Fatal Flaws in the U.S. Defense Department's Climate Risk Analysis and Military Service-based Implementation

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Good Intentions Paving Co.

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Outline

1. DoD *Climate Risk Analysis* (2021)
2. Services' implementation strategies
3. Army implementation strategy
   A. Army installations
   B. Acquisition and logistics
   C. Training
4. Ignored but obvious risks

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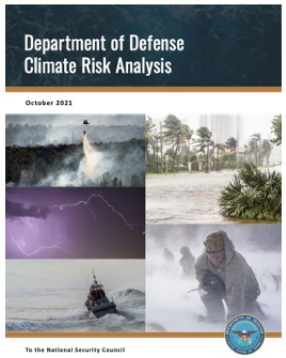
1. DoD *Climate Risk Analysis*



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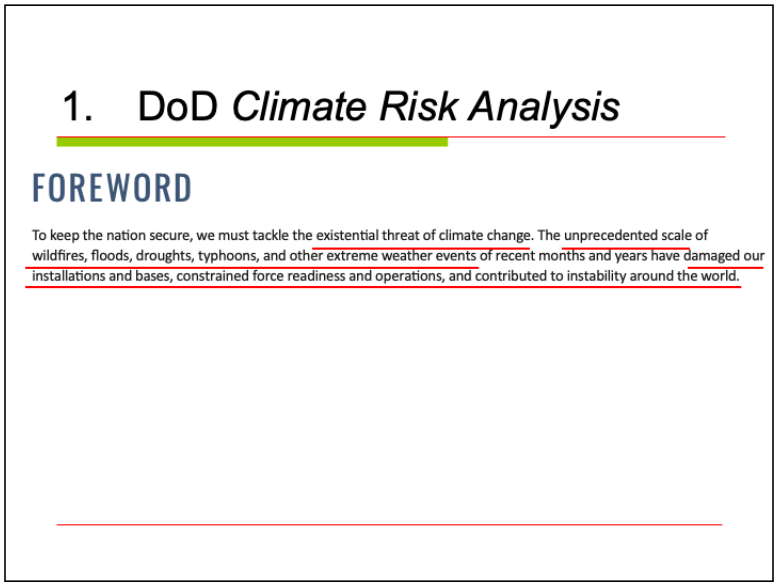
- Founded on EO 14008, a presidential policy statement—not statute.
- Yet the DoD *Climate Risk Analysis* does not comply with EO 14008.
  - EO 14008 Sec. 103(c) directs DoD to develop "an analysis of the security implications of climate change."
    - This requires … analysis …, which is missing from the Climate Risk *Analysis*.
- Government-wide information quality guidance issued in 2002
  - Applies to all 'information,' including *risk analysis*.
  - IQG requires information to be objective and reproducible.
  - The *Climate Risk Analysis* is a hodge-podge of 'information' in the form of assumptions, assertions, claims, and statements, none of which comply.
  - Many of these assumptions, assertions, claims, and statements are unsupported by, or contrary to, the available scientific evidence.
- This is the cover. It implicitly attributes wildfires, hurricanes, snow, and ocean waves to climate change, as if none ever occurred before and would no longer occur if DoD implemented … something unspecified.

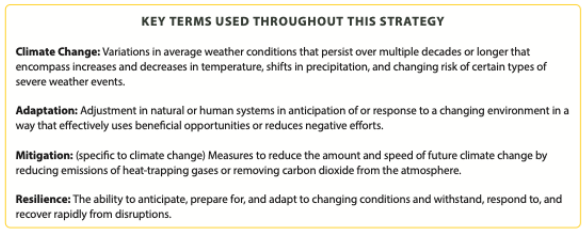


- From the Forward by Sec Def Lloyd Austin:
  - "To keep the nation secure, we must tackle the existential threat of climate change. The unprecedented scale of wildfires, floods, droughts, typhoons, and other extreme weather events of recent months and years have damaged our installations and bases, constrained force readiness and operations, and contributed to instability around the world."
- **FIVE** problems:
  1. The *Climate Risk Analysis* includes no evidence supporting any of these claims.
  2. No action proposed in the *Climate Risk Anal*ysis would ameliorate these problems if they were true. Nothing in the services' implementation strategies would do so, either.
  3. Considering just the *Army Climate Strategy*, implementing it would--
     a. Undermine national security by making the Army dependent on supply chains dominated by a known strategic adversary.
     b. Increase the Army's vulnerability to this strategic adversary.
     c. Expose soldiers to unquantified health and safety risks
  4. The DoD Climate Risk Analysis subordinates the mission of the Armed Forces to climate change mitigation, a mission never authorized by Congress.
  5. The DoD Climate Risk Analysis would overturn two centuries of apolitical military tradition in the U.S.
- CONCLUSION: DoD's *Climate Risk Analysis* is an egregious abuse of the theory and practice of risk analysis. If we are serious about our profession, this document deserves unrelenting ridicule.

