



ZK3A Tokelau Islands  
DXpedition 2019

# ZK3A DX EXPEDITION TO TOKELAU ISLANDS

## OCTOBER 1-10, 2019



ALEX NERSESIAN | ZK3A TEAM MEMBER  
K6VHF/5W0NA/4L1FP/4LOWFF

Website:  
<https://tokelau2019.com/>



# ZK3A TEAM LEADERS



**TEAM LEADER**  
HRANISLAV **YT1AD**



**TEAM CO-LEADER**  
ALEXEY **UT5UY**



**TEAM CO-LEADER**  
ROMAN **UROMC**

# ZK3A INTERNATIONAL TEAM

- from 9 different countries around the world





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# ZK3A TEAM MEMBERS FROM USA

- **Alex K6VHF (AZ)**
- Adrian KO8SCA (NY)
- Dave WD5COV (NM)
- Rob N7QT (WA)



# ZK3A TEAM MEMBERS FROM UKRAINE

- **Nick UT8IO (Mariupol)**
- Alexey UT5UY (Kiev)
- Sergii UR9QQ (Zaporizhzhia)
- Roman UR0MC (Rubezhnoe)
- Aleks US0KW (Ryvne)



# WHO IS ALEX K6VHF (VERY HIGH FREQUENCY)

- Was born in USSR during cold war. Developed his interest for radio electronics at age of 12 and at age of 14 built his first amateur radio bands receiver.
- Received his first amateur radio callsign 4L1FP in 2000.
- Extra Class license.
- Proud member of ARRL, CERT, ARES, IDXA, FEMA and others.
- ARRL Instructor and Volunteer Examiner (VE).
- DX expeditions, contesting, RF & antenna design, VHF/UHF communications, EME/MS/Tropo/Es and more.
- First person and pioneer in 4L (Georgia) who made EME/MS and long range VHF/UHF communications on 144/432MHz.



# WHY TOKELAU?



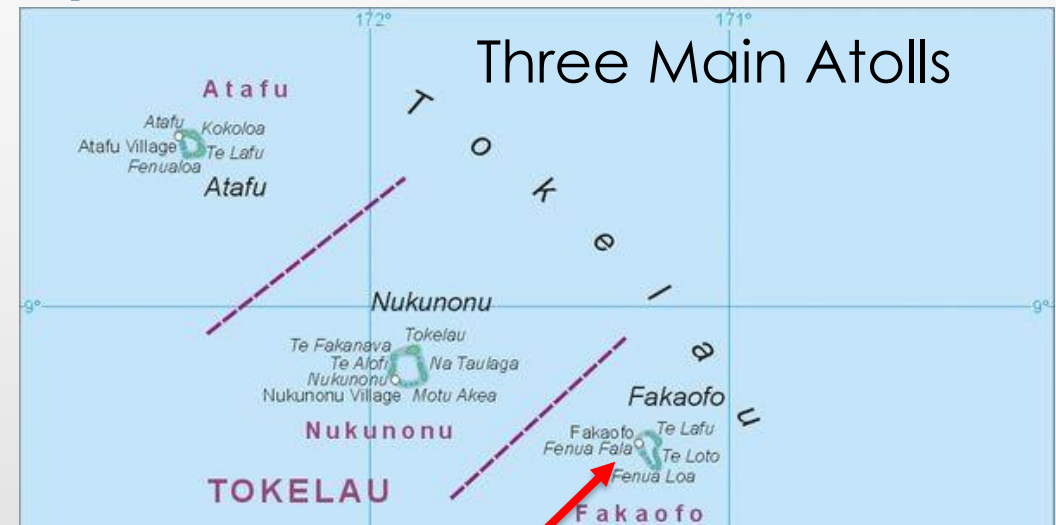
- GLOBAL DXCC MOST WANTED LIST

47.	KP1	NAVASSA ISLAND	
48.	XZ	MYANMAR	
49.	7O	YEMEN	
50.	ZD9	TRISTAN DA CUNHA & GOUGH ISLANDS	
51.	FT5Z	AMSTERDAM & ST PAUL ISLANDS	
52.	VU4	ANDAMAN & NICOBAR ISLANDS	
⇒	53.	ZK3	TOKELAU ISLANDS
	54.	1S	SPRATLY ISLANDS
	55.	VU7	LAKSHADWEEP ISLANDS
	56.	CY0	SABLE ISLAND

- EUROPE DXCC MOST WANTED LIST

	31.	KH8/S	SWAINS ISLAND
	32.	ZL8	KERMADEC ISLAND
	33.	FO/C	CLIPPERTON ISLAND
	34.	VP8S	SOUTH SANDWICH ISLANDS
	35.	4U1UN	UNITED NATIONS HQ
⇒	36.	ZK3	TOKELAU ISLANDS
	37.	3D2/C	CONWAY REEF
	38.	FO/M	MARQUESAS ISLANDS
	39.	VK9M	MELLISH REEF
	40.	VK0H	HEARD ISLAND

# WHERE IS TOKELAU (ZK3)?



- Distance to Tokelau from Yuma about 5000 miles.



# TOKELAU

- Dependent territory of New Zealand
- 3 coral atolls (Atafu, Nukunonu and Fakaofu) and many islands
- 300 miles north of Samoa
- Population: 1 500 people
- Time: UTC+13:00
- Smallest economy in the world
- The major ethnic group is Polynesian
- Tokelau dependent on subsidies from New Zealand (US \$2.5 million/year)
- The major religion is the Congregational Christian Church and Roman Catholic
- Main language is Tokelauan, but English is also spoken
- There is no airport in Tokelau

Flag of Tokelau



# ZK3A ADVANCE TEAM ARRIVAL

- Advance team of 3 people Adrian KO8SCA, Rob N7QT and Dusko ZL3WW arrived in Apia, Samoa(5W) on September 23, 2019.





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# ZK3A ADVANCE TEAM DEPARTURE

- Advance team travels to Tokelau prior main team arrives to Apia, Samoa to prepare two camps and assemble all antennas.
- There were lot of logistics to take care before departure to Tokelau.



