Ocean warming by the sun, below the surface.

When the sun heats the ocean, it changes the density and can lead to a circulation. How deep the light can penetrate, depends on the clarity of the water, which in turn depends on for example the Chlorophyll concertation. For extremely clear water (no Chlorophyll), the sunlight can penetrate as deep as 150 m below the surface. When the sunlight reaches below the surface, it leads to a direct input of heat below the surface, which has consequences for the density and therefore circulation.

In this study, we look at the consequences of this deeper warming for overturning circulation and heating of the ocean and how this depends on Chlorophyll.