

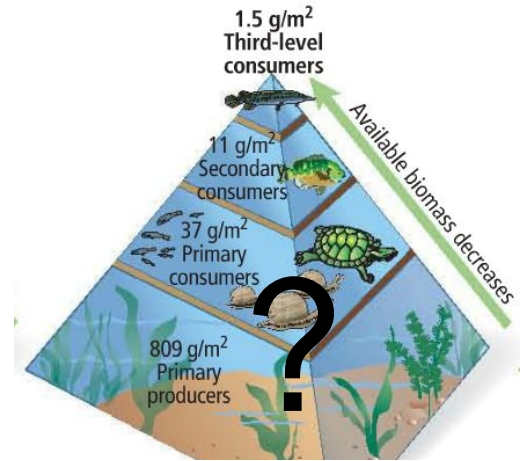


Ben-Gurion University of the Negev
Jacob Blaustein Institutes for Desert Research
The Swiss Institute for Dryland Environmental and Energy Research
Mitrani Department of Desert Ecology

Seminar

Ron Milo

Department of Plant
and Environmental Sciences,
Weitzman Institute of Science



Tuesday, March 12, 2019, 12:00

Seminar Room, Old Administration Building

Participants are invited to meet the seminar speaker at the MDDE meeting room immediately after the seminar (~ 13:00). Please bring your lunch; snacks will be provided.

The Biomass Distribution on Earth

A census of the biomass on Earth is key for understanding the structure and dynamics of the biosphere. Yet, a quantitative, global view of how the biomass of different taxa compare with each other is still lacking. In this study, we harness recent advances in global sampling techniques to assemble the overall biomass composition of the biosphere, establishing the first census of the biomass of all the kingdoms of life. We find contrasting locations for where biomass is concentrated for different kingdoms of life - animals and protists are mainly marine, whereas fungi and plants are mainly terrestrial and bacteria and archaea are predominantly located in deep subsurface environments. We show that terrestrial biomass is ≈ 50 -fold higher than marine biomass, and estimate a total of ≈ 7 Gt C of marine biota, doubling the quantity estimated previously. Our analysis reveals that the global marine biomass pyramid contains more consumers than producers, thus increasing the scope of previous observations on inverse food pyramids. Finally, we highlight that the mass of humans is an order of magnitude higher than that of all wild mammals combined and quantify the historical impact of humanity on global mammalian biomass.