

REMINDER:

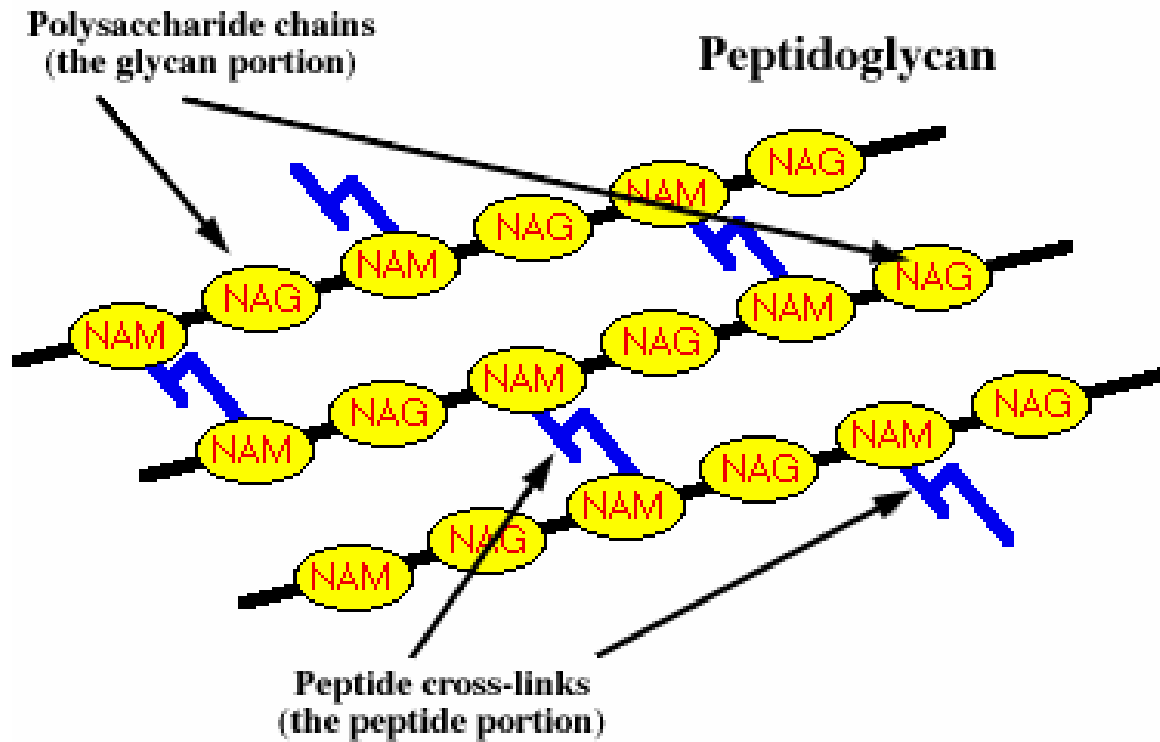
**The biology lab will be open between
12:30-1:30 PM TODAY
11:30-12:30 TOMORROW**