2. Services' implementation strategies

- The DoD *Climate Risk Analysis* delegates implementation to the three Services. (The Marine Corps is part of the Navy, and the Space Force is either part of the Air Force or doesn't really exist.)
    - This makes sense insofar as the Services' contributions to climate change mitigation are inherently different.
    - This makes no sense insofar as the Services' have no incentive to actually do anything worthwhile.
        - At best, they will repackage what they already intend to do as if it were climate change mitigation.
        - At worst, they will shift real mitigation costs to other Services or agencies
- Being a retired Army general, the Sec Def knows this. So the effort is unserious with respect to climate change but a risk to national security.
- The Navy strategy barely acknowledges the nuclear Navy, nor does it argue for the expansion of nuclear power to surface ships.
    - This is the only proved low- or zero-GHG technology, yet the DoD Climate Risk Analysis devotes no attention to it.
    - Instead, it is concerned with replacing traditional fossil fuels with 'low-carbon fuels.'

2. Services' implementation strategies: Definitions



KEY TERMS USED THROUGHOUT THIS STRATEGY

Climate Change: Variations in average weather conditions that persist over multiple decades or longer that encompass increases and decreases in temperature, shifts in precipitation, and changing risk of certain types of severe weather events.

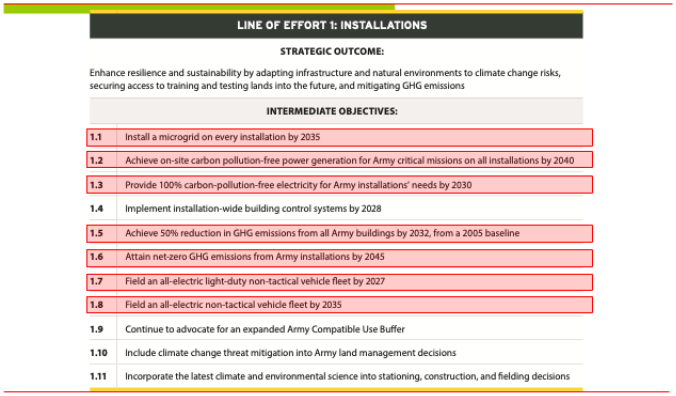
Adaptation: Adjustment in natural or human systems in anticipation of or response to a changing environment in a way that effectively uses beneficial opportunities or reduces negative efforts.

Mitigation: (specific to climate change) Measures to reduce the amount and speed of future climate change by reducing emissions of heat-trapping gases or removing carbon dioxide from the atmosphere.

Resilience: The ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions.

- These definitions come from a Joint Staff dictionary and predate EO 14008 (DODD 4715.21).
- The definition of 'climate change' is refreshingly agnostic with respect to its cause, unlike for example, the definition used by the UN Framework Convention, which exempts non-anthropogenic sources.

3.A Army Strategy: Installations



LINE OF EFFORT 1: INSTALLATIONS

STRATEGIC OUTCOME:

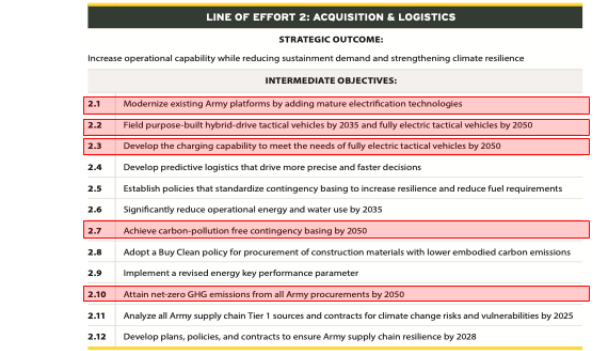
Enhance resilience and sustainability by adapting infrastructure and natural environments to climate change risks, securing access to training and testing lands into the future, and mitigating GHG emissions

INTERMEDIATE OBJECTIVES:

1.1	Install a microgrid on every installation by 2035
1.2	Achieve on-site carbon pollution-free power generation for Army critical missions on all installations by 2040
1.3	Provide 100% carbon-pollution-free electricity for Army installations' needs by 2030
1.4	Implement installation-wide building control systems by 2028
1.5	Achieve 50% reduction in GHG emissions from all Army buildings by 2032, from a 2005 baseline
1.6	Attain net-zero GHG emissions from Army installations by 2045
1.7	Field an all-electric light-duty non-tactical vehicle fleet by 2027
1.8	Field an all-electric non-tactical vehicle fleet by 2035
1.9	Continue to advocate for an expanded Army Compatible Use Buffer
1.10	Include climate change threat mitigation into Army land management decisions
1.11	Incorporate the latest climate and environmental science into stationing, construction, and fielding decisions

- I have highlighted in red the elements of the Strategy that are measurable, and hence refutable if not achieved.
- Several important risk elements are missing, including—
    - Costs (including budget costs), which are highly relevant to Congress.
    - Opportunity costs, which are highly relevant to battalion and brigade commanders. Opportunity costs include--
        - Reduced quantity of training. Training emits GHGs, so it is inherently a target of the Strategy, and must be reduced.
        - Degraded quality of training.
            - Only centrally-directed, one-size-fits all, GHG-minimizing training will receive necessary funding.
            - Mandatory training always has lower value than tailored, unit-specific training.
            - Less proficient units will have to underwrite the risk of being unprepared for combat.
- Unintended consequences are ignored, most notably adverse effects on soldiers' welfare, health, and safety
    - Housing quality, which is already low because of perverse incentives, will get worse.
    - Non-tactical electric vehicle risks, such as explosion and fire.
    - Substitution of known and unknown battery risks for known gas/diesel risks.

3.B Army Strategy: Acquisition and logistics



LINE OF EFFORT 2: ACQUISITION & LOGISTICS	
STRATEGIC OUTCOME:	
Increase operational capability while reducing sustainment demand and strengthening climate resilience	
INTERMEDIATE OBJECTIVES:	
2.1	Modernize existing Army platforms by adding mature electrification technologies
2.2	Field purpose-built hybrid-drive tactical vehicles by 2035 and fully electric tactical vehicles by 2050
2.3	Develop the charging capability to meet the needs of fully electric tactical vehicles by 2050
2.4	Develop predictive logistics that drive more precise and faster decisions
2.5	Establish policies that standardize contingency basing to increase resilience and reduce fuel requirements
2.6	Significantly reduce operational energy and water use by 2035
2.7	Achieve carbon-pollution free contingency basing by 2050
2.8	Adopt a Buy Clean policy for procurement of construction materials with lower embodied carbon emissions
2.9	Implement a revised energy key performance parameter
2.10	Attain net-zero GHG emissions from all Army procurements by 2050
2.11	Analyze all Army supply chain Tier 1 sources and contracts for climate change risks and vulnerabilities by 2025
2.12	Develop plans, policies, and contracts to ensure Army supply chain resilience by 2028

Same problems as before with installations, plus:

- 'Mature electrification technologies (e.g., Tactical Vehicle Electrification Kits, anti-idle technologies) will increase costs and degrade performance.
- 'Purpose-built hybrid-drive tactical vehicles' (e.g., Electric Light Reconnaissance Vehicle [eLRV]' do not exist, unless the Army intends to buy re-designed Ford F-150 Lightning and GM Hummer EVs (9,000 lbs including a 3,000 lb battery), 2.5 hours to charge.
    - Army is likely to dumb down performance criteria, including range, to enable these trucks to qualify.
    - Higher operating costs (e.g., charging v. refueling).
- How will tactical vehicles be charged in theater?
    - Roving flatbed trucks with spare batteries or chargers?
    - Expensive, heavy, mostly copper cords to build ad-hoc electrical grids at night, under stress, in poor weather conditions?
- Charging electric vehicles creates thermal signatures, makes them easy to destroy, even from a great distance.
- Ignored known risks include degraded reliability and compromised security (EVs are easily detected using thermal tech).

