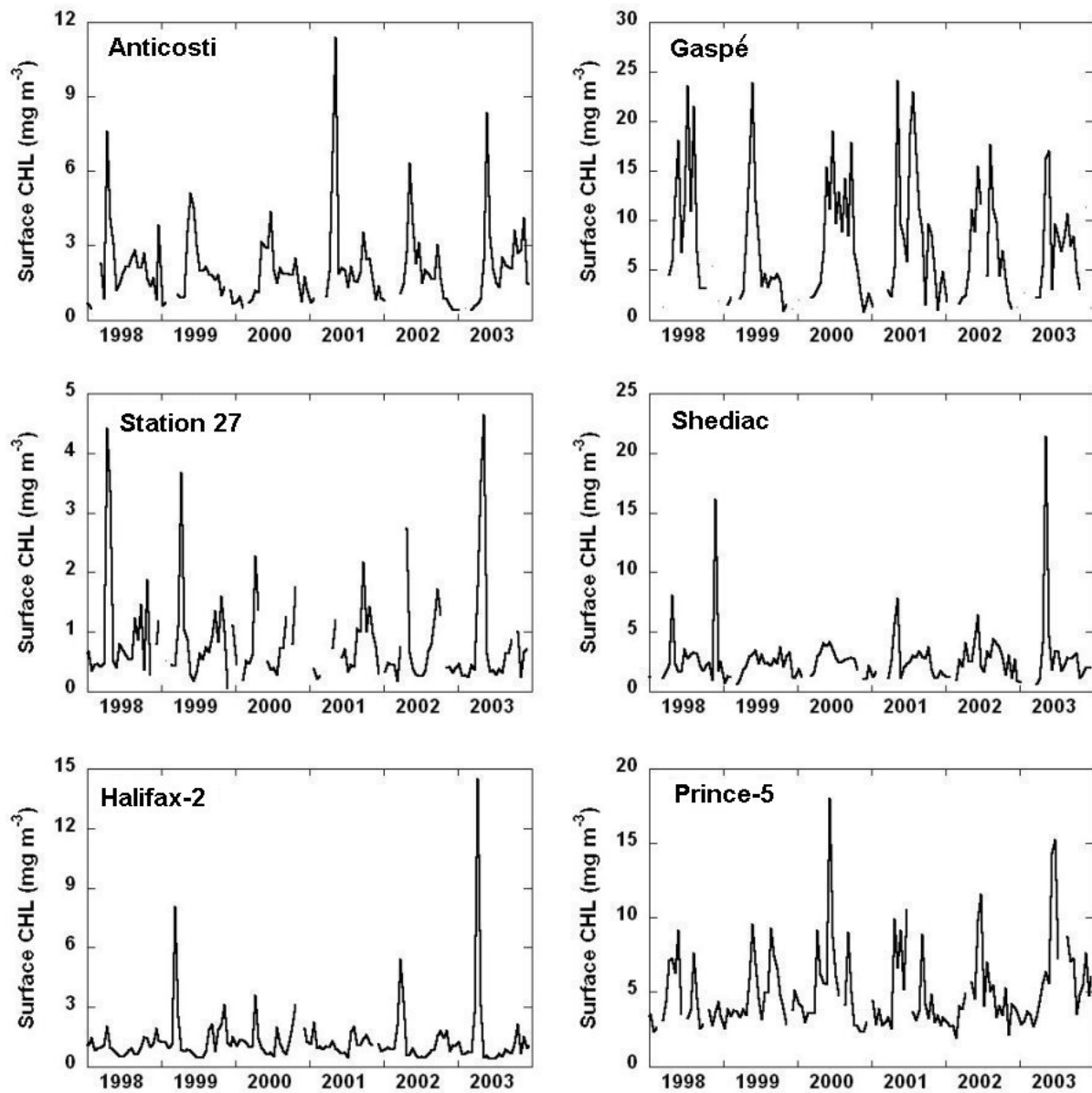
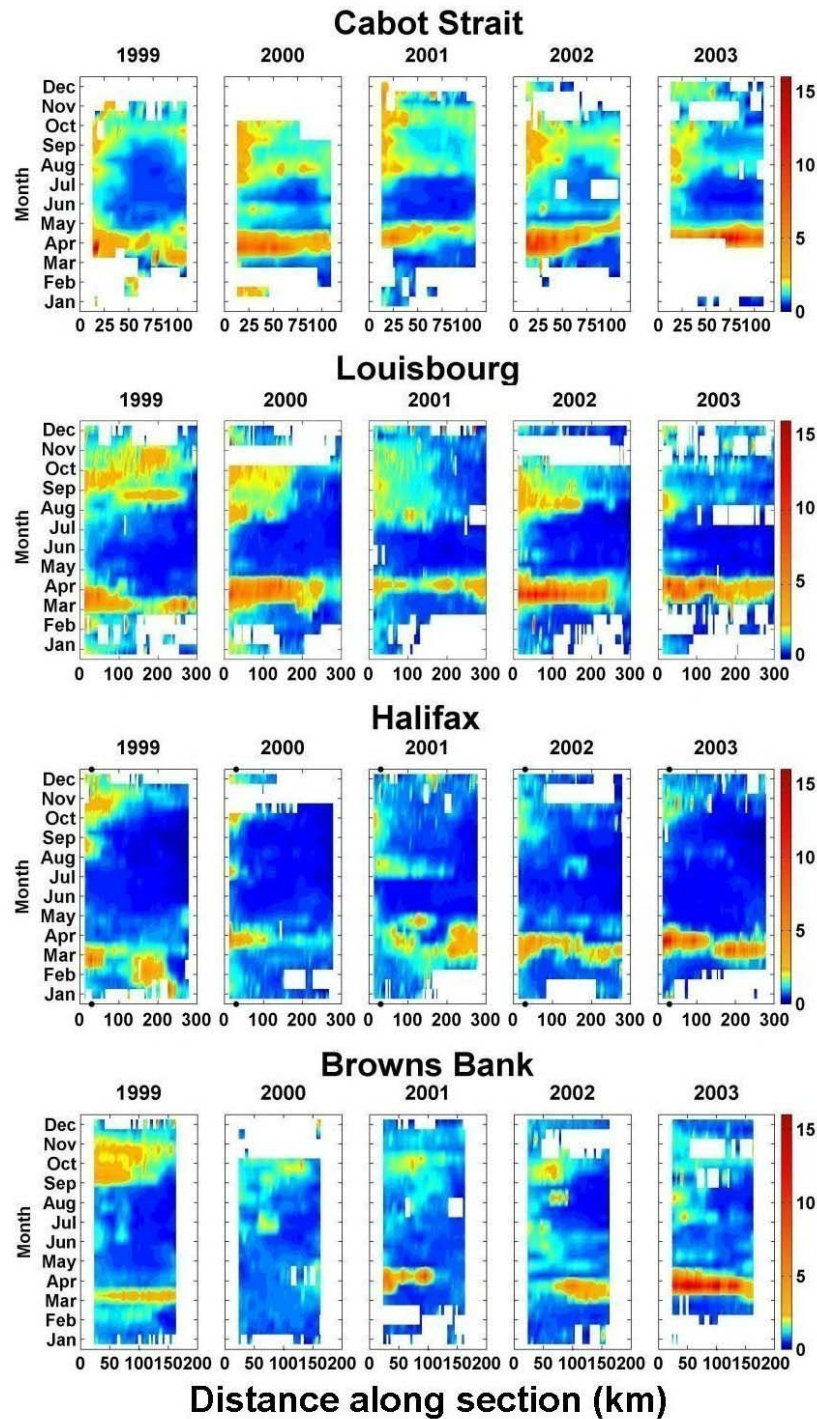


Figure 29. Time-series of surface chlorophyll concentrations ( $\text{mg m}^{-3}$ ), from SeaWiFS bi-weekly ocean colour composites, along the Maritimes/Gulf sections (see Fig. 1), 1998-2003. Horizontal axes running south to north (Cabot line) or west to east (Louisbourg, Halifax, Browns Bank lines).



