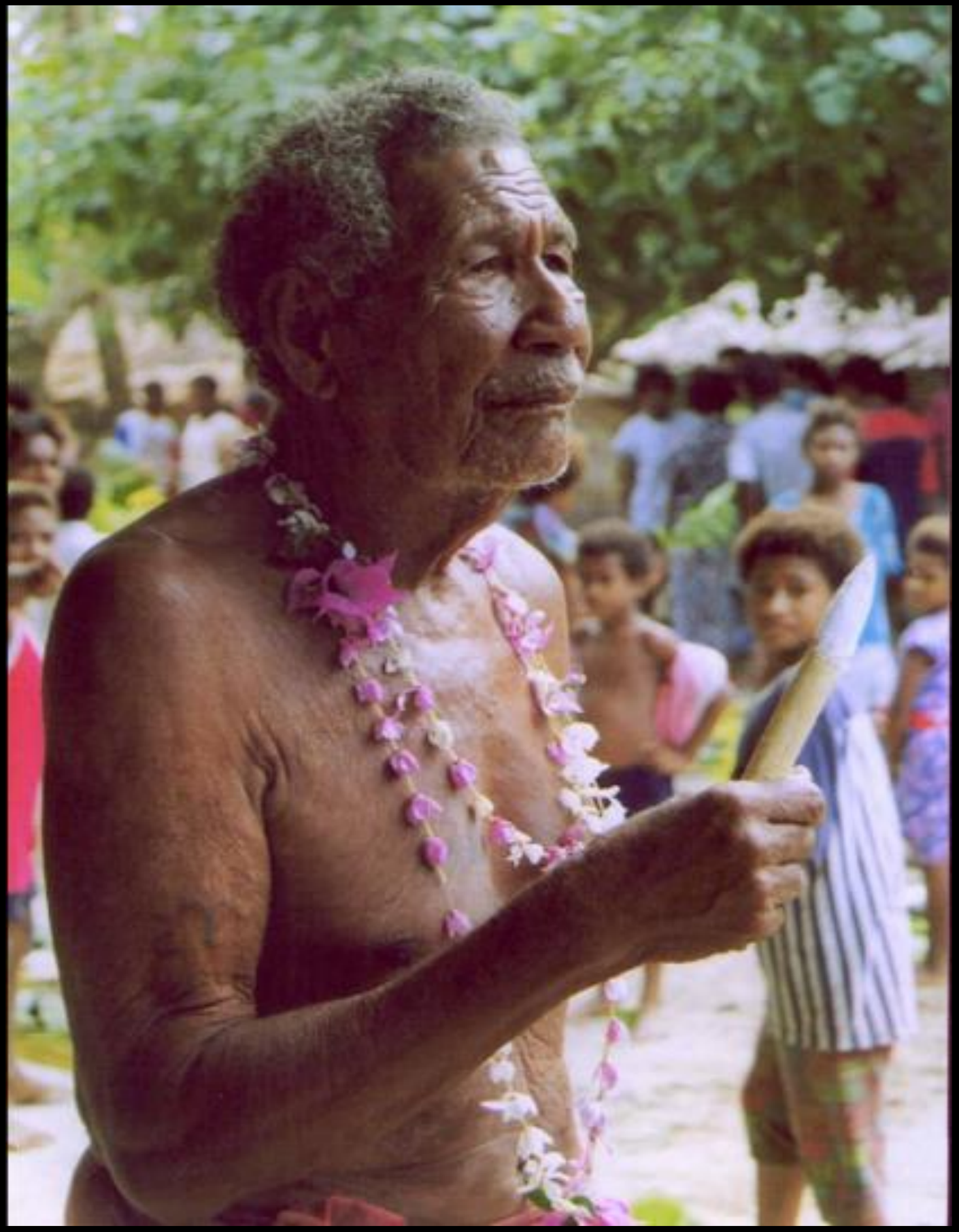

Vaka o Lata
Sustainable Sea Transport

Some Sustainable Features of Vaka o Lata

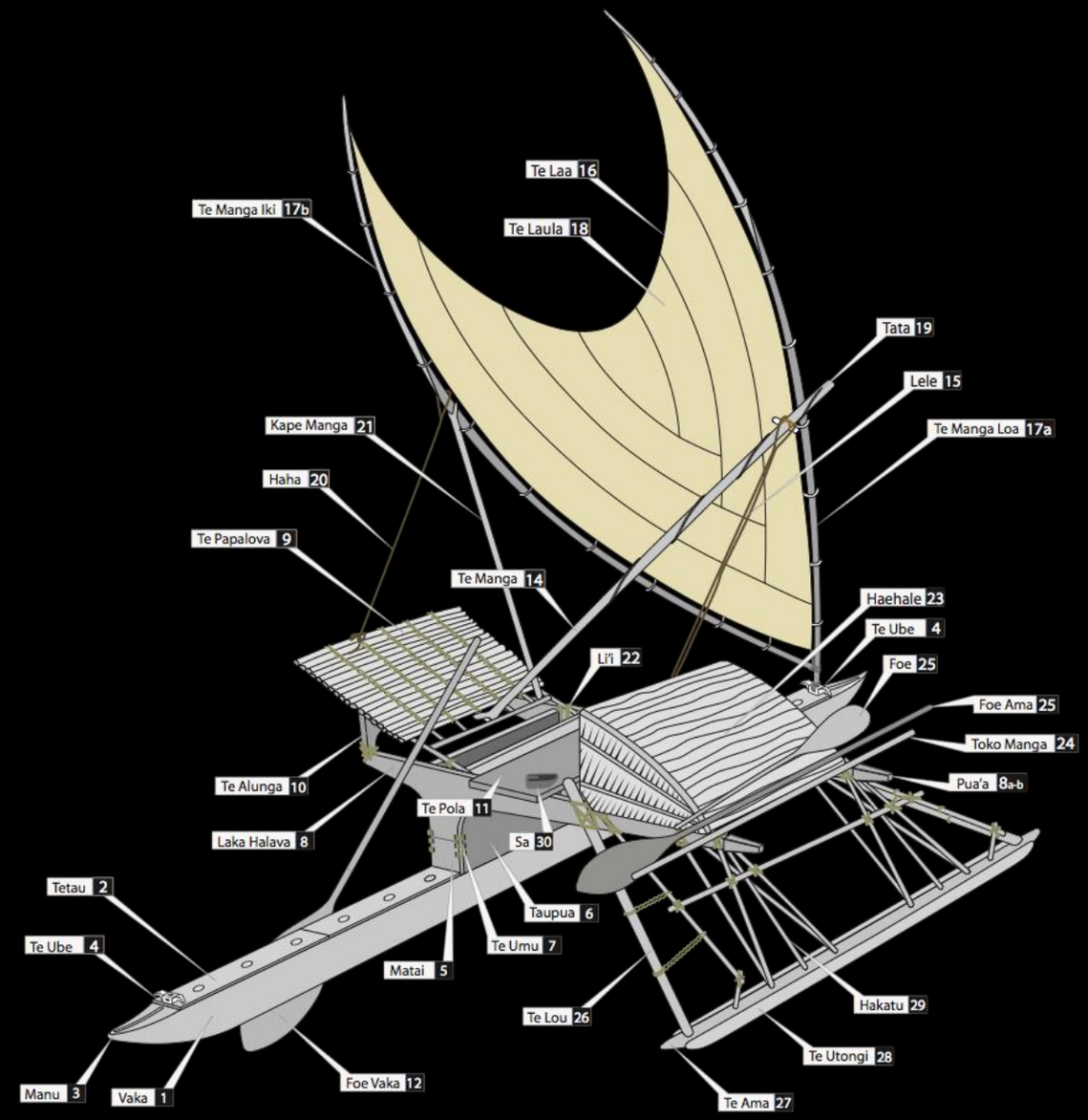
1) **weather work** - predict and control
2) **Te Nohoanga Te Matangi** (Wind Position) calculator - this way finding system of ancient knowledge is deeper & safer than any modern or "revived" methods
3) **sail and rig design** - most efficient, safe, and easiest to handle and maintain
4) **hull design** - fastest & most stability
5) **massive outrigger** - stronger, faster, more maneuverable, & more efficient
6) **lashings** - strong & safer, have flexibility
7) **natural materials** - use them & support their sustainable growth
8) **ancient protocols, routes, partnerships, schedules, currencies** - build community, survival capacity, engage/employ youth, support sustainable use and recovery of resources




