We can Thank a Black Horticulturist for Our Freight Farm 🪴

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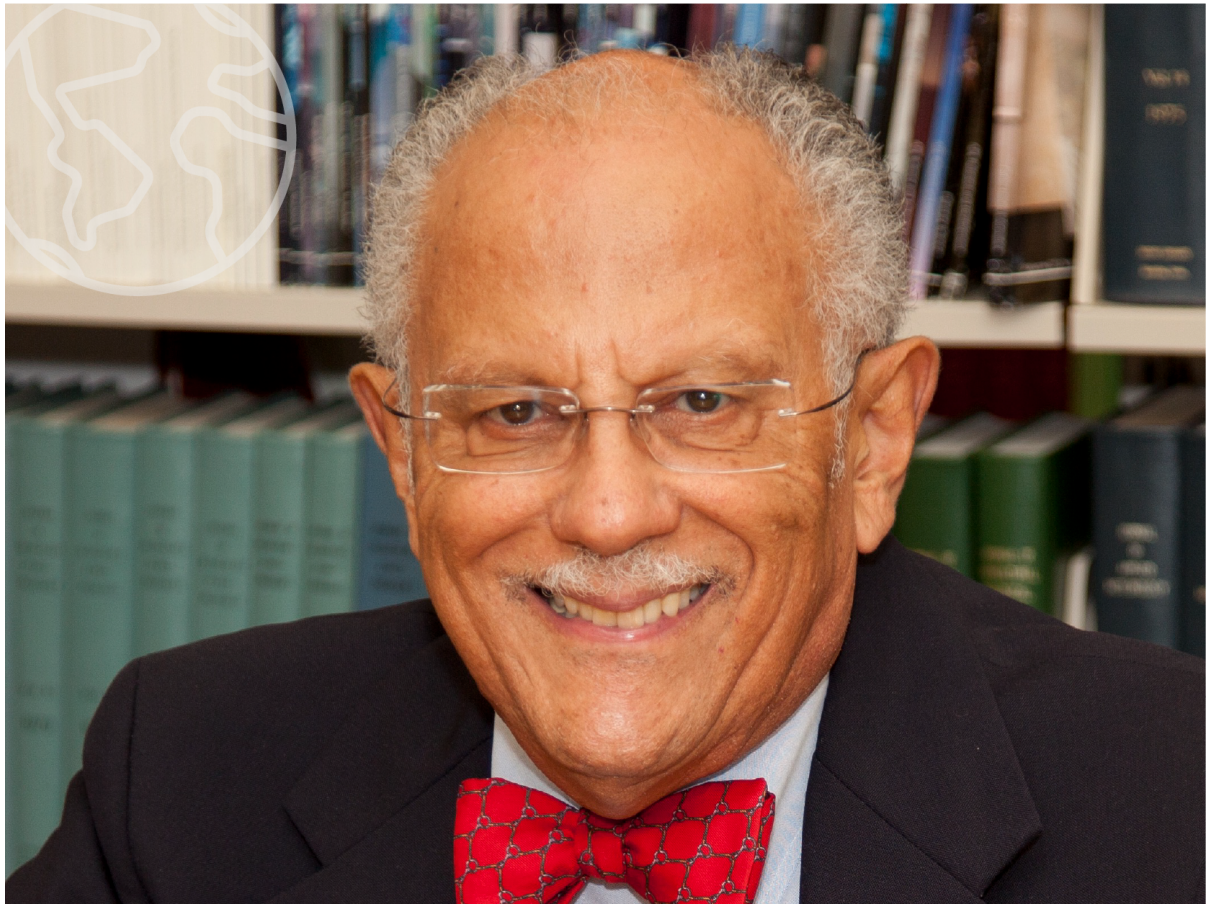
Biosphere 2

From inventing sustainable community farming methods to piloting spacecrafts, Biosphere 2 has Black scientists and leaders to thank for making much of our work possible today. This Black History Month, join us in celebrating the scientists who have paved the way for Biosphere 2's efforts in climate change modeling, agricultural technology and analog research.

[http://]

Leaders Predicting the Future



Dr. Warren Washington
1936-Present

As the second Black person to receive a doctorate in the atmospheric sciences, Dr. Warren Washington has spent the majority of his academic career advancing the trajectory of climate research through atmospheric computer modeling.

Washington's work in climate research began in the 1960s, where he was part of the team responsible for creating the first atmospheric model that predicted future atmospheric states. He also later advanced this model to account for oceans and their impact on Earth's atmosphere and climate change.

Washington continued his atmospheric modeling and climate change research well into the 21st Century – most notably including developing both the Parallel Climate and Community Earth System models, which were used by the Intergovernmental Panel on Climate Change (IPCC) in a 2007 assessment. He's also the recipient of many environmental awards, including the Tyler Prize for Environmental Achievement in 2019 and National Medal of Science in 2010.

Because much of our work focuses on the fundamental mechanisms that tie soil, plant and atmospheric processes

together, Biosphere 2 owes our advancement in climate research to Washington's distinguished atmospheric modeling efforts.

[http://]

Leaders Feeding Communities

Dr. Booker T. Whatley
1915-2005

We can thank a Black horticulturist for inventing the Community Supported Agriculture (CSA) model.

Growing up in Alabama during the early 1900s, Booker T. Whatley witnessed no shortage of racism happening to Black farmers in the south. The reality of dwindling farm acreage and ownership within his community led Whatley to study horticulture, including George Washington Carver's teachings about regenerative agriculture, and how to maximize crop growth on small plots of land.

During the Civil Rights Movement, Whatley noticed the blatant racism that Black farmers experienced from all sides – government loan denials, policy changes, and hate crimes were consistently keeping wealth out of Black communities and favoring white farmers.

As a way to secure land and boost wealth, Whatley campaigned for Black farmers to use a "pick-your-own" membership method, where customers paid a flat fee at the start of the season to source their own food from the farm. This community-based model allowed for people to have ensured access to food and Black farmers to have a guaranteed market, regardless of any political and social barriers set in place for their community.

Biosphere 2's Freight Farm program largely relies on agricultural techniques and models that Whatley invented to help Black farmers. Our goal is to do the very same with our small farm: Feed the community.

[http://]

Leaders Lifting Off


LEO
PROCTOR

Dr. Sian Proctor
1970-Present

Dr. Sian Proctor is a geoscientist, astronaut, and leader in analog research who was the first Black woman in history to pilot a spacecraft.

In 2009, Proctor was a finalist for the NASA Astronaut Selection Process, though she was not selected to be part of the crew. Proctor used this to fuel the next chapter in her career: Analog research.

Analogs – including SAM at Biosphere 2 – are sealed environments that replicate living conditions on habitats like Mars. During analog missions, teams are able to conduct research and test equipment to understand the complexities of sustaining interplanetary life for an extended period of time.

Along with taking part in four analog missions, Proctor is also responsible for founding the annual Analog Astronaut Conference hosted at Biosphere 2. Proctor's education-forward approach to analog research and planetary science has made a lasting impact on projects around the world, including SAM.

In 2021, Proctor's prolific career in teaching and analog research helped her seamlessly transition to being an

astronaut. When Inspiration4 selected Proctor to pilot this all-civilian orbital mission, she became the first Black woman in history to pilot a spacecraft.

Currently, Proctor is the artist and explorer in residence at Arizona State University (ASU) and a fellow at the ASU Mix Center. Proctor uses her experience and art to evoke important conversations about women of color in space, and to inspire the next generation of explorers.

Witness the Black community's impact throughout all of our biomes, our Freight Farm community agriculture project, and SAM.

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