

A dramatic sunset over a dark sea with icebergs silhouetted against the horizon. The sky is filled with horizontal bands of orange, red, and purple, transitioning from a bright yellow glow at the horizon to a deep, dark purple at the top. The water is dark and textured with small waves. Several icebergs of various shapes and sizes are visible as dark silhouettes against the bright horizon line.

**DXing**

**The Ultimate Contact Sport**

John Miller, K6MM

March 8, 2021

# Definitions

- **DX** **D** = Distance; **X** = Unknown
  - Origination: telegraphic shorthand for "distance" or "distant"
- **DXer** - one who likes **DXing**
- **DXing**
  - making 2-way contacts with a distant station – usually country or an **entity** outside of your home country
- **DXCC = DX Century Club**
  - considered to be the premier DX operating award in amateur radio
  - created in 1935 by ARRL

# Types of **DX Activity**

- Foreign operators **living** in their native country
  - Japan, Mexico, Spain, China, South Africa, Australia
- American operators **living** in countries outside of the contiguous 48 states
  - Americans living abroad – long-term work assignments
  - Military personnel on military base somewhere
- American operators **visiting** in foreign countries
  - Vacationers
  - Temporary work assignments
- Organized **DXpedition** trip to a foreign **entity**

Afghanistan	Cocos I.	Iceland	Myanmar	Somalia
Agalega & St. Brandon Is.	Colombia	India	Namibia	South Africa
Aland Is.	Comoros	Indonesia	Nauru	South Cook Is.
Alaska	Conway Reef	Iran	Navassa I.	South Georgia I.
Albania	Corsica	Iraq	Nepal	South Orkney Is.
Algeria	Costa Rica	Ireland	Netherlands	South Sandwich Is.
American Samoa	Cote d'Ivoire	Isle of Man	New Caledonia	South Shetland Is.
Amsterdam & St. Paul Is.	Crete	Israel	New Zealand	South Sudan
Andaman & Nicobar Is.	Croatia	Italy	New Zealand Sl	Sov Mil Order of Malta
Andorra	Crozet I.	ITU HQ	Nicaragua	Spain
Angola	Cuba	Jamaica	Niger	Spratlly Is.
Anguilla	Curacao	Jan Mayen	Nigeria	Sri Lanka
Annobon I.	Cyprus	Japan	Niue	St. Helena
Antarctica	Czech Republic	Jersey	Norfolk I.	St. Kitts & Nevis
Antigua & Barbuda	DPR of Korea	Johnston I.	North Cook Is.	St. Lucia
Argentina	DPR of the Congo	Jordan	North Macedonia	St. Paul I.
Armenia	Denmark	Juan de Nova, Europa	Northern Ireland	St. Peter & St. Paul Rocks
Aruba	Desecheo I.	Juan Fernandez Is.	Norway	St. Pierre & Miquelon
Ascension I.	Djibouti	Kaliningrad	Ogasawara	St. Vincent
Asiatic Russia	Dodecanese	Kazakhstan	Oman	Sudan
Austral I.	Dominica	Kenya	Pakistan	Suriname
Australia	Dominican Republic	Kerguelen Is.	Palau	Svalbard
Austria	Ducie I.	Kermadec Is.	Palestine	Swains I.
Aves I.	E. Kiribati (Line Is.)	Kingdom of Eswatini	Palmyra & Jarvis Is.	Sweden
Azerbaijan	East Malaysia	Kure I.	Panama	Switzerland
