

Working a Major DXpedition (in this case, KH1/KH7Z)

Ed Callaway, N4II

Working a What?

- Some DX entities (a.k.a. countries) are so physically difficult to get to, or have such difficult regulatory or political hurdles to overcome, that they are activated only once every 5-20 years (or less)
- When these entities are activated, a veritable DXpedition army descends on them for 10-20 days
 - 10-20 (or more) people is not uncommon
 - 3 (or more) simultaneous transmitters also is not uncommon
- With the goal of supplying the needs of all DXers for 5-20 years (or more)
 - All bands: 160-6m, and sometimes 2m EME, etc.
 - All modes: CW, SSB, RTTY, . . . , and sometimes FT8, SSTV, etc.
- I'm defining such an event as a Major DXpedition.

Step 1: Finding out about Major DXpeditions

- DX bulletins are your friends
 - *The Daily DX* (<http://www.dailydx.com/>) is the best, IMHO
 - Edited by Bernie McClenny, W3UR; also editor of QST's "How's DX?" column
 - Daily (M-F) email, \$49/year
 - Others (all weekly, but free)
 - *Ohio/Penn DX Bulletin* (OPDX) (<http://hamnet.org/mailman/listinfo/opdx>)
 - *DX Newsletter* (DXNL) (<https://www.darc.de/der-club/referate/dx/en/dxnl/>)
 - *425 DX News* (<http://www.425dxn.org>)
 - *ARRL DX Bulletin* (<http://www.arrl.org/myarri> and select the categories of bulletins you wish to receive)
- Major DXpeditions are announced many months in advance

Step 2: What is Your Goal?

- Make a QSO on any band or mode (Mixed DXCC)?
 - Note that the more band- and mode-flexible you are, the easier this will be
- Make QSOs on any band, but on specific mode(s) (e.g., Phone or Digital DXCC)?
- Make QSOs on any mode, but on specific band(s) (e.g., 20m or 160m DXCC)?
- Make QSOs on all bands, but on any mode (DXCC Challenge)?
- Etc.?

Step 3: Preparation

- Major DXpeditions have web sites. Visit the DXpedition web site, in this case <http://www.baker2018.net/> and <http://KH7Z.net> , regularly
 - Check “Latest News”
 - Know the “Operating Plan”
 - Schedule of operation
 - Bands, modes, and frequencies they plan to use
 - Check “Our Team” for your pilot station
 - Pilots are your communication link to the DXpedition
 - Useful even before the DXpedition: “Both N4II and N4IS will be calling you on 160m CW . . .”
 - Don't use to ask for QSO skeds, to see if you're in the log, etc.
- Consider making a donation before the DXpedition
 - KH1/KH7Z budget of \$400,000 is typical, with most due in advance (for transportation)
 - Half usually paid by DXpeditioners themselves
 - Often gets you early LoTW and/or paper QSL, DXpedition DVD, other perks

KH1/ KH7Z



Baker 2018

[HOME](#)[About Baker Is.](#)[Latest News](#)[Commemoration](#)[Donate](#)[DX Spots](#)[FAQ](#)[Log](#)[Online Store](#)[Operating Plan](#)[Our Sponsors](#)[Our Team](#)[QSL Information](#)[Photos](#)[PreTrip Testing](#)[Prior DXpeditions](#)[Propagation](#)[Statistics](#)

WELCOME!

To The Baker Island 2018

Destination: Baker Island, South Pacific

0°11'41"N 176°28'46"W

OTA OC-089 GRID AJ18 CQ Zone 31 ITU Zone 61 ARLHS BAK-001

QRV Dates: 27-June thru 06-July

[DONATE](#)[Latest News](#)

Commemorative DXpedition



Amelia Earhart

This DXpedition commemorates the 81st anniversary of Amelia Earhart's disappearance on July 2, 1937 near Baker & Howland Islands -- as well as the commitment and sacrifices made by the Hui Panalā'au -- students from Hawaii who lived on Baker, Howland and Jarvis from 1935-1942. Read the full story [HERE](#)



