

Impacts of Astronomy on Indigenous Customary and Traditional Practices As Evident at Mauna Kea

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Executive Summary:

The cosmology and deep spiritual relationship of the Native Hawaiian people to Mauna Kea, a premier site for astronomical observation in the world, provides an example of the cosmology and deep spiritual connection of indigenous peoples in relation to sacred mountains. As evident at Mauna Kea, the development of astronomy telescopes and structures on sacred mountains has a profound negative impact on the cultural and spiritual beliefs, customs and practices of Native Hawaiians. To avoid negative impacts upon indigenous peoples by the construction and operation of astronomy research telescopes and structures, policies should be developed to conduct cultural impact studies, like those required under the National Historic Preservation Act; to conduct a cultural IRB assessing and preventing negative impacts upon indigenous cultural practitioners; to centrally position and meaningfully engage indigenous practitioners in the management of the sites for astronomy research. No federal monies should be expended on the construction or operation of the Thirty Meter Telescope on Mauna Kea.

1. Sacredness of Mauna Kea (Mauna A Wākea) as an Example of Indigenous Cosmology, Beliefs and Relating to Sacred Mountains

The status of Mauna A Wākea as sacred is documented in the birth chant of Kauikeaouli, King Kamehameha III (Nupepa Kuokoa, March 24, 1866:4 cited in Mauna Kea - Ka Piko Kaulana O Ka 'Āina - Mauna Kea - The Famous Summit of the Land by Kepā Maly). According to this chant, the mauna was born to the elemental or godly parentage of Papahānaumoku and Wākea. In the chant, reminiscent of the genealogical chant, Kumulipo, first night is born. From night, the island of Hawai'i is born. followed by the birth of daylight, clouds and the atmosphere. After these natural elements are born, the chant states, "Hanau ka Mauna he keiki mauna na Kea -Born was the mountain, a mountain-son of Kea." The final line of the chant says, "Hanau ka mauna he makahiapo kapu na Kea - The mountain was born, the sacred first-born of Kea." Ku'ulei Kanahale of the Edith Kanaka'ole Foundation, in her testimony to the Department of Land and Natural Resources on September 16, 2016, stated, "Kauikeaouli's genealogy chant is a confirmation of Maunakea's sacredness in the Hawaiian mind – Maunakea is born of gods, the same gods who will later be the progenitor of the Hawaiian race."

Mauna A Wākea is a realm where the earth pierces into the high altitude and rare atmosphere that Native Hawaiians acknowledged as the wao akua - the domain of the gods. The mountain summit is a piko or umbilical chord connecting the earth and sky, centering a space of creative convergence, a nexus of elemental forces that shape and influence the weather and climate of Hawai'i Island. To alter this realm, could result in drastic impacts to the island's climate. Therefore, the Wao Akua was reserved for the elemental forces that determine the ecosystem of Hawai'i Island.

Scientific observations and knowledge about the natural resources and elemental forces essential for the cycles of rainfall, springs, streams, the island's aquifers and surrounding ocean are transmitted in oli and perpetuated through protocols. These speak to unique microcosms and ecosystems of the mountain's wahi pana (pulsing places such as Kūkahau'ula, Lilinoe, Waiau, Kalau'ākolea, etc.) that only exist on Mauna A Wākea and are essential to the hydrological cycles of Hawai'i Island.

An example is the chant "E Ō E Maunakea," that describes the role of Mauna Kea in attracting the clouds, bringing the rains to recharge the aquifer.

E ō e Maunakea ke kupuna o luna nei ē
Kuhikuhi iā Kānehoalani i ka lewa lani
Ke akua hou 'oe i nā 'ōpua
Ka 'ōpua ehu, ke ao pōpolo, ka 'ōpua pehu
Ho'ūluulu i kou alo lani i Kumukahi
Na ka makani Kumukahi i halihali iā lākou
I ka pae 'āina a ana ka makewai o nā moku

*Maunakea, ancestor above
Pointing to the sun in the upper atmosphere
Deity that pierces through the clouds
Yellow clouds, dark clouds, swollen clouds
Gathering before your heavenly presence
The Kumukahi winds transport the clouds
To the islands, to quench its thirst*

“E Ō E Maunakea” continues to name specific water gods of Maunakea: Poli‘ahu (snow), Lilinoe (mist), Waiau (lake), and Kalau‘ākolea (fog drip). In essence, Maunakea draws clouds to its summit and the precipitation (in the form of snow, mist, and fog drip) feeds Lake Waiau and our island’s aquifer. This chant, like countless others speak of Hawai‘i Island’s water cycles and the central role of Mauna A Wākea in sustaining these. (Ku‘ulei Kanahele, DLNR testimony 9-16-2016)

The wahi pana or named landscape features in the summit region (from approximately 11,000 feet and above) and on the lower mountain slopes are named for gods and deities, including those named above, attest to the sacred nature of the Mauna Kea summit and upper slopes.

Cultural sites, including the adze quarry complex, burial sites and ahu or altars on the slopes and summit of Mauna Kea that were established by our ancestors attest to the supreme sanctity and reverence held for the mountain. These sites also indicate that they were accessed by Native Hawaiians for cultural and religious purposes. It is important to note that these are located on less than fully developed grounds.

Lake Waiau, in particular was an important cultural and religious site where Native Hawaiians committed the piko or umbilical chords of newborn children to ensure long life.

High Chief ‘Umi consecrated his rulership through rituals and shrines at Mauna A Wākea. In Remy’s oral history of Kanuha in 1853, a kupuna in South Kona said to be 116 years old, it was recorded that, “He (Umi) also built a heiau (temple) below **Pohaku Hanalei**, it is called the **ahua o Hanalei** (altar of Hanalei); and on the side of **Mauna Kea**, by where one travels to Hilo, he built the third of his temples, at the place called **Puukekee** [also written Puu Keekee in historical texts]; and there at **Mauna Halepohaku** he built the fourth of his temples.” (Ke Au Okoa, Mei 22, 1865, cited in Maly - Mauna Kea-Ka Piko Kaulana)

Numerous ahu and shrine complexes in the summit region attest to a ritualized landscape evolved over time through journeys of pilgrimage by families and religious practitioners.

Native Hawaiian science defines sustainable practices, protocols and behavior for appropriate stewardship of lands and resources - aloha ‘āina. Historical scientific observations by ancestors have been conveyed to us via oli and mo‘olelo informing us of our kuleana and responsibility as kanaka to revere and protect the sacred realm at the summit of Mauna A Wākea.

2. Impacts of Astronomy on Customary and Traditional Indigenous Practices As Evident on Mauna Kea

Native Hawaiian tradition and custom require those who revere Mauna Kea as a sacred place to enter less than fully developed grounds for cultural and religious purposes, including the conduct of special ceremonies and worship that have evolved over the centuries that Native Hawaiians have loved and respected this mauna.

In July 2019 Kumu Hula (master hula teacher) Kevin Neves, who engages in traditional and cultural practices on Mauna Kea and is beneficiary of both the ceded lands trust and the Hawaiian Home Lands Trust sued the State of Hawai‘i in response to the State of Emergency imposed by Governor Ige to enable construction of the Thirty Meter Telescope. Kumu Neves was trained in a lineage of kumu hula that maintains a tradition of holding our mountains sacred; his kumu hula was Wayne Kahoonei Panoke, his kumu was Aunty Nona Beamer.

Below is Kumu Neves’ testimony:

Mauna Kea is the umbilical cord-- the center of our continued existence -- it protects us from harm, natural and unnatural; preserves our resources of water for today and tomorrow; is a reference point that connects our families to the land; and perpetuates the continued evolution of the Kanaka Hawai‘i culture.

Mauna Kea has been called different names. It is called Mauna a Wākea by some, referencing the traditional belief that the Mauna descends from Wākea the sky father and Papa the earth mother. Others call it Mauna a Kea. In my family tradition, I learned from a young age that Mauna a Kea means unblemished, without blemish. The area Mauna a Kea is located in is called Ka‘ohe which references the

pure water trapped in the 'ohe or bamboo and which never touches the ground. It is unblemished, like the waters that Mauna Kea provides us. It also means that you must approach Mauna Kea unblemished.

I have a family connection to Mauna Kea. Agnes Kea is my mother. I was taught, first by my mother and later by my hula family, that maintaining family connections with the land is everything. We cannot be separated from it. I identify Akua as being family. Mauna a Kea is the unblemished state that a family strives to be. My hula tradition incorporates love and reverence for Mauna Kea. I teach hula from my home where I can see Mauna Kea as it protects us. Mauna Kea protects Hilo from the elements. It provides water. It allows for family connections to the land. In that way, we must protect our right to come to the mountain unblemished.

If Native Hawaiians do not have access to Mauna Kea, Native Hawaiian families will suffer. These beliefs and traditions about Mauna Kea are spiritual, cultural, and familial all at once. There is no separation.

Kumu Neves is a member of the Royal Order of Kamehameha, founded by King Kamehameha V in April 11, 1865. The Royal Order has a tradition and kuleana to protect the Native Hawaiian people and to offer to the highest of our Akua the gifts and requests of the people. The Royal Order believes that it is our task to ensure the protection of the people to connect with Mauna Kea as a pure and unblemished place. Around 1998, the Royal Order erected an 'ahu at Pu'u Huluhulu at the direction and instruction of our kupuna to provide a pu'u honua, a safe and protected place, to hold ceremony for Mauna Kea, as well as to provide access to a sacred place for those who were unable to journey to the summit of the mountain. At that time, telescopes were being constructed on Mauna Kea. Pu'u Huluhulu was used as a place to hold a vigil for Mauna Kea. This is because when Mauna Kea is threatened, many Hawaiians, travel to Pu'u Huluhulu and Mauna Kea to conduct ceremony, hold vigil, and pray for the protection of ourselves to maintain connection to Mauna Kea. Pu'u Huluhulu has been defined as hill of the feathers, referencing the ali'i who protected the Hawaiian people.

Kumu Neves has a familial connection to Pu'u Huluhulu and the people who seek refuge there. Throughout the year, on solstice, equinox, and on other days when people are in need to pray, he and other Hawaiians actively celebrate Mauna Kea.

Below is his description of his customary practices involving Mauna Kea and the impact of blocking access to Mauna Kea:

Myself and others start at my home in Keaukaha. We then go to Puhi Bay in Keaukaha to huiwai [cleanse in the ocean] to leave anxiety behind. We then visit the Naha Stone in Hilo to pray for leadership. We then visit Pu'u Huluhulu to honor all that are unable to ascend Mauna Kea. After Pu'u Huluhulu, we then visit Halepohaku to ask Akua for permission to enter the summit area. This is the last opportunity to cleanse yourself before entering the domain of Akua. When we reach the summit, the highest point a human being can stand before the creator, you allow yourself to be open to revelation from Akua to yourself. It is the most sacred place one can be. In my lifetime, I have been to Mauna Kea and Pu'u Huluhulu countless times. I am very familiar with Mauna Kea and the surrounding area, including Saddle Road and the Mauna Kea Access Road. I take both roads each and every time I visit Mauna Kea from my home in Hilo. Other than rough off road trails, Mauna Kea Access Road is the only road leading to the summit of Mauna Kea.

After I heard that construction of the TMT was supposed to begin, on July 14, 2019, I went to Pu'u Huluhulu along with other members of the Royal Order to celebrate the rededication of it as a Pu'u honua. Every day since the rededication, the Royal Order stands at the entrance of the pu'u honua at Pu'u Huluhulu to accomplish our kuleana to protect the people there and to ease the hearts of the people there.

It is my understanding that the TMT Proclamation can allow the State and Governor Ige to close all roads in the covered area at any time and with no notice. It is my understanding that I will likely be prevented from accessing Pu'u Huluhulu, Saddle Road, and Mauna Kea Access Road because of the TMT Proclamation. It is also my understanding that I can be arrested for attempting to enter this area, which makes me have to choose between ignoring my familial ties and traditional practices at Mauna Kea or risk arrest. I feel a deep hurt knowing that the TMT Proclamation prevents me from practicing my culture and beliefs. This hurt cannot be fixed with any amount of money, and this opportunity can never be returned to

me. I also feel a deep hurt when I see other Native Hawaiians being stopped from going to Mauna Kea, engaging in practices, or speaking out against threats to their right to unblemished access to Mauna Kea. Mauna Kea is our piko, our connection to each other, Akua, and those who have passed. We must have access to it at all times.

3. Recommendations

3.1 Sites for astronomical research need to allow unfettered access for indigenous cultural practitioners who desire to continue to exercise their traditional and customary cultural and religious responsibilities for cultural and sacred sites. Access for these purposes cannot be prohibited or restricted and should allow for the practitioner to respond to ho‘ailona or signs, visions, dreams and family and community circumstances that require a cultural and religious response, ceremony, ritual and prayer.

3.2 Proposals for the construction of astronomical research telescopes and structures must include the conduct of cultural impact surveys like those required by the National Historic Preservation Act and also specifically include the following: (1) the identity and scope of ‘valued cultural, historical, or natural resources’ in the petition area, including the extent to which traditional and customary indigenous practices are exercised in the proposed area; (2) the extent to which those resources – including traditional and customary indigenous practices and rights will be affected or impaired by the proposed action; and (3) the feasible action, if any, that should be taken to reasonably protect the cultural resources and associated practices. (a process outlined by the Hawai‘i Supreme Court in *Ka Pa‘akai O Ka ‘Aina v. Land use Commission, State of Hawai‘i / 94 Haw. 31 (2000)*)

3.3 Astronomical research telescopes, structures and operations should be subject to a cultural IRB to assess and prevent negative impacts upon indigenous practitioners and communities.

3.4 Indigenous cultural practitioners should be centrally positioned and meaningfully engaged in the ongoing management of astronomical research structures and sites.

3.5 Federal tax monies should not fund the construction or operation of the Thirty-Meter Telescope on Mauna Kea.

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