



# PROJECT AIR FORCE

- THE ARTS
- CHILD POLICY
- CIVIL JUSTICE
- EDUCATION
- ENERGY AND ENVIRONMENT
- HEALTH AND HEALTH CARE
- INTERNATIONAL AFFAIRS
- NATIONAL SECURITY
- POPULATION AND AGING
- PUBLIC SAFETY
- SCIENCE AND TECHNOLOGY
- SUBSTANCE ABUSE
- TERRORISM AND HOMELAND SECURITY
- TRANSPORTATION AND INFRASTRUCTURE
- WORKFORCE AND WORKPLACE

This PDF document was made available from [www.rand.org](http://www.rand.org) as a public service of the RAND Corporation.

[Jump down to document](#) ▼

The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world.

## Support RAND

[Purchase this document](#)

[Browse Books & Publications](#)

[Make a charitable contribution](#)

## For More Information

Visit RAND at [www.rand.org](http://www.rand.org)

Explore [RAND Project AIR FORCE](#)

View [document details](#)

## Limited Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law as indicated in a notice appearing later in this work. This electronic representation of RAND intellectual property is provided for non-commercial use only. Unauthorized posting of RAND PDFs to a non-RAND Web site is prohibited. RAND PDFs are protected under copyright law. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use. For information on reprint and linking permissions, please see [RAND Permissions](#).

This product is part of the RAND Corporation monograph series. RAND monographs present major research findings that address the challenges facing the public and private sectors. All RAND monographs undergo rigorous peer review to ensure high standards for research quality and objectivity.

# **Dangerous Thresholds**

## **Managing Escalation in the 21st Century**

**Forrest E. Morgan ■ Karl P. Mueller  
Evan S. Medeiros ■ Kevin L. Pollpeter ■ Roger Cliff**

**Prepared for the United States Air Force**

Approved for public release; distribution unlimited



**RAND** PROJECT AIR FORCE

The research described in this report was sponsored by the United States Air Force under Contracts F49642-01-C-0003 and FA7014-06-C-0001. Further information may be obtained from the Strategic Planning Division, Directorate of Plans, Hq USAF.

**Library of Congress Cataloging-in-Publication Data**

Is Available

The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.

**RAND®** is a registered trademark.

*Cover design by Ron Miller*

© Copyright 2008 RAND Corporation

All rights reserved. No part of this book may be reproduced in any form by any electronic or mechanical means (including photocopying, recording, or information storage and retrieval) without permission in writing from RAND.

Published 2008 by the RAND Corporation

1776 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138

1200 South Hayes Street, Arlington, VA 22202-5050

4570 Fifth Avenue, Suite 600, Pittsburgh, PA 15213-2665

RAND URL: <http://www.rand.org>

To order RAND documents or to obtain additional information, contact

Distribution Services: Telephone: (310) 451-7002;

Fax: (310) 451-6915; Email: [order@rand.org](mailto:order@rand.org)

# Summary

---

## Background

*Escalation* can be defined as an increase in the intensity or scope of conflict that crosses threshold(s) considered significant by one or more of the participants. Escalation is a natural tendency in any form of human competition. When competition involves military confrontation or limited war, the pressure to escalate can become intense because of the weight of issues that bring actors into violent conflict and the potential costs of losing contests of deadly force. Escalation can be unilateral, but it is often reciprocal, as each combatant struggles ever harder to achieve victory or avoid defeat. Left unchecked, escalatory chain reactions can occur, raising the costs of war to catastrophic levels for combatants and noncombatants alike.

Cold War–era thinking about escalation focused on the dynamics of bipolar, superpower confrontation, and theories on how to manage it emerged as a branch of nuclear-deterrence literature. In that era, U.S. leaders could focus their attention on one principal adversary, the Soviet Union. Although the prospect of war with a nuclear superpower was frightening, anticipating and managing confrontations with Moscow was, in many ways, an easier task than those that U.S. leaders face today.

