

GLEON Site Exchange Report
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My name is Jinlei Yu, one of the PhD students of Zhengwen Liu (Research Professor of Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences). I am from the Institute of Hydrobiology, Jinan University, Guangzhou, China, interested in eutrophication, lake restoration and the relationships between the aquatic organisms, especially focused on the effects of fish on the freshwater ecosystems in Lake Taihu. During past 30 years, Lake Taihu has become very eutrophic and suffered from heavy *Microcystis* blooms. High primary production and low respiration during summer lead to accumulation of algal biomass in some areas of Lake Taihu. Such algal accumulation can cause taste and odour problems for drinking waters due to metabolites of sulphur compounds released during decomposition which is related to DO as well. In January, 2009, my advisor recommended me to join the GLEON community, I am honored to be a member and have the opportunity to visit the member sites of GLEON.

GLEON site exchange scholarship provided me a unique chance to work together with Dr. Paul Hanson and other colleagues in Wisconsin (from July 10 to August 8, 2009). During my stay at the Trout Lake Station, I worked with different crews, such as Fish Crew and Bacterial Crew. While working with the fish crew, we sampled at night using the electrical method to investigate the growth rate and species composition in Trout Lake and other lakes. Through the sampling process, I saw many fish species that I had never seen before, and the fish crew taught me the methods to identify them. It was very exciting and impressionable experience that I never had.

As you know, Lake Taihu is very shallow, eutrophic and mixed well, the mean depth is 1.9 m. We can just use the simple plastic tube sampler to get water for analysis. But in Wisconsin, most of lakes are deep and clear, they have to use special equipment to get samples from different depths. I worked with Luke and Sara in Crystal Lake, who showed me how to use the special samplers to get samples from the certain depth. It helps me knowing the differences of sampling methods between shallow lakes and deep lakes.

In order to get continuous data from the lakes, they set buoys in the lakes, and collect the data by using the computer in the station through wireless network. During those days, I visited the buoys in different lakes, such as Crystal Bog, Sparkling Lake, Sparkling Bog, Trout Lake and Crystal Lake. Luke explained the principles to me and showed me how to assemble and set the buoy into the lake, and he also showed me how to collect data in the office. Data from these observatories will allow us to better understand key processes such as the effects of climate and landuse change on lake function, the role of episodic events such as typhoons in resetting lake dynamics, and carbon cycling within lakes.

When I went back from the station to Madison, I worked with Paul and Luke on models in the UW-Center for Limnology. They showed me how to use the models

with parameters, such as DO, P, N and T, to model the lake. In Lake Taihu, we also have continuous measurements of some parameters such as DO, Chl a, temperature. The skills I studied in the US will allow me to model our lakes in the future.

We also talked about our experiments and exchanged ideas with each other. Meanwhile, I established contacts and friendships with people in US including students, which benefit both me and US friends for future collaborations. The expertise and techniques I learned in US will help me to analyze such data of Lake Taihu.

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