National Aeronautics and Space Administration

BLUE MARBLE AWARDS PROGRAM

NASA 2024

October 8, 2024
Johnson Space Center, Texas

October 8, 2024

Welcome to NASA's 2024 Blue Marble Awards Ceremony!

The Office of Strategic Infrastructure, Environmental Management Division is pleased to announce the 2024 recipients of the NASA Blue Marble Awards.

The Blue Marble Awards Program recognizes excellence demonstrated in environmental and energy management in support of NASA's mission. Approved as an official NASA awards program in 2005, the first call for nominations was initiated in 2006. The 2024 Blue Marble Awards are the 9th award cycle since its inception. It is a pleasure to be hosting this event at the Johnson Space Center.

Today's ceremony program will highlight the environmental leadership and creativity demonstrated by the 10 award recipients. During the ceremony we will hear about the accomplishments of the four individuals and six teams we are recognizing today.

Each team and individual will receive a Blue Marble—a glass globe with either the team's or individual's name engraved on it. Each team member and individual awardee will receive a certificate signed with the iconic image of "Earthrise" taken during the Apollo 8 mission in 1968.

Dr. Carney and I thank the three judges who served on the evaluation and selection committee. We also want to acknowledge all individuals and groups who were nominated and thank them for their outstanding contributions to NASA's environmental stewardship and mission success.

Please join us in congratulating the 2024 award winners!

Charlotte Bertrand

Charlotte Bertrand
Director
Environmental Management Division
NASA Headquarters

B L U E M A R B L E A W A R D S

2024 NASA Blue Marble Awards Ceremony

Today we honor the recipients of the 2024 Blue Marble Awards. This Blue Marble Awards Ceremony Program showcases accomplishments by numerous Federal civil servants and contractors. We recognize four individuals and six teams, totaling 132 individuals with representatives from across the Agency.

Award Recipients

Glenn Research Center Property Reutilization Team
Environmental Quality Award, Team

Gail Grafton
Environmental Quality Award, Individual

Disaster Response Coordination System (DRCS) Team
Award for Excellence in Resilience or Climate Change Adaptation, Team

Climate Adaptation Science Investigators (CASI) Work Group Initiative
Award for Excellence in Resilience or Climate Change Adaptation, Team

Design and Construction of LEED-Certified Glenn Research Center Buildings
Excellence in Energy and Water Management Award, Team

Quentin Hibbs
Excellence in Energy and Water Management Award, Individual

Kennedy Space Center Launch Complex 34 Remediation Team
Award for Excellence in Site Remediation, Team

Goddard Space Flight Center Per- and Polyfluoroalkyl Substances (PFAS) Management Team
Award for Excellence in Site Remediation, Team

John P. Herrmann
Award for Excellence in Site Remediation, Individual

Farley Davis
Environmental Management Division Director's Environment and Energy Award

Introduction

The NASA Environment and Energy Award Program recognizes NASA civil service employees and contractors who demonstrate environmental leadership while carrying out NASA's mission. Approved as an official NASA awards program in 2005, the first call for nominations was made in 2006.

These honorary, non-monetary awards are referred to as the ***Blue Marble Awards***. This NASA awards program contributes to NASA's mission by raising internal awareness of the important role employees and contractors play in enabling environmentally sound mission success and mitigating environmental risk, and by enabling NASA to increase participation in and gain wider recognition of NASA achievements through prestigious external environment and energy award programs.

The NASA ***Blue Marble Awards*** are divided into five categories:

Category I: NASA Environmental Quality Award
This award recognizes individual or team accomplishments made in "Greening the Government," environmental management, conservation, environmental remediation, or environmental communication.

Category II: NASA Award for Excellence in Resilience or Climate Change Adaptation
The award recognizes individual or team accomplishments made in the reduction of greenhouse gas emissions, facilitating the transition to clean power, or strengthening resilience to climate change including efforts related to master planning and other green practices.

Category III: NASA Excellence in Energy and Water Management Award
This award recognizes individual or team accomplishments made in energy efficiency, water conservation, or renewable energy.

Category IV: NASA Excellence in Site Remediation Award
This award recognizes individual or team accomplishments made for innovation in remediation, stakeholder partnership, strategies in remediation, exposure risk reduction, beneficial reuse, and expediting remediation.

Category V: NASA Environmental Management Division (EMD) Director's Environment and Energy Award
This award is selected and presented by EMD Director Charlotte Bertrand to recognize exceptional leadership by an individual or team to assist the Agency in enabling environmentally sound mission success.

EMD manages the Blue Marble Award Program on behalf of the Headquarters (HQ) Office of Strategic Infrastructure (OSI). This management included the formation of the 2024 Selection

Committee. The judges represent directorates and others familiar with the work of EMD. The judges used five factors to review and rank each nomination. The ranking included five equally weighted factors, assigned a value from 0 to 20 points, for a maximum of 100 points. The five factors are:

1. Impact to Mission
2. Scope of Impact
3. Scalability/Extensibility
4. Ingenuity/Creativity/Leadership
5. Teamwork/Collaboration

A sincere thanks to the HQ judges who served on the 2024 Selection Committee:

Denise Thaller
Deputy Assistant Administrator for NASA HQ OSI

Nichole Pinkney
Director Mission Support and HQ Operations Office

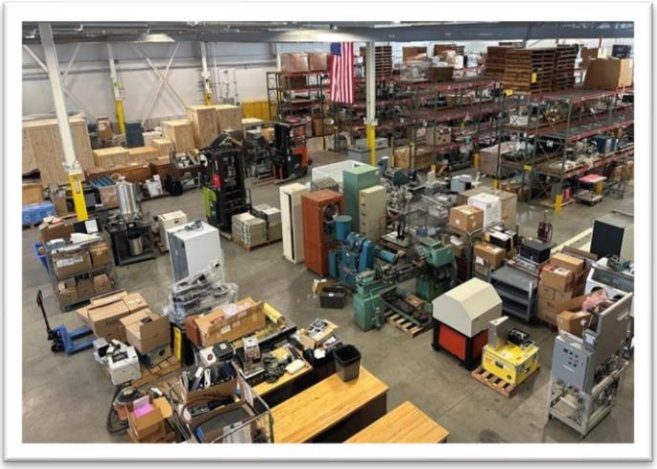
Daniel Hedin
Rocket Propulsion Test Program Executive

Category I

NASA Environmental Quality Award – Team

Glenn Research Center (GRC) Property Reutilization Team

Recognized for demonstrated teamwork and ingenuity in reutilization of excessed property and reduced waste as part of the GRC Property Reutilization Team.



GRC Property Reutilization Warehouse

Team Members:

John Betterson, NASA
Catherine Jensen, Jacobs Technology
Justin Ceschan, Alcyon Technical Services
Kelly Joyce, NASA
Brendon McLellan, Alcyon Technical Services
Donna Davis, NASA
Christie Myers, NASA
Peggy Raines, NASA
Debashis Sadhukhan, NASA
James Nester, NASA
Stanley Tam, NASA
Connor Frydl, Alcyon Technical Services
Melissa Solon, Alcyon Technical Services
Jonathan Passerell, Alcyon Technical Services
Austin Manco, Alcyon Technical Services
Denise Mixon, Alcyon Technical Services
Carol Conley, Alcyon Technical Services
Lisa Ramsey, NASA
Erin Bukach, NASA
Brandon Bozickovich, NASA
John Bonar, Leidos
Sandra Valenti, Leidos

GRC's Logistics and Property Management Office (Code FL) established a successful property reutilization strategy to increase reuse of excessed equipment. The Property Reutilization Opportunity (PRO) is a creative sustainability focus to reduce purchases of new equipment, reuse items internally, and comply with Federal requirements for using excess personal property as the first source of supply. The PRO strategy embraces the concept of "Greening the Government" by reducing greenhouse gas emissions and waste at GRC. This strategy has reduced the purchase of new items, the handling and transportation of equipment, and the amount of excess property becoming waste.

When a GRC building is vacated prior to a move or demolition, many items are typically left behind. Code FL collaborated with GRC's Facility Infrastructure Division (Code FD) on building demolition projects and large office moves. Code FL stages excessed items left in the vacated building for employees to view the items. Over the past 18 months, Code FL has transported 649 reutilized items to new users' work locations.

The PRO strategy has several advantages:

- GRC savings of more than $1.57 million in fiscal year (FY) 2023 and FY 2024.

- Waste minimization/source reduction and reuse and reduction of greenhouse gas emissions.
- Cost and transportation savings: Excess as the first source of supply reduces new purchases, and direct transport to new users' locations results in delivery savings.
- Property disposal resource savings: PRO is performed prior to entering items into NASA's disposal management system, reducing administrative time.
- Significantly reduces time needed to prepare buildings for demolition.
- Involves employees in "Greening the Government" by raising awareness of the PRO efforts to reduce GRC's environmental footprint.

The PRO strategy is also used for routine excessing. Code FL posts photos of newly received excessed equipment on the PRO website, which employees can view from their desks. With GRC's many research labs and test facilities, excessed laboratory and testing equipment are another excellent opportunity for reutilization. During the timeframe of FY 2023 to FY 2024, GRC has realized cost savings of $1.1 million in laboratory and testing equipment. Additionally, senior management demonstrated GRC's commitment by placing a hold on new furniture purchases to reinforce utilization of excessed property.

A Lean Six Sigma (LSS) event was conducted to improve the efficiency of assessing excessed equipment for potential environmental hazards. Training was developed and conducted for equipment owners and supervisors, which emphasized the equipment owner's responsibility to ensure the equipment's potential environmental hazards are mitigated. The LSS event improved communications with the Environmental Management Office (EMO) for assessment of equipment and resulted in the creation of a work instruction for the excessing process and "cradle to grave" responsibilities of the equipment owner.

Category I

NASA Environmental Quality Award – Individual

Gail Grafton
(Jacobs)

Recognized for leadership in reviewing, assessing, and mitigating environmental risks of mission-critical chemicals.

Gail Grafton leads the Regulatory Risk Analysis and Communications (RRAC) group that supports the Chemical and Material Risk Management Program (CMRMP) to review and assess emerging environmental regulations for their potential impacts to NASA missions and to mitigate those risks through communications with regulatory entities. Over the last several years, Gail has helped identify dozens of mission-critical uses of chemicals under review by the Environmental Protection Agency (EPA) under the Toxic Substances Control Act (TSCA). If mission-critical uses of these chemicals are prohibited, it could result in significant cost, schedule, and/or performance delays to NASA programs.