**GROUPS A and C
YOU MUST EXAMINE YOUR PLATES!**

**EVERYONE – PUT YOUR NCBI
ASSINGMENT IN THE CORRECT FOLDER
IF YOU WANT CREDIT.**

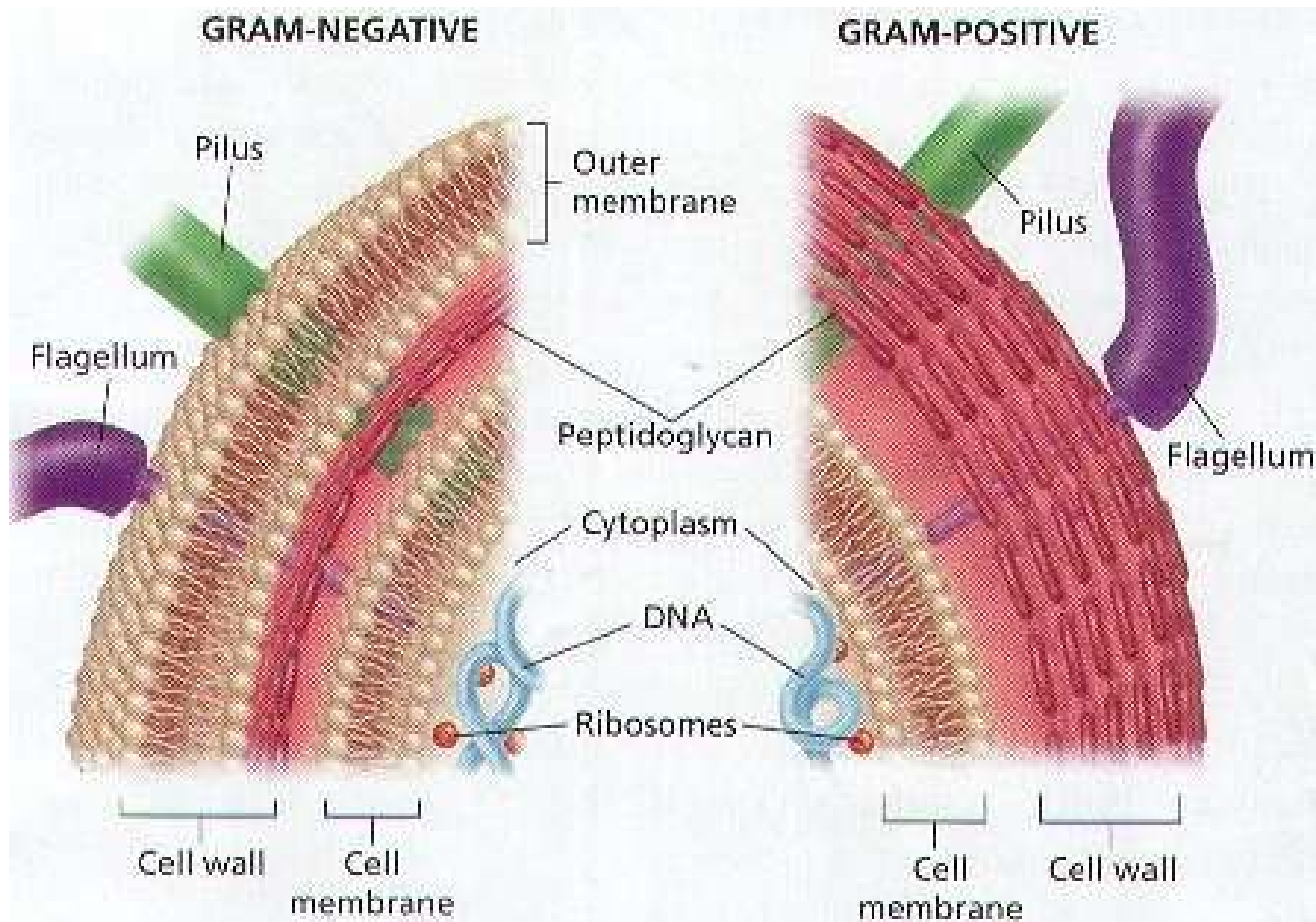