The Hui Panalā'au



Major Sponsor
Radios & Amps



Contact



Us



Japanese Translation



Guest-book
Please Sign



On Air:
June 27-July 6



On Air:
June 27-July 6



On Air:
June 27-July 6



On Air:
June 27-July 6



On Air:
June 27-July 6



On Air:
June 27-July 6

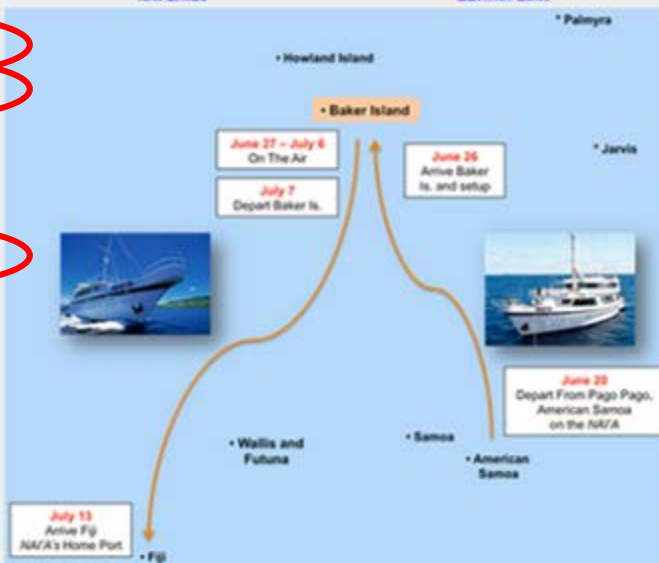


On Air:
June 27-July 6

Travel Itinerary

Photos En Route & On Island
[kh7z.net](#)

Track Our Boat In Real-Time
[Garmin Link](#)