STAR 2000

NO	FAMILY	TOTAL PEOPLE	CHILDREN	ADULT	$ CHILDREN	$ ADULTS	HOUSEHOLD	$ TRIBE
1	CRUSO	23	9	14	450	1 232	7	1 682
2	BARNA	28	11	17	550	1 496	9	2 046
3	MOSES	19	8	11	400	968	4	1 368
4	LAKAPAU	14	6	8	300	704	3	1 004
5	LONGOPUNI	17	7	10	350	880	7	1 230
6	MATUA	41	17	24	850	2 112	8	2 962
7	NIUGALO	33	16	17	800	1 496	7	2 296
8	TEAVE	32	13	19	650	1 672	10	2 322
9	HOLANI	24	10	14	500	1 232	5	1 732
10	MACNE	20	9	11	450	968	5	1 418
11	NILLA	20	12	8	600	704	4	1 304
12	THIO	99	3	6	150	528	3	678
13	FAUPEA	20	10	10	500	880	5	1 386
14	LEIAU	12	6	6	300	528	3	828
15	TAKUA	24	7	17	350	1 496	4	1 846
		336	144	192	7 200	16 896	84	24 096
		336	144	192	7 200	16 896	84	24 096
							RM	$904-00


VAKA TAUMAKO



Te Puke

1 Vaka = main hull

2 Tetau = coverboards on the vaka (main hull)

3 Manu = bird head image at both ends of the vaka
3a. Pu = the nose of the bird
3b. Paolima = the cheeks of the bird
3c. Taringa = the ears of the bird

4 Te Ube = carving of the bush sidgin that helped Lata to build the first ter
There is a hole in the back of the bird that the mast sleot into
4a Underneath te ube are lashings that are called the teeth of Lata. They hol

5 Matai = one of two wooden planks that are the front and back walls of t

6 Taupua = one of two wooden planks that are the side walls of the riser bo

7 Te Umu lashing

8 Laka halava = crossbeam

8a Pua'a = pig's head: image indicating that pigs in cages will hang on the l

8b Serrations on the edges of the pig's head reference the tail of the fresh wa

9 Te Papalova = leeward platform

10 Te Alunga = the pillow or support for the platform and for the heads of t

11 Te Pola = carved wooden plank that is the windward platform between th

12 Foe Vaka = big steering blade that is used on the vaka side

13 Foe Ama = small steering blade that is used on the ama side

14 Te Manga = mast

15 Lele = line that raises the mast

16 Te Laa = the sail - the shape is that of Lata holding his arms over his head

17a Te Manga Loa - the boom to which each side of the sail of Lata is tied
the long part of each boom is about 3/4 the length of the boom, and is s

17b Te Manga Iki - the short, thinner tip of the boom is lashed onto the longer
over (but not break) if a strong gust hits it. It makes the sail self reefing

