

Equity, International Dimensions and the Role of International Science

Rick Anthes
Neal Lane Policy Forum
November 1, 2003
Rice University





Dear Neal: This photo of the UCAR Board of Trustees reflects the inspired guidance that you provide to UCAR and the brilliant aura that surrounds all that you do!

Rick Anthes
November 2, 2003

Challenges since September 1, 2001

National Security and the Essential Role of the Atmospheric Sciences

In a recent speech, Norman Neureiter, Science and Technology Advisor to Secretary of State Colin Powell, stated that national security has three elements—intelligence, diplomacy, and military preparedness—and that science and technology underlie all three.

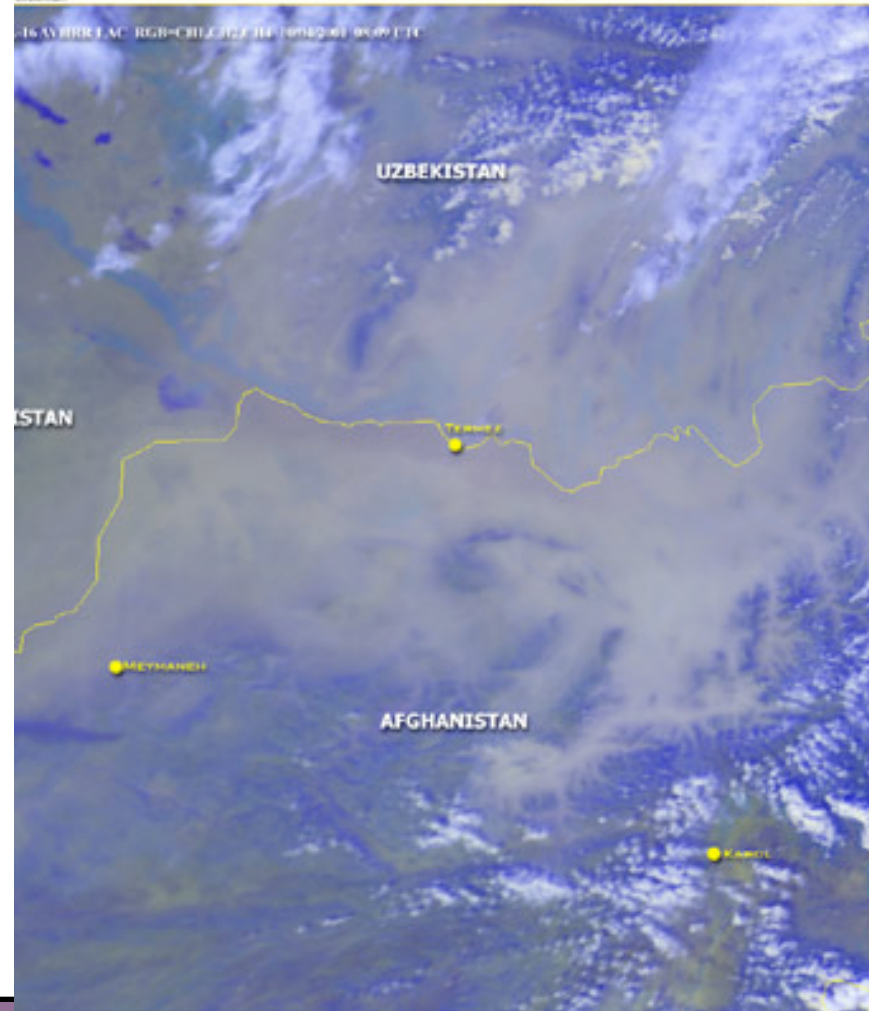
During their 41 years of collaborative national service, the university community, federal agencies, and the University Corporation for Atmospheric Research (UCAR—see back page) have contributed basic and applied research results that have greatly enhanced U.S. national security. The following are just a few examples of ongoing work in the atmospheric sciences that existed before the terrorist attacks of September 11 and that continues to serve our country. All of this work is possible because decades of publicly supported basic research created the foundation for the effective applications we see today.

The struggle against terrorism has many fronts, and science and technology pervade them all.