**Just a little more on
Bacteria**

Peptidoglycan - Bacteria

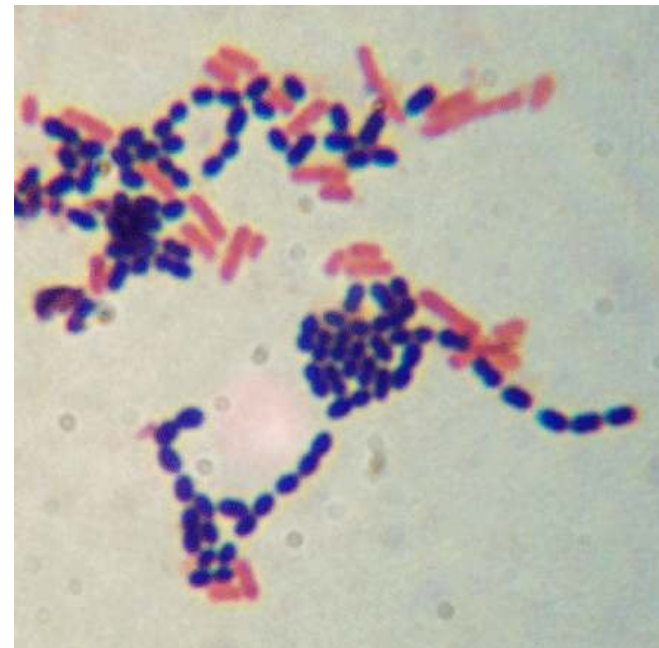
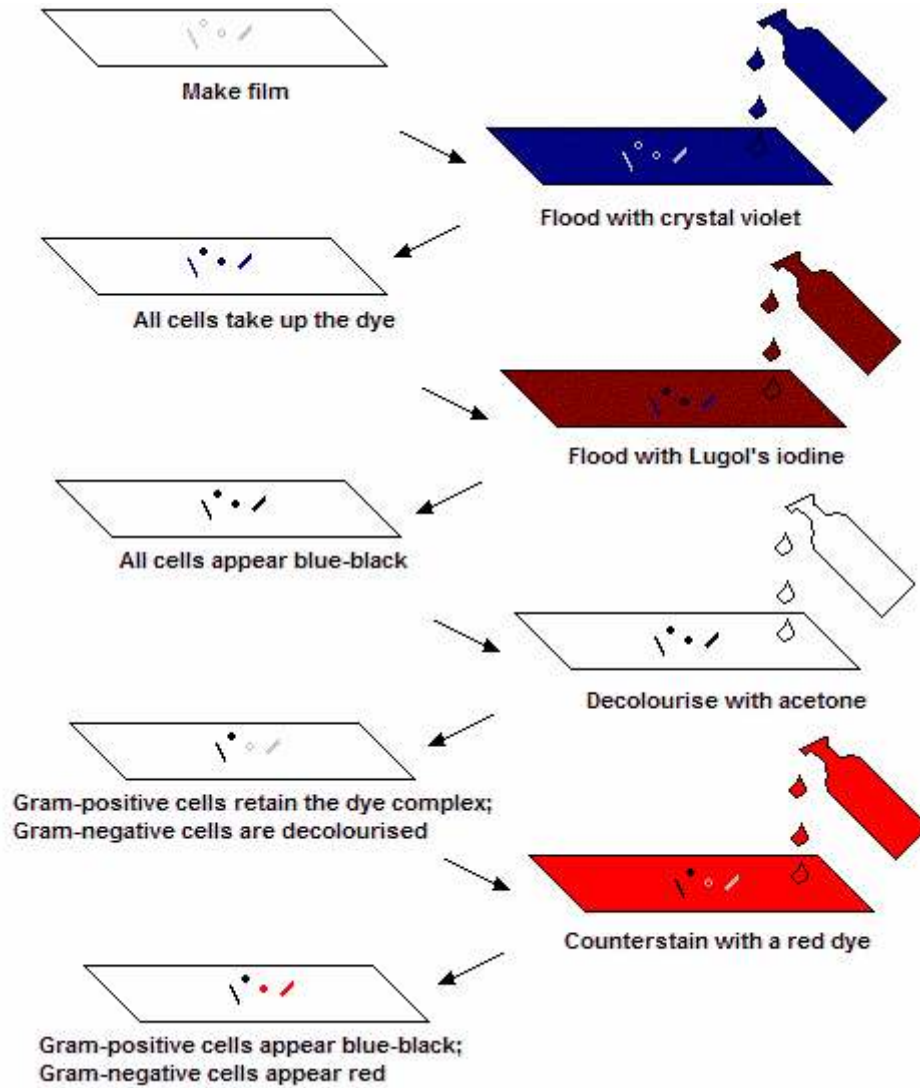


N-acetylglucosamine (NAG)
N-acetylmuramic acid (NAM)