# K6VHF ARRIVAL TO APIA

- K6VHF flight was: Phoenix -> Los Angeles -> Honolulu -> Apia
  - Arrived on September 28<sup>th</sup>
  - Flight delays are REAL !!!

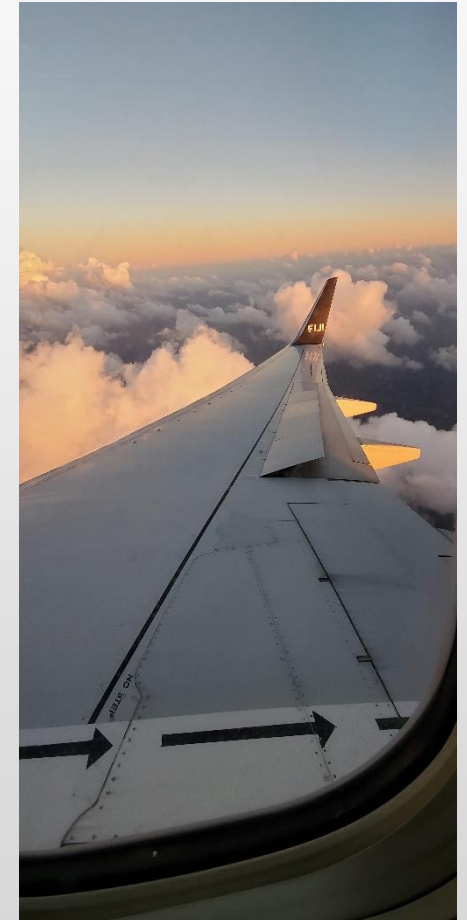


MultiSync LCD 3219

HNL Departures

Airline	Flight	Time	To	ETD	Gate	Remarks
American	AA 298	9:30PM	Los Angeles	9:30PM	E6	Departed
UNITED	UA 534	9:30PM	Los Angeles	9:30PM	G5	Departed
HAWAIIAN	HA 4	9:40PM	Los Angeles	9:40PM	C3	Final Call
Alaska	AS 824	10:10PM	Seattle-Tacoma	10:10PM	E2	
American	AA 144	10:17PM	Los Angeles	10:17PM	E9	
WESTJET	WS 1865	10:25PM	Vancouver	10:25PM	D2	
HAWAIIAN	HA 8	10:45PM	Las Vegas	11:45PM	C1	New Time
American	AA 675	10:59PM	Phoenix	10:59PM	E10	
UNITED	UA 1575	11:10PM	San Francisco	11:10PM	F1	
FIJI Airways	FJ 852	1:25AM	Apia	1:57AM	D2	Delayed
UNITED	UA 1231	7:00AM	Los Angeles	7:00AM	G4	
Lufthansa	LH 9177	7:00AM	San Francisco	7:00AM	F2	
UNITED	UA 154	7:25AM	Majuro		F1	
American	AA 1480	7:30AM	Los Angeles	7:30AM	E9	
DELTA	DL 1150	7:30AM	Los Angeles	7:30AM	E3	
HAWAIIAN	HA 10	8:00AM	Los Angeles		C1	
Jetstar	JQ 2	8:00AM	Melbourne		C7	
HAWAIIAN	HA 6	8:05AM	Las Vegas		D2	
Southwest	WN 1503	8:15AM	Kona	8:15AM	G9	

Thursday, September 26, 9:35PM Terminal 2





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# APIA, SAMOA (5W)





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# ZK3A MAIN TEAM ARRIVAL

- The main team members from all around the world will meet each other in Apia, Samoa on Sep 29<sup>th</sup>
- Some members travelled over 10,000 miles to Apia, Samoa.





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# PREPARATION FOR DEPARTURE



# DEPARTURE TO TOKELAU



Generators for Tokelau



ZK3A team in the bus



ZK3A team on the way to Apia port





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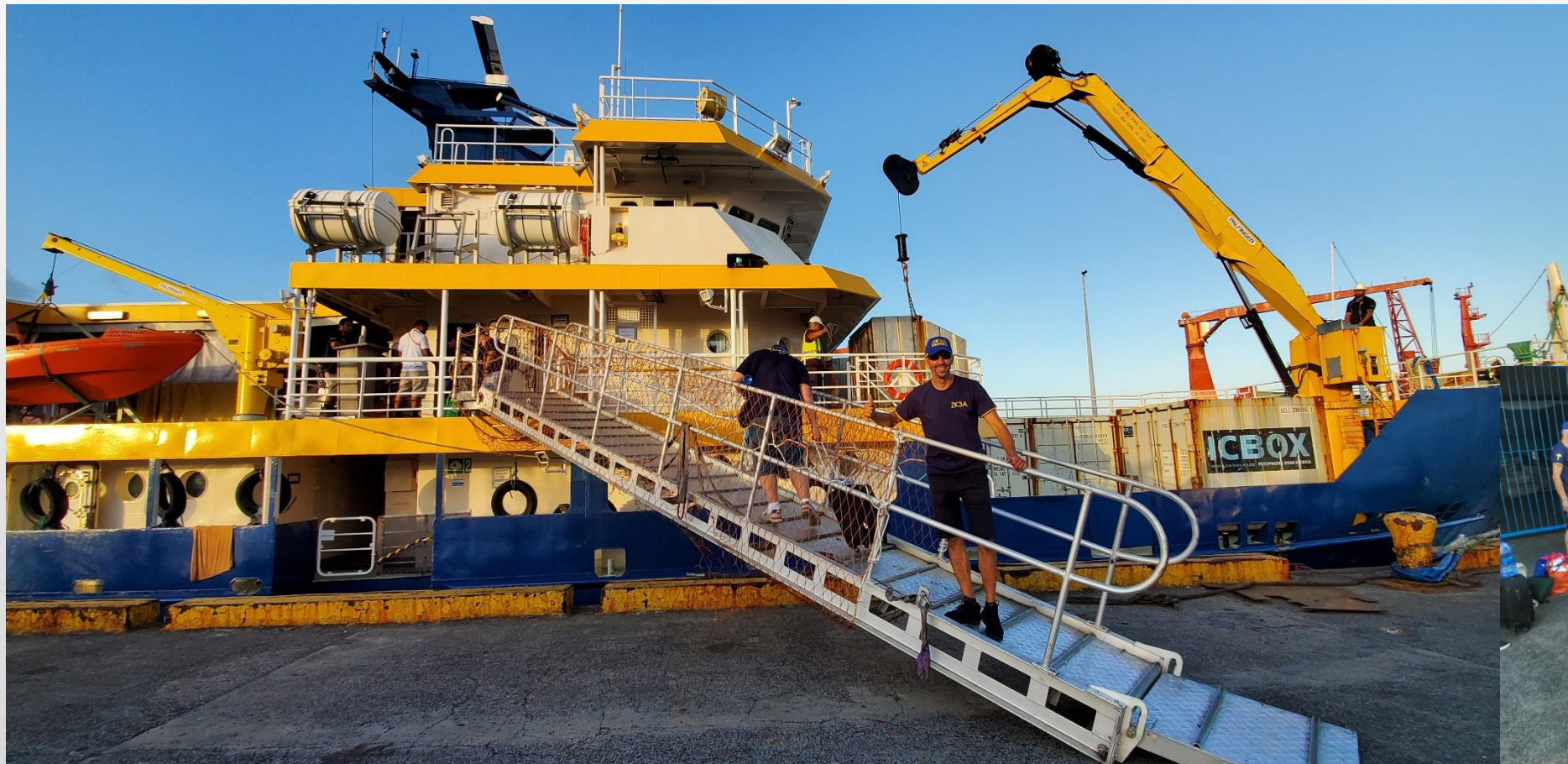
# BORDER & VISA CONTROL





