

Congress of the United States
House of Representatives

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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May 22, 2026

Mr. Neil Jacobs
Acting Administrator
National Oceanic and Atmospheric Administration
1401 Constitution Avenue NW, Room 5128
Washington, DC 20230

Dear Administrator Jacobs,

The House Committee on Science, Space, and Technology writes to ensure that the National Oceanic and Atmospheric Administration (NOAA) is conducting its mandated oversight of cloud brightening and other geoengineering experiments occurring in the United States. One such experiment, the Alameda Marine Cloud Brightening experiment, conducted in Alameda, California, was ordered to halt all activity by the City of Alameda after news of the experiment reached the public, stating that the full scope of the experiment was not disclosed.¹ On February 23, 2026, the Government Accountability Office (GAO) released a report finding that NOAA needs to strengthen its oversight of similar weather modification activities.² Because this research has local, regional, and potentially global consequences, the Committee seeks to ensure rigorous oversight, heightened scrutiny, and greater transparency in the information provided to NOAA under the Weather Modification Reporting Act of 1972.³

¹ *City responds to questions about a University of Washington cloud brightening experiment on the U.S.S. Hornet*, CITY OF ALAMEDA (May 4, 2024), <https://www.alamedaca.gov/Shortcut-Content/News-Media/City-responds-to-questions-about-a-University-of-Washington-cloud-brightening-experiment-on-the-U.S.S.-Hornet>; Ken Dur, *Council Votes Unanimously to End Climate Experiment*, ALAMEDA POST (June 7, 2024), <https://alamedapost.com/news/council-votes-unanimously-end-climate-experiment/>; Letter from Jennifer Ott, City Manager, to Mayor of Alameda and Members of the City Council, on Recommendation to Consider Granting Landlord Consent for Small-Scale Atmospheric Sea Salt Process Studies on the U.S.S. Hornet. (Base Reuse and Economic Development 29061822) (June 4, 2024), <https://alameda.legistar.com/LegislationDetail.aspx?ID=6703251&GUID=9796CAC7-D282-4A95-A7A6-E2D21D1ACA0F&FullText=1>.

² Weather Modification: NOAA Should Strengthen Oversight to Ensure Reliable Information, GAO-26-108013, GOV'T. ACCOUNTABILITY OFF. (Feb. 23, 2026) <https://www.gao.gov/assets/gao-26-108013.pdf>.

³ The Weather Modification Reporting Act of 1972, 15 U.S.C. § 330 et seq.

Marine cloud brightening (MCB) poses potentially significant environmental, scientific, and governance risks that warrant serious caution. The technique involves intentionally altering cloud properties by dispersing aerosols to increase cloud reflectivity, but the climate system is highly complex, particularly with respect to cloud formation and precipitation.⁴ Modeling studies have shown that large-scale MCB could reduce rainfall locally and in distant regions, potentially altering weather patterns and increasing heatwaves both in the U.S. and other parts of the world, including Europe.⁵ Even small changes in cloud reflectivity and aerosol loading could disrupt precipitation and monsoon systems, with potential consequences such as drought in vulnerable areas or reduced rainfall over crucial ecosystems like the Amazon Basin, potentially leading to severe impacts on the Amazon rainforest.⁶ Introducing large quantities of sea salt aerosols into the marine atmosphere also carries ecological uncertainties, as salt deposition and altered chemistry may impact marine food webs and ocean biogeochemical cycles.⁷

Beyond physical risks, ethical and governance challenges are substantial, as there are few frameworks to regulate MCB. The Weather Modification Reporting Act of 1972 requires any individual or entity conducting weather modification activities in the United States or its territories to report such activities to NOAA.⁸ These reports must be submitted both before and after the activity, with at least 10 days' advance notice, and must include details such as the project's designation, dates, participants, purpose, location, and the techniques and materials used.⁹

However, the GAO's February report raised concerns that NOAA is not fully meeting its oversight and reporting responsibilities, limiting the availability of complete, useful, and transparent information to the public.¹⁰ This gap raises concerns about unilateral deployment and unintended consequences.¹¹ Such uncertainties underscore why many scientists urge robust

⁴ Science & Tech Spotlight: Solar Geoengineering, GAO-26-108837, GOV'T. ACCOUNTABILITY OFF. (Feb. 23, 2026) <https://www.gao.gov/assets/gao-26-108013.pdf>; Weather Modification: NOAA Should Strengthen Oversight to Ensure Reliable Information, GAO-26-108013, GOV'T. ACCOUNTABILITY OFF. (Feb. 23, 2026) <https://www.gao.gov/assets/gao-26-108013.pdf>;

Scientists Debate the Potential and Risks of Marine Cloud Brightening, USA NEWS (June 15, 2024) <https://usnews.com/newsroom/scientists-debate-the-potential-and-risks-of-marine-cloud-brightening>; Bob Yirka, Marine cloud brightening models show unexpected consequences of geoengineering, PHYS.ORG (June 25, 2024), <https://phys.org/news/2024-06-marine-cloud-brightening-unexpected-consequences.html?>

⁵ Bob Yirka, Marine cloud brightening models show unexpected consequences of geoengineering, PHYS.ORG (June 25, 2024), <https://phys.org/news/2024-06-marine-cloud-brightening-unexpected-consequences.html?>

⁶ *Marine Cloud Brightening*, GEOENGINEERING MONITOR (Jan. 2021), <https://www.geoengineeringmonitor.org/technologies/marine-cloud-brightening>.