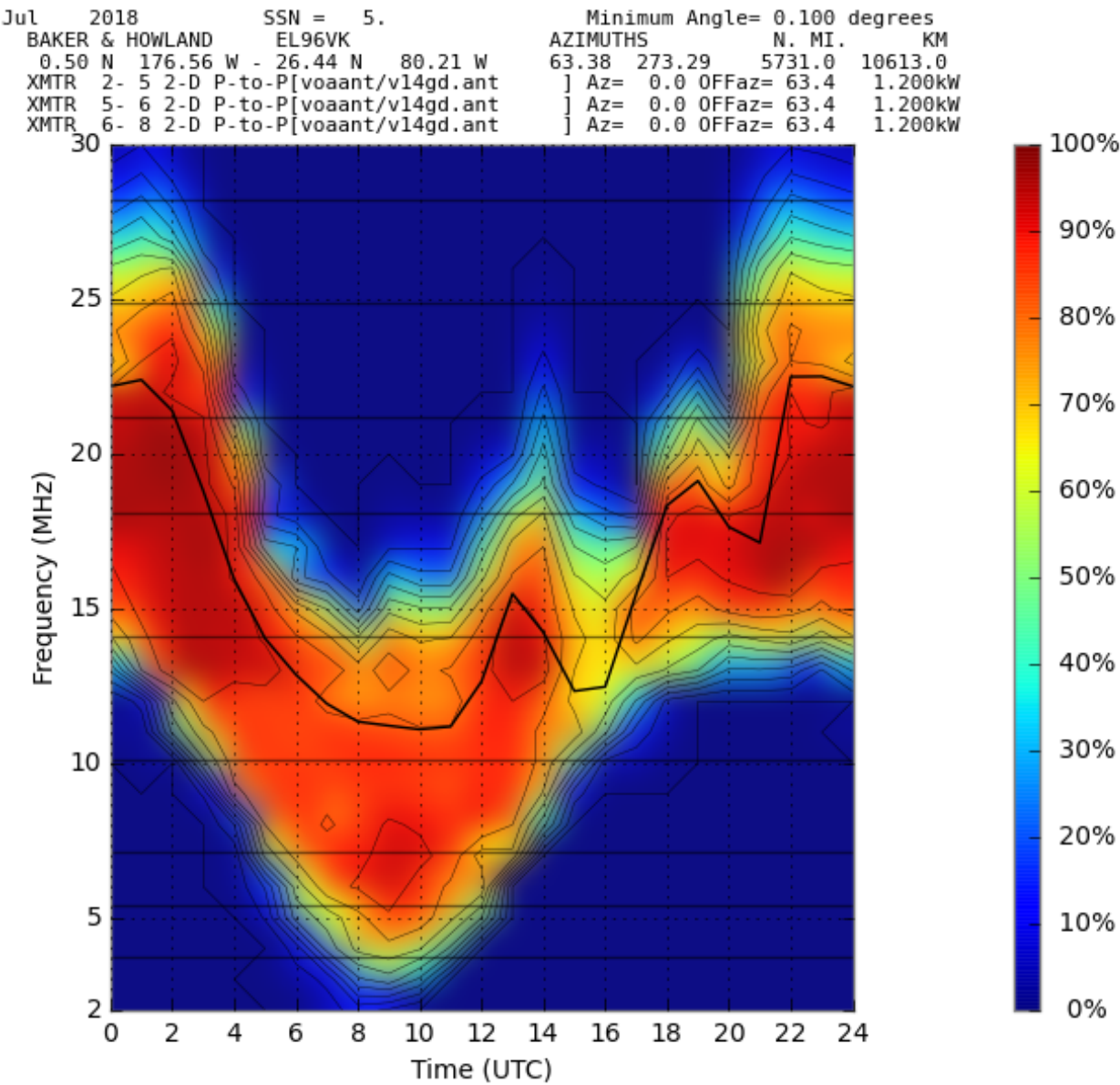


Step 4: Check Propagation

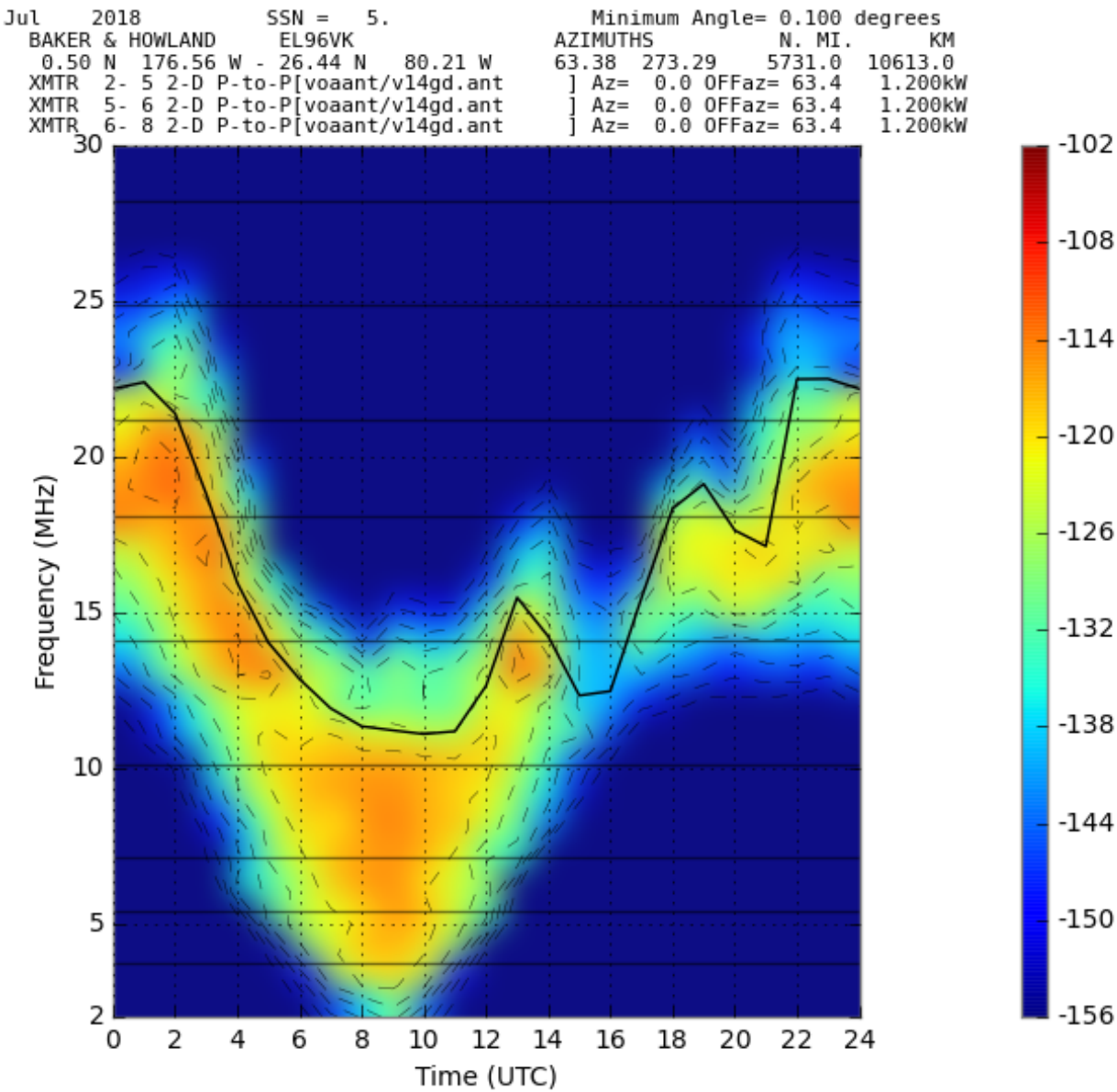
- The DXpedition web site will have a propagation prediction page, but VOACAP (<http://www.voacap.com/hf/>) is also your friend
 - Find out what bands will be best and at what time of day or, if you're looking for a specific band, when it should be open to you
 - Set it up for the DXpedition's antennas and power output, from their web page
- For the low bands, find out when you will have common darkness
 - SunriseSunset.com custom location page (<https://www.sunrisesunset.com/custom.asp>), using latitude and longitude from the DXpedition web page
 - Or use the DX Atlas program from Afreet Software (<http://www.dxatlas.com>)
- Consider propagation not just to yourself, but also to EU and JA

VOACAP Predictions for KH1/KH7Z – Short Path

Circuit Reliability (%)

