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## ENVIRONMENTAL CONSEQUENCES OF *DESERT STORM*

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At no time in history has the deliberate attempt to use the environment as an offensive or defensive component of warfare been more apparent and visually striking than during the Coalition air campaign against Iraq in the 1991 DESERT STORM conflict. The ignition of hundreds of Kuwaiti oil wells and the deliberate release of millions of gallons of crude oil into the environment during the six-week air offensive that preceded the land combat phase were perhaps the most widely observed phenomena. The increased attention to, and awareness of, the environmental impact of modern warfare is the ready availability of news reporting apparatus from many nations coupled with rapid information transfer. The vision of day turned to night by burning oil wells and oil-soaked sea birds in death struggles on Persian Gulf beaches did much to label Iraq as deliberate spoilers of the environment. Sensitivity to such factors will likely become part of combat operations in the future and may well be exploited by the belligerents involved. The Coalition air campaign in the Middle East damaged or destroyed numerous target types and released large quantities of potentially hazardous materials into the environment. These releases garnered little news coverage at the time because they were not so obvious as those related to widespread petroleum hydrocarbon ignition and releases. Nevertheless, these materials, many of which adversely impact the environment, were released into the soil, air, and water resources of both Kuwait and Iraq and may well have contributed to the Gulf War Illness phenomenon that has received much public attention since the war. Additionally, important infrastructure was damaged and destroyed resulting in related environmental damage. This includes water and wastewater treatment facilities, energy production installations and transmission lines and housing. Critical, at this point in time, and the major reason for this Conference, is the concern for the environmental consequences of recent air campaigns and identifying and implementing possible steps that can be taken to predict, mitigate, and recover from the environmental insults of modern warfare. This paper will discuss issues related to the release of environmentally adverse materials into the environment during combat operations as well as opportunities for reducing environmental impact of future bombing campaigns.

Key words: depleted uranium, ammunition, "Desert Storm", environmental consequences