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IDA Publications on Irregular Warfare:

A Bibliography 2000 – Fall 2008

Alec Wahlman

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INSTITUTE FOR DEFENSE ANALYSES

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December 19, 2008

Users of this IDA document:

Over time, most particularly since 9-11-2001, a body of analytical perspective and expertise on irregular warfare and associated topics has arisen at IDA, influencing the work of colleagues, sponsors, and customers who seldom, if ever, are able to peruse the full range of what is presented. The annotated bibliography in this document makes such a search easier by providing an easy-to-follow snapshot in time of IDA's contemporary Irregular Warfare work. This alphabetized but otherwise undifferentiated list of 174 formal papers and documents reflects a body of responses to the questions of sponsors seeking data and perspective to inform judgments and decisions on topics ranging from the technical to the strategic.

Readers daunted by the task of working through the abstracts will find their path simplified by the index of titles at the end of the document. Further work, averaging one or two papers or documents each month, adds steadily to this body of effort.

Karl H. Lowe

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Overview

The purpose of this annotated bibliography is to (1) convey the kinds of data related to irregular warfare that have been collected and analyzed by IDA research staff, (2) depict the growing body of knowledge resident at IDA, and (3) illuminate IDA's capabilities for future work in irregular warfare. The initial challenge was deciding which IDA publications could legitimately be related to *irregular warfare* since the term is of relatively recent vintage. What has come to be called *irregular warfare* was the subject of studies and analyses long before the term was invented. The term was used in the 2005 *National Defense Strategy*[1] 17 times but only once to describe a form of warfare[2] and once more to describe a type of conflict.[3] In all other cases, the term was used to modify *capabilities and methods*, *challenges*, *threats*, *opponents*, or *forces*.

In contrast, *irregular warfare* appears 24 times in the 2006 *Quadrennial Defense Review Report*[4] (QDR), with its definitions and/or descriptions scattered over early pages of the QDR: "conflicts in which enemy combatants are not regular military forces of nation-states"[5]; and as including "long-duration unconventional warfare, counterterrorism, counterinsurgency, and military support for stabilization and reconstruction efforts"[6]; and "terrorism, insurgency or guerrilla warfare."[7] The 2006 QDR goes further in its description:

> In the post-September 11 world, irregular warfare has emerged as the dominant form of warfare confronting the United States, its allies and its partners; accordingly, guidance must account for distributed, long-duration operations, including unconventional warfare, foreign internal defense, counterterrorism, counterinsurgency, and stabilization and reconstruction operations.[8]

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1 US Department of Defense, *The National Defense Strategy of the United States of America*, March 2005.

2 NDS, p. 3.

3 NDS, p. 18.

4 US Department of Defense, *Quadrennial Defense Review Report*, February 6, 2006.

5 QDR, p. 3.

6 QDR, p. 4

7 QDR, p. 19

8 QDR, p. 36.

By a final way of explanation, the force planning construct explained that a *surge* in irregular warfare meant a large-scale, potentially long-duration campaign and that an example of an *irregular surge campaign* would be "the current level of effort associated with operations in Iraq and Afghanistan." [9] One could thus conclude that however irregular warfare might be defined, it describes current US operations in Iraq and Afghanistan.

The *Irregular Warfare Execution Roadmap*, developed after the 2006 QDR, proposed its own definition of *irregular warfare*. This definition was approved and now appears in the *Department of Defense Dictionary of Military and Associated Term*s:

> A violent struggle among state and non-state actors for legitimacy and influence over the relevant population(s). Irregular warfare favors indirect and asymmetric approaches, though it may employ the full range of military and other capacities, in order to erode an adversary's power, influence, and will. Also called **IW**.[10]

This official definition also appears in a just-published DoD directive, *Irregular Warfare (IW)*[11], which adds to what irregular warfare entails:

- IW can include a variety of steady-state and surge DoD activities and operations: counterterrorism; unconventional warfare; foreign internal defense; counterinsurgency; and stability operations that, in the context of irregular warfare, involve establishing or re-establishing order in a fragile state.[12]
- It is DoD policy to meet Combatant Commander objectives, conduct other related activities abroad, including: strategic communication, information; psychological, civil-military, intelligence, and counterintelligence operations; and support to law enforcement.[13]

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9 QDR, pp. 35–39.

10 US Department of Defense, Joint Staff, *Department of Defense Dictionary of Military and Associated Terms*, Joint Publication 1-02, 12 April 2001, As Amended Through 17 October 2007. http://www.dtic.mil/doctrine/jel/doddict/.

11 US Department of Defense, Under Secretary of Defense for Policy, *Irregular Warfare (IW)*, DoD Directive 3000.07, December 1, 2008, http://www.dtic.mil/whs/directives/ (accessed 10 December 2008).

12 DoDD 3000.07, p.2.

13 DoDD 3000.07, p. 3.

- The Secretaries of the Military Departments shall:
  - Maintain scalable organizations to train and advise foreign security forces and security institutions (unilaterally or as part of civilian-military teams) in permissive and uncertain environments.[14]
  - Maintain expeditionary units organized, trained, and equipped that, when directed, are able to provide civil security, restore essential government function, repair key infrastructure necessary to government function and to sustain human life, and reform or rebuild indigenous security institutions until indigenous, international, or U.S. civilian personnel can do so.[15]

As seen from the evidence given, irregular warfare invokes a wide range of topics when viewed through the official publications of the US Department of Defense.

Approach to Developing the Irregular Warfare Bibliography

To retrieve relevant IDA research that existed before the term *irregular warfare* came into common use, the author started with the year 2000 and continued up to the fall of 2008. For the sake of transparency, publications related to the following topics were included: mine detection, unexploded ordnance detection, terrorism, and cyber warfare. Generally excluded were those publications that related to disaster relief and weapons of mass destruction (absent a terrorism dimension).

The IDA publications listed in this bibliography are a mixture of classifications and restrictions, e.g., Unclassified, For Official Use Only, Confidential, and Secret—though all titles and abstracts are unclassified. To discern which IDA publications should be included, the initial approach was to use keywords and automotive search tools. However, that proved impractical as the list of related keywords quickly grew to more than ninety entries, negating the benefits (speed and accuracy) of an automated approach while still risking the exclusion of worthwhile titles. The author refined the list by reviewing a series of annual indexes of IDA publications, again going back to the year 2000; extracting related titles; and then circulating the list among other research analysts at IDA. The result is depicted in **Table 1** (next page), the final list of keywords. Though extensive, this list still cannot be considered comprehensive but it does convey a sense of scope.

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[14] DoDD 3000.07, p. 8.

[15] DoDD 3000.07, p.8.

Table 1. Keywords Used for the Irregular Warfare Bibliography

4th Generation Warfare	Horn of Africa	Philippines
Afghanistan	Host Nation Government	Police
Asymmetric	Human Intelligence	Population
Biometrics	Human Terrain	Population Control
Building Partner Capacity	Improvised Explosive Device	Population Management
Chechnya	Influence	Psychological
Civil Affairs	Insurgency	Quds Force
Civil Military	Insurrection	Radical Islam
Civil Services	Interagency	Reconciliation
Coalition	Intifada	Reconstruction
Columbia	Iran	Reintegration
Corruption	Iraq	Rule of Law
Counterguerrilla	Islamist	Sanctuary
Counterinsurgency	Israel	Security
Counternarcotics	Law Enforcement	Small Wars
Counterterrorism	Lebanon	Special Forces
Crime	Limited	Stability
Cultural	Militia	Strategic Communications
Cyber	Mine Detection	Terrorism
Demobilization	Narcostate	Threat Financing
Disarmament	Narcoterrorism	Training
Drug Trafficking	Nicaragua	Transition
Economic	Nonlethal	Transnational Crime
Failed States	Non-State Actor	Tribal
Foreign Internal Defense	Operation Enduring Freedom	Unconventional
Gaza Strip	Operation Iraqi Freedom	Unexploded Ordnance
Global War on Terror	Operations Other Than War	Ungoverned Areas
Governance	Organized Crime	Urban
Guerrilla	Pakistan	Vietnam
Hamas	Palestine	West Bank
Hezbollah	Phase Four	

The topic of irregular warfare is so new, so broad, and related to so many other topics that no bibliography can claim to be all inclusive. The IDA bibliography should be considered a robust and illustrative set. The following pages represent a *snapshot* of IDA studies completed since 2000. It does not list studies in progress or those that have been delivered to sponsors but not yet approved and released. Also not included are those IDA products not in the form of reports or studies.[16]

[16] For example, since 2004, IDA has published an authoritative database of all Significant Action Reports in Iraq and Afghanistan, connecting this database to other relevant information on casualties and vehicle damage. Based on the monthly updates to this data, IDA has also provided a number of analyses and study efforts to Joint Improvised Explosive Device Defeat Organization (JIEDDO) J9 for use in JIEDDO decision-making. While the reports have not been formally released, the database has been shared on a regular basis with other agencies and Services when requested through JIEDDO. This comprehensive database includes all coalition and US military significant action reports from the start of OPERATIONS ENDURING FREEDOM (Afghanistan) and IRAQI FREEDOM (Iraq). Other available information includes lessons learned and communication reports associated with high levels in both theaters.

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Guide to the IW Bibliography (Examples)

❶ TITLE	❷ ABSTRACT	❸ IDA PUBLICATION NO. & LIMITATIONS	❹ PUBLICATION YEAR
War and Urban Terrain in the Twenty-First Century	Cities often have been major targets of military operations. The author examines the political, operational, and logistical reasons that made cities important in past conflict and suggests why this will continue to be so. The spread of urban sprawl throughout the world is only part of the cause; the motivation of adversaries and friends alike to seek refuge in these environments.…	❺ P-3568 ❻ UNCLASSIFIED ❼ http://handle.dtic.mil/100.2/ADA388446 ❽ ADA388446	2000
China and Asymmetric Warfare (U)	This report summarizes discussion at a June 2000 symposium. The purpose of the symposium was to explore China's approach to confrontation with the United States over Taiwan and more generally its concepts and strategies for gaining operational and strategic advantage against …. (U)	❺ D-2525 ❻ SECRET ❼ No URL ❽ No DTIC accession no.	2000

SYMBOLS AND DEFINITIONS

❶ Title. (An Index by Title is given at end of the bibliography)

❷ Official IDA abstract.

❸ IDA publication number, classification, and distribution limitations.

❹ Year of submission to sponsor; all technical work and reviews have been finished.

❺ IDA publication number categories (An Index by Publications Number is given at end of the bibliography)

D Quick reaction studies or preliminary and tentative results of analyses; results of proceedings of conferences and meetings.

P Special analyses of a narrow scope, equal to a peer-reviewed paper in an academic journal.

R/GR Findings and results of IDA established working groups and panels composed of senior individuals addressing major issues.

IDA non-standard publication: Work prepared for subsequent publication and dissemination by sponsors under government covers (e.g., special commissions, boards, task forces); work prepared for journals, conferences, etc. Unless otherwise noted, non-standard publications require the permission of both sponsor and research division director for release outside IDA.

❻ Classification and distribution restrictions.

❼ Link to DTIC where publication is posted – if available.

❽ DTIC Accession Number – if one exists

ADA Approved for public release, unlimited distribution.

ADB Distribution authorized to US Government agencies only.

ADC Distribution authorized to US Government Agencies and their contractors.

ADM Multimedia.

2000 IDA Publications

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Assessment of Counterdrug Detection and Monitoring Technologies: Executive Summary (U)	(U) This assessment evaluates the effectiveness of detection and monitoring (D&M) technologies to find evading cocaine traffickers in the air and on sea as requested by the joint Congressional Conference Committee on Defense Appropriations. The assessment emphasizes over-the-horizon radars (OTHRs), tethered aerostat radars (TAR), ground mobile radars (GBR) and other supporting radar systems as requested by the conferees. It also considers the maritime D&M technologies to find go-fast boats and fishing vessels. Columbia is the principal source of cocaine smuggled to the U.S. and the centerpiece of the analysis. The analysis identified the critical D&M systems to detect and monitor evading traffickers with respect to sensor and platform performance, available intelligence trafficker counters to D&M systems, and the interdiction planning guidance and strategy. (U) Vol. 1: Executive Summary (U). Vol. 2: Analysis (U). Vol. 3: Appendices.	P-3510 Executive Summary, Vols. 1 and 2: SECRET No URLs No DTIC accession nos.	2000
Asymmetric Conflict 2010	The objective of this task was to evaluate how the challenges of asymmetric conflict will have changed over the two decade period from the wake-up call provided by the Persian Gulf war to 2010. As a result of investments made under the Defense Counterproliferation Initiative, US forces ought to be much better prepared to project and prevail against regional adversaries armed with chemical and biological weapons. However, the nature of the asymmetric challenge is increasingly debated within the US defense communi-	D-2538 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA457554	2000

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	ty, leading many to conclude that the asymmetric problem of the future may well not be attack on power projection forces in theater with weapons of mass destruction. Various camps have emerged. One emphasizes terrorist-style attacks on US civilians (and thus Homeland Defense). Another emphasizes strategies in theater that play on perceived American aversion to casualties and/or quagmires. A third camp coalesces around the view that the major asymmetric challenge of the future is posed not by a small power in a regional war of aggression but by China in a war over Taiwan under the nuclear shadow. Against this background, the value of continued NBC threat reduction is that it enables the US to rely on nuclear deterrence on regional contingencies only where it is likely to be credible to do so.		
Asymmetric Counters to the JV2020 Force (U)	(U) This report summarizes discussion at a July 2000 symposium under the title "Red-Teaming the RMA." The purpose of the symposium was to explore two questions. First, how will further progress toward a conventional force based on the revolution in military affairs (RMA) affect the asymmetric strategies of potential adversaries? Second, what will thinking adversaries do in military confrontations with the US to work around US strengths and target its vulnerabilities? This summary reviews tactical, operational, and strategic counters to the RMA. It also considers the RMA's contribution to the reduction of vulnerability to attack with chemical and biological weapons. There is also a discussion of the utility of red-teaming techniques in pursuing the most advantageous RMA capabilities. The symposium was conducted as part of a larger project on the future of asymmetric conflict.	D-2524 SECRET No URL No DTIC accession no.	2000

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
China and Asymmetric Warfare (U)	(U) This report summarizes discussion at a June 2000 symposium. The purpose of the symposium was to explore China's approach to confrontation with the United States over Taiwan and more generally its concepts and strategies for gaining operational and strategic advantage against a conventionally superior US force. This summary reviews China's strategic concepts and its approaches to combat in the conventional realm (land, sea, and air) and in the "new environments" (Space and cyber). There is also a discussion of the possible roles envisaged for nuclear, biological, and chemical weapons in a Taiwan conflict. The symposium was conducted as part of a larger project on the future of asymmetric conflict.	D-2525 SECRET No URL No DTIC accession no.	2000
Civil Military Emergency Planning Council Bucharest Conference Proceedings	This document summarizes the results of the Civil-Military Emergency Planning (CMEP) conference held in Bucharest, Romania in June 2000. This conference continued the discussions initiated in Denver, Colorado in February 2000 on establishing a CMEP Council for the Southeastern Europe Defense Ministerial (SEDM) region. The delegates produced a draft *Agreement on the Establishment of the Southeastern European Civil-Military Emergency Planning Council*, draft terms of reference for three working groups, and proposed work programs for the groups to support the activities of the CMEP Council once it is formed. The draft agreement will be ratified by each participating nation in accordance with its laws, but a communiqué announcing the Council and its objectives will be issued by the senior delegates in Varna, Bulgaria in September 2000.	D-2481 UNCLASSIFIED No URL No DTIC accession no.	2000

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Civil-Military Emergency Planning Council Denver Conference Proceedings	DoD has been engaged in the Partnerships for Peace (PFP) program formed by the North Atlantic Treaty Organization (NATO) since 1990. One small but important element of this engagement program is the use of the Civil-Military Emergency Planning (CMEP) initiative to enhance the capabilities of the PFP Partners to work with each other, with neighboring nations, and with the international community to prepare for natural and technological disasters within any Partner nation. The CMEP initiative includes a number of events, such as traveling contact teams from the U.S. and familiarization tours to the U.S., as well as several workshops conducted both in the U.S. and in Partner nations. This initiative familiarizes professional civilian and military "emergency managers" of Partner nations with the legal foundations, planning guidelines, and operational procedures that govern use of the U.S. Armed Forces when providing support to U.S. civil authorities. The CMEP initiatives also provide familiarization with evolving computer-based techniques of emergency information planning and management, and seek to build on an incremental basis an enduring competence within the Partners' organizations. The computer related familiarization includes data base structures, internet research and simulations, and geographic information systems.	D-2439 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA379621	2000
Contagious Disease Dynamics for Biological Warfare and Bioterrorism Casualty Assessments	This investigation focuses on the spread of a contagious disease subsequent to the military employment of a biological weapon or an act of bioterrorism. Of particular interest are expected or average time histories of four cohorts: (1) Susceptible individuals; (2) Exposed and infected (incubating individuals; (3) Infectious (contagious) individuals and (4) Removed (noncontiguous, alive, or dead)	P-3488 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA386686	2000

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	individuals. The objective SEIR curves characterize health care and mortuary service needs as functions of time for a known disease, for given initial conditions, and for an average time-varying rate of disease transmission. Such a disease transmission rate is a key predictive tool, and it is obtainable from a Monte Carlo analysis of historical outbreak data. Recently published epidemiological data for the 1995 Ebola hemorrhagic fever outbreak in Kikwit, Democratic Republic of the Congo, serves as an excellent vehicle to demonstrate the overall semi-empirical SEIR model.		
Deterrence Effects and Peru's Force-Down/Shoot-Down Policy: Lessons Learned for Counter-Cocaine Interdiction Operations	This paper analyzes the counter-cocaine air interdiction campaign against trafficker flights from Peru to Colombia from 1989 through 1997. We show that once the rate of interdiction of trafficker flights exceeds a threshold, which depends upon the severity of consequences of being interdicted, other pilots are strongly deterred. A modest Peruvian Air Force with U.S. intelligence, detection, and monitoring support interdicting only 3 percent of potential flights under a lethal threat thwarted 80 to 90 percent of potential flights. Immediately following such action in 1995, Peruvian coca prices collapsed. By 1999, farmers abandoned 66 percent of their fields, and residual cultivation concentrated into smaller areas. As Colombians have attempted to replace lost sources, they have further concentrated cultivation in their southwest, creating another lucrative transport interdiction target. We also show that the cocaine market structure amplifies source-zone price increases by a factor of 100 as the product reaches U.S. streets 4 to 5 months later. Consequently, successful source-zone interdiction operations immediately damage source-zone coca markets and later raise street prices and lower street purity of cocaine, and correlate with significant and lasting decline in casual use.	P-3472 UNCLASSIFIED This draft has not been approved by the sponsor for distribution and release. Reproduction or use of this material is not authorized without prior permission from the responsible IDA Division Director. No URL No DTIC accession no.	2000

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Engineering Developmental Test (EDT) Results for the Handheld Standoff Mine Detection System, May 2000	This document summarizes the results of the Engineering Developmental Test (EDT) of the Handheld Standoff Mine Detection System (HSTAMIDS), a device that is being developed for the detection of antipersonnel (AP) and antitank (AT) landmines. The HSTAMIDS program, created in response to validated U.S. Army requirements, is managed by the Project Manager, Mines, Countermine, and Demolitions, and executed by the U.S. Army Night Vision and Electronic Sensors Directorate. The HSTAMIDS system, being with a ground-penetrating radar (GPR). The purpose of the HSTAMIDS program is to develop the next-generation handheld detector, one that can improve on the performance of the AN/PSS-12 pulsed-induction metal detector that is currently used by the armed forces. The EDT test described herein took place at Range 16 of the Aberdeen Proving Ground (APG) from May 15 to May 25, 2000. Vol. 1, main body, Appendices A–C; Vol. II, Appendices D–J.	D-2510 UNCLASSIFIED No DTIC accession no.	2000
Enhanced Visual Augmentation Systems for Special Operations Forces – Modernization Roadmap (U)	(U) This report presents a technology roadmap for improving the capability of special operations forces (SOF) to operate at night and in degraded conditions using visual augmentation systems. It provides a tool for USSOCOM to plan its technology modernization program for enhanced visual augmentation systems. The modernization roadmap suggests evolutionary improvements in the near-, mid-, and long-term using image intensification, thermal imagers, millimeter wave imagers, and laser systems. The document responds to current night vision deficiencies and shortfalls described in a companion Capstone Requirements Document for Enhanced Visual Augmentation Systems.	P-3507 SECRET No DTIC accession no.	2000

