New Zealand Adventure
Redux 2018

Kai Siwiak, ZL/KE4PT

2019 March 26

GCARA

My son and I were in New Zealand…

- To visit daughter Diana, ZL/KE4QXL, and son-in-law Chris, ZL/KD7CNJ, in "Windy Welly"
- Attend Dai's PhD Graduation from Victoria University of Wellington NZ
- Tour, explore, seek Amateur Radio opportunities for future visits

New Zealand is on the Underside of Earth 8,135 miles from Florida

(took some getting used to the gravity there)

Image by Chris Dean, KD7CNJ

VICTORIA
UNIVERSITY
WELLINGTON

Dr. Diana Siwiak, ZL/KE4QXL, Kaituitui

Dai's Job Title is **Kaituitui (Tauira Paerunga, Mana Taurite)**

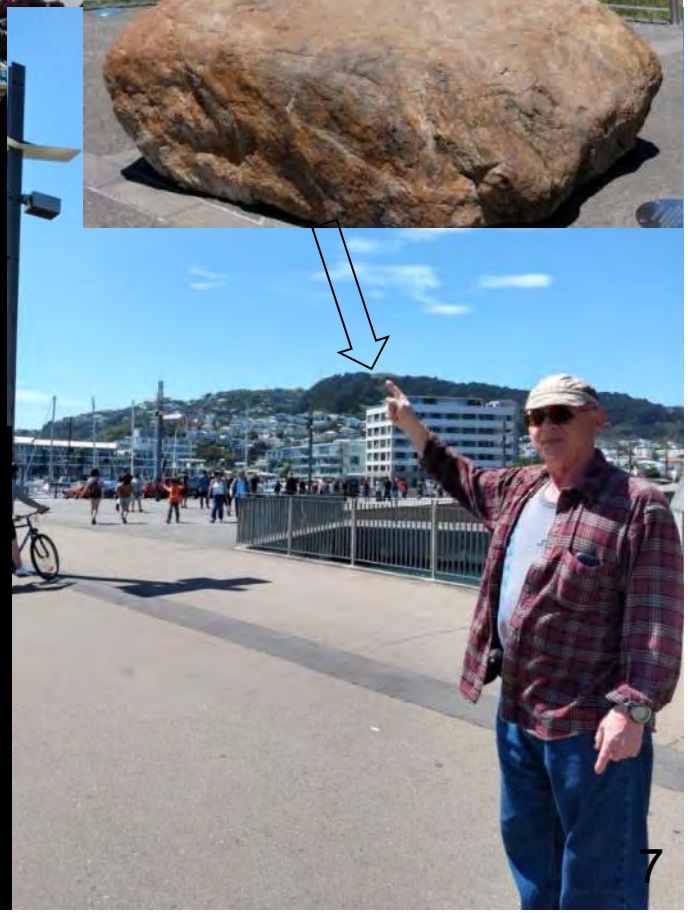
'Kaituitui' = coordinator that brings together lots of different threads – she is the only one at Victoria with the Kaituitui job title

'Tauira Paerunga' = post graduate students

'Mana Taurite' = draws on ideas of equity, inclusion, balance

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
UNIVERSITY OF WELLINGTON

Ham Radio Site Search
Viewed from Botanical Gardens Tramway



- Toured the North Island
- Visited public art sites
- Searched for suitable ham radio sites

Joe, KF4JAS, *Imagines* a Possibility

Continued Search for
Portable Ham Radio Sites
among the 'Red Rocks'

Searched High…

Searched Low...