Peptidoglycan - Bacteria



Gram Stain

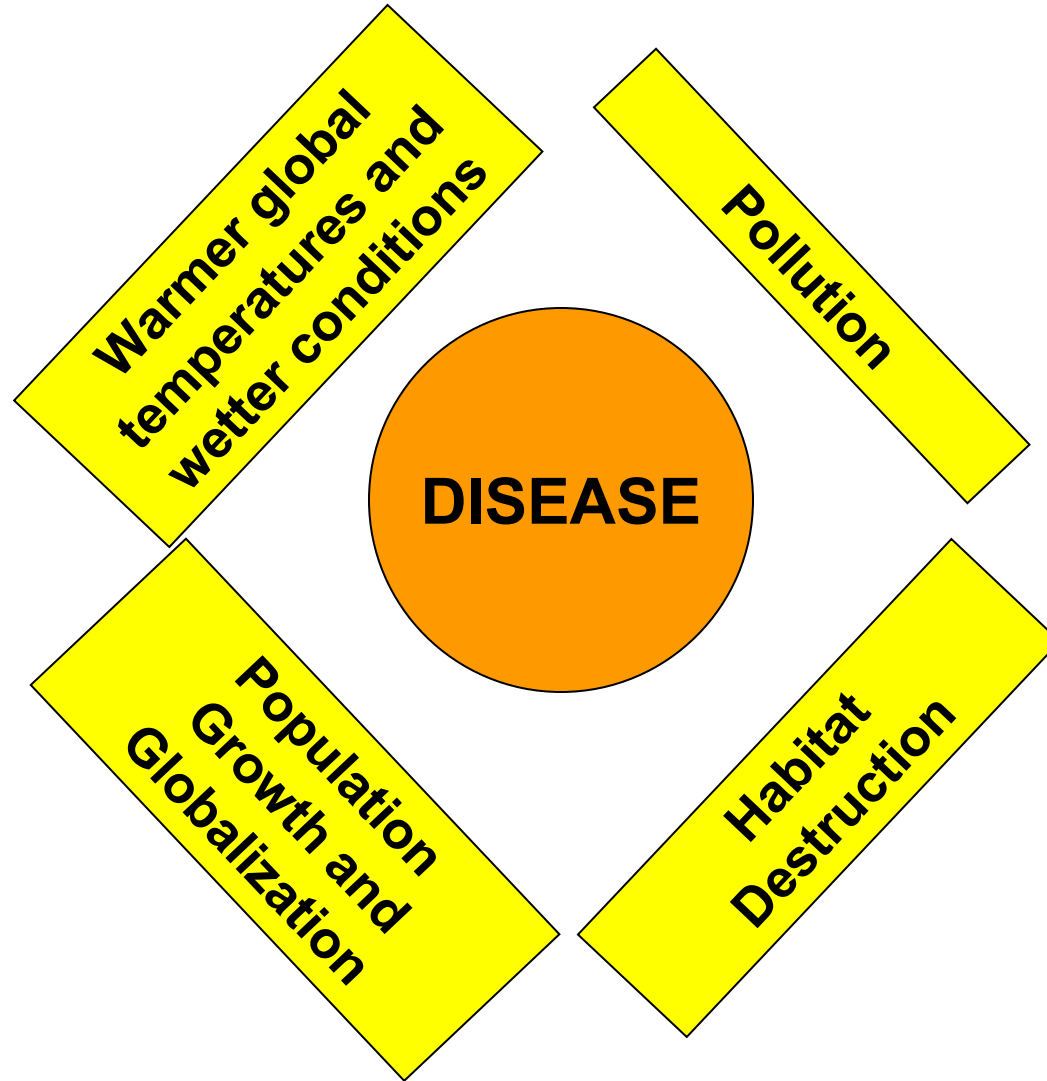


Penicillin, Ampicillin (β -lactam antibiotics)

