

A Case study on
Indigenous Land Autonomy:
—
the Thirty-Meter-Telescope

Final Project

- Additional and more detailed guidelines will be posted soon.
- Two components: reflection + mini-lecture

Reflection: Write a short reflection on the course.

Mini-lecture: Research a topic not covered in the course so far but which you think might fit in with the rest of the course material, and present a short (~15 minute) mini-lecture to the rest of the class.

Land Acknowledgement - UC Berkeley

We recognize that UC Berkeley sits on the territory of xučyun (Huichin), the ancestral and unceded land of the Chochenyo speaking Ohlone people, the successors of the sovereign Verona Band of Alameda County. This land was and continues to be of great importance to the Muwekma Ohlone Tribe and other familial descendants of the Verona Band.

We recognize that every member of the Berkeley community has, and continues to benefit from, the use and occupation of this land, since the institution's founding in 1868. Consistent with our values of community, inclusion and diversity, we have a responsibility to acknowledge and make visible the university's relationship to Native peoples. As members of the Berkeley community, it is vitally important that we not only recognize the history of the land on which we stand, but also, we recognize that the Muwekma Ohlone people are alive and flourishing members of the Berkeley and broader Bay Area communities today.

This acknowledgement was co-created with the Muwekma Ohlone Tribe and Native American Student Development and is a living document.

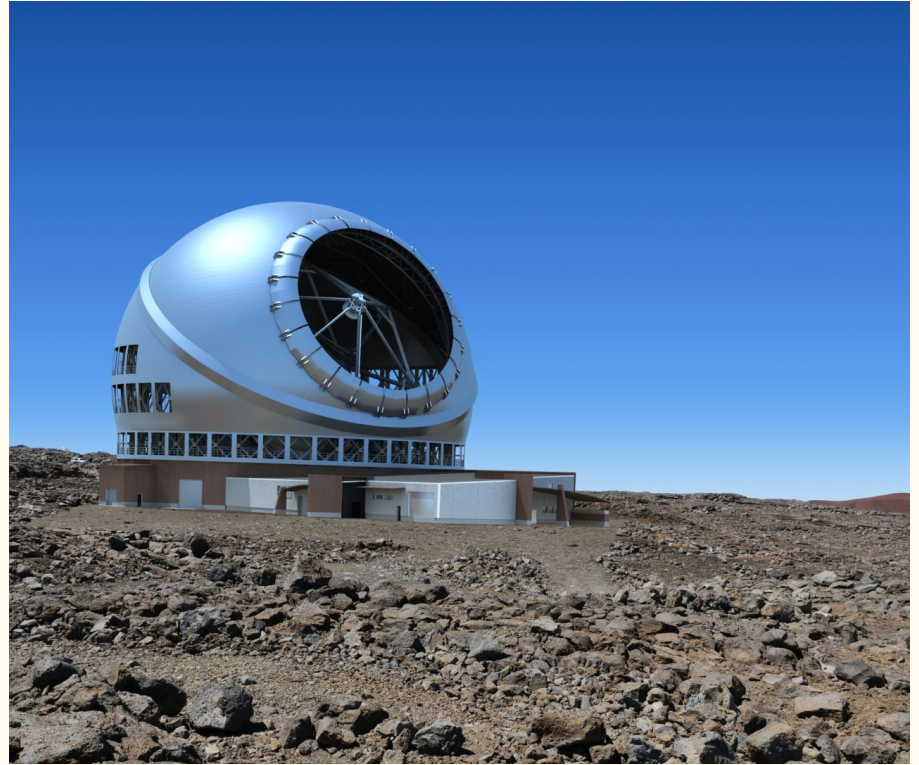
Lecture Outline

- What's TMT? Why Mauna Kea?
- Importance of Mauna Kea for native Hawaiians
- General timeline of TMT and protests against it
- Factual arguments
- Moral arguments
- Protests and treatment of protestors
- Latest update and what can happen in the future

overview

TMT

- Projected to be the largest optical telescope (with 30m / 98 ft diameter)
- Around 3 times better resolution compared to other telescopes
- Application ranges from exoplanet observations to early universe cosmology
- The better the resolution, the more distant past you can see in the universe