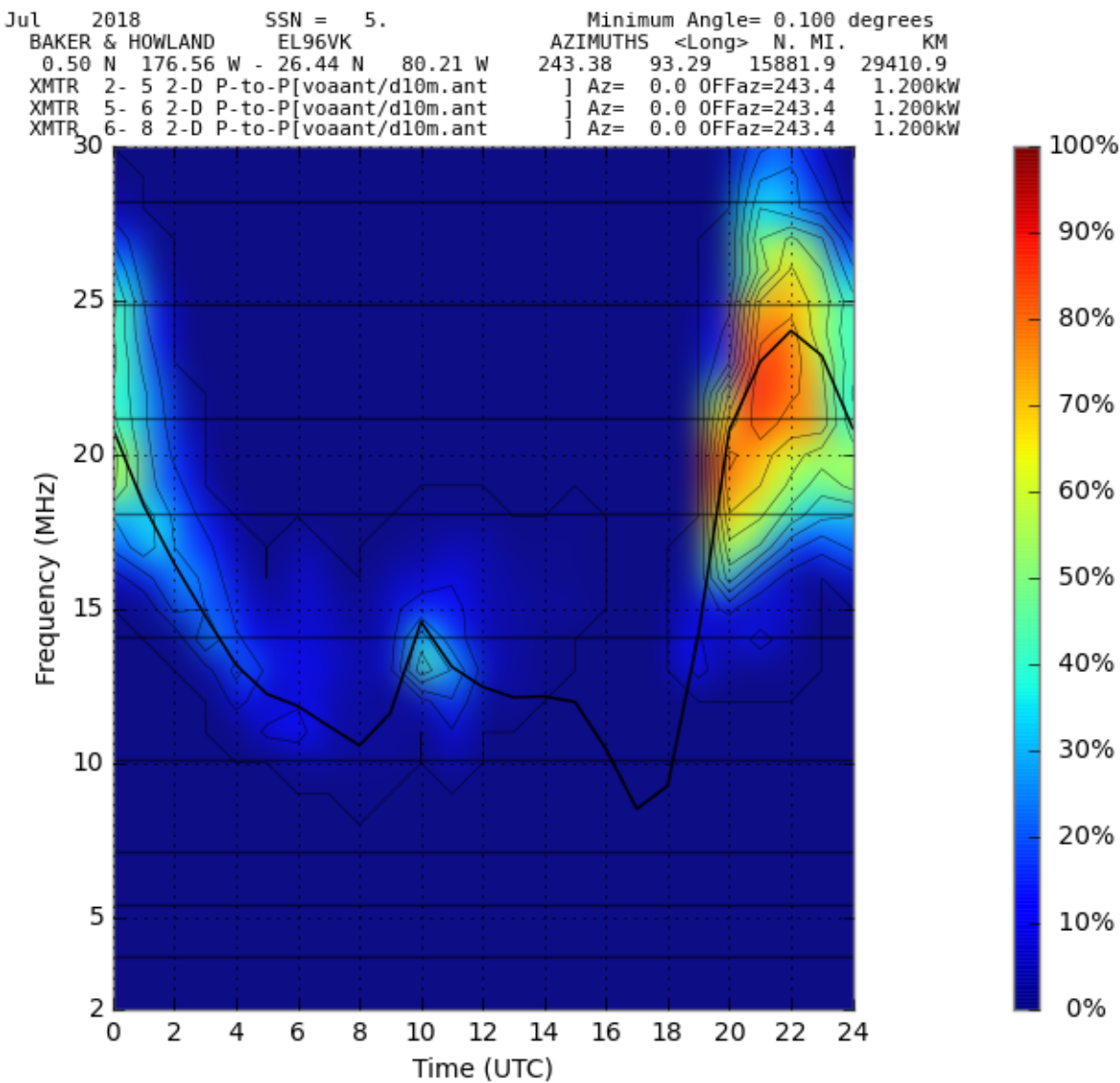


Signal Strength at Receiver (dBW)

