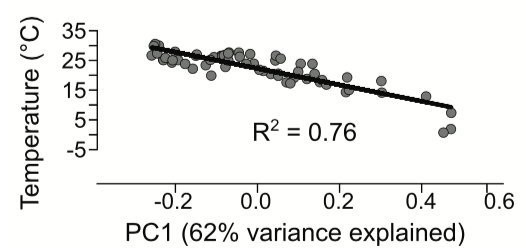
Lab 8

# Question

In the paper “Structure and function of the global ocean microbiome,” Sunagawa et al. found that overall variability in a community (as measured by principle component analysis) was best explained by temperate. (Sunagawa et al., 2015)



Item . The Figure 5a from the Sunagawa et al. paper.

Thus, one question might be**:** *is there is greater species richness and species diversity (as measured by Shannon-Weiner Index) in warmer water samples (15-30 °C) than in colder water samples (0-10 °C)?*

Table . Metadata for the six samples selected for this study. Colors are to indicate temperature (cool, medium, warm).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Label | Run ID | Region | Sample details | Depth | Temp °C |
| 01\_dcm\_SernOcean | ERR599104 | Southern Ocean (near Antarctica) | deep chlorophyll maximum layer | 90 m | -0.78154 |
| 02\_surface\_SernOcean | ERR599090 | Southern Ocean (near Antarctica) | surface water layer | 5 m | 0.67108 |
| 03\_meso\_SPacific | ERR598999 | South Pacific (near the Marquesas) | mesopelagic zone | 600 m | 7.212238 |
| 04\_surface\_NAtlantic | ERR599078 | North Atlantic (off the coast of Portugal) | surface water layer | 5 m | 14.28065 |
| 05\_dcm\_SPacific | ERR598948 | South Pacific (near the Marquesas) | deep chlorophyll maximum layer | 115 m | 24.69625 |
| 06\_surface\_SPacific | ERR598992 | South Pacific (near the Marquesas) | surface water layer | 5 m | 26.54413 |