

## Historic STEM Women/Meteorologists

Sarah Frances Whiting (1847-1927)

Having been first tutored in mathematics and physics by her father a college professor, she earned her bachelor's degree in 1865, then taught at Brooklyn Heights Seminary for Girls where she attended scientific lectures and visited local laboratories. In 1875 she taught physics at Wellesley College and attended the laboratory physics classes of Edward C. Pickering at MIT. His was the first undergraduate physics laboratory in the United States. Hers was the second, which she opened in 1878 at Wellesley College. There she introduced a course in meteorology, established a meteorological observation station and had her students collect data for the US Weather Bureau. In 1895 she was the first US scientist, male or female, to make X-ray photographs. She was the first woman invited to join the New England Meteorological Society, she was a member of the American Physical Society, which refused to invite women to its banquets and, she was one of the first five women to be elected a fellow of the American Association for the Advancement of Science.

<http://weather.about.com/od/weatherhistory/tp/5-Women-in-Weather-Who-Broke-Meteorologys-Male-Mold.htm>

Grace Evangeline Davis (1870-1955)

She studied physics and meteorology under Whiting at Wellesley where she earned her BA and MA degrees. She was the associate professor of physics at Wellesley from 1899-1936, best known there for her popular meteorology course. She studied at Radcliffe, Harvard, MIT, and was a charter member of the American Meteorological Association founded in 1919.

<http://passporttoknowledge.com/storm/who/bios/women1.htm>

Gladys Wrigley (1855-1974)

She earned a fellowship to Yale where she became the first woman in the United States to earn a PhD in geography for her work on the *Roads and Towns of the Central Andes*. She worked at the American Geographical Society and was the first editor of their *Geographical Review*. She held this position for twenty-nine years until her retirement and was one of the most influential scientific editors of first half of the 20th Century. Still, she was never invited to dine with councilors of male staff members, and was referred to as "Miss" while male PhDs were addressed as "Dr." She was a charter member of the American Meteorological Association. Hundreds of thousands of opportunities for women availed themselves in the 1940s as hundreds of thousands of men were sent overseas to fight in World War II. Meteorologist positions were opened to and undertaken by qualified women. When the men returned, the women were expected to return their positions to the RETURNING men who expected this.

<http://passporttoknowledge.com/storm/who/bios/women1.htm>

Bernice Ackerman (1928-1995)

She started her career during the war with the Women Accepted for Volunteer

Emergency Service (WAVES). After the war, she earned a BS in meteorology with a minor in mathematics from the University of Chicago in 1948 and worked for the US Weather Bureau. She earned her MS in meteorology in 1955 and her PhD specializing in cloud physics in 1965, both from UC. She was an associate professor of meteorology at UC (1965-67), at Texas A&M (1967-70) and, an associate meteorologist in the Atmospheric Sciences Section at Argonne National Laboratory (1970-72). She is considered to be one of the most important women meteorologists of the second half of the 20th Century.

<http://www.findagrave.com/cgi-bin/fg.cgi?page=gr&GRid=78090953>

Hazel Tatro (1920-1974)

She received her meteorological training while serving in the WAVES during World War II. She earned her BS in meteorology from Florida State University on a Weather Bureau scholarship and then worked for the Florida Weather Bureau. She was the first woman to be a MIC (Meteorologist in Charge) of a US Weather Bureau Office. <https://news.google.com/newspapers?nid=1734&dat=19640526&id=ZU8cAAAIBAJ&sjid=Y1EEAAAIBAJ&pg=6001,1809040&hl=en>

Beryl Bedgood Beaurepaire

She was a member of the Women's Auxiliary Australian Air Force (WAAAF) in the 1940s. She chose to join the WAAAFs because she was interested in science and, she understood there would be openings in the meteorological section. In her interview she was told, "Oh no, they won't allow any women into that." She joined as a meteorological "assistant" with two other women in a class of forty. These three women, who needed a matriculation or a university year to be accepted, were better educated than the thirty-seven men who needed only the equivalent of intermediate (high school) education. She noted the men were posted to the Weather Bureau but the women worked alongside public servants. As well, the women received about a quarter of the pay of the men without extra pay for weekend shifts, for which the men got time-and-a-half or three times pay. The women complained to the Director of the WAAAF, a woman, stating they did not join the WAAAF to be public servants. Some months later they were reassigned more respective to their weather observation talents. Still, until the mid-1970s observer positions were not fully open to any woman despite 'weather' she qualified.

<http://brianna.laughter.id.au/blog/tag/bureau-of-meteorology>

Joanne Simpson (1923-2010)

She was the first woman to earn a PhD in meteorology. But because she was a woman, she was unable to pursue her doctoral studies or perform her meteorological research as planned. Still, she found a way and conducted research analyzing tropical clouds. Her documented data demonstrated how important clouds were in driving tropical circulations, specifically in the destructive heat driving forces of hurricanes. She drew maps of cloud formations that revealed specific patterns that are now routinely seen on satellite images. She documented this self-sustaining tropical convection in the cumulonimbus clouds in eye of the hurricane that created the heat to drive the hurricane. Dr. Simpson was the main force behind the first satellite mission to launch the first weather satellite - still operating today.

<http://geogain.org/women-in-the-science-news/>

Maude Bennot (1892-1982)

This female astronomer remains the only “acting” director in the avant-garde history of Chicago’s Adler Planetarium. Established in 1930, the Adler was the first planetarium in the Western Hemisphere. Its first director, Philip Fox was selected by Max Adler himself. When Fox resigned, Maude Bennot, his assistant since the Adler opened, was appointed “acting” director, but never granted full director entitlement, as was Fox and all male directors after her. Upon becoming “acting” director, a position in which she served for eight years, Bennot, who held a master's in astronomy from Northwestern University said, “There is a field for women in engineering, astronomy and other scientific endeavors. But it is definitely limited -- mainly...in the minds of men.” (TIME 5/17/37)

[http://link.springer.com/referenceworkentry/10.1007%2F978-0-387-30400-7\\_135](http://link.springer.com/referenceworkentry/10.1007%2F978-0-387-30400-7_135)

[https://books.google.com/books?id=olT1ipj-](https://books.google.com/books?id=olT1ipj-EboC&pg=PA55&lpg=PA55&dq=maude+bennot&source=bl&ots=LRe38pCQME&sig=LGaxqLxYDyugpb3JXQKgj7YU&hl=en&sa=X&ved=0ahUKEwis9MDlm9PNAhVn04MKHYQQDSQ6AEIPDAK#v=onepage&q=maude%20bennot&f=false)

[EboC&pg=PA55&lpg=PA55&dq=maude+bennot&source=bl&ots=LRe38pCQME&sig=LGaxqLxYDyugpb3JXQKgj7YU&hl=en&sa=X&ved=0ahUKEwis9MDlm9PNAhVn04MKHYQQDSQ6AEIPDAK#v=onepage&q=maude%20bennot&f=false](https://books.google.com/books?id=olT1ipj-EboC&pg=PA55&lpg=PA55&dq=maude+bennot&source=bl&ots=LRe38pCQME&sig=LGaxqLxYDyugpb3JXQKgj7YU&hl=en&sa=X&ved=0ahUKEwis9MDlm9PNAhVn04MKHYQQDSQ6AEIPDAK#v=onepage&q=maude%20bennot&f=false)