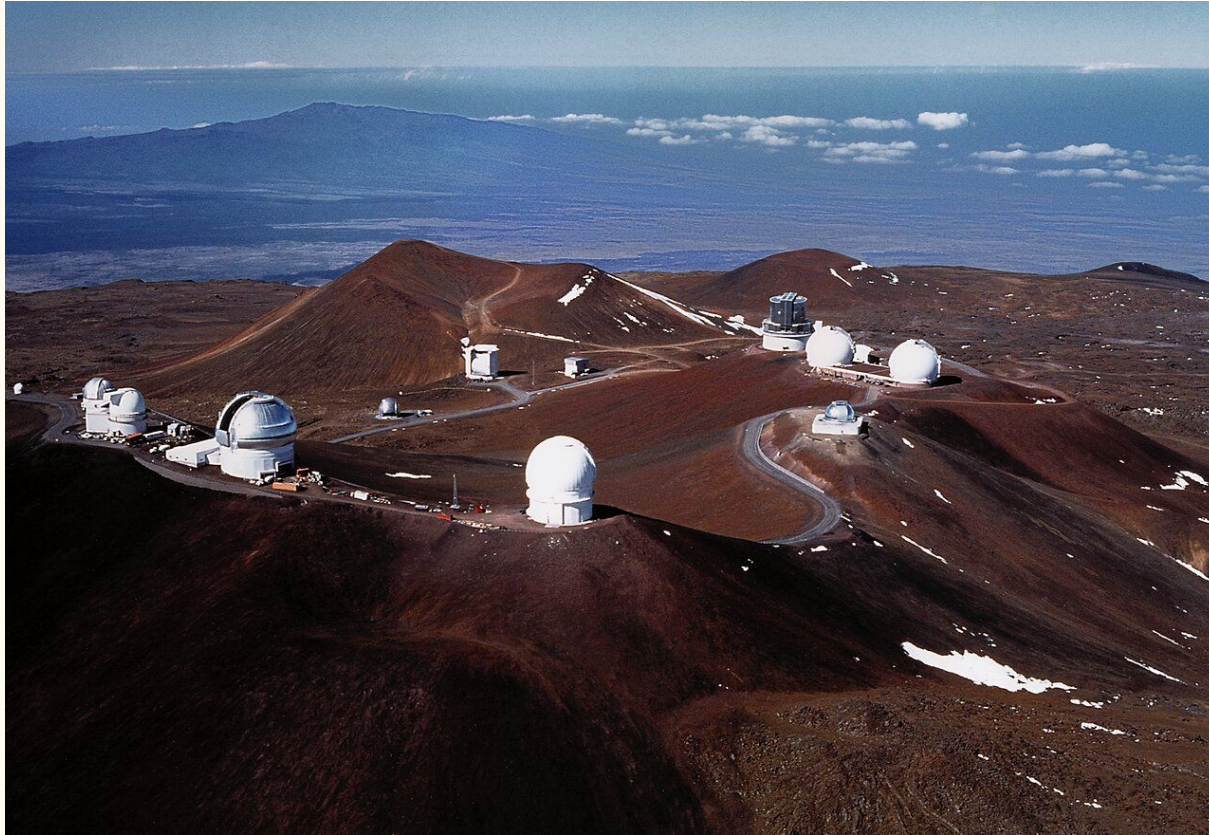
Artist's rendering of TMT

Mauna Kea

- The highest volcanic peak in the island of Hawaii
- One of the most sacred places in Hawaiin religion (ties to the islands' creation) (Analogous to Jerusalem for followers of Abrahamic religions)
- The best location for ground observations (high altitude, minimal turbulence, etc.) with lowest 'seeing limitation'
- Also host to many unique species
- Currently occupied by Maunakea Observatories, an international collaboration involving the top nonprofit institutions in Astronomy

Other Observatories in Mauna Kea

Credit:
Richard Wainscoat/International Gemini Observatory/
AURA/NSF



TMT and Protests Timeline Until the Pandemic

- Full timeline: [The Process - Maunakea & TMT \(maunakeaandtmt.org\)](https://www.maunakeaandtmt.org)
- 2008 - 2011 getting conservation and environmental permits
- Feb 2011 Contested case against Conservation District use Permit
- May 2014 A judge issues CDUP to TMT
- Dec 2015 The Hawaii supreme court invalidates CDUP
- Oct 2016 Alternative site identified as Canary Islands
- Sept 2017 The state land board approves CDUP
- Oct 2018 The Hawaii supreme court reaffirms CDUP
- June 2019 Permit to proceed TMT construction
- July 2019 Protestors block the road leading to the construction site
- Dec 2019 State reduces law enforcers on Maunakea

each side's take

Statements from TMT

LEGAL PROCESS

TMT has diligently followed the state's laws, procedures and processes in its efforts to build TMT on Maunakea:

Environmental Impact Statement – A very extensive environmental impact statement was prepared that involved a large number of careful studies, including assessments of environmental, archaeological and cultural impacts specifically for the TMT project. The results of these studies guided many design choices for the TMT. The TMT Final Environmental Impact Statement (FEIS) was approved in May 2010 after a two-year public review and input process. The FEIS was not challenged following approval.

Conservation District Use Permit – All University of Hawaii-managed lands on Maunakea, including the site for TMT, are in a conservation district, which requires a Conservation District Use Permit approved by the Hawaii Board of Land and Natural Resources (BLNR). Following a year-long contested case hearing that included seven days of testimony over the course of two months, the BLNR issued a CDUP to the University of Hawaii at Hilo for the construction of TMT on Maunakea.

