

The background of the slide is a solid dark brown color with a pattern of lighter brown, stylized autumn leaves scattered across it. The leaves have prominent veins and are in various orientations, some overlapping.

CAPCOA 2010

"Education Strategies to Combat
Climate Change"

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Morgan, the real expert on Climate Change



What do we Know?

- “Climate Change in The American Mind” - George Mason University Center for Climate Change Communication - October 2008.
- 90% of Americans said that the U.S. should act to reduce Global Warming even if it has economic costs.
- 67% support unilateral action regardless of what other countries do.
- 92% support more funding for research on renewable energy sources.
- 85% support tax rebates for buying energy efficient vehicles and solar panels.
- 80% say that U.S. should regulate carbon dioxide as a pollutant.
- 69% say that the U.S. should sign an international treaty that requires us to cut CO₂ 90% by 2050...

Education in California

- **Public K-12 Education**
- **Non Formal Education**
- **Educating California - the American Public**

Public K-12 Education

- Standards Based Education - Must be taught to mastery.
- Each Spring - STAR Test to measure how much the students learned.
- All Subjects - English, History, Math & Sciences (Earth, Biology, Chemistry and Physics. The Science Standards were adopted in 1998.)

Grades 9-12 Biology Standards

Ecology

- 6. Stability in an ecosystem is a balance between competing effects. As a basis for understanding this concept:
 - b. Students know how to analyze changes in an ecosystem resulting from changes in climate, human activity, introduction of non-native species, or changes in population size.

Grades 9-12 Earth Science Standards

- Energy in the Earth System
- 4. Energy enters the Earth system primarily as solar radiation and eventually escapes as heat. As a basis for understanding this concept:
 - d.* Students know the differing greenhouse conditions on Earth, Mars, and Venus; the origins of those conditions; and the climatic consequences of each.

Earth Science

- 6. Climate is the long-term average of a region's weather and depends on many factors. As a basis for understanding this concept:
 - d.* Students know how computer models are used to predict the effects of the increase in greenhouse gases on climate for the planet as a whole and for specific regions.
- ****standards that all students should have *the opportunity to learn* in those courses are marked with an asterisk (*). Those opportunities should be offered at every high school.

Teacher Preparation Programs in colleges and universities.

- Currently the State of California has no requirement for students, who want to become educators and be certified by the Credentialing Commission, to take any formal environmental education classes.

Non-formal Education

- Some examples are nature centers, museums, outdoor programs etc.
- Most focus on their local environment and usually do not have a climate change component.
- Example: Yosemite Institute is developing a climate change lesson for their week long Residential Outdoor School (ROS) program.

Education and the Environment Initiative (EEI) Home Page (AB 1548)

“California is currently poised to lead the nation in environmental literacy with the Education and Environment Initiative (EEI). More can and should be done to understand our relationship with the environment, and we believe the best place to begin is in California’s classrooms. With education and a thriving economy at the forefront of the state’s priorities, California’s landmark EEI Curriculum is a national model designed to help prepare today’s students to become future scientists, economists, and green technology leaders.

The K-12th grade curriculum is comprised of 85 units teaching select Science and History-Social Science academic standards. Each EEI Curriculum unit teaches these standards to mastery using a unique set of California Environmental Principles and Concepts.”

<http://www.calepa.ca.gov/education/eei/>

Environmental Education Funding in California

- EEI - will need over 20 million dollars over the next four years.
- CREEC Network - funded by California Department of Education - receives about 420K from the 30+ million dollars received from the Environmental License Plates funds...or, about 6.7 cents per student per year!

California Regional Environmental Education Community Network CREEC

Our Mission - The California Regional Environmental Education Community (CREEC) Network is an educational project whose mission is to develop a communication network which provides educators with access to "high quality" environmental education resources to enhance the environmental literacy of California Students. The CREEC Network is the best source for Environmental Education resources in California.

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Educating the American Public Regarding Environmental Literacy and Climate Change