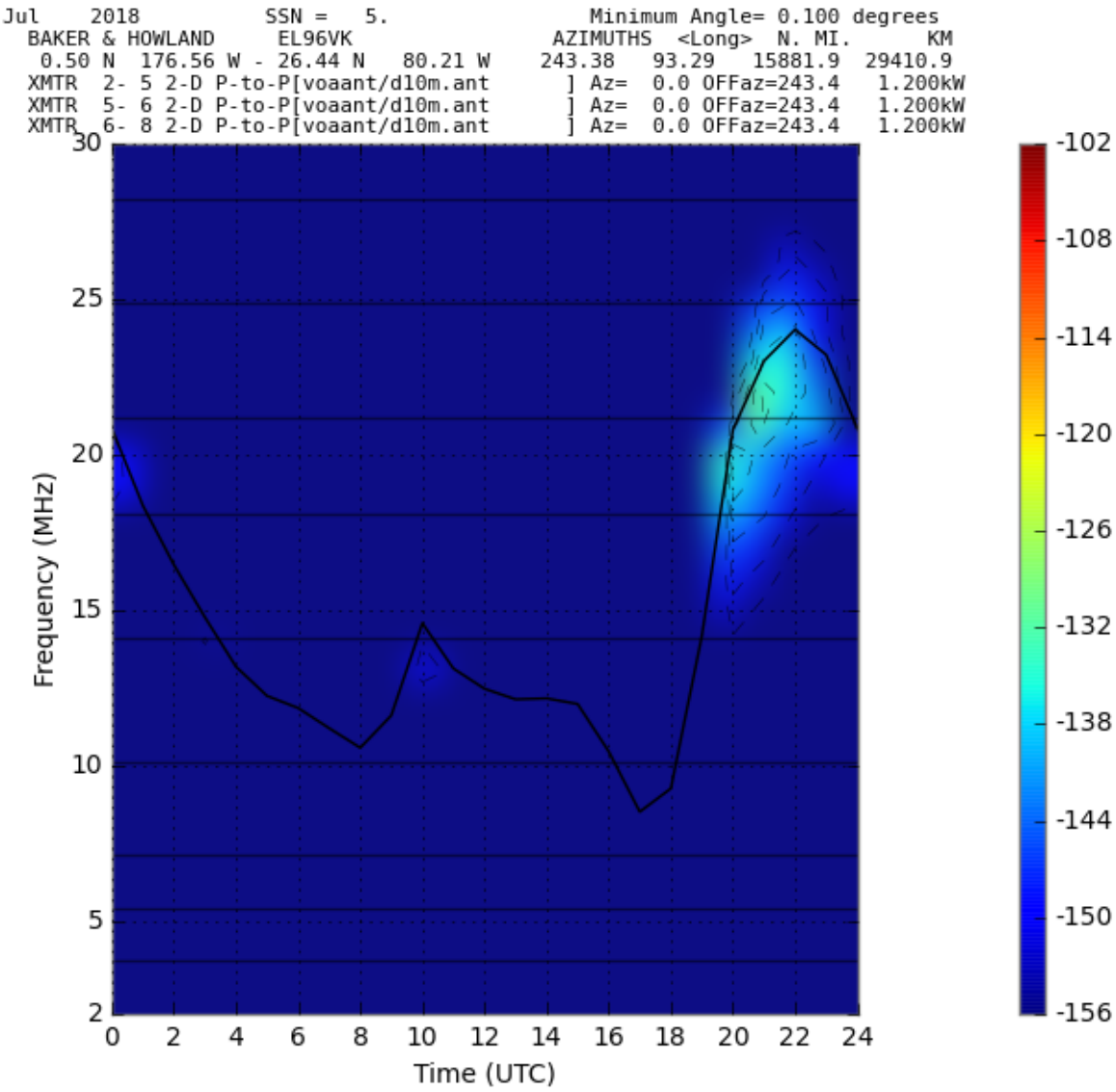


VOACAP Predictions for KH1/KH7Z – Long Path

Circuit Reliability (%)



Signal Strength at Receiver (dBW)



July 2018 Baker Island

Latitude, Longitude: 0 11.0' N, 176 28.0' W Time zone: +0:00 DST observance: None

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 Sunset: 5:54 Sunrise: 17:46	2 Sunset: 5:54 Sunrise: 17:46	3 Sunset: 5:54 Sunrise: 17:46	4 Sunset: 5:54 Sunrise: 17:46	5 Sunset: 5:54 Sunrise: 17:46	6 Sunset: 5:54 Sunrise: 17:47	7 Sunset: 5:55 Sunrise: 17:47
8 Sunset: 5:55 Sunrise: 17:47	9 Sunset: 5:55 Sunrise: 17:47	10 Sunset: 5:55 Sunrise: 17:47	11 Sunset: 5:55 Sunrise: 17:47	12 Sunset: 5:55 Sunrise: 17:48	13 Sunset: 5:55 Sunrise: 17:48	14 Sunset: 5:56 Sunrise: 17:48
15 Sunset: 5:56 Sunrise: 17:48	16 Sunset: 5:56 Sunrise: 17:48	17 Sunset: 5:56 Sunrise: 17:48	18 Sunset: 5:56 Sunrise: 17:48	19 Sunset: 5:56 Sunrise: 17:48	20 Sunset: 5:56 Sunrise: 17:48	21 Sunset: 5:56 Sunrise: 17:48
22 Sunset: 5:56 Sunrise: 17:48	23 Sunset: 5:56 Sunrise: 17:49	24 Sunset: 5:56 Sunrise: 17:49	25 Sunset: 5:56 Sunrise: 17:49	26 Sunset: 5:56 Sunrise: 17:49	27 Sunset: 5:56 Sunrise: 17:49	28 Sunset: 5:56 Sunrise: 17:49
29 Sunset: 5:56 Sunrise: 17:49	30 Sunset: 5:56 Sunrise: 17:49	31 Sunset: 5:56 Sunrise: 17:49				

