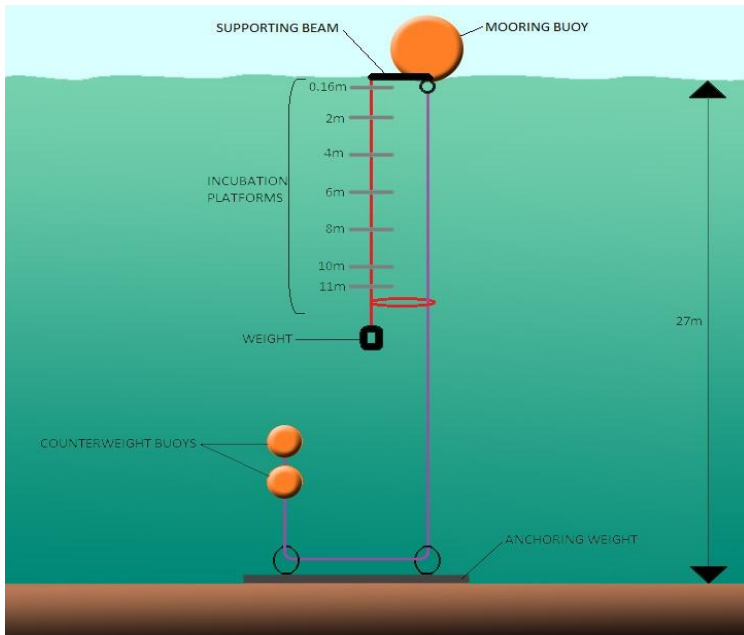


1 SUPPLEMENTARY MATERIAL:

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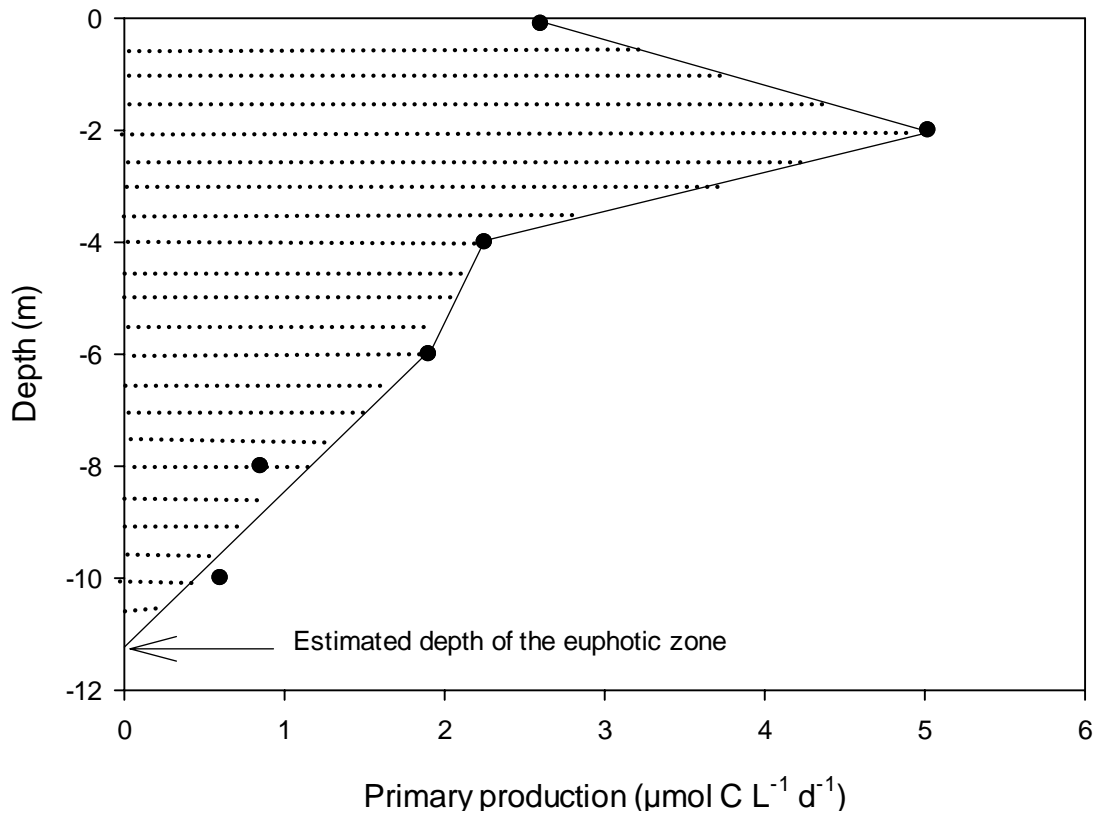
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6 Fig S1. Schematic of the incubation platforms used for primary production incubations. The
7 platforms were moored outside the mesocosms. The platform at 11 m depth was used for dark
8 incubations (the vials were covered with aluminum foil to ensure complete darkness).