The current security environment is complicated by a wide range of threats that fall broadly into three interrelated but relatively distinct categories. Each of these threats entails a significant risk of escalation. First, the United States must remain prepared to manage potential confrontations with other large nuclear powers, such as Russia and, par-

ticularly, China. Second, the emergence of new nuclear-armed powers in regions in which the United States has important interests increases the risk of escalation in regional crises and challenges efforts to manage that risk should the United States choose to intervene. Finally, there is a risk of escalation from a range of irregular warfare threats resulting from the decline or failure of state authority in several strategically important regions; from the rise of a violent, transnational Islamist movement; and from advances in information networks that have enabled an international nexus of insurgent, terrorist, and criminal groups hostile to the United States.

## Key Findings

### The Nature of Escalation and Escalation Management

The first step to managing escalation is to understand its fundamental nature. Because escalation is an interactive phenomenon, one in which any party to a conflict can play a role, it can rarely, if ever, be *controlled*, in the normal sense of the word. However, by understanding the motives that drive escalation and the mechanisms through which it manifests, military and political leaders can anticipate the risks of escalation in a potential confrontation, recognize them as they emerge, and manage them by manipulating the tacit negotiations with opponents that characterize military confrontations and limited war. (See pp. 8–18.)

The escalation mechanism and motive that is most easily recognized and understood is *deliberate escalation* carried out for instrumental reasons. In this mode, a combatant deliberately increases the intensity or scope of an operation to gain advantage or avoid defeat. Combatants also deliberately escalate conflicts, or indicate that they are willing to do so, for suggestive purposes in an effort to send signals to an enemy. Deliberate acts of suggestive escalation may be done to punish enemies for earlier escalatory deeds or to warn them that they are at risk of even greater escalation if they do not comply with coercive demands. (See pp. 20–23, 30–33.)

The key to managing an enemy's propensity for deliberate escalation, whether instrumental or suggestive, lies in deterrence: discouraging an enemy from deliberately escalating a conflict by convincing that enemy that the costs of such actions will outweigh the benefits that may be accrued through escalation. Deterrence is most often associated with threats of punishment, and, indeed, that is the most direct way of manipulating an enemy's cost-benefit calculations. However, punishment-based deterrence may lack credibility in a limited conflict in which the adversary doubts that the other party has the capability or will to carry out a threat. (See pp. 22–23.)

More serious weaknesses emerge in punishment-based deterrence when there is significant asymmetry of stakes between parties to the conflict. An enemy that perceives that its stakes are high will be willing to bear greater costs and, therefore, will be less sensitive to threats of punishment. And if that enemy believes that the threatener's stakes are low, there may be doubt that the threatener is willing to bear the reciprocal costs of escalation or pay the political price of carrying out the threats.

Therefore, a more reliable strategy for deterring deliberate escalation is one that buttresses threats of punishment with visible capabilities for denial. Denial-based deterrence strategies entail discouraging an adversary from taking a prohibited action by convincing enemy leaders that such efforts can be countered sufficiently to deny their benefit.

The second fundamental mechanism that frequently causes wars to increase in scope and intensity is *inadvertent escalation*—that is, the mechanism that engages when a combatant deliberately takes actions that it does not perceive to be escalatory but are interpreted that way by the enemy. The cause of this phenomenon lies largely in the vague nature of escalation thresholds, which are inherently subjective and sometimes fluid. It is often difficult to divine what acts the enemy will consider escalatory, beyond the most obvious, such as attacks on the homeland, deliberate attacks on civilians or cherished sites, or the use of prohibited weapons. (See pp. 23–28.)

The key to managing risks of inadvertent escalation lies in clarifying thresholds—on all sides of a conflict. At or before the onset of a crisis, the United States should collect and analyze all available intel-

ligence to determine where the enemy's salient escalation thresholds might lie. Such analyses should continue throughout a conflict. When likely thresholds are identified, U.S. leaders can respect them to avoid escalation or deliberately violate them if they conclude that escalation is affordable and will work to U.S. advantage. Either way, the choice to escalate or not becomes a conscious decision: It is managed. Similarly, U.S. leaders can reduce the risk that an adversary will inadvertently escalate a conflict by explicitly stating what actions the United States would consider to be seriously escalatory. As demonstrated in the first Gulf War, in which Saddam Hussein was warned against using chemical weapons, such statements carry an implicit threat of retribution and, therefore, simultaneously serve both to clarify thresholds and deter escalation.

