

## Topics for Exam 3

Patterns in Space: biomass and abundance

Zonation in the deep sea

Aggregation, density and sampling (aerial surveys, destructive sampling from ships and subs)

Rarefaction/Species Accumulation Curves

Caveats of using biomass

Spatial variation of biomass

Submarine canyons: organic matter and biomass

Optimal body size

Body size with depth patterns across different taxa

Theories about why there is gigantism or dwarfism in deep sea taxa

Seamount formation, hydrography, endemism (galatheids as a case study), oasis hypothesis

Hydrothermal vent formation and chemistry

Spreading Rates and plume incidence

Vent microhabitat correlations

Vent abundance/biomass, diversity and endemism

Methane seeps and their seafloor features

Similarities and differences between vents and seeps

Microbial consortia in seep sediments – Anaerobic Oxidation of Methane (AOM)

Characteristic seep epifauna

Where does sulfide come from in a methane seep? What is methanotrophy?

Eel River ecology from geochemistry to macrofaunal ecology

Tubeworm habitat islands and succession at seeps

Whale-fall community succession and stepping-stone hypothesis

Source of sulfide at whale falls

Deep-sea coral reef habitat requirements and their impact on seafloor ecology

Link between seeps and reefs