The EPA lists more than 50 chemicals at various stages within TSCA with a mandate to add more as they finalize rulemakings being enacted on per- and polyfluoroalkyl substances (PFAS) and hydrofluorocarbons (HFCs). The bans and strict compliance requirements within these proposed rules put NASA's ability to acquire critical products at risk, which may lead to manufacturers exiting the market. This requires the need for CMRMP to know all uses of all chemicals under regulatory scrutiny to mitigate the risk of losing access to products or chemicals. Gail leads the effort to collect and organize the data used in our risk mitigation efforts. Gail's experience in materials engineering enables her to verify data and ask engineers the right follow-on questions to make sure that our chemical uses are appropriately classified as mission critical.

Gail's meticulous efforts in navigating the often-complex proposed rulings helped develop briefings to communicate these risks to various Centers, programs, and organizations across NASA, and sometimes other agencies. The efforts that Gail and RRAC are supporting with CMRMP help mitigate risks to programs across NASA.

Gail's involvement with the chemical data call community of practice (COP) goes above and beyond requesting and organizing NASA's uses of the TSCA chemicals. In addition to working with the COP, she engages diverse parties, including engineers, other organizations at Headquarters and the Centers, and she helps develop the communications required for NASA's administrative leadership's participation.

Collaboration, ingenuity, and creativity were required to help other organizations understand the benefits of working with RRAC and CMRMP, and risks associated with non-participation. Gail's great leadership qualities have led many of these efforts, enabling her to present complicated concepts in a way that engages stakeholders, resulting in a community of interested participants.

Category II

NASA Award for Excellence in Resilience or Climate Change Adaptation – Team

Disaster Response Coordination System (DRCS) Team

Recognized for outstanding contribution to science-based disaster response and resiliency planning as part of the DRCS.

Members of the DRCS Team

Team Members:

Joshua Barnes, NASA
Patrick Rea, Booz Allen Hamilton
Rachel Soobitsky, Science Systems and Applications, LLC
Lauren Childs-Gleason, NASA
Carrie Roller, Analytical Mechanics Associates
Robert Emberson, UMBC

The NASA Disasters Program advances science and builds tools to help communities and responders make informed, timely, and actionable decisions during disaster response. The program utilizes Earth observation data to develop free, accessible resources that help communities worldwide reduce risk, improve response, hasten recovery, and build resilience in the face of a changing climate. The program's goal is to enhance recovery and strengthen resilience in communities across the globe by putting actionable data into the hands of decision makers at their most vulnerable time and to empower communities to respond more efficiently and to recover more effectively when confronted with more frequent disasters.

The DRCS is a new core element of the NASA Disasters Program that furthers the power of NASA's science, technology, and expertise to bring insight and foresight to the responder community. The DRCS fosters integrated relationships with disaster science and technology initiatives, leveraging the Agency's robust spectrum of Earth science capabilities to benefit society by prioritizing human-centered responses and stakeholder collaboration. The dual focus on active disaster response assistance and two-way learning during blue-sky periods enables stakeholders to effectively integrate NASA data into their operations, thus enhancing disaster resilience and recovery worldwide.

On May 16, 2024, a powerful and long-lasting band of storms known as a derecho barreled across Central Texas towards the greater Houston metropolitan area, unleashing tornados and destructive winds in excess of 100 miles per hour (160 km/hour). The derecho shattered windows, tore roofs off homes, and toppled trees and power lines, leaving nearly 1 million homes and businesses in the greater Houston area without power. A dangerous early season heatwave swept across southern Texas, in areas that were recently impacted by the derecho that were still without power. With heat-index readings of 115 degrees or

higher, high-risk and vulnerable communities without power provided a recipe for disastrous impacts.

The DRCS was activated at the request of the Federal Emergency Management Agency (FEMA) Response Geospatial Office to assist in assessing the regions that were simultaneously suffering from power outages and the dangerously high heat at the census tract level. The multi-Center NASA team worked hand-in-hand with FEMA to determine how to best identify communities most at risk in an effort to enable FEMA leadership to assist these communities during the heatwave that followed the derecho.

The DRCS is a request-driven system that can be activated for both domestic and international events to support disaster response and emergency management. To date in 2024, the DRCS has been activated for 14 events across eight U.S. states and three countries, including but not limited to flooding, extreme heat, and the devastating early season storm, Hurricane Beryl.

Category II

NASA Award for Excellence in Resilience or Climate Change Adaptation – Team

Climate Adaptation Science Investigators (CASI) Work Group Initiative

Members of the CASI Work Group

Recognized for excellence in enhancing climate resilience at NASA through science-based data as part of the CASI.

Team Members:

Cynthia Rosenzweig, NASA
Alex Ruane, NASA
Duane Waliser, JPL
Ben Cook, NASA
Bradley Hegyi, RSES
Laura Iraci, NASA
Chris Potter, NASA
John Murray, NASA
Rhonda Pepper, NASA
Gemma Flores, NASA
Tina Norwood, NASA
Daniel Patton, NASA
Jack Kaye, NASA
Nick Pelaccio, NASA Fellow
Brent Roberts, Axient
Sujay Kumar, NASA
Paul Stackhouse, NASA
Patrick Taylor, NASA
Elizabeth Wiggins, NASA
Matthew Strausser, PAE Applied Technologies
Ben Hamlington, JPL
Erik Tucker, Leidos
Vince Cappello, NASA
Nick Murdock, NASA
Brendan Deyo, NASA
Michelle Hawkins-Aguilar, NASA

The Climate Adaptation Science Investigators Workgroup (CASI) initiative (2021 to present) is a partnership between NASA's Earth Science Division and Office of Strategic Infrastructure (OSI) to enhance climate resilience at NASA facilities. Climate change poses unique hazards and increased risks to operations and assets and requires resilient solutions tailored to specific needs.