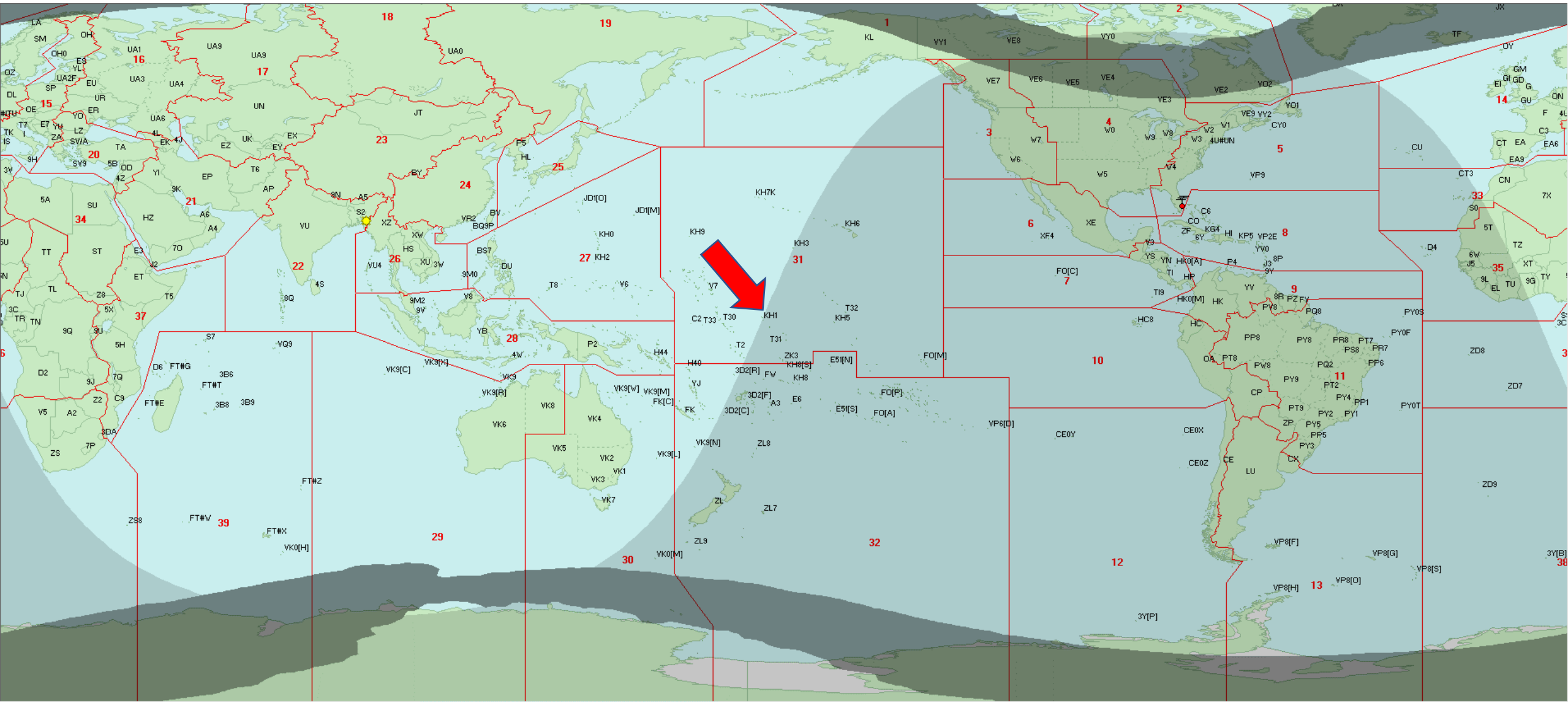
July 2018 Boca Raton, Florida, USA

Latitude, Longitude: 26 22.3' N, 80 06.4' W Time zone: +0:00 DST observance: None