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Lights Out and Gridlock: The Impact of Urban Infrastructure Disruptions on Military Operations and Non-Combatants	Recent and ongoing military operations in cities and urban areas, as well as the expectation for future conflict and operations in this environment, have led the U.S. military community to focus on improving its understanding of and capabilities in military operations in urban terrain (MOUT). However, despite this interest and the importance of interconnected infrastructure networks to the functioning of a city, there does not appear to have been a corresponding degree of concentration or study with respect to the effects (costs and benefits) of urban infrastructure and its disruption. The study presented in this paper attempts to address this void by expanding the understanding of infrastructure, specifically the power grid and transportation network, and the types of impacts that its disruption can have on a military operation and non- combatants. This study further uses this improved understanding of infrastructure to develop an approach for incorporating a power grid, transportation network, and their impacts into modeling and simulation (M&S).	D-2511 UNCLASSIFIED No URL http://handle.dtic.mil/100.2/ADA384993	2000
Military Operations in Urban Terrain: A Survey of Journal Articles	Urban warfare and military operations in urban terrain (MOUT) have recently assumed greater importance within the U.S. defense community. The intended audience is the increasing number of uniformed military and civilian analysts being drawn to this subject. This document abstracts 56 articles from 20 professional journals in the 1995 to 2000 timeframe. The articles variously argue the need for and the nature of MOUT, assess current preparedness, assess empirical evidence from the historical record, and identify evolving concepts from experimentation.	D-2521 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA388107	2000

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
MOUT Situational Awareness Experiments	Military Operations in Urban Terrain present challenges that differ from those of conventional warfare. Often these arise because only limited force can be applied. To compensate, precise information about an opponent's location and condition is desired. This experiment demonstrates the value of such information when an occupied building is approached by coordinated Blue force, but calls into question its utility once inside.	D-2508 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA398084	2000
Potential Global Partners for Smaller-Scale Contingencies – Executive Summary	This paper describes the resources, other than those controlled by DoD, that are potentially available to respond to smaller-scale contingencies (SSCs). It describes the environment in which these organizations operate and the key factors that affect their involvement in an operation. The paper addresses the U.S. government civilian resources available outside the DoD, the United Nations capabilities, and those of other Inter-Governmental Organizations (IGOs). It also describes the capabilities of the International Organizations (IOs) and Non-Governmental Organizations (NGOs) that are likely to be engaged in these types of complex contingencies even before U.S. military forces arrive in the area. The paper then describes the major donor nations and businesses that may also play a role in SSCs. Finally, the document describes the military and civilian organizational arrangements and civilian systems and data bases that can provide the basis for achieving unity of effort between the military and civilian participants in complex contingencies.	D-2349 UNCLASSIFIED Executive Summary: http://handle.dtic.mil/100.2/ADA387573	2000

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Progress in Metal Detection Techniques for Detecting and Identifying Landmines and Unexploded Ordnance	This report assesses the current state of research in the use of metal detectors to detect and identify unexploded ordnance and landmines. This report recommends that new time-domain, frequency-domain, and combined time/frequency-domain detectors be theoretically designed, constructed, and tested against small targets and clutter roughly the size of the U.S. M-14 mine (< 5cm diameter, < 5g metal). The report further recommends that the design and test information be made publicly available to enable future design and analyses improvements. It is also recommended that advanced signal-processing techniques be used to complete the definition of optimized electromagnetic induction performance against small targets.	D-2431 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA377426	2000
Readiness Implications of Selected Aspects of Operation Uphold Democracy in Haiti	This case study focuses on actions taken to plan and prepare for operations in Haiti during Operation Uphold Democracy in 1994 and 1995. The readiness status and pre-deployment actions of the 10th Mountain Division, U.S. Army, and the Special Purpose Marine Air-Ground Task Force Caribbean are examined and put into the context of the opening phase of the overall operation. The paper tells what was done to prepare these formations for the operation.	D-2459 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA399929	2000
Red Team Analysis of the Handheld Standoff Mine Detection Systems Development Test/Early User Test Evaluation (DT/EUTE) Results at	This document presents the Red Team analysis of test results of two Handheld Standoff Mine Detection Systems (HSTAMIDS) developed for the detection of antitank and antipersonnel land mines. Two contractors, Coleman Research Corporation (CRC) and GDE Systems, participated in the HSTAMIDS tests at the Yuma Proving Ground in Yuma, Arizona, July 9–August 6, 1998, and at the Aberdeen Proving Ground in Aberdeen, Maryland, August 10–	D-2410 UNCLASSIFIED No DTIC accession no.	2000

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Aberdeen, Maryland, and Yuma, Arizona, July–September 1998	September 3, 1998. Each contractor system contained a ground-penetrating radar (GPR), a metal detector, and an infrared (IR) camera. The mines carried in size, metal content, and depth below the surface. The primary measures of performance were the detection probabilities (Pd) and false-alarm rates (FAR). Position resolutions and biases of the sensor system were also calculated. In addition, sensor usage, lane coverage, and testing and training issues were investigated.		
Special Operations Forces (SOF) Enhanced Visual Augmentation Systems (EVAS) Requirements Analysis (RA) Final Report (U)	(U) This report describes the overarching requirements for Enhanced Visual Augmentation Systems (EVAS) for Special Operations Forces and presents a technology roadmap for improving the capability of SOF to operate at night and in degraded conditions. EVAS are systems or devices that allow operators to detect, recognize, and identify targets under conditions, usually at night, or at ranges at which the operator would not normally be able to see the target. They include night vision binoculars, monoculars and goggles, weapon sights, thermal imagers including Forward-Looking Infrared (FLIR) devices, and laser pointers, range-finders, and designators. The report is based on extensive interviews with transport SOF units. Threat data were obtained from the Intelligence Community. From these data, the assessment describes operational capabilities, identifies shortcomings of existing equipment, and determines key performance parameters and other required operational capabilities for future EVAS. It also provides a tool for USSOCOM to plan its technology modernization program for enhanced visual augmentation systems. The modernization roadmap suggests evolutionary improvements in the near, mid, and far	P-3546 SECRET No URL No DTIC accession no.	2000

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	terms using image intensification, thermal imagers, millimeter wave imagers, and laser systems. The document responds to current night vision deficiencies and shortfalls described in a companion Capstone Requirements Document for Enhanced Visual Augmentation Systems.		
Test Methodology and Results for the Handheld Standoff Mine Detection System in Check Tests 1 and 2, June–October 1999	This document summarizes the results of an interim test of the Handheld Standoff Mine Detection System (HSTAMIDS) that is being developed for the detection of antipersonnel (AP) and antitank (AT) landmines. The HSTAMIDS program, created in response to validated U.S. Army requirements, is managed by the Project Manager, Mines, Countermine, and Demolitions, and executed by the U.S. Army Night Vision and Electronic Sensors Directorate. The HSTAMIDS system, being developed and built by Coleman Research Corporation (CRC) of Orlando, Florida, combines a metal detector with a ground-penetrating radar (GPR). The purpose of the HSTAMIDS program is to develop the next-generation handheld detector that can improve on the performance of the AN/PSS-12 pulsed-induction metal detector, which is currently used by the armed forces.	D-2443 UNCLASSIFIED No URL No DTIC accession no.	2000
War and Urban Terrain in the Twenty-First Century	Cities often have been major targets of military operations. The author examines the political, operational, and logistical reasons that made cities important in past conflict and suggests why this will continue to be so. The spread of urban sprawl throughout the world is only part of the cause; the motivation of adversaries and friends alike to seek refuge in these environments offers a more compelling reason for the U.S. military to give it serious attention. The desire to	P-3568 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA388446	2000

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	avoid operations in cities is quite understandable, given the high casualties and carnage that too often have accompanied such operations. However, it would seem unwise to assume we can always avoid such operations. Rather it is prudent to seek ways to do much better in these environments. DoD is striving for major increases in joint war-fighting capabilities; military operations involving urban terrain are a part of that challenge. The formidable obstacles presented by the urban environment are factors that concept development and experimentation will need to address, at the strategic and operational levels, as well as the tactical.		

2001 IDA Publications

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Capabilities Roadmap for Enhancing SOF Information Operations, A (U)	(U) This document is a streamlined, or abridged, version of the Mission Solutions Analysis (MSA) to the USSOCOM Information Operations Requirement Study. The MSA was one of three analyses; the first two analyses were a Mission Area Analysis and a Mission Needs Analysis. The MSA identified 31 critical deficiencies in SOF IO capability, based on a significantly larger number identified in the Mission Needs Analysis. The critical deficiencies emphasized problems relating directly to tactically significant capabilities. The analysis also goes on to identify 33 initiatives that, in aggregate, cover the identified deficiencies. For purposes of justifying the initiatives and establishing their priorities, the analysis identifies the aspect of IO or SOF mission capability affected in each case, the specific problem affecting mission capability, the degree to which the initiative provides a remedy, and the costs. Baseline costs cover the total investment during a 15-year baseline period. The total costs identified over that period were $3.7 billion, with approximately $600 million forming a main core of initiatives central to operationalizing IO for SOF, and the remaining $3.1 billion would provide significant enhancements in areas where significant capability already exists. These expenditures would provide important performance increments but would have less impact on changing the way SOF addresses IO in its mission planning and execution.	D-2675 SECRET No URL DTIC accession no. ADC068339	2001

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
DoD Training for Smaller Scale Contingencies: Enhancing Predeployment Linkages with Civilian Agencies	This paper, an IDA self-initiated Central Research Project, examines the current state of training involving civilian and military participants engaged in preparing for future Smaller Scale Contingency (SSC) operations. Recognizing that U.S. military forces deploying into SSCs will encounter and need to coordinate with civilian agencies of several types, U.S. joint and Service training organizations, including the unified combatant commands, have sought opportunities to engage with them in a training environment. For a variety of reasons (non-availability of personnel, costs, lack of effective planning, and others), attempts at such coordinated training have had mixed results. The research for this task included as key elements a series of interviews with knowledgeable civilian and military personnel, and distribution of a comprehensive questionnaire to additional experienced contacts, eliciting useful responses. The document concludes that both communities—civilian and military—recognize the value of such prior training, but acknowledge that there are impediments to its effective execution. The document recommends actions to improve the military-civilian training interface, and suggests that additional research on this topic could be highly productive.	D-2638 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA395354	2001
Evaluation of EarthRadar UXO Testing at Fort A.P. Hill	This report provides an analysis of EarthRadar blind testing carried out at the Joint Unexploded Ordnance Coordination Office (JUXOCO) Pilot Site, Fort A.P. Hill, Va., during the Fall of 2000 and Spring of 2001. The EarthRadar, developed by Bakhtar Associates (Newport Beach, Calif.) under an Air Force Small Business Innovative Research contract, is intended to detect and classify buried objects. The report describes the JUXOCO test facility; the	D-2625 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA398381	2001

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	EarthRadar hardware, signal processing, and data analysis; and the blind lane test results. It evaluates EarthRadar performance in the context of documented requirements for systems employed in UXO detection/discrimination and draws conclusions regarding the limitations of this technology for UXO clearance applications.		
Information Operations in Special Operations – Capstone Requirements Document (U)	(U) In response to tasking from the U.S. Special Operations Command, IDA performed an Information Operations Requirements Analysis in 2001 that included an IO mission area analysis and mission needs analysis. These analyses served as the primary sources for the Capstone Requirements Document (CRD) that was separately requested by USSOCOM. This CRD adheres to the guidance of CJCS Instruction 3170.01B with respect to content and format. It includes a general description of SOF IO operational capabilities, concepts, elements, and organizational arrangements; a review of threats related to IO; the shortcomings of existing SOF IO capabilities; and the capabilities in terms of key performance parameters (KPPs) required for IO in SOF operations. When viewed as a family of systems, IO consists of a much broader array of capabilities than is usually considered by a CRD. Therefore, the IO family of systems is heavily dependent upon some enablers to assure effectiveness. These enablers are a planning, integrating, coordinating, and controlling function to incorporate IO into Command strategy and CONOPs; intelligence support capability to identify, locate, and prioritize critical IO targets; and force structures that permit full-spectrum integrated IO campaigns.	P-3635 SECRET No URL DTIC accession no. ADC068593	2001

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Low-Cost UAV	IDA was tasked by the Office of the Deputy Director, Research and Engineering (ODDR&E) to develop, using currently available sensors and communications systems, a concept for a low-cost uninhabited air vehicle (UAV) for a clear-weather reconnaissance mission. IDA determined that key trade-off areas were operating altitude, payload vs. gross takeoff weight, and power plant selection. In addition, sizing and operational concerns had to be balanced to perform the mission. Cost drivers for the system were avionics and sensors. These areas could benefit from additional technological advances to lower system acquisition costs. Power plant selection depended on overall operation and support costs, but the small turbofan and piston engine options considered both proved suitable for the given mission. Finally, IDA determined that no new materials were needed for this system. Rather, the system needed a more efficient design process that takes full advantage of current materials capabilities.	D-2671 UNCLASSIFIED No URL DTIC accession no. ADB274530	2001
Potential Infantry Applications of Small Unmanned Ground Vehicles	This paper identifies potential applications of small UGVs to infantry missions in both open and urban terrain. Potential advantages of small UGVs are described qualitatively and quantitatively. In particular, the Dismounted Infantry Semi-Automated forces (DISAF) simulation is used to compare the susceptibility and engagement by enemy personnel.	D-2529 UNCLASSIFIED No URL DTIC accession no. ADB266281	2001

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Review of Unexploded Ordnance Detection Demonstrations at the Badlands Bombing Range NRL Multisensor Towed-Array Detection System (MTADS) and ORNL High-Sense Helicopter-Mounted Magnetic Mapping (HM3) System	This paper reports on demonstrations of two sensor systems conducted at the Badlands Bombing Range in South Dakota. The first demonstration, conducted in 1997 by the Naval Research Laboratory, used the Multisensor Towed Array Detection System. The second demonstration, conducted in 1999 by the Army Corps of Engineers in conjunction with Oak Ridge National Laboratory, used a high-sense helicopter-mounted magnetic mapping system. The systems were evaluated individually and compared to each other. Based on this analysis, the paper concludes that the most appropriate use for the technologies may be in different missions and recommends that revamped testing, with better ground truth, be conducted.	D-2615 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA400144	2001
S.E.N.S.E. Training for Post Conflict Political and Economic Transitions: Background Material	This Document was prepared in partial fulfillment of the IDA task "Synthetic Environments for National Security Estimates-United States Institute of Peace (USIP) II" for the U.S. Institute of Peace. It provides background information and pedagogical material for the "S.E.N.S.E. Training for Post Conflict Political and Economic Transitions" symposium.	D-2645 Non-standard publication; no release from sponsor UNCLASSIFIED No URL No DTIC accession no.	2001
S.E.N.S.E. Training for Post Conflict Political and Economic Transitions: Daily Akrona Supplement	This document was prepared in partial fulfillment of the IDA task "Synthetic Environments for National Security Estimates-United States Institute of Peace (USIP) II" for the U.S. Institute of Peace. It provides background information and pedagogical material for the "S.E.N.S.E. Training for Post Conflict Political and Economic Transitions" symposium.	D-2649 Non-standard publication; no release from sponsor UNCLASSIFIED No URL No DTIC accession no.	2001

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
S.E.N.S.E. Training for Post Conflict Political and Economic Transitions: Symposium Manual	This manual provides background information and pedagogical material for the S.E.N.S.E. simulation. It includes a simulation scenario and individual roles for the various participants in the simulations.	D-2646 Non-standard publication; no release from sponsor UNCLASSIFIED No URL No DTIC accession no.	2001
Taking the "Revolution in Military Affairs" Downtown: New Approaches to Urban Operations	Military operations involving urban environments are marked by high casualties among friendly forces and civilians, as well as great devastation. This paper describes approaches to urban operations, based on improved capabilities at the joint operational level for (1) gaining situation awareness, (2) controlling enemy options, and (3) engaging with precision effects. These approaches offer future joint force commanders greater flexibility in dealing with these challenging environments while, at the same time, reducing casualties and collateral damage. But this requires "packages" of changes involving doctrine, organization, training, materiel, leadership, people, and facilities (DOTMLPF), as well as possible changes to national policy or legal restrictions. The result could be dramatic improvements in capabilities to conduct urban operations with reduced casualties and reduced collateral damage. **Note:** This paper is part of a larger effort. IDA's Joint Advanced Warfighting Program is developing a detailed DoD Roadmap that will identify promising directions for significantly improving the capabilities of future joint forces to conduct operations involving urban environments.	P-3593 UNCLASSIFIED No URL No DTIC accession no.	2001

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
USSOCOM Information Operations Requirements Study. Volume II: Mission Area Analysis (MAA) (U)	(U) In response to tasking from the U.S. Special Operations Command, IDA performed a requirements analysis for Information Operations for Special Operations Forces (SOF). The analysis and supporting material are set forth in four separate documents: An Introduction, Summary, and Discussion: a Mission Area Analysis (MAA), a Mission Needs Analysis (MNA), and a Mission Solution Analysis. This document is the Mission Area Analysis. It establishes the context for SOF IO by examining relevant strategy, policy, doctrine, tactics, techniques and procedures, practices, processes, organizations and systems; it explores threats and scenarios and identifies key relationships and linkages among supported/supporting entities across all SOF mission areas. An IO taxonomy is presented, IO tasks and measures of performance are compiled, and a strategy-to-task analysis is suggested. Areas critical to effective IO are reviewed, e.g., legal issues, intelligence support, international public information, information assurance, and civil affairs. Issues are identified relevant to operationalizing and institutionalizing SOF IO. The MAA serves as a stepping stone to the follow-on MNA and MSA. (U) Volume I: Introduction, Summary, and Discussion. (U) Volume II: Mission Area Analysis (MAA). (U) Volume III: Mission Needs Analysis (MNA). (U) Volume IV: Mission Solutions Analysis (MSA).	R-406 Vols. 1–IV: SECRET// NOFORN No URL DTIC accession nos. I: ADM400588 II: ADM400 508 III: ADM400555 IV: ADM400554	2001

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Workshop on Advanced Technologies for Urban Operations, November 14–15, 2000, Held at the Institute for Defense Analyses, Alexandria, Virginia Summary of Proceedings	IDA organized and hosted a Workshop on Advanced Technologies for Urban Operations, November 14–15, 2000, in Alexandria, Virginia. Sixty-eight participants from DoD, civilian, and allied defense communities identified a range of technologies and systems that could significantly improve the capabilities of a future Joint Force Commander to conduct urban operations. Six working groups addressed specific operational challenges, with four "themes" identified as critical: (1) Acquisition, processing and distribution of information in an urban environment. (2) Reduction of friendly casualties by engaging from remote or protected positions, or by using unmanned systems. (3) Reduction of civilian casualties and collateral damage by engaging with precision effects. (4) Application of the notions of understanding, shaping, and engaging across the full scale of operations to a theater, an urban area, or a building.	D-2574 UNCLASSIFIED No URL No DTIC accession no.	2001

2002 IDA Publications

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Conference on Regional Stability in South Asia: Establishing a Dialogue on the Future of Afghanistan, March 6–7, 2002	This document presents a report of the "Conference on Regional Stability in South Asia: Establishing a Dialogue on the Future of Afghanistan," held at IDA on March 6 and 7, 2002. The conference was co-sponsored by the International Center for Religion and Diplomacy (ICRD) and IDA. The conference brought together analysts and experts from South Asia and the United States to establish cross-cultural communication on a range of important issues, with a particular emphasis on the reconstruction of post-conflict Afghanistan. At the same time, the participants assessed the usefulness of such facilitated discussions as a mechanism for promoting effective cross-cultural dialogue leading to improved understanding between the United States and the Muslim world.	P-3715 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA409162	2002
Department of Defense Roadmap for Improving Capabilities for Joint Urban Operations. Volume I: Main Report Department of Defense Roadmap for Improving Capabilities for Joint Urban Operations	DoD is striving for major enhancements of joint warfighting capabilities, and military operations on urbanized terrain (MOUT) are a part of that challenge. The challenge is to improve the urban capabilities of current legacy forces, which have been primarily designed for operations in open environments; and to develop new approaches that address the unique demands of urban operations and that hold the promise of dramatic improvement. The Roadmap in this two-volume paper identifies specific directions and initiatives to pursue that can help improve the capabilities of future joint force commanders (JFCs) to conduct urban operations. The JAWP team drew upon the expertise of dozens of individuals from	P-3643 UNCLASSIFIED//NOFORN	2002