John Marburger, The President's Science Advisor

image shows dark (light brown haze) over northern Afghanistan and southern Uzbekistan.

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Mitigate environmental stresses

- Severe weather
 - Climate variability
 - Climate change
 - Air pollution
 - Water pollution
 - Fires
- on
- Economies
 - Health
 - Agriculture
 - Industry

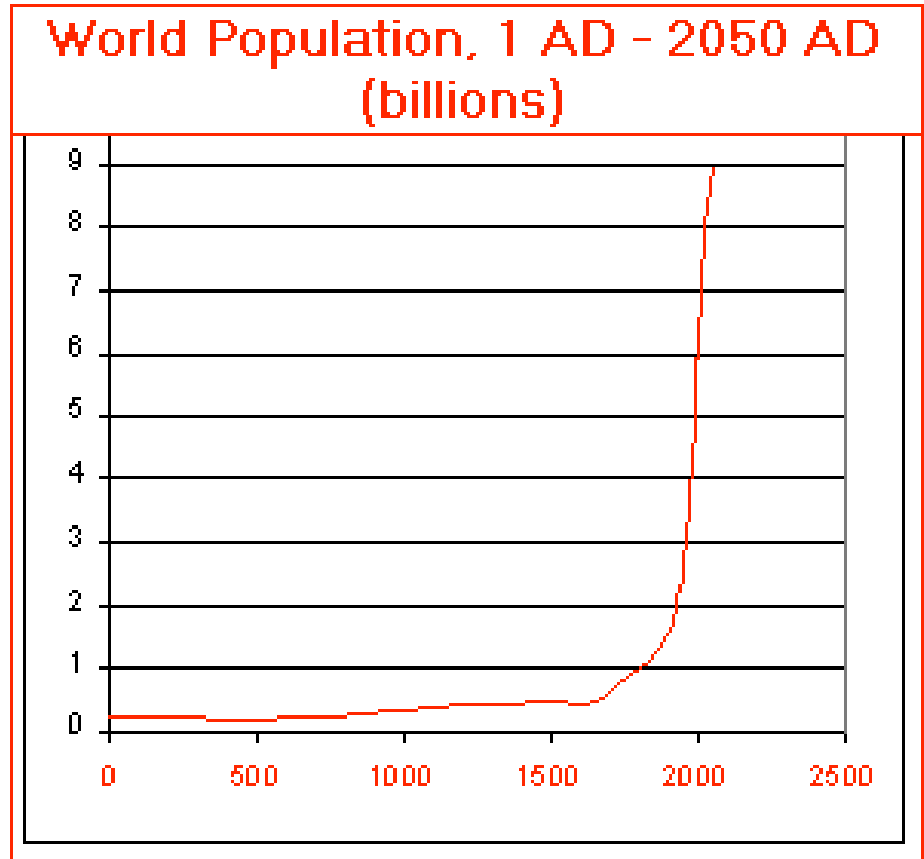


U.S. Dept. of Defense



Long-term Environmental Security

- **Population growth**
- **Increase in per capita consumption of resources**



Broad Security Issues

- Overpopulation
 - Crowding
 - Competition for resources
 - Poverty
 - Disease
 - Aggression, hatred, religious extremism, intolerance
- Inequities
 - Natural resources
 - Standard of living
 - Health care
 - etc

If these global problems are not solved, even perfect understanding of the atmosphere and perfect predictions and warnings of weather and climate on all time scales will not make much of a difference.

So what should we do?

Consider history.....

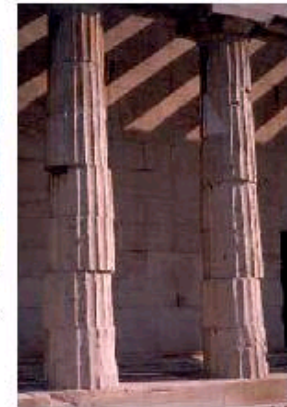
The fall of ancient Athens

- **Major earthquakes**
 - Sparta 464 B.C.
 - Lamia 426 B.C.
- **plague**
 - 430 B.C. (killed 1/3 to 2/3 population)
 - returned three times
 - helped lead to Athens' defeat in 404 B.C. by Sparta

