KEY INSIGHTS:

• Climate change is underway. The effects will vary according to a broad variety of circumstances and interactions, some of which are not well-understood. Likewise, mitigation is not well-understood, and will not take place quickly.

• The national security implications of climate change are proportional both to the speed of change and the extent. Public awareness should follow a coordinated strategic communication plan that focuses on maintaining credibility.

• Threats to national survival stemming from catastrophic change must be anticipated, evaluated, and neutralized to the greatest degree possible.

• The entire range of plausible threats needs to be delineated, then analyzed and early warning criteria established. The alternative approaches and cost-benefit analyses must be run to establish what can be done, when, and at what cost.

• While military forces have roles in disaster relief, the broader impact of serious climate change will require multinational, multi-agency cooperation on a scale heretofore unimaginable and could provide no-fault ground for global cooperation.

• Effective interagency action may require new legislation and better definition of Department of Homeland Security authority.

• Should global cooperative measures fail, the first impact will likely come from large numbers of displaced people who, by the very nature of their displacement, will become subject to malnutrition and disease; agricultural dislocation could aggravate or spark displacement and border security issues could arise as well.

On March 29-31, 2007, the Strategic Studies Institute and the Triangle Institute for Security Studies conducted a colloquium on “Global Climate Change: National Security Implications.” Other supporting organizations included the Army Environmental Policy Institute, The Center for Global Change (Duke University), Creative Associates, The Nicholas Institute for Environmental Policy Solutions (Duke University), The Environmental Change and Security Program (The Woodrow Wilson Interna-
tional Center for Scholars), and the Department
of Environmental Sciences at the University of
North Carolina-Chapel Hill.
Timing of the colloquium was very appropri-
ate. The day following its conclusion, most media
announced release of a major study strongly sug-
gesting the onrush of significant climate change
with potentially catastrophic effects. This collo-
quium was somewhat more circumspect and was
a serious discussion by professionals attempting
to frame the problem on the basis of some certain-
ties and a host of not-so-certainties. The linkage
of climate change and national security was and
remains a very difficult target to hit directly. If
one accepts the above suggested catastrophic vi-
sion, the follow-on issue could be reduced to one
of national survival, as one’s own infrastructure
collapses. If, as was suggested by several of the
conferes, the impact of climate change is some-
what more nuanced and gradual, then long-range
planning for national security is a more viable
undertaking. Further, at all points it is essential
to differentiate between disaster relief and na-
tional security planning. The former is a reaction
to immediate need with relatively certain require-
ments, the latter to planning for a problem the
complete dimensions of which are, to a degree,
unknowable and are complicated by an uncertain
timeline.

The wrap-up speaker, Dr. Richard Weitz (Har-
vard), noted the many areas in which the confer-
ees voiced general agreement. Among them were
that the climate is changing, and the visual and
anecdotal evidence is palpable; there is good ana-
lytical support for this. He further noted that:

• climate change is likely to produce threats,
  but the linkages are not as clear as would
  make for better focused reaction;
• issues surrounding the causes and amelio-
  ration of negative effects on climate include
  reducing demand for noxious effects gener-
  ating mechanisms and increasing use of al-
  ternatives including significant increases in
  efficiencies in all suspect mediums;
• solutions to positively identified problem
  areas must be pursued through interagency
  and international action so as to achieve

comprehensive solutions—there are no sin-
gle-point solutions;
• planning must go forward at every eche-
  lon and across national and organizational
  boundaries.

Areas of contention included:

• the need for an accepted dictionary of terms,
  the absence of which serves to blur accept-
  ability of analytical work;
• imminence of the threat of major climate
  change which ranges from very soon, and
  hence catastrophic, to more gradual, over an
  extended period of time, allowing better co-
  ordinated responses;
• the relative role of military forces/assets, in
  proportion to the speed of onset and level
  of danger; yet most of what must be done,
  outside the realm of disaster relief abroad, is
  primarily a civil responsibility.

The danger to each region will demand region-
specific responses. Therefore, dealing with envi-
ronmental danger could be a no-fault venue for
international action; however, no participants
mentioned the United Nations. And, as matters
of international law continue to evolve, there is
what appears to be an attempt to wage Law-Fare
against those who are seen as committing crimes
against the environment.

The upshot of all of this strongly suggests a
follow-on colloquium to deal in greater depth
with several issues, the most important of which,
from this writer’s perspective, is to establish clear-
ly defensible linkages between causes and effects
and closely examine the wide expanse of effects
only mentioned in passing at this conference. One
such concern is the effect on population. Popula-
tion impacts will likely be modified by changing
distribution, aging, and connectedness. Modifica-
tion of consumption patterns crosses the popula-
tion issue as the prospect of changing agricultural
capabilities and patterns and sea-based produc-
tion capabilities undergo change.