**Inhibit cell wall synthesis by inhibiting
the final transpeptidation step in the
synthesis of peptidoglycan**

THINKING BIG

THINKING GLOBAL



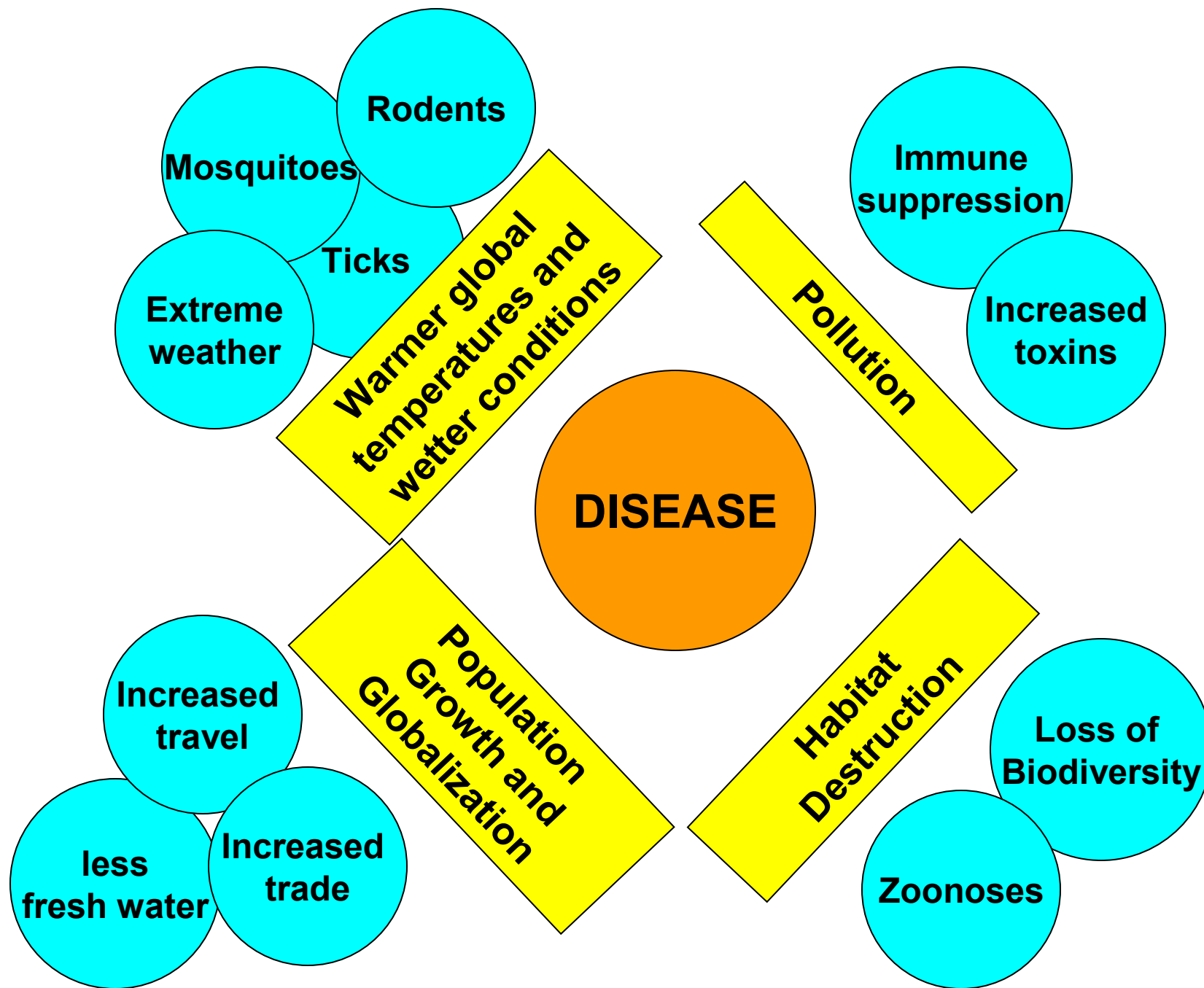
**Warmer global
temperatures and
wetter conditions**

Pollution

DISEASE

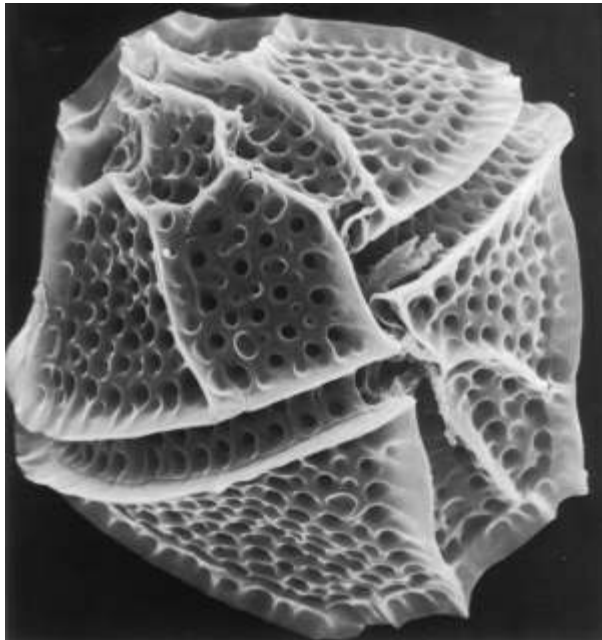
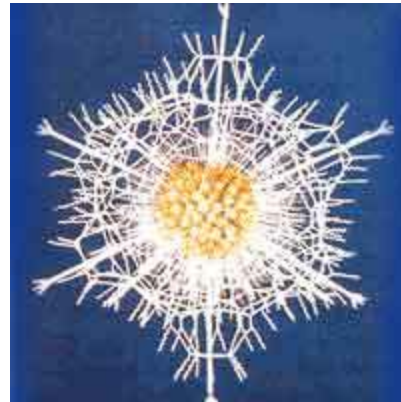
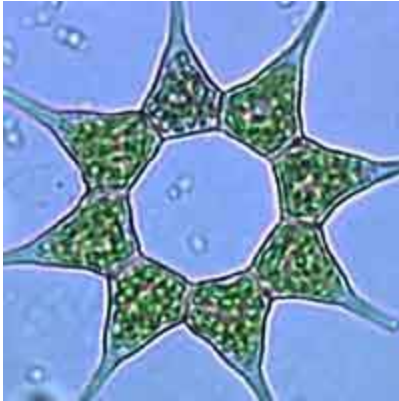
**Population
Growth and
Globalization**

