

# GRAA NEWSLETTER

P.O. Box 1184, Greenbelt, MD 20768-1184

Feb 2024 <http://GoddardRetirees.org> 40th Year of Publication

**UPCOMING LUNCHEONS:** We meet at 11:15 AM on the 2<sup>nd</sup> Tuesday of each month at the American Legion Post #136 at 6900 Greenbelt Road. **Reservations are required;** please contact [graalunch@gmail.com](mailto:graalunch@gmail.com) (preferred) or call (410)-709-8889 **before Thursday, February 8th.**

Feb 13	<b>Matt Greenhouse</b> , Astrophysicist, Lab for Observational Cosmology, Project Scientist for Science Instruments, JWST. “The James Webb Space Telescope Mission”
Mar 12	<b>Nickalaus Pinkine</b> , JHAPL, PSP Mission Operations Manager, “Parker Solar Probe: Mission Operations Challenges during Commissioning and Beyond”.

## COMMENTS FROM TONY COMBERIATE AND ARLIN KRUEGER

Our January speaker was **Dr. Ralph Kahn**, a recently retired Senior Research Scientist in Goddard’s Climate and Radiation Laboratory. His talk, **Reducing the Uncertainty in Climate Predictions: Steps Toward Realizing the Potential of NASA’s Earth Observing System, and Reducing Aerosol-Related Climate-Forcing Uncertainty**, discussed his extensive experience in analyzing types of aerosols and their impact on heating & cooling the Earth system. The microphysical properties of aerosol particles and how those particles form clouds are major factors that lead to climate prediction uncertainties. Most aerosol particles reflect sunlight, cooling the Earth’s surface, although absorbing aerosols warm the atmosphere. Aerosols can lead to cloud brightening, increase a cloud’s lifetime, and can dissipate or invigorate a cloud. Particles from a desert dust storm can invigorate an iron-poor ocean, fertilize land with phosphorous, force atmospheric circulation, or in some cases, transport pollen or disease vectors. Airborne dust is increased by deforestation and drying lakes and rivers, as well as changing winds and precipitation patterns. The resulting higher temperatures and lower humidity stress the environment and can lead to wildfires and possible ecosystem collapse.

The MODerate-resolution Imaging Spectroradiometer (MODIS) and Multi-angle Imaging SpectroRadiometer (MISR) instruments on the Terra spacecraft have provided frequent, global coverage for 23 years, providing aerosol and cloud maps, and determining aerosol plume, layer, and cloud heights. Satellite data are complemented with sub-orbital data, which provide targeted microphysical, cloud-dynamics, and aerosol-chemical detail. Together, they provide the current state of the atmosphere and its initial conditions for models that provide space-time interpolation and lead to climate predictions.

Ralph also presented key information from global volcano monitoring, especially from the recent Hunga-Tonga Hunga-Ha'apai Volcano eruption in 2022. This highly explosive underwater eruption placed much water in the stratosphere, but very little sulfur dioxide, the agent that oxidizes to sulfate aerosol, causing cooling after major eruptions. At any given time, there are about 10 active volcanoes on the Earth. Space missions, including Aura/OMI, NOAA/OMPS, and ESA/TropOMI, monitor climate-impacting explosive volcanic eruptions as well as boundary layer air quality downwind of effusive eruptions.

Dr. Kahn concluded that "understanding changes in the radiative forcing of climate is critical for any effort to attribute, mitigate, or predict climate change, however, models must adopt particle microphysical properties from somewhere."

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**GRAA MEMBERSHIP DIRECTORIES**, updated every 2 years, are mailed to all members with their home addresses in our files. For privacy reasons only hardcopies are available. We depend on retirees to furnish their addresses to be listed and to receive the Directory. Please send your **address**, as well as **donations** to support the mailings, to **P. O. Box 1184, Greenbelt, MD 20768-1184**.

**TREASURER'S REPORT**: Treasurer Jackie Gasch received donations from Eugene Humphrey, Ron Felice, Dorothy Perkins, Patricia Mackey, James Costrell, George Morrow, Richard Costa, Frank Carr, Barbara and Gus Comeyne, William Davis, L. Henry Anderson, Wentworth Denoon, William Worrall, Eugene Willingham, Dennis Brennan, Deborah Knapp, Joyce Cephas in memory of Arnold Cephas, William C. Bryant in memory of Dick McGeehan.