18 Te Laula = a woven sail panel

19 Tata = halyard to raise sail - brings leading rear to mast.

20 Taha = sheet = rope attached to leeward boom, used to trim sail

21 Kape manga = reaching pole.

22 six Li'i are down inside the riser box, 3 forward and 3 aft. They hold the sa

23 Haimate - the shelter on a Te Puke

24 Toko manga = poling pole

25 Foe - for paddling when in shallows on reef or when visiting an island

26 Te Lou = structural member joining leeward platform to end of ama

27 Te Ama = the central float

28 Te Utongi = side float on either side of the ama. There are two utongi o

29 Hakatu = vertical members that connect the ama to the crossbeams

30 Sa = bailer

_ n s _ d e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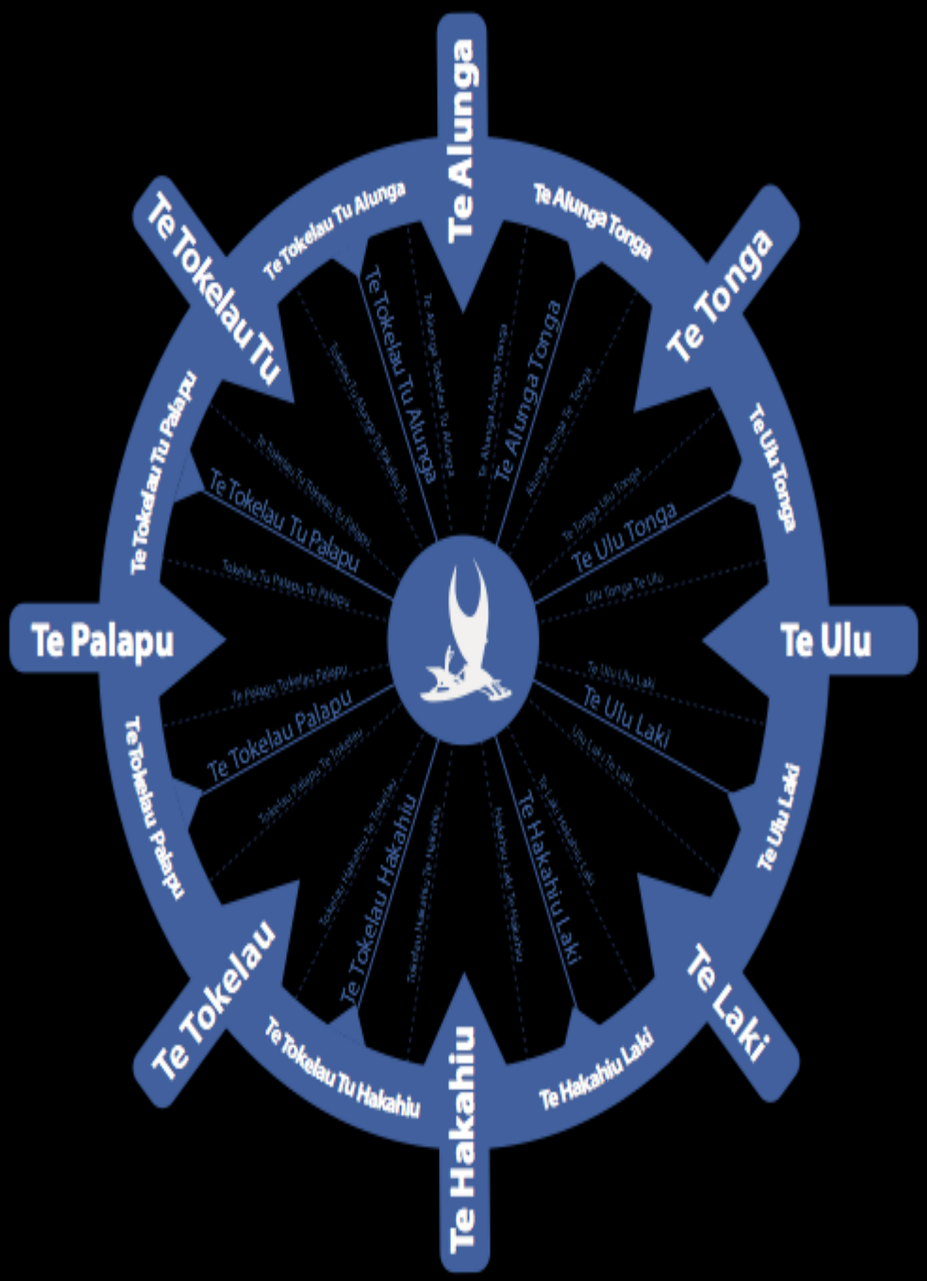
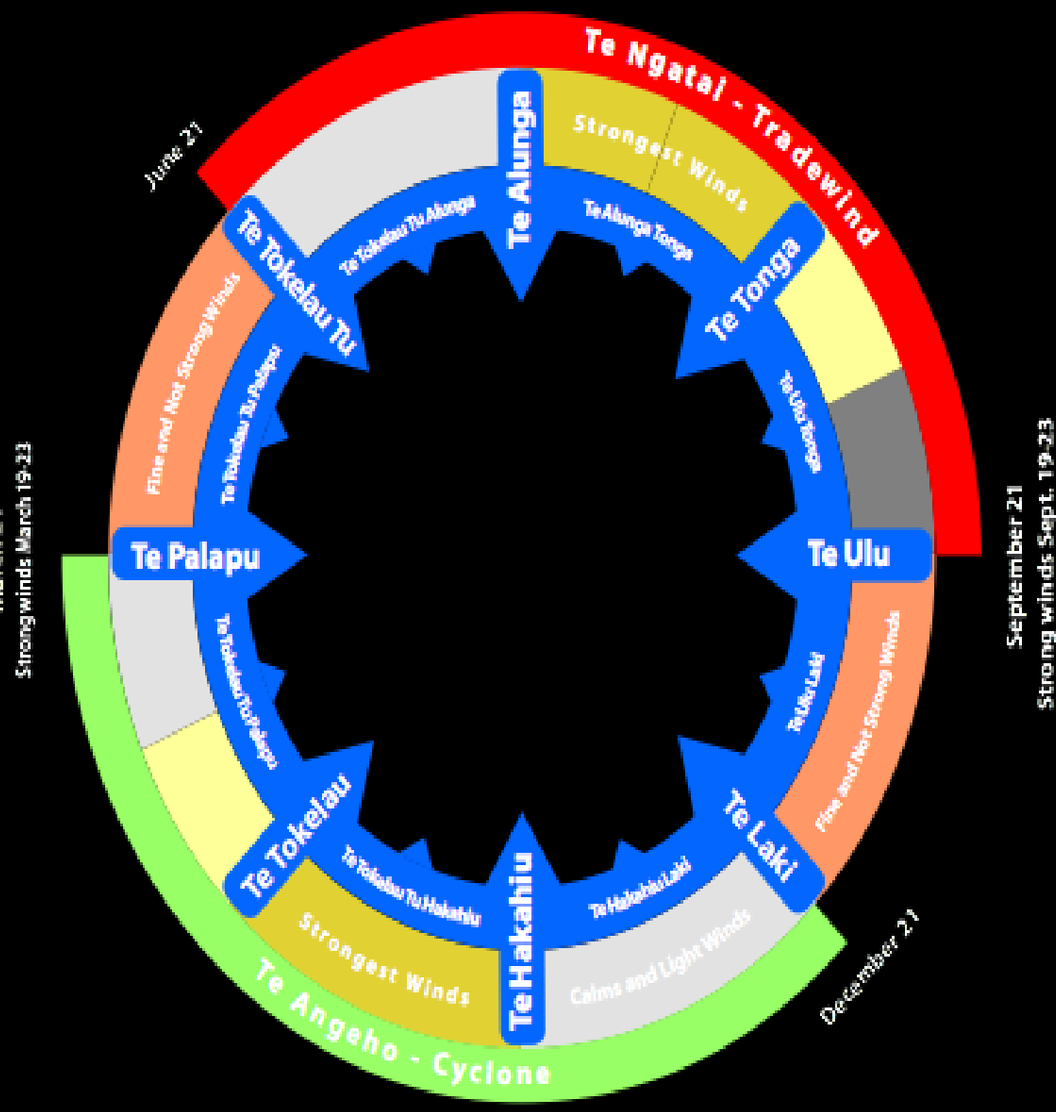
VAKA TAU