Consulted a Wizard…

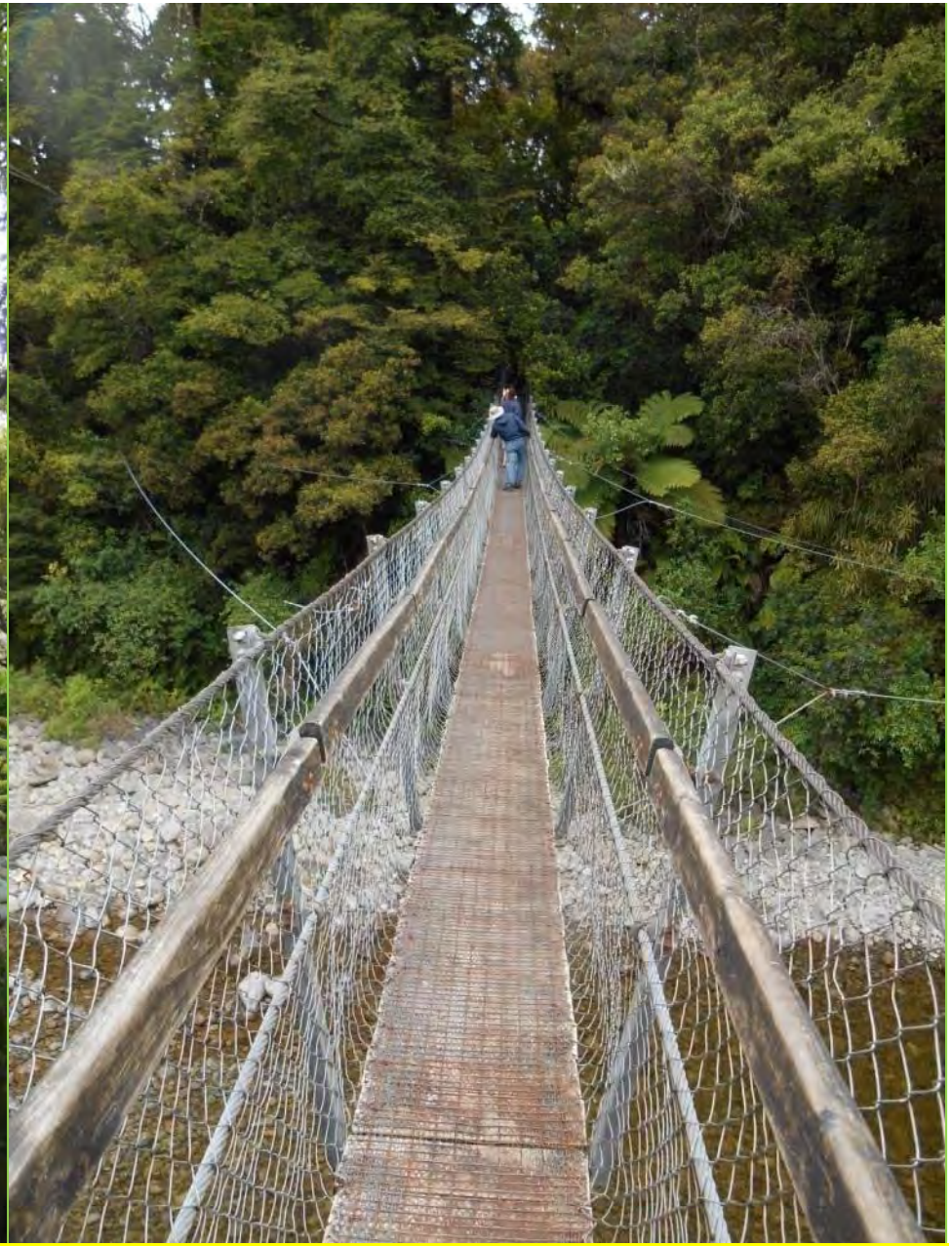
(got my hat back)