The third fundamental mechanism of escalation is that which occurs by accident. *Accidental escalation* occurs when operators make mistakes, such as bombing the wrong targets or straying across geographical boundaries. It can also occur when leaders fail to set appropriate rules of engagement (ROE) or fail to maintain adequate discipline over the forces under their command. (See pp. 26–28.)

Although the risks of accidental escalation can never be completely eliminated, the key to mitigating them lies in effective force management. Leaders must assess the potential costs of escalatory acts, establish appropriate ROE, and enforce those rules among subordinate forces. The risk of accidents is further reduced with diligent training and exercise before engagement and effective command and control throughout the operation.

### **Escalation Dominance as a Means of Escalation Management**

Because no nation today can rival U.S. power across the full range of nuclear and conventional military capabilities, some military and political leaders have concluded that the surest way for U.S. forces to manage the risks of escalation is to impose escalation dominance on their adversaries. The United States does, indeed, command a wide

range of asymmetric strengths.<sup>1</sup> However, cases examined for this study suggest that escalation dominance is difficult to achieve against a committed adversary, even when the combatant seeking it enjoys vastly disproportionate strengths. More often, attempts to impose escalation dominance result in reciprocal escalation, as opponents seek ways to mitigate their enemies' advantage, prolong the conflict, and strive for asymmetric strengths of their own. (See pp. 15–17, 34–36.)

When escalation dominance does occur, it is more often the result of a combatant discovering, and effectively exploiting, some *asymmetric vulnerability* in an opponent, thereby imposing some cost that the opponent cannot avoid and is not willing to bear. For the United States, low stakes in some past conflicts have exposed such an asymmetric vulnerability in the form of casualty aversion, enabling adversaries to achieve escalation dominance on U.S. forces despite U.S. asymmetric strength in conventional warfighting capabilities. (See pp. 17, 40–42.)

Ironically, escalation dominance is most achievable when escalation management is of least concern. The United States might well achieve escalation dominance when confronting a state that possesses limited conventional capabilities and is not armed with nuclear weapons. However, if the United States confronts a significant regional power, particularly one armed with nuclear weapons, escalation-management concerns rise to the fore while prospects of escalation dominance become more remote. When enemies possess even a few nuclear weapons, attempting to impose dominance is a dangerous approach to escalation management. (See pp. 83–115.)

### **Technology and Escalation**

The very essence of air- and spacepower lies in the orchestration of sophisticated technological capabilities, something that the U.S. Air Force does better than any other military institution in the world. It

---

<sup>1</sup> Although it has become fashionable to use the word asymmetric when referring to unconventional or covert attacks by weak states or nonstate actors, we use the word more literally. An asymmetric strength or weakness is simply a quality of one adversary that the other lacks in kind to a substantial degree. An asymmetric attack is one that exploits such a mismatch in capabilities or some undefended weakness, regardless of the nature of the weapon or tactic employed.

is almost axiomatic that *weapons do not escalate*; rather, *people escalate with weapons*. Yet, it is important to keep in mind that any technology that enables a military force to fight with more speed, range, and lethality will enable that force to cross escalation thresholds faster. In limited war, better technology can make a bad strategy more costly. (See pp. 160–169.)

Beyond that, deploying certain kinds of weapons to locations where they will be vulnerable may contribute to structural instability, making escalation more likely. Weapons or systems enabling capabilities that appear very threatening to adversaries but are difficult for U.S. forces to defend present tempting targets for escalation if deployed within reach of an enemy's strike assets. The U.S. military's growing dependence on space may be an example of such a structural instability, because the United States' orbital infrastructure enables U.S. forces in significant ways, yet that infrastructure is largely undefended, and portions of it may be within reach of more sophisticated potential adversaries (pp. 41–42).