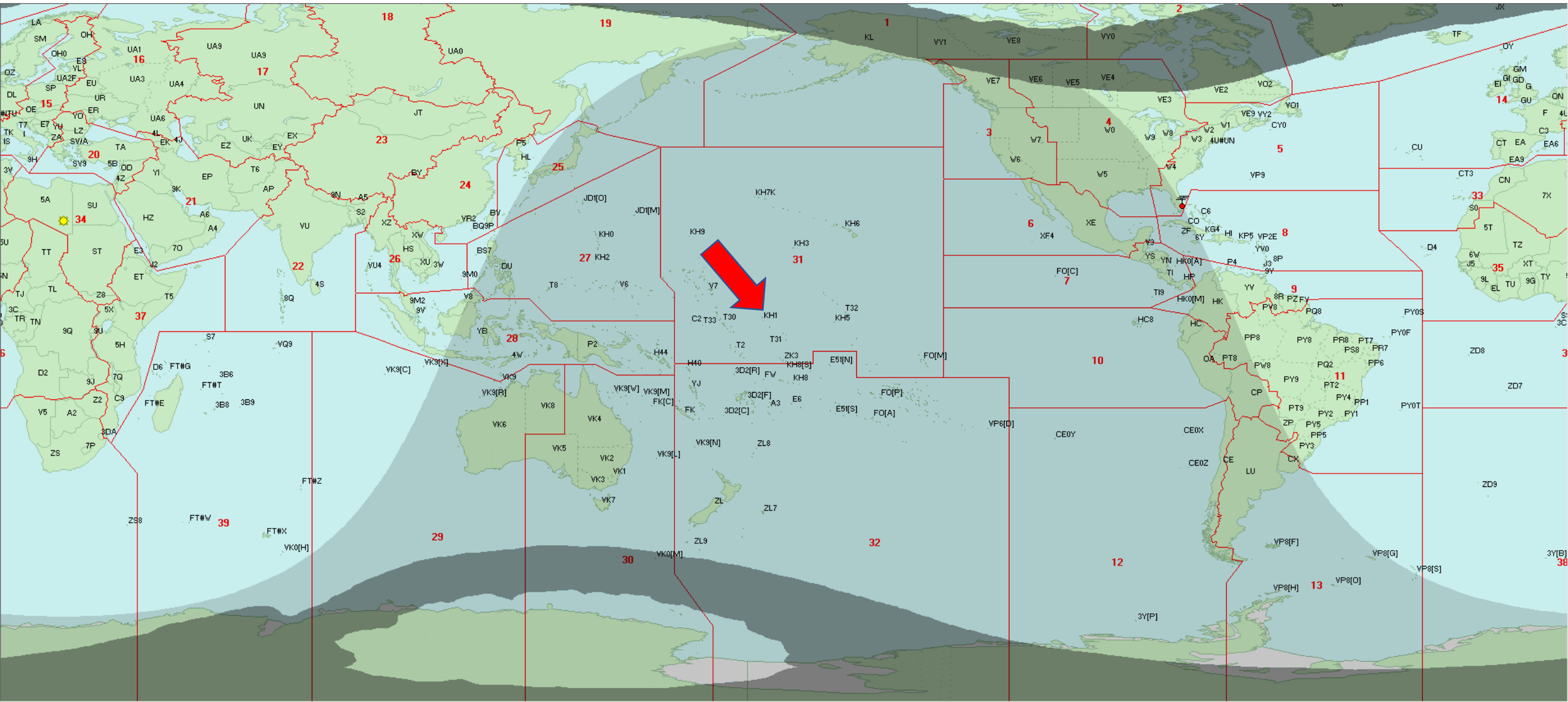
Common darkness: 0554z – 1032z

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 Sunset: 0:17 Sunrise: 10:31	2 Sunset: 0:17 Sunrise: 10:32	3 Sunset: 0:17 Sunrise: 10:32	4 Sunset: 0:17 Sunrise: 10:32	5 Sunset: 0:17 Sunrise: 10:33	6 Sunset: 0:17 Sunrise: 10:33	7 Sunset: 0:17 Sunrise: 10:33
8 Sunset: 0:17 Sunrise: 10:34	9 Sunset: 0:17 Sunrise: 10:34	10 Sunset: 0:17 Sunrise: 10:35	11 Sunset: 0:17 Sunrise: 10:35	12 Sunset: 0:16 Sunrise: 10:36	13 Sunset: 0:16 Sunrise: 10:36	14 Sunset: 0:16 Sunrise: 10:37
15 Sunset: 0:16 Sunrise: 10:37	16 Sunset: 0:15 Sunrise: 10:38	17 Sunset: 0:15 Sunrise: 10:38	18 Sunset: 0:15 Sunrise: 10:39	19 Sunset: 0:14 Sunrise: 10:39	20 Sunset: 0:14 Sunrise: 10:40	21 Sunset: 0:14 Sunrise: 10:40
22 Sunset: 0:13 Sunrise: 10:41	23 Sunset: 0:13 Sunrise: 10:41	24 Sunset: 0:12 Sunrise: 10:42	25 Sunset: 0:12 Sunrise: 10:42	26 Sunset: 0:11 Sunrise: 10:43	27 Sunset: 0:11 Sunrise: 10:43	28 Sunset: 0:10 Sunrise: 10:44
29 Sunset: 0:10 Sunrise: 10:44	30 Sunset: 0:09 Sunrise: 10:45	31 Sunset: 0:09 Sunrise: 10:45				

DX Atlas: SS on Baker Island on 4 July



DX Atlas: SR in Boca Raton on 4 July



Step 5: Last-minute “Details” (1)

- Ensure your station is operating at peak efficiency
 - No intermittent cables, no unidentified or unsolved noise problems, etc.
 - Low band operators often build special antennas for major DXpeditions
- Schedule time off from work, make sure the grandkids are on a long cruise, and in general clear your calendar
 - This entity will be active only for ~2 weeks, and then not for another 5-20 years . . . a long time to repent
- If the DXpedition is taking a boat to the entity, they likely will have a link to a GNSS (e.g., GPS) satellite phone locator on their web page
 - Pay attention to it: It provides frequent updates on their location
 - Gives you additional, early clues about their first airtime, problems encountered, etc.