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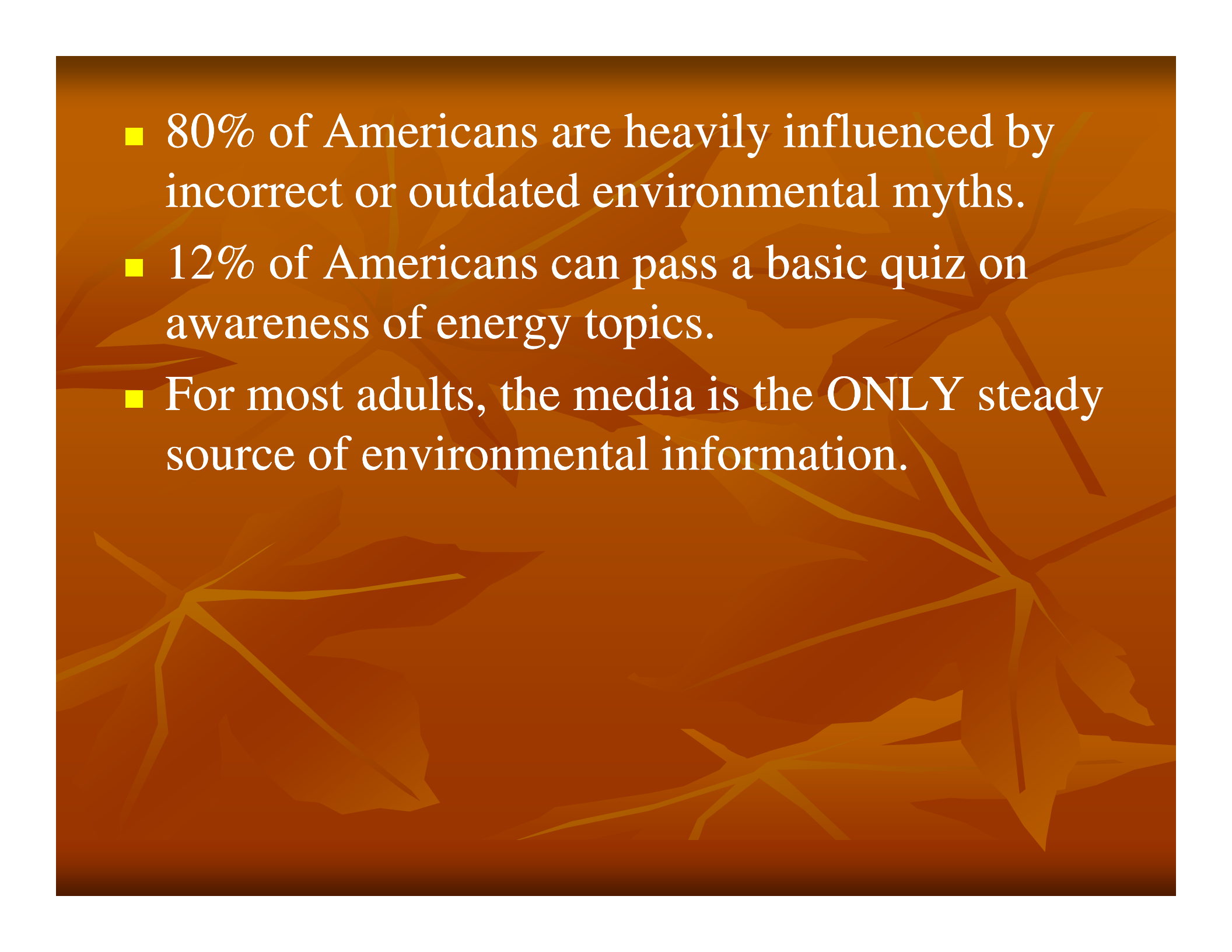
Environmental Literacy in America

What Ten Years of NEETF/Roper Research and Related Studies Say about Environmental Literacy in the U.S.

The National Environmental Education & Training Foundation

Kevin Coyle 2005

- 95% of American adults (96% of parents) think EE should be taught in schools and 90% believe that people in the workplace and in other places in adult society should receive EE too.

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- The background of the slide features a pattern of overlapping autumn leaves in various shades of brown and orange, creating a textured, naturalistic backdrop.
- 80% of Americans are heavily influenced by incorrect or outdated environmental myths.
 - 12% of Americans can pass a basic quiz on awareness of energy topics.
 - For most adults, the media is the **ONLY** steady source of environmental information.

Senator Inhofe (R-Okla)

"A Skeptic's Guide to Debunking Global Warming Alarmism"

- “When I became the Chairman of the Environment and Public Works Committee in 2003, I decided to closely examine the scientific evidence – I wanted to study whether global warming was real, man-made, and potentially catastrophic, as many were asserting, before passing legislation that would place harsh financial burdens on American families. It was then that I discovered that the science behind global warming was, in fact, not settled. I learned this from many credible scientists who began to contact me about the issue. In 2007, I released my first report detailing over 400 scientists who rejected the so-called “consensus” that global warming is causing a planetary disaster; today, **that list stands at well over 700 scientists.** Additional research confirmed for me that the catastrophic global warming hypothesis was wrong.”

The Media

- <http://www.api.org/>

QuickTime™ and a
decompressor
are needed to see this picture.

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- USA Today May 13, 2010. “Is global warming a crisis?”
-The Heartland Institute.

Yet, what about all of the research that has been peer reviewed, the thousands of scientist that say otherwise?

After all, there are people who still believe the earth is flat - <http://theflatearthsociety.org/cms/>

- “We don ' t know enough about global **climate change**, and more research is necessary...”

-Updated August. 20, 2010 Pew
Research/National Journal Congressional
Connection **Poll**

<http://www.pollingreport.com/enviro.htm>

- **SEEDS OF DOUBT:**

**Tobacco, Second Hand Smoke,
Ozone, DDT, and now Climate
Change?**

"Education Strategies to Combat Climate Change"

- Require introductory classes in EE as part of the Teacher Credentialing Program.
- Fund the Education and the Environment Initiative (EEI) in California.
- Integrate EE within all of the standards where they apply.
- Increase funding of the CREEC Network with more money from Environmental License Plates funds.
- Challenge the Media: Educating California about Climate Change “Fairness Doctrine”: U.S. Broadcasting Policy 1949.
- During the nightly news and just after the weather, a 30 second Education and Climate Change segment.
- Write articles in National magazines about Climate Change for mainstream America.

So how do we Educate about Climate Change?

- We need to have specific outcomes - otherwise why are we meeting?
- Today's "Green fad" or do we really believe?
- **There is never enough focus or funding to educate students or the public. If we want to see real behavioral change, EE needs to be funded at schools (for teachers and kids), outdoor programs, after school programs, businesses, teacher credentialing and more. In other words, Show us the money, and we'll show you environmental literacy!"**