On the other hand, lacking certain capabilities may also contribute to structural instability, prompting adversaries to escalate in ways against which the United States lacks proportionate responses. Leaving such options as the use of chemical or biological weapons available to an adversary risks exposing U.S. leaders to an *escalation dilemma*, forcing them to choose between allowing a painful enemy escalation go unanswered or responding with a disproportionate escalation that may entail undesirable military or political cost.

### **Managing Escalation Risks in Today's World**

Military confrontations or limited conflicts with actors in any of the threat categories that characterize the current security environment would entail serious risks of escalation. Managing them will require strategies tailored for the kind of adversary engaged and the interests at stake. (See p. 169.)

### **China**

A Sino-U.S. confrontation would present significant risks of inadvertent escalation if military forces were permitted to operate in keeping

with their doctrinal tenets without regard for escalation thresholds. Chinese leaders and security analysts seem aware of the need to control escalation, as do their American counterparts, but operational military doctrines in both China and the United States emphasize surprise, speed, and deep strikes to seize the initiative and achieve dominance. Neither body of doctrine appears to consider how an adversary might react to such operations in a limited war: Indeed, each seems to assume that it will suppress enemy escalation by dominating the conflict. (See pp. 42–43, 47–81.)

Managing escalation in a limited conflict with China will require U.S. leaders to take a firm hand, not only in controlling their own military forces but also in clarifying thresholds and deterring the Chinese from violating them. At the onset of a crisis, U.S. leaders will need to assess each side's interests at stake and estimate the cost that the United States can bear in potential escalation. They will need to conduct an in-depth analysis of Chinese escalation thresholds and weigh the risks of violating them against operational necessity. At the same time, the United States should clearly state what forms of Chinese escalation are unacceptable and develop strategies for deterring Beijing from committing those acts. Because it may be difficult to make some threats of retribution credible in a limited conflict, such deterrent strategies should be fortified as much as possible via defensive capabilities to deny China success and benefits from attempted escalation. (See pp. 169–170.)

### **Regional Nuclear Powers**

Newly emerging regional nuclear powers present escalation risks, in part, by virtue of their lack of doctrine and experience in nuclear force management. Moreover, such states initially lack survivable second-strike capabilities, and that generates “use-or-lose” pressures when they feel threatened. Historically, new nuclear powers have sometimes engaged in provocative behavior soon after achieving nuclear capability, suggesting that leaders of such states tend to overestimate the ability of nuclear weapons to deter conventional conflict. All this suggests that emergent nuclear states are more likely to make catastrophic errors than are longer-established nuclear powers: Their leaders and forces may precipitate a crisis and act unpredictably. Complicating

matters, all the new and soon-to-be nuclear powers have bitter animosities with their neighbors and some are embroiled in ongoing conflicts. North Korea and Iran are hostile to the United States, and Washington has singled them out as rogues and members of an “axis of evil.” Therefore, they may be anxious that the United States will attempt to impose regime change on them, raising risks of escalation should U.S. forces intervene in crises in their regions. Finally, some of these states have domestic problems that threaten their stability, and factions within them have known links to terrorist groups. (See pp. 84–96.)

Strategies for managing escalation risk in confrontations with new nuclear states will resemble those for conflicts with other nuclear powers, but they must hedge against a greater potential for miscalculation. U.S. statements about thresholds will need to be more explicit, and deterrent threats more pointed. Beyond that, the United States should focus on developing effective ballistic and cruise missile defenses, as well as other means of defending U.S. forces and regional friends from asymmetric attack. Threats and defenses alone may not deter enemy leaders who believe that their survival is at stake. For deterrence to hold, enemies must be reasonably confident that if they respect critical escalation thresholds, U.S. forces will as well. Therefore, in any limited conflict with regional nuclear powers, the United States may want to balance its threats with assurances. (See p. 113–115, 171.)

