Guangwei ZHU[1], Wei Li, and Boqiang Qin

Bloom forecasting based on high-frequent monitoring in Taihu

[1]Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences, Nanjing, China

Forecasting the location and intensity of *Microcystis* bloom in Taihu is important to local manager for the safety of drinking water supply. Based on the 3-D hydrocynamic model of Lake Taihu, the 3-days early warning report of the intensity of *Microcystis* bloom, expressed by concentration of chlorophyll-*a*, was forecast with the data input of weather forecast and *in-situ* buoy monitoring. The initial value of pH, chlorophyll-*a*, water temperature and dissolved oxygen of the model were obtained from 13 buoys with YSI-6600 sonde sensor located in Taihu. The initial current also calculated based on 3 Santek current monitors deploy on the bottom of Taihu. The future condition included wind speed, wind direction, air temperature, rain and cloudy conditions from weather forecast. The forecasting started since the last week of April each year, give twice forecast each week, and finished until the end of October. The accuracy location is around 80 percent, and the accuracy of intensity is around 60 percent in the past 3 years. The forecast report is quite useful for local environmental agency. In the future, the phytoplankton growth unit in the dynamical model will be improved.