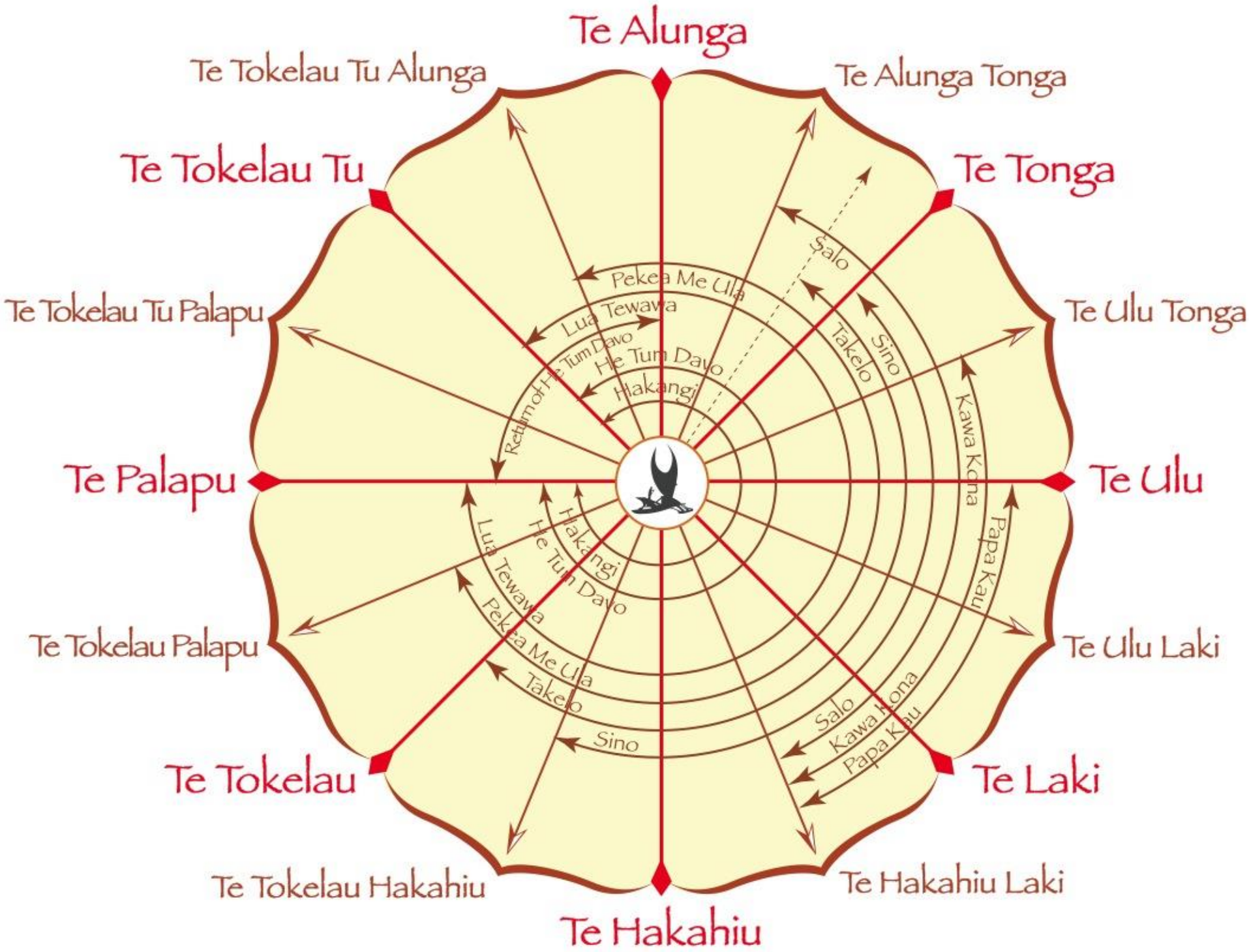
32 Points on Nohoanga te Matangi




Te Ngatai - Tradewind
Te Angeho - Cyclone
Te Alunga
Te Tonga
Te Ulu
Te Laki
Te Hakahiu
Te Tokelau
Te Palapu
Te Tokelau Tu
Te Tokelau Tu Alunga
Te Alunga Tonga
Te Tonga Ulu
Te Ulu Laki
Te Laki Hakahiu
Te Hakahiu Tokelau
Te Tokelau Tu Palapu
Te Palapu Tokelau
Strongest Winds
Fine and Not Strong Winds
Calms and Light Winds
June 21
September 21
December 21
March 21
Strong winds March 19-23
Strong winds Sept. 19-23


Te Alunga
Te Tokelau Tu Alunga
Te Alunga Tonga
Te Tonga
Te Tokelau Tu
Te Tokelau Tu Palapu
Te Ulu Tonga
Te Palapu
Te Ulu
Te Tokelau Palapu
Te Ulu Laki
Te Tokelau
Te Tokelau Tu Hakahiu
Te Hakahiu Laki
Te Laki
Te Hakahiu
Tikopia to Duffs
Duffs to Santa Cruz and Carlisle Bay
Tikopia to Reefs
Duffs to Reefs Good to Go
If already underway OK to proceed
Utupua & Vanikoro to Reefs
Proceed Only if Over Halfway
Turn Back!
Duffs to Vanikoro and Utupua
Must Turn Back!
Duffs to Tikopia Reefs to Tikopia
Go back!
Reefs to Vanikoro & Utupua Good to Go
Utupua to Duffs
Go on Reefs to Duffs
Santa Cruz to Duffs

NOHOANGA TE MATANGI



Nga Hetu o Lata - Celestial bodies used by Lata (The Polynesian ancestor who was the first to build, sail and navigate a voyaging canoe) and the winds that blow when certain celestial bodies rise abouve or set below the horizon.

These constellations and winds were taught to Taumako community members by Te Aliki Kaveia at 7pm on May 19, 2009

Salo Tapio (Bad taro)
Lae Te Matangi
- no special wind

Lau (leaves)

Lae Ohaa (No Fruit)

S

Kaua Kona
Lae Te Matangi
(no special wind)

Louonaii (Two Eyes)
Te Langi o Matangi me Kona
(1 day of strong wind from
any or variable direction)

Sino (Body of the Bird)
Lae Te Matangi
(no special wind)

Te Manu (The Bird)

Papakau Ndeni (Wing of the Bird)
Lae Te Matangi Me Kona
(1 day of strong wind from the tradewind direction)

Papakau (Wing of the Bird)
Lae Te Matangi Me Kona
(no special wind)

Salo Lavoi (Good Taro)
Lae Te Matangi
(no special wind)

E

Ohaa (Fruit)

SANTOS
Vanuatu

▲ I Luna (Above the horizon)
Te Moenga (The horizon)
▼ I Lalo (Below the horizon)

Tikopia

Torres Is.

Te Ulu

Anuta

Te Tonga

Vanikoro

Uturoa

Te Laki

Takelo
Nga Akahu Lua
(the two months - 1st month is bad)
Starts when Takelo sets

Hetu Mdavo
Nga Langi Lima I Te Angeho
(5 days of westerlies)

Te Alunga

Direction of Travel

Lua Tawaka
Lae Te Matangi Kona
(no strong wind)

Te Hakahiu

W

Nendo

Te Tokelau Tu

Kilika (Sharkskin tool)
lae Te Matangi me Kona
(no strong wind)

Te Tokelau

Te Palapu

Reef Is.