The Wizard Suggested an Elvish Ham Shack in Rivendell

Dai, KE4QXL; Joe, KF4JAS; Chris, KD7CNJ

Elves of Rivendell

Tramping Rivendell



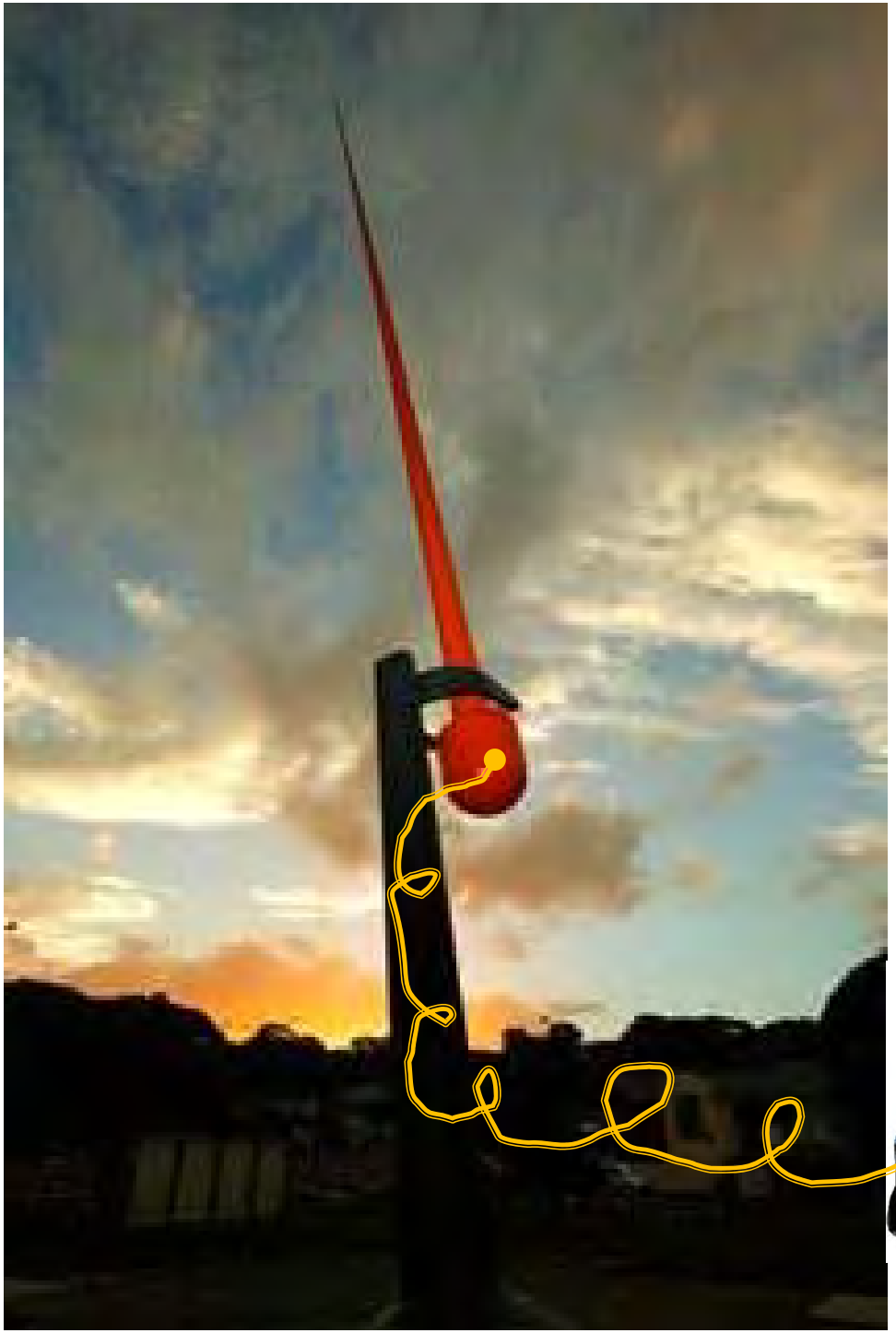
Tramped Rivendell Trails and Bridges

Found a ‘promising ham tower’ in the Zealandia forest

Welly-Wood, World's Windiest City

Each year “Windy-Welly” experiences the zephyr, which blows down Cook Straight an average **22 days of over 74 km/hr** and **173 days above 59 km/hr** wind speed

- **Next: Visited PUBLIC ART SITES**
- **The Zephyrometer is a kinetic art sculpture, hmmm ….**
- **Designed in 2003 by artist Phil Price**
- **26-m long needle sways to show wind direction and speed**