For each NASA facility, CASI develops co-produced, hazard-based climate projections, tools, and products based on the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) approaches. This ensures that Center managers are equipped with accurate risk information for decision-making. CASI teams composed of both scientists and managers focus on extreme weather events, sea level rise and coastal flooding, fires and air quality, water budgets, energy management, and ecosystems. In addition to directly supporting resilience decisions, CASI contributes to risk assessments and advances climate literacy at NASA, and CASI fosters community engagement.

This collaborative model employs both bottom-up and top-down approaches, allowing for an understanding of decisions made on individual Center scales as well as an Agency-wide

perspective. By quantifying multiple risks to individual Centers and identifying risks common to multiple Centers, such as coastal flooding and fire-prone regions, CASI strengthens the breadth and depth of NASA resilience strategies. Each stage of the data and tool development process is co-produced with stakeholder involvement, ensuring relevance and applicability over time.

Through continuous communication and collaboration, CASI aids Center managers in operations, real estate, logistics and supply, energy, and environmental resources. Initial meetings allowed Center staff to communicate data needs, and subsequent meetings developed tools and products. Center master planners are the primary points-of-contact. CASI products have already been used at NASA Centers to aid in the development of master plans, natural resource plans, and other environmental documents, contributing to climate resilience across organizations. This Agency-wide impact continues to evolve with the development of additional data products to aid Center decision makers.

Category III

NASA Excellence in Energy and Water Management Award – Team

Design and Construction of Leadership in Energy and Environmental Design (LEED)-Certified GRC Buildings

Recognized for excellence in design, construction, and LEED certification of Glenn Research Center (GRC) Buildings 330 and 164.

Team Members:

Tim Wardlow, NASA
Fran Borato, NASA
Gene Stygles, NASA
Joseph Krupa, Peraton
Ted Kemer, Firelake-Arrowhead
Scott Werman, Mainthia Technologies
Eric Combs, NASA
Tim Monk, NASA
Clint Messner, NASA
Jason P. Smith, NASA
Jeff Chambers, NASA
Paul Kuehn, NASA
Amanda Shalkhauser, NASA
Brandon Peery, NASA
Don Hange, NASA
Jared Reed, NASA
Jeremy Holmes, NASA
Mike Schmidt, NASA
Cass Kuhl, NASA
Suzanne Aldrich, NASA
Dave Bonness, NASA
Michelle Beagle, NASA
Patrick Edmonds, NASA
Stacey Yanetta, NASA
Vince Verhoff, NASA
Janet Lane, NASA
Tony Rossi, NASA
Frank Kaufhold, NASA
Joey Knott, NASA
Mark Constance, NASA
Don Brown, NASA
Robert Strick, NASA
Greg Markus, Peraton
Brian Held, NASA
Sandra Valenti, Leidos
Kevin Stiles, NASA
Bart Vauter, NASA
Brad Kershaw, NASA
Chris Colwell, NASA
James (Tony) Doglio, NASA
Jason Ondercik, NASA
Mark Wilson, NASA
Christopher Weeder, NASA
Colman Zsiros, NASA
Justin Lanzo, NASA
James Gangel, NASA
Marian Midgett, NASA
Rick Grizer, NASA
Tom Yohe, NASA

GRC has made significant strides in its Energy and Water Management Program, including, reducing total energy consumption by 19 percent and greenhouse gas emissions 47 percent since fiscal year (FY) 2008 and increasing consumption of carbon pollution-free electricity to 41 percent of total electricity and reducing facility water intensity by 33 percent since FY 2007.

GRC Building 164, the Research Support Building (RSB), is GRC's 8th LEED-certified building. The RSB was certified as LEED Gold. The RSB is located centrally on GRC's main campus and includes senior management and staff offices; a new GRC Exchange Store; a credit union; a state-of-the-art kitchen and café; and collaborative areas for concurrent engineering, training, and group lunches.

GRC Building 164, the RSB

The RSB's sustainable building features include:

- State-of-the-art heating, ventilation, and air conditioning (HVAC) systems with outdoor air supply, air filtration, and carbon dioxide monitoring.
- Abundant natural light and daylighting and daylight sensors.
- Vertical sunshades and fritted glass to reduce heat gain in the summer.
- Polished concrete floors that reduce maintenance and radiant floor heating that reduces heat loss in the winter.
- Priority parking for zero-emission vehicles, as well as bike racks.
- Use of recycled content and locally sourced building materials.
- Low-flow plumbing fixtures.
- A storm water underground detention system that maximizes the volume of storm water retained onsite and then slowly releases the water to the storm sewer system's natural water migration.
- Permeable pavements that are engineered to allow water to permeate slowly.

The RSB project was a Renewal Project that resulted in a reduction of nearly 37,000 square feet (37 percent reduction). To date, GRC has demolished 598,000 square feet, a net reduction of 18.3 percent. Buildings 8 and 102 were demolished in FY 2023. Building 302, which was 30,826 square feet, was demolished in FY 2024. GRC continues to repurpose underutilized spaces. Building 3's senior executives, staff, and other occupants have been moved into Buildings 142 and 162. The Center director's staff from Building 3 moved to the centralized RSB location. Building 3 is now used for enhanced-use lease (EUL) opportunities.

The RSB not only provides efficient energy and water use, but also provides pleasant employee collaborative work areas, such as Glenn Café, an indoor dining area featuring high windows, an outdoor patio on the second floor, and outdoor seating at ground level.

