See Total Solar Eclipse Tomorrow in a Different Light

March 28 2006

A solar eclipse

A major astronomical event occurs Wednesday -- a total solar eclipse in which the moon's shadow blocks Earth-bound views of the sun from Brazil to Mongolia. In Wednesday's event, a total eclipse lasting up to 4 minutes will be visible over a path beginning in Brazil and extending across the Atlantic Ocean, Northern Africa and Central Asia where it ends at sunset in Northern Mongolia. A partial eclipse will be seen in the much broader path of the moon's shadow, including the northern two-thirds of Africa, Europe and Asia.

NASA is offering the public a front row seat for the total solar eclipse on Wednesday, March 29 thanks to a partnership with the University of California at Berkeley and San Francisco’s Exploratorium. Schools,

museums and the media worldwide will be able to witness the eclipse via NASA webcasts, podcasts and live video feeds as part of the Sun-Earth Day program.

NASA celebrates Sun-Earth Day annually to help the public better understand how the sun interacts with Earth and other planets in the solar system. This year's theme, "Eclipse: In a Different Light" shows how solar eclipses have inspired people to observe and understand the sun-Earth-moon system.

People within a narrow corridor crossing half of the Earth will be able to observe the event. The eclipse path begins in Brazil and extends across the Atlantic Ocean, northern Africa, and Central Asia where it ends at sunset in northern Mongolia. A partial eclipse will be seen within a much broader path which includes the northern two thirds of Africa, Europe, and Central Asia.

NASA has science teams in Africa to observe and make the most optimal studies of this year’s solar eclipse. Viewers will be able to see and hear science team preparations via podcasts from Turkey. Live webcasts and NASA TV coverage from Turkey begin at 5 a.m. EST March 29. NASA and Libyan scientists will also be conducting joint scientific activities to observe and study the event.

Total solar eclipses are of special interest to astronomers, because it is the only time the sun’s corona can be seen from the Earth's surface. Observers can detect and measure properties of the sun’s outer atmosphere, such as temperature, density and chemical composition when the light of the disk is blocked by the moon.

At this eclipse, scientists will try to detect the direction and velocity of flows of matter in the corona that are organized by the sun’s magnetic fields. Careful measurements and experiments during a total eclipse can

help unravel the enigmatic connections between the sun and Earth.

Solar eclipses happen when the new moon passes in front of the sun. They don't happen very often, since the tilted orbits of the sun, moon and Earth make their alignment rare. Only about once a year, when the moon passes directly in front of the sun and appears the same size or larger than the sun, do we have a total eclipse somewhere on Earth.

The 2006 eclipse is special because the total phase lasts more than four minutes at the center of the path. Most last only a minute or two. The next total solar eclipse is August 1, 2008. It will be seen in northern Canada, Greenland, Siberia, Mongolia and northern China. It will last about 2 minutes. The next total solar eclipse visible from the United States won't happen until August 21, 2017.

NASA’s partner, The Exploratorium, is housed within the walls of San Francisco's landmark Palace of Fine Arts. The Exploratorium is a collage of hundreds of science, art, and human perception interactive exhibits.

For information about the eclipse, podcasts, webcasts, Sun-Earth Day and the Exploratorium, visit: http://www.nasa.gov/eclipse

Source: NASA