Nā ʻOhana Hōkū ʻEhā

The Four Star Families

Ka Ipu Hoʻokele, The Navigator's Gourd

Composed by Kaimana Barcarse

Kāhea: E ʻohiʻohi i nā pono!... Call: Gather up your tools!
Pane: He kā, he iwi, he makau, he lupe!... Reply: A bailer, a bone, a fishhook, a kite!
Ua lako ka ipu a ka hoʻokele!... The gourd of the navigator is provisioned!

This modern day chant incorporates the use of metaphor to call aspiring navigators to gather up essential provisions before they embark on their voyage.

Nā ʻOhana Hōkū ʻEhā, Navigating by the Stars

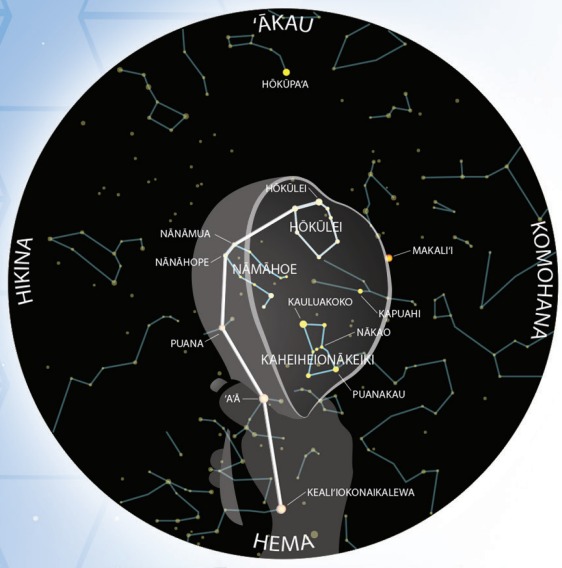
Guided by the waves, winds, birds and stars, the non-instrument navigator or wayfinder must make sense of diverse relationships and patterns in the environment in order to navigate the *waʻa*, the canoe.

A critical tool of the Hawaiian or Polynesian navigator is their knowledge of *ka lani paʻa*, the fixed celestial sphere. The position of key stars and where they rise and set along the horizon, are memorized and used to set course and direction.

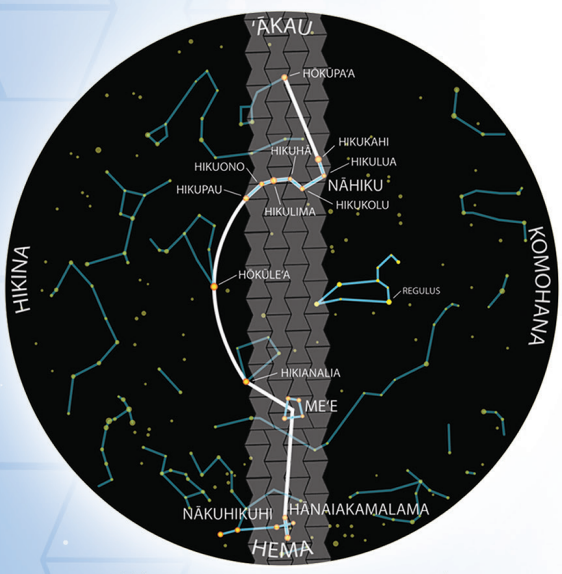
With a vast number of stars and complex information to memorize, the wayfinder simplifies this daunting task by mentally dividing the celestial sphere into four nearly equal parts. The brightest stars within each quarter are then grouped into large constellations that stretch across the sky from north to south. These four groupings collectively form *Nā ʻOhana Hōkū ʻEhā*, The Four Star Families.

Varying by the season, three of the four star families appear in sequence, from dusk to dawn. Using this tool, navigators are able to know what stars are overhead, even when obscured by clouds.

