

"The Environment on the Intelligence Agenda"

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The environment is an important part of the Intelligence Community agenda. Today I would like to explain what we mean by the term environmental intelligence, why the Intelligence Community is involved in this work, and why our involvement is, important for citizens of the United States and the world. I also want to demonstrate that environmental intelligence is not a new or expensive area of endeavor for the Intelligence Community.

The Intelligence Community's job is to ensure that our senior policymakers and military commanders have objective information that will allow them to make better decisions. Through our collection and analytic effort, we compile intelligence reports that give our country's leadership insight into how events in all parts of the world will unfold and how these events will affect our national security.

Environmental trends, both natural and man-made, are among the underlying forces that affect a nation's economy, its social stability, its behavior in world markets, and its attitude toward neighbors.

I emphasize that environment is one factor. It would be foolish, for example, to attribute conflicts in Somalia, Ethiopia, or Haiti to environmental causes alone. It would be foolhardy, however, not to take into consideration that the land in each of these states is exploited in a manner that can no longer support growing populations.

Environmental degradation, encroaching deserts, erosion, and overfarming destroy vast tracts of arable land. This forces people from their homes and creates tensions between ethnic and political groups as competition for scarce resources increases. There is an essential connection between environmental degradation, population growth, and poverty that regional analysts must take into account.

National reconnaissance systems that track the movement of tanks through the desert, can, at the same time, track the movement of the desert itself, see the sand closing in on formerly productive fields or hillsides laid bare by deforestation and erosion. Satellite systems allow us to quickly assess the magnitude and severity of damage. Adding this environmental dimension to traditional political, economic, and military analysis enhances our ability to alert policymakers to potential instability, conflict, or human disaster and to identify situations which may draw in American involvement.

Some events have already dictated that environmental issues be included in our intelligence agenda. When Moscow initially issued misleading information about the accident at the Chernobyl Nuclear Power Plant, US leaders turned to the Intelligence Community to assess the damage and its impact on the former Soviet Union and neighboring countries.

During the Gulf War, when Saddam Hussein used ecological destruction as a weapon, policymakers and the military called on the Intelligence Community to track the movement of smoke from burning oilfields and the flow of oil released into the gulf. They asked whether damage to Iraq's Tuwaitha nuclear complex posed a danger to troops and local population.

In each of these cases, our answer to these questions was not and could not be, "the environment is not an intelligence issue." Our answers were classic intelligence: analysis based on our data from collection systems and open sources. We were able to assess the magnitude of the Chernobyl accident; we were able to tell US troops how to avoid lethal hydrogen sulfide from oil fires; and we were able to tell military planners that damage to the reactor was not a threat.

I would like to emphasize that the environment is not a new issue for the Intelligence Community. For years we have devoted resources to understanding environmental issues. Much of the work that now falls under the environmental label used to be done under other names-- geography, resource issues, or research.

For example, we have long used satellite imagery to estimate crop size in North Korea and elsewhere. This allowed us to forecast shortages that might lead to instability and to determine the amount of agricultural products a nation would need to import--information valuable to US Department of Agriculture and to America's farmers. We have also tracked world availability of natural resources, such as oil, gas, and minerals.

We have for many years provided the military with information on terrain and local resources. As our forces embark on military, peacekeeping, and humanitarian operations in remote and unfamiliar territory, they will need even better information on environmental factors that could affect their health and safety and their ability to conduct operations.

Diplomacy will be ever more concerned with the global debate over environmental issues. As Secretary of State Christopher said in April, "our ability to advance our global interests is inextricably linked to how we manage the Earth's natural resources." He emphasized that we must put environment "in the mainstream of American foreign policy."

Intelligence has long supported diplomacy in this area, particularly in regard to key international environmental treaties and agreements. Here I would draw an analogy to the role of intelligence in negotiating the arms control treaties. Such treaties could not have been signed and ratified without intelligence to monitor compliance.

Likewise, the Intelligence Community monitors compliance with environmental treaties, such as the Montreal Protocol on Substances that Deplete the Stratospheric Ozone Layer and the London Convention that regulates the dumping at sea of radioactive and other wastes. Further, intelligence support should begin with the negotiation process, so that US diplomats have the

benefit of the best available information in framing effective and enforceable treaties in the future.

Environmental intelligence will also be a part of our support to economic policymakers. They need to know, for example, whether or not foreign competitors are gaining a competitive advantage over American business by ignoring environmental regulations. Intelligence can provide valuable information.