Azores	Easter I.	Kuwait	Papua New Guinea	Syria
Bahamas	Ecuador	Kyrgyzstan	Paraguay	Taiwan
Bahrain	Egypt	Lakshadweep Is.	Peru	Tajikistan
Baker & Howland Is.	El Salvador	Laos	Peter 1 I.	Tanzania
Balearic Is.	England	Latvia	Philippines	Temotu Province
Banaba I. (Ocean I.)	Equatorial Guinea	Lebanon	Pitcairn I.	Thailand
Bangladesh	Eritrea	Lesotho	Poland	The Gambia
Barbados	Estonia	Liberia	Portugal	Timor-Leste
Belarus	Ethiopia	Libya	Pratas I.	Togo
Belgium	European Russia	Liechtenstein	Prince Edward & Marion Is.	Tokelau Is.
Belize	Falkland Is.	Lithuania	Puerto Rico	Tonga
Benin	Faroe Is.	Lord Howe I.	Qatar	Trindade & Martim Vaz Is.
Bermuda	Federal Republic of Germa	Luxembourg	Republic of Korea	Trinidad & Tobago
Bhutan	Fernando de Noronha	Macao	Republic of Kosovo	Tristan da Cunha & Gough I.
Bolivia	Fiji	Macquarie I.	Republic of the Congo	Tromelin I.
Bonaire	Finland	Madagascar	Reunion I.	Tunisia
Bosnia-Herzegovina	France	Madeira Is.	Revillagigedo	Turkey
Botswana	Franz Josef Land	Malawi	Rodrigues I.	Turkmenistan
Bouvet	French Guiana	Maldives	Romania	Turks & Caicos Is.
Brazil	French Polynesia	Mali	Rotuma I.	Tuvalu
British Virgin Is.	Gabon	Malpelo I.	Rwanda	Uganda
Brunei Darussalam	Galapagos Is.	Malta	Saba & St. Eustatius	UK Sovereign Base Cyprus
Bulgaria	Georgia	Mariana Is.	Sable I.	Ukraine
Burkina Faso	Ghana	Market Reef	Saint Barthelemy	United Arab Emirates
Burundi	Gibraltar	Marquesas Is.	Saint Martin	United Nations HQ
C. Kiribati	Glorioso Is.	Marshall Is.	Samoa	United States of America
Cambodia	Greece	Martinique	San Andres & Providencia	Uruguay
Cameroon	Greenland	Mauritania	San Felix & San Ambrosio	Uzbekistan
Canada	Grenada	Mauritius	San Marino	Vanuatu
Canary Is.	Guadeloupe	Mayotte	Sao Tome & Principe	Vatican
Cape Verde	Guam	Mellish Reef	Sardinia	Venezuela
Cayman Is.	Guantanamo Bay	Mexico	Saudi Arabia	Viet Nam
Central Africa	Guatemala	Micronesia	Scarborough Reef	Virgin Is.
Ceuta & Melilla	Guernsey	Midway I.	Scotland	W. Kiribati (Gilbert Is. )
Chad	Guinea	Minami Torishima	Senegal	Wake I.
Chagos Is.	Guinea-Bissau	Moldova	Serbia	Wales
Chatham Is.	Guyana	Monaco	Seychelles	Wallis & Futuna Is.
Chesterfield Is.	Haiti	Mongolia	Sierra Leone	West Malaysia
Chile	Hawaii	Montenegro	Singapore	Western Sahara
China	Heard I.	Montserrat	Sint Maarten	Willis I.
Christmas I.	Honduras	Morocco	Slovak Republic	Yemen
Clipperton I.	Hong Kong	Mount Athos	Slovenia	Zambia
Cocos (Keeling) Is.	Hungary	Mozambique	Solomon Is.	Zimbabwe

# What is a DX Entity?

- **Entities** are “discrete geographical or political” areas
- Can be:
  - Country
  - Island or Atoll
  - Territory
- There are currently **340** separate entities as defined by ARRL
- Lots of Islands (note “I” or “IS”)
- A Rare DX entity – remote, uninhabited, little or no ham radio activity
- DXpeditions to the rescue !