**Habitat
Destruction**



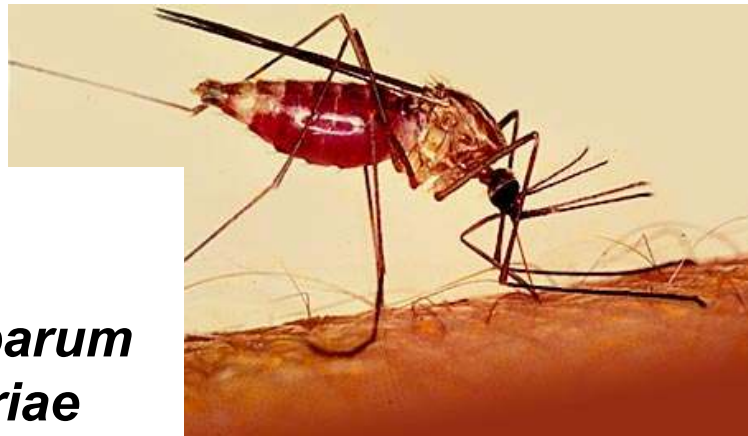
Protists

So cool!



Malaria – Plasmodium

- **Sporozoits** from the saliva of a biting female mosquito enter human
- Travel to liver to invade hepatocytes – **hypnozoite**
- Replicates into thousands of **merozoites** which invade red blood cells
- Parasite grows into a larger **trophozoite** and then makes **new merozoites**



Plasmodium vivax
Plasmodium ovale
Plasmodium falciparum
Plasmodium malariae

Harmful Algal Blooms (HABs)