**FROM THE GODDARD ARCHIVES**: On February 11, 2013, Atlas-5 launched Landsat-8, with an operational land imager and thermal infrared sensor. It collects 700 scenes per day vs 250 by prior Landsats.

#### **REMEMBERING OUR FORMER COLLEAGUES:**

**Vincent J. Briani**, 92, passed away on December 23, 2023 in Crofton, MD. Born on February 13, 1931 in Fostoria, OH, Vince served in the Navy from 1951 to 1954, then worked at Goddard on satellite communications systems, and retired after 50 years of service.

**William L. Fowler**, 81, passed away on December 13, 2023 in Millersville, MD. Born on October 8, 1942 in Baltimore, Bill made significant contributions during his tenure at Goddard Space Flight Center, where he played a crucial role in the Apollo and Gemini Space programs.

**Clyde Henry Freeman**, 86, of Bowie, Maryland, died on December 8, 2023. Clyde was born in Illinois and graduated from the University of Illinois with a B.S. in Electrical Engineering. Clyde joined NASA in 1959, working first at the Washington Navy Yard and then at the Goddard Space Flight Center where he worked as a computer engineer. He supported many early satellites, shuttle missions until the loss of Challenger in 1986, and the International Space Station. A celebration of his life is planned for February 17, 2024 at the [St. George's Episcopal Church](#) at [7010 Glenn Dale Road](#) in Glenn Dale, MD 20769.

**Anna Catherine Glorioso** died on August 31. Anna worked for the FBI, Army Chemical Center, and NASA-Goddard Space Center.

**Paul Hunter, Jr.**, 70, of Clarksville, Maryland, died Saturday, Jan. 20, 2024, after an illness. Paul was born on April 9, 1953, and raised in Scranton, PA. He worked at the Naval Research Lab before coming to Goddard, where he worked for years as the Deputy Chief Information Officer, before becoming Goddard's Chief Technology Officer, until he retired in 2014.

**Carl Mohrwinkel**, 75, died on November 2, 2023. Carl obtained a B.A. in International Relations, a Master's in Government from American University, and a law degree from the University of Baltimore. He served six years in the U.S. Army Reserve, then joined Goddard for seven years where he established the Summer Institute in Public Administration. He served as legal counsel of the Presidential Clemency Board under President Gerald Ford. Then at the Nuclear Regulatory Commission he provided legal aid to investigations of the Three Mile Island nuclear accident.

**Carlos González Parra**, 82, died on December 18, 2023. Carlos obtained his bachelor's and master's degrees from the University of Colorado Boulder. He taught geology at New Mexico State University and later worked as an engineer and manager at NASA. He worked at both the Goddard Space Flight Center and the Wallops Flight Facility and later at the Johnson Space Center on the Space Station Project.

**Jessie Rachel Redding**, 83, born on March 26, 1940, in Ashford, Alabama, recently passed away on December 28, 2023, in Dothan, Alabama. Jessie attended the public schools of Ashford, served in the U.S. Army, then worked for NASA Goddard Space Flight Center.

**John Charles Voelkel**, 90, passed away on November 22, 2023. Born in Baltimore, MD on January 16, 1933, he graduated from Johns Hopkins University with a degree in electrical engineering. Most of his career was spent working for Goddard in the Systems Operations and Maintenance Branch, Operations Test Section in the Networks Operations Division (79) dealing with NASCOM Communications Management and the Second TDRSS Ground Terminal.

**Schuyler Clark Wardrip**, 95, died on August 13, 2023. He was born in St. Louis, MO, but his family moved to Virginia when he was a child. He worked at the Naval Research Laboratory and the Goddard Space Flight Center. He co-authored over 30 papers and received numerous

awards and was also one of four founding members of the Precision Timing and Time Interval (PTTI) organization.

**Stanley Way**, 85, passed away on August 4, 2023 in Rockville, MD. Stan headed the Electronics Systems Section in Hasso Niemann's Atmospheric Experiment Branch in the Laboratory for Atmospheres conducting mass spectrometer investigations of the Venus, Jupiter, Saturn, and Mars atmospheres. He later supported the 1991 joint US/USSR Meteor3/TOMS mission.