

Figure 9. (continued)

It seems that our period 2 is a very energetic case of such a diel cycle in ML stratification. Indeed, the conditions at that time were characterized by considerable wind stirring and intense heat loss during nighttime, alternating with significant input of solar radiation during daytime, with low daily average heat flux ($\sim 20 \text{ W m}^{-2}$). The nighttime deepening of the mixed layer was reflected in deep penetration of the spring bloom.

Such intense mixing likely assured a good supply of nutrients, while the removal of the phytoplankton stock from the surface increased the transmission of solar energy over the next day. The reduction of mixing during the day was critical for the high growth rate; the phytoplankton production in the well-lit surface waters during the day must have been sufficient to compensate for cells being transported down to greater depths

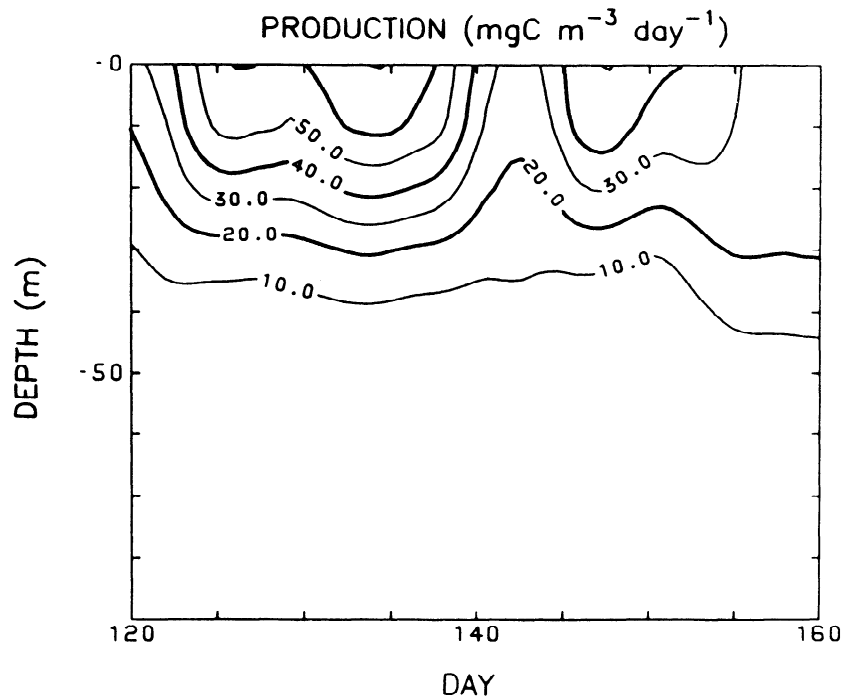


Figure 10. Primary production estimated from Chl a and PAR time series (shown in Figures 5 and 6), using the Kiefer and Mitchell [1983] model.