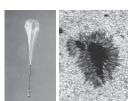
Major Milestones in NSF-Funded Solar Astronomy

NSF has long supported solar astronomy research. This science has helped inform what we know about the sun, other stars and the plasma state of matter (like the sun's corona). This fundamental knowledge is at the crux of space weather, which impacts communication networks and power grids on our own planet. NSF's newest investment, the Daniel K. Inouye Solar Telescope, is poised to collect unprecedented images and data about the sun when it becomes fully operational in 2020.



NSF awards its first grants for solar research.

1953-1954

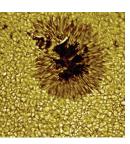
Balloon-mounted solar telescope captures historic photos of sunspots.

1959-1960



NSF's Kitt Peak National Observatory assists Aerobee rocket launch to capture X-ray images of the sun. Also, NSF coordinates U.S. federal research participation in "International Year of the Quiet Sun" to study sun's corona.

1965



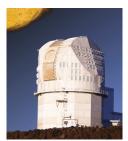
Franz Deubner, using the NSF Dunn Solar Telescope at Sacramento Peak, demonstrates how solar five-minute oscillations are trapped inside the sun, leading to helioseismology.

1975



NSF funds a Global Oscillation Network Group (GONG) to observe sun continuously as possible and provide space weather data.

1995



Site construction begins on NSF's 4-meter Daniel K. Inouye Solar Telescope. The world's most powerful solar telescope, it released its first images of the sun's surface in 2020.

2012

1958

American scientists with NSF funding observe sun continuously for 12 months for first time in history as part of International Geophysical Year scientific program.



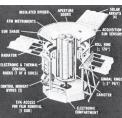
NSF dedicates McMath Solar Telescope at Kitt Peak National Observatory.

November 2, 1962



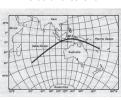
1973

NSF funds the National Center for Atmospheric Research's High Altitude Observatory to develop a coronagraph for Skylab to observe sun from space.



1983

NSF sends scientific expedition to Indonesia to observe total solar eclipse, including a newly developed special camera to capture the interplay between solar magnetic fields and corona.





2003

Synoptic Optical Long-term Investigations of the Sun (SOLIS) instrumentation is deployed at NSF's Kitt Peak National Observatory to map sun's magnetic field in photosphere and chromosphere daily.



August 21, 2017

NSF funds projects to obtain uninterrupted observation of total solar eclipse as it traverses U.S.; NCAR and Smithsonian

Astrophysical Observatory flies along path of totality and NSO leads nationwide citzen science observation project, Citizen Cate.





Image credits:

Top row: US Navy; NASA; NSF (2); NSO/AURA/NSF (2) Bottom row: NOAO/AURA/NSF; NASA; NSF; NSO/AURA/NSF