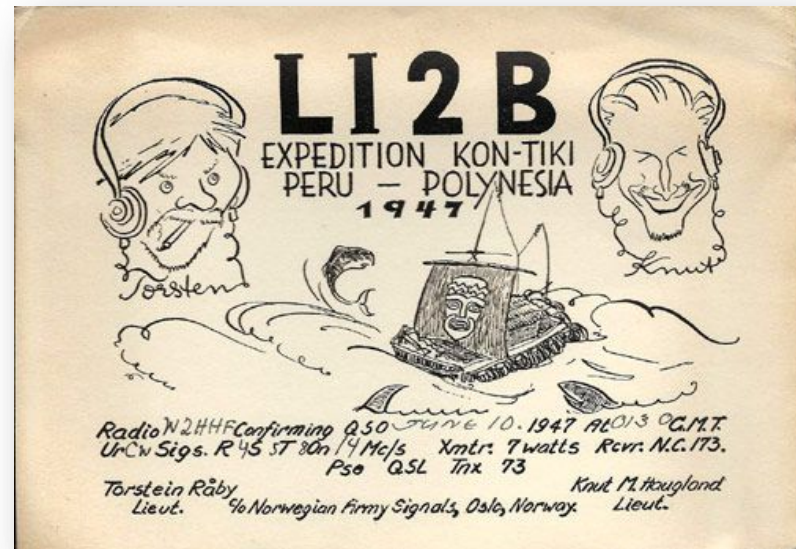
DXCC Country List  
340 Entities

# What Is A **DX**pedition?

- Long-Distance trip organized by amateur radio operators to a DXCC entity – usually an **Exotic Place**.
- **Place** is typically an island, a country, or specific geographical grid
- **Exotic** because of its remoteness or because there are very few radio amateurs active from that place
- Why do we bother?
  - 1) **Challenge** of operating a station in a remote and often inhospitable region.
  - 2) **Joy** of helping other operators who need to log a rare contact to achieve an award.
  - 3) It's **FUN** !!
- First Organized DXpedition - 1947 - **Thor Heyerdahl's *Kon-Tiki*** expedition to Polynesia from Peru.

# Thor Heyerdahl **DX**pedition - 1947

- LI2B was the amateur radio (ham radio) call-sign of the Kon-Tiki raft expedition (1947).
- Heyerdahl tried to prove that it was possible for people from South America to have crossed the Pacific from east to west and thereby to settle the Polynesian islands.
- Heyerdahl was accompanied by five crew members
- Throughout the 101-day voyage, the expedition members collected meteorological and oceanographic data and sent them to the United States via widely-spread ham radio stations.



# Since 1947, Many DXpeditions Have Visited Rare & Remote Places



Iraq



Sint Maarten



Yemen



Wake Atoll



Conway Reef



Glorioso Is



Baker Island



Amsterdam Is



Myanmar



Mount Athos



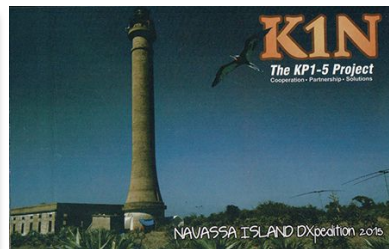
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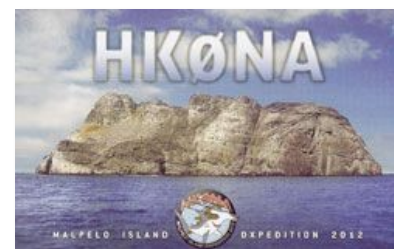
Scarborough Reef



Bangladesh



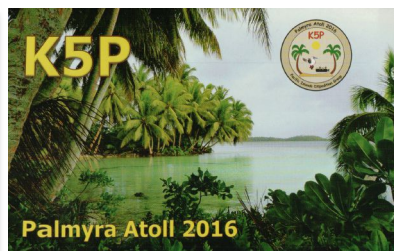
Navassa Is



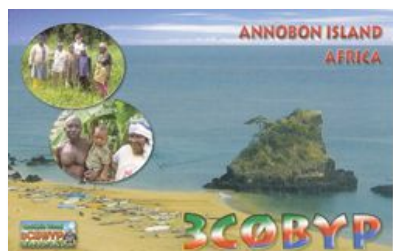
Malpelo Is



Spratly Is



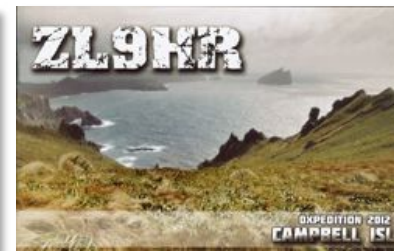
Palmyra Atoll



Annobon Is



Mozambique



Campbell Is



# **DXpedition Types and Costs**

How Much Did That Contact Really Cost?



