HAO Colloquium Series
(Refreshments will be served)

Speaker: Giuliana deToma (HAO)
Time: 10:00-11:00 am
Date: Friday Sept. 12, 2014
Location: CG1 – 2126 (also webcast at http://www.fin.ucar.edu/it/mms/cg-live.htm)

Title: The Recent Decline in Solar Activity

Abstract:
Cycles 23 and 24 mark a change in solar activity in recent times. Most of the solar synoptic programs from both ground and space observatories started during the Space Age, which corresponded to an extended period of above-average solar activity. Thus, many of our ideas on the solar cycle were based on the Sun’s behavior during active times. Cycle 24 was preceded by the longest and deepest minimum in about 100 years and is the weakest cycle ever observed with modern instrumentation. Already in cycle 23, a lack of very large sunspots was noticeable, and in cycle 24, sunspots of all sizes have been scarce. However, this does not make cycle 24 anomalous in a longer-term context (weak cycles have fewer spots!), and we do not find evidence that the physical properties of sunspots have changed. Observing a quieter Sun has given us the opportunity to gain a deeper understanding of how the solar cycle works. In this talk, I will compare magnetic observations obtained during the last three solar cycles and discuss some of the interesting (and in some cases unexpected) observational findings. In particular, I will discuss how the decrease in photospheric activity has influenced the corona and heliosphere.