

GLOBE at Night in China

Hongfeng Guo

National Astronomical Observatories, Chinese Academy of Sciences
email: ghf123@yahoo.cn

Abstract. The GLOBE at Night citizen-science campaign was introduced in China in 2010. Observations and works made by students are presented. The students were guided to participate in this meaningful international activity by 1) taking light pollution observations of the night sky at different locations, 2) becoming aware of the severity of the effects of light pollution, and 3) making the whole society aware of the importance to save energy by reducing light pollution.

Keywords. light pollution

China Hands On Universe introduced GLOBE at Night into China in 2010. We organized students to join the program during astronomy class and after class. We also set up a web page on the China Hands On Universe web site so that other students, parents and the public could learn about the GLOBE at Night program and send in the reports of their observations. We received 160 reports the first year (statistics in Table 1).

We found that some students in the first year who took part in the activity had high interest, but in the second year of GLOBE at Night in China there was reduced interest. Therefore, we improved the method and increased the activity content. For example, we advised the students to prepare the following items: a city map from Google Earth or GPS,) a path from city center to suburb, 4-5 stops (every 10 km) when out of town, a sky map (Orion), paper, pen etc. We instructed them to gather information for each observation at each location: seek and mark stars in Orion (e.g., make or take pictures); check latitude and longitude; and record the weather.

Once the observations were completed, we helped the students with their logs and data reduction and writing small scientific papers to contribute to popular science magazines. Students had more and more interest when they did more hands-on activities. More students wanted to join the program every year. The enthusiasm of the students affected their teachers and guardians enthusiasm. As a result, we received more reports in 2012.

In addition to the reporting observations for the GLOBE at Night program, we also received a lot of students' works, such as photographs, hand-painted pictures of the night sky, logs, maps, etc. The following is one of our students papers. He said that he went to a hill on the outskirts of Beijing. On the top of the hill he could see very clearly many stars toward Orion. But when he arrived at the foot of the hill by the highway, he could see only a few stars. When he came to the center of Beijing, he could see almost no stars. He personally experienced how severe the effects of light pollution can be and called on the city to minimize unneeded lighting and thereby reduce light pollution.

Table 1. Statistics of GLOBE at Night Reports from China 2010-2012

Year	Schools	Students	Reports	Public	Reports	Total Reports
2010	10	200	150	100	10	160
2011	10	100	90	100	10	100
2012	20	500	400	200	100	500
Total	40	800	640	400	120	760