# Types of DXpeditions

## **\$ - Visit a resident ham somewhere in the world**

- Be happy, no worries

## **\$\$ - Holiday DXpedition (e.g. Caribbean)**

- 5-7 days; combination of operating & sightseeing

## **\$\$\$ - Fly-in**

- Airline served, hotels, power
- Worry about excess baggage

## **\$\$\$\$\$\$\$\$ - Semi-Remote Places**

- Likely need a ship or chartered plane
- Worry about amplifiers sinking in the deep ocean

## **\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$ - The Super Rare—Top 10**

- Might need an icebreaker or helicopter or both
- Worry about safety

CQ CQ CQ ...



From time-to-time we just want to test our skills away from home.....

# Low-Stress Holiday DXpedition To Antigua



Anna, **W6NN**= VP2EAR  
Rich, **KE1B** = VP2EAQ



# Operating Abroad: CEPT and IARP

<http://www.arrl.org/us-amateurs-operating-overseas>

**CEPT** = European Conference of Postal and Telecommunication Administrations

**IARP** = International Amateur Radio Permit

US Amateurs traveling abroad should always verify the specific operating privileges and frequencies they may use in each country from which they will operate before traveling, as privileges in many cases may be different from their US authorized privileges. When operating abroad, you must identify your transmissions by giving the foreign call district in which you are traveling followed by your US call (e.g. "This is I2/NT6V"). <http://www.arrl.org/us-amateurs-operating-overseas>

- **Countries that share a Reciprocal Operating Agreement with the United States:** Antigua/Barbuda, Argentina, Australia, Austria, Bahamas, Barbados, Belgium, Belize, Bolivia, Bosnia-Herzegovina, Botswana, Brazil, Canada, Chile, Colombia, Costa Rica, Croatia, Cyprus, Denmark (including Greenland), Dominican Republic, Dominica, Ecuador, El Salvador, Federated States of Micronesia, Fiji, Finland, France, Germany, Greece, Grenada, Guatemala, Guyana, Haiti, Honduras, Iceland, India, Indonesia, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kenya, Kiribati, Kuwait, Liberia, Luxembourg, Macedonia, Marshall Islands, Mexico, Monaco, Netherlands, Netherlands Antilles, New Zealand, Nicaragua, Norway, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Portugal, St. Lucia, St. Vincent and the Grenadines, Seychelles, Sierra Leone, Solomon Island, South Africa, Spain, Suriname, Sweden, Switzerland, Thailand, Trinidad and Tobago, Turkey, Tuvalu, United Kingdom, Uruguay and Venezuela
- **Countries participating in CEPT Recommendation T/R 61-01:** Albania, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, and the United Kingdom
- **ECC Recommendation (05)06 allows US General Class licensees to operate under the CEPT Novice Radio Amateur License in the countries listed below. Qualified US General class operators must carry a copy of the FCC CEPT Public Notice DA 16-1048 (dated September 16, 2016), your US passport, and your official FCC-issued license (not a reference copy). CEPT countries participating in ECC Recommendation (05)06:** Austria, Belarus, Belgium, Bosnia-Herzegovina, Croatia, Czech Republic, Denmark, Finland, Germany, Hungary, Iceland, Latvia, Liechtenstein, Lithuania, Luxembourg, Moldova, Netherlands, Poland, Portugal, Romania, Russian Federation, Slovak Republic, Slovenia, and Switzerland.
- **International Amateur Radio Permit (IARP) allows US Amateurs traveling to certain Central or South American countries (listed below) to operate if they hold an IARP permit, which in the US may be obtained through the ARRL VEC. Countries that participate with the United States:** Argentina, Bolivia, Brazil, Canada, Chile, El Salvador, Guatemala, Haiti, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay and Venezuela