### **Irregular Warfare**

The risks of escalation in irregular warfare are much broader and more diverse than was appreciated during the Cold War. Counterinsurgency and counterterrorist operations are prone to both vertical and horizontal escalation, incurring significant costs over time. Even seemingly benign peace operations can escalate into dangerous crises, as the 1983 U.S. experience in Beirut and the post–Cold War debacle in Mogadishu demonstrate. In all historical cases examined, state actors enjoyed dramatic asymmetric strengths in conventional force. Most of them attempted to employ those strengths to gain escalation dominance over their irregular adversaries. In doing so, they frequently scored impressive tactical victories and achieved a range of operational objectives; however, rarely did they succeed in applying their asymmetric

strengths in ways relevant to the strategic objectives in the conflict. In cases in which conventional force was effective, it was used primarily to provide security for populations threatened by terrorists or insurgents. Alternatively, when offensive operations were emphasized, conventional escalation ultimately served the irregular adversary's cause. (See pp. 118–124.)

Escalation management is inherently difficult with nonstate actors and is even more so with global jihadists. There are several reasons for this, not the least of which is that escalation management depends largely on deterrence. Jihadists are difficult to deter because it is difficult to make threats of punishment credible against elusive individuals and groups that reject the established order. Consequently, traditional two-player escalation management is disabled in the struggle with radical Islam, and limiting costs in this long-term conflict will require constraining and, ideally, eliminating the jihadists' ability to escalate the fight but doing so in ways that minimize the escalatory effects that U.S. and jihadist actions have on other actors in the environment (see pp. 150–155).

The United States should fashion and execute a strategy that maximizes its immediate security but does not, in doing so, jeopardize its victory in the more important, long-term political contest. Such a strategy should emphasize judicial and diplomatic actions and foreign assistance. The United States and its allies should avoid militarizing the conflict to the maximum extent possible. When military force is needed, the primary emphasis should be on providing security to populations threatened by terrorists or insurgents. Any employment of offensive force should be done with restraint and discretion to avoid antagonizing local populations. Failing to do this risks validating extremist propaganda and sowing the seeds of future escalation (see pp. 155–157).

## **Recommendations for the U.S. Air Force**

Escalation management is largely a matter of sound policy and good strategy, functions that lie mainly in the realm of political and joint

military leadership, but there are a number of things that the U.S. Air Force can do to organize, train, and equip its airmen to support these important tasks more effectively. This monograph offers the following recommendations (see pp. 175–176):

- *Identify and resolve potential escalation dilemmas.* The Air Force should conduct a thorough assessment of its current and future force structure to determine whether it provides the necessary flexibility to offer joint commanders proportionate responses to potential paths of enemy escalation. When gaps are identified, the Air Force should program new capabilities to fill them. When fiscal or political costs might preclude developing certain weapons that potential adversaries possess (such as chemical or biological weapons), the Air Force should concentrate on developing defenses against them and should work with combatant commands to develop strategies to deter their use.
- *Train air component commanders and their staffs on the principles of escalation management.* While developing military strategy is the purview of combatant commanders under the direction of political leaders, air component commanders and their staffs play essential roles in developing courses of action (COAs), evaluating prospective COAs, and conducting operational planning. Therefore, they have a fiduciary responsibility to advise joint commanders and policymakers on what escalation risks prospective COAs present and offer recommendations for managing those risks. To prepare airmen for that responsibility, they need to be taught that escalation management entails more than just establishing and enforcing rules of engagement. Determining enemy escalation thresholds should be an intelligence priority before and during the campaign planning process, and it should remain so as the fight progresses. Finally, commanders and planners should eschew plans that escalate in ways that offer tactical advantages at risk of great strategic cost.
- *Codify the principles of escalation management in airpower doctrine.* The Air Force should revise relevant passages in its doctrine to better acknowledge the risks of escalation and the need to manage

those risks. Doctrine should stress knowing the political limits of conflict and understanding why those limits are important. It should explain the relationship of thresholds to escalation and emphasize understanding the enemy's critical thresholds and how they can change over the course of the conflict. Finally, while the ability to impose shock, paralysis, and rapid dominance may be useful tools for the Air Force to bring to the fight, doctrine must acknowledge that they may not be appropriate tools to employ in some limited conflicts.

- *Teach escalation management in Air Force schools.* The Air Force should provide all airmen a firm grounding in the concept of limited war, the risks of escalation, and the principles of escalation management. These topics should be stressed in professional military education programs and at the School of Advanced Air and Space Studies. They should also be emphasized in war games and exercises.