Rent for Stewardship of the Mountain – TMT pledged to pay a lease on the land. In a first for any telescope on the mountain, TMT is paying a \$1 million per year lease. Eighty percent of the lease rent goes to the Office of Mauna Kea Management to malama (steward) the mountain and the remaining twenty percent goes to the Office of Hawaiian Affairs.

Consent to Sublease – In 2014, the Board of Land & Natural Resources approved a sublease between the University of Hawaii and the TMT International Observatory, under General Lease No. S-4191, which UH held from the state.

Statements from Protestors

- CDUP was improperly issued.
- The TMT is desecrating at a criminal level.
- Department of Land and Natural Resources is not enforcing the law, as it is required to do, but facilitating environmental violations instead
- Board of Land and Natural Resources' consent of the TMT Sublease was in violation of State and US constitutional and statutory provisions.

Discussion

- What are the factual disagreements in these statements?
- Do you agree or disagree with, “we can’t always agree on statement of values (e.g. morals, ethics), but we must agree on statement of facts to be able to have a constructive conversation” ?
- Why is it important to first agree on the facts? Or if you disagreed with the statement above, why?
- Why are facts not enough to reach to an action-plan?

Who are TMT Proponents? Who are the protestors?

- Not all Hawaii residents are against TMT
- Polynesian voyager Kalepa Baybayan supports TMT as he makes a parallel between his ancestors as one of the best astronomers and mission of TMT.
(<https://www.bigislandvideonews.com/2019/07/24/video-kalepa-baybayan-slams-tmt-moratorium-proposal/>)
- Many astronomers don't support building of TMT on Maunakea, in solidarity with indigeneous Hawaiians. Similarly, many astronomers feel conflicted about the issue.

Poll on TMT Support Among Hawaii Residents

- Source: <https://www.tmt.org/news/466>
- Poll conducted by Ward Research, Inc. in March 2020.

Sample size: 504 residents, 18+ yo

Poll demographics match that of Hawaii based on Census data

- 61% of Hawaii residents support the construction of TMT on Maunakea
- 32% oppose

Key findings from the poll (listed on TMT website)

- 92 percent of Hawaii residents agree there should be a way for science and Hawaiian culture both to exist on Maunakea
- 83 percent of Hawaii residents agree that the protest on Maunakea is really about issues larger than TMT, such as Hawaiian homelands, overthrow of the Hawaiian kingdom, and land management
- 80 percent of Hawaii residents agree that peaceful protests are fine but have no tolerance for protests that result in laws being broken
- 79 percent of Hawaii residents agree that the government is responsible for providing safe construction access to the TMT site
- 76 percent agree that TMT will help create good paying jobs and economic and educational benefits for those living on Hawaii Island
- 65 percent of Hawaii residents agree that failure to move forward with TMT will lead to the departure of Hawaii's \$167-million astronomy industry

Discussion

- Consider some of the moral arguments concerning the construction of TMT on Maunakea.

Given the same set of facts, how does our morals can shape our conclusion about TMT and its location?

- Who should be involved in the decision-making and to what extent?
- Why is informing and raising awareness is not enough? What else can be done?

how is the issue
treated?

Land Acknowledgement from Maunakea Observatories

maunakea remains a sacred place

Maunakea is a deeply revered cultural landscape that also happens to be the premier site in the world to study the cosmos. We deeply respect its cultural importance and storied past. The decisions we make today are intertwined with the future of Maunakea and its cherished summit. We appreciate that Maunakea is sacred to many people in different ways, and we are thankful and privileged to study the universe from Maunakea's summit – a unique portal on the universe.

[Culture – Maunakea Observatories](#)

Image courtesy of NBC News

Treatment of Protestors



2019 Protests

- <https://www.vox.com/2020/8/7/21354619/mauna-kea-tmt-telescope-native-hawaiians>
- Police armed with chemical dispersants and violent arrests



Law enforcement on Maunkea on July 17, 2019. That day, 38 kupuna, or elders, many in their 70s and 80s, were arrested for blocking the access road. | Kapulei Flores

Latest Situation. What now?

- Due to Covid-19 concerns and upon deciding that there is no immediate risk about constructing the TMT, protestors leave the site
- TMT construction is still at halt but construction will continue
- Some telescopes on the mountain are being decommissioned and there are plans to restore their sights

<https://www.hawaiipublicradio.org/local-news/2021-06-03/board-approves-plan-to-decommission-mauna-kea-telescope-in-tmt-agreement>

<https://www.civilbeat.org/2021/09/as-tmt-works-to-build-on-mauna-kea-two-telescopes-are-coming-down/>)

Sources

[Home - Maunakea & TMT \(maunakeaandtmt.org\)](http://maunakeaandtmt.org)

[The Thirty Meter Telescope and a Fight for Hawaii's Future - The Atlantic](#)

[About Mauna Kea \(protectmaunakea.net\)](http://protectmaunakea.net)