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# BOARDING TO MATALIKI SHIP



- Voyage to Tokelau about 24 hours on the open and rough south Pacific ocean.





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# MATALIKI SHIP

- Our home for the next 24 hours



- Rooms on lower deck



- Sleep spaces on top deck



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# VOYAGE TO TOKELAU STARTED

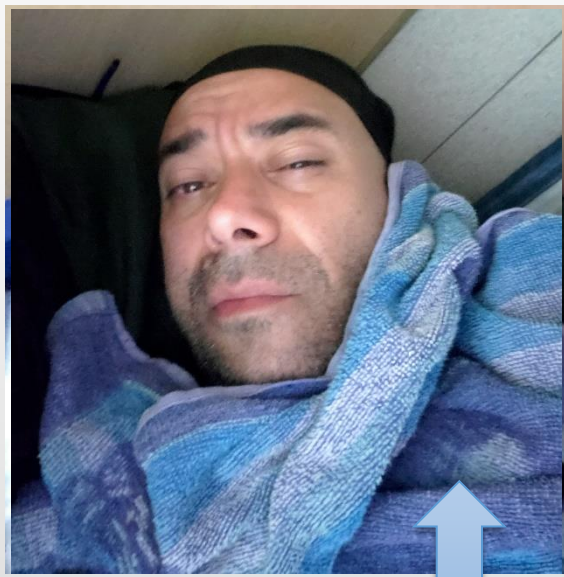


# MATALIKI SHIP CAPTAIN



- Safety and lives of entire ZK3A team members was dependent on this amazing person.

# ON THE WAY TO TOKELAU



• Sleeping time



• Feeding time



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# MEANWHILE IN TOKELAU...

- Our brave advanced team setting up camps and installing antennas.





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# 24 HOURS LATER TEAM ARRIVES







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# ON THE WAY TO FAKAOFO ATOLL



