



GLOBAL WATERSHED- TEACHER EXPECTATIONS (June 2011)

What is the GlobalWatershed GK12 program? This program is funded for a five-year period, by the Graduate Fellows Grant Program (GK12) of the National Science Foundation. Michigan Tech PhD students (GK12 fellows) will be awarded two-year fellowships to work with middle and high school teachers to create lesson plans and activities that transfer their research on watershed science topics to K12 teacher and students. The program is a joint effort between Michigan Tech and schools in the Western Upper Peninsula of Michigan and Sonora, Mexico. GK12 fellows will be paired with secondary science, social studies, and other teachers. GK12 Fellows will teach, under the supervision of their partner teacher, water topics from existing lesson plans and lesson plans they develop. GK12 fellows will be prepared to teach in the middle or high school classroom through a specially designed education course at Michigan Tech.

Each GK12 fellow-teacher pairing will extend over two years. The first cohort of fellows will begin the program in summer 2010. Three more cohorts will enter the program in the succeeding three years, for a total of 18 Fellows. GK12 fellows will be expected to work at their assigned school at least 10 hours a week for two school years. PhD students will be selected for the program based on their academic qualifications, their enthusiasm for teaching, and their ability to communicate scientific issues.

The benefits of the program to teachers, students and school districts include the following.

- Teachers and students will be engaged in research on the scientific aspects of water issues, covering a broad range of content standards and school improvement goals.
- GK12 fellows will develop lesson plans and activities that can become a permanent part of the school curriculum.
- Participating teachers will be paid a \$4,500 stipend per year.
- Fellows will act as a resource to teachers throughout their two-year school assignment.
- Teachers will earn professional development credits.
- No additional expenses will be borne by the schools. Up to \$1,000 will be available to Fellows and teachers to cover supplies, field trips, etc.



Expectations of teachers involved in the program include the following.

- Interested teachers will complete a short application for the program and teachers will be selected to participate in the program by a committee composed of representatives from the school community and Michigan Tech faculty.
- Selected teachers will attend a four-day summer workshop from June 28-30, 2011, designed to prepare teachers and GK12 Fellows for their upcoming work in the classroom and to pair teachers and GK12 Fellows with similar interests.
- Each teacher must participate in all grant evaluation activities.
- Fellows are expected to spend approximately 10 hours per week in their school. In addition, they will be expected to spend approximately five hours per week preparing for their in-school activities.
- Each teacher will commit to mentor a GK12 Fellow for two academic years to accomplish the activities listed below.
 - Teach approximately 16-20 lessons on watershed science during the first academic year.
 - Involve middle or high school students in field experiences related to watershed science.
 - Develop in the first year and teach in the fall of the second year a watershed science unit. Develop a second unit in the spring of the second year. Each unit will convey the Fellow's watershed science research to a middle or high school audience aligned to the relevant state standards, and relates to the interests and cultural context of the partner schools. This unit will be posted on the Global Watershed website, where teachers can download them for use in their classes.
 - Prepare semester-long and weekly plans for Global Watershed GK-12 program activities, in conjunction with the fellow's advisory team.
 - Confirm the daily journal of their fellow's activities in the classroom to document the extent of the fellow's involvement in their K-12 school.
 - Writing and submitting papers for publication to peer-reviewed journals on the teaching materials developed or on another educational aspect associated with the fellow's GK-12 activities.

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