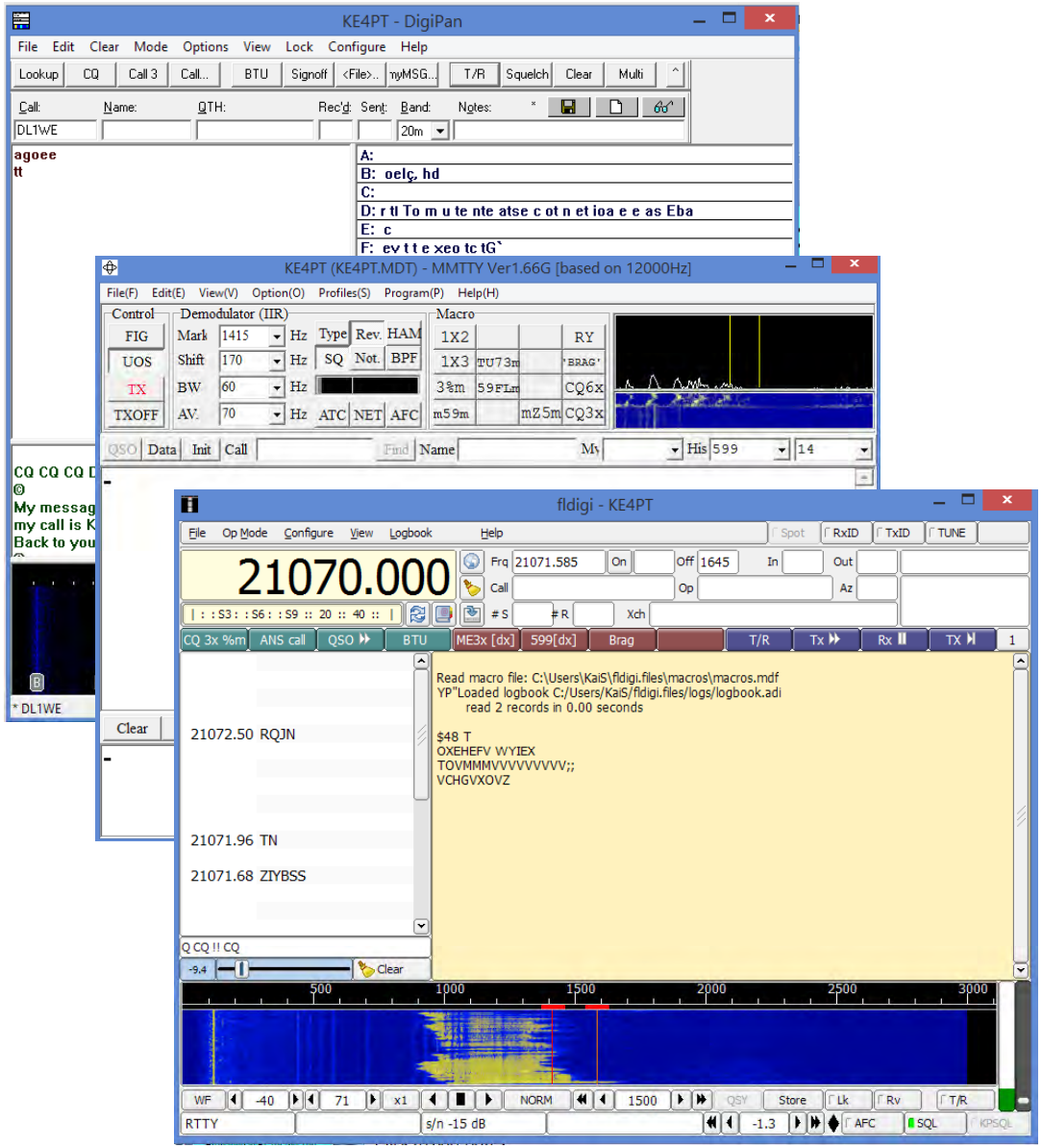
How I see the Zephyrometer needle

- needle is 26-m tall
- half-wavelength in the 60-m Amateur Radio band
- ripe for QSOs

Suitable Ham Station (2014+)

- **DX Go-Bag "SDR" system**
  - 5 W 1.8–450 MHz transceiver
  - Morse key
  - 98 Wh battery pack
  - Loop and OCEF dipole
  - DAC/ADC sound card interface
  - UTC clock ±1 second
  - small laptop computer
- **CW, Phone, and digital modes**
- **SDR extension: Digital-mode software on computer**