**Figure 30. Time-series of surface chlorophyll concentrations (from SeaWiFS bi-weekly ocean colour composites) for statistical sub-regions of the Maritimes/Gulf regions (see Fig. 5), 1998-2003.**

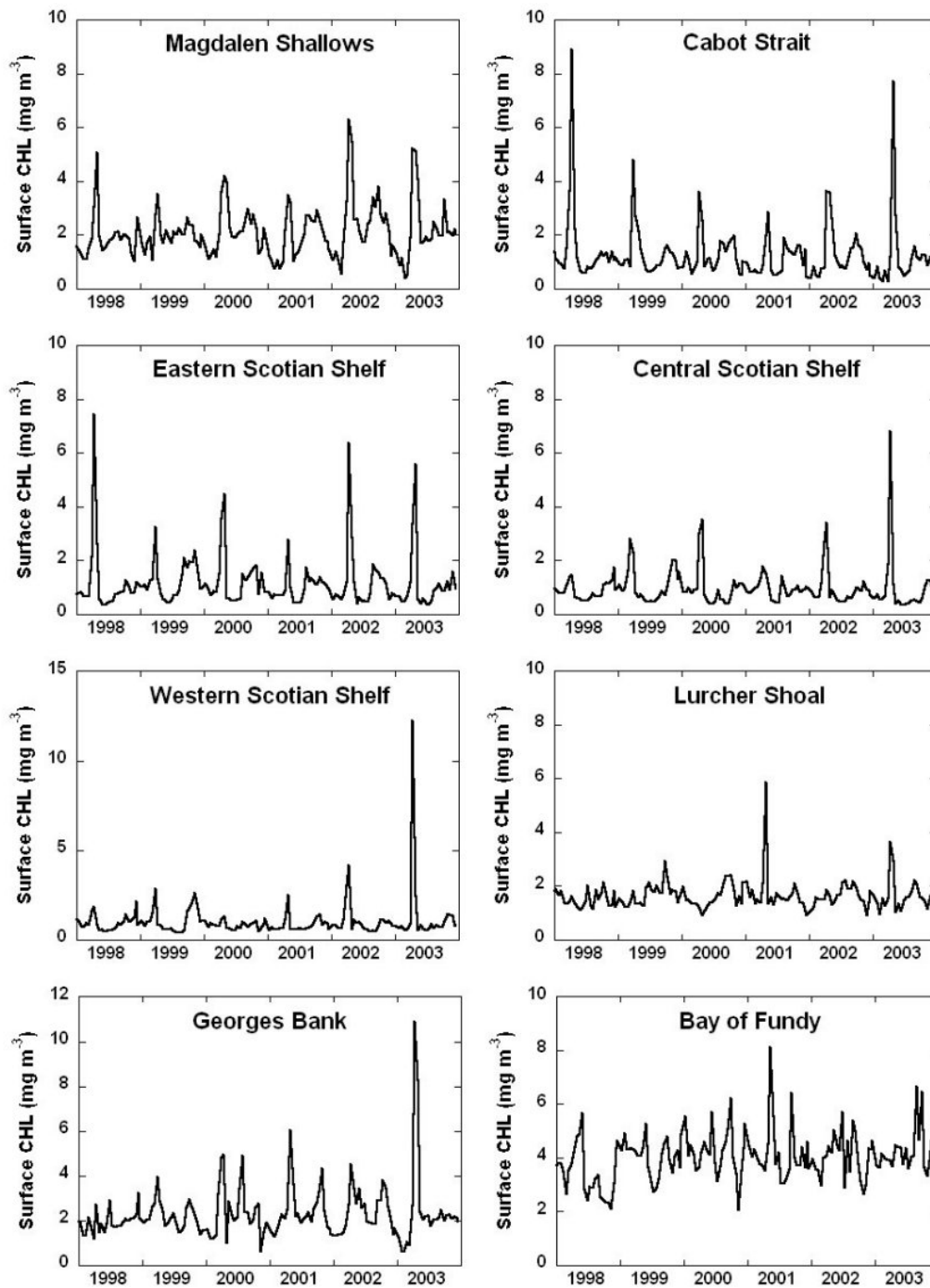
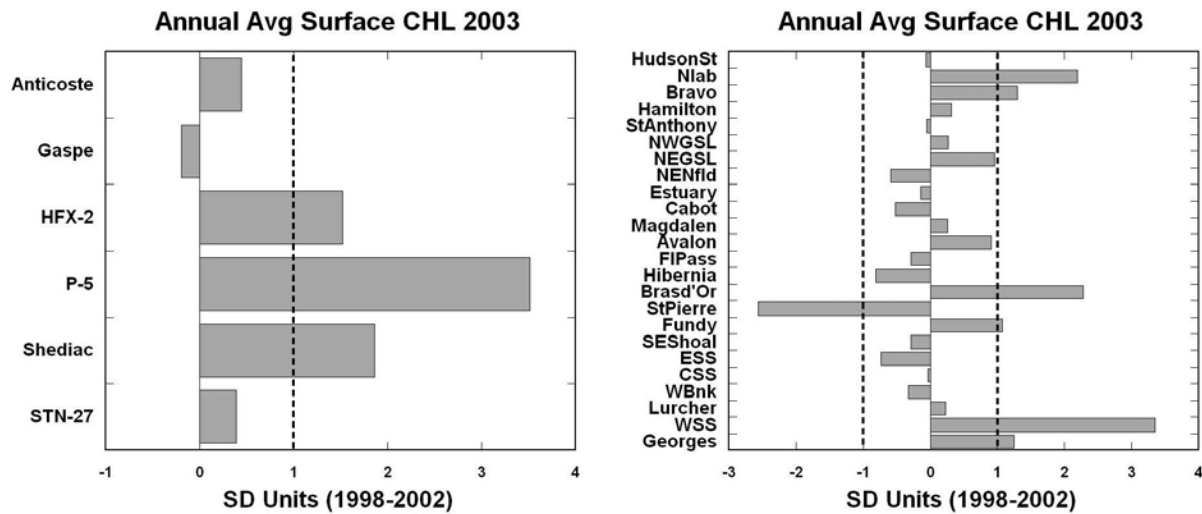


Figure 31. Surface chlorophyll conditions in the northwest Atlantic in 2003 from SeaWiFS composite images. Mean concentrations in 2003 for the 6 fixed stations and 24 statistical sub-regions (see Fig. 5) were compared with means concentrations for the total data record (1998-2003) and expressed as standard deviation units. Dashed lines are +/- one standard deviation of the 1998-2002 data record.





