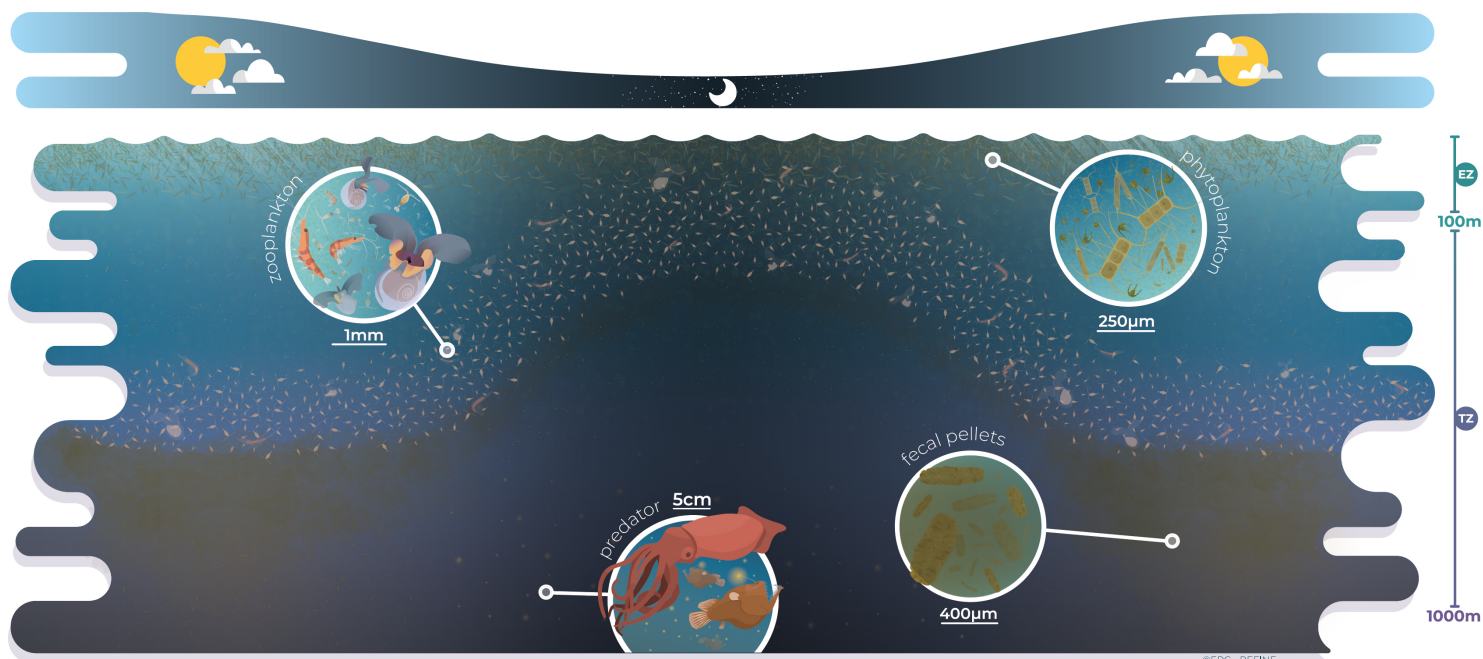


## THE DIEL MIGRATION PUMP



### The Diel Vertical Migration Pump.

Many zooplankton have developed diel vertical migration (DVM) behavior. In other words, they migrate to the EZ at dusk where they graze on phytoplankton, then migrate back to the TZ at dawn.

Reasons for this migration may vary but primarily come down to a trade-off between the need to feed vs predator avoidance (as fish hunt their zooplankton prey visually, they require sufficient light to detect them).

DVM obviously has an effect on the Biological Carbon Pump. Indeed, this migration is an efficient mechanism for actively transporting organic material from the surface to the depths of the TZ where it can be released e.g. in the form of fecal pellets.

As these fecal pellets may subsequently undergo gravitational sinking, DVM can be considered as an accelerator of the Gravitational Pump. Ubiquitous throughout the global ocean, DVM is considered as the vastest migration phenomenon on our planet.