# ARRIVING IN FAKAOFO



# UPLOADING BAGGAGE

- BORDER & VISA CONTROL

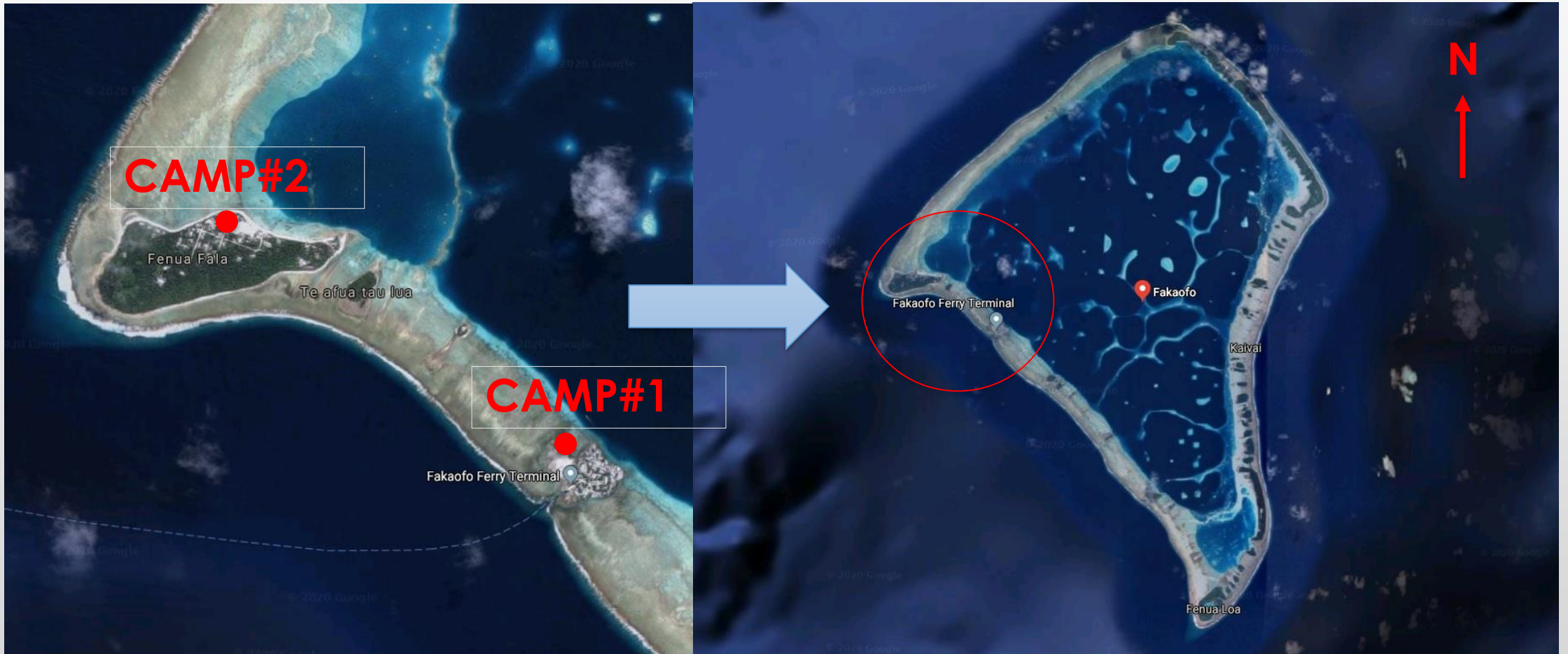


# MEETING WITH LOCAL GOVERNMENT



- ZK3A main team safely arrives to Tokelau (Fakaofu atoll) and ready to start activating ZK3 DXCC on all bands.

# CAMPS LOCATIONS



# CAMP #1 TEAM LODGING



# CAMP#1 RADIO SHACK





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# CAMP#1 ANTENNAS



- 4 SQUARE 80M BAND



- 4 SQUARE 40M BAND





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# CAMP#1 ANTENNAS CONTINUE..

- 3 el Yagi for 20m-15m-10m bands.
- Main direction is NORTH.



- 3 el Yagi for 30m-17m-12m WARC bands.
- Main direction is NORTH.

# MORE ANTENNA PHOTOS





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# CAMP#1 EQUIPMENT

- ELECRAFT K3 & K3s
- ICOM IC-7300
- SPE EXPERT 1.5k PA
- HF POWER COMBINERS
- HIGH POWER BPFs
- ANTENNA CONTROLS



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# CAMP#1 OPERATING POSITIONS



- Total of 4 operating positions covering HF bands 3.5MHz to 28MHz with 1.5kW.

# RTTY STATION AT CAMP#1 & 2



- We had total of two RTTY operators with two dedicated digital modes operating positions one per each camp.
- CAMP#1 – Vangelis SV2BFN
- CAMP#2 – Alex K6VHF
- Over 2300 RTTY QSOs in ZK3A log



# CAMP#1 OPERATORS SCHEDULE

	8P-11P	11P-2A	2A-5A	5A-8A	8A-11A	11A-2P	2P-5P	5P-8P
R1	KO8SCA	KO8SCA	PZ2NDX	PZ2NDX	S12BFN	S12BFN		UT5UY
R2	VE7NY	VE7NY	ZL3WW	W8EJON	VK3GK	VK3GK	UT8IO	W8EJON
R3	ZL3WW	UT5UY	UT8IO	US0KW	VK3FY	VK3FY	US0KW	PZ2NDX
R4	VK3FY	US0KW	UT5UY	UT8IO	ZL3WW	W8EJON	KO8SCA	VE7NY

OCT 8

	8P-11P	11P-2A	2A-5A	5A-8A	8A-11A	11A-2P	2P-5P	5P-8P
R1	ZL3WW	W8EJON	KO8SCA	ZL3WW	S12BFN	S12BFN		ZL3WW
R2	US0KW	UT5UY	VE7NY	PZ2NDX		W8EJON		PZ2NDX
R3	UT8IO	VK3GK	VK3GK		US0KW	UT5UY		KO8SCA
R4	KO8SCA	VK3FY	VK3FY		UT8IO	PZ2NDX		VE7NY

PHOTOS-

OCT 9

RTTY GETS ANTENNA PRIORITY

WORK YOUR SHIFT!!



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# CAMP#1 VIEWS (VILLAGE)



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- South Pacific paradise island



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# PANORAMIC VIEW







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OUR HOUSE



## VILLAGE AERIAL VIEW

Thanks to Adrian  
KO8SCA for the  
nice drone photos.

# CAMP#2 TEAM LODGING



- Team is resting before their shift.

# CAMP#2 RADIO SHACK



# CAMP#2 ANTENNAS



- VDA antenna for 20m-17m-15m-12m bands
- Dipole for 60m band (FT8 only)
- Ground Plane for 80m band.

- 3 el Yagi for 20m-15m-10m bands.
- 3 el Yagi 30m-17m-12m bands.
- Ground plane for 40m band.



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# CAMP#2 ANTENNAS CONTINUE..



- 9 EL Yagi 6 meter band for Earth-Moon-Earth (EME)

# CAMP#2 ANTENNAS CONTINUE..



- The famous full size 160m band antenna that became the symbol of ZK3A expedition.
- Main direction is NORTH (NA&EU).
- ZK3A DX expedition first time ever activated ZK3 on 160m.



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# CAMP#2 EQUIPMENT

- ELECRAFT K3 & K3s
- KENWOOD TS-590S
- SPE EXPERT 1.5k PA
- BURST 2.5kW PA
- HIGH POWER BPFs
- ANTENNA CONTROLS





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# CAMP#2 OPERATING POSITIONS



- Main operating position 160m to 10m bands with 2.5kW power.



- HF FT8 and 6m EME position with 1.5kW power.



