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**Director's Office** 

## MAUNAKEA OBSERVATORIES

## **COSTS AND EMPLOYMENT BY FACILITY (2016)**

Maunakea is widely accepted as the world's best site for astronomical observations at optical and infrared wavelengths, and the best site in the northern hemisphere for millimeter/submillimeter observations. There are currently eleven telescope facilities in full operation on Maunakea. University of Hawaii scientists have access to a guaranteed fraction of the observing time on all of these telescopes, and are using this to carry out research at the forefront of modern astronomy. This unique telescope access has allowed the University to build up its astronomy program into one which is internationally recognized as being of the first rank.

Facility (mirror diameter in meters m=3.3 ft)	(a) Capital Cost (\$ million)	Annual Operating Cost (\$ million)	County of Hawai'i Based Staff	Operational
UH 2.2-m Telescope (Optical/Infrared)	5	1	6	1970
Canada-France-Hawai'i 3.6-m (Optical/Infrared)	30	7.4	45	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)	32	4.7	35	1986
VLBA Antenna 25-m (Radio)	7	0.4	2	1992
W. M. Keck Observatory (Keck I & II) 10-m x 2 (Optical/Infrared)	170	13.5	120	1992/1996
Subaru 8-m (Optical/Infrared)	170	17.0	101	1999
Frederick C. Gillett Gemini Telescope (Optical/Infrared)	92	13.7	83	1999
Submillimeter Array 8 x 6-m	80	5.5	23	2003
Maunakea Observatories	Not	<i>(b)</i>	_	
Support Services	Applicable	5.4	44	1980
Total	\$601	\$72.4	484	

a: Original cost at time of commissioning, not adjusted for inflation, and not including subsequent capital improvements.

b: Only \$1.9M of this included in total as the other \$3.5M is part of facility operating costs.