

Apocalypse When? How to Teach about Human Survival Using the Internet

C. Frederick Risinger

The people where I work part-time are an eclectic bunch. There are university professors, physicists, construction workers, landscapers, and people who work at a nearby defense establishment. The bar is horseshoe-shaped and encourages discussion and debate. One of the three television sets is always on a news channel and most people are watching that one instead of the weather or sports. They tease me when a particularly scary issue or event is on the screen and I say, “Well, you know, we are living in the end times.” I don’t really feel like the world is going to end any time soon, but I do believe that there are several natural forces, most of them related to human behavior, that are threatening the lifestyles of most of us ... perhaps even the very existence of life on this planet.

This column began when I read the September 2008 issue of *National Geographic*. The cover story, “Where Food Begins,” argues that human-induced erosion, desertification, and other soil mismanagement practices are rapidly destroying the relatively small amount of arable land used for growing all the food in the world. A world map accompanying the article dramatically illustrates the tiny amount of ground (11 percent of the world’s land surface) that feeds the 6 billion people on Earth. More sobering is the statement that even less ground—about 3 percent—is considered “fertile soil,” and that tiny amount is being degraded by deforestation, poor farming methods, and flooding. By 2030, when today’s children have children, there will be 8.3 billion inhabitants of this planet.

As I read the story, looked at the related maps and photographs, I thought that this

would be an interesting, if somewhat different, topic for this column. However, when I began the research and started to collect websites to highlight, three things became clear to me. First, there weren’t as many websites that focused solely on soil-related issues. Second, not very many of these would be useful to teachers because, while they contained good information, there were only a few that provided suggested curriculum topics or lesson plans. Third, the websites that did try to be education and teacher-friendly were primarily aimed at science educators; and those were primarily college-level courses such as geology and agricultural soil science. Finally, the erosion, desertification, and other soil degradation occurring today is directly related to, and caused by other worldwide phenomena—climate change, global warming, and the lack of clean water.

A couple of years ago, I wrote a column

after reading Jared Diamond’s wonderful (if disturbing) book, *Collapse: How Societies Choose to Fail or Succeed*. As he described how societies as large as the Roman Empire and as small as Easter Island collapsed, he focused on climate change, erosion caused by deforestation, and the lack of fresh water as major reasons for the decline and termination of the culture. But other societies dealt with similar problems and survived. As he put it in his subtitle, societies “choose to fail or succeed.” I pointed out at that time the disturbing parallels between many of these collapsed societies and some issues confronting U.S. society and, indeed, global civilization.

So I realized that I couldn’t explore soil degradation alone. If I were going to bring these issues up, I would have to include climate change, global warming, and water quality.

You may be wondering if these issues and the use of the word “apocalypse” are perhaps a bit too heavy, disturbing, or frightening for teachers to bring into the classroom. If so, I disagree. When I wrote the column about *Collapse*, titled, “Teaching What We Should Be Teaching Using the Internet” (*Social Education*, May/June 2006), I argued that citizenship education in a democratic society requires more than just meeting standards so students can pass a local, state,

or national test. I argued that even if we had to use “stealth” to get national and global issues and problems into the curriculum, we should do so. And I stated, “That’s why I and nearly all of our colleagues became social studies educators, to do what is articulated in the NCSS mission statement: ‘Social studies educators teach students the content knowledge, intellectual skills, and civic values necessary for fulfilling the duties of citizenship in a participatory democracy.’”

The following set of websites cover the topics mentioned above. Readers will be amazed to see how many of these scary and seemingly unsolvable problems can be treated in classrooms from the elementary to high school level. And several of the teacher- or student-oriented sites even have correlations to local, state, and national standards. As usual, the websites that I selected frequently offer dozens of other links that will take you to more lesson plans and more classroom resources, so be sure to explore them.

National Geographic Magazine

ngm.nationalgeographic.com/2008/09/soil/mann-text

It’s certainly worth reading the article that started me on the road to this particular column. *National Geographic* is one of those enlightened magazines that doesn’t limit online access just to subscribers. Viewers can click on “Archives” from the home page to see any back issues. The URL above gives you access to the entire article, a wonderful set of photographs illustrating soil degradation throughout the world, and even an interactive quiz based on the article. I couldn’t figure out how to view the map titled “Scarce Fertility” which was the impetus for this column, but teachers can probably locate it through the school library.