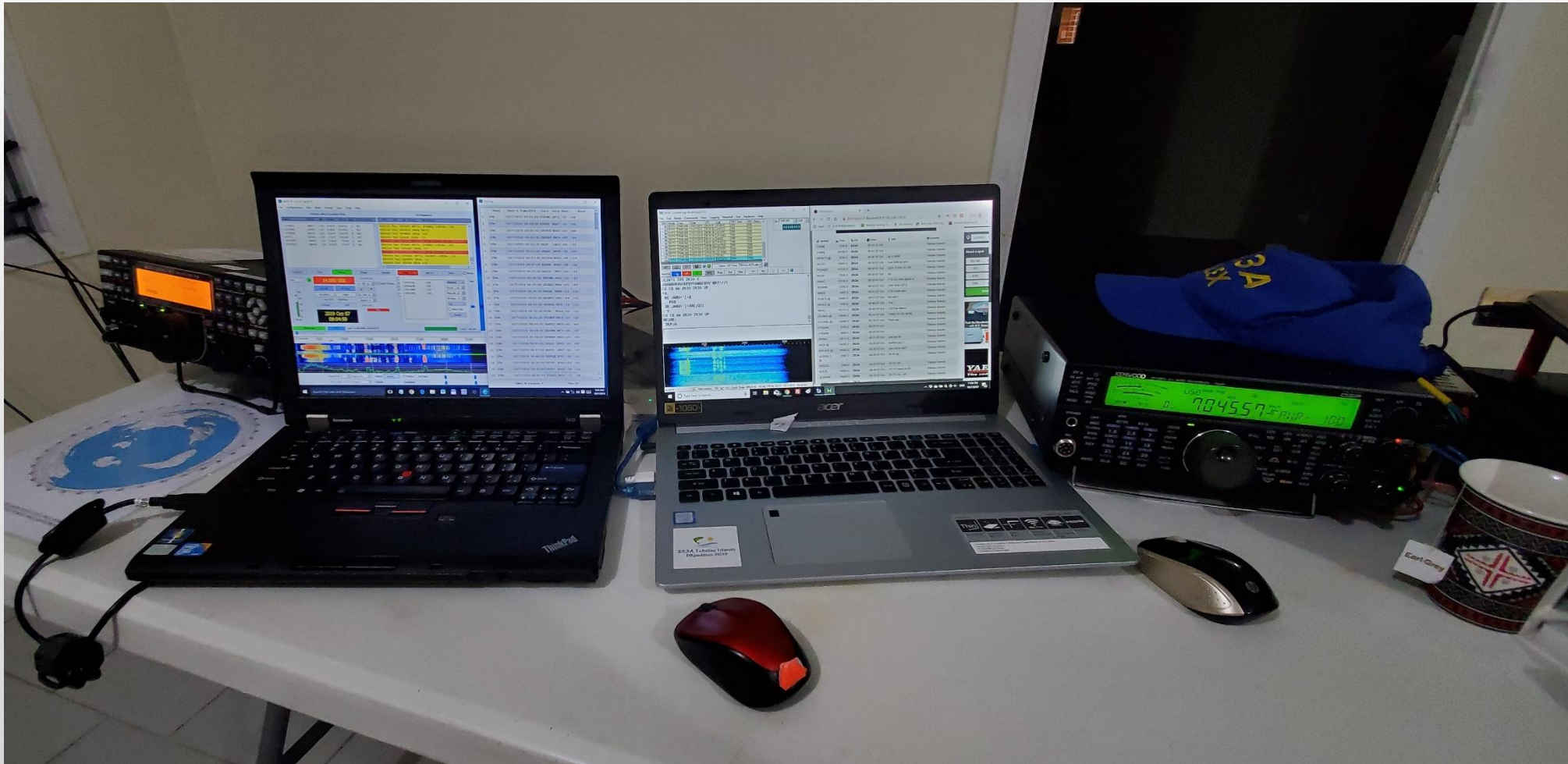
- 2 positions 80m to 10m bands with 1.5kW power.
- 60m FT8 and RTTY position.





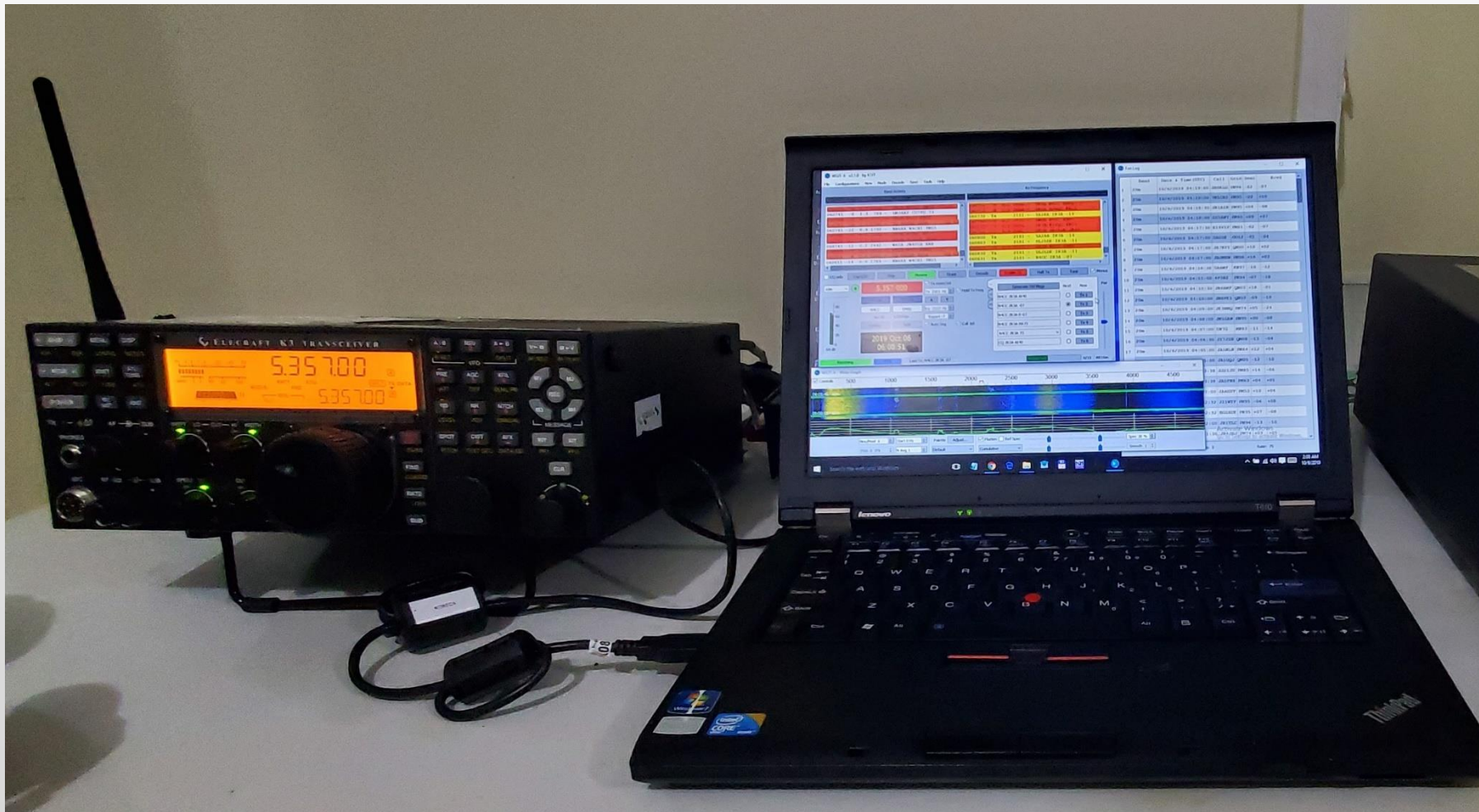
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# RTTY AND SSTV POSITIONS