The Building 164 design and construction teams collaborated extensively with the General Services Administration (GSA) design-build facility construction resources, NASA Headquarters (HQ), the adjacent Cleveland Hopkins International Airport, GRC senior leadership, and many GRC organizations to ensure requirements and budget allocation were met and that the building would meet the needs of all Center employees.

Building 330, the Aerospace Communications Facility (ACF), was opened in August 2023 and is the 9th LEED-certified building at GRC. Designed with the goal of responsible environmental stewardship, the ACF uses more than 30 percent less water and 30 percent less energy than a typical, comparable building. The ACF achieved a LEED Gold rating.

GRC Building 330, the ACF

Potable water usage in the facility has been reduced by more than 30 percent through installation of low-flow faucets and water closets and electric proximity urinals. Potable irrigation water usage was reduced by 100 percent by utilizing native plants that do not require an irrigation system. The facility reduced energy consumption by 30 percent compared with the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) Standard 90.1-2013 baseline building performance rating.

Other sustainable building features of the ACF include:

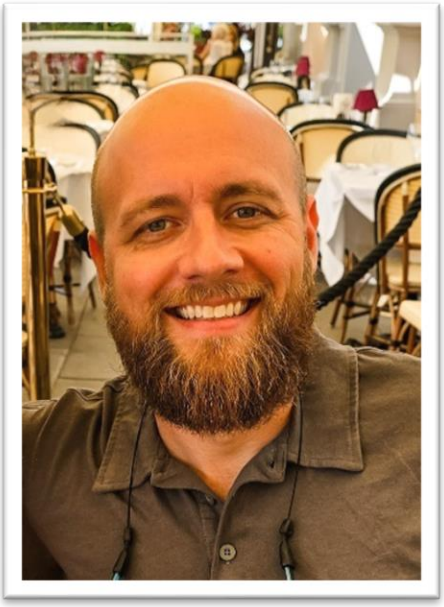
- Installation of a geothermal borehole field for heating and cooling of the building.
- Exterior solar shades to increase energy efficiency by shading the windows from direct sunlight.
- State-of-the-art heating, ventilation, and air conditioning (HVAC) systems with outdoor air supply, air filtration, and carbon dioxide monitoring and no chlorofluorocarbons (CFCs) refrigerants.
- Low volatile organic carbon (VOC)-emitting materials.
- Sustainably harvested wood.
- Low-flow plumbing fixtures, two storm water biogardens, and a detention basin.
- Extensive open space and natural lighting, especially in common areas.
- Sealed concrete floors that minimize floor maintenance.
- Bicycle storage and preferred parking for fuel-efficient vehicles.
- Highly reflective roof to reduce heat island effect.
- Directional site lighting to reduce light pollution.
- High-efficiency light emitting diode (LED) lighting and daylight control systems.

The ACF design and construction teams collaborated extensively with NASA HQ, the adjacent Cleveland Hopkins International Airport, GRC senior leadership, and several GRC organizations to ensure NASA requirements and budget allocation were met and the building would meet the requirements for a state-of-the-art aerospace communications testing and research facility.

The ACF provides collaborative work areas as an additional building resource for occupants and visitors for impromptu meetings and conversations, providing more opportunities for brainstorming, information sharing, and creativity. The project diverted 80 percent of onsite-generated construction waste from landfills. A ribbon cutting was held with congressional and local VIPs.

Category III

NASA Excellence in Energy and Water Management Award – Individual



Quentin Hibbs
(Kennedy Space Center [KSC])

Recognized for dedication and expertise in advancing the KSC's energy and water conservation efforts.

Quentin's dedication and expertise have been instrumental in advancing KSC's energy and water conservation efforts. Quentin's work directly supports NASA's mission by improving the sustainability and efficiency of KSC's infrastructure. He has played a pivotal role in the development and successful execution of key energy and water conservation projects, demonstrating a commitment to reducing KSC's environmental footprint.

Quentin's contributions have been far-reaching, particularly in his leadership during critical project scope development and design phases. He expertly guided the development of comprehensive project scopes for a major light emitting diode (LED) lighting upgrade project across numerous institutional facilities and a large-scale water meter installation project. His meticulous attention to detail and thorough understanding of project requirements ensured that the designs were not only innovative, but also practical and achievable. As a result of his efforts, these projects were successfully completed on time and within budget, leading to significant improvements in energy efficiency and water management at KSC.

Quentin's exceptional leadership and project management skills were evident throughout the project lifecycle, as he fostered collaboration among diverse stakeholders, solicited input from experts, and ensured that the final designs aligned with KSC's overall energy and water conservation goals. His ability to balance creativity with practicality resulted in project designs that were both innovative and implementable.

Quentin's collaborative approach and ability to build strong working relationships were crucial to the success of the projects he led. He fostered open communication, encouraged diverse perspectives, and created a cohesive team environment. His commitment to teamwork ensured that the project scope and designs were thoroughly vetted and refined, resulting in successful project outcomes that exceeded expectations.

Category IV

NASA Award for Excellence in Site Remediation – Team

Kennedy Space Center (KSC) Launch Complex 34 (LC-34) Remediation Team

Recognized for exemplary work in innovation, leadership, and site remediation at KSC's LC-34.