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Volume II: MOUT Operational Concepts and Capabilities: The Joint Force Commander's Perspective	throughout DoD and non-DoD organizations. By taking the perspective of a future JFC, the Roadmap focuses on the joint operational level. However, strategic and tactical levels are also considered.		
Deterring Terrorism: Exploring Theory and Methods	This study examines the problem of deterring terrorism. It explores how some of the main ideas of Cold War deterrence could inform future deterrence policies and actions against terrorist organizations and their supporters, referred to collectively as terrorist systems. The study presents and applies a strategic personality framework to show that and how deterrence and counterterrorism policies must be tailored to the specific characteristics of each terrorist group or state involved. The study explores how terrorist systems evolve from nonviolent beginnings, through stages involving violent acts, and ultimately to a terminal stage where they have achieved their goals or have been defeated and dissolved. This analysis makes evident the value of looking for potential future terrorist systems and adopting policies to deflect them away from terrorism. The study explores the state of the international legal regime against terrorism. It then looks at the potential structure and value of stronger agreements that would codify some of the key features of US and international counterterrorism policy and law that have emerged in the wake of the September 11th attacks. Twelve key points that emerge from the overall study are summarized. Finally, the study lists nearly 60 policies and actions that could be taken to better deter or counter terrorism. Some are applicable to the general problem of deterring or countering terrorist systems. Most require emanation to determine their applicability for any specific terrorist system.	P-3717 UNCLASSIFIED No URL DTIC accession no. ADB296313	2002

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Incubator Process, The: Implementation Experience for a Proposed Follow-on to the MOUT ACTD	This document describes the implementation of the Incubator Process for a proposed follow-on program to the Military Operations in Urban Terrain (MOUT) Advanced Concept Technology Demonstration (ACTD). The Incubator was originally developed as a needs generation and evaluation methodology in conjunction with the planning for this proposed follow-on program to the MOUT ACTD. This document presents a brief description of the proposed follow-on program, introduces the two M&S tools (Logical Decisions and Joint Conflict and Tactical Simulation [JCATS]) selected to support the Incubator Process, describes the implementation of the Incubator Process to date, and specifically elaborates on the JCATS-specific support work performed.	D-2778 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA413952	2002
Incubator Process, The: Methodology	This document describes the Incubator Process, which was developed to serve as a needs generation and evaluation methodology. Although originally developed in conjunction with the proposed planning for a follow-on program to the Military Operations in Urban Terrain (MOUT) Advanced Concept Technology Demonstration (ACTD), the Incubator represents a more general methodology with applications to other science and technology programs. This document presents the Incubator's five basic phases, explains the envisioned role for modeling and simulation (M&S) in the Incubator Process, and describes the planned execution of the Incubator Process through a series of five brainstorming workshops.	D-2779 UNCLASSIFIED http://stinet.dtic.mil/cgi-bin/fulcrum_main.pl?database=ft_u2&searchid=0&keyfieldvalue=ADA413290&filename=%2Ffulcrum%2Fdata%2FTR_fulltext%2Fdoc%2FADA413290.pdf	2002

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
JCATS Verification and Validation Report	This paper asserts that JCATS best represents combat in urban areas, and comes closest to meeting the MOUT capability requirements. However, before JCATS could be fully utilized for MOUT analysis purposes, both model's urban combat representation and the relevant database needed to be subjected to appropriate verification and validation efforts. This paper documents the results of an effort to undertake the first of these requirements: a V&V, the model's representation of combat in the urban environment.	D-2791 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA411538	2002
Meta-Epidemiology and Biosurveillance	From a medical perspective, biological warfare and bioterrorism can be viewed as the intentional introduction of pathogens into a susceptible population. While this is a worrisome scenario, it is not entirely an unnatural phenomenon. The spread of infectious disease and disease-causing agents has been – and continues to be – a challenge to the medical and public health (PH) communities. While the deliberate release of these agents causes great concern, the basic model for biodefense exists in the PH surveillance and medical countermeasures already in place. However, this model must be expanded to meet the challenges of bioterrorism. The current methodologies used in infectious disease (ID) epidemiology include only a small portion of the assets available for tracking pathogens, disease, and disease threats. A complete program in ID epidemiology must also include molecular epidemiology, social epidemiology, and a comprehensive surveillance program to identify proactively the sources of newly emergent and reemergent disease and the natural and unnatural sources of pathogens. This briefing discusses additional epidemiology assets available. It also outlines the integration of these assets into current epidemiological practices, which will result in a new model of disease surveillance. This new model will be comprehensive and predictive and will serve as a basis for defense against agents of biological terrorism.	D-2723 UNCLASSIFIED No URL No DTIC accession no.	2002

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
S.E.N.S.E. Synthetic Environments for National Security Estimates: Security, Stability, Prosperity	Synthetic Environments for National Security Estimates, or S.E.N.S.E., began as an IDA centrally funded research project in 1996. Originally, it was intended as a proof-of-concept to demonstrate how to address national security issues beyond the military domain, with a focus on economic security. How can we better understand the spread of economic globalization and its impact on traditional notions of security for nation states? Since that time, S.E.N.S.E. has evolved into a generalizable architecture for desktop distributed interactive simulation capable of simultaneously addressing the interrelationships and interdependencies of economic, social, political, military, infrastructure, and other issues.	D-2591 Non-standard publication; no release from sponsor No URL No DTIC accession no.	2002

2003 IDA Publications

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Agriculture Surprise Application Feasibility Report (SAFR) Volume I (U)	(U) The Disruptive Technologies Innovative Partnership's Analytic Advisory Cell established the Agriculture Technology Application Surprise Group in September 2002. The purpose of the Group was to assess the technical feasibility of employing innovative technology applications to disrupt various segments of the North American agriculture infrastructure. In particular, the Group assessed the vulnerabilities of food distribution, crop, livestock, poultry, dairy, and aquaculture systems to unconventional forms of attack. This volume contains the analysis.	D-2918 Vol. 1: UNCLASSIFIED No DTIC accession no. Vol. 2: CONFIDENTIAL No DTIC accession no.	2003
Analysis of Airborne Surface Minefield Detection Using Laser Radar	Several major U.S. programs have been directed toward airborne land mine detection using laser radar. The more recent ones include the Remote Minefield Detection Systems (REMIDS), the Airborne Standoff Minefield Detection System (ASTAMIDS), and the Lightweight Airborne Multispectral Minefield Detection (LAMD) system. This report intends to re-examine these laser radar detection programs objectively by performing quantitative analysis on signal, noise, and clutter. For mines with high specular reflection characteristics, all three systems have an adequate signal-to-noise ratio (SNR) and signal-to-clutter ratio (SCR) for detection. For mines with very diffuse scattering characteristics, REMIDS still has a large SNR but marginal SCR, LAMD has marginal SNR and SCR, and ASTAMIDS has poor SNR. Regarding sunlight as an external	D-2763 UNCLASSIFIED No URL No DTIC accession no.	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	noise source, only REMIDS has overwhelming SNR for mines with either specular or diffuse backscattering characteristics. REMIDS has better SNR and SCR because it collects backscattered light more efficiently by limiting the divergence of the laser light and illuminating only the area corresponding to one instantaneous field of view (IFOV). The penalty is a smaller coverage rate due to time required to scan in both along- and across-flight path directions.		
Civil-Military Emergency Planning Workshop Support: Lessons Learned in Transition	This report provides the summary of the workshop sponsored by DoD and hosted by the Czech Republic at the Czech Institute of Protection of Population, Ministry of Interior, in Lßzne [sic] Bohdanec from 1 through 5 July 2003. The conference and workshops involved over 40 civil protection and emergency services managers and practitioners from 15 European countries and the United States in an effort to derive practical lessons learned from their experiences in transitioning their civil protection agencies from an orientation on wartime civil defense to peacetime population protection and disaster prevention and relief. The participants were formed into three facilitated working groups addressing parallel topics in legal foundations, outside assistance capability, operating principles, organizational initiatives and trends, and the challenges facing institutions intent on changing their focus and relationship to the government and the public, under dynamic domestic political and economic conditions. The lessons derived may be applicable to assisting other nations in transition.	D-2917 UNCLASSIFIED No URL DTIC accession no. ADM001598	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Community Response to Terrorism: The South Korean Model	A line of defense against terrorism that has not been well developed in the United States is the community or neighborhood watch. Some countries that have long histories of facing terrorist threats, such as the Republic of Korea, have made extensive use of the neighborhood watch. A neighborhood unit of 20 to 30 households report unusual occurrences or suspicious individuals to a volunteer watch leader, who then notifies the authorities. The watch leader also communicates government directives to the neighborhood. In the ROK, the neighborhood watch program was much stronger in the 1960s through 1980s than it is today. In the United States, neighborhood watches, especially as a defense against terrorists, are difficult to promote because the idea conflicts with our individualist culture. But if the United States continues to be the target of terrorists, Americans may become more willing to adopt community-defense programs and a collectivist lifestyle.	D-2906 UNCLASSIFIED http://handle.dtic.mil/100.2/ada419007	2003
Defender's Edge: Utilizing Intelligent Agent Technology To Anticipate Terrorist Acts	This report examines the need for, the potential of, and the steps involved in applying intelligent software, called Intelligent Agents, to the problem anticipating terrorist acts. The examination of the need provides an indication of the fragmented nature of the current flow of intelligence data from the collecting organizations, through the processing of the data into information, to the organizations designated to take action on the resulting information. The examination further indicates that the multitude of data sources, coupled with the significant amount of data available to be collected can be projected to lead to an overwhelming amount of data. It also noted a lack of a detailed data collection and analyses plan. The report describes a way forward that includes both an approach to developing a data collection, data analyses and information distribution plan, and a concept for utilizing intelligent agents to process the data collected into actionable information.	D-2849 UNCLASSIFIED http://handle.dtic.mil/100.2/ada419005	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Deterrence and the 9-11 Terrorists	Terrorists must exercise extreme caution to survive in hostile environments. Forcing them to enhance their caution might be interpreted as a form of deterrence. This paper examines the openly published events leading up to the 9-11 attacks to identify qualitative failures to deter and quantitative evidence for a deterrence delay. Practice flights in the U.S. appear just sufficient to satisfy the willingness conditions from our deterrence model.	D-2802 UNCLASSIFIED http://handle.dtic.mil/100.2/ada430351	2003
Existing Studies and Concept for Conducting Follow-on Strategic Level Analyses of the Source Zone Drug Trafficking Business	No abstract available.	D-2769 UNCLASSIFIED DRAFT Not yet approved by sponsor; permission needed IDA Division Director.	2003
Exploring New Concepts for Joint Urban Operations	JAWP conducted four war games that explored the utility of six new urban operational concepts. The purpose of these war games was to better understand the utility, strengths, and weaknesses of each course of action, and to learn more about how they interrelate. The approach generally involved giving Blue Teams varying degrees of freedom to apply the operational concepts within urban scenarios, while Red Teams countered with their own courses of action. The Blue players merged the different operational concepts into one larger concept, with variations depending on the scenario. The Blue players also displayed patterns in the types of urban capabilities they needed in such areas as intelligence, surveillance, re-	D-2951 UNCLASSIFIED No URL No DTIC accession no.	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	connaissance; electronic warfare and information operations; sion strike; non-lethal weapons; urban logistics; civilian support; and coordination. Researchers investigating technological solutions for urban operations should find value in the capability-demand patterns of the Blue players, and what the Red players thought Blue needed.		
Human Element Technical Application Surprise Group (HETASG) Surprise Application Feasibility Report (SAFR)	The Human Elements Technical Application Surprise Group (HETASG) examined how potential adversaries, especially terrorists, might use the behavioral sciences to attack civilian critical infrastructures. Experts from the social sciences, the intelligence and law-enforcement communities, and the military were able to construct convincing scenarios on how this might be done. The anthrax incident at the Brentwood Postal Facility was used as a historical case study and as the basis for a hypothetical planned attack. The HETASG agreed that while the U.S. military has drawn upon the behavioral sciences to protect itself from attacks focused on its organizational cohesion, most components of the civilian infrastructure have not. The need for further study of the vulnerabilities of specific civilian organizational infrastructures was seen as an important implication.	D-2892 UNCLASSIFIED No URL DTIC accession no. ADB299215	2003
Joint Urban Operations Sensors Workshop, August 7–8, 2003	A Joint Urban Operations Sensors Workshop was held at IDA on August 7–8, 2003. This workshop was part of the concept development process for Phase 1 of the Urban Resolve Experiment. The Urban Resolve Experiment is a concept-based human-in-the-loop discovery experiment that will explore key areas that will enable new concepts for joint urban operations. The workshop objectives	D-2926 UNCLASSIFIED No URL No DTIC accession no.	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	were twofold: (1) Explore emerging sensor and sensor-platform technologies that could be utilized in fielded systems by 2015 as well as having the potential for revolutionizing military operations in urban terrain. (2) Identify a set of advanced sensors and sensor-platforms as part of an ISR (intelligence, surveillance, and reconnaissance) architecture for exploration in Phase 1 of the experiment. The ISR architecture and concepts for the recommended sensors and sensor-platforms were among the products of the working groups. These products will undergo further refinement as models are developed and constructive simulation runs are completed and analyzed.		
Marine Air Ground Task Force Mine Countermeasures – Beach Zone to Objectives	This study identifies required Marine Air Ground Task Force (MAGTF) mine countermeasures (MCM) capabilities across elements of expeditionary warfare and current deficiencies, and it recommends new technology or system approaches to overcome these deficiencies. The goal is to make MAGTF MCM a fully functional concept and component of expeditionary maneuver warfare by 2015.	D-2883 UNCLASSIFIED No URL No DTIC accession number	2003
Petroleum Surprise Application Feasibility Report (U)	(U) The Disruptive Technologies Innovations Partnership (DTIP) Analytic Advisory Cell (AAC) stood up the Utilities Technology Application Surprise Group (UTASG) in February 2003 to assess the technical feasibility of employing innovative technology applications to disrupt the North American petroleum infrastructure. This study focuses on oil and gas supply and distribution systems in the Western Hemisphere, addressing supplies from Alaska, Canada,	D-2893 SECRET/NOFORN No URL DTIC accession no. ADM400799	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	Venezuela, and the Continental United States on-shore and off-shore wells. Although the effort is exclusively concerned with innovative applications to help prevent surprise, the UTASG is fully aware of the existence of conventional methods of attack.		
Project Gotham Wargame: The Institute for Defense Analyses, Alexandria, Virginia, 4–6 August 2003	This paper was prepared for the US Joint Forces Command (JFCOM) under the task order Joint Advanced Warfighting Program (JAWP). It helps address the task order objective of producing breakthrough joint operational concepts. In 2003, a JAWP team under the leadership of Dr. William J. Hurley drafted a Concept Paper for Joint Urban Operations. To test the concept, the JAWP team collaborated with a Defense Adaptive Red Team (DART) led by Colonel Gary W. Anderson, USMC (ret.). DART explored the concept in a seminar war game, PROJECT GOTHAM WARGAME, in August 2003. This document, authored primarily by Colonel Anderson, records the observations and recommendations of both teams. More than thirty representatives from JFCOM, the Services, DART, JAWP, and related organizations participated in the war game.	D-3094 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2003
Remote and Standoff Detection of Explosive, Chemical, Biological and Radiological Threats. Report of a Workshop Held 25–26 June 2003	This report documents a workshop that was held by IDA for the Office of the Deputy Under Secretary of Defense for Science and Technology (Weapons Systems) (ODUSD(S&T)/WS) on 25-26 June 2003. It presents the IDA annotated briefing that was given to Dr. Charles Holland, Deputy Under Secretary of Defense for Science and Technology (DUSD(S&T)). The workshop emphasized the identification of technologies and technology applications that could be part of an integrated solution to provide improved protec-	D-2905 UNCLASSIFIED//For Official Use Only No URL No DTIC accession no.	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	tion. Pragmatically, the workshop attendees did not presume that a single, technology-based solution would be likely for the set of threats considered. Similarly, given the limitations of current detection capabilities, distinctions between "standoff" and "remote" detection were not emphasized. The objective was to achieve detection in ways that did not require personnel to come into immediate contact with the threat device.		
Report on the Demonstration of Autonomous Mine Detection Sensors (AMDS): Fort A.P. Hill, Virginia, August 19–September 27, 2002	This document summarizes the results of a demonstration of nine mine-detection technologies that took place at Fort A. P. Hill, Virginia, from 19 August to 27 September 2002.	D-2807 UNCLASSIFIED No URL DTIC accession no. ADB303047	2003
Results of the Humanitarian Demining Sensors Field Test at Aberdeen Proving Ground, November 2002	This document is an analysis of the results of a blind test of four land-mine detection systems. The three contractors were GeoCenters, Geophex, and Stolar. The blind test took place at Range 16, Aberdeen Proving Ground, from 12 November to 22 November 2002.	D-2827 UNCLASSIFIED No URL DTIC accession no. ADB293001	2003
Small Unit Precision Combat: Attacking Elusive Targets in Complex Terrain	IDA has developed a new warfighting concept to address deficiencies in the ability of U.S. forces to attack elusive targets in complex terrain. Called Small Unit Precision Combat (SUPC), it achieves substantially improved capabilities to realize military objectives in a	D-2860 UNCLASSIFIED No URL DTIC accession no. ADB297455	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	range of complex terrains, including urban. In this task, IDA created specific operational concepts for SUPC at the theater and tactical levels, provided preliminary architectures, and defined technical approaches for systems that would be needed to achieve the operational concepts.		
Techniques for Cyber Attack Attribution	This paper summarizes various techniques to perform attribution of computer attackers who are exploiting data networks. Attribution can be defined as "determining the identity or location of an attacker or attacker's intermediary." It concludes that there are many attribution techniques, attribution is difficult and inherently limited, attribution tends to be easier against insiders, and prepositioning is necessary for many attribution techniques. Many techniques are immature and will require funding before deployment. A useful first step for the DoD would be to "change the terrain" of its own network to ease attribution.	P-3792 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA468859 ADA468859	2003
Telecommunications Surprise Application Feasibility Report (U)	(U) The Disruptive Technologies Innovations Partnership (DTIP) Analytic Advisory Cell (AAC) stood up the Information Infrastructure Technology Application Surprise Group (IITASG) in November 2002 to assess the technical feasibilities of employing innovative technology applications to disrupt the North American information infrastructure. Although this effort focuses exclusively on innovative applications to help prevent surprise, the IITASG is fully aware of the existence of the conventional methods of attack. The assessment stresses the access portion of the infrastructure with emphasis on the equipment and systems that support and drive the infrastructure. Limited assessments of the Signal System 7 (SS7)	D-2899 SECRET//NOFORN DTIC accession no. ADM400820	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	network; the operations, administration, maintenance, and provisioning system (OAM&P); and the transmission systems are included.		
Unmanned Aerial Vehicle Operational Test and Evaluation Lessons Learned	This paper highlights areas of UAV testing that have proven problematic from DOT&E's perspective in past UAV operational tests. Armed with this knowledge, DOT&E action officers should be better able to positively influence the scope and conduct of future UAV operational testing. Separate chapters focus on lessons learned during each stage of UAV operational testing to include requirements development, design of the operational test, test execution, and methodologies used to assess the mission effectiveness of UAVs. Two appendices at the end of the paper describe operational testing on UAVs conducted since 1986. UAV systems included in this review include Aquila, Pioneer, Hunter, Shadow, Outrider, Fire Scout, Predator, and Global Hawk.	P-3821 UNCLASSIFIED http://handle.dtic.mil/100.2/ada424895 DTIC accession no. ADA424895	2003
Unmanned Air Vehicle (UAV) Threats Surprise Application Feasibility Report (SAFR), Volume I (U)	(U) In broadly defining terms regarding unmanned air vehicles (UAVs), the contributors to this document considered three classes of systems: cruise missiles, drones/remotely piloted vehicles, and small assisted-launch remotely piloted or preprogrammed flight-path vehicles. For the UAV, two design configurations exist that an adversary could consider suitable for achieving its goals: (1) non-low-observable UAVs and (2) a low-observable system design. Terrorist groups and other subnational actors can be innovative and adaptive. Depending on their targets, achieving low-observable characteristics is both helpful and within the technical capabilities of	D-2881 Non-standard publication SECRET REL PI/LR No URL No DTIC accession number	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	small adversary groups. Procurement of the necessary materials, descriptions of techniques, and verification test equipment can be done in the public marketplace.		
Unmanned Air Vehicle (UAV) Threats Surprise Application Feasibility Report (SAFR), Volume II: Appendix C – Internet-Available Stealth Materials and Processes	This document, Appendix C of IDA Document D-2881, Volume I, contains the results of work conducted by GTRI, with the support and direction of IDA. It contains (1) the results of an Internet survey for unmanned air vehicle (UAV) application, (2) the results of a search of patent applications related to signature-control technologies, and (3) a summary briefing. This survey showed substantial trends: substantial growth of Internet-listed commercial offerings relevant to signature-control treatments. Materials and application instructions are offered by a variety of well-known and credible companies with strong international connections. In addition, materials specifications are available on the Internet in sufficient detail to make discrete selections tailored to specialized requirements. Another set of companies offer measurement equipment and procedure instructions adequate to determine the effectiveness of signature-control treatments after application is complete.	D-2881 UNCLASSIFIED No URL DTIC accession no. ADB298972	2003
Utilities Potable Water Systems Surprise Application Feasibility Report (SAFR) (U)	(U) The Disruptive Technologies Innovations Partnership (DTIP) Analytic Advisory Cell (AAC) stood up the Utilities Technology Application Surprise Group (UTASG) in April 2002 to assess the technical feasibilities of employing innovative technology applications to disrupt the North American utilities infrastructure. This study focuses on potable water supply and distribution systems; subsequent assessments will focus on wastewater utilities infra-	D-2825 SECRET// Rel AU/CA No URL DTIC accession no. ADM400821	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	structure. Although this effort focuses exclusively on innovative applications to help prevent surprise, the UTASG is fully aware of the existence of the conventional methods of attack.		
Utilities Wastewater Systems Surprise Application Feasibility Report (SAFR) (U)	(U) The Disruptive Technologies Innovations Partnership (DTIP) Analytic Advisory Cell (AAC) stood up the Utilities Technology Applications Surprise Group (UTASG) in April 2002 to assess the technical feasibilities of employing innovative technology applications to disrupt the North American utilities infrastructure. This study focuses on wastewater systems. Although this effort focuses exclusively on innovative applications to help prevent surprise, the UTASG is fully aware of the existence of the conventional methods of attack.	D-2880 SECRET//Rel AU/CA No URL DTIC accession no. ADM400800	2003
Workshop Report – Improving Cooperation in Operational Planning Among Interagency, Multinational, and Multilateral Partners	The U.S. Joint Forces Command (JFCOM) and the U.S. Department of State (DoS) sponsored this workshop. It was one of a series of events in the U.S. Government's (USG) experimental development of emerging concepts for improving operational planning and coordination between civilian and military organizations when responding to regional crises. This workshop was the first attempt to bring together knowledgeable civilian and military officials of the USG and selected multinational and multilateral partners who would likely be engaged in operational planning activities that typically occur when mounting an international intervention to address a complex emergency. It was designed to find opportunities for improving cooperation in operational planning for crisis intervention that involves multinational and multilateral partners working within the various coalitions to restore peace and stability in a troubled	D-2913 UNCLASSIFIED http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA424917&Location=U2&doc=GetTRDoc.pdf DTIC accession no. ADA424917	2003

