



Analyzing the Impact of Emerging Societies on National Security

14 – 18 April 2008
Argonne National Laboratory



Analyzing the Impact of Emerging Societies on National Security

Argonne National Laboratory

14-18 April 2008

Terms of Reference

1. OVERVIEW

Societies confront a wide range of nontraditional threats, including an occupation, major changes in energy supply and demand, introduction of new technologies, regime changes, natural or human induced catastrophes, and assimilation of new cultures. The reaction by a society to internal and external disruptions is a complex interaction of social, economic, political, environmental, and technological processes. These interactions operate in a synergistic fashion with one factor potentially triggering feedback loops between them. The result can be the emergence of a new societal state.

The concept of an “emerging society” refers to a change from one social state to another – not just a change from an “old” society to a “modern” one, as is often portrayed in the popular press. Very often, we only focus on “terrorists,” “non-state actors,” and failed states.” In this meeting, we will examine a large array of factors that can create emerging societies, such as exogenous shocks to the environment (e.g., changing climate, weather patterns, and desertification), pandemics, shifts in cultural identify, economic factors, the assimilation of new cultures, etc.; and how these factors can have a National Security impact. Being able to characterize an emerging society and develop an appropriate response requires a deep understanding of these factors, as well as the history of the society.

2. GOALS AND OBJECTIVES

The overall goal for this special meeting is to address the factors, methods, and tools that are currently available or need to be developed that will enable operations research analysts to understand the complex interactions in emerging societies and their impacts on National Security. Some of the specific goals for this meeting will include:

- Summarizing at a high level the characteristics of emerging societies and the tools needed to describe them,
- Identifying the modeling and simulation tools that are available to address the issues associated with emerging societies,
- Discussions on how these modeling resources can and cannot be appropriately used,
- Identifying the data sources that can be used to support these tools,
- Developing the necessary processes to verify and validate these tools, and
- Building bridges between the operations research and social modeling communities.

To be successful, each working group must bring together individuals from the services, DoD and other government agencies, and the research community. Only through sharing the insights of all these different components of the analytical effort will we be able to provide the community with the best possible insights from this special meeting.

3. APPROACH

The format of the proposed special meeting is a workshop. Three working groups will consider the methods and tools available now and proposed for understanding a society and modeling its complex interactions. Each working group will have a series of presentations fol-

lowed by a discussion of the issues. A synthesis group will integrate the results of the working groups into a coherent assessment of the technologies and present a high-level strategy for their application to the national need to anticipate emerging challenges and adversary decision making. The working groups for the meeting and some of their individual goals are:

3.1. WG 1 - Characterizing Emerging Societies (Chair – Dr. Michael Vlahos, Johns Hopkins University Applied Physics Laboratory)

This working group will address two key themes – 1.) What are the factors that can give rise to emerging societies that may become an issue from a National Security perspective and 2.) What kind of strategies that can be developed to respond or reshape them? To address the first theme, we shall present historical examples of significant events that have impacted transitional societies and resulted in a national security impact. As an example, we shall discuss the role of shifting or migrating identities in the emergence of new communities and the role of resistance and conflict as a central strategy in the realization of new identities. We will also identify other factors, internal and external, that could be a trigger for creating an emergent society. In addressing the second theme, we will discuss approaches and concepts on how to engage transitional societies to achieve international goals, develop proactive strategies to assist transitional societies, and rescue failing states from potential disintegration.

3.2. WG 2 - Modeling Tools and Approaches (Chair - Dr. Charles Macal, Argonne National Laboratory)

This working group will consider four themes related to *Users*, *Societal Processes*, *Models and Algorithms*, and *Applications*. The *Users* theme will examine how to translate user requirements for information into requirements for modeling. Under this theme we will address questions such as, what information do end users want that a model could provide, what spatial scales and time frames are needed, and how are decisions being made now such that modeling might make a value-added contribution, how could models support the overall business processes?

The *Societal Processes* theme will work to identify and understand the real world processes that are amenable to modeling. Under this theme we will address questions such as, what are the relevant disciplines with a stake in the emerging society issue, can the main driver concepts and underlying social processes be identified, and how do social scientists think of these issues?

The *Models and Algorithms* theme will address how to developing models and algorithms that when applied to the real world answer real world questions. Under this theme we will address questions such as, what modeling techniques are promising and applicable for modeling emerging societies, how does data availability constrain the prospects for modeling, and how are models of societal processes to be validated?