# Budget Considerations

## **Fly-In**

- Mostly Commercial transportation
- Licensing can be as much as 50% of the cost of the operation
- Shipping to some destinations can be significant due to import duties or unreliable shipping routes
- Travel and planning times short compared to other two levels of operations

## **Semi-Remote**

- Often need to charter private ship/plane
- Licensing could require lengthy approval processes from authorities
- Travel and planning are at times significant
- Average travel time to and from these locations average 8 days
- Operations can take a year or more of planning and fund raising

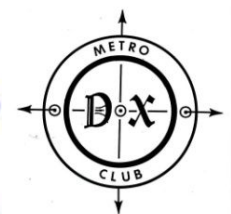
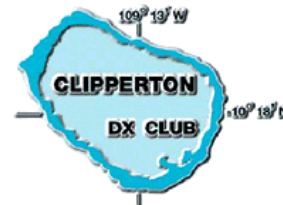
## **Super-Rare**

- HD Shelters and generators
- Licensing long and tedious process
- Shipping and loading involves dealing with ports with astronomical charges
- Travel times mean a commitment of team members in excess of a month
- In addition to large financial commitments to team, foul weather gear and airfare to departure points can add thousands in personal costs

# Comparing Averages

	Fly-in	Semi Remote	Super Rare	Overall Average	
<b>Budget</b>	\$46K	\$145K	\$374K		
<b>Cost/Q</b>	0.86	\$1.59	\$4.06		
<b>Team %</b>	65%	53%	48%	55%	Team
<b>Foundations/Clubs %</b>	18%	19%	23%	20%	Clubs
<b>Individuals %</b>	17%	28%	29%	25%	Individuals
<b>Plane/Ship</b>	-	\$86K	\$296K		
<b>Cost per unique</b>	\$2.34	\$5.94	\$14.74		
<b>Contrib/unique</b>	\$0.40	\$1.64	\$3.85		
<b>% EU QSO</b>	52%	33%	43%		
<b>% NA QSO</b>	19%	41%	37%		
<b>% AS QSO</b>	25%	21%	15%		
<b>% Direct QSL</b>	15%	25%	33%		
<b>Op Days</b>	18	13	13		
<b>Travel Days</b>	5	8	20	Total = 100%	

# Funding Sources: Foundations & Clubs





# How Are DXpedition "Targets" Chosen?

## The "Most Wanted" DXCC Entities

1.	P5	DPRK (NORTH KOREA)
2.	3Y/B	BOUVET ISLAND
3.	FT5/W	CROZET ISLAND
4.	BS7H	SCARBOROUGH REEF
5.	CE0X	SAN FELIX ISLANDS
6.	BV9P	PRATAS ISLAND
7.	KH7K	KURE ISLAND
8.	KH3	JOHNSTON ISLAND
9.	3Y/P	PETER 1 ISLAND
10.	FT5/X	KERGUELEN ISLAND
11.	FT/G	GLORIOSO ISLAND
12.	VK0M	MACQUARIE ISLAND
13.	YV0	AVES ISLAND
14.	KH4	MIDWAY ISLAND
15.	ZS8	PRINCE EDWARD & MARION ISLANDS
16.	PY0S	SAINT PETER AND PAUL ROCKS
17.	PY0T	TRINDADE & MARTIM VAZ ISLANDS
18.	KP5	DESECHEO ISLAND
19.	SV/A	MOUNT ATHOS
20.	VP8S	SOUTH SANDWICH ISLANDS
21.	KH5	PALMYRA & JARVIS ISLANDS
22.	ZL9	NEW ZEALAND SUBANTARCTIC ISLANDS
23.	JD/M	MINAMI TORISHIMA
24.	EZ	TURKMENISTAN
25.	YK	SYRIA