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	state. The diverse participants in the workshop brought a wide range of experiences to the workshop and were eager to express their thoughts and provide suggestions. The results obtained from this workshop will inform the series of continuing organizational and operational experiments that JFCOM.		
Workshop Report: Improving Cooperation in Operational Planning among Interagency, Multinational, and Multilateral Partners	This report provides the summary of the workshop co-sponsored by the Department of State and the U.S. Joint Forces Command (JFCOM) conducted at the George Schultz National Foreign Affairs Training Center in Arlington, Virginia from 7 to 9 October 2003. The workshop involved more than 70 representatives from the U.S. Government, five allied nations (Australia, Canada, France, New Zealand, and the United Kingdom), the United Nations System, and the International Committee of the Red Cross. The workshop introduced the participants to the experimentation JFCOM has underway on the Joint Interagency Coordination Group concept. The participants were formed into three working groups. Each group addressed a different scenario. They all helped clarify the interagency, multinational, and multilateral community pre-crisis phase operational planning procedures that would be undertaken for the specified scenario conditions, and identified options for improving cooperative planning and extending the collaborative information environment in subsequent experiments.	D-2913 UNCLASSIFIED http://handle.dtic.mil/100.2/ada424917	2003

2004 IDA Publications

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Campaign for Mazar-e Sharif, The	At the request of the combatant commander, U.S. Central Command (USCENTCOM) and IDA/DARPA team collected data from the battlefields and, using state-of-the art simulation tools, reconstructed selected events from the Campaign of Mazar-e Sharif. The product will serve as an "instructional tool for future leader development" and will support historical analysis as well as facilitate further research and development. This video, "Campaign of Mazar-e Sharif" provides an overview of the campaign as a prelude to the reconstruction effort.	D-3071 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2004
Deterrence Theory and Deterring Suicide Terrorists	No abstract available.	D-2988 UNCLASSIFIED DRAFT Not yet approved by sponsor; permission needed IDA Division Director. No URL No DTIC accession no.	2004
Evaluation of the Strategic Value of Interdicting Cocaine Laboratories and Arresting Major Traffickers	No abstract. Prepared for Under Secretary of Defense (Policy).	P-3859 UNCLASSIFIED Not yet approved by sponsor for distribution and release. No URL No DTIC accession no.	2004

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Learning from the First Victories of the 21st Century: Mazar-e Sharif – A Preview	This publication was prepared as a preview to the Enduring Freedom Reconstruction products and capabilities. The objective of the Enduring Freedom Reconstruction task, in support of the Defense Advanced Research Project agency at the request of General Tommy Frank, CENTROM Commander, was to "reconstruct salient aspects of a major Afghanistan campaign (e.g. Mazar-e Sharif) in virtual simulation to support historical analysis as well as future research and development." The purpose of the publication and associated media is to (1) contrast state-of-the-art simulation 10 years ago with today's capabilities, (2) provide an overview of the campaign for Mazar-e Sharif and focus on the battle at Tiangi (pass), and (3) demonstrate the use of the "Tiangi" re-creation as basis for comparing the contributions of various future systems.	D-2990 UNCLASSIFIED http://handle.dtic.mil/100.2/ada426997 DTIC accession no. ADA426997	2004
Location of NVIS (Near-Vertical-Incidence Skywave Transmitters, The: Problems and Technology Options	This study documents work conducted in late 2003 and early 2004 on the location of high-frequency radio transmitters operating in near-vertical incidence skywave (NVIS) mode, without an appreciable ground wave. These transmitters employ frequencies in the range of roughly 2–4 MHz at night and 4–8 MHz during the day. Waves are launched upwards at near-vertical angles, typically greater than 75 degrees. After reflection by the ionosphere's F-layer (F2 during the day), they reach the receiver at similarly steep angles of incidence. The technique allows communication at short range, typically from 35 to 300 km. Adversaries employing this communication technique enjoy the advantages of omnidirectional signal coverage and non-line-of sight communication over rough terrain. A	D-2976 UNCLASSIFIED No URL DTIC accession no. ADB323841	

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	further advantage for the adversary is that transmitters employing NVIS communications are notoriously difficult to locate using traditional direction-finding techniques. In conducting this work, we performed an extensive analysis of published and unpublished literature, interviewed experts in direction-finding at a number of institutions, and also developed some original mathematical treatments of the errors induced by ionospheric tilts.		
Operation Enduring Freedom Battle Reconstruction: Battle Site Survey and Ground Force Data Reconciliation	At the request of GEN Franks, Combatant Commander, U.S. Central Command (CENTCOM), the DARPA/IDA team reconstructed "salient aspects of a major Afghanistan campaign (e.g., Mazar-e Sharif) in virtual simulation to support historical analysis as well as further research and development." The reconstruction, and in particular the ground force data reconciliation, required (1) a battle site survey (i.e., "walking the ground") to provide quality and detailed data and (2) discussions with key Afghan participants, to include Northern Alliance Commanders and former Taliban. This publication supports the Operation Enduring Freedom battle reconstruction by documenting the battle site survey and presenting the results of the ground force data reconciliation. In addition, it documents the planning, preparation, and execution of the battle site survey for future ventures. The Battle Site Survey Team included representatives from CENTCOM, DARPA, IDA, and the original Special Forces Operational Detachment Alpha that participated in the campaign. General Dostum, the Northern Alliance Commander of Afghan forces for the campaign, his sub-commanders, and security	D-2925 UNCLASSIFIED No DTIC URL No DTIC accession no.	2004

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	force escorted the Team through the major battle sites south of Mazar-e Sharif. The Team validated or reconciled on-hand data and collected additional data on friendly and enemy unit movements, locations, times, engagement areas, battle damage, terrain, etc.		
Planning for Post-Conflict Reconstruction: Learning from Iraq	This document was prepared by IDA for the US Joint Forces Command Joint Experimentation Directorate, J-9, in partial fulfillment of the task, "Joint Interagency Experimentation Support" and bears on the tasks "Alliance and Coalition Management" (sponsored by DoD Office of Program Analysis and Evaluation) and "Improving Post-Conflict Stability Operations Organizations and Processes" (sponsored by the Deputy Assistant Secretary of Defense for Stability Operations). The document reports on the results of a one-day conference and series of working group meetings conducted at the National Defense University on 29 July 2004 entitled " Planning for Post-Conflict Reconstruction: Learning from Iraq." During the meeting, presentations by former members of the Coalition Provisional Authority and other experts laid a foundation for working groups, which met to develop and set priorities for further investigation of the most important issues. The objective of the meeting was to develop those important issues for further study in the subsequent meetings, resulting in pragmatic recommendations on improving and developing organizations and processes that will enhance the U.S. Governments ability to plan for and execute post-conflict reconstruction missions and stability operations.	D-3020 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2004

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Project Mirror, International Trial Panel Countering the Superpower, an Adversary Strategy and Operational Concept for Countering Future U.S. Military Actions Based on Deliberations of the Project Mirror International Panel	This paper describes a strategy and operation concept to counter future U.S. military actions based on the deliberations of the Project Mirror International Panel – a group of 7 senior non-U.S. active duty and retired military personnel – that met in London in January 2004. The strategy is designed to deny to the United States its advantages in high technology warfighting, including decision superiority, precision strike, dominant maneuver, focused logistics, and network-centric operation capabilities as demonstrated in Operation Iraqi Freedom, and to capitalize on weaknesses inherent in the U.S. approach to warfare as seen by likely adversaries.	GR-46 UNCLASSIFIED No DTIC URL DTIC accession no. ADB301660	2004
Report of UXO Technology Subgroup: Overview and Technology Assessment	This report provides an overview and technology assessment of environmental remediation of UXO. The material presented in this report is intended to present an accurate picture of the present (baseline) and evolving (research and development) technologies used to address the remediation of UXO. The report addresses the investments being made by both government and industry in UXO remediation technologies and identifies technology gaps and barriers to technology application by industry.	D-3007 UNCLASSIFIED http://handle.dtic.mil/100.2/ada428009 DTIC accession no. ADA428009	2004
Technologies for Non-lethal Weapons (U)	(U) The potential role of non-lethal weapons has been repeatedly advocated, and this role is even more important given the wide range of anti-terrorist, urban, and peacekeeping operations, which are now core missions of the U.S. military. DoD guidance, current USCENTCOM requirements, and numerous expert reports argue	D-3030 SECRET No DTIC accession no.	2004

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	strongly that non-lethal weapons should become an increasingly important component of out military and law enforcement arsenals. The report concludes with an assessment that may serve to focus research objectives related to the development and application of non-lethal technologies by the United States.		
Test and Evaluation Concept for the MQ-9 Unmanned Aerial Vehicle System	This paper was prepared in response to tasking from OSD DOT&E to support operational test and evaluation planning for the MQ-9 Unmanned Aerial Vehicle (UAV) combat system. The MQ-9 system includes the air vehicles—termed the Predator B, the flight mission kits, the fixed and mobile Ground Control Stations, and the Launch and Recovery Elements. The Predator B will have the ability to carry various sensors and ordnance, include the capability to target or receive cues, and launch precision guided air-to-ground munitions. The Predator B will have a larger gross weight, be all weather capable, higher altitude and speed capability when compared to the Predator A, the predecessor UAV. This concept supports planning for combined Developmental and Operational Tests, as well as dedicated Initial Operational Test and Evaluation (IOT&E). These tests are planned to commence during FY05 and end with the IOT&E during late FY07.	P-3899 UNCLASSIFIED DRAFT Has not been approved; not authorized without permission from Division Director. No URL No DTIC	2004
Understanding Terrorism, Lessons of the Past – Indicators for the Future	This paper has been prepared by Kings College London under contract to IDA. This paper constitutes fulfillment of the IDA task order entitled “Understanding Terrorism,” sponsored by the Director of Net Assessment, Office of the Secretary of Defense. The paper addresses lessons learned from British experiences with the Irish	P-3884 UNCLASSIFIED http://handle.dtic.mil/100.2/ada430547 DTIC accession no. ADA430547	2004

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	Republican Army (IRA) and Spanish experiences with the Basque terrorist organization *Euzkadi Ta Azkatasuna* (ETA). The paper also identifies applications of these lessons to the current war on terrorism. The paper was based on numerous interviews with persons who have dealt with the IRA and ETA over the years. In order not to jeopardize the security of such persons, their names and affiliations are not disclosed.		

2005 IDA Publications

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Agents of Radicalization in the Non-Arab Muslim World	The objectives of this study are three-fold: to establish a clear distinction between Radical Islamist/Jihadist agendas as they have evolved in the Arab and non-Arab world; to identify the most important "agents of radicalization"; and to suggest areas in which new intelligence and counterterrorism methodologies could facilitate a better understanding of the nature and scope of the threat. The study focuses on Radical Islamism as a political philosophy and divides the non-Arab Muslim world into four broad categories according to the unique political and social challenges they face and the role Radical Islamism is likely to play in their political cultures. The five categories are: 1) traditionally Muslim societies on the periphery (Malaysia, Indonesia); 2) emerging Muslim states (former Soviet Central Asia); 3) traditionally Muslim minorities (Philippines, Thailand); and 4) the Muslim *diaspora* (Western Europe and the United Kingdom). The "agents of radicalization" are those institutions, social structures, cultural characteristics, and elements of political culture that are most important (in each historical and cultural context) in promoting and spreading radical ideologies. The study concludes that it will be necessary to develop analytical tools and intelligence capabilities that can dissect the internal dynamics at work between particular societies and radical ideologies on a case-by-case basis and at various levels of society. Among the areas where new methodologies could lead to significantly enhanced understanding are: small group dynamics of ideological indoctrina-	P-4038 UNCLASSIFIED No URL No DTIC accession no.	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	tion, identification and neutralization of the "militant social spaces" and cultures of violence within which radicalization is likely to occur, the historical context and scope of family and clan ties in local insurgent movements, identification and tracking of radical ideological elites (especially their participation in religious education), the "informal cultures" of religious schools, and the dynamics between local political and economic grievances and radical ideologies.		
Assessment of Humanitarian, Reconstruction, and Stabilization Team Participation in U.S. Southern Command EXERCISE FUERTAS DEFENSAS – 05	This report is an evaluation of the first fielding of a Humanitarian, Reconstruction, and Stabilization Team (HRST) by the State Department's Coordinator for Reconstruction and Stabilization (S/CRS). The evaluation took place during a 5-day exercise, FUERTAS DEFENSAS – 05 (FD05), mid-September, 2005. The findings of the evaluation are generally favorable, highlighting the good working relationships between the military staff and the members of the HRST. Both staffs were able to integrate their products and processes to an extent unanticipated. However, the HRST requires augmentation to allow for a 24-hour capability as well as the addition of an operational/administrative capacity.	D-3200 UNCLASSIFIED No URL No DTIC accession no.	2005
Deterrence Theory for Layered Defenses	This paper posits an empirically supported mathematical model of the psychology of deterrence to the analysis of layered defensive networks constructed to guard against potential acts of terrorism. In this setting, to successfully complete an assigned mission would-be terrorists and/or sympathizers would have to elude inspection, detection, apprehension, etc., at each of a number of prepared defensive obstacles. Traditional mathematical and statistical methods developed for designing and assessing the reliability of coherent collections of subsystems are extended to encompass the problem at	D-3166 UNCLASSIFIED Non-standard publication No URL No DTIC accession no.	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	hand. Throughout, comparisons are made to a nominal approach that considers only the chances of directly interdicting terrorists, i.e., without accounting for the substantial benefits attributable to deterrence effects.		
Exploitation of Cultural Intelligence to Enhance Battlefield Preparedness	The United States has and will continue to interact with nations whose cultures are different – in some cases, radically – from our own. From a military standpoint, the strategic and tactical effectiveness of senior decision-makers, commanders, and infantry soldiers on the ground requires a deep and meaningful understanding of the myriad cultural nuances that our nation will face in pre- and post-conflict stability operations during the Global War on Terror and beyond. This document seeks to provide ways to improve the United States' strategic effectiveness when dealing with different cultures. It provides information about available cultural Web sites and proposes the development of models, simulations, performance improvement tools, decision aids, and other technologies that will allow senior decision-makers, commanders, and soldiers in the field to determine more clearly the effect of cultural factors on plans and assumptions. Such technology development will allow an appreciation for how other cultures will react to U.S. plans and actions.	D-3160 UNCLASSIFIED No URL No DTIC accession no.	2005
Focused Ground-Penetrating Radar Backprojection Through a Lossy Interface	We derive the propagation path at a lossless-lossy interface for use in back-projecting synthetic aperture radar (SAR) when used in ground-penetrating applications. Assume Area II is a *lossless* media and Area I is a *lossy* media such that the wave numbers that typically relate frequency to velocity, k = ( ), are k2 R and k1 C. The resultant equations are transcendental and require numerical solution via Newton-Raphson iteration.	D-3066 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA451365 DTIC accession no. ADA451365	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Improving DoD's Alliance and Coalition Management	This study developed specific recommendations for improving the DoD's role in alliance and coalition management in the mid- and long-term futures. It was conducted to provide the sponsor with insights that could be applied during the Quadrennial Defense Review. The analysis was based on research of recent coalition and alliance operations, and lessons identified from those experiences. It also followed the emerging U.S. Government (USG) efforts to improve its expeditionary civilian response capabilities for post-conflict reconstruction and stabilization. The analysis was also informed by firsthand participation in a number of activities such as multinational exercises, Joint Forces Command experiments, Departments of State and Defense joint meetings on coalition issues, and a number of workshops and conferences. One member of the study team also led the multinational and multilateral planning effort for the deployment of African Union forces to Sudan. The report identified three alliance-related and nine coalition-related recommendations to improve management. The key recommendation establishes a new office in the DoD to coordinate activities related to alliance and coalition planning and management. The office would ensure the various DoD activities are coordinated and would support the U.S. interests in alliances and facilitate rapid building of coalitions. The same office would serve as the single point of contact for exchanging information and coordinating activities among USG departments and agencies, and with multinational and multilateral partners.	D-3147 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA447992 DTIC accession no. ADA447992	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Joint Interagency Evaluation: Manning a Civil Reconstruction and Stabilization Response Capability	This report evaluates models for recruiting (identifying and selecting), organizing, training, and deploying civilian experts (who are not part of the Federal government) in reconstruction and stabilization operations for the newly established Office of the Coordinator for Reconstruction and Stabilization in the Department of State. The aim of the study is to find a model for rapid deployment of civilian experts (individuals as well as teams of personnel) to nations at risk of collapse or emerging from conflict to reduce the requirement for military forces to be deployed, and to accomplish stabilization and reconstruction tasks. Using literature review and interviews of key personnel, the study examines a variety of domestic, international, government, and private for-profit and non-profit personnel models and compares them using criteria given by the sponsor. The evaluation criteria for the 15 models include: Management Structure & Equipment; Personnel Skills & Areas of Expertise; Force Numbers & Structure; Operations & Logistics; Training; Legislation; Interoperability; Impact on Interagency Process; and Cost. The models are broken down into four groups for comparison: Managed Rosters and Centralized Individual Recruiting; Pre-Arranged Contractual Agreements, Capabilities-Based Planning Systems; and Assets on Standby. Based on this analysis, the study recommends an optimal long-term system and an interim, contract-based system to establish a Civil Response Force to meet both sponsor and Department of State objectives.	D-3184 UNCLASSIFIED No URL No DTIC accession no.	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Joint Urban Operations Workshop on Command and Control and Net-Centric Environment Science and Technology	Includes the report that documents a workshop on Joint Urban Operations Command and Control and Net-Centric Science and Technology co-sponsored by Joint Force Command's J9 and the Deputy Under Secretary of Defense (Science & Technology). Also includes workshop agenda and link to C2 Web page.	D-3123 UNCLASSIFIED No URL No DTIC accession no.	2005
Leadership Dynamics and Nuclear Decision-Making in the Islamic Republic of Iran	This paper presents the proceedings of an August 2004 roundtable aimed at identifying barriers to effective communication between the United States and Iran and, if possible, beginning to consider options for breaking the current strategic deadlock and moving US-Iranian interaction into a sphere broader than its current narrow focus on Israel, terrorism, and nukes. • In the section called "Iranian Domestic Politics and US-Iranian Relations: A Complex Encounter," Dr. Daniel Brumberg outlines the fault lines in Iran's political culture that shape and reinforce Iran's hostility toward the United States. • In "It's Who You Know: Informal Networks in Iran," Dr. Bill Samii sheds light on the byzantine informal decision-making networks that have traditionally operated in parallel with its formal, constitutional system of checks-and-balances in Iran. • Finally, Dr. Ahmed Hashim's "Instruments of the Devil: Security Decision-Making in Iran's Quest for the Bomb" outlines Iran's nuclear energy and nuclear weapons decision-making processes.	P-4063 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA470376 DTIC accession no. ADA470376	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Learning to Adapt to Asymmetric Threats	This study explores the changes that might be called for in DoD learning environment to meet the challenges facing the United States as it responds to the asymmetric threats of the twenty-first century. In DOD planning terms, the concept of an asymmetric threat can be included in the concept of irregular war. In addressing this question, the IDA study team concluded that the asymmetric or irregular threats in the twenty-first century were largely unpredictable. Given the uncertainty of the threat, the key skill that individuals, units, and teams of commanders and leaders need to learn is adaptability-defined as the degree to which adjustments are possible in practices, processes, or structures of systems to projected or actual changes of climate. The study proposes a number of changes to the DOD learning environment that can enhance the adaptability of individuals, units, and commander leader teams.	D-3114 UNCLASSIFIED No URL No DTIC accession no.	2005
Managing the Consequences of a Clandestine Nuclear Attack	This document addresses the actions that should be taken in order to manage the consequences of a clandestine nuclear attack in the United States. The two scenarios used as the basis for this analysis are a 10-kiloton explosion in a major metropolitan area. (This is the official Planning Scenario #1) and a 1.5-kiloton explosion in a medium-sized city. Workloads from these explosions are estimated based on their effects. A concept of the consequence management operation is put forth, and the capabilities needed to deal with the workloads are defined. The tasks that have to be done to create these capabilities are stated, and the numbers of trained personnel needed to perform these tasks are estimated using planning factors.	D-3170 UNCLASSIFIED//For Official Use Only No URL No DTIC accession no.	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	(Cont.) This provides an estimate of the overall numbers of responders needed to deal with the explosions. Based on criteria that call for the use of military troops, the numbers of military personnel to participate in these response operations are determined. This is an initial effort to demonstrate the magnitude of this response operation and obtain some idea of the numbers and kinds of personnel that would be used to maximize the number of healthy survivors and minimize the duration and damage from the disruption caused by the attacks.		
Mazar-e Sharif Battle Site Survey Support Documents	The objective of the Mazar-e Sharif Reconstruction was to "reconstruct salient aspects of a major Afghanistan Campaign [Mazar-e Sharif] to support historical analysis as well as further research and development." In December 2001, a team consisting of personnel from the Defense Advanced Research Project Agency (DARPA), IDA, the U.S. Central Command (CENTCOM), and Special Forces Operational Detachment Alpha (SFODA) 595 visited Afghanistan. The purpose was to validate or reconcile on-hand data and collect additional information by conducting a battle site survey and interviews of key participants, such as GEN Dostum, his subcommanders, and former Taliban. This publication supports the Mazar-e Sharif reconstruction by organizing and publishing the multitude of interviews, discussions, notes, and logs created during the Battle Site Survey Team's visit to Mazar-e Sharif.	D-3119 UNCLASSIFIED No URL No DTIC accession no.	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Mine Detection Test Results of a Vehicle-Mounted Quadrupole Resonance Confirmation Sensor at Aberdeen Proving Ground and Yuma Proving Ground, September 2003	This document summarizes test results of a vehicle-based mine-detection sensor that uses the nuclear quadrupole resonance signature of explosives for the detection of antitank landmines. The test took place at Aberdeen Proving Ground and Yuma Proving Ground in September 2003.	D-3118 UNCLASSIFIED No URL No DTIC accession no.	2005
Proceedings of the International Symposium on the Dynamics and Structures of Terrorist Threats in Southeast Asia, Held at Kuala Lumpur, Malaysia	This document presents the proceedings of the international symposium on "The Dynamics and Structure of Terrorist Threats in Southeast Asia" in Kuala Lumpur, Malaysia on 18-20 April 2005. The goals were threefold: to lay the groundwork for establishing working relationships with scholars, analysts, journalists, and others with expertise in a variety of fields related to terrorism and political violence in the Southeast Asian region.; to explore the possibilities of establishing more formal cooperative and collaborative links between academic, analytical, and government institutions dealing with the problem of countering terrorism and extremist political violence; and to bring the broadest possible spectrum of knowledge and experience to bear on the problem to the mutual benefit of all the institutions involved. The conference brought together academics, journalists, government experts, and military and law enforcement officers from across the region. The conference was organized into three thematic sessions: The Landscape of the Terrorist Threat in Southeast Asia, Leadership Dynamics in Terrorist Organizations, and Radicalization of Political Islam in Southeast Asia.	P-4026 UNCLASSIFIED No URL No DTIC accession no. But Approved for public release; distribution unlimited.	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Red Teaming in the Urban Resolve Phase I Experiment	In the defense policy analysis community, there is frequent comment about the importance of "Red Teams." Yet despite its recognized importance "red teaming" is not recognized as a separate discipline and very little documentation is available about how to actually create a Red Team and make it effective. This paper addresses a portion of that void – creating and then playing the adversary in a modeling and simulation environment. Indeed, it is the kind of primer the authors wish had been available to them when they joined their first Red Team. Its roots lie in part in a series of experiment development notes and ad hoc "laundry lists" of Red operational concepts developed by the authors to capture their own thoughts during more than a year preparing for and executing the URBAN RESOLVE Phase I sponsored by the Joint Experimentation Directorate (J-9), US Joint Forces Command.	P-4021 UNCLASSIFIED//For Official Use Only No URL DTIC accession no. ADB329641	2005
Review of Risk Assessment Methodologies for the Department of Homeland Security	IDA was tasked to review 21 different risk methodologies for the Protective Security Division (PSD) in the Information Analysis/Infrastructure Protection (IA/IP) Directorate of the Department of Homeland Security (DHS). The purpose of the review was to determine which of the proposed methodologies, if any, had the potential to support the needs of DHS to assess the homeland security risks of the U.S. infrastructure. In the course of the assessment, IDA identified 5 distinctly different the general approaches for assessing risk and grouped each of the 21 proposals into one of these groups. IDA then assessed the strengths and weaknesses of the general approaches and provided individual reviews for each of the 21 different proposals. No single approach met DHS' needs in the risk assessment area, although several of the papers offered good ideas, which can be incorporated into DHS' overall risk assessment needs.	D-3117 UNCLASSIFIED//Proprietary Information//Limited Rights Data No URL No DTIC accession no.	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Surprise Application Feasibility Report Urban Mass Transit Infrastructure	The U.S. freight railroad system is physically robust and redundant. However, innovative attacks by state or non-state actors could lead to delays or discontinuities in service. From both an economic and military perspective, this could have severe repercussions on the ability of the U.S. to project force worldwide. This report assesses the susceptibility of the freight rail system to disruption from a range of innovative technology exploitations by state and non-state adversaries.	D-3133 UNCLASSIFIED No URL No DTIC accession no.	2005
Taxonomy and Discussion of Software Attack Technologies, A	Software is a complex thing. It is not an engineering artifact that springs forth from a design by simply following software coding rules; creativity and the human element are at the heart of the process. Software development is part science, part art, and part craft. Design, architecture, and coding are equally important activities and in each of these activities, errors may be introduced that lead to security vulnerabilities. Therefore, inevitably, errors enter into the code. Some of these errors are discovered during testing; however, some are not. The best way to find security errors, whether they are introduced as part of the architecture development effort or coding effort, is to automate the security testing process to the maximum extent possible and add this class of tools to the tools available, which aids in the compilation process, testing, test analysis, and software distribution. Recent technological advances, improvements in computer-generated forces (CGFs), and results in research in information assurance and software protection indicate that we can build a semi-intelligent software security testing tool. However, before we can undertake the security testing automation effort, we must understand the scope of the required testing, the	D-3111 Non-Standard Publication UNCLASSIFIED No URL No DTIC accession no.	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	security failures that need to be uncovered during testing, and the characteristics of the failures. Therefore, we undertook the research reported in the paper, which is the development of a taxonomy and a discussion of software attacks generated from the point of view of the security tester with the goal of using the taxonomy to guide the development of the knowledge base for the automated security testing tool. The representation for attacks and threat cases yielded by this research captures the strategies, tactics, and other considerations that come into play during the planning and execution of attacks upon application software. The paper is organized as follows. Section one contains an introduction to our research and a discussion of the motivation for our work. Section two presents our taxonomy of software attacks and a discussion of the strategies employed and general weaknesses exploited for each attack. Section three contains a summary and suggestions for further research.		
Terrorist Use of Improvised or Commercially Available Precision-Guided UAVs at Stand-Off Ranges: An Approach for Formulating Mitigation Considerations	After providing some supporting evidence for terrorist use of UAVs, the report suggests an approach for analyzing terrorist options. While a wide range of scenarios using improvised or commercially available precision-guided UAVs at stand-off ranges are possible, this research demonstrated that many of the more interesting ones could be analyzed through their effectiveness in achieving terrorist objectives. Attributes associated with effectiveness were determined and then used to identify warning indicators that in turn implied preliminary preparedness and mitigation considerations.	D-3199 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA460419 DTIC accession no. ADA460419	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Toward Improved Software Security Testing using a Cyber Warfare Opposing Force (CW OPFOR): The Knowledge Base Design	"Train the way you will fight" has been a guiding principle for military training and has served the warfighter well as evidenced by numerous successful operations over the last decade. This need for realistic training for all combatants has been recognized and proven by the warfighter and continues to guide military training. However, to date, this key training principle has not been applied fully in the arena of cyberwarfare due to the lack of realistic, cost effective, reasonable, and formidable cyberwarfare opponents. Recent technological advances, improvements in the capability of computer-generated forces (CGFs) to emulate human behavior, and current results in research in information assurance and software protection, coupled with increasing dependence upon information superiority, indicate that the cyber-battlespace will be a key aspect of future conflict and that it is time to address the cyberwarfare training shortfall. To address the need for a cyberwarfare training and defensive testing capability, we propose research and development to yield a prototype computerized, semi-autonomous (SAF) red team capability. We term this capability the Cyber Warfare Opposing Force (CW OPFOR). There are several technologies that are now mature enough to enable, for the first time, the development of this powerful, effective, high fidelity CW OPFOR, including improved knowledge about cyberwarfare attack and defense, improved techniques for assembling CGFs, improved techniques for capturing and expressing knowledge, software technologies that permit effective rapid prototyping to be effectively used on large projects, and the capability for effective hybrid reasoning systems.	D-3112 Non-Standard Publication UNCLASSIFIED No URL No DTIC accession no.	2005

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Urban Resolve Phase I Final Report. Volume I: Main Report **Urban Resolve Phase I Final Report. Volume II: Supporting Data**	USJFCOM, the DOD Executive Agent for Joint Urban Operations, asked JAWP-IDA to develop and conduct a human-in-the-loop (HITL), concept-based joint discovery experiment, URBAN RESOLVE. Phase I of URBAN RESOLVE was to explore joint urban operations in the 2015-2020 timeframe. The experiment was carried out in cooperation with, and under the direction of, JFCOM. Using a high-fidelity HITL simulation, the experiment team explored the development of situational awareness (SA) using a multi-level sensor architecture against an adaptive Red force in a large urban area. Blue Cell operators were able to generate a substantial level of SA against the Red force. They tracked mechanized and ballistic missile forces, and were able to track, at least briefly, most Red entities during each trial and produce largely accurate tracks. The use of radio frequency tags to track Red entities was critical in developing accurate, long-duration tracks. (However, the Blue Cell was much less successful at tracking irregular Red forces and Red leaders.) In addition, two of the more important sensors were (1) the foliage-penetrating synthetic aperture radar and (2) the x-ray sensor operating at low altitude.	P-4027 Vol. 1: UNCLASSIFIED No URL No DTIC accession no. Vol. 2: UNCLASSIFIED No URL No DTIC accession no.	2005

2006 IDA Publications

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Analyzing Adversaries as Complex Adaptive Systems	The objective of this study was to assess information technology tools to counter asymmetric threats when considered as complex adaptive systems (CASs). We focused primarily on the use of agent-based modeling and simulation technology. This report describes both agent-based modeling (ABM) and an agent-based model developed to explore the utility of ABM technology to counter asymmetric threats. We conclude that while terrorist groups considered qua systems are undoubtedly adaptive, it is not obvious that they are complex in the strict theoretical sense of that term. As a consequence, it is not clear that terrorist threats are amenable to the analytic techniques afforded by complexity theory. Moreover, while ABM technology may offer significant value in many fields, it is not at all clear that the technology offers tactical value to counter these growing asymmetric threats. We argue that human behavior is too complex and too poorly understood to be accurately modeled in anything but a simplified and unenlightening way using the technology and agent-based modeling techniques currently available—particularly for tactical advantage. The real value—potentially inestimable value—lies in the systematic and methodical process of making explicit the assumptions regarding the fundamental factors governing agent behavior used in the models.	P-3868 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA464073 DTIC accession no. ADA464073	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Battle for Fallujah, The: Volume II, Coalition Interviews Select Leaders of Multi National Forces – Iraq, Multi National Corps – Iraq, and the Coalition Military Assistance Training Team to Include Members of the Advisory Support Teams	The battle for control of Fallujah was a critical opportunity for the Iraqis to show the insurgents, the world, and above all the Iraqi people that the emerging Iraqi government was taking charge of the Iraqi destiny. The purpose of the study is to analyze the operational and strategic lessons from the battles for Fallujah with emphasis on (1) Coalition forces operational-level planning and execution, (2) teaching Iraqis to plan and execute a major military operation, (3) coaching Iraqis on the use of information operations to beat the enemy's information operations campaign, and (4) building Iraqi self-confidence and external respect to assist in the transition to sovereignty. The study approach traces the development of those competencies above, from their genesis in Fallujah I (Vigilant Resolve) through the battles of Najaf and Samarra to Fallujah II (Al Fajr). The approach also highlights the political, security, and information operations aspects of 2004 and in particular the above events, for project analysis. The purpose of this document is to organize and archive interview transcripts from the research for the project.	D-3313 UNCLASSIFIED No URL No DTIC accession no.	2006
Building a CATR Research Agenda, Proceedings of the Third Bi-Annual International Symposium of the Center for Asian Terrorism Research (CATR) March 1–3, 2006, Colombo, Sri Lanka	This document presents the proceedings of the Second Bi-annual International Symposium of the Council for Asian Terrorism Research (CATR), "Building a Counterterrorism Research Agenda." The goals of the symposium were threefold: to expand working relationships among scholars, analysts, journalists, and others with expertise in a variety of fields related to terrorism and political violence in the Southeast and South Asian regions; to deepen formal cooperative and collaborative links between academic, analytical, and government institutions dealing with the problem of countering terrorism and extremist political violence; and to bring the broadest possible spectrum of knowledge and experience to bear on the prob-	P-4163 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA464068 DTIC accession no. ADA464068	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	lem to the mutual benefit of all the institutions involved. The conference brought together academics, journalists, government experts, and military and enforcement officers from across the region. The conference was organized into three thematic sessions: (1) Why do Terrorist Movements Start?; (2) How Do Terrorist Movements Spread?; and (3) How Do Terrorist Groups Do Business and Sustain Themselves? In addition, the conference held a series of working group sessions designed to compile a comprehensive CATR Research Agenda.		
Building High Performing Commander Leader Teams: Intensive Collaboration Enabled by Information Technology and Knowledge Management	This document was prepared for the Commander, US Army Combined Arms Center, Fort Leavenworth, Kansas, to support the development of advanced leader and leader-team preparation in conjunction with the formulation and development of the emerging Army Battle Command Knowledge System (BCKS). It develops a model for the development and sustainment of high performing (HP) commander leader teams (CLTs). The central thrust of the model is to describe how new tools provided by Information Technology (IT) through Army Knowledge Online (AKO) and Knowledge Management (KM) through BCKS can translate data and information to knowledge and actionable understanding shared between HP CLTs across Army Operating Forces and Army Generating Forces and associated Joint, Interagency, Intergovernmental, Multinational (JIIM) organizations. Few if any leaders become high performing warfighters through performance solely as an individual. The power and quality of high performance normally comes in a team context – competent individual leaders acting through membership in multiple teams, inspiring others to exceptional perfor-	D-3348 UNCLASSIFIED No URL No DTIC accession no. Approved for public release; distribution is unlimited	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	mance. By drawing on AKO and BCKS, America's Army is on the verge of a breakthrough in individual, team and unit performance by creating and sustaining HP CLTs. Extending HP CLTs across JIIM organizations will be critical to winning the Global War on Terrorism (GWOT).		
Contemporary Operations: Reflections on and of Empire	Major General Jonathan Bailey, former Director of General Development and Doctrine in the British Army, shares his perspectives on the British experience in Irregular Warfare and stability operations. This paper presents three case histories: India and the British Raj from 1858 to 1947; Sierra Leone from its independence in 1961 to its collapse into lawlessness in 2000; and Kosovo, where British forces as part of NATO intervened to halt the abuse of Kosovo's Albanian minority. He draws on those case histories to develop themes and challenges for those engaged in such operations today, and asks whether nation-building is merely "an irritating collateral operation" or the primary method by which the United States will wage the Long War.	P-4198 UNCLASSIFIED No URL No DTIC accession no. Approved for public release	2006
Cybersecurity Threats to Military and Civilian Critical Infrastructure (U)	(U) This paper focuses on cyber Critical Infrastructure Protection (CIP)—the security and protection of the digital process control systems used by civilian and military critical infrastructure (CI). The advent of low-cost computing and networking has led to the widespread adoption and deployment of process control automation technology in many domestic and overseas CI applications, including those maintained and used by the U.S. military. Many different types of possible threats and attacks against CI exist, however, and the rapid increase in attacks against the public Internet underlines	D-3307 SECRET//NOFORN No URL No DTIC accession no.	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	the vulnerabilities of CI computer networks and systems to cyber attack. The first part of this paper explains the different types of CI systems, discusses the interdependencies among systems from both a civilian and military perspective, and provides background on the computerization of CI. The second part discusses threats to CI, explains basic vulnerabilities of CI systems, and examines attacks against CI. The last part explores potential solutions and steps for the future.		
Establishing and Evaluating Key Performance Parameters for Force Protection of Aircraft Crews and Passengers from Asymmetric Threats	This paper proposes a method for establishing Key Performance Parameters (KPPs) for crew protection from asymmetric threats, focusing on the development of metrics that would be compatible with existing aircraft vulnerability evaluation methodologies. It discusses how to establish threat encounter conditions of interest, considering both historical combat data or a series of vignettes (scenarios) that realistically reflect how aircraft can be (or have been) attacked by asymmetric threats. The paper proposes an analytical approach to evaluate and reduce the probability of air crew or passenger loss given an encounter with asymmetric threats. The models and test methods that are employed in this type of evaluation should be sufficiently robust to allow examination of countermeasures that reduce the effects of these threats, and flexible enough to examine the effects of changes in vignettes, threats and enemy operations.	P-4097 UNCLASSIFIED No URL DTIC accession no. ADB321838	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Evolving U.S Government Interagency Transformational Diplomacy Doctrine	The current National Security Strategy of the United States identifies nine essential tasks. One of those is to "Transform America's national security institutions to meet the challenges and opportunities of the 21st century." The focus of this paper is on how recent actions to meet that goal can be brought together to establish interagency doctrine for carrying out transformational diplomacy, including the special case of reconstructing and stabilizing an affected nation.	D-3287 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2006
Joint Capabilities Integration and Development System (JCIDS) Analysis of Special Operations Force Application − Air Operations (SOFA-AO). Volume I: Functional Area Analysis (FAA) and Functional Needs Analysis (FNA) (U)	(U) This report responds to tasking from U.S. Special Operations Command (USSOCOM) to conduct a Joint Capabilities Integration and Development System (JCIDS) analysis of Special Operations Force Application − Air Operations (SOFA-AO). The Functional Area Analysis (FAA) and the Functional Needs Analysis (FNA) are included in this report. The Functional Solutions Analysis (FSA) will be included in a subsequent report. An assessment of capability needs for Special Operations Force (SOF) aviation is completed not only by tracing missions and tasks, which is the JCIDS approach, but also by reviewing the Joint Operations Concepts, the planning scenarios and Multi-Service Force Deployment (MSFD) documents, and the threat for specific or implied SOF aviation capability needs. Linkages are developed between the national strategies and the SOCOM core tasks and between the SOCOM core tasks and the aviation capability needs. Alternative future SOF aviation capability roadmaps, offering solutions to the capability needs identified in this report, will be included in the subsequent FSA report.	P-4071 SECRET//NOFORN No URL No DTIC accession no.	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Joint Operating Concept for the Employment of High-Energy Lasers Using a Redirected Energy System	Three rapidly maturing technologies, in combination, now offer the potential to provide a new battlefield capability with major tactical and even strategic implications. These technologies include lasers, relay mirrors, and high-endurance airborne platforms. Used together these technologies offer greater speed and ultra-precision when attacking tactical targets while also reducing collateral damage. While promising, this potential capability raises a new problem: how to integrate the weapon system solution into the force and operate it. This paper offers a preliminary concept for integrating and operating the system. In particular, it describes a framework within which an experimental concept demonstration unit might begin to use the new weapon system operationally to refine both the technical interfaces within the weapon system itself and the technical and procedural interfaces with the Army fire support battlefield operating systems. Future operating concepts will most likely include how this system could work in supporting base defense for the Air Force, shore support for the Navy and Marine Corps, or port security for the Coast Guard. The assumption that the Army will conduct the proof-of-concept demonstration results from the requirement for immediate transition of this capability into a warfighter unit if it meets its performance objectives.	D-3226 For Official Use Only No URL DTIC accession no. ADB321194	2006
MRCCT Post-Experiment Survey: A Qualitative Analysis of Analyst's Preferences for Three Collaboration Tools	This paper provides a qualitative analysis of post-experiment survey responses from the Multi-Intelligence Working Group (MINTWG) sponsored experiment entitled Multi-Intelligence Real-time Collaboration for Counterterrorism Targeting (MRCCT). Six factors that describe the positive and negative aspects of three technology-based collaboration tools have been identified by experiment participants:	D-3351 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	(1) information sharing, (2) collaboration and communication, (3) file management, (4) ease of use, (5) tool-specific feature(s), and (6) system stability. All three collaboration tools received positive feedback for information sharing, collaboration/communication, and file management. However, ease of use, tool-specific features, and system stability accounted for strong negative comments for the client-server and web-enabled tools. These three negative factors contributed to the overwhelming user preference for the peer-to-peer collaboration tool (88%) over the client-server (0%) and web-enabled (0%) collaboration tools. The dimensions identified provide a framework for the assessment of future collaboration tools.		
National Comparative Risk Assessment Pilot Project, Volume I: Main Text and Appendixes A and B	The emphasis on using risk analysis to support homeland security policy and budgeting decisions has continued in the years since 9/11. In the Homeland Security Act of 2003, which established the Department of Homeland Security, Congress stipulated, "The Undersecretary for IA/IP shall carry out comprehensive assessments of the vulnerabilities of key resources and critical infrastructure of the US, including the performance of risk assessments." In addition, the President directed that "the Secretary [of the Department of Homeland Security] will establish uniform policies, approaches, guidelines, and methodologies for integrating Federal infrastructure protection and risk management activities within and across designated homeland security sectors." This pilot project has focused on producing the first version of the National Comparative Risk Assessment (NRCA) with the objective of providing proof of principle for a common risk model—developed as part of the project—that will be used for the follow-on full NCRA effort.	D-3309 Vol. 1: UNCLASSIFIED No URL No DTIC accession no.	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
National Comparative Risk Assessment Pilot Project, Volume II: Appendix C	The emphasis on using risk analysis to support homeland security policy and budgeting decisions has continued in the years since 9/11. In the Homeland Security Act of 2003, which established the Department of Homeland Security, Congress stipulated, "The Undersecretary for IA/IP shall carry out comprehensive assessments of the vulnerabilities of key resources and critical infrastructure of the US, including the performance of risk assessments." In addition, the President directed that "the Secretary [of the Department of Homeland Security] will establish uniform policies, approaches, guidelines, and methodologies for integrating Federal infrastructure protection and risk management activities within and across designated homeland security sectors." This pilot project has focused on producing the first version of the National Comparative Risk Assessment (NRCA) with the objective of providing proof of principle for a common risk model—developed as part of the project—that will be used for the follow-on full NCRA effort.	D-3309 Vol. 2: UNCLASSIFIED//For Official Use Only No URL No DTIC accession no.	2006
Non-Security Metrics for the Coalition Provisional Authority	The report documents the support provided to the Coalition Provisional Authority (CPA) in Iraq by the team that developed measures of progress for non-security activities. The team focused on activities that directly improved administration and services, measured the capacity of the Iraqi Council and administrative structure to sustain achievements and expand their responsiveness to needs of the country, and assisted the sponsor with developing metrics and supporting data collection and evaluation systems. Specifically, the team (1) identified which non-security tasks CPA was responsible for, (2) examined a number of historical cases in which U.S. forces participated to determine how similar systems were established and	D-3178 UNCLASSIFIED No URL DTIC accession no. ADB328238	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	evaluated progress, (3) determined what data were being collected by U.S. Government agencies in Iraq, and (4) described the existing system in Iraq based on field visits. The report identifies a number of findings and provides specific recommendations related to: (1) planning non-security metrics, (2) establishing a data collection and processing system, and (3) linking Civil Affairs reports from an in-secure tactical level to the CPA-level management objectives.		
Novel Radio Frequency (RF) Detection Methods for Improvised Explosive Devices (IEDs) (U)	(U) This paper considers the problem of detection of improvised explosive devices (IEDs) using radio-frequency (RF) techniques. To date, most efforts to apply RF techniques to the IED problem have focused on the desire to jam or predetonate radio-controlled IEDs (RCIEDs), with very little attention paid to the problem of detec-tion. This paper considers techniques for active RF detection of RCIEDs that are feasible and advantageous compared with simple jamming schemes. Specifically, a technique of RF fluorescence de-tection (RFFD) is proposed by which an RCIED can be induced to emit an RF signal that has both time and frequency specificity mak-ing it must easier to detect the presence of a certain class of RF re-ceivers at a safe distance.	D-3274 SECRET No URL No DTIC accession no.	2006
Requirements for DHS Risk-Based Decision Support Applications (DSAs)	The objective of this paper is to outline the approach for developing requirements for a set of decision support applications (DSAs) to meet the risk-based decision needs of the Risk Management Divi-sion (RMD) of the Department of Homeland Security (DHS). Where obvious, actual requirements will be identified, but as will be discussed, the essential early phase of requirements development consists of assessing the needs of the end users of the system – in	D-3310 UNCLASSIFIED No URL No DTIC accession no.	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	this case the senior leadership of the Infrastructure Protection Directorate. Interviews with the senior leadership were not conducted during the course of this task. A just slightly over 3 years old, DHS is still a fairly new department. Yet it has already experienced one major re-organization and a major change of leadership at the top. In addition, risk based management of the US critical infrastructure is a new, complex and extremely challenging undertaking, which will require time and substantial resources to develop. This paper describes modest steps forward to develop analytical tools to support risk-based management decisions.		
Review of Results from the Autonomous Mine Detection Sensors Program, 2004–2005	This review discusses results from the Army's Autonomous Mine Detection Sensors (AMDS) Program from October 2004 to October 2005. The culminating event was a performance assessment of the two competing contractors: CyTerra Corp. and NIITEK Inc. Both contractors used a metal detector and ground-penetrating radar acting together as a fused sensor suite and submitted an official set of results to IDA for scoring. NIITEK demonstrated better results against low-metal antitank mines. The contractors had similar results against low-metal antipersonnel mines. This review also records results and lessons learned from tests leading up to the October 2005 test and a top-level analysis of machine-learning algorithm results from the AMDS program.	D-3247 UNCLASSIFIED No URL DTIC accession no. ADB320637	2006
Stability Operations: A Range of Possibilities (U)	(U) This annotated briefing documents work done for Director, Regional Assessments and Modeling Division, in the Office of Secretary of Defense, Program Analysis and Evaluation. A crude, but rapid methodology is presented for estimating the force size re-	D-3231 SECRET//NOFORN No URL No DTIC accession no.	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	quired for a stability operation in a variety of countries. The methodology was used to develop illustrative force sizing estimates for the 2006 DoD Quadrennial Defense Review. The methodology is based on scaling from historical experience. Scaling is based on both physical parameters, namely population and geographical area, and soft factors such as a failed state index, a "receptivity/complexity" index, allied participation, and a country's possession of weapons of mass destruction. The briefing displays results based on scaling from three U.S. stability operations: Iraq, Afghanistan, and Bosnia. Radically different estimates result from the scaling for the three operations, illustrating that the force required for a stability operation is highly situation dependent. Similarly, the briefing addresses the range of U.S. Army and Marine Corps brigade combat teams available for a stability operation, given the number of units currently programmed and the requirement to support other activities. Lastly, the document discusses the limitations of the historical data on stability operations that are available to DoD.		
Strategic & Operational Perspectives of al-Qaida and Associated Movements (AQAM): Phase 1	This project approaches al Qaida and Associated Movements (AQAM) as a movement rather than as a network, and tries to understand whether and in what ways its members think above the tactical level. Drawing on the enemy's own words both from open source materials and captured documents, it identifies seams and subjects of concern within the AQAM community. It explores the dichotomy between those members of AQAM who think instrumentally about their war and those who do not, and discusses topics such as the evolution of the enemy's political and military thought,	D-3316 For Official Use Only No URL No DTIC accession no.	2006

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	enemy assessments of the United States, their comparative views of their media and our media, and their concerns about attracting people to the movement.		
USG Integrated Circuit Supply Chain Threat Opportunity Study	This study is based on an investigation of the USG microelectronics supply chain in order to assess US vulnerability to a hardware-based cyber attack by a hostile foreign actor. DoD was chosen as the central focus of the study, although the results are believed to be representative of other public and private infrastructure elements. The purpose of this report is to present the results of this investigation in order to support the development of an effective risk management strategy.	D-3222 UNCLASSIFIED//For Official Use Only Draft Final has not been approved by the sponsor for distribution and release No URL No DTIC accession no.	2006