LC-34 at KSC

Team Members:

Deda Johansen, NASA
Rosaly Santos-Ebaugh, NASA
Ryan O'Meara, NASA
TJ Touran, FDEP
Mark Speranza, Tetra Tech
Daniel Forester, Tetra Tech
Lindsay Morgan, Tetra Tech
Angy Chambers, US Space Force
Mike Deliz, NASA
Anne M. Chrest, NASA
Christopher Adkison, NASA
Natasha Darre, NASA
Mark Jonnet, Tetra Tech
Chris Neumann, Tetra Tech
Chuck Sorden, Tetra Tech
Sarah Damphousse, Tetra Tech
Russ Lowers, Herndon Solutions Group

Under the leadership of Deda Johansen and in collaboration with Federal employees Anne Chrest and Michael Deliz, former employee Lindsey Morgan, and along with contractor Tetra Tech, Inc., this team has exemplified unparalleled innovation, leadership, and effectiveness in site remediation. Their achievements crosscut all the subcategories for this award, particularly (5.c) Strategies in Remediation. Most notably is their impact on NASA's mission, achieved through the implementation of cost-effective treatment alternatives that have proven to be far less expensive than remedial options with large capital expenses.

The team's exemplary work is underscored by their ongoing remediation efforts at LC-34, a former Apollo launch site at Cape Canaveral Space Force Station. This site, considered to be hallowed ground, is where the crew of Apollo 1 tragically lost their lives atop the launch pedestal. Remediating this historically significant site has been a profound responsibility, requiring not only technical expertise but also a deep respect for the site's legacy. The successful cleanup efforts and partial restoration of this location highlight the team's commitment to preserving historical integrity while protecting human health and the environment.

Following the original design for the hydraulic containment system, which included vapor treatment, it was determined that the annual cost of the liquid phase granular activated carbon (GAC) usage and replacement could not be fully estimated. The carbon saturation would be dependent on influent groundwater chlorinated volatile organic compound

(CVOC) concentrations that could not be fully predicted until system start-up. Therefore, a change to the design that utilized a catalytic oxidizer to destroy CVOC vapors was implemented, saving NASA millions of dollars over the use of liquid GAC.

KSC quickly realized that the rush to implement cleanups left most sites, particularly LC-34, with a lack of understanding of the groundwater plumes' concentration morphology. KSC implemented high resolution site (HRS) characterization a decade before it became the norm at restoration sites across the country. High frequency horizontal and vertical groundwater sampling using direct push technology (DPT) and an onsite laboratory were mobilized to quickly analyze CVOC concentrations in groundwater. The team established a horizontal spacing "rule of thumb" in the source area, high concentration plume, and low concentration plume to refine and accurately define potential treatment zones.

The KSC Remediation Team has successfully developed and implemented remediation strategies at LC-34 that provide significant cost savings while delivering exceptional results. Their work has directly supported NASA's mission by avoiding the need for large capital expenditures that would surpass the entire Agency's Restoration Budget.

Category IV

NASA Award for Excellence in Site Remediation – Team

Goddard Space Flight Center's (GSFC) Per- and Polyfluoroalkyl Substances (PFAS) Management Team

Recognized for outstanding collaborative management of infrastructure modernization and PFAS remediation at GSFC.

Aeration Basin at Wallops Wastewater Treatment Plant (WWTP)

Team Members:

David Liu, NASA
Julie Shane, NASA
Charles Hook, NASA
Jacob Birkett, Tetra Tech
Mark Culver, Bluestone Environmental Group
Kristi Francisco, NASA
Christopher Bentley, NASA
Christopher Pike, Tetra Tech
Susan Dunn, Bluestone Environmental Group
George Hall, ASRC Federal Facilities and Logistics

The partnership between the GSFC Medical and Environmental Management Division (MEMD) and Facilities Management Division (FMD) has enabled GSFC to tackle major contamination issues in drinking water, surface water, and wastewater caused by PFAS at the Wallops Flight Facility (WFF). A chemical of growing concern in the past 10 years, PFAS were first detected at WFF in 2016. A small team of environmental and facilities staff immediately initiated investigations and remedial action to protect human health of NASA employees and the public. This collaboration grew and continues to not only help WFF address PFAS, but also led to the modernization and upgrade of WFF's Apollo-era infrastructure.

Over the past two years, GSFC's PFAS Water Management Team, consisting of MEMD's restoration and water compliance staff and FMD's water systems engineering, operations, and maintenance staff, had several major accomplishments. To ensure safe drinking water, the team collaborated to design, build, and operate a cutting-edge treatment system to remove PFAS from the Town of Chincoteague's drinking water wells and a new drinking water supply well for the WFF Main Base that replaced wells affected by PFAS. The treatment system has successfully treated more than 140 million gallons of water, removing PFAS to below the Environmental Protection Agency's (EPA's) new maximum contaminant levels, ensuring the town has a clean drinking water source. A new supply well was installed and has produced more than 6 million gallons of water for NASA and its tenants (Chincoteague Bay Field Station, Coast Guard, Navy, and National Oceanic and Atmospheric Administration [NOAA]) on the Main Base. These cutting-edge efforts were highlighted in the "NASA Mission Support 2023 Annual Report."

In wastewater, the team conducted an inflow and infiltration (I&I) study on the southern part of Wallops Island to determine the source of PFAS in the WFF wastewater sewer system as part of the Wallops Island PFAS Site Investigation. Parts of the Wallops Island wastewater system are more than 60 years old and have had a patchwork of repairs since their construction. The I&I study helped the team design and implement a small pilot study to repair and seal two manholes and an adjoining pipe. This repair resulted in an over 80 percent decrease in PFAS entering the wastewater system. The I&I study also helped WFF obtain Construction of Facilities (CoF) project funding to assess the condition of the entire wastewater infrastructure and design the system upgrades.

