

### **Questions and suggestion for topic 1 discussion by group 3:**

**Q1:** What is the role of nitrogen fixation for primary production in freshwater systems, since it is important in marine and terrestrial systems? Taken into account future prospects of N limitation with all the added P to the system.

**Q2:** How does ocean acidification affect primary productivity and export of carbon to deep oceans?

**Q3:** What are the effects of microplastics on primary production in marine and freshwater systems?

**Q4:** Climate change effect on regime of forest fires? Burning of forest and deforestation effects on primary productivity? Taken into account the increased CO<sub>2</sub> uptake of young forests...what would be the net effect?

**Q5:** Intensification of storms and how they affect ocean organic matter production? Globally as well?

### **What do we need to do to improve our understanding of OM production and the influence of climate change?**

Future directions to fill knowledge gaps:

- Interdisciplinary science – connect people from aquatic and terrestrial systems
- Focusing more on the processes, not the system. More holistic view.
- Big databases
- Modelling global earth systems > coupling of all systems (marine, freshwater and terrestrial).
- Implement the models with better observations
- Standardized methodology across systems