In short, the demand on the Intelligence Community for information on environmental issues will grow. As the world population expands and resources such as clean water and arable land become more scarce, it will become increasingly likely that activities of one country will have an environmental impact that goes beyond its borders. US policymakers will need warning on issues that are likely to affect US interests and regional stability.

Maintaining a capability for environmental intelligence will allow us to answer important questions that are likely to come from our consumers in the future. For example, China's rapidly growing population and booming economy will translate into a tremendous increase in demand for the world's natural resources, including oil and food, What impact will this have on world markets? As in the past, we must be prepared to answer such questions.

We should also be willing to provide data from our collection systems to help experts answer less traditional questions, for example: what impact will increased burning of fossil fuel have on the global environment?

As I have mentioned, the Intelligence Community has unique assets, including satellites, sensors, and remote sensing expertise that can contribute a wealth of information on the environment to the scientific community. We also have mechanisms in place to share that information with outside experts. This effort will add significantly to our nation's capability to anticipate environmental crises.

In 1991, then-Senator Gore urged the Intelligence Community to create a task force to explore ways that intelligence assets could be tapped to support environmental research. That initiative led to a partnership between the Intelligence and scientific communities that has proven to be extraordinarily productive for both parties.

The Environmental Task Force found that data collected by the Intelligence Community from satellites and other means can fill critical information gaps for the environmental science community. Furthermore, these data can be handed over for study without revealing information about sources and methods.

For example, imagery from the earliest intelligence satellites--which were launched long before commercial systems--can show scientists how desert boundaries, vegetation, and polar ice have changed over time. These historical images, which have now been declassified, provide valuable indicators of regional and global climate change.

Some of the scientists who participated in the Environmental Task force now make up a group called MEDEA. MEDEA works with the Intelligence Community to establish what we call the "Global Fiducials Program." Under this initiative, during the next decade we will periodically image selected sites of environmental significance. This will give scientists an ongoing record of changes in the earth that will improve their understanding of environmental processes. More importantly, it will greatly enhance their ability to provide strategic warning of potentially catastrophic threats to the health and welfare of our citizens.

At the same time, we do not see the Intelligence Community becoming a center of environmental science expertise or directly sponsoring research in that area. In this case, our job is to acquire the data and allow the scientific community to use them. Their work, quite properly, is sponsored by others, such as the National Science Foundation, the National Oceanic and Atmospheric Administration, National Aeronautics and Space Administration and academic institutions. We will continue to work with environmental experts to assure that their knowledge is brought to bear on what data we collect or retrieve from our considerable archives.

Our interaction with MEDEA is not only valuable for the environmental community, it also has had direct benefits for the Intelligence Community. MEDEA has worked closely with our analysts to develop techniques that have enhanced our ability to collect and interpret data from our collection systems.

Combining Intelligence Community data and expertise with knowledge from the scientific community can produce a better intelligence product for policymakers. Scientists from MEDEA worked with our analysts to respond to requests for information on environmental issues and problems--such as a series of oil spills in the Komi region of Russia. The Komi oil spill is just one example of how intelligence satellites and sensors can provide valuable information quickly after a natural or man-made disaster. In this case we could tell that large amounts of oil were not getting into the Arctic rivers.

In the United States, the Intelligence Community provides support to the Federal Emergency Management Agency and other civil agencies when there is a natural disaster. Using data from a variety of sources, within hours after a disaster strikes we can assess and report the nature and scope of the damage--conditions of roads, airports and hospitals; and the status of potential secondary threats such as dams and nuclear facilities. Here I would like to make two points:

- First, we only provide this support upon request, To image US territory, we must first get permission.
- Second, we provide unclassified products generated from classified information. We have a Disaster Response Team that can quickly produce unclassified maps and diagrams that show the damage resulting from an earthquake, fire, flood, hurricane, oil spill, or volcanic eruption.

To give you a recent example of how well this system works, just a few weeks ago (June 5), the US Forest Service requested our help in tracking the wildfires raging in Alaska. In this instance, they did not have enough planes to adequately chart the extent of the fires. Within 24 hours of the initial request, we delivered a map depicting the fire perimeter, smoldering fires, and the

most intense blazes. This information was more comprehensive and detailed than data collected from overflights by civil aircraft and it was also available much more quickly than would have otherwise been possible.