The *Applications* theme will address how we can learn from our modeling failures and successes. Under this theme we will address questions such as, what applications are being successful, what are the criteria for success, and what are the limitations of modeling learned through the applications?

3.3. WG 3 - Social Networks (Chair - Dr. David Sallach, Argonne National Laboratory and University of Chicago)

Social networks describe how information propagates through a society. This Working Group will focus on understanding and describing social networks and how they are a key factor in understanding a society's reaction to an event. We will begin by examining the theoretical and conceptual underpinnings of social networks. Examples of applications of social networks will include the international discourse and covert networks in nuclear proliferation, repurposing solidary networks for adversarial objectives, and collective reasoning in C3I networks.

3.4. Call for Contributed Papers

The majority of papers presented will be by invitation, but we are soliciting contributed papers for the three working groups. Individuals interested in submitting a paper are encouraged to contact the working group chairs to discuss their paper concepts. The contact information for the working group chairs are in Section 9 of this document.

4. AGENDA (Tentative)

Monday, 14 April 2008

Registration	1330 - 1700
Optional Tutorial 1 – Agent-Based Modeling Overview	1330 - 1700
Optional Tutorial 2 – “Social Science 101”	1300 - 1700

Tuesday, 15 April 2008

Registration	0700 – 0830
Call to Order and Plenary Session	0830 - 1000
Call to-order – Jack Keanne, MORS President	
Host Welcome - Dr. Robert Rosner, Director, Argonne National Laboratory	
Sponsor's Welcome - TBD	
Plenary Speaker - Mr. Alan King, “Iraq: Past, Present, and the Future”	
Administrative Announcements - Dr. John Hummel	

Break	1000 – 1030
Keynote Presentation and Discussion	1030 – 1200
“Trends and Shocks”, CDR Thomas Brasek, OSD Policy	
Lunch	1200 – 1300
Working Group Breakout Sessions	1300 - 1700

Wednesday, 16 April 2008

Working Group Breakout Sessions	0830 – 1200
Lunch	1200 – 1300
Working Group Breakout Sessions	1300 - 1700

Thursday, 17 April 2008

Working Group Breakout Sessions	0830 – 1200
Lunch	1200 - 1300
Synthesis Session	1300 - 1700

Friday, 18 April 2008 (WG Chairs and Meeting Leadership Only)

5. ATTENDEES

Attendance will be by invitation only. Attendees will include invited experts from OSD, all Services, the Joint Staff, University Affiliated Research Centers, Federally Funded Research and Development Centers, operational commanders, DoD contractors, Department of Homeland Security, US Northern Command, and others, including representatives from our Allied / Coalition Analytical Communities. Workshop chairs will control membership of their sessions in conjunction with the Organizing Committee. Attendance will be limited to 200 people.

6. PRODUCTS

Several products will be generated from the workshop:

- An Executive Summary in the form of a text document and a scripted briefing for the MORS Sponsors addressing the workshop objectives, findings, conclusions and recommendations will be offered within 30 days.
- A proceedings document containing summaries of all sessions and annotated copies of appropriate briefing slides and presentations.
- An article summarizing the meeting and its findings will be produced and submitted to *PHALANX* in time for the next deadline after the meeting.
- A general session presentation will be made at the 76th MORSS.

7. MEETING VENUE

The meeting will be held at the Argonne National Laboratory, a Department of Energy National Laboratory, located outside of Chicago, Illinois. The specific venue will be the Advanced Photon Source (APS) Conference Facilities.

Argonne is conveniently served by two Chicago airports, O'Hara and Midway. The Argonne Guest House, located on the Argonne campus and within walking distance of the APS facilities, has a block of rooms reserved for the meeting. There are additional hotels located off the Argonne campus site, as well.

8. RECOMMEND READING LIST

The table below includes a list of recommended readings and identifies the working group(s) for which the topic is relevant.

Document	WG 1	WG 2	WG 3
“The Beginner’s Guide to Nation-Building”, James Dobbins, Seth G. Jones, Keith Crane, Beth Cole DeGrase, RAND Corporation, National Security Research Division, 2007. http://www.rand.org/pubs/monographs/MG557/ (Also available commercially.)	✓		
“Ignoring the Innocents,” Yuna Huh Wong, RAND Corporation, Pardee Rand Graduate School, 2006. http://www.rand.org/pubs/rgs_dissertations/RGSD201/	✓		
“National Security and the Threat of Climate Change”, Center for Naval Analysis, 2007, http://securityandclimate.cna.org/report/	✓		
“Fighting Identify: Why We Are Losing Our Wars”, Michael Vlahos http://usacac.leavenworth.army.mil/CAC/milreview/English/NovDec07/Vlahos	✓		
“A Climate of Conflict – The links between climate change, peace, and war” http://www.international-alert.org/climate_change.php	✓	✓	✓

9. PLANNING AND ORGANIZING COMMITTEE

9.1 General Co-Chairs

Co-Chairs	Organization	Phone/e-mail
Dr. John Hummel	Argonne National Laboratory	630.252.7189 jhummel@anl.gov
Dr. Ted Bennett	Naval Oceanographic Office	228.688.4148 Theodore.j.bennett@navy.mil

9.2 WG 1 – Characterizing Emerging Societies

Participant	Organization	Phone/e-mail
Dr. Michael Vlahos Chair	Johns Hopkins University/Applied Physics Lab	703.465.5172 michael.vlahos@jhuapl.edu
Mr. Matthew Berry	Argonne National Laboratory	630.252.8485 mber-ry@anl.gov .
Dr. Ted Bennett	Naval Oceanographic Office	228.688.4148 Theodore.j.bennett@navy.mil

9.3 WG 2 – Modeling Tools and Approaches

Participant	Organization	Phone/e-mail
Dr. Charles Macal Chair	Argonne National Lab.	630.252.3767 macal@anl.gov
Mr. Bruce D. Wyman	Northrup Grumman	571.642.6735 bruce.wyman@ngc.com
Prof. Kathleen M. Carley	Carnegie Mellon University	412.268.6016 Carley@cmu.edu
Lt. Bryan R. Tannehill	USN	937.376.3604 Bryan_Tannehill@yahoo.com

9.4 WG 3 – Social Networks

Participant	Organization	Phone/e-mail
Dr. David Sallach Chair	Argonne National Lab.	630.252.3767 macal@anl.gov
Mr. Richard Avilla	Johns Hopkins University Applied Physics Laboratory	240.228.5982 Richard.Avilla@jhuapl.edu
Maj Laura K. Garrett, USAF	US Strategic Command	402.232.2141 garrettl@stratcom.mil
Dr. Richard F. Deckro	Air Force Institute of Technology	937.255.6565 x 4325 richer.deckro@afit.edu

9.5 Synthesis Working Group

Participant	Organization	Phone/e-mail
Dr. Dan Maxwell	Innovative Decisions, Inc.	703.409.7828 dmax-well@innovativedecisions.com
Dr. Thomas Baldwin	Argonne National Laboratory	1.630.252.6710 Baldwint@anl.gov

9.6 Administrative Coordinators

Participant	Organization	Phone/e-mail
Brian Engler	MORS	703.933.9070 brian@mors.org
Colette Burgess	MORS	703.933.9070 colette@mors.org
Kathy Ruffatto	Argonne National Laboratory	630.252.6015 kruffatto@anl.gov

9.7 MORS Bulldog: Mr. Roy Reiss.

9.8 Sponsor/Service Reps

Sponsor	Organization	Phone/e-mail
Air Force: Mr. Balf Callaway	Studies and Analyses (HQ USAF/A9),	Balf.Callaway@pentagon.af.mil
Army: Mr. David M. Markowitz	Center for Army Analysis (HQDA/DCS Programs, G-8)	david.markowitz@us.army.mil
Navy: Mr. Herbert S. Cupo	Office Chief of Naval Operations (N81)	Herbert.cupo@navy.mil
Marine Corps: Col Joseph Smith	Marine Corps Combat Development Command (MCCDC),	james.g.smith@usmc.mil
Joint Staff: Mr. Robert Orlov	The Joint Staff (J8)	Robert.orlov@js.pentagon.mil
OSD: Mr. James Bexfield, FS	OSD/PA&E	James.Bexfield@osd.mil

10. ADMINISTRATIVE

Name: Modeling the Impact of Emerging Societies on National Security

Dates: 14 – 18 April 2008

Location: Argonne National Laboratory, Argonne, IL

Fees:

Mini-Symposium Only:	
All Non-MORS Members	\$325
All MORS Members	\$375
Entire Workshop:	
Non-Government Non-MORS Member	\$575
Non-Government MORS Member	\$640
Government Non-MORS Member	\$675
Government MORS Member	\$750

Attendance: ~200 people, by invitation

Classification: Unclassified