The team also conducted pilot studies to evaluate treatment technologies to remove PFAS in wastewater and groundwater at PFAS source areas. The studies tested different filtration media for PFAS removal and pre-treatment of media to remove impurities that could reduce the efficacy of PFAS removal. Design for a modular treatment system based on the results of these studies is underway. The modular treatment system could be used at the Wallops Wastewater Treatment Plant (WWTP) or moved to another location to treat other PFAS contamination. After testing demonstrated that the WWTP aeration basin can concentrate PFAS into foam, the team recently installed a foam-removal pilot system. If successful, this system will remove the PFAS foam before it dissolves back into the water. The feasibility of a full-scale system would be evaluated and potentially incorporated into a future CoF project for WWTP upgrades.

This project is a highly effective collaborative approach to minimize PFAS infiltration to the wastewater system and to repair/upgrade the system to support current missions and future development of WFF as one of the nation’s premier launch facilities.

Category IV

NASA Award for Excellence in Site Remediation – Individual

John P. Herrmann
(Johnson Space Center [JSC])

Recognized for exceptional dedication resulting in a "No Further Action" designation for the JSC Legacy Remediation Program.

John's efforts over more than 10 years have resulted in a "No Further Action" designation for the JSC Legacy Remediation Program. The primary Impact to Mission was substantially reduced risk and cost for the Center. In addition, this area is near the active hazardous waste storage that provides daily support to mission operations. Driving this remediation program to completion enabled resources at JSC to be redirected to other critical programs. As a result, the scope of impact significantly benefited JSC's compliance program in many positive ways, including increased resources to directly support mission operations.

The area located near Building 358 was a long-term impoundment cleanup, referred to as the "bio-wall remediation program. "John's work to modify and gain regulator concurrence with a revised technical approach was instrumental in every aspect of this multi-year process, and the result has substantially reduced cost and risk for NASA JSC. The Texas Commission on Environmental Quality (TCEQ) approved the initial Response Action Plan (RAP) for the site on February 13, 2012. JSC installed a "bio-wall" to passively treat chlorinated hydrocarbon contamination within the upper groundwater zone (water table). As a showcase for creativity and innovation, the system was designed, approved, and installed utilizing vegetation that had resulted from Hurricane Ike damage. In addition to passive treatment, the original remedy required a series of spot injections to promote enhanced breakdown of high chlorinated organic concentration levels.

John directed a revised RAP that included a revamped site groundwater flow model and included a monitored natural attenuation component to the plume management zone (PMZ), which essentially terminated the active remediation at the site. The TCEQ concurred that the revised RAP fulfilled the requirements of 30 Texas Administrative Code (TAC) §350.94. This was a significant achievement and provided an enormous benefit to the JSC Operations Directorate because it eliminated costly active remediation. The primary Impact to Mission was substantially reduced risk and cost, as this area is near the active hazardous waste storage that provides daily support to mission operations. Without this ongoing remediation program, resources at JSC were redirected to other critical

programs so the scope of impact significantly benefited JSC's compliance program in many positive ways.

The subsequent semiannual groundwater monitoring events validated the groundwater model and demonstrated conformance with the prescribed protective concentration limits (PCLs) within and at the boundary of the prescribed plume management zone (PMZ). In June 2022, JSC prepared and submitted a draft Response Action Completion Report (RACR) demonstrating attainment of the response objectives, in accordance with 30 TAC §350.95. The Texas Commission on Environmental Quality (TCEQ) approved, JSC was given the "No Further Action" determination recently, and the site was officially closed as an active remediation program. John's hard work was instrumental in every aspect of this multi-year process and the No Further Action determination has substantially reduced legacy environmental liability at a greatly reduced cost for NASA JSC. This was a multi-year effort that involved numerous people, but John's innovative and creative approaches drove the astounding results.

The internal and external collaboration across all stakeholders over such a long period was impressive. We are already seeing the benefits of this accomplishment translate and extend to the new PFAS efforts as the relationships and trust established with the regulators directly benefits JSC and NASA with a foundation built on success and trust.

Category V

NASA Environmental Management Division (EMD)
Director's Environment and Energy Award

Farley Davis
(Marshall Space Flight Center [MSFC])

Recognized for exceptional leadership and outstanding commitment above and beyond individual job responsibilities, to assist MSFC and the Agency in enabling environmentally sound mission success.

Farley Davis has supported NASA's mission at MSFC in his role as Environmental Engineering and Occupational Health (EEOH) manager by providing ethical leadership, sound reasoning, and keen foresight regarding future impacts to NASA's mission. Farley has positively enabled NASA's mission by providing environmental compliance and stewardship and a safe and healthful workplace. Farley's attitude of professionalism and personal responsibility for the development and implementation of well-grounded environmental programs has increased MSFC's sustainability and prevented pollution. His tireless leadership has resulted in compliance with Federal, State, and local environmental laws and regulations, and his creative solution-oriented approaches to environmental stewardship have restored contaminated areas.