**Figure 32.** Time-series of phytoplankton biomass (colour index), diatom and dinoflagellate relative abundances (annual means) on the Scotian Shelf (57-66° W) and the Northwest Atlantic (45-53° W) from CPR surveys, 1961-2002 (see Fig. 4 for area coverage). Vertical bars are standard errors.

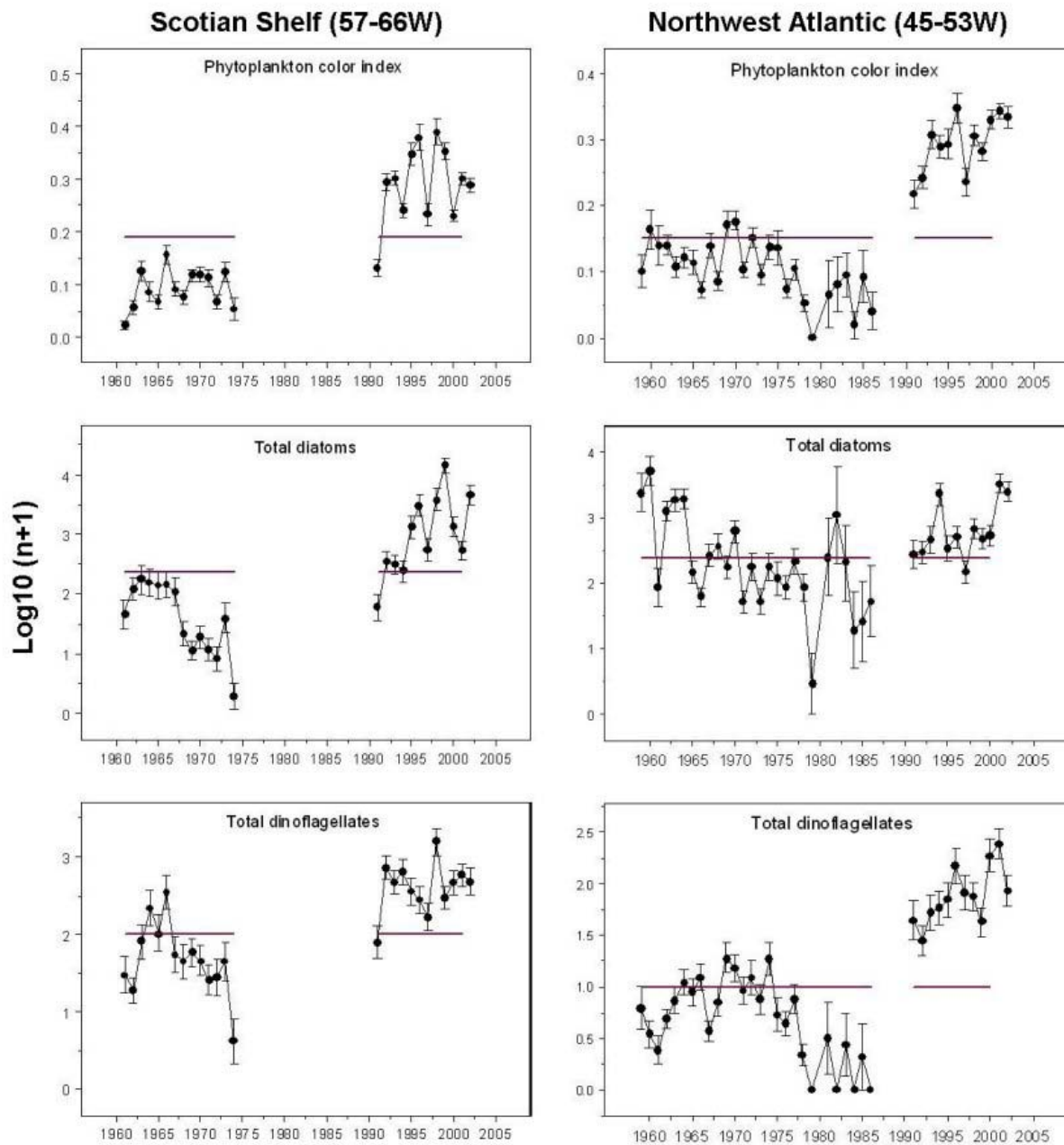