Hakangi
Te Angeho aanga langi
I Lima Ma Kona
(strong westerlies for 5 days)

TAUMAKO

N

Paeikea (Crab)
- iae hetu, ahinga ele - a black shape
Te Tokelau Ko Vhitake
(wind from Tokelau)

Ula (Crayfish) - a black shape
Lae Matangi (no special wind)

Paeikea me Ula (Crab and Crayfish)

From field sketches by Marianne George © 2002 - 2009
Illustration by Daniel Jay Laan - Revised 2009

WAKA TAUMAKO PROJECT

www.vaka.org

"vakataumako" on fb

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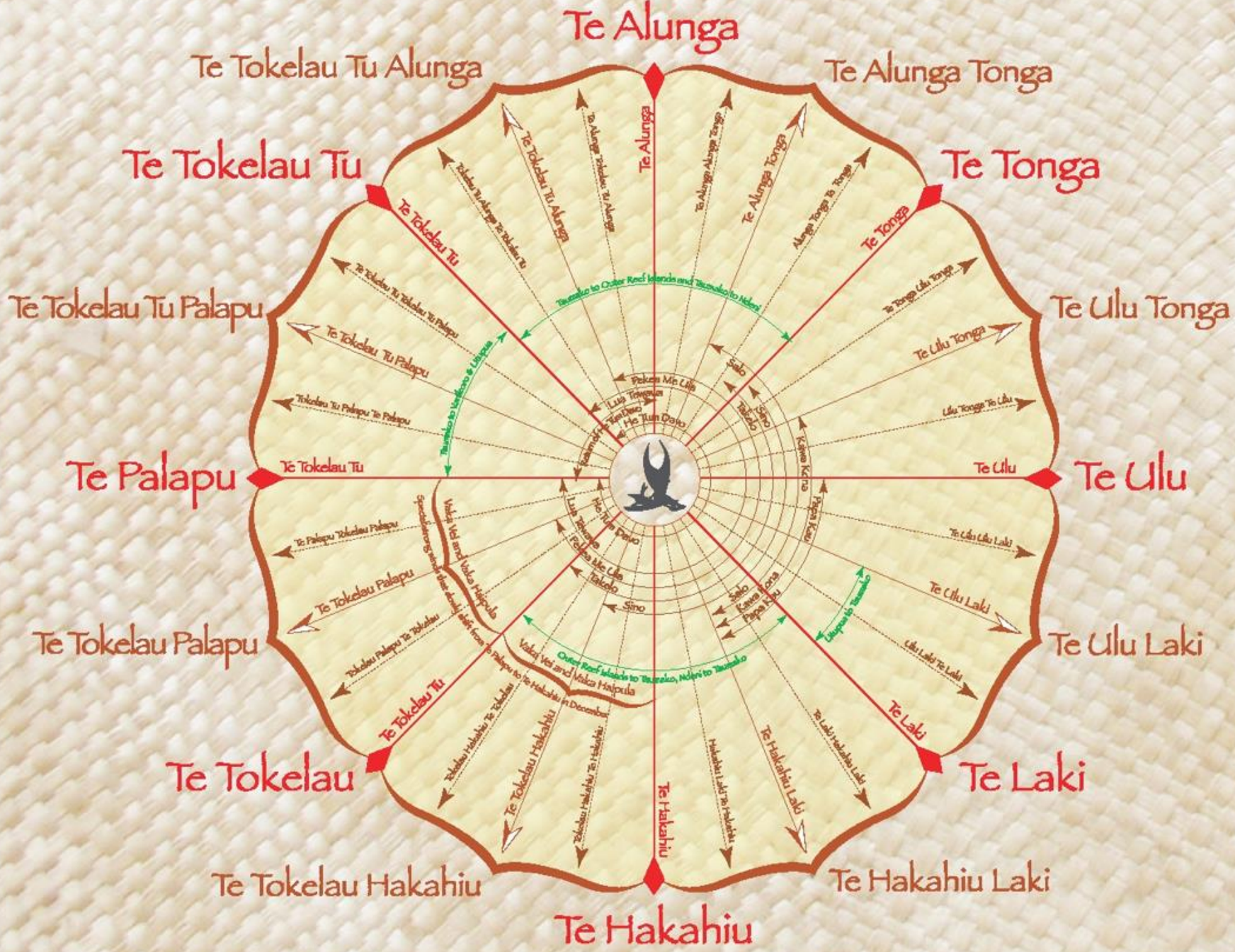
Vinaka Vakalevu !!!