Step 5: Last-minute “Details” (2)

- If the DXpedition is taking a boat to the entity, they likely will operate /mm from the boat on their way there, to “warm up”
 - This gives you a better idea of how the propagation to the area is, not just how it is predicted to be
 - Work them /mm if you can, even though it doesn’t count for DXCC
 - However, it will count for grid locators, ITU zones, and some other awards
 - Pileup usually will be much smaller and easier to break than later!
 - Introduces your call into the mind of the DX operator
 - For easier recall later out of the pile, perhaps?
 - Gets you used to the operational rhythm and habits of the different DX operators
 - You may also get tidbits of operational info that will be useful later
 - “Due to OTH radar QRM, we’ll have to move the 15m SSB frequency to 21.385, I think,” for example

Step 6: On-the-air Tactics (1)

- After tent & generator setup, most major DXpeditions start all bands at once on the first day
- If operating from a “big gun” station, I try to monitor the announced SSB frequency on the band I think is most likely to be open at the time they are scheduled to start (to maximize my signal there), while using the Reverse Beacon Network (<http://reversebeacon.net>) to check for activity on CW and RTTY
- Have rig, amp, beam, etc. warmed and ready for instant use
- The goal is to work ‘em as quickly as possible, in case weather or other acts of God take them off the air earlier than scheduled
- The usual pileup techniques apply; beware of very large splits
- **NEVER, EVER, TRANSMIT ON THE DX FREQUENCY, FOR ANY REASON**

Step 6: On-the-air Tactics (2)

- Unless one has really unique propagation (or a lot of luck) it's difficult for a "little pistol" station to work a major DXpedition the first few days. But there aren't that many big gun stations; by the second week the little pistols will have a much better chance
- If operating from a "little pistol" station, I try to study the habits of the DX operators the first few days, then act on the information later
 - On which bands & modes do I hear them best? What time do they start there? When do they call CQ NA? Is there a band where I have a propagation advantage?
 - What band is the op on just before he moves to the band I want? If I monitor the previous band and he disappears, maybe I can be the first to get him on the new band, before the pileup starts . . .
 - On a given band, do they do SSB and CW on alternate days? Do they do 80m/160m on alternate days? What band(s) are they on digital modes?

Step 6: On-the-air Tactics (3)

- Look for pileup-reducing opportunities
 - Operate during the week, not the weekends
 - Operate between 2 and 4 AM, if the band you need is open then
 - Corollary: If your pileup competition is EU, wait until it's 3 AM there
 - Operate when only NA (or even just the East Coast) has propagation to the DX
 - Is there another DXpedition starting or finishing while the major DXpedition is active? That will reduce the pile as some of your competition will be off chasing the other DXpedition
 - Is there a significant contest scheduled during the major DXpedition? Most major DXpeditions will avoid contests by moving to the 30, 17, and/or 12m bands, or changing modes. That will reduce the pile as some of your competition will enter the contest – or not have WARC-79 band antennas, or can't do the new mode

Step 6: On-the-air Tactics (4)

- The WWW is your friend
 - DXWatch (<https://dxwatch.com/>) and DXSummit (<http://www.dxsummit.fi/>) are the most popular DX spotting web sites
 - But your logging program can telnet into the spotting network with less latency, so you see new spots before the others – a big advantage – and the program can probably check the reverse beacon network (<http://reversebeacon.net>) simultaneously
 - Your logging program can also be programmed for audible alarms, should the major DXpedition be spotted on a needed band or mode
 - Chat rooms can be invaluable
 - The rooms sponsored by ON4KST (<http://www.on4kst.org/chat/start.php>), especially the low band chat room – which gets informally expanded to higher bands for major DXpeditions – are a must-use. Sometimes, especially on 160m, the DX op himself will check in
 - There is a local Skype text chat group, Florida_DXers, for, unsurprisingly, Florida DXers. Contact Norm, W4QN, to get added to the list

Step 6: On-the-air Tactics (5)

- Don't forget your pilot station
 - Use it to report unexpected propagation openings (i.e., those not on the DXpedition web site) to your area – hearing KH1 on 10m, for example – or if skew propagation (propagation from a direction other than short or long path) appears
 - Note that the major DXpedition will preferentially work those at a propagation disadvantage, when propagation is present (EU for KH1, for example). Don't complain to the pilot station about this – you'll get your chance soon enough (after the band closes to EU)
- Online and real-time logging
 - Most major DXpeditions will upload their logs daily to Clublog (<https://clublog.org>)
 - Excellent – but not perfect – way to ensure you're “in the log”; if not, work them again
 - Real-time logging via DXA (<http://www.dxa3.org/>) becoming more popular
 - Presently limited by cost and data rate of satellite communication systems

Good Luck!