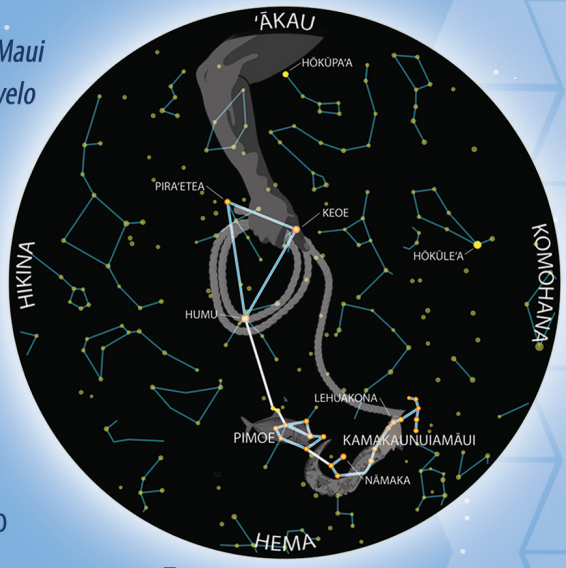
The names of *Nā ʻOhana Hōkū ʻEhā*, The Four Star Families, are:
Kekāomakaliʻi, *The Bailer of Makaliʻi*
Kaiwikuamoʻo, *The Backbone*
Mānaiakalani, *The Fishhook of Maui*
Kalupeakawelo, *The Kite of Kawelo*



