2018 EPA INTERNATIONAL
DECONTAMINATION RESEARCH AND DEVELOPMENT
CONFERENCE

How Science Makes Us Safer and More Resilient: Lessons from the Homeland

JULIETTE KAYYEM

"In 2015, diseases caused by air, water and soil pollution were responsible for 9 million premature deaths, that is 16% of all global death. Exposures to contaminated air, water and soil kill more people than smoking, hunger, natural disasters, war, AIDS, or malaria."

Report: Lancet Commission on Pollution and Health, 2017

"Science without policy has no application, and policy without science has no foundation."

Science Informed Leadership
University of California, Davis

In addition to political violence/terrorism, Environmental Security includes threats to the US economy from large-scale environmental accidents (such as the BP Deepwater Horizon Gulf oil spill); geological events (i.e., tsunamis, earthquakes) and climatic or weather extremes (such as Hurricane Katrina, and even the 2011-12 US Western states' drought, aptly illustrated); strategic resource shortages (food, water, energy, etc.); and/or deficits to critical infrastructure (CI) – the mechanisms by which societies operate.

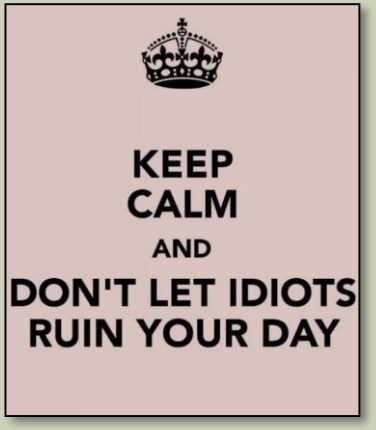
Ramsay & O' Sullivan, *Environmental Security*
HOMELAND SECURITY AFFAIRS, VOLUME 9, ARTICLE 6 (MAY 2013)

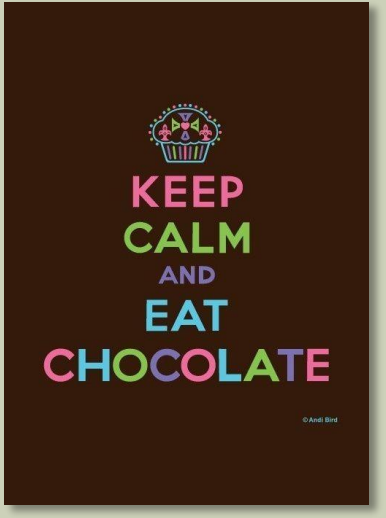
How do we nurture resiliency?


Shake It Off


KEEP
CALM
AND
CARRY
ON

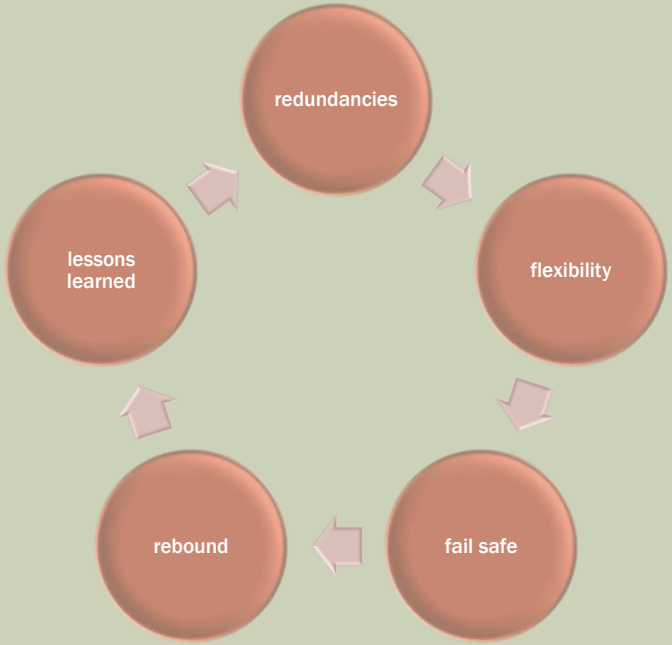

KEEP CALM
and be fabulous


KEEP
CALM
AND
DON'T LET IDIOTS
RUIN YOUR DAY


KEEP
CALM
AND
EAT
CHOCOLATE


BEAUTY
ROYALTY
TRUE CRIME
CHURCHILL
KEEP CALM AND CARRY ON
UFO

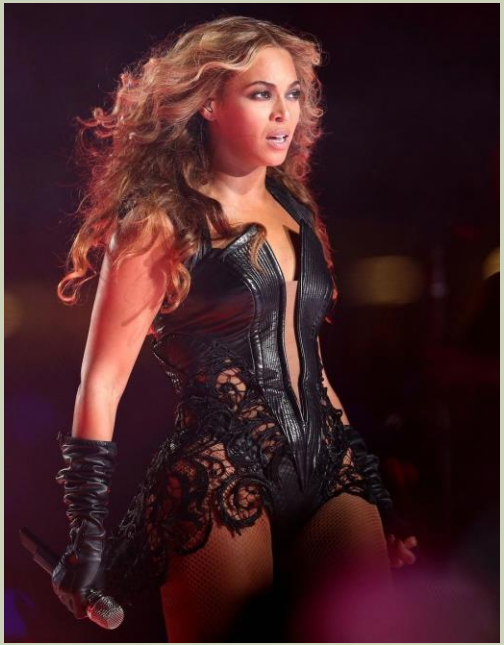
The 5 key elements of building a more resilient system



REDUNDANCIES

FLEXIBILITY

FAIL SAFE



RAPIDLY REBOUND

LESSONS LEARNED

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