In the action category, the issue of strategic
communications reappeared time after time, but
education by zealotry was generally condemned
as ineffective to the point of doing serious harm—
crying wolf too often and too loudly. There are
 certainties and uncertainties involved in this matter
as the following review will note.

Panel I: Defining the Problem, in concert with
Panel 2: Climate Change and Human Security, set
the stage for all that followed as the two panels
defined the landscape. These two panels will re-
ceive more space in this report than the others.

Dr. Spencer Weart described how climate
change was discovered in the late 19th century
at which time CO² was identified as the culprit
of global temperature increases stemming in part
from volcanic action, but increasingly from in-
dustrial pollutants generated largely by untreated
coal-fueled industrialization. Weart proceeded on
a tour of the most influential names in the study
of climate change and argued that their conclu-
sions were increasingly confirmed as the quality
of the tools employed to measure effects became
increasingly sophisticated.

Dr. Robert Correll argued that examinations of
ice melt will have some interesting implications,
noting that melt will typically occur faster in the
North Pole region than in the South. This could
provide open water access from Russian North
Sea areas for as long as 6 months per year. The
thawing is going to raise serious legal issues as
all nations bordering the North Polar region have
territorial claims that will need adjudication. Not-
ing the irony that glacial melt will likely be ac-
companied by regional drought, Dr. Correll also
suggested that the seriousness of these changes
will be of very long duration as CO² has a resi-
dence time of approximately 300 years.

Dr. Richard Matthews stated that many un-
knowns exist in attempting to measure physical
impacts of climate change and many more when
assessing social impacts. He identified some of
those as microbial changes, stresses on aging
populations less able to withstand dramatic tem-
perature changes, a potential rise in the value of
energy that would attract criminal activity, and,
in the most extreme case, the cost of relocating
entire coastal cities and accompanying infrastruc-
ture.

Dr. Jamie Rothenberg, a tropical environmen-
tal ecologist, provided a quick review of observed
changes in avian behavior that support the warm-
ing thesis. The question and answer period that
followed brought forth these observations: The
Intergovernmental Panel on Climate Change
(IPCC) suggests a water level rise of 1-1.5 feet,
but others feel that to be too conservative and 3
feet in this century is more likely. This generated
discussion of other issues including other climate
change thresholds that might affect monsoonal
flows, methane release from melting tundra, and
subsidence in coastal areas. This broad ranging
discussion revealed that many of the connections
between issues are not well-understood.

The second panel continued the context-set-
ing by addressing water issues. Dr. Erika Wein-
thal observed that water issues have risen in
salience on all continents. She stated that these
issues also involve the subterranean, particularly
in the Middle East where several aquifers are al-
ready at risk. She further noted the sub-issue of
water quality and the centrality of waterborne
disease as the prime killer of young children
who succumb to the effects of diarrhea. We have
known for many years that the first requirement
for dealing successfully with any refugee popula-
tion is meeting the requirement for potable water,
followed by sewage treatment/removal. Her fi-
nal observation was that 80 percent of the world’s
water usage goes into agriculture.

Dr. Andrew Price-Smith’s report on disease
was equally unsettling, noting that many nonlin-
earities, thresholds, and interconnectivities are
yet to be fully understood. Pathogen-precipita-
tion links must be modified because of the phe-
nomenon of global travel. He suggested that the
IPCC data was for temperate zones, and warming
may actually push us toward higher temperature
zone studies for greater accuracy. He called atten-
tion to places like Nairobi, which were established
where they are in order to be free of mosquito-
borne malaria, but are now being subjected to in-
creasing incidence of the disease and presence of
its propagating vector. He emphasized one clos-
ing point—disease is a stressor in both the short
and long term and thus begins a potential cascad-
ing effect upon a population.

General (Ret.) Paul Kern’s address began by
accepting the fact of climate change, then ques-
tioned how the military should respond to national security challenges emanating therefrom. An estimate must be established, he said, and alternatives explored. These must then be weighed against available and/or required resources which then demand cost-benefit analyses. In the end, incentives for pursuing the selected options must be developed and offered, particularly in the more catastrophic scenarios for which resources and time cannot be made available. In short, this threat demands a military problem solving-like approach.

Thereafter, a list of very competent papers addressed issues as diverse as the role of extremist ideologies seeking exclusivity or denial at the risk of greater loss, to the role of the corporation in producing clean power, to environmental early warning systems, to the military role of providing assistance, disaster preparedness, peacekeeping, and concluding with strategic challenges. The final presentation centered on keeping the discourse at the national security level rather than the disaster relief level. The significance of the climate change challenge and its requirement for better cooperation across governments and agencies might be best addressed in the United States by a new National Security Act of 2010. It should be configured to oblige intergovernmental cooperation and support for formal planning to deal with climate change in what could become another, newer threat environment.

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