- Operating on two bands in two different modes at same time.
- It's not easy, but fun!

# ACTIVATING 60M BAND



- Used Elecraft K3s and simple dipole antenna.
- Propagation on 60m band was amazing.
- 292 FT8 QSOs in the log.

# 6M BAND EARTH-MOON-EARTH



- 6m band EME station used Elecraft K3 and SPE Expert 1kW amplifier.
- 9 el Yagi with LNA





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# FIRST 6M EME QSO – YAY!



# CALLING CQ 6M EME



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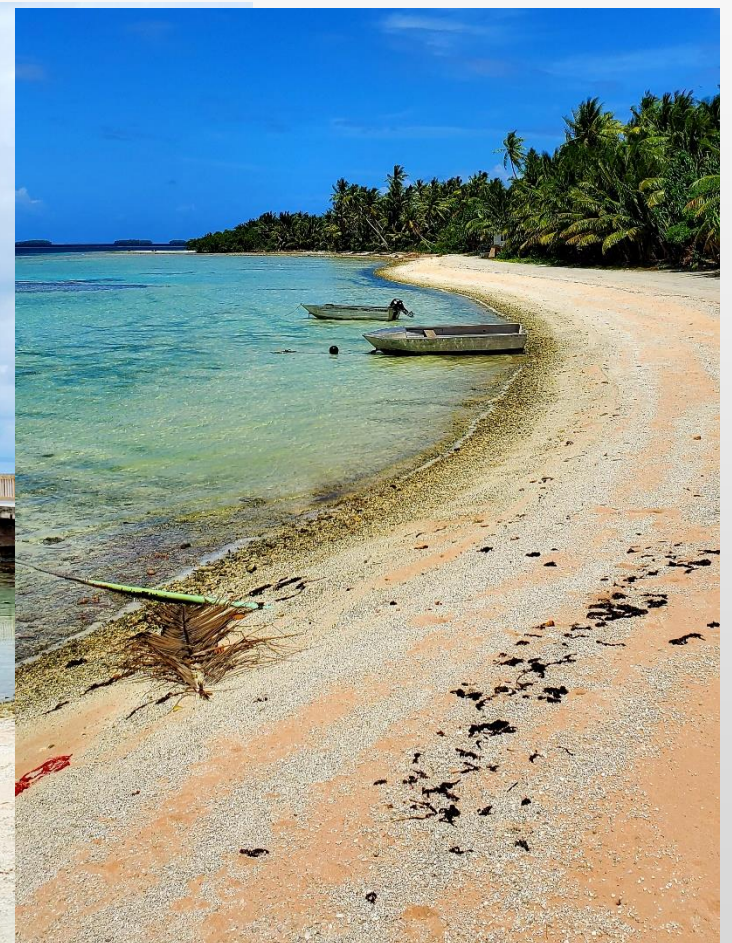
- Total 10 QSOs were made from ZK3A Camp#2 position.





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# CAMP#2 VIEWS (FENUA FALA)





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# FENUA FALA VILLAGE VIEWS





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# TOKELAU TRANSPORT



- This boat (school bus) is one of the few other boats that used to commute between different parts of Fakaofu atoll.





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# COMMUTING WITHIN FAKAOFO



- Boats...boats...boats... sometimes 5-10 times per day between camps..



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# VIEWS FROM THE BOAT



# TOKELAU WEATHER





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# STORM IS APPROACHING...



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- Calm before massive storm which took down 3 power amplifiers.



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# FOOD DELIVERY FOR ZK3A TEAM

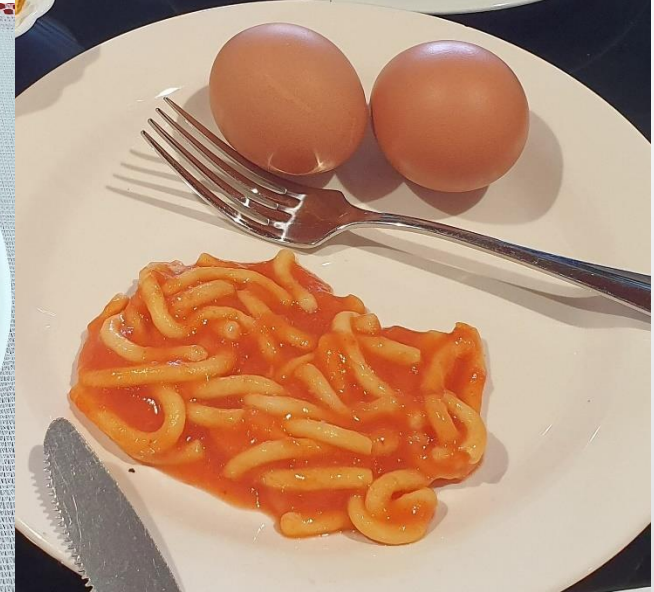


- Food delivered three times daily.
- Mainly it's fish (sashimi) or fast food.
- Water also delivered on daily basis.



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# FOOD FOR CAMPS



- There was a grocery store but no sales to foreigners.
- We were fully depended on locals and their choice.
- Team missed a normal food and in some days we just didn't eat.

# TEACHING YOUNG LOCALS



# TEACHING YOUNG LOCALS







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# KIDS IN FAKAOFO





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# SCHOOL KIDS GOING HOME





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# LOCALS FROM THE VILLAGE





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# FISHING IS THE EVERYTHING!





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# FISHING IS NUMBER ONE!



# LOCAL CELEBRATIONS





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# LOCALS ARE VERY FRIENDLY

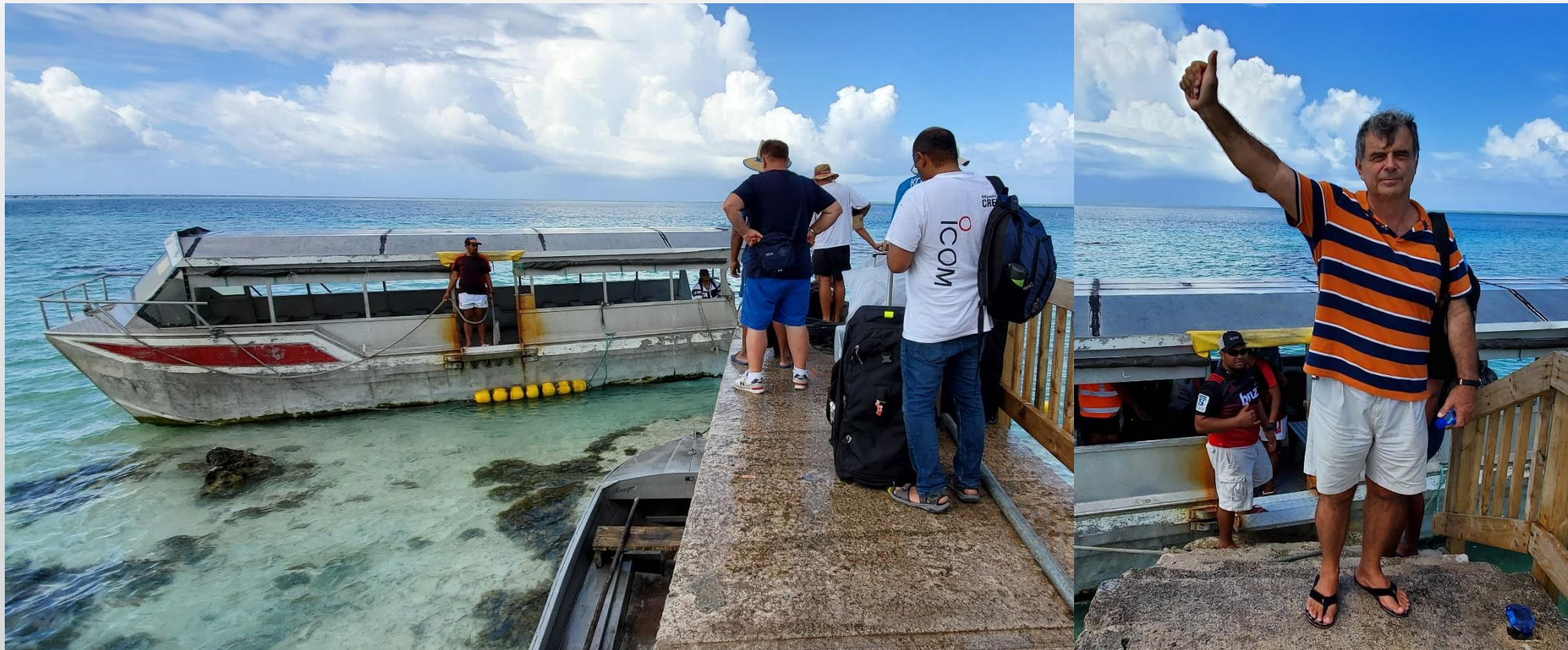




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# EMERGENCY EVACUATION

Something that was installed within the few days we managed to disassemble and pack within 3 hours. We had two choices: Leave immediately or stay another ten days. Answer was very clear – LEAVE!





# TIME TO LEAVE...





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# BOARDING A BOAT





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# ON THE WAY TO MATALIKI SHIP



# VOYAGE BACK TO APIA



Bye Bye  
Tokelau,  
We will  
be BACK!



# ARRIVAL TO APIA, SAMOA (5W)



After 24 hours sailing in south Pacific ocean ZK3A team safely arrived to Apia, Samoa.

Photo right after immigration control at the port.

# PARTY TIME



Celebration the successful ending of ZK3A expedition and great results. Good job team!





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# UPOLU ISLAND EXPERIENCE





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# VIEW OF UPOLU ISLAND(5W)

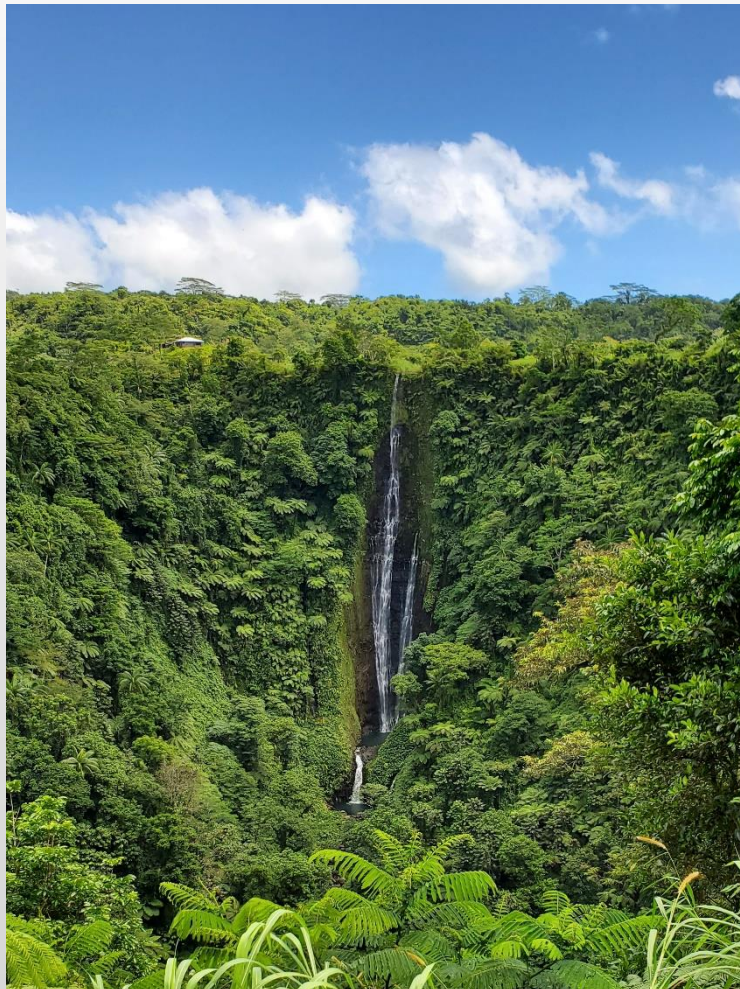






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# VIEW OF UPOLU ISLAND(5W)



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# VIEW OF UPOLU ISLAND(5W)





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# 5W AMATEUR RADIO LICENSE

Alex K6VHF (5W0NA), Lee VK3GK(5W0GK) and Chris VK3FY(5W0FY) received 5W callsigns in Samoa. All three were operating from 5W1SA position using their new callsigns and activating 5W on the air.



# TIME TO FLY HOME



- Thanks for your hospitality Samoa!



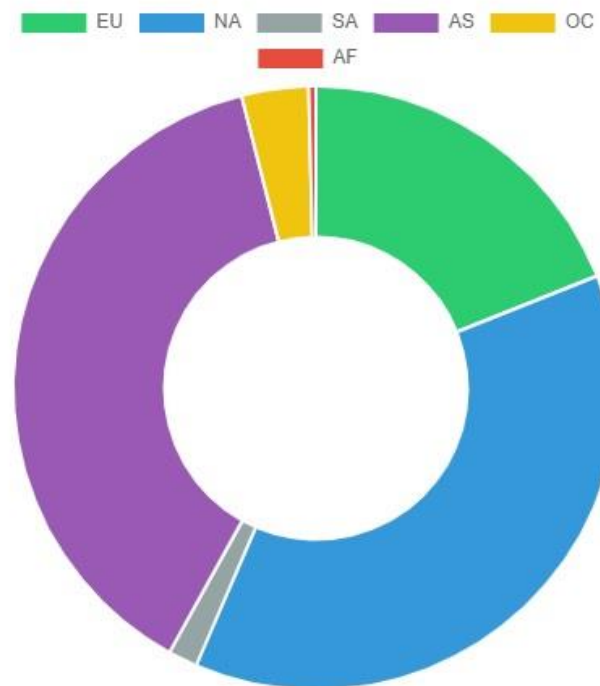
# 7K3A QSO STATISTICS

Band/Mode breakdown

Band	SSB	CW	FT8	RTTY	SSTV	Total	Total %
160	54	1911	412	0	0	2377	4.5%
80	562	3664	945	77	0	5248	10.0%
60	0	0	292	0	0	292	0.6%
40	1656	4626	2035	393	0	8710	16.6%
30	1	3728	2185	213	0	6127	11.7%
20	2658	7367	2370	1048	1	13444	25.6%
17	2683	4123	2002	250	0	9058	17.2%
15	894	2858	1148	379	9	5288	10.1%
12	280	1044	443	0	0	1767	3.4%
10	11	128	93	12	0	244	0.5%
6	0	0	10	0	0	10	0.0%
<b>Totals</b>	<b>8799</b>	<b>29449</b>	<b>11935</b>	<b>2372</b>	<b>10</b>	<b>52565</b>	

Breakdown by Continent

Continent	Total QSOs	%
Africa	206	0.4
Asia	19977	38.0
Europe	9953	18.9
North America	19738	37.5
Oceania	1873	3.6
South America	818	1.6
<b>Totals</b>	<b>52565</b>	<b>100.0</b>



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# THANKS TO ALL CLUBS & ORGANIZATIONS



# THANKS TO ALL SUPPORTERS AND DONORS



# ZK3A QSL CARD



## Z K 3 A

Tokelau Islands DXpedition 2019  
 Zone: CQ 32, ITU 62  
 IOTA OC-048, WW Grid: A140io  
<https://www.tokelau2019.com/>  
 QSL via: YT1AD

**ZK3A Operators:**

- Hrane, YT1AD
- Alex, UTSUY
- Roman, UR0MC
- Andy, RW7K
- Alex, US0KW
- Serge, R7KW
- Nick, UT8IO
- Vangelis, SV2BFN
- Dusko, ZL3WW
- Chris, VK3FY
- Lee, VK3GK
- Alex, K6VHF
- Dave, WD5COV
- Adrian, KO8SCA
- Robert, N7QT
- Sandro, VE7NY
- Rafael, PY2NDX
- Sergii, UR9QQ
- Sergey, RX3APM

Thanks to JA4DND, K2ZD and all others for their donations.

TO RADIO				
DATE	TIME	MHZ	MODE	RST



YT1AD Head of ZK3A  
QSL & LoTW team.

Direct Mail QSL  
**Direct QSL via LZ1JZ**  
 Tony Stefanov  
 P.O. Box 830  
 1000 Sofia  
 Bulgaria



# THANKS FOR YOUR ATTENTION!



CUAGN & 73!

# QUESTIONS?