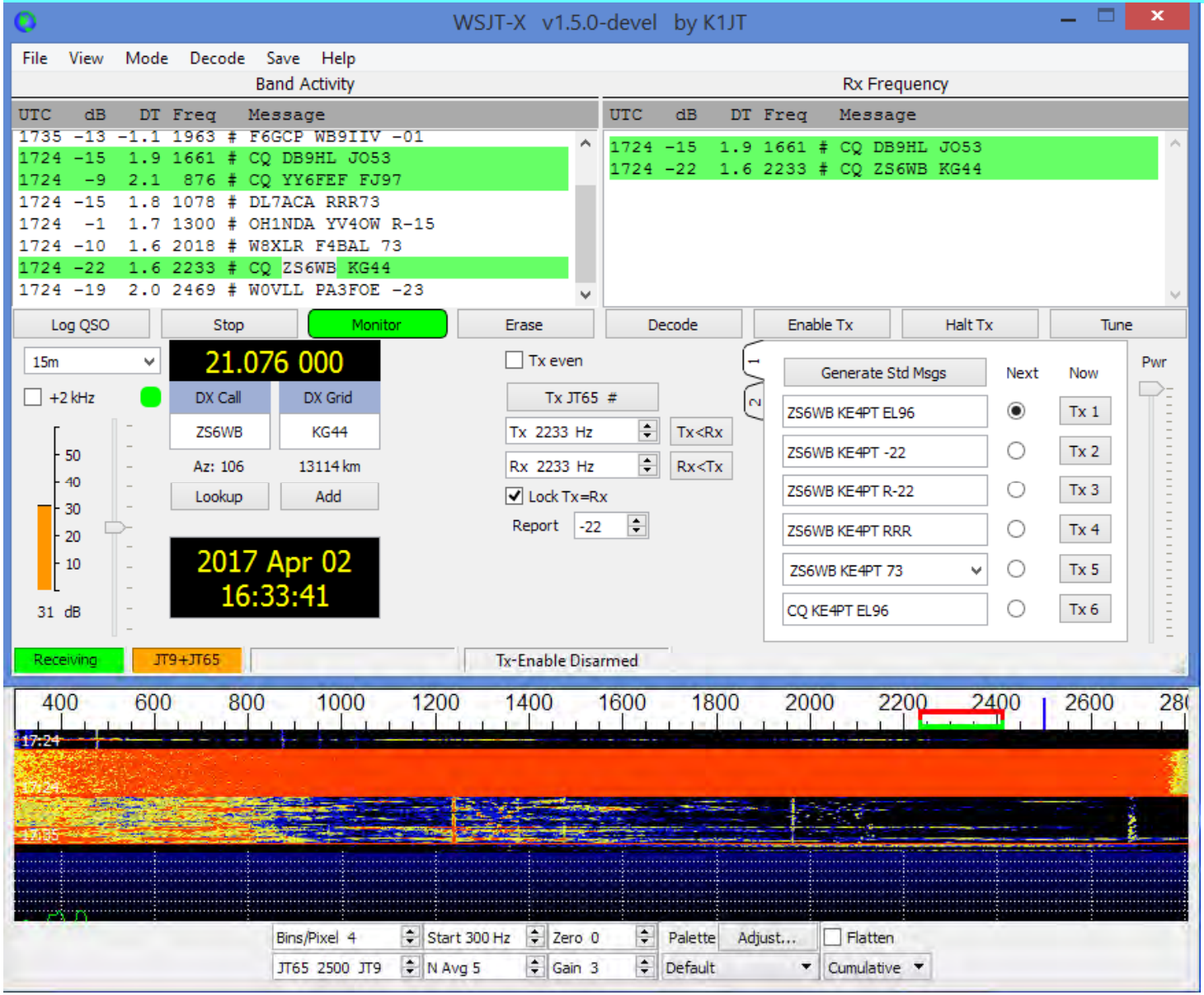
Digital Modulation Software



- Use your SSB *analog or SDR* transceiver as a **Software Defined Radio System**

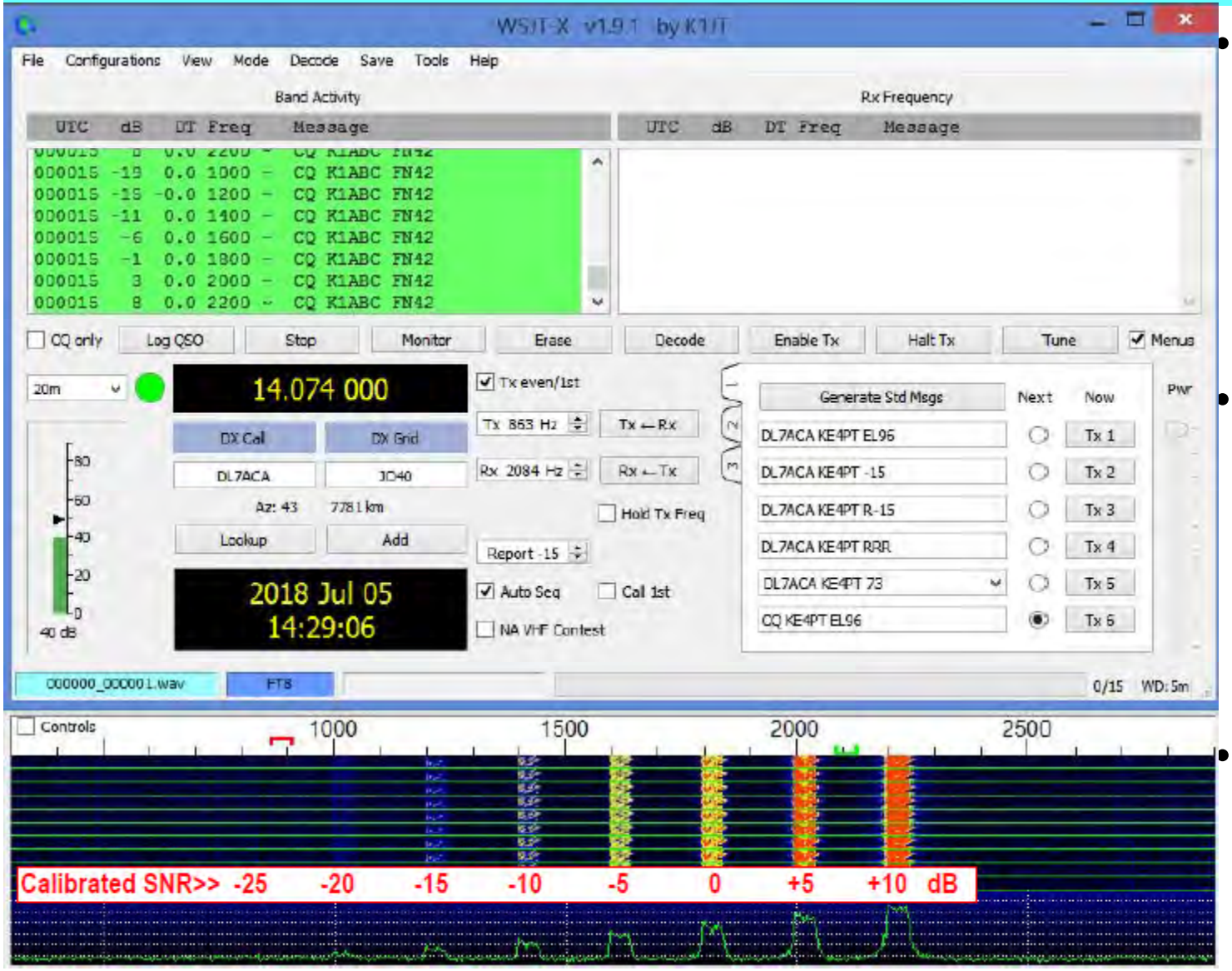
- **Digipan** for PSK
- **MMTTY** for RTTY
- **Fldigi** for *dozens* of digital modes
- More free software being produced!