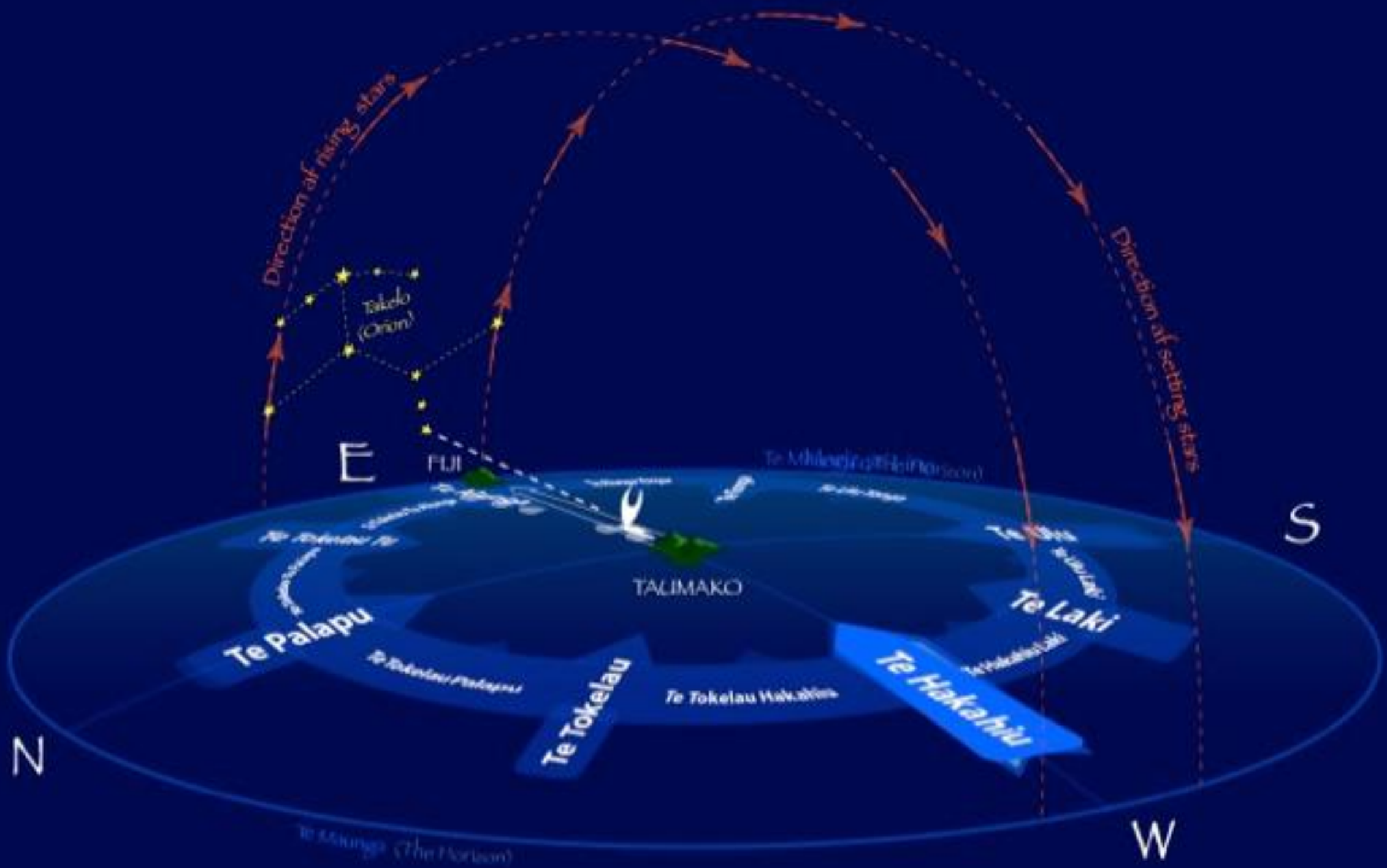
from the Vaka Taumako Project to

University of the South Pacific
United States Embassy in Suva
United Nations Development Program
Nektarina
Terry Causey
H. M. Wyeth
Solomon Airlines
Bob Bowman and Coral Mack
Daniel Jackson

NOHOANGA TE MATANGI



Determining and sailing a course using the proper wind and rising star



Wind positions at which Taumako asterisms actually rise and set