3.C Army Strategy: Training

LINE OF EFFORT 3: TRAINING

STRATEGIC OUTCOME:

Prepare a force that is ready to operate in a climate-altered world

INTERMEDIATE OBJECTIVES:

3.1	Beginning in 2024, publish climate change lessons and best practices every two years
3.2	Update Army programs of instruction for leader development and workforce training to incorporate climate change topics no later than 2028
3.3	By 2035, increase the number of Soldiers and Army civilians serving in strategic headquarters with advanced credentials on climate change topics
3.4	Ensure that all Army operational and strategic exercises and simulations consider climate change risks and threats by 2028
3.5	Consider reduction of GHG emissions as a factor in planning to optimize the Army's mix of distributed learning, virtual learning, and resident courses
3.6	Develop ways to reduce direct GHG emissions resulting from Army individual and collective training by 2028

- Notice that none of these objectives is measurable, so no one can be held accountable for failure.
  - You know they're unserious when they say they direct commanders to "consider" something.
  - Actually, it's worse than that. It means they know it's a bad idea but can't say so.
- That means the Army isn't serious – a good thing! – and that its leadership knows that changes which the *Strategy* requires for Installations and Acquisitions & Logistics would, if actually implemented, be enormously destructive.
- But it also means extraordinary sums will be wasted on rentseeking defense contractors, the favorite post-retirement sinecure of retired Army general officers.
- And it means R&D appropriations will shift from national security to token climate change mitigation.

Source: Judson 2022 (New Orleans after Hurricane Gustav, 1 Sep 2008)

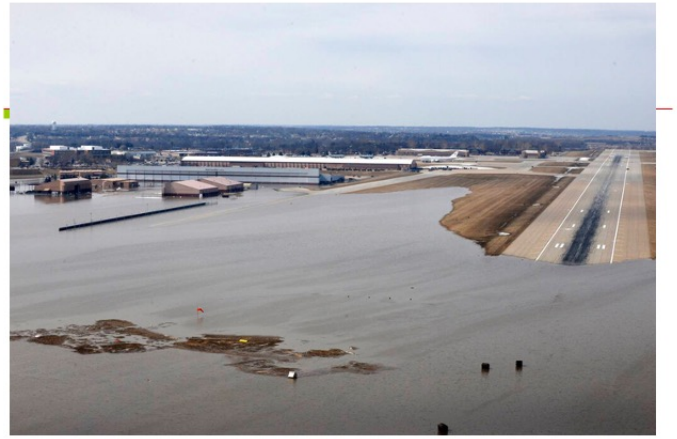
- This photo, and the ones that follow, are from the *Strategy*. They are supposed to illustrate climate risk and what the Army intends to do about it.
- Actually, they illustrate nonmilitary activities that the public mistakes for military functions.
- This is a photo of a National Guardsman doing something after Hurricane Katrina that looks vaguely military because of the uniform.

Source: Eversden 2021 (Mississippi River, 17 Jun 2008)

- This is a photo of other National Guardsmen responding to a flood on the Mississippi River, also in uniform.

Source: Eversden 2021 (Neffs Canyon Fire [UT], 20 Sep 2020)

- This photo is of an Air National Guard unit responding to a forest fire.



Source: Eversden 2021 (Offutt AFB, 17 March 2021)

- And this photo shows flood waters on Offutt Air Force Base in March 2019. Offutt is the headquarters of the Strategic Air Command. SAC hosts the bombers that provide the airborne nuclear deterrent. You might remember it from *Dr. Strangelove*.
- Offutt is located near Omaha. It's adjacent to the Missouri River. That river floods periodically for reasons unrelated to climate change.
- Maybe Offutt should not have been put there in 1921. But the 2019 flood was caused by an intense but normal storm that struck snowpack upstream, causing massive snow melt.

Source: Army Climate Strategy 2022 (SF operator)

- And this photo shows an Army Special Forces operator erecting a flexible solar panel setup to power his unit's communications.
- Why is SF the test guinea pig for climate politics? If ever there was a function that should be exempt from such mischief, it's SF.
    - Is this unit going to be limited to operations in broad daylight? His solar array is not very useful at night.
    - What if it's raining? Or the unit is, for security reasons, in a clandestine location, such as a forest? Or a canyon?

How the *Army Climate Strategy* was Prepared: Keyboard macro