⁷ *Ethical Dimensions of Marine Cloud Brightening Deployment*, SUSTAINABILITY DIRECTORY (June 9, 2025), <https://prism.sustainability-directory.com/scenario/ethical-dimensions-of-marine-cloud-brightening-deployment/>.

⁸ The Weather Modification Reporting Act of 1972, 15 U.S.C. § 330 et seq.

⁹ *Id.*

¹⁰ *Supra* note 2.

¹¹ *Supra* note 5.

research, transparent oversight, and global cooperation before any potential deployment is considered.¹²

One such recently conducted, and subsequently cancelled, experiment is the University of Washington's Marine Cloud Brightening experiment conducted in Alameda, California. As a recipient of federal research funding, the University of Washington is expected to uphold the highest standards of scientific integrity, public accountability, and compliance with federal requirements governing research activities.¹³ Although the University of Washington appropriately notified NOAA of the experiment pursuant to the Weather Modification Reporting Act of 1972, the Committee reviewed publicly available information indicating that the Alameda Marine Cloud Brightening experiment may have proceeded without adequate community notification and documented risk assessments appropriate for technology that involves aerosolized particle release into the marine boundary layer.¹⁴ These circumstances resulted in the City of Alameda electing to halt the experiment, stating that the full scope of the project was not disclosed to the city before its initial agreement.¹⁵

A startup called Stardust Solutions also revealed plans for a controversial form of solar geoengineering that would spray tiny silica particles into the stratosphere to reflect sunlight and temporarily cool Earth.¹⁶ The company says the approach could theoretically help reduce warming without environmental harm, and it has released technical papers outlining how aircraft could disperse the particles high in the atmosphere.¹⁷ Critics and many scientists warn that such climate interventions carry unknown environmental and geopolitical risks, including disrupting weather patterns.¹⁸

The GAO's report specifically stated that NOAA needs to: "(1) establish written agency guidance for its review of and confirmation that all weather modification reports submitted to NOAA contain the legally required information; (2) improve NOAA's instructions on how to complete the reporting forms for a range of weather modification activities, including emerging

¹² *Scientists detail research needed to assess the viability and risks of marine cloud brightening*, PACIFIC MARINE ENVIRONMENTAL LABORATORY (Mar. 25, 2024), <https://www.pmel.noaa.gov/news-story/scientists-detail-research-needed-assess-viability-and-risks-marine-cloud-brightening>.

¹³ *Governance, Engagement and the CAARE Facility*, UNIVERSITY OF WASHINGTON COLLEGE OF THE ENVIRONMENT (last accessed Feb. 27, 2026), <https://atmos.uw.edu/faculty-and-research/marine-cloud-brightening-program/governance-engagement-and-the-caare-facility/>; *Marine Cloud Brightening Research Program*, UNIVERSITY OF WASHINGTON COLLEGE OF THE ENVIRONMENT (last accessed Feb. 27, 2026), <https://atmos.uw.edu/faculty-and-research/marine-cloud-brightening-program/>.

¹⁴ See CITY OF ALAMEDA, *supra* note 1.

¹⁵ See CITY OF ALAMEDA, *supra* note 1.

¹⁶ Corbin Hiar, *A closely guarded plan to cool Earth is revealed*, E&E NEWS (May 15, 2026), https://www.eenews.net/articles/a-closely-guarded-plan-to-cool-earth-is-revealed/?utm_source=chatgpt.com.

¹⁷ *Id.*

¹⁸ *Id.*

solar geoengineering activities; and (3) implement a process to regularly inform the operators as well as state and local agencies directly about NOAA's role in weather modification oversight, the applicability of the Act to different activities, and where to find required reporting forms."¹⁹ According to the public release, NOAA agreed with each of these recommendations, as such and considering issues with previous experiments, the Committee wants to ensure the recommendations are implemented fully.

MCB constitutes an emergent form of geoengineering, and its field-scale testing raises complex environmental, technical, and governance questions.²⁰ The limited transparency surrounding field testing of atmospheric climate intervention technologies makes rigorous scrutiny especially critical. While MCB research programs may be complying with current law by notifying NOAA of their activities, the potential regional and global consequences of such federally funded research make these efforts a matter of concern for Congress and this Committee.²¹

As such, to support the Committee's ongoing oversight, we ask that you provide the Committee's majority staff with a briefing on the progress and plans of implementing GAO's recommendations from the February 23, 2026, report. We appreciate your attention to this important matter and look forward to working collaboratively with your university. If you have any questions, please contact Brenn Thompson of the Committee's majority staff at (202) 225-6371.

Sincerely,



Brian Babin
Chairman
Committee on
Science, Space, and Technology



Rich McCormick
Chairman
Subcommittee on Investigations
and Oversight
Committee on
Science, Space, and Technology

¹⁹ *Supra* note 2.

²⁰ *Scientists detail research needed to assess the viability and risks of marine cloud brightening*, PACIFIC MARINE ENVIRONMENTAL LABORATORY (Mar. 25, 2024), <https://www.pmel.noaa.gov/news-story/scientists-detail-research-needed-assess-viability-and-risks-marine-cloud-brightening>; *Scientists Debate the Potential and Risks of Marine Cloud Brightening*, USA NEWS (June 15, 2024) <https://usanews.com/newsroom/scientists-debate-the-potential-and-risks-of-marine-cloud-brightening>.

²¹ See CITY OF ALAMEDA, *supra* note 1.

cc: Zoe Lofgren, Ranking Member, House Committee on Science, Space, and Technology;
Emelia Sykes, Ranking Member, Subcommittee on Investigations and Oversight, House
Committee on Science, Space, and Technology