Earthquakes in Ancient Athens

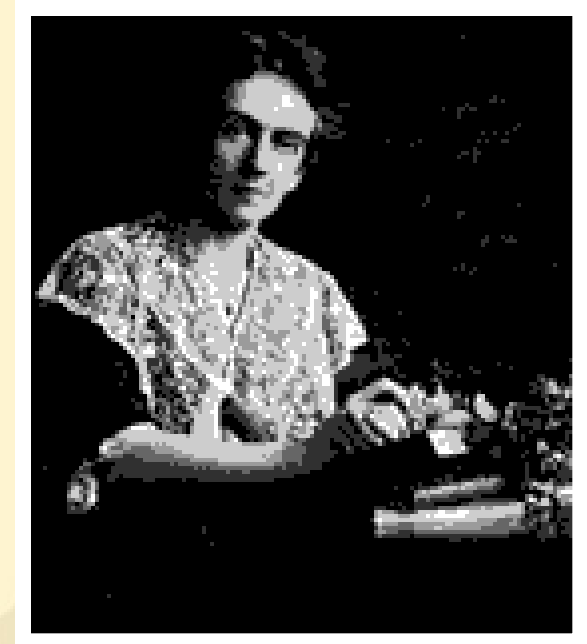


Seismic damage at the 5th century BC Thesion temple in Athens



But consider this assessment...

- *“In the end, more than they wanted freedom, they wanted security. They wanted a comfortable life and they lost it all -- security, comfort, and freedom. When the Athenians finally wanted not to give to the state, but for the state to give to them, when the freedom they wished most was freedom from responsibility, then Athens ceased to be free.”*



- Edith Hamilton

- Ever Present Past (1964)



**So what should we
(the world) do?**

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Invest broadly in science and education

- Physics
- Chemistry
- Biology
- Geosciences
- Humanities
- Social Science
 - History
 - Languages
 - Cultures

US (U.S.)

- We should understand better our role in the new world, and the roles of others who think differently from us.
- We should become less arrogant, better citizens of the world.
- We must not always put the US economy and consumerism as our highest priority.
- We should work more cooperatively with other nations on issues such as global air and water pollution and climate change.
- We cannot remain isolated and indifferent to the needs and wants of others.



It is impossible to imagine a healthy US in an unhealthy world.

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**Addressing these global issues
requires leadership by the U.S.**

**A bipartisan leadership similar to
the effort following 9/11—but one
that lasts indefinitely—decades or
longer!**

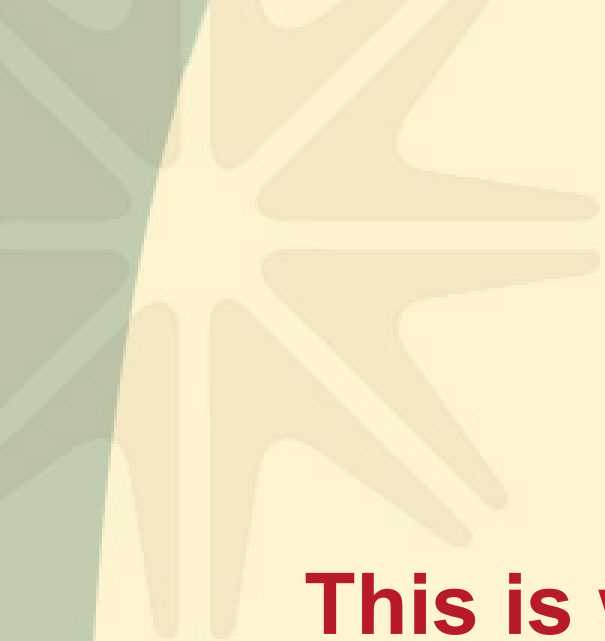
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“We could defeat climate change, if we chose to. But it is only a start. With imagination we could use or find the technologies that create energy without destroying the planet, we could provide work and trade without deforestation.

If

humankind was able, finally, to make industrial progress without the factory conditions of the 19th century, surely, we have the wit and will to develop economically without despoiling the very environment we depend on.”

Tony Blair, October 2, 2001



This is what all of US! should promote!

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