We can also use our capabilities to provide warning before a disaster strikes. And we do share this information with foreign governments. For example, when a volcano on the Caribbean Island of Montserrat awakened in 1995, we monitored significant changes and alerted U.S. and British West Indies aid and military authorities so that they could prepare for a possible evacuation of the island's residents. Recently we noted a change within the volcano crater--a fissure had opened up, indicating that the risk of an eruption had increased dramatically. We quickly sent out a warning that allowed authorities on Montserrat to evacuate 4,000 people to a less dangerous area of the island.

These activities lie outside our traditional intelligence mission, but we believe it is important to provide aid when the capabilities would not otherwise be available. This effort costs us very little, and yields tremendous benefits to relief agencies, disaster victims, and potential victims whose lives could be saved by a timely warning.

Vice President Gore has been a leader in advocating the use of intelligence information to improve environmental knowledge on an international level, for example to better monitor oil spills and chemical waste streams through international water ways.

The US-Russian joint Commission on Economic and Technological Cooperation--the Gore-Chernomyrdin Commission--has established a productive exchange of information between the US and Russia.

This exchange has brought us unique and valuable data from Russia's intelligence programs. For example, the Russians have collected extensive data on the Arctic Ocean. This information is critical to our understanding of oceanographic and atmospheric processes, which are, in turn, critical to our ability to predict global climate change. Together with Russia, we have produced a CD-ROM atlas of the Arctic Ocean. It contains more than two million individual observations collected from 1948 to 1993 by Russian drifting stations, ice breakers, and airborne expeditions, as well as observations from US buoys. This once-restricted data will now be available on the Internet through the World Wide Web and will more than double the scientific holdings of oceanographic data available to T-TS scientists.

The Arctic data are not only critical to scientific studies of climate change. They can also help us chart the movement of pollutants. The great rivers of Russia flow north into the Arctic. With them, they carry a heavy burden of waste from Russian industry, including chemicals, heavy metals, and organics, as well as radionuclides from Russia's defense programs. For example, 3 million curies of radioactive waste from Chelyabinsk, dumped into the Techa River years ago, have migrated to the Arctic Ocean, over 1,500 kilometers from the plant. Russian oceanographic data can help them and us to determine where radioactive materials and pollutants will travel once they reach the Arctic and whether they will affect US and Canadian waters.

Early this year, Russia and the United States exchanged declassified imagery-derived diagrams of environmental damage over a 25-year period at Eglin Air Force Base in Florida and Yeysk Airbase in southwestern Russia. This ongoing exchange will help both countries clean up their toxic and radioactive sites. The techniques used to create these maps could help us identify potential sources of contamination in the future. Such information-sharing has proven a low-cost and highly effective way to build good will and strengthen international relationships. We should seek new opportunities to share information with other countries.

I would like to make one more key point about our work on environmental issues--the costs are small and the potential benefits enormous. The resources allocated to environmental intelligence are modest, perhaps one tenth of a percent of the intelligence budget for collection and analysis. We are using intelligence capabilities that are already in place. This important work requires no new capital investments.

Nor does environmental intelligence require us to divert collection systems from our priority targets or get involved in areas where we do not belong. The imaging of sites under the Global Fiducials program, for example, can be done during non-peak hours of satellite use. It will not interfere with collection against our highest priority targets, including the proliferation of weapons of mass destruction, terrorism, drug trafficking, and the activities of rogue states.

In sum, the environment will continue to have an important place on the US intelligence agenda.

- Environmental factors influence the internal and external political, economic, and military actions of nations important to our national security.
- Our intelligence customers, including the policy and military communities, need--and ask for--support on environmental issues and problems.
- The Intelligence Community has unique technical collection resources and analytic expertise that can fill critical information gaps for environmental scientists or help relief agencies cope with natural disasters.
- Through a productive partnership with the scientific community, we can provide strategic warning of environmental hazards that could endanger our health and welfare.
- These activities do not threaten our traditional missions.
- The vital work I have described requires only a modest commitment of resources.
- I think it would be short-sighted for us to ignore environmental issues as we seek to understand and forecast developments in the post-Cold War world and identify threats to our national welfare. just as Secretary Christopher promised "to put environmental issues in the mainstream of American Foreign policy," I intend to make sure that Environmental Intelligence remains in the mainstream of US intelligence activities. Even in times of declining budgets we will support policymakers and the military as they address these important environmental issues.