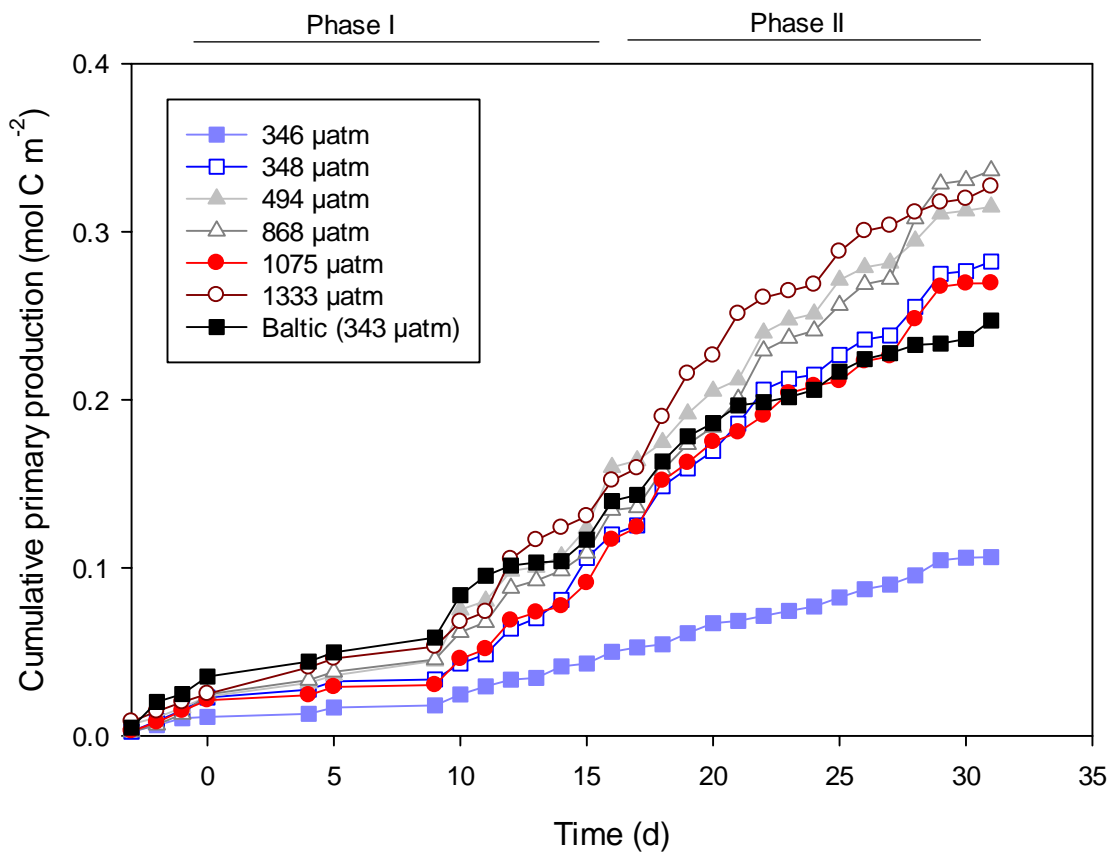
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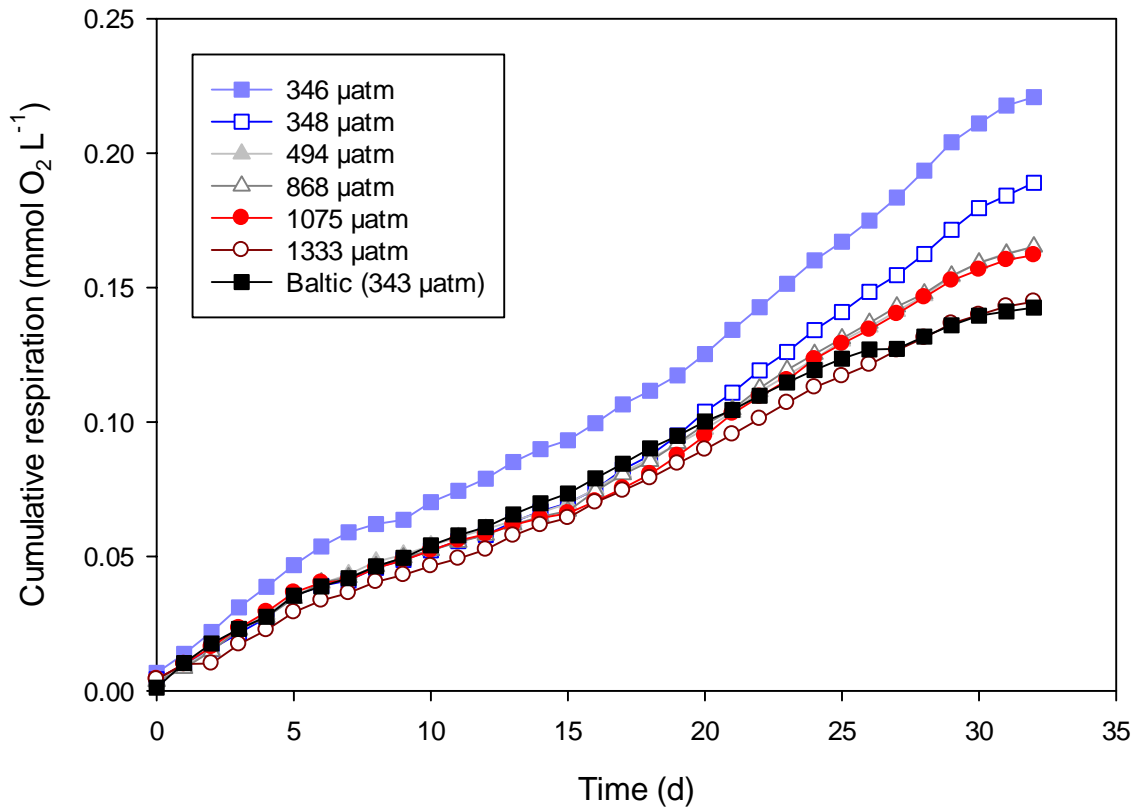
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Fig S2. An example of the simple, linear mode used to calculate areal productivity. Points represent measured primary production and the solid line represents the modeled production at different depth. Areal production was calculated from the total filled area. The depth of the euphotic zone was calculated assuming linear decreasing production with increasing depth below 6 m depth.



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Fig S3. The cumulative primary production in the different *f*CO₂ treatments per square meter. The *f*CO₂ (μatm) were the average measured over the duration of the experiment. The two lowest *f*CO₂ treatments (346 and 348 μatm) were controls without any CO₂ addition.



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Fig S4. The cumulative respiration in the different $f\text{CO}_2$ treatments. The $f\text{CO}_2$ (μatm) were the average measured over the duration of the experiment. The two lowest $f\text{CO}_2$ treatments (346 and 348 μatm) were controls without any CO_2 addition.