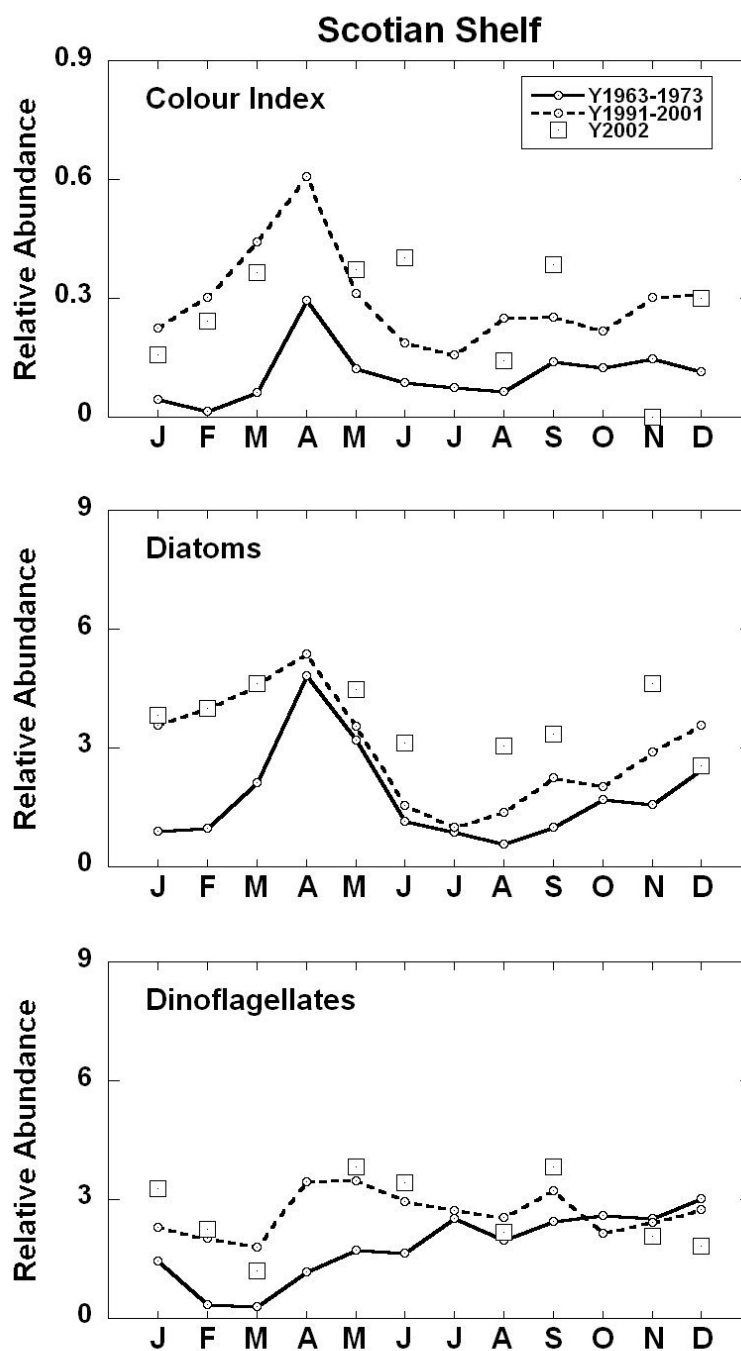
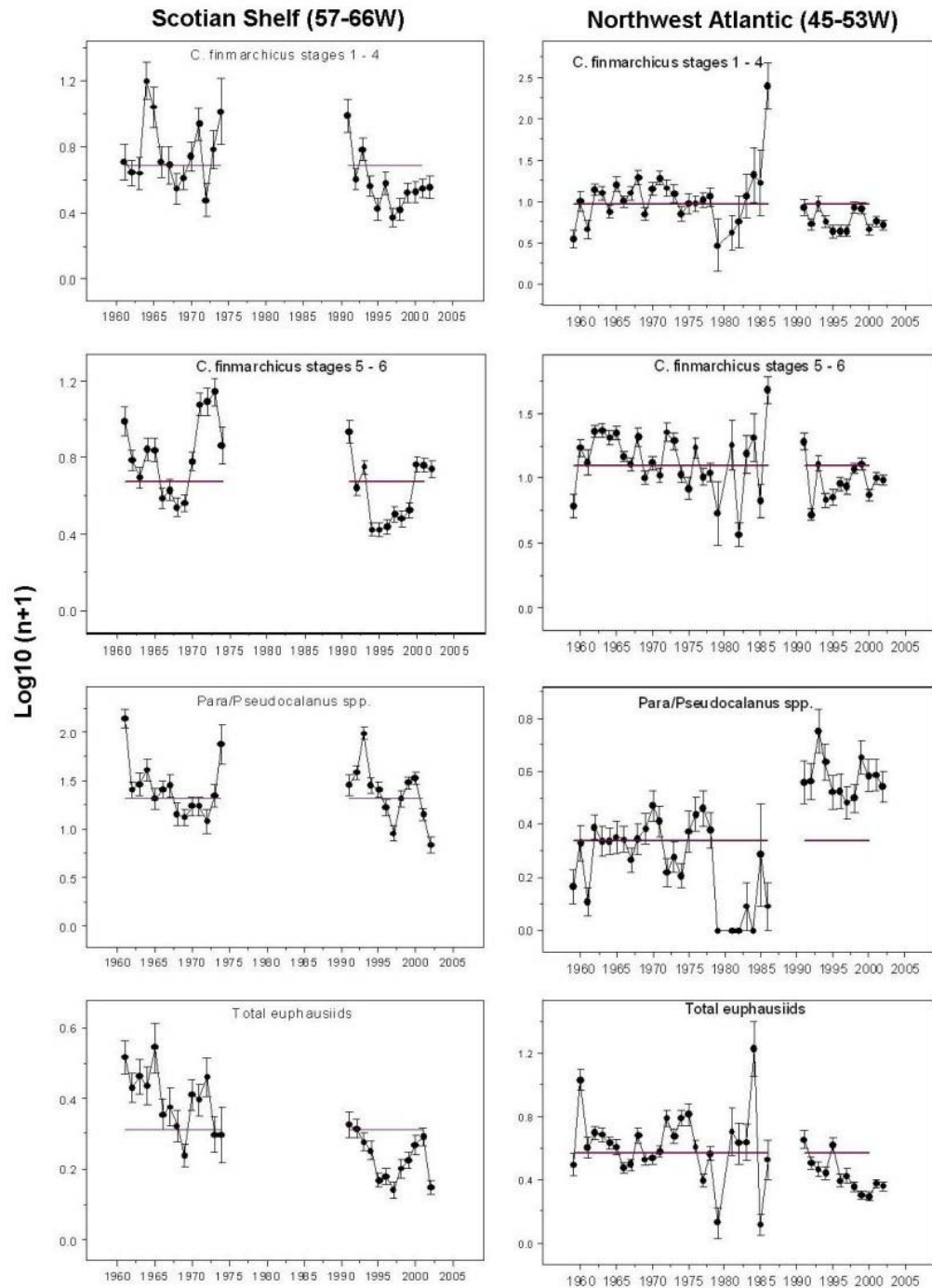


Figure 33. Monthly means of phytoplankton abundance on the Scotian Shelf in 2002 from CPR surveys. Means for the decades of the 1960s and 1990s shown for comparison.



**Figure 34. Time-series of relative abundances of selected zooplankton species (annual means) on the Scotian Shelf (57-66° W) and the Northwest Atlantic (45-53° W) from CPR surveys, 1961-2002 (see Fig. 4 for area coverage). Vertical bars are standard errors.**



**Figure 35. Monthly means of zooplankton abundance on the Scotian Shelf in 2002 from CPR surveys. Means for the decades of the 1960s and 1990s shown for comparison.**