KEEN Resource Directory

www.keenet.org/index.html

This site was designed for teachers in Ontario, Canada; however, the lesson plans fit nicely with this topic and can be used by teachers and students at all grade levels. Teachers can search for les-

sons by topic or by grade level. Topics include air, soil, water, and much more. Classroom teachers may find this to be the most useful site in this column. The lessons are creative and build on age-related student interests.

National Environmental Education Week

www.eeweek.org/resources/climate_curricula.htm

This is a great site for teachers—and their students. Sponsored by Canon, the camera company, it has some well-designed lesson plans for grades K-4, 5-8, and 9-12. There are interesting reading lists for both teachers and students on various environmental topics. This specific page is subtitled “Climate Change Curriculum.” There’s a “Nature Bee” (sort of a climate/environment spelling bee) for all grade levels, and several more links to activities and information.

EcoHealth: Environmental Change and Our Health

ecohealth101.org/index.html

This site is a good example of why I couldn’t write on soil alone. It clearly shows the interrelationships between climate change, global warming, issues related to water, and soil degradation. The site is aimed at the middle level grades, but I think that K-4 and 9-12 teachers will find many interesting topics and projects. The lesson plans are very well designed and written by teachers. The “What’s Left to Eat” section will be interesting and fun for students. They also include a very good selection of other sites and a “news page” that links today’s headlines to the information on the site.

Environmental Defense Council

www.edf.org/page.cfm?tagID=1011

There are still some scientists who claim that global warming is a myth or that even if the world is heating up, it a natural process and not related to human behavior. You may have some students or parents that make this argument to

you. This site has a page titled “Global Warming Myths and Facts.” You probably won’t change their minds, but reading this page may make them think a bit more about their ideas.

Environmental Literacy Council

www.enviroliteracy.org/

This site provides information on all sorts of environmental issues such as air and climate, land (soil), water, energy and food. It offers more than 1,000 pages of informative articles, curricular resources, and lesson plans. It would be a very good site for students working on any type of environmental project. Their “Threats to the Soil” page is probably the best item I found on this topic, although it’s a bit hard to find. You can find it at www.enviroliteracy.org/article.php/244.php.

Geological Society of America

www.geosociety.org/educate/resources.htm

This site exemplifies my problem in finding sites focused on social studies rather than science education. However, if you scroll down the page to “Water” or “Weather and Climate,” you find lesson plans that have validity for history and social studies teachers. Many involve group projects.

USDA Agricultural Resource Service

www.ars.usda.gov/News/docs.htm?docid=15572

If I’ve not yet frightened you about an approaching apocalypse, here’s another threat to life as we know it. On that same drive back from Cincinnati, I listened to *The Splendid Table*, a cooking show on American Public Media. In the midst of a great discussion (and recipes) on Italian food, there was an interview with Rowan Jacobsen, author of *Fruitless Fall: The Collapse of the Honey Bee and the Coming Agricultural Crisis*. Evidently, half of all U.S. and Canadian honeybees have disappeared in what is called Colony Collapse Disorder. According to Jacobsen, we are already paying 30

percent more for anything with corn, soybeans, and several other grains; and the cost of fruits and vegetables is likely to rise even more. There are no lesson plans or other teacher resources on the site, but the information is intriguing; you’ll be one of few people in the coffee lounge to know about Colony Collapse, and your students will be fascinated.

I mentioned the site above in an attempt at humor, but natural forces and the fact that human actions are, if not responsible, at least closely related, are topics that should be discussed in social studies classrooms. (By the way, scientists think a specific pesticide is killing the bees.)

Just as this column was going to press, I noticed that Al Gore, in his daily journal, reported on research that suggests that the collapse of the Mayan Civilization may have been due to climate change, deforestation, and soil degradation. You can read his journal at http://blog.algore.com/2008/11/looking_back_to_look_forward.html.

What started as a column on soil degradation and a looming food crisis has grown into an examination of natural forces threatening humankind’s future and very existence. These issues should—must—be taught in our schools, and they belong in social studies (as well as science) classrooms. I hope that the AFT, the NEA, NCSS, and other professional organizations will provide leadership in meeting this challenge. 🌱

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