2007 IDA Publications

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Achieving Unity of Effort: A Case Study of US Government Operations in the Horn of Africa	The encroachment of extremist Islam into traditional African culture, the instability of regional governments, and the endemic poverty in the region are threatening the interests of the United States in the Horn of Africa region. OSD asked IDA to identify lessons from US interagency efforts in the Horn, and to visit selected US commands and State Department country teams, the purpose of which was to explore national security challenges and interagency collaboration processes. In earlier interviews with senior US Government officials regarding the Global War on Terrorism, important weaknesses in the interagency process were uncovered. These findings were used as hypotheses for the case study in this paper and tested for their applicability in the field. Many of the weaknesses evident at the national level in the interagency process are likewise evident in the field and they are impeding the effective implementation of US policy and programs.	P-4207 UNCLASSIFIED No URL No DTIC accession no.	2007
Analysis Modeling and Simulation Business Plan	The Analysis Modeling and Simulation Business Plan will support the development, fielding, and application of appropriate modeling and simulation (M&S) capabilities to address national security strategic-level assessment issues. The plan articulates the Analytic Community's vision and objectives, compares current capabilities to these objectives to identify gaps, draws on the results of surveys to prioritize those gaps, and formulates initiatives to address the highest priority gaps. These initiatives are aggregated into the categories	P-4250 UNCLASSIFIED No URL No DTIC accession no. Draft Final has not been approved by the sponsor for distribution and release	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	of focused warfare activities-initiatives to redress deficiencies in M&S of Irregular Warfare; cross-cutting activities--options to enhance Capability Based Assessment; and Analysis M&S management activities-proposed changes to M&S governance. The Business Plan is anticipated to be periodically reissued to respond to the evolving needs of the broader Analysis Community.		
Anatomy of Terrorism and Political Violence in South Asia, The: Proceedings of the First Bi- Annual International Symposium of the Center for Asian Terrorism Research (CATR) October 19–21, 2005, Denpensar, Bali, Indonesia	This document presents the proceedings of the First Bi-annual International Symposium of the Council for Asian Terrorism Research (CATR). The goals of the symposium, entitled "The Anatomy of Terrorism and Political Violence in South Asia" were threefold: to expand working relationships among scholars, analysts, journalists, and others with expertise in a variety of fields related to terrorism and political violence in the Southeast Asian region.; to deepen formal cooperative and collaborative links between academic, analytical, and government institutions dealing with the problem of countering terrorism and extremist political violence; and to bring the broadest possible spectrum of knowledge and experience to bear on the problem to the mutual benefit of the all the institutions involved. The conference brought together academics, journalists, government experts, and military and law enforcement officers from across the region. The conference was organized into three thematic sessions: Interregional Fertilization of Political Violence and Terrorism, the Anatomy of Terrorism in South Asia, and IT and Terrorism. In addition, the proceedings include summaries of two roundtable discussions: "Does Terrorism Work?" and "The Religious Dimensions of Terrorism."	P-4096 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA469835 DTIC accession no. ADA469835	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Assessing Risks to Critical Infrastructure/Key Resources	Since the inception of the Department of Homeland Security in March 2003, continuing emphasis by the department's senior leaders and by Congress has been placed on using risk management approaches for supporting key decisions on protecting US critical infrastructure and key resources. This risk methods and formulas developed in this document describe and end-to-end approach for accomplishing this objective on a national scale and on a continuous basis. Significant emphasis is placed on the use of probability theory and estimation methods to ensure the mathematical and logical integrity of the approach. The risk model described was designed to compare and contrast risk for thousands of assets on an annual basis, and further to aggregate risk on the basis of homeland security sectors, geographical regions (e.g., NYC), attack types (e.g., explosive devices) or any combination of features, which can be used to logically group critical infrastructure assets. The paper also discusses ways to evaluate and assess multiple attacks and systems attacks against the US homeland.	D-3446 UNCLASSIFIED No URL No DTIC accession no.	2007
Assessment of the Small Unmanned Aircraft System (SUAS) Initial Operational Test	The paper presents an independent assessment of the Small Unmanned Aircraft System (SUAS) Operational Testing (OT). The analysis is based on the Initial Operational Test and Evaluation (IOT&E) and the Airborne Certification Limited User Test/Special Operations Forces Customer Test. The IOT was a force on force combat arms exercise. The 4th Brigade Combat Team, 1st Cavalry Division provided the Infantry Company and United States Special Operations Command provided eight Special Operations Force personnel. Missions included convoy operations, hasty attack, perimeter defense, and raid to capture. Scenarios incorporated both SOF	P-4159 UNCLASSIFIED This Draft has not been approved by the sponsor for distribution and release. Reproduction or use of this material is not authorized without prior permission from the responsible IDA Division Director.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	elements supporting Infantry missions. Operational effectiveness was determined by examining overall combat mission effectiveness. Operational issues related to individual system performance parameters such as mission planning, mission execution, RSTA product, and survivability were also examined. The primary measures for operational suitability examined here are sortie completion rate and Reliability, Availability, and Maintainability.	No URL No DTIC accession no.	
Battle for Fallujah, The: Battle Reconstruction Support Document Volume IV: Battle Site Survey	The battle for control of Fallujah was an opportunity for the Iraqis to show the insurgents and the Iraqi people that the emerging Iraqi government was taking charge of the Iraqi destiny. The purpose of the study is to analyze the operational and strategic lessons from the Battle(s) for Fallujah with emphasis on (1). Coalition forces operational level planning and execution (2) Teaching Iraqis to plan and execute a military operation (3) Coaching Iraqis on the use of information operations (IO), and (4) Building Iraqi self- confidence and external respect to assist the transition to sovereignty. The study approach traces the development of those competencies above, from their genesis in Fallujah I (Vigilant Resolve) through the battles of Najaf and Samarra to Fallujah II (Al Fajr). The approach also highlights the Political, Security, and Information Operations aspects of 2004 and in particular the above events, for project analysis. The purpose of this document is to organize and archive documents and results of the Battle Site Survey and interview transcripts, primarily Iraqi, from the research for the project.	D-3500 UNCLASSIFIED//For Official Use Only No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Battle for Fallujah, The: Volume III Coalition Interviews (Select Leaders of the 1st Marine Expeditionary Force and Attached Units)	The battle for control of Fallujah was an opportunity for the Iraqis to show the insurgents and the Iraqi people that the emerging Iraqi government was taking charge of the Iraqi destiny. The purpose of the study is to analyze the operational and strategic lessons from the Battle(s) for Fallujah with emphasis on (1). Coalition forces operational level planning and execution (2) Teaching Iraqis to plan and execute a military operation (3) Coaching Iraqis on the use of information operations (IO) to beat the enemy's IO campaign, and (4) Building Iraqi self-confidence and external respect to assist the transition to sovereignty. The study approach traces the development of those competencies above, from their genesis in Fallujah I (Vigilant Resolve) through the battle of Najaf to Fallujah II (Al Fajr). The approach also highlights the Political, Security, and Information Operations aspects of 2004 and in particular the above events, for project analysis. The purpose of this document is to organize and archive interview transcripts from the research for the project.	D-3357 UNCLASSIFIED No URL No DTIC accession no.	2007
Concept for Joint Urban Operations, A	This JAWP draft working paper presents the conceptual foundation for initiatives to improve capabilities for Joint Urban Operations (JUO). It is a "Concept Paper" prepared for the Joint Urban Operations Office at US Joint Forces Command/J9. The paper describes a high-level concept for all joint military operations that involve the urban environment: "USECT for JUO." USECT stands for the components Understand, Shape, Engage, Consolidate, and Transition. A number of operational concepts that apply to specific missions and are consistent with the high-level concept are then discussed, and the capabilities that enable the concepts are identified. Finally, program initiatives that could produce the needed capabilities are determined, and key questions for JUO experimentation are proposed.	D-3461 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Detection of Buried Mines and Unexploded Ordnance	Most military and commercial detectors sense the presence of metal casings or components of buried mines or explosive ordnance; however, this traditional approach to mine and unexploded ordnance (UXO) detection is prone to high false-alarm rates. Explosive components, common to all mines and ordnance devices, offer a unique discriminator among buried objects. Two approaches to detect buried explosive devices directly are investigated: chemical trace detection, which relies on detecting either the vapor emanating from buried devices or the small explosive particles [and/or their explosive-related compounds (ERCs)] concentrated in the top soil, and radiation techniques, which uses radiation to probe beneath the earth's surface to provide bulk detection of buried explosive devices. This report describes the technology approaches and the current performance of each approach and discusses some promising new explosive detection technologies. It suggests that the Joint Unexploded Ordnance Coordination Office (JUXOCO) take a leadership role in establishing standards and protocols for reporting the results of field measurements in which trace analyses are used for detection of buried mines and ordnance and in sponsoring the development and maintenance of an open-sourced code to predict the variability of explosive detection in different environments.	D-3390 UNCLASSIFIED No URL DTIC accession no. ADA475760	2007
Deterrence	Potential drug traffickers ignore the consequences of being interdicted, e.g., getting caught, whenever they perceive the probability of interdiction to be low. Increasing the probability of interdiction apprehends more perpetrators until a critical threshold of deterrence is reached. Thereafter, deterrence takes effect, and the fraction of potential perpetrators attempting illicit activities rapidly declines,	D-3383 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	while the fraction actually apprehended remains constant. Data from historical and ongoing operations against cocaine traffickers provided the basis for deriving a simple empirical mathematical model of the psychology of deterrence relating the willingness to perpetrate an illicit act to the probability of interdiction and the threshold of deterrence. A number of critical tactical and strategic considerations are essential to understanding deterrence: employing surge operations to find the deterrence threshold, assessing whether deterrence is working, preventing a collapse of established deterrence protections, and ensuring essential intelligence support. Operations against air traffickers flying cocaine base from Peru to Colombia validate the model and yield an estimate of the deterrence threshold for lethal consequences. An extension of this model provides estimates of the effectiveness of complex as well as layered defenses. There are reasons to believe that these findings apply to insurgents and terrorists as well as narcotics traffickers. Finally, it is worthwhile attempting to connect these findings to the broader research disciplines and comment on impediments to integrated research on deterrence confronting both the academic and operational communities.		
Deterrence and WMD Terrorism: Calibrating its Potential Contributions to Risk Reduction	Recent national guidance has reemphasized the potential contributions of deterrence to the effort to reduce the risks of WMD terrorism. Those potential contributions can be brought into focus by disaggregating the militant Islamic extremist movement into the various components relevant to the intentions and capabilities for WMD terrorism. These include *jihadi* foot soldiers, terrorist professionals, leaders of al Qaeda, affiliated groups, operational enablers,	P-4231 UNCLASSIFIED No URL DTIC accession no. ADA470305	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	moral legitimizers, state sponsors, and passive state enablers. Deterrence by threat of punishment operates on some of these actors, as does deterrence by denial. There are also important sources of self restraint for some of these actors. Deterrence is one form of influence and often not the strongest or most promising. Its future performance can be strengthened with further policy development and analytic investigation.		
Force Implications of Steady-State Foreign Internal Defense and Counterinsurgency (U)	(U) This effort was developed in support of one of five initiatives of the Irregular Warfare (IW) Roadmap arising out of the last Quadrennial Defense Review – to enhance the capabilities of General Purpose Forces to support IW. The main focus was to estimate Combatant Command capability needs for Foreign Internal Defense and Counterinsurgency in a "steady-state" environment, by which is meant a time period after the current budget cycle (i.e., after 2014), during which the current intensive activity in Iraq and Afghanistan will have diminished and without other major regional conflict. Much of this capability would support Theater Security Cooperation efforts and the Global War on Terror. The four regional Combatant Commands and U.S. Special Operations Command were asked in a data call to specify the capabilities they would need in-theater under those conditions, and the study team determined the types of forces that would be required to provide the capabilities. The resulting data led to a framework for IW, organizing the capability needs into three main groups: training, advising, and equipping foreign security forces; IW-intensive activity; and traditional units in IW. Results are presented in the context of the capacity of the Services to support such activity, particularly for training teams and available pools of specialists with key IW expertise such as Civil Affairs and PSYOP.	P-4279 SECRET No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Foundation for an Analysis Modeling and Simulation Business Plan	This document captures the DoD Analytic Community's position after two years of debate and preparation to generate a modeling and simulation (M&S) master plan, a goal later revised to developing an M&S business plan. Both the envisioned master plan and the business plan subsequently published were intended to support development and fielding of analysis M&S capabilities to address national security assessment issues. The Foundation document articulates the Analytic Community's vision and objectives and then compares existing capabilities to these objectives to identify gaps. The gaps and initial recommendations to close the gaps are aggregated into the categories of analysis methodology, analysis of focused military activities (conventional campaigns, homeland defense, and defense support of civil authorities, and non-traditional warfare), data, technology, and manpower. The document captures the Community's thinking about these key areas of M&S support to the Analysis enterprise and offers an initial set of actions for potential inclusion in subsequent planning documents.	P-4178 UNCLASSIFIED No URL No DTIC accession no. Draft Final has not been approved by the sponsor for distribution and release	2007
Glossary – Terminology Related to Operations Involving Civilian and Military Resources	This working draft glossary was compiled as an informal reference to assist those individuals and organizations involved with transforming the U.S. Government institutions. It includes terms used by the members of the interagency community as well as those used by multinational and multilateral partners. This is a working draft because additional terms will need to be added as they are identified. Eventually, a formal interagency process should be developed to maintain the glossary and make it a standard U.S. Government document that will be kept current.	D-3362 UNCLASSIFIED No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Ground Vehicle Fleet Health	Operations in Iraq have results in increased, but still modest OP-TEMPO on the Army's combat and tactical vehicles. Maintenance expenditures have also increased. We were asked to determine if available data showed clear evidence of any trends in fleet health. We looked at data from a variety of sources – the Operating and Support Management Information System (OSMIS), the Army Materiel System Analysis Activity (AMSAA) Sample Data Collection (SDC) and the Army's reported mission capable rates – to determine if there was evidence of deterioration in the Army's combat or tactical vehicle fleets. There is great variability in location-to-location and year-to-year experience, effectively obscuring any global trends. No evidence of deterioration was found, but the prospect could not be excluded.	D-3467 UNCLASSIFIED No URL DTIC accession no. ADA484375	2007
Improving Capabilities for Irregular Warfare. Volume I: Framework and Applications	This two-volume report describes a framework for identifying program initiatives aimed at significantly improving US capabilities for irregular warfare (IW). The framework has two components: a characterization of the capabilities needed to conduct IW in terms of the type of capability (Understand, Shape, Engage) and the object being addressed (Environment, Population, Host-Nation Government, Red, Blue); and a set of five attributes (Human Terrain, Civil-Military Coordination, IW Combat Characteristics, Consolidation, and Transition) that distinguish IW from "regular warfare." The report first applies the framework to Iraq-like IW. It identifies a set of twenty-three high-level missions and ninety-two capabilities, which are broadly assessed on recent performance. The report then applies the framework to specific areas of high importance: Transition, Theater Communications, Personal Interactions, Civilian and Military Organizations and Activities, Policing-Related Capabilities, and Technology. Each application illustrates the study ap-	P-4267 Vol. 1: UNCLASSIFIED Approved for public release; distribution unlimited. BUT No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	proach to identifying directions for initiatives for improving formance. Finally, the report discusses steps for implementing IW-related initiatives within DoD and how the process may serve as a vehicle for focusing the attention of subject-matter experts and stakeholders on critical IW issues.		
Improving Capabilities for Irregular Warfare. Volume II: Capabilities Analysis	The complexity of irregular warfare (IW), how it differs from regular warfare, and its appeal to enemies of the United States all make understanding the missions and capabilities involved in IW crucial for DoD—and the national security of the United States. Volume II supports the previous volume, Framework and Applications, by laying the foundation for understanding IW missions and supporting capabilities. Although drawing substantially from the Iraq conflict, the study team intended this mission map to be generic and applied across a range of IW scenarios. The missions were grouped by their likely participants: the Combat and Support Missions group represents missions with a major role for military members of the Blue force, while the other four groups are more of a civilian nature—that is, supporting the host-nation government. Capabilities most lacking in their current performance in Iraq were labeled as being "in need of substantial improvement." The author found an important subset of the ninety-two capabilities to be foundational in nature: these thirty-four Foundational Capabilities supported most or all of the missions. Among the key weaknesses identified in the capabilities were the lack of support in protecting the population, understanding the conflict environment, and supporting civil systems.	P-4267 Vol. 2: UNCLASSIFIED Approved for public release; distribution unlimited. BUT No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Information in Support of National Comparative Risk Assessment: Determining Probability of Success Given an Attack, Volume 2: Estimates of Probabilities	IDA is supporting the Department of Homeland Security (DHS) National Comparative Risk Assessment (NCRA) through the development and application of the Common Risk Model (CRM). An earlier IDA document, D-3309, described in detail the CRM and its role within the NCRA. The CRM defines risk as follows: Risk = (probability of attack) x (probability of attacker success given an attack) x (Attack Consequences). This document develops the methods for determining probability of attacker success given an attack (P(S| A)) within the CRM, and present initial estimates of P(S| A) across a broad range of scenarios. These scenarios include various land attacks, water-borne attacks, airplane attacks, and attacks using cyber means. (Cyber attacks are treated in more detail in IDA Paper P-4226.) The estimates were produced through guided discussions involving groups of subject matter experts (SMEs) and were validated by independent SME teams. Volume 1 discusses the methodology. Volume 2 presents the estimates and the specific rationales behind them.	D-3442 Vol. 1: UNCLASSIFIED Approved for public release: distribution unlimited. No URL No DTIC accession no. Vol. 2: UNCLASSIFIED//For Official Use Only No URL No DTIC accession no.	2007
Initial Report of the Joint Counter Radio-Controlled Improvised Explosive Device (IED) Electronic Warfare (JCREW) Technical Assessment Team (TAT) (U)	Countering Improvised Explosive Devices (IEDs) continues to be an enormously important challenge to the United States. Of major concern for the future is the ease with which such systems can be constructed and employed, often with relatively little risk to the user, and with the potential for significant target lethality. (U) Under the authority of the Secretary of Defense, the Secretary of the Navy has been assigned as the Single Manager for Joint Service CREW in DoD and is tasked with managing and administering elements of the Joint Service Crew (JCREW) program for the DoD. The Joint Program Manager at Naval Sea Systems Command	P-4256 SECRET//NOFORN No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	(NAVSEA) is supported on technical issues by the Naval Explosive Ordnance Disposal Technology Division (NAVEODTECHDIV)—the sponsor of this study. The purpose of this paper is to document the results of a 9-month study of technical areas and technologies that are expected to be important for the successful development of future JCREW systems. This paper identifies JCREW critical technology elements and provides initial technology readiness assessments. Analyses and discussions of technical risks are presented and strategies to appropriately mitigate the identified risks are described.		
Interpreting Results from the Standardized UXO Test Sites	This study interprets results from the Army's Standardized UXO Test Sites by treating likely-to-be-found and difficult targets separately. We determine probabilities of detection and background alarm rates considering the effect of clustered targets, those with nearby obstacles, and those that are deeper than the US Army Corps of Engineer's 11-times diameter rule-of-thumb depth. We find two common reasons for missing targets at the Standardized Sites: (1) overlapping signatures that are difficult to resolve into separate targets and (2) missing the target by slightly more than the fixed distance defined to be the "hit" radius. Ambiguities inherent in the scoring system and the small number of identical encounters make precise estimates of probabilities of detection impossible. Generally, for shallow munitions that are larger than about 60mm in diameter, the well-implemented sensors that were demonstrated at the sites found in excess of 90% of the munitions.	D-3280 UNCLASSIFIED http://handle.dtic.mil/100.2/ADA469436 DTIC accession no. ADA469436	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Iraqi Perspectives Project Series Phase II— Saddam and the Tribes: How Captured Documents Explain Regime Adaptation to Internal Challenges (1979–2003)	The purpose of the Iraqi Perspectives project is to provide the national security community with new insights concerning the long confrontation with Saddam Hussein's Iraq. By introducing new primary source documents, this study explores the complex relationship between Saddam's regime and the tribes that lived under it between 1979 and 2003. Calling upon historical examples, it also provides some possible explanations as to why, in the aftermath of Saddam's fall, the Coalition was unable to capitalize on the unique strengths and organizational capabilities the tribes could offer in stabilizing Iraq. In support of US Joint Forces Command's ongoing mission to develop lessons learned, this effort will provide warfighters and planners with a more comprehensive understanding of the dynamic between tribe and state in dictatorial societies, and the ways in which tribal leadership can impact success or failure of central governance.	P-4263 UNCLASSIFIED//For Official Use Only No URL No DTIC accession no.	2007
Iraqi Perspectives Project. Saddam and Terrorism: Emerging Insights from Captured Iraqi Documents Volume 1 (U)	(U) Captured Iraqi documents have uncovered evidence that links the regime of Saddam Hussein to regional and global terrorism, including a variety of revolutionary, liberation, nationalist, and Islamic terrorist organizations. While these documents do not reveal direct coordination and assistance between the Saddam regime and the al Qaeda network, they do indicate that Saddam was willing to use, albeit cautiously, operatives affiliated with al Qaeda as along as Saddam could have these terrorist operatives monitored closely. Because Saddam's security organizations and Osama bin Laden's terrorist network operated with similar aims (at least in the short term), considerable overlap was inevitable when monitoring, contacting, financing, and training the same outside groups. This	P-4151 Revised 31 Jul 2007 Vols. 1–5: SECRET No URLs No DTIC accession nos.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	created both the appearance of and, in some ways, a "de facto" link between the organizations. At times, these organizations would work together in pursuit of shared goals but still maintain their autonomy and independence be-cause of innate caution and mutual distrust. Though the execution of Iraqi terror plots was not always successful, evidence shows that Saddam's use of terrorist tactics and his support for terrorist groups remained strong up until the collapse of the regime.		
Iraqi Perspectives Project. Saddam and Terrorism: Emerging Insights from Captured Iraqi Documents. Volume 1-5 (Redacted)	Captured Iraqi documents have uncovered evidence that links the regime of Saddam Hussein to regional and global terrorism, including a variety of revolutionary, liberation, nationalist, and Islamic terrorist organizations. While these documents do not reveal direct coordination and assistance between the Saddam regime and the al Qaeda network, they do indicate that Saddam was willing to use, albeit cautiously, operatives affiliated with al Qaeda as long as Saddam could have these terrorist–operatives monitored closely. Because Saddam's security organizations and Osama bin Laden's terrorist network operated with similar aims (at least in the short term), considerable overlap was inevitable when monitoring, contacting, financing, and training the same outside groups. This created both the appearance of and, in some ways, a "de facto" link between the organizations. At times, these organizations would work together in pursuit of shared goals but still maintain their autonomy and independence because of innate caution and mutual distrust. Though the execution of Iraqi terror plots was not always successful, evidence shows that Saddam's use of terrorist tactics and his support for terrorist groups remained strong up until the collapse of the regime.	P-4287 UNCLASSIFIED Approved for public release; distribution is unlimited. BUT no URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
National Comparative Risk Assessment Pilot Project Cyber Intrusion Analysis − Process Control Systems	The Homeland Security Act of 2003 and the Homeland Security Presidential Directive 7 call for the Department of Homeland Security to conduct comprehensive assessments of the nation's critical infrastructure as well as establish uniform policies, approaches, guidelines and methodology for integrating Federal infrastructure and protection and risk management activities. An initial pilot project was undertaken to define a common risk model with common methodologies and approved scales to measure key parameters to accelerate the progress toward the stated goals of the Department in risk assessment activities. This report describes an extension of that analysis to the area of Risk Assessment for Cyber attacks. This involves defining cyber threats, the basic building blocks of security systems, and Cyber Defensive Configurations (CDCs) that are made up of the building blocks and are reasonable representations of actual systems, the development of scenarios for consequence evaluation, and providing notional examples of the computations.	P-4226 UNCLASSIFIED No URL DTIC accession no. ADA484402	2007
Potential of the Integrated Deepwater System to Deter a Maritime Terrorist Attack Volume 1: Main Report (U)	(U) The Integrated Deepwater System (IDS), the largest acquisition program in the history of the US Coast Guard (USCG), modernizes USCG cutters, aircraft, and systems, over twenty-five years at an approximate cost of $25 billion. With the key exception of the counterterrorism mission, the IDS system has been assessed for all USCG missions over the last decade. This paper addresses that gap by providing the means to estimate and approximately predict the effectiveness of IDS in countering maritime terrorist threats. An assessment of the impact of IDS acquisition on USCG counterter-	D-3149 Vol. 1: UNCLASSIFIED No URL No DTIC accession no. Vol. 2, Appendix E SECRET No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	rorism capabilities involves both careful consideration of the acquisition strategy, as well as an examination of threshold levels of deterrence. Reaching the deterrence threshold is critical to achieving effectiveness in the counterterrorism mission. Research has shown that terrorists are motivated primarily by the need to preserve their organization rather than by other factors such as ideology, religion, or financial gain. Thus, improvements in counterterrorism capabilities that threaten the success of terrorists' missions also threaten the integrity and viability of terrorist organizations and thereby pose an effective deterrent.		
Snapshot of Emerging U.S. Government Civilian Capabilities to Support Foreign Reconstruction and Stabilization Contingencies, A	This document described the civilian Executive Departments and selected independent administrations, agencies, commissions, and institutes of the Executive and Legislative Branches of U.S. Government as they appear in May 2006. The focus is on reconstruction and stabilization capabilities, but also addresses the broader capabilities of transformational diplomacy. The report identifies domestic responsibilities assigned in the National Response Plan and the potential capabilities (based on core competencies of organizations) that may be useful in contingencies operations. It also makes several observations and specific recommendations for improving the reconstruction and stabilization capabilities of the U.S. Government.	D-3269 UNCLASSIFIED No URL No DTIC accession no.	2007
Socio-Cultural Knowledge for Counterinsurgency	Operating forces require a broad array of socio-cultural information in order to conduct counterinsurgency operations. This report examines the specific types of socio-cultural knowledge important for	P-4187 For Official Use Only No URL	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	counterinsurgency operations, and the current system for producing and distributing that knowledge (through education, training, doctrine, databases) within DoD. This report provides a "snapshot" of the state of socio-cultural knowledge within the DoD between September 2005 and October 2006.	No DTIC accession no.	
Strategic and Operational Perspectives of Al Qaida and Associated Movements: Phase 2 (non-standard release) (U)	(U) Traditionally, works on terrorism omit the study of strategy and focus on the near-term tactical level. This report corrects this oversight with regard to Al Qaida and associated movements (AQAM). It tries to synthesize the strategic lessons of enemy leaders and thinkers for the benefit of U.S. civilian and military policymakers, planners, and professional military educators. The study draws directly upon the words of AQAM as found primarily in captured documents and his open-source pronouncements. The study describes a revolutionary movement that thinks of itself in those terms, i.e. not as a network. The intellectual leaders of AQAM are very concerned about the status of this movement, believing that the uncoordinated actions of its members repel the very Muslims that they need to attract. They are also concerned that they are losing the war of ideas and are isolated in an overwhelming hostile media environment. In the face of these and other challenges, the movement's intellectual leadership engages in a vigorous process of analysis, self-criticism and adaptation. Unfortunately, for them, their ability to implement their adaptive policies is imperfect. Note: See IDA Paper P-4208 for the version available for distribution.	P-4291 SECRET//NOFORN Non-standard publication No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Strategic and Operational Perspectives of Al Qaida and Associated Movements: Phase 2 (U)	(U) Traditionally, works on terrorism omit the study of strategy and focus on the near-term tactical level. This report corrects this oversight with regard to Al Qaida and associated movements (AQAM). It tries to synthesize the strategic lessons of enemy leaders and thinkers for the benefit of U.S. civilian and military policymakers, planners, and professional military educators. The study draws directly upon the words of AQAM as found primarily in captured documents and his open-source pronouncements. The study describes a revolutionary movement that thinks of itself in those terms, i.e., not as a network. The intellectual leaders of AQAM are very concerned about the status of this movement, believing that the uncoordinated actions of its members repel the very Muslims that they need to attract. They are also concerned that they are losing the war of ideas and are isolated in an overwhelming hostile media environment. In the face of these and other challenges, the movement's intellectual leadership engages in a vigorous process of analysis, self-criticism, and adaptation. Unfortunately, for them, their ability to implement their adaptive policies is imperfect.	P-4208 SECRET//NOFORN No URL No DTIC accession no.	2007
Technical Assessment of Options for Active Protection Systems for Land Vehicles Volume I: Final Report	Section 234 of Public Law 109-364 directed the Secretary of Defense to enter into a contract with "an appropriate entity independent of the U.S. Government to conduct an assessment of various foreign and domestic technological approaches to vehicle-based Active Protection Systems (APS) for defense against both chemical energy and kinetic energy top-attack and direct-fire threats, including anti-tank missiles and rocket propelled grenades, mortars, and other similar battlefield threats." DoD selected IDA to provide the required independent assessment. Interactions with the professional	D-3399 (Vols. 1–4) Vol.1: UNCLASSIFIED/For Official Use Only No URL DTIC accession no. ADB330957	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	staff of the Committee on Armed Services, United States Senate at the outset of this effort identified hard-kill APS as the primary interest. Consequently, this assessment focuses on hard-kill APS options.		
Technical Assessment of Options for Active Protection Systems for Land Vehicles Volume II: Active Protection System Concepts	Section 234 of Public Law 109-364 directed the Secretary of Defense to enter into a contract with "an appropriate entity independent of the U.S. Government to conduct an assessment of various foreign and domestic technological approaches to vehicle-based Active Protection Systems (APS) for defense against both chemical energy and kinetic energy top-attack and direct-fire threats, including anti-tank missiles and rocket propelled grenades, mortars, and other similar battlefield threats." DoD selected IDA to provide the required independent assessment. Interactions with the professional staff of the Committee on Armed Services, United States Senate at the outset of this effort identified hard-kill APS as the primary interest. Consequently, this assessment focuses on hard-kill APS options.	D-3399 Vol. 2: UNCLASSIFIED/For Official Use Only No URL DTIC accession no. ADB331028	2007
Technical Assessment of Options for Active Protection Systems for Land Vehicles Volume III: Israeli Active Protection Systems	(U) Section 234 of Public Law 109-364 directed the Secretary of Defense to enter into a contract with "an appropriate entity independent of the U.S. Government to conduct an assessment of various foreign and domestic technological approaches to vehicle-based Active Protection Systems (APS) for defense against both chemical energy and kinetic energy top-attack and direct-fire threats, including anti-tank missiles and rocket propelled grenades, mortars, and other similar battlefield threats." DoD selected IDA to provide the required independent assessment. Interactions with the professional	D-3399 Vol. 3: SECRET//For Official Use Only//NOFO No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	staff of the Committee on Armed Services, United States Senate at the outset of this effort identified hard-kill APS as the primary interest. Consequently, this assessment focuses on hard-kill APS options.		
Technical Assessment of Options for Active Protection Systems for Land Vehicles Volume IV: Final Report Briefing	Section 234 of Public Law 109-364 directed the Secretary of Defense to enter into a contract with "an appropriate entity independent of the U.S. Government to conduct an assessment of various foreign and domestic technological approaches to vehicle-based Active Protection Systems (APS) for defense against both chemical energy and kinetic energy top-attack and direct-fire threats, including anti-tank missiles and rocket propelled grenades, mortars, and other similar battlefield threats." DoD selected IDA to provide the required independent assessment. Interactions with the professional staff of the Committee on Armed Services, United States Senate at the outset of this effort identified hard-kill APS as the primary interest. Consequently, this assessment focuses on hard-kill APS options.	D-3399 Vol. 4: UNCLASSIFIED No URL DTIC accession no. ADB331006	2007
Unit Perspectives Project, The: Tactical Intelligence and the Iraqi Threat Through Warriors' Eyes	In 2005, DNI asked IDA to develop a more granular, bottom-up view of the insurgency and sectarian violence in Iraq, from the perspective of recently returned combat leaders and their staffs, and to assess the availability and adequacy of tactical intelligence available to those commanders. An IDA study team conducted interviews with focus groups in the continental United States, Alaska, Germany, and the United Kingdom, meeting with 365 officers and non-commissioned officers who had recently served with US military and British Army combat units in Iraq. The study team ex-	P-4219 UNCLASSIFIED No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	amined the insurgency and sectarian violence by region, province, or city. The team concluded that who is behind the violence – and why – differs greatly from province to province, city to city, and, in large cities like Baghdad, from neighborhood to neighborhood. To address tactical intelligence, the study team investigated how Coalition and Iraqi national-level intelligence assets support the tactical fight. These tactical commanders speak of the need for greater flexibility to manage human intelligence resources as well as the scarcity of new collection and analysis systems at the brigade level and below.		
United States Africa Command Posture (U)	(U) This paper is an analysis of twenty African nations conducted in support of USAFRICOM to help the Commander and his staff ascertain the appropriate posture for the command on the continent of Africa.	P-4310 SECRET//NOFORN No URL No DTIC accession no.	2007
Voices of the Enemy: Quotations from Al-Qaida and Associated Movements (AQAM)	Al-Qaeda and associated movements (AQAM) have been living in a state of war for more than four decades in places such as Egypt, Iraq, Afghanistan, Bosnia, Indonesia, and Chechnya. The IDA study team focused on the Salafist threat posed by AQAM. The Salafi jihadist leaders have developed a powerful narrative of history that appeals to and mobilizes their membership, though this narrative is based on questionable historical interpretations. Their strategists have learned from recent military history that they will need to have both a sound strategy and the leaders who see to it that the strategy is followed. The IDA study team used the enemy's own words from three sets of resources: (1) documents in print and on the Web, (2) captured enemy documents, and (3) open sources. More than	P-4196 For Official Use Only No URL No DTIC accession no.	2007