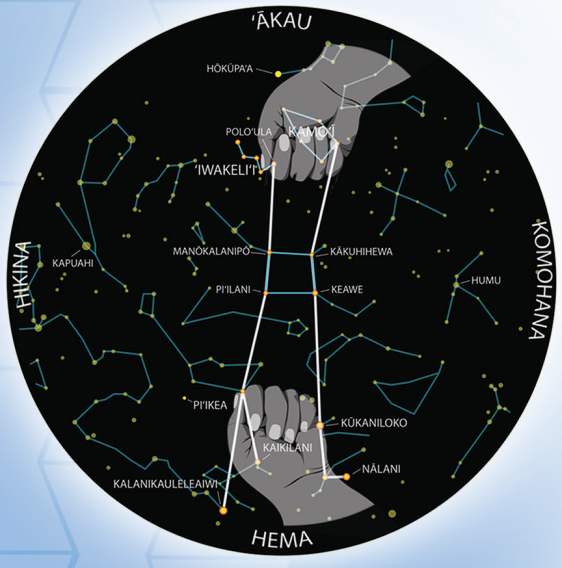
Kekāomakaliʻi



Kaiwikuamoʻo



Mānaiakalani



Kalupeakawelo

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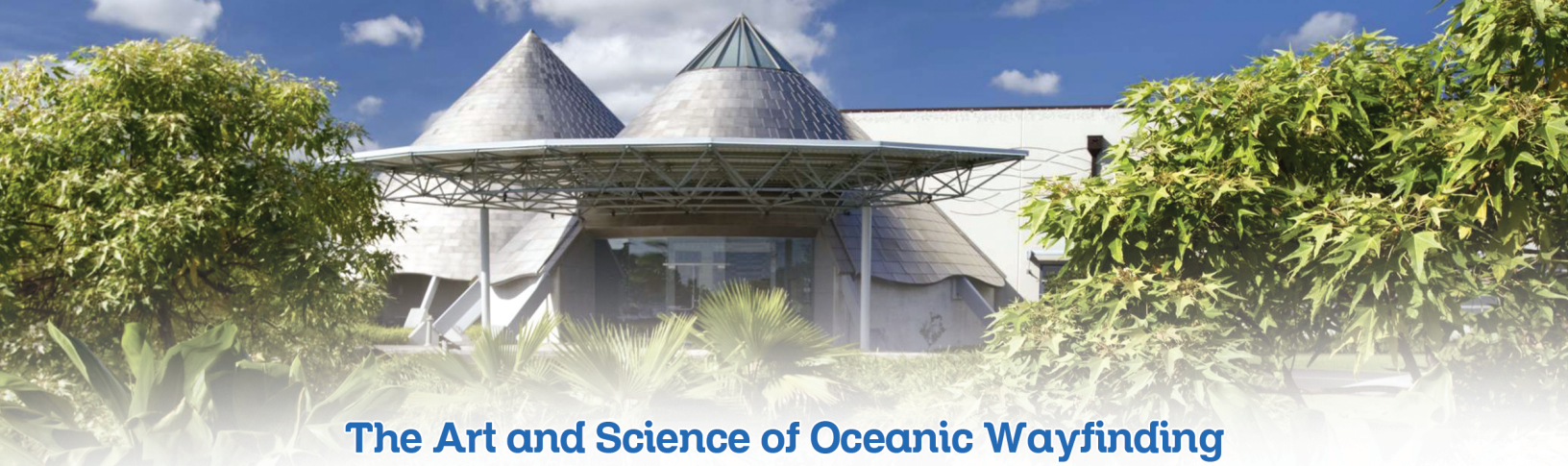
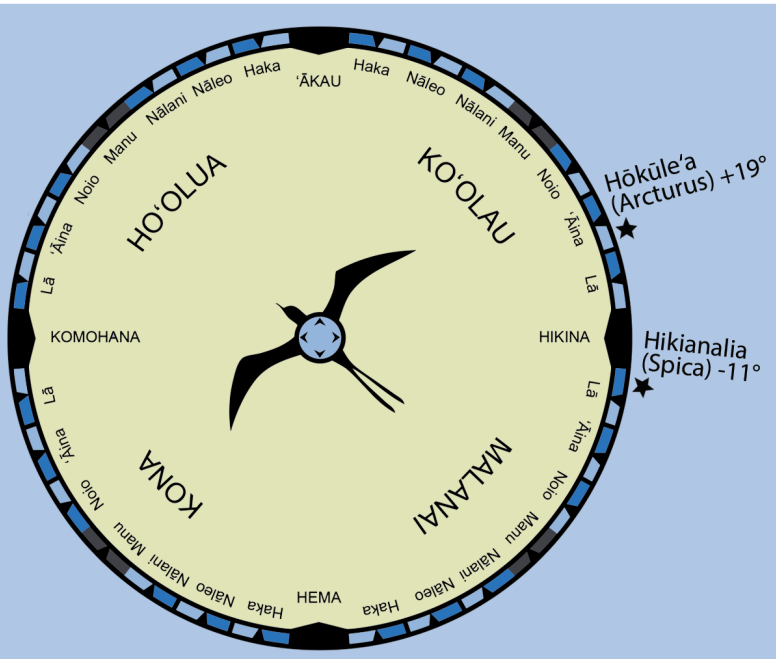


The Art and Science of Oceanic Wayfinding

The modern Hawaiian movement to revive the ancient art of Polynesian wayfinding is a powerful example of the wisdom that indigenous culture has to offer in the 21st century. For generations the starry heavens guided deep-sea voyagers from island to island across the Pacific, pointing the direction to new landfalls and marking pathways to lead them home. The ʻImiloa Astronomy Center of Hawaiʻi traces this history and explores the complex math and science behind celestial navigation, showcasing it side by side with the story of astronomical discovery from the world's premier telescopes on Hawaiʻi's tallest peak, Maunakea. ʻImiloa — which draws its name from the Hawaiian word for "explorer" — is proud to support the educational outreach of the Polynesian Voyaging Society and its iconic sailing canoe, Hōkūleʻa, the historic Mālama Honua Worldwide Voyage, and the Hōkūleʻa Mahalo Hawaiʻi Sail.



Pānānā Hōkū Hawaiʻi
Hawaiian Star Compass

The Hawaiian star compass is the foundational element in non-instrument navigation and wayfinding. A navigator orients him or herself by dividing the distant horizon into a compass comprised of 4 quadrants and 32 equidistant directional points known as *hale*, or houses.

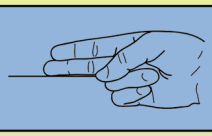
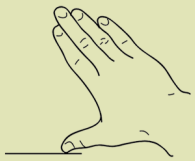
Navigators memorize the *hale* where key stars and constellations rise and set. From this knowledge they are able to determine course and direction. Understanding the relationship between the Hawaiian star compass and the canoe is the first fundamental step in non-instrument navigation.

Nā Ana Lima, A Guiding Hand

On a traditional sailing canoe, one of the most useful navigation tools is the human body, which can be used to measure relationships between stars and the horizon to determine latitude, time and direction.

Line up your hand against our calibration gauge and learn how to use it as a personal measuring tool wherever you go.

Continue your voyage by visiting ImiloaHawaii.org and Hokulea.com

Name	Hand Position	Angle (°)	Wayfinding Application
Mālua two finger width			
Kīkoʻo thumb to fingertip			
He Hale one house width of the Hawaiian Star Compass		11.25°	