**Top 50 Most  
Wanted Entities  
For  
World Wide**

26.	FK/C	CHESTERFIELD IS.
27.	VK0H	HEARD ISLAND
28.	FT/T	TROMELIN ISLAND
29.	ZL8	KERMADEC ISLAND
30.	KH1	BAKER HOWLAND ISLANDS
31.	KH8/S	SWAINS ISLAND
32.	XF4	REVILLAGIGEDO
33.	VP8G	SOUTH GEORGIA ISLAND
34.	KH9	WAKE ISLAND
35.	T33	BANABA ISLAND
36.	VK9M	MELLISH REEF
37.	T31	CENTRAL KIRIBATI
38.	VK9W	WILLIS ISLAND
39.	3D2/C	CONWAY REEF
40.	FO/C	CLIPPERTON ISLAND
41.	FT/J	JUAN DE NOVA, EUROPA
42.	TI9	COCOS ISLAND
43.	HK0/M	MALPELO ISLAND
44.	KP1	NAVASSA ISLAND
45.	VP8O	SOUTH ORKNEY ISLANDS
46.	7O	YEMEN
47.	FT5Z	AMSTERDAM & ST PAUL ISLANDS
48.	ZD9	TRISTAN DA CUNHA & GOUGH ISLANDS
49.	H40	TEMOTU PROVINCE
50.	VU4	ANDAMAN & NICOBAR ISLANDS





# German DX Foundation - GDXF Most Wanted DXCC Entities

Home > Index German : English > Most Wanted DXCC Entities

## Most Wanted DXCC Entities from Germany (Central Europe)

This list represents the Most Wanted DXCC Entities from Germany (Central Europe) in a timeline since 2003.

The rankings are based on the results of the Annual DARC DXCC Scoreboard.

From 2020, the ranking of the most wanted entities will be determined differently. It is no longer based on a simple yes / no evaluation but is now determined on a band-related basis 160 m though 6 m. Compared to previous years, this results in a possibly slightly different but more precise ranking and percentages and, above all, better reflects the needs of the younger DXers among us.

Select Year 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003

Select Category Mixed | CW | Phone | Digital

Show Top ● 10 ● 25 ● 50 ● 100 ● 150 ● all

Select DXCC Entity

Click on a prefix to show a particular entity.

### Most Wanted Ranking 2020

Mixed				Ranks																	
#	Prefix	DXCC Entity	needed by	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003
1	P5	DPRK (North Korea)	95.0%	1	1	1	1	2	1	4	2	3	3	5	4	3	7	9	9	13	13
2	KH7K	Kure Island	92.0%	2	5	5	4	4	8	9	9	10	10	17	12	16	11	11	2	1	1
3	3Y-B	Bouvet Island	90.6%	3	2	2	3	1	3	2	3	5	5	6	5	5	4	4	8	10	12
4	FT-W	Crozet Island	89.8%	4	3	3	4	4	6	6	7	8	9	16	12	9	10	22	16	12	15
5	KH3	Johnston Island	89.5%	5	3	3	2	3	3	5	5	5	5	11	7	10	15	23	23	25	26
6	VK0M	Macquarie Island	87.2%	6	9	6	7	7	13	14	15	18	10	13	15	21	23	43	30	36	44
7	KH5	Palmyra & Jarvis Islands	87.1%	7	6	6	8	8	2	2	3	4	3	8	5	8	6	16	11	15	22
8	BS7	Scarborough Reef	86.3%	8	7	8	10	10	15	17	21	24	40	52	49	56	44	2	1	2	2
9	KH4	Midway Island	84.5%	9	11	13	15	13	18	18	25	28	36	48	15	10	14	12	13	14	24
10	T31	Central Kiribati	81.2%	10	14	11	12	9	14	14	15	18	19	6	7	10	11	28	22	26	31
11	JD1-M	Minami Torishima	80.5%	11	18	22	27	26	21	22	25	26	29	35	24	16	21	19	26	28	30
12	3Y-P	Peter 1 Island	80.1%	12	10	10	10	10	15	19	24	28	29	42	45	48	52	32	3	3	3
13	CE0X	San Felix Islands	79.8%	13	7	9	9	10	15	16	19	22	29	28	37	43	51	47	55	59	53
14	KH1	Baker Howland Islands	78.8%	14	25	22	6	6	10	12	10	11	13	20	21	29	33	42	45	52	54
15	ZS8	Prince Edward & Marion Islands	78.4%	15	18	17	17	17	22	25	19	16	16	13	10	16	8	18	21	19	19
16	ZK3	Tokelau Islands	77.4%	16	20	20	19	23	36	30	35	30	43	50	24	25	22	17	24	24	23
17	KH8-S	Swains Island	77.4%	17	31	31	27	26	40	47	56	48	23	37	37	40	41	1	-	-	-
18	T33	Banaba Island	76.6%	18	24	22	19	23	22	27	22	20	25	33	37	46	38	36	49	45	16
19	KH9	Wake Island	76.3%	19	11	15	15	16	25	20	15	2	2	3	3	2	5	15	12	11	8
20	XF4	Revoligagedo	75.8%	20	13	13	14	15	22	22	30	34	47	27	27	29	34	35	14	18	18
21	ZL9	New Zealand Subantarctic Islands	74.2%	21	35	34	30	32	40	43	42	26	19	28	32	29	34	46	39	47	49
22	E5-N	North Cook Islands	73.9%	22	31	33	36	34	36	40	51	57	29	33	34	43	52	59	43	44	47
23	FT-G	Glorioso Island	73.2%	23	20	25	23	17	26	33	45	53	65	68	37	5	9	21	14	22	27
24	BV9P	Pratas Island	72.9%	24	14	12	12	13	19	20	25	30	43	52	49	64	57	71	79	80	81
25	YV0	Aves Island	72.5%	25	25	25	25	26	32	27	35	42	55	63	58	67	76	40	33	31	9

