



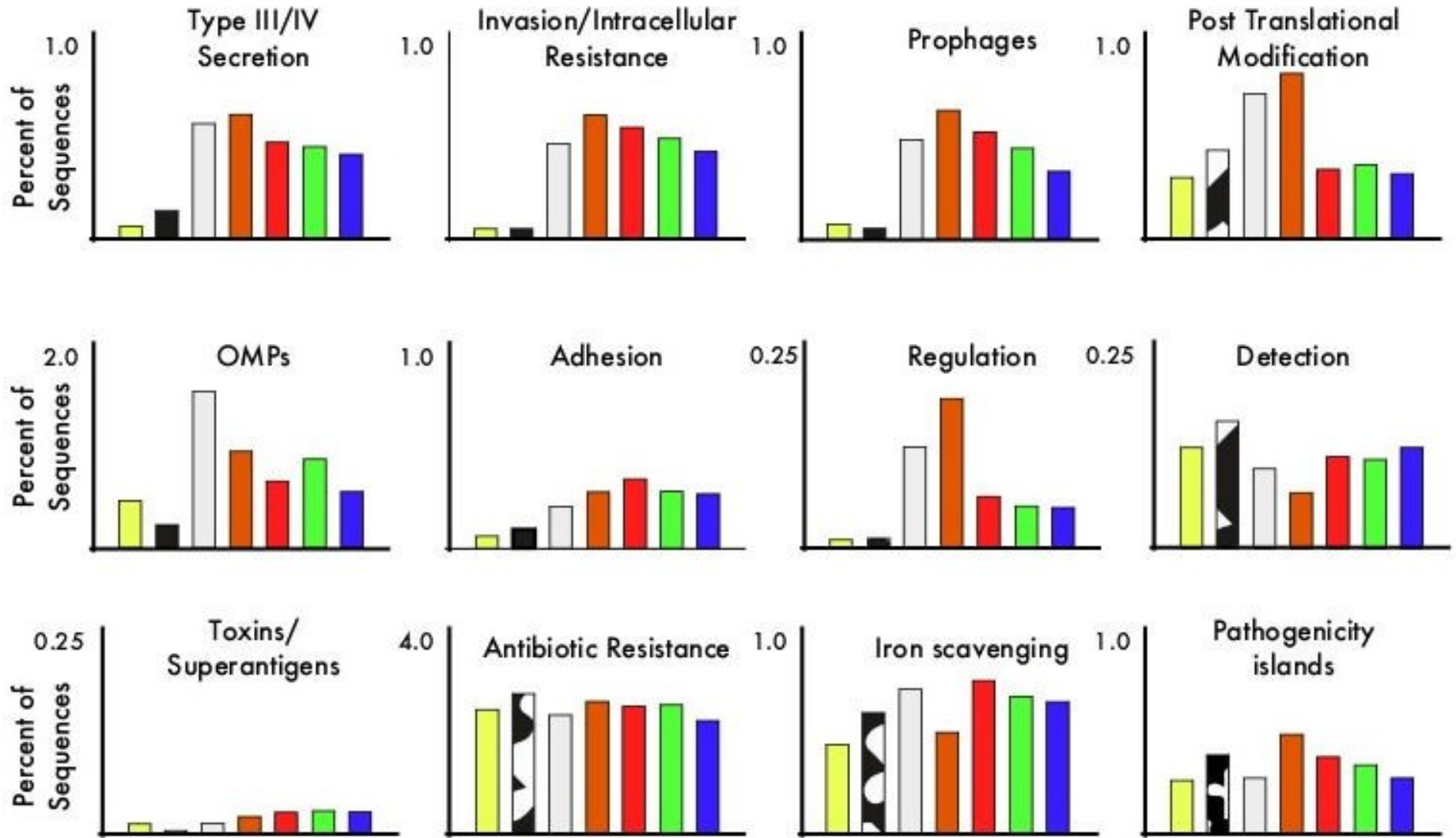




Chickens, Cows, Mice, and People; Oh my!

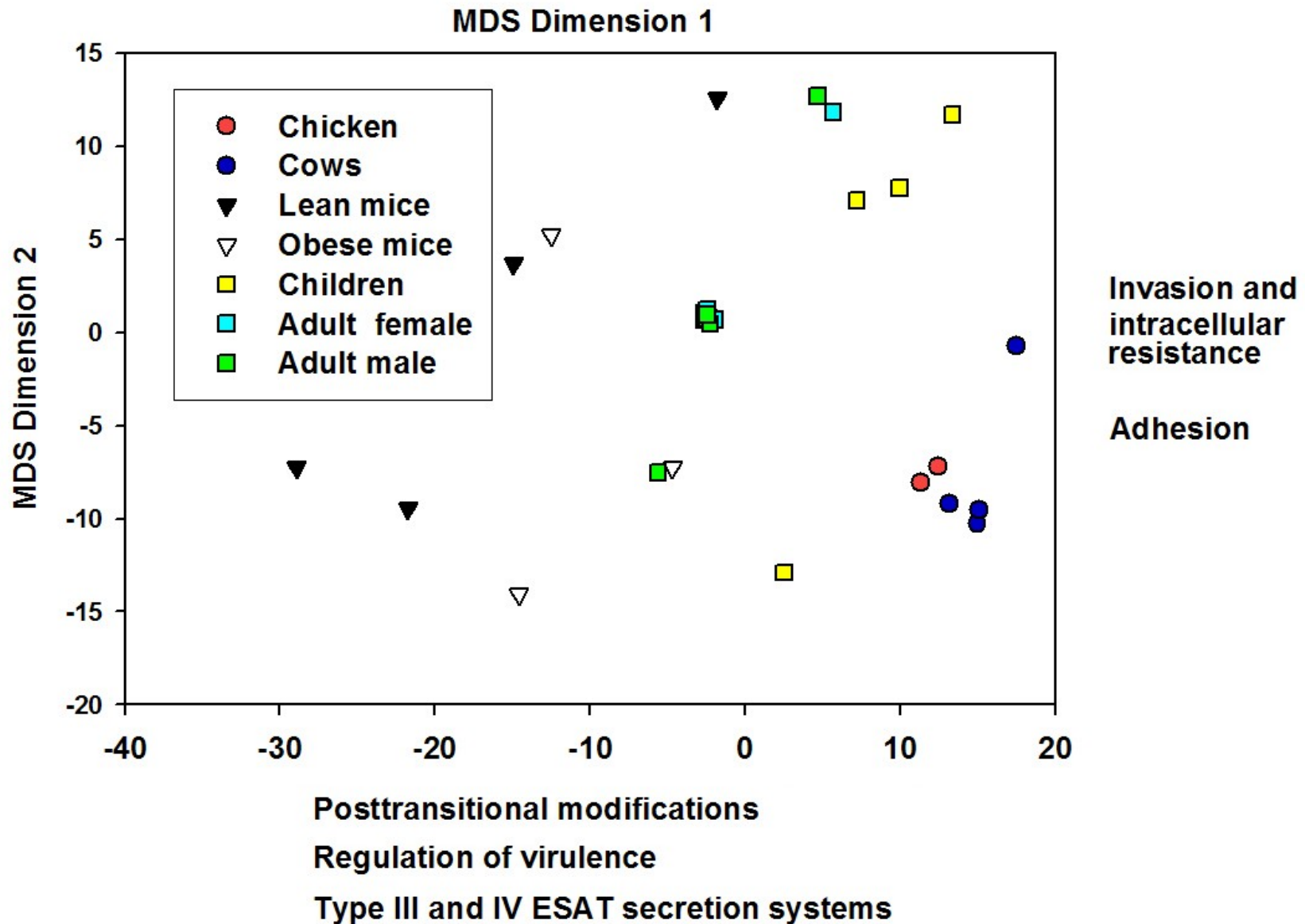


# Virulence Subsystems In The Intestines

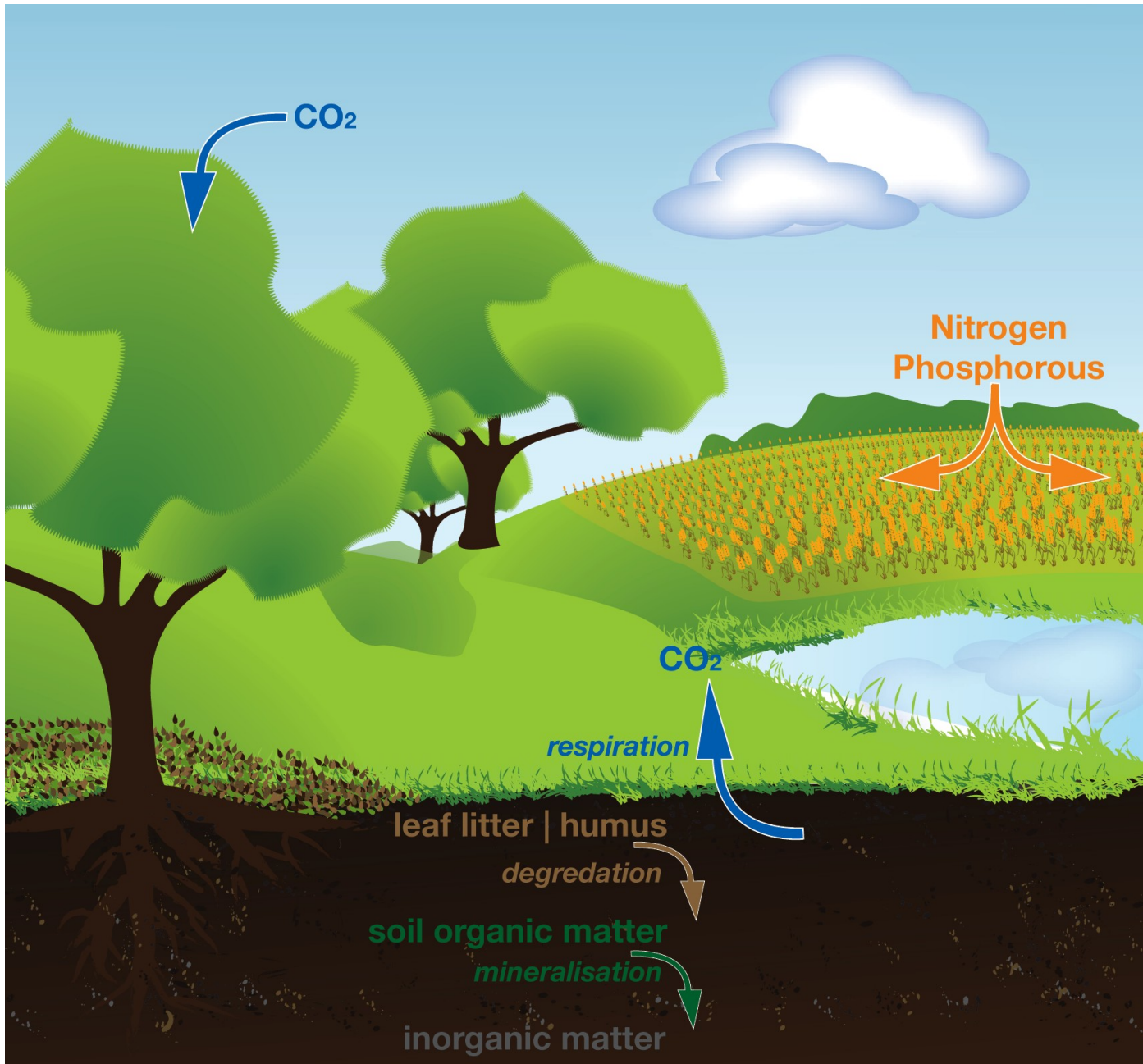


Chicken
  Cows
  Lean mice
  Obese mice
  Adult female human
  Adult male human
  Child human

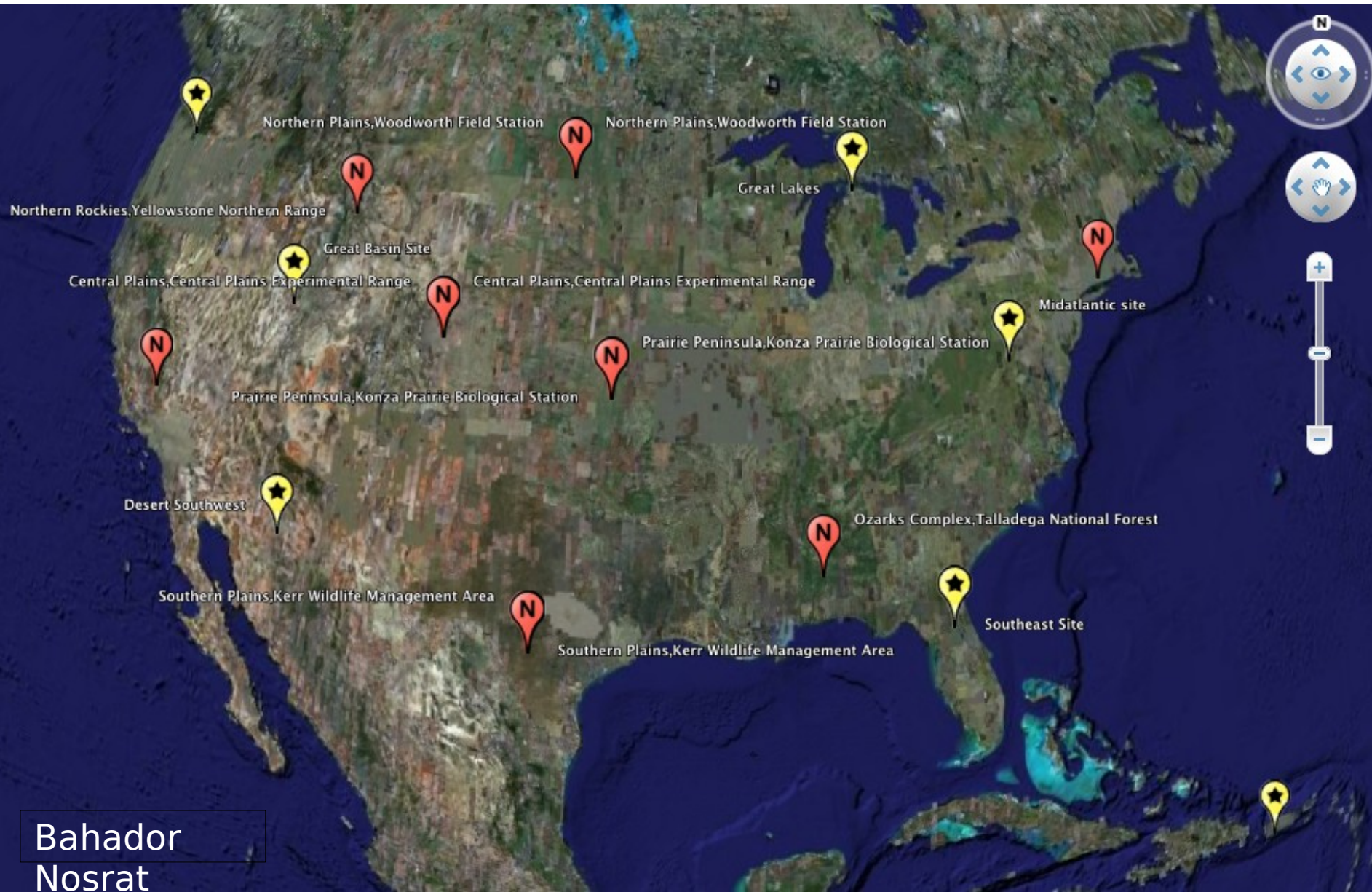
# Microbial Virulence Genes Discriminate Hosts



# Terragenomics



# National Ecological Observation Network

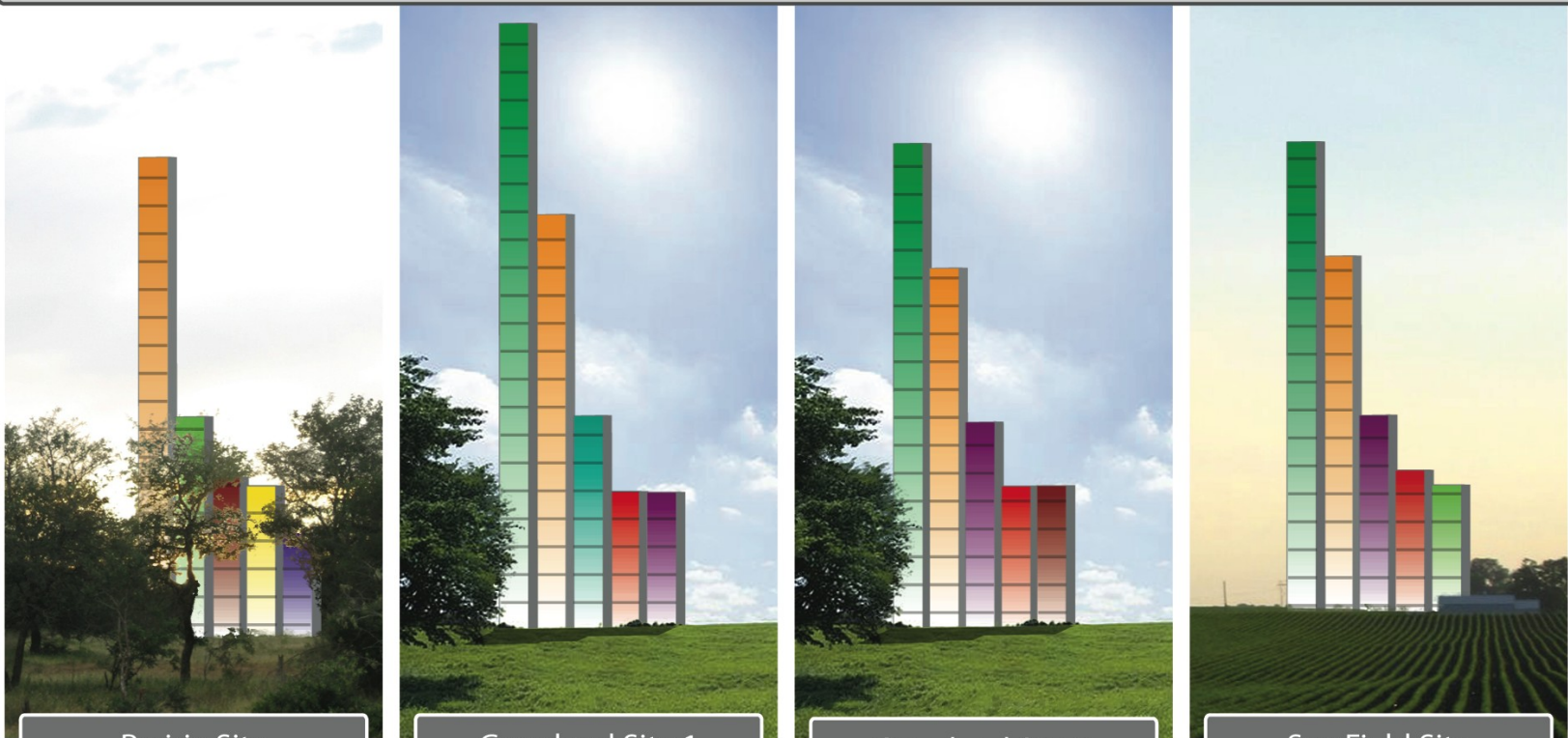


Bahador  
Nosrat



# Differences between soil samples

PROPORTION OF 5 MOST ABUNDANT PROTEINS AT EACH SAMPLE SITE



Prairie Site

Grassland Site 1

Grassland Site 2

Soy Field Site

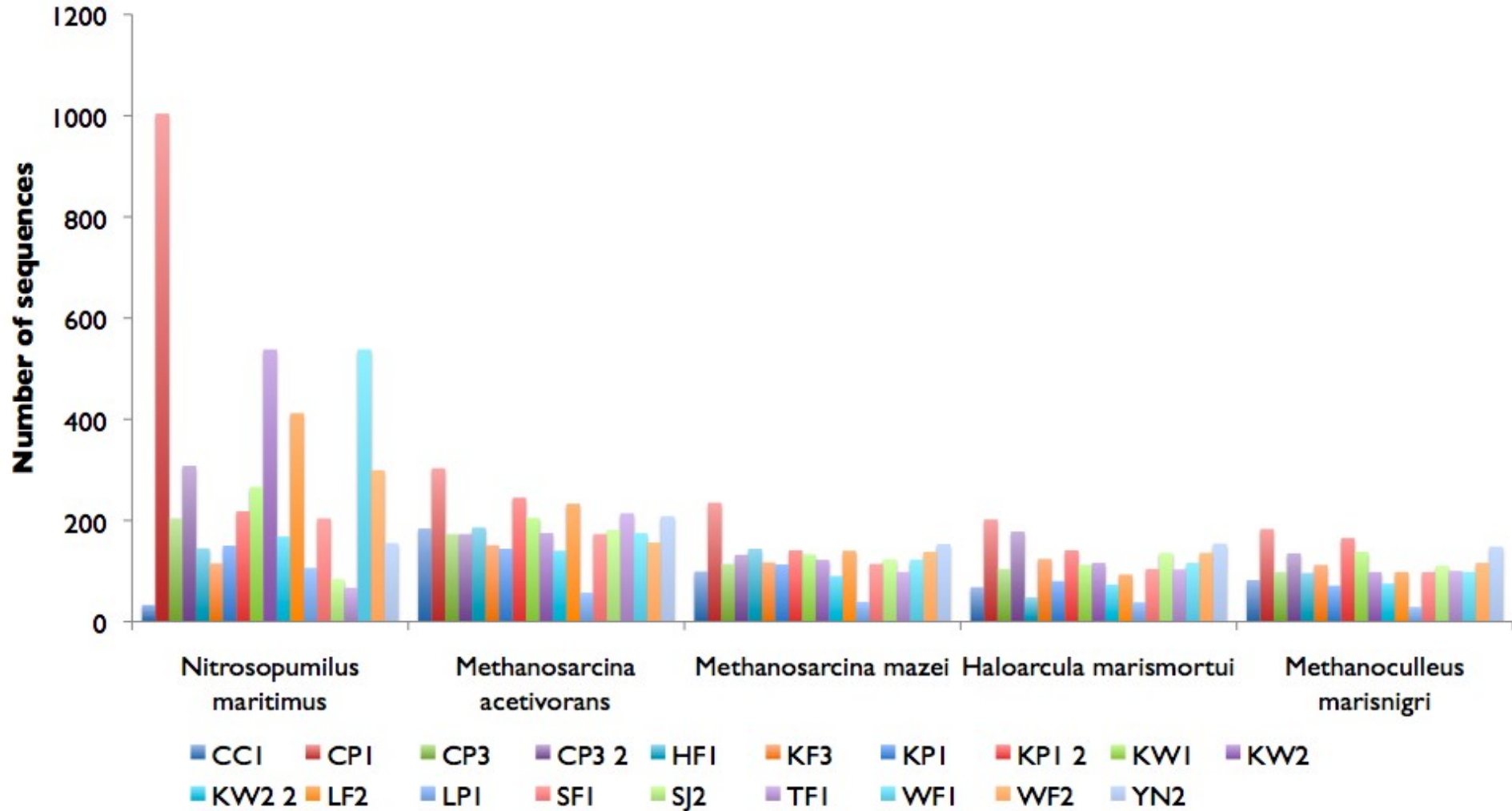
MOLYBDOPTERINE OXIDOREDUCTASE  
 HYDROPEROXIDE RESISTANCE  
 MEMBRANE TRANSPORT

TRANSCRIPTION RELATED  
 RNA METABOLISM  
 RESPIRATION RELATED

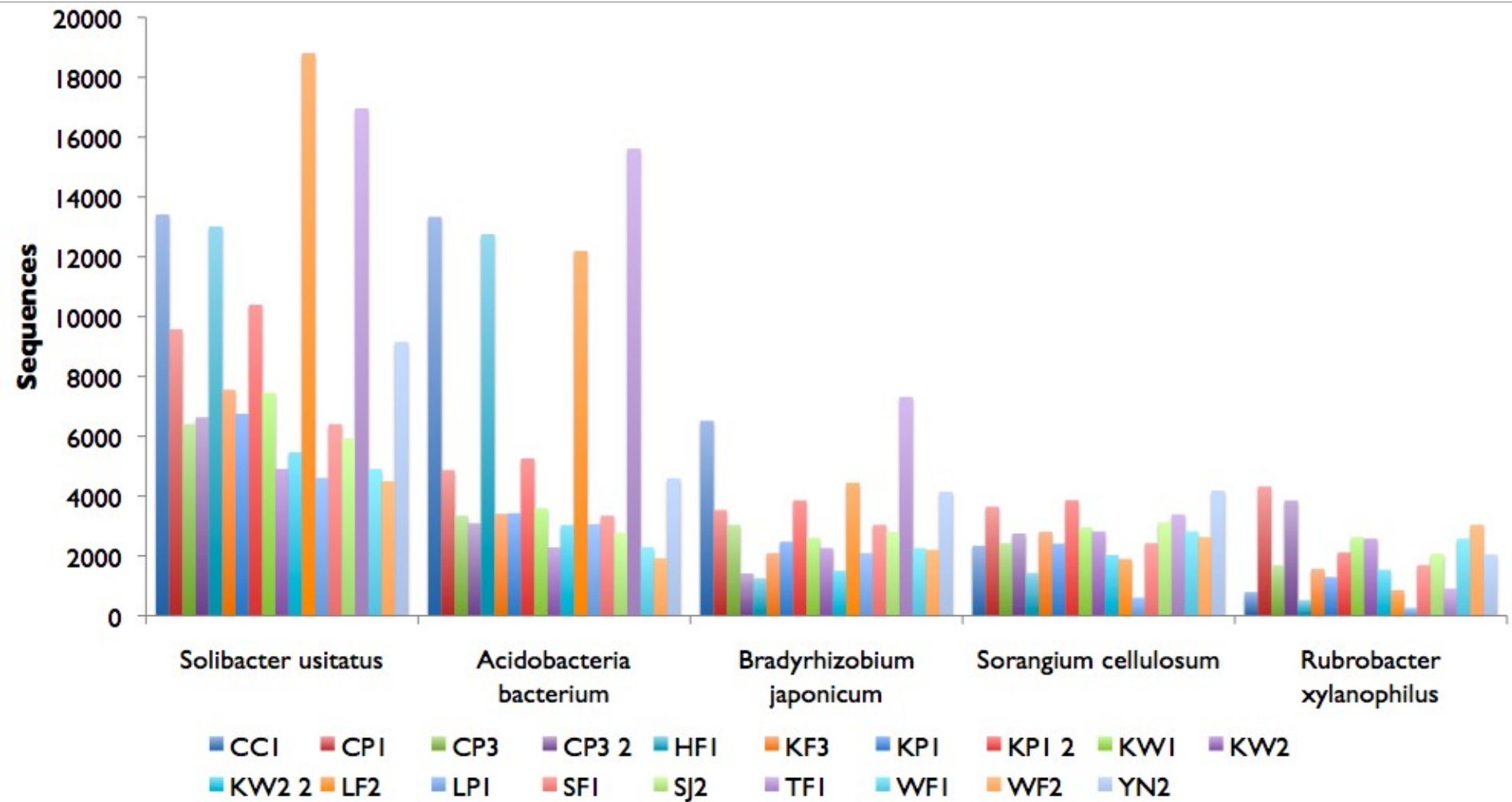
FATTY ACID METABOLIC CLUSTER  
 FERMENTATION RELATED  
 SULFUR METABOLISM

0 20 40  
 $\times 10^{-4}$  sequences out of 100,000 total

# Archaea in Soils



# Bacteria in soils



# Sampling Sites

## Marine

Near-shore water  
Off-shore water  
Near- and off-shore sediments



## Freshwater

Aquifer  
Glacial lake

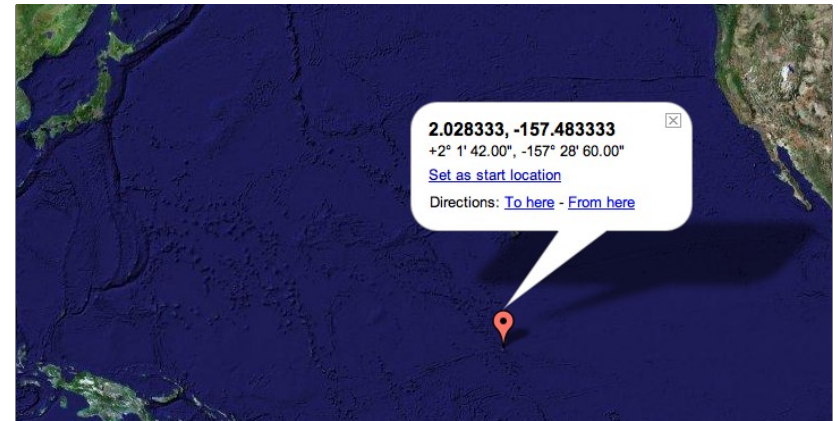
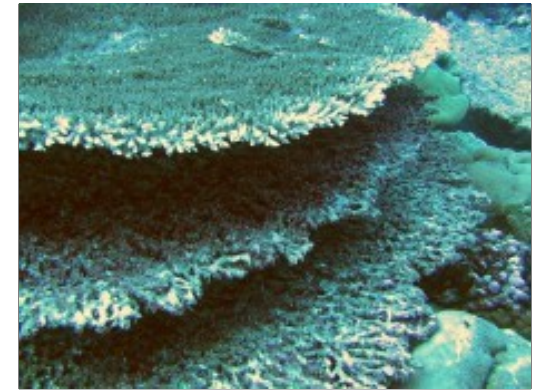
## Terrestrial/Soil

NEON sites  
Urban  
Airborne



## Metazoan associated

Corals  
Fish  
Human



## Extreme

Hot springs  
(84oC; 78oC)  
Soda lake  
(pH 13)  
Solar saltern  
(>35% salt)



**BACK!**