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	250,000 documents from open and classified sources, including documents captured during OPERATIONS ENDURING FREEDOM and IRAQI FREEDOM, were read, analyzed, and cataloged by the IDA study team.		

2008 (January Through Fall 2008)

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Anti-Terrorism Engagement with the People's Republic of China (PRC): Perspectives on China Trips	The IDA Study team's two visits to the Republic of China – the initial visit in July and August of 2007 and the final visit in January of 2008 – to establish a tier-two relationship with one of China's premiere think tanks, the China Institutes of Contemporary International Relations (CICIR). The visits achieved success for the following reasons: a solid and effective working relationship between IDA and the CICIR showed great promise for successful long-term engagement; as agreed by IDA and CICIR leadership, the special relationship between the two state-level institutions established a mechanism for exchange of important "back channel" communications between top levels of the Chinese government and the U.S. Government; the anti-terrorism workshop exceeded expectations; Chinese participation was robust and exchange of ideas featured a willingness on the Chinese side to be fully forthcoming; the initial engagement activity had set a standard for professional conduct of cooperative workshops and fostering sound confidence building measures; and Chinese leadership at CICIR placed a special significance on the relationship with IDA, calling it a work-unit-to-work unit (*danwei* to *danwei*) relationship, a term that carried important meaning in China.	D-3516 UNCLASSIFIED//For Official Use Only No URL No DTIC accession no.	2008

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Best Practices for Geographic Combatant Command Transformations: SOUTHCOM and AFRICOM	Two U.S. geographic combatant commands are undergoing directed transformation. U.S. Africa Command (AFRICOM) is a new command assigned responsibility for an area carved out of geographic areas formerly assigned to three other combatant commands. It was initially formed on 1 October 2007 under guidance provided by the President and is to achieve full operational capability as a military command on 1 October 2008. Over the longer term, the command is to become an interagency focused organization, with both civilian agency and military representation, so that it can build partner capacity and promote common U.S. goals of development, health, education, democracy, and economic growth in its assigned area. U.S. Southern Command (SOUTHCOM) is an existing combatant command that has received explicit guidance from the Secretary of Defense to transform itself "toward an interagency operation." This briefing identifies the challenges and opportunities that these two commands have encountered as they undergo the initial phases of transformation. The briefing is a snapshot of the processes and is intended for two audiences. It provides the lessons identified by the military commands through March 2008 and serves as a compendium of Best Practices for other combatant commands as they undergo transformation. It is also intended to inform the civilian partners of the commands' on the objectives of these transformations and the challenges and opportunities each has encountered during the initial phases of transformation.	D-3577 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2008

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Countering the Effects of Violent Transnational Crime: Major Findings of the Technical Seminar	To advance the understanding of how illicit markets operate and support violent anti-government groups, the United Nations Office on Drugs and Crime (UNODC) hosted a two-day expert's level technical seminar, "Countering the Effects of Violent Transnational Crime," on 5–6 December 2007. The event, held at the Vienna International Centre (VIC), was sponsored by the U.S. Department of State and administered by IDA. Attendance was by invitation only and based upon technical expertise and experience. Seminar topics concentrated on histories of transnational crime and connections to anti-government/terrorist groups, similarities between criminal and terrorist network operations, the underlying organizational principles governing their behavior, and viable strategies for defeating them. The Colombian narco-insurgency and criminal activities in the surrounding regions were examined as the largest case study of successfully countering the legitimacy and capabilities of a criminal-based anti-government group. The consensus of the world-wide experts assembled at the seminar was (1) the failure to grasp and deal with emerging violent transnational criminal groups will continue to create larger and larger numbers of self-financed anti-government forces unless checked by efficient strategies; and (2) the emerging unfavorable situation in Afghanistan requires immediate application of the scientific principles enumerated in the seminar.	D-3560 UNCLASSIFIED No URL DTIC accession no. ADA484525	2008
Developing an Adaptability Training Strategy and Policy for DoD – Interim Report	This paper follows a previous IDA study that found that the key skill or attribute that individuals, units, and teams of commanders and leaders need to acquire, given the uncertainty of current and future threats, is adaptability. This study reports on a comprehensive	P-4358 UNCLASSIFIED No URL No DTIC accession no. Draft Final has not been	2008

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	survey of current adaptability training initiatives in various military and non-military venues and the survey's conclusions regarding the "best of breed." The study also provides an analysis of potential experiments to demonstrate that adaptability is trainable, including an examination of issues related to the metrics necessary to validate those experiments. Finally, this interim report provides preliminary recommendations for changes to training policies intended to promote adaptability, as well as recommendations for next steps in the study and future avenues of research.	approved by the sponsor for distribution and release	
Emerging U.S. Government Capabilities to Support Foreign Reconstruction and Stabilization Contingencies	This paper summarizes the results of research conducted to establish a baseline to support U.S. Government interagency and multinational experimentation. It describes the civilian Executive Departments and selected independent administrations, agencies, commissions, and institutes of the Executive and Legislative Branches of U.S. Government as they appeared in March 2007. The focus of the research is on reconstruction and stabilization capabilities, but it also addresses the broader capabilities of transformational diplomacy. The report identifies civilian capabilities that respond to domestic responsibilities assigned in the National Response Plan, and the potential capabilities of these organizations, based on their core competencies, that may be useful in contingency operations as the Interagency Management System is implemented. The research resulted in several specific recommendations for improving the reconstruction and stabilization capabilities of the U.S. Government, and a number of observations that should be considered when addressing these challenges and opportunities.	D-3525 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2008

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
Human Terrain System Yearly Report 2007-2008	The Human Terrain System (HTS) was created in order to better understand host populations, specifically in Afghanistan and Iraq, where current US military operations are ongoing. Various Human Terrain Teams (HTT) were assembled, comprising social scientists, military personnel, and cultural analysts to assist in improving US and host population's relations. This report details the findings and recommendations from the multiple HTT teams assigned to Afghanistan and Iraq.	P-4379 Non-standard publication UNCLASSIFIED//For Official Use Only No URL No DTIC accession no.	2008
Idea Spread: Toward a Research Program in Socio-Cultural Modeling and Cultural Engineering for Security, Defense, and Intelligence	This document describes key factors in a dynamic model of idea spread as a matter of intelligence, security, and defense, and to outline the ways these factors form the basis of a longer-term, robust research program in the area.	D-3601 UNCLASSIFIED Approved for public release; distribution unlimited. BUT no URL No DTIC accession no.	2008
Import for and Challenges to or Presented by the New U.S. Operational and Counterinsurgency Doctrines, The: FM-3: FM-3-24 MCWP (U)	(U) Lead presentation at ISMOR Annual Conference, 25 August 2008.	D-3596 SECRET//NOFORN No URL No DTIC accession no.	2008

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
In Search of Salafi Jihadist Strategic Thought: Mining the Words of the Terrorists	Al Qaida and associated networks (AQAN) is a loose conglomeration of organized groups, amorphous communities of interest, and even isolated individuals linked by only one thing: their adherence to a particular form of Sunni Islam that they call *Salafi jihadism*. The written works of a small but intellectually vigorous community of *Salafi jihadist* thinkers within AQAN show that strategic thought exists within their terrorist community. This strategic thought is grounding in mainstream global thought on revolutionary warfare. A key concern for these strategic thinkers, however, is the extent to which the rank and file of the community ignore their strategically prudent prescriptions and instead engages in disjointed, often counterproductive operations. In the face of these problems, the community's strategic thinkers are adapting, adopting ideas more consonant with "leaderless resistance." The US Government is soon to open an extensive collection of captured terrorist documents at a new Conflict Records Research Center. These documents will provide a rich field of inquiry for such analyses.	P-4381 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2008
Independent Assessment Panel: Command and Control Structures and Authorities for Cyber Operations (U)	(U) IDA was tasked in June 2008 to provide an independent assessment of approaches for DoD command can control structures and authorities to meet mission needs for cyber operations. An independent assessment panel was formed to conduct the needed work. The scope of the review included panel discussions with leadership from USD(AT&L), USD(P), USD(I), ASD(NII)/DoD CIO, J2, J3, J5, J6, JFCOM, NORTHCOM, PACOM, SOCOM, STRATCOM, Army, Navy Air Force, DISA, NSA, and others. The panel	P-4383 SECRET No URL No DTIC accession no.	2008

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	evaluated the effectiveness and deficiencies of current structure, authorities, roles, and responsibilities and identified some key issues for cyber operations. The panel provided several alternative constructs for command and control of joint cyberspace forces to include an assessment of the advantages and disadvantages. This report summarizes the panel findings and recommendations.		
Inside the Detention Camps: A New Campaign in Iraq	The United States invaded Iraq in 2003 without a detailed plan for handling large numbers of detainees in counterinsurgency (COIN) warfare. One consequence was the Abu Ghraib prison scandal that surfaced in 2004. Since then, the United States has struggled to regain the moral "high ground" and the trust of Iraqis. Following Abu Ghraib, the US military concentrated mainly on enforcing conventional "care and treatment" standards for the humane handling of detainees. Insurgents, on the other hand, challenged Coalition Force authority in the camps and worked to recruit and train insurgents inside US detention facilities. Polls, interviews, and other sources showed that Iraqis (especially Sunnis) overwhelmingly saw detention and detainee treatment as unfair. Anger stemming from perceptions of unfair detention by "occupiers" provided support for insurgents and fertile ground for recruiting. In the past year, the handling of detainees underwent a transformation. The new approach, under Task Force 134, encourages detainees to embrace a more moderate view of Islam, reject violence, and support the Government of Iraq. The apparent success of this approach, coupled with a belief that faster release of detainees could yield political advantages, sparked a proposal to accelerate the release of detainees. Accelerated release can reduce the alienating effects of deten-	D-3581 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2008

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	tion and meet political demands to free Iraqis; but it also risks ing them rejoin the insurgency and could jeopardize fragile security gains. Pressed to inform General Petraeus of complicated decision aspects, the Multi-National Force, Iraq (MNF-I) staff directed an assessment of the proposal's risks and benefits. This article describes the new detainee policies, summarizes the effort to assess benefits and risks, highlights the reaction to that assessment, and explains early (and expected) campaign impacts. While the jury remains out on the long-term effects (curbing recidivism or cramping insurgent recruitment, for example), it provides a useful case study in adaptation in war.		
Learning from the First Victory of the 21st Century: Mazar-e Sharif. An Educational/Training Resource Guide	An IDA/Defense Advanced Research Project Agency (DARPA) team reconstructed selected events from the Campaign for Mazar-e Sharif to support historical analysis, leadership development, and research and development. The result of that work provided a comparison of simulation technologies from '73 Easting to those available for Mazar-e Sharif, an overview of the campaign, and a methodology for experimentation. General Peter J. Schoomaker, Chief of Staff of the Army, asked that the material be consolidated into a DVD set to be used as an educational resource for leadership development. He felt that the lessons from Mazar-e Sharif were applicable at many leadership levels, reaching from the NCO to the four-star general. The objective, capitalizing on previous work, is to complete the 21st century textbook, "Learning from the First Victory of the 21st Century: Mazar-e Sharif," as an instructional resource for leader development as well as to support historical analysis and further research and development. The textbook will consist of two	D-3380 UNCLASSIFIED No URL No DTIC accession no.	2008

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	DVDs, one unclassified, the other classified, that include multimedia/multi-perspective reconstruction of the campaign and an archive of the reference materials. The purpose of this publication is to offer the various centers, schools, and organizations an approach to using this educational resource and integrating it into their programs.		
Learning from the First Victory of the 21st Century: Mazar-e Sharif	At the request of the combatant commander, U.S. Central Command (USCENTCOM) and IDA/DARPA team collected data from the battlefields and, using state-of-the art simulation tools, reconstructed selected events from the Campaign of Mazar-e Sharif. The product will serve as an "instructional tool for future leader development" and will support historical analysis as well as facilitate further research and development. This video, "Campaign of Mazar-e Sharif" provides an overview of the campaign as a prelude to the reconstruction effort.	D-3550 Non-standard publication UNCLASSIFIED No URL No DTIC accession no.	2008
Memetics – Overview and Baseline Models	This report documents key notions and ideas that collectively comprise what is known as *meme theory* or *memetics* – an emerging area of research for potential applicability in the defense, homeland security, and intelligence arenas – and introduces existing classes of mathematical models for growth, survival, and the dynamics of biological systems as a platform for developing mathematical modes in memetics.	D-3599 IDA CRP UNCLASSIFIED Approved for public release; distribution unlimited. No URL No DTIC accession no.	2008
Perspectives of Iran	This document is the by-product of an experiment to determine the extent to which unclassified, open source material can expand our understanding of a topic of interest to our national security. The subject is the development of nuclear power by Iran, but rather than	P-4343 UNCLASSIFIED//For Official Use Only No URL No DTIC accession no.	2008

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	focusing on a scientific investigation, the research team was asked to explore the societal context. For this reason details about the Iranian military, the national economy, and the details of the nuclear program itself are captured in appendices. The main body of the report concentrates on the people, their perceptions and the fissures in their social fabric. Since 1979, the United States has had little direct dialog and commerce with Iran; therefore, our ability to take the pulse of the people has been compromised. An analysis such as this with its reliance on public expression and interviews with individuals who have spent significant time in Iran in recent years may help close our gap in understanding and create a basis for entering into meaningful dialog.		
SaffronWeb Assessment (U)	(U) In 2007, the Counter Narcotics Analysis Cell (CNAC) identified SaffronWeb as a candidate technology to assist intelligence and law enforcement analysts to improve the timeliness and quality of their work. The SaffronWeb tool expected to assist intelligence and law enforcement analysts in identification and depiction of social networks, helps analysts search through text documents linking persons, places, and entities so that a mapping of multiple, complex relationships emerges. Two types of evaluations were conducted of the SaffronWeb software: one to assess the ease of use and utility to end-users; the other to assess the technical complexity of setting up the computing environment. Although SaffronWeb provides a relatively intuitive graphical user interface (GUI) that facilitates the construction and storage of queries and the manipulation of entity information, when SaffronWeb was applied to two test data sets, two types of problems became apparent. First, the use of the Inxight	D-3587 SECRET//NOFORN No URL No DTIC accession no.	2008

TITLE	ABSTRACT	IDA PUBLICATION NO. & LIMITATIONS	PUBLICATION YEAR
	entity extractor – a tool that automatically identifies persons, places, and things – on real-world intelligence information yielded results that, when employed by the SaffronWeb software, produced unclear or ambiguous results. Second, the methodology used by Saffron-Web to ingest data (input documents into the software's analytical engine) from Inxight failed to allow analysts to adjust the information once ingested. Moreover, the process does not allow for the redefinition of extracted entities when identification errors are encountered by analysts. At this time, it is not recommended that the CNAC acquire the SaffronWeb capability for its analytical work. However, periodically it will be important to relook at the capability as it matures and is applied by other Saffron customers.		

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14. ABSTRACT

Since 9/11, a body of analytical perspective and expertise on irregular warfare and associated topics has arisen at IDA, influencing the work of colleagues, sponsors, and customers who seldom, if ever, are able to peruse the full range of what is presented. The purpose of this annotated bibliography is to (1) convey the kinds of data related to irregular warfare that have been collected and analyzed by IDA research staff, (2) depict the growing body of knowledge resident at IDA, and (3) illuminate IDA's capabilities for future work in irregular warfare. The term *irregular warfare* had only come into common use recently, and most analysts had seen irregular warfare as a broad and diverse topic. However, over time and with greater use, DoD has been moving towards formalizing the term, and this helped the author of this publication to discern and refine the scope of his effort. The author reviewed IDA final publications, dating from 2000 to the fall of 2008, and solicited potential candidates from other IDA analysts as well. The final compilation was reviewed by IDA staff members with backgrounds in irregular warfare and associated topics.

15. SUBJECT TERMS

Afghanistan, asymmetry, bibliography, counterinsurgency, counterterrorism, data collection, foreign internal defense, Iran, Iraq, irregular warfare, OPERATION ENDURING FREEDOM, OPERATION IRAQI FREEDOM, unconventional warfare.

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