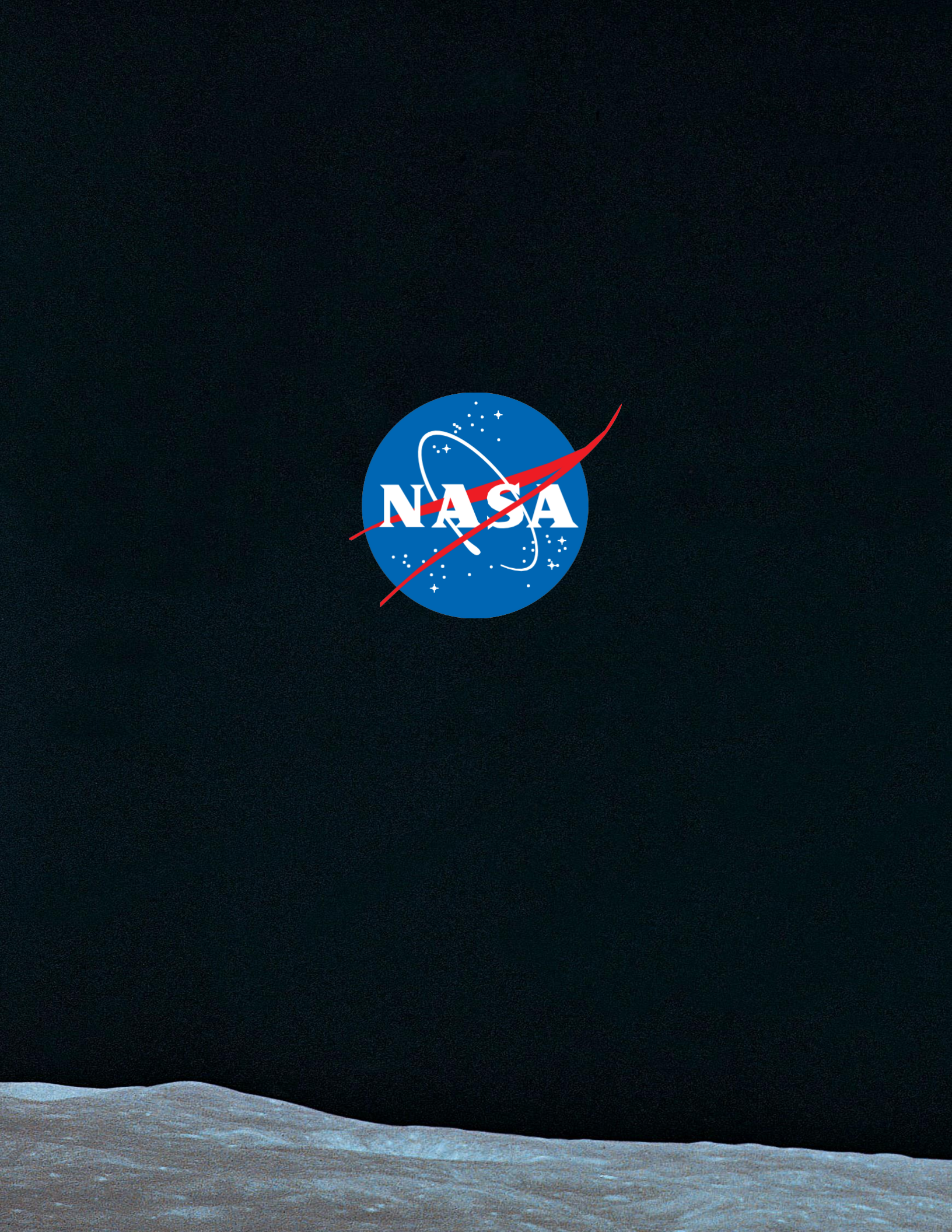
Farley has a 40-year legacy at MSFC and across NASA's Mission Support portfolio. He began his career with the Army Corps of Engineers and transferred to MSFC's Facilities Office in the early 1990s. Soon afterwards, he joined the Environmental Office, where he ascended to compliance team lead while managing MSFC's Hazardous Waste and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) programs. In 2010, Farley was promoted as the MSFC Logistics Office manager where his leadership skills enabled mission success. Farley became EEOH manager in 2017, where he has continued his record of exceptional contributions to NASA's greater mission and utilized his knowledge of MSFC's Facilities, Logistics, and Environmental Offices.

Farley's knowledge and fearless communication style has fostered good relationships and positive outcomes for MSFC and the Michoud Assembly Facility (MAF). Farley's earnest participation in the Agency's Environmental Managers Panel has led to him directly mentoring other environmental managers across the Agency. His insight, experience, and guidance have been scalable and put sound environmental programs into action at other Centers. Additionally, Farley has provided countless hours mentoring newly hired employees, which will ensure that his legacy of exceptional service is extended beyond his tenure with NASA.

Under Farley's leadership, the EEOH Office has successfully advocated for the environmental protection of MSFC resources and ensured compliance across MSFC's portfolio of programs. Farley developed a creative solution to prevent water contamination from entering the MSFC

West Test Area deluge pond. This effort required extensive coordination with the Alabama Department of Environmental Management (ADEM), multiple environmental contractors, the MSFC Facilities Office, and the Engineering Directorate.

Farley saw the need for collaboration with MSFC Logistics and Facilities managers to jointly provide funding for MSFC to obtain an E85 fuel storage tank. His direct collaboration enabled MSFC to comply with Executive Order requirements to reduce petroleum fuel consumption of Federal fleet vehicles. Farley's skill at garnering acceptance of environmental programs and policies across the Agency lies in his ability to be altruistic while fulfilling his mandate of protection of personnel and the environment. He works tirelessly to provide excellent service to others and trusts his team members to act on his behalf.


NASA