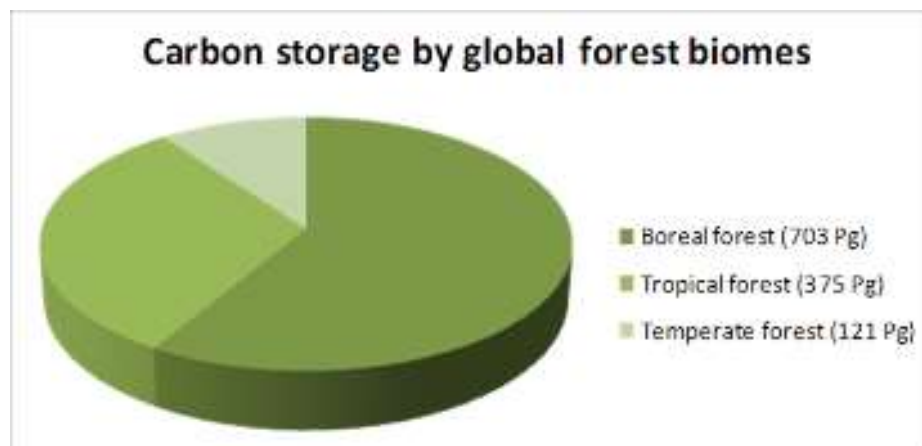


Road Trip to Yale: Carbon Capture using Mother Nature



On April 26 Sheila, Jean-Jacques and Gordon drove to Yale University in New Haven Connecticut, to the building pictured above, to attend a joint symposium with USACOR entitled: “*Capture Carbon now, Meaningful Amelioration of Climate Change*”. The focus was on understanding how natural systems can be encouraged to become even larger carbon sinks than they presently are because carbon capture is seen by many as necessary to meet our Paris Climate Change targets. I will not attempt to summarize everything we learned but only what I consider ‘highlights’.



Professor Graeme Berlyn explained to us that although the Boreal Forest grows much slower than tropical forests and have much smaller trees, and so absorb carbon more slowly per tree it can, over time, be a larger carbon sink, as shown above. [<http://forestindustries.eu/content/temperate-and-boreal-forests-still-considerable-carbon-sink>] This is because it has a much larger land area and the bacteria in the soils are not able to decompose leaf clutter or fallen trees, so that all carbon is turned into peat, and thus permanently removed from the Carbon cycle. This is not the case in the rain forest. In fact, boreal forests store nearly twice as much carbon as tropical forests per hectare! The professor made the case that nations with large boreal forests, like Canada, have a great opportunity to combat climate change by supporting the replanting of native black spruce after logging as this species results in the most carbon sequestration in the form of peat.



Anitra Thorhaug presented her research and trials in using sea grass and mangroves to sequester carbon. As you can see from the graph below Mangroves, marshes and seagrass sequester carbon much more quickly than forests on land. Anitra has had much success in replanting seagrasses in Texas where they had been destroyed by industrial development. An interesting side bar: as Texas is a Climate Change Denial State Anitra could not justify her work as combatting climate change but rather made the case that the planting of seagrass would combat ocean front erosion, protect roads that are currently being washed away in storms and rebuild fisheries that have been destroyed and that, with this work, jobs would be created in the fisheries. Despite these benefits and services, coastal blue carbon ecosystems are some of the most threatened ecosystems on Earth, with an estimated 340,000 to 980,000 hectares being destroyed each year. It is estimated that up to 67% and at least 35% and 29% of the global coverage of mangroves tidal marshes and seagrass meadows respectively have been lost. <http://thebluecarboninitiative.org/blue-carbon/>

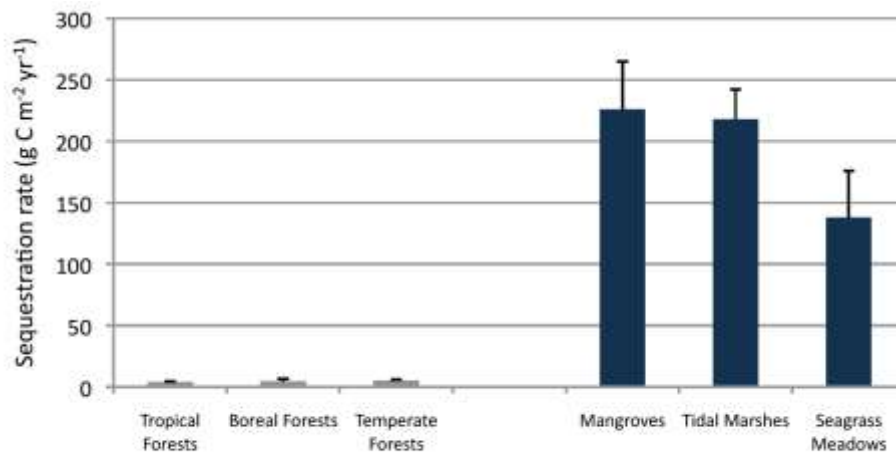


Figure 1. Annual mean carbon sequestration rates for blue carbon habitats per unit area compared to terrestrial forest habitats (error bars indicate standard error). The annual sequestration rate of a given ecosystem is the quantity of CO₂ removed from the atmosphere and/or ocean and trapped in natural habitats (Modified from McLeod et al. 2011).

After having our poor brains filled with so much knowledge we brainstormed on what we, as CACOR and USACOR, could work on together. Our two ideas were this. One; based upon the book published by USACOR 'Future of the Western Hemisphere' collect stories that speak to the impact that climate change is having on people around the world; inspired by the spirit of the Grimm Brothers who collected folk tales from all over Europe to create the modern fascination with fairy tales. In the same way COR & associated national members worldwide would collect stories along with video interviews of people who are being impacted and also stories of those who have adapted or found solutions to the impacts of climate change in their personal lives. These stories would be organized by chapters, as per 'Future of the Western Hemisphere': Population, Food & Water, Health, etc. The aim of this is to create a 'meta-story' that would connect all these stories into a cohesive whole that would, by the end of the book, hopefully created a "Ah-Ah" moment in the reader as they are able to connect the dots that link all these stories to climate change, without harping on the fact that climate change is the real culprit. Two: Each of us apply for grants to help others plant sea grasses and tidal marsh restoration to help create carbon sinks that sequester carbon. As you can see from the picture below we were a happy but tired bunch at the end of the day and ready to enjoy a well-deserved dinner!



A final note; Spring in Connecticut, as you can see from the picture below, is beautiful, and well worth the trip to enjoy!