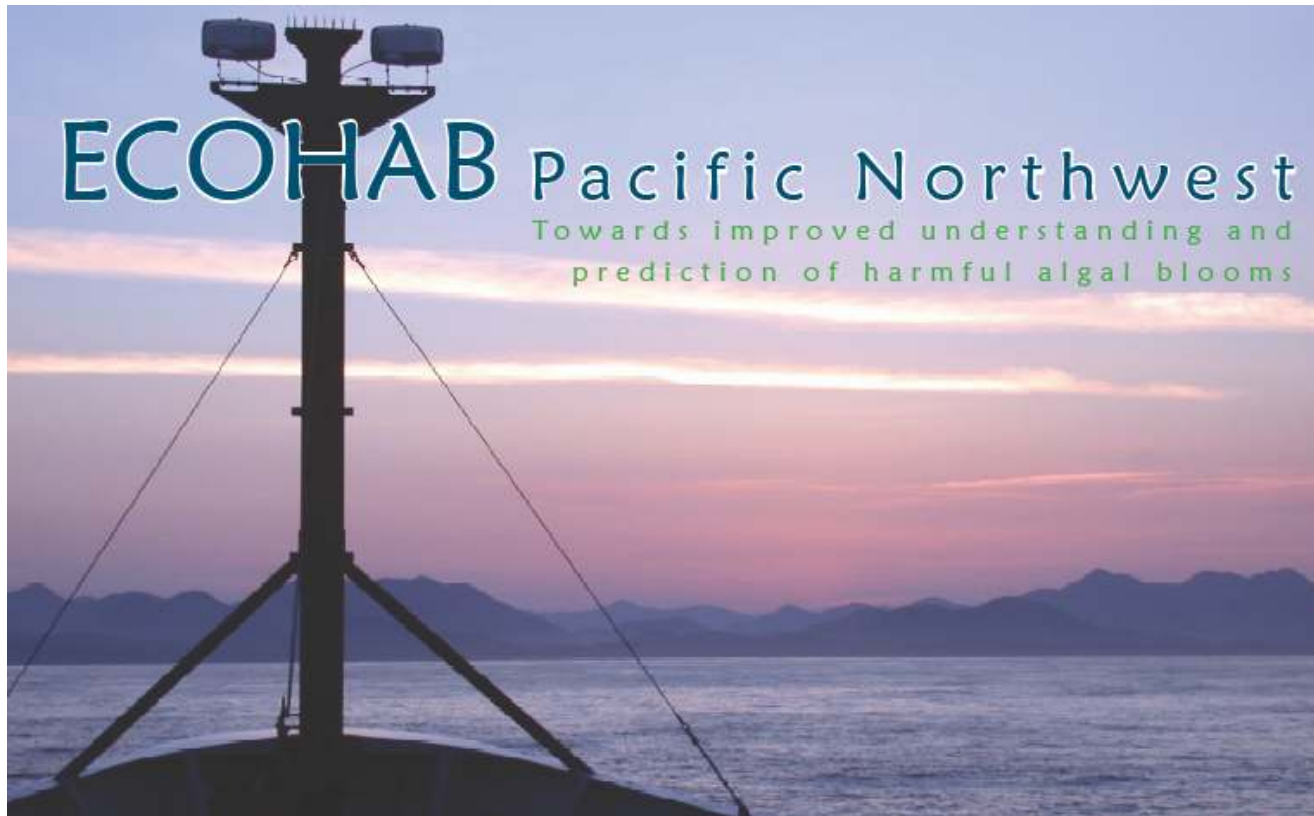


Red Tides

**Animal die-offs occur from HABs
Due to toxicity or immune suppression**



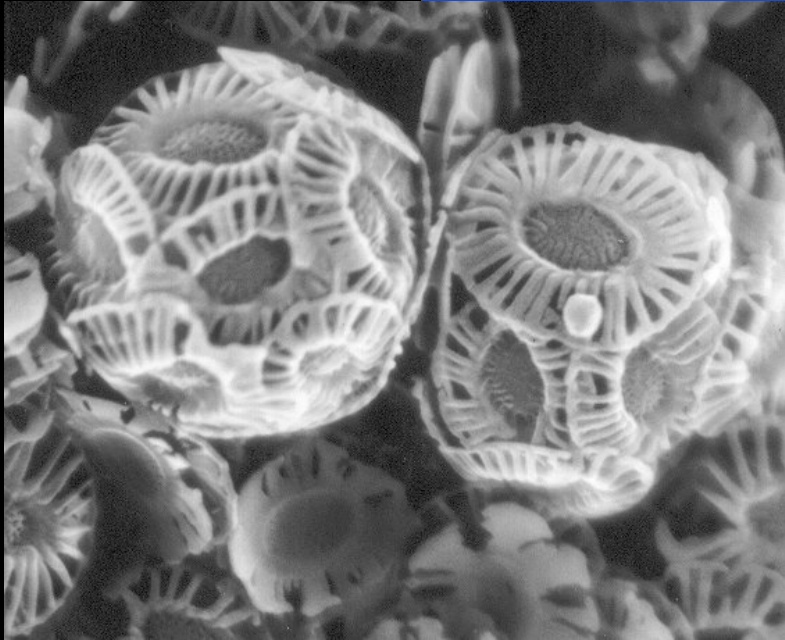
Or How About Something Closer to Home?



The blooms are part of a worldwide pattern of oceanic changes that scientists attribute to

- **warming waters**
- **excessive fishing**
- **torrent of nutrients unleashed by farming**
- **deforestation and urban development**

What helps to control them? Viruses!



***Emiliana huxleyi* virus 86**
Attached to a harmless
***Emiliana huxleyi* algal cell**

Virus has cluster of genes
responsible for ensures survival
of host and is being studied to
better understanding human
aging





Carnivore



Carnivore



Carnivore



Herbivore



Plant

Quaternary consumers

Tertiary consumers

Secondary consumers

Primary consumers

Primary producers



Carnivore



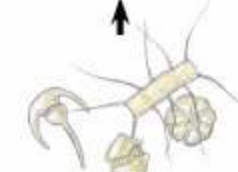
Carnivore



Carnivore



Zooplankton



Phytoplankton

A terrestrial food chain

A marine food chain

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