



**NATIONAL SECURITY
AND THE THREAT OF
CLIMATE CHANGE**

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TESTIMONY OF

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**Member, Military Advisory Board
To The CNA Corporation Report
“NATIONAL SECURITY AND THE THREAT OF
CLIMATE CHANGE”**

BEFORE THE

COMMITTEE ON FOREIGN RELATIONS

U.S. SENATE

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My name is Richard Truly, and I served more than thirty years on active duty in the U.S. Navy. Much of this period was on exchange duty with the Air Force and NASA, serving in both the national security and civilian space programs. My final Navy duty assignment was again at NASA, charged with returning the Space Shuttle to safe flight following the Challenger accident. I retired from the Navy in 1989 as a Vice Admiral, and was sworn in the following morning as Administrator of NASA. Following my departure from NASA in 1992, I served several years as Director of the Georgia Tech Research Institute, then as Director of the Department of Energy’s National Renewable Laboratory for eight years. It was during this period that I began paying serious attention to the possibility of global warming, leading to climate change.

No issue could possibly be more global than the possibility of changes in the Earth's climate. During the eight months that our Military Advisory Board debated these effects on our national security, we were fortunate to have such a wide range of senior military, diplomatic and civilian agency experience and differing viewpoints at our disposal. Of particular importance, in my view, were the voices of experience from commanders of U.S. combat forces in Asia and the Pacific, Europe, Africa and the Middle East as we explored the possible effects of changing environments in these regions.

We had quite spirited discussions about a range of issues from climate science to the causes of local, regional and global conflict.

But we coalesced around a single set of findings and recommendations because everywhere in the world we looked, and the longer we examined the possibilities, we kept arriving at the same conclusion which Admiral Prueher mentioned – that the potential impacts of climate change inevitably exacerbate societal stresses, which in turn have potentially severe security consequences. This is particularly true in some of the regions of the world where margins for survival is already thin, borders are uncontrolled, and societies are extremely stressed. It's hard to see how these regions can avoid becoming breeding grounds for further trouble.

One of these regions is the continent of Africa, which General Wald covered in some detail.

Another is the Middle East, long a tinder box of conflict. The natural environment of this region is dominated by two important natural resources – oil because of its abundance, and water because of its scarcity. Climate change has the potential to exacerbate tensions over water as precipitation patterns decrease, projected to decline as much as 60% in some areas. This suggests even more trouble in a region of fragile governments and infrastructures and historical animosities among countries and religious groups.

Observed and projected sea level rise coupled with the predicted increase in violent storms poses a new threat to coastal regions. Some of our most critical infrastructure for trade, energy and defense is located on our coasts. Further, a number of low-lying island nations, particularly in the Pacific and Indian Oceans, could literally be under threat of inundation in coming decades. Some of our strategic military installations are located on low-lying islands, such as Diego Garcia, which is a critical base of support for our Middle East operations.

Major river deltas are at severe risk from projected sea level rise. General Wald discussed the consequences of the Niger River delta flooding; other examples that could pose disastrous conditions are the Nile delta in Egypt, and of course the Mouths of the Ganges delta in Eastern India and Bangladesh, one of the most densely populated and stressed locations on the planet. Sea level rise has the potential to displace tens of millions of people from this area with potentially serious destabilizing effects in a region that is strategically and economically important to the U.S.

These potential river delta floodings also point out a major difference in national security threats caused by climate change than those we are accustomed to. Normally, we deal with single isolated conflicts in generally confined geographical areas. But when the Niger delta floods, so will other rivers such as the Nile, the Ganges and the Mississippi, for example. This could present overwhelming security challenges for our military in widely dispersed areas of the world.

Projected climate change will add tensions even in stable regions of the world, including the United States, although our strength and wealth places us in a far better position to cope. But prolonged declines in rainfall in Mexico and Latin America predicted by climate models could exacerbate an already challenging immigration situation on our southern border.

Polar regions feel the effects of climate sooner, and more acutely, than lower latitudes. All indications are that the Northwest Passage connecting the Atlantic with the Pacific Ocean by way of Canada's high Arctic will be navigable part year within a decade or so, and ice-free in summer later in the century. The U.S. considers the Northwest Passage as international waters free to navigation, but Canada considers it territorial waters. We anticipate many countries will push for the passage to be declared an international waterway – including the European Union, Russia and others. This would pose an international issue, directly caused by climate change, to all the nations bordering the Arctic Ocean.

These are but a few examples of how the expected effects of climate change can lead to increased stress on populations and increased strife among countries. In the national and international security environment, climate change threatens to add new hostile and stressing factors. We believe that climate change, national security and energy dependence are a related set of global challenges.

As Admiral Prueher pointed out, our security revolves around issues that are political, economic, cultural and military in nature. We have concluded that the potential effects of climate change warrant serious national attention, and I want to thank the Committee for addressing this serious and important issue.