# DXpedition "Targets" The "Most Wanted" DXCC Entities For Central Europe



1.	P5	DPRK (NORTH KOREA)
2.	3Y/B	BOUVET ISLAND
3.	FT5/W	CROZET ISLAND
4.	BS7H	SCARBOROUGH REEF
5.	CE0X	SAN FELIX ISLANDS
6.	BV9P	PRATAS ISLAND
7.	KH7K	KURE ISLAND
8.	KH3	JOHNSTON ISLAND
9.	3Y/P	PETER 1 ISLAND
10.	FT5/X	KERGUELEN ISLAND
11.	FT/G	GLORIOSO ISLAND
12.	VK0M	MACQUARIE ISLAND
13.	YV0	AVES ISLAND
14.	KH4	MIDWAY ISLAND
15.	ZS8	PRINCE EDWARD & MARION ISLANDS
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21.	KH5	PALMYRA & JARVIS ISLANDS
22.	ZL9	NEW ZEALAND SUBANTARCTIC ISLANDS
23.	JD/M	MINAMI TORISHIMA
24.	EZ	TURKMENISTAN
25.	YK	SYRIA

# Challenge: Getting Past

## Can't Go There

- Physically remote (i.e. hard to get there)
- Politically remote (e.g. North Korea)
- Environmentally remote (e.g., national wildlife refuge)

## Too Expensive

- Financially remote (e.g., high cost of commercial icebreaker ship or helicopter)

## Complex Logistics

- Operationally remote (i.e., too dangerous)

## Bad Timing

- No resources available to evaluate/approve request
- No support person available to travel with you

# Since 1947, Many DXpeditions Have Visited Rare & Remote Places



Iraq



Sint Maarten



Yemen



Wake Atoll



Conway Reef



Glorioso Is



Baker Island



Amsterdam Is



Myanmar



Mount Athos



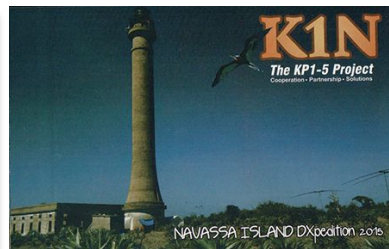
Bouvet Is



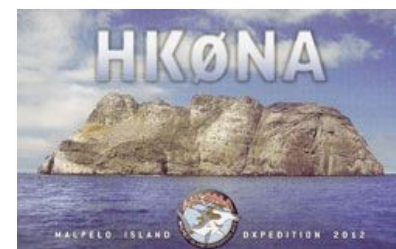
Scarborough Reef



Bangