

**Table 17.25-- ASTRONOMY AND RELATED FACILITIES AT THE SUMMITS OF MAUNAKEA FOR 2016 AND HALEAKALA FOR 2017**

[Categories may not sum to totals due to rounding]

Facility and year (mirror diameter in meters)	Capital cost (\$ mil) 1/	Annual operating cost (\$ mil)	County based staff	Operational
Maunakea observatories, 2016				
Total	601	72.4	501	(X)
UH 2.2-m (Optical/Infrared)	5	1.0	6	1970
Canada-France-Hawaii 3.6-m (Optical/Infrared) 2/	30	7.5	49	1979
NASA IRTF 3.0-m (Infrared)	10	5.1	19	1979
UKIRT 3.8-m (Infrared)	5	2.2	6	1979
James Clerk Maxwell 15-m Submillimeter 2/	32	4.5	36	1986
VLBA Antenna 25-m (Radio)	7	0.4	2	1992
W.M. Keck Observatory (Keck I & II) 10-m x 2 (Optical/Infrared) 2/	170	14.2	125	1992/1996
Subaru 8-m (Optical/Infrared)	170	17.0	101	1999
Fredrick C. Gillett Gemini 8-m (Optical/Infrared) 2/	92	15.0	83	1999
Submillimeter Array 8x6-m	80	5.5	23	2003
Maunakea Observatories Support Services 2/	(X)	3/ 5.4	51	1980
Haleakala observatories, 2017				
Total	749	40.7	202	(X)
Mees Solar Observatory	1	0.2	1	1963
Haleakala Observatories Projects	(X)	0.2	2	(X)
Maui Space Surveillance Site (MSSS) 4/	250	26.3	117	1965
Ground-Based Electro-Optical Deep Space Surveillance (GEODSS)	25	6.1	16	1983
Faulkes 2-m Telescope	10	0.6	2	2003
Transportable Laser Ranging System (TLRS4)	1	0.8	5	2005
Panoramic Survey Telescope And Rapid Response System (Pan-STARRS)	110	5.6	11	2009
UH Haleakala Support Facilities	9	1.2	15	1962/2008
Daniel K. Inouye Solar Telescope (DKIST)	344	5/ 18.0	35	(6/)

X Not applicable.

1/ Historical cost, not adjusted for inflation, and not including subsequent capital improvements for Maunakea Observatories.

2/ 'Annual operating cost' and 'County based staff' revised from previous *Data Book*.

3/ Only \$1.9 million are included in total, as the other \$3.5 million are part of facility operating costs.

4/ Formerly Air Force Maui Optical Station (AMOS).

5/ Operational cost of 18 million not included in the total.

6/ Daniel K. Inouye Solar Telescope scheduled to be operational by 2020.

Source: University of Hawaii at Manoa, Institute for Astronomy, records.