WSJT-X jt9, jt65 Software



- Turns your SSB *analog or SDR radio* into a **Software Defined Radio System**
- WSJT-X supports **JT9** and **JT65** *ensemble modes*
- Adds 14 to 20 dB to the link margin over CW

WSJT-X ft8 Software



- **FT8** is one of the most popular digital protocols on the planet
- WSJT-X supports **JT9** and **JT65** and **FT8** *ensemble modes*
- **FT8** adds 10 to 16 dB to the link margin over CW

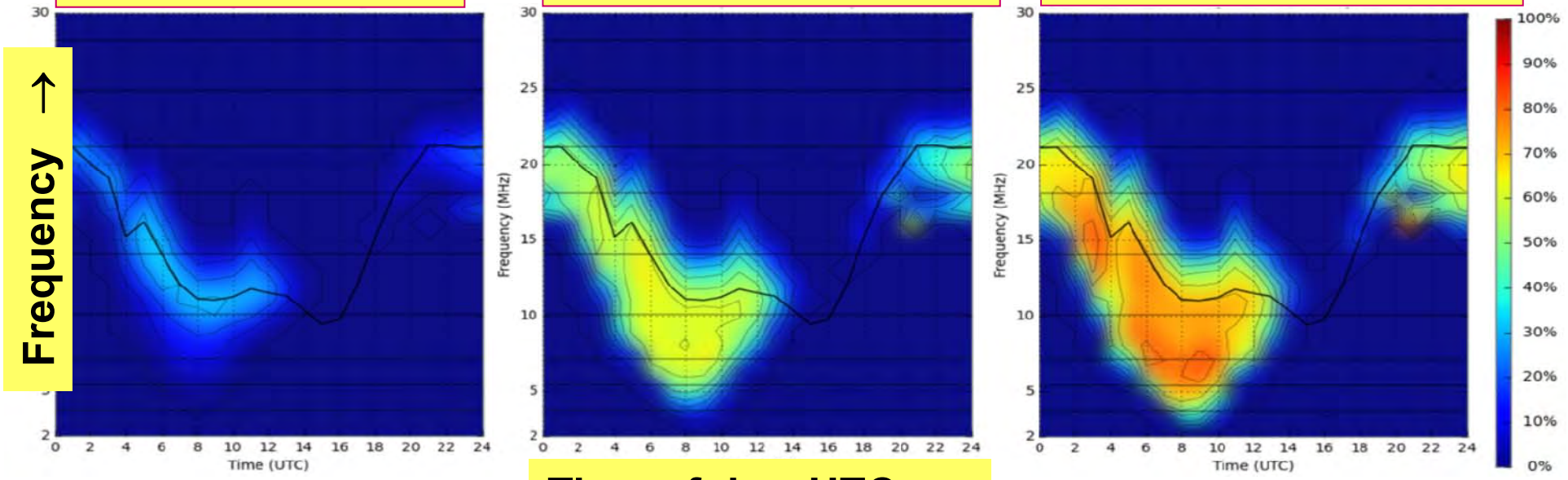
Propagation Planning ZL ↔ FL

"Fool" www.voacap.com/prediction.html into predicting other digital modes:

For *CW* at 5 W:
Select 'CW' at 5 W

For *FT8* at 5 W:
Select 'CW' at 500 W

For *JT65/JT9* at 5 W:
Select 'CW' at 1500 W



Bonus keyboard mode: for PSK31 at 5 W select 'CW' at 25 W

Wizard's Choice: Portable Sites for the 2014 Visit

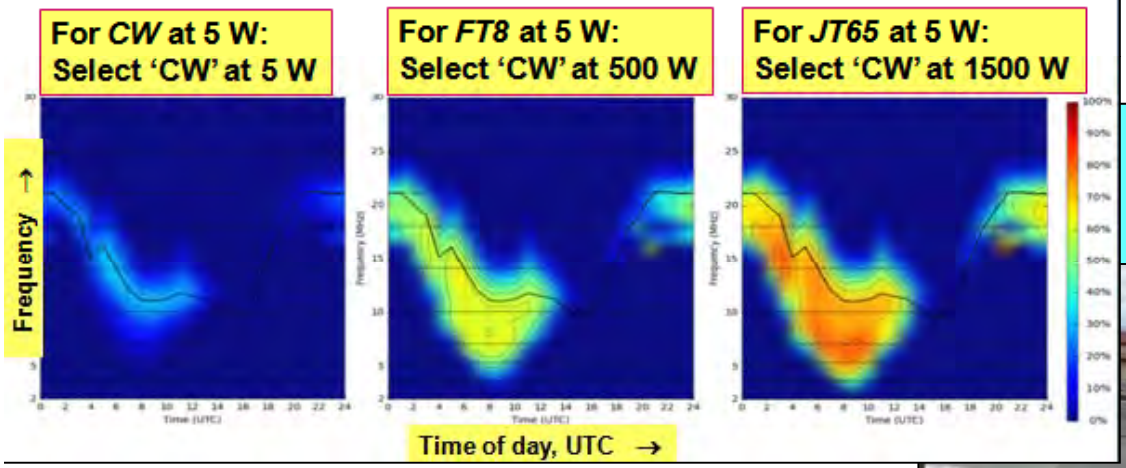
JT65 from Frank Kitts Park, Wellington, New Zealand, **radio site #1**

CW from Mount Victoria, Wellington, New Zealand, **radio site #2**

That's the Theory!
What about the Practice?

Planning before Going ZL ↔ FL

"Fool" www.voacap.com/prediction.html into predicting other digital modes:



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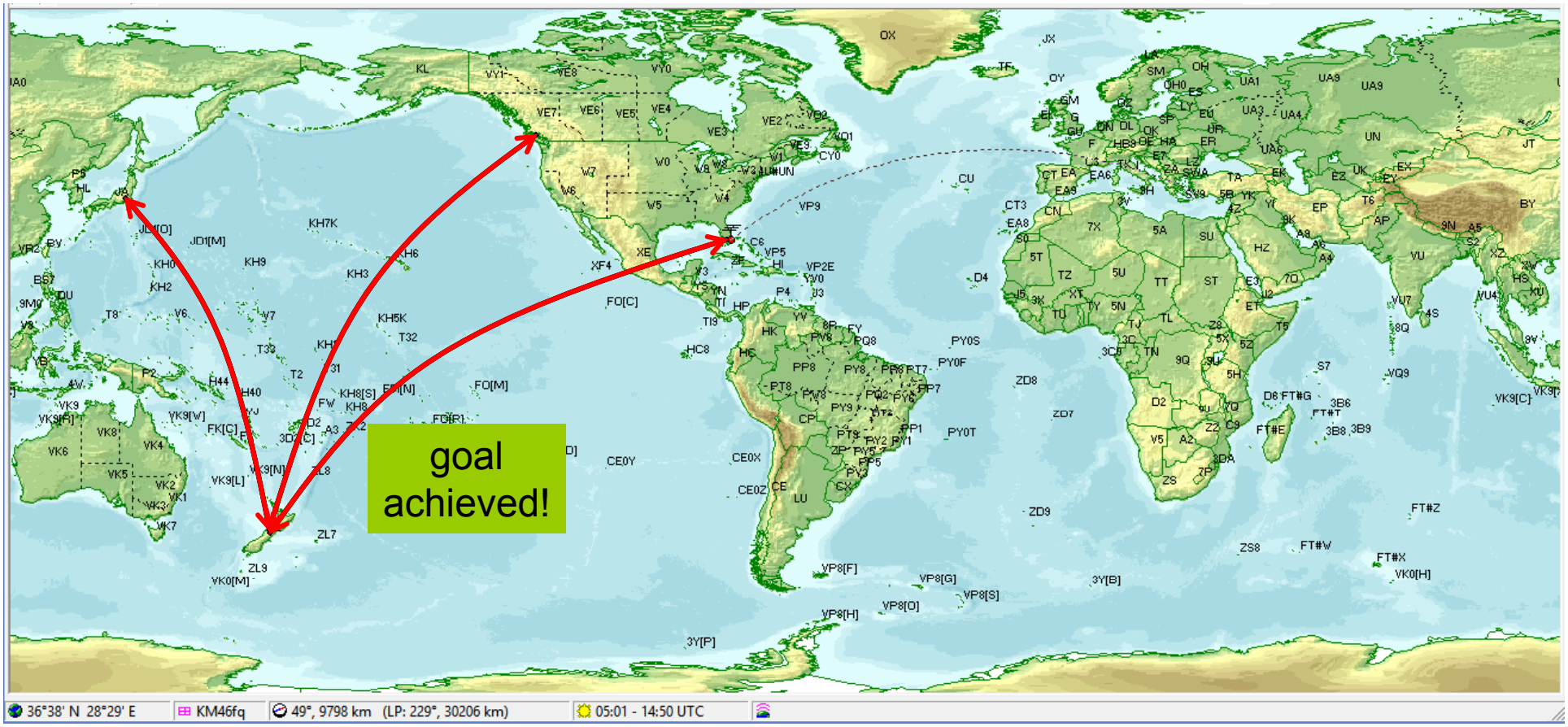
Wizard's Choice of Portable Station Sites

JT65 from Frank Kitts Park, Wellington, New Zealand, **radio site #1**

CW from Mount Victoria, Wellington, New Zealand, **radio site #2**

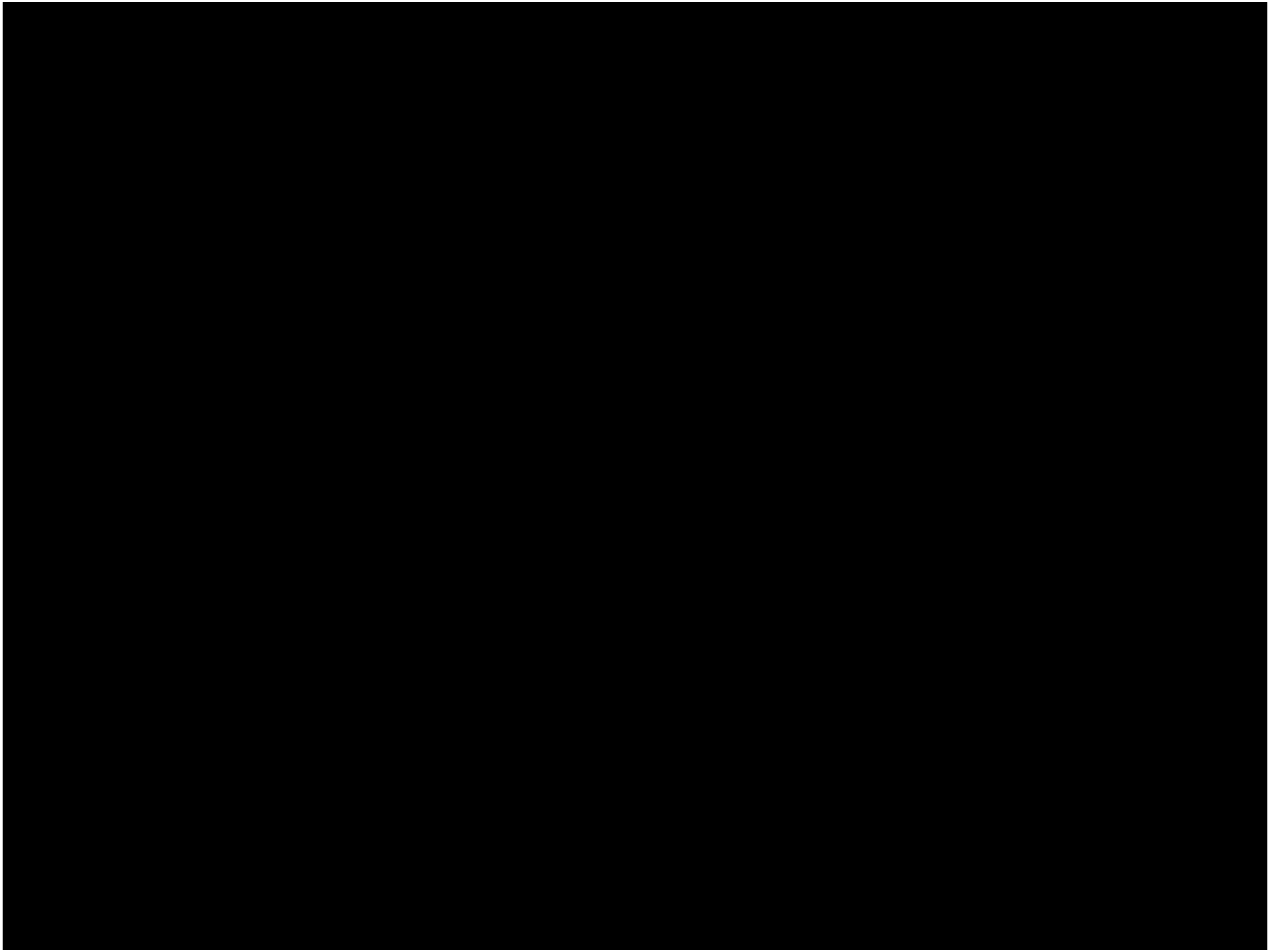
- **JT65 proved robust in 2014**
- **FT8 should be possible**
- **CW will be "iffy"**

In 2014 Worked Three Countries using JT65



There is a lot of Pacific Ocean between ZL and populous land to North and North East: **it's 8,000 miles or nothing!**

Thank You!

73 es gd DX de

ZL/KD7CNJ
ZL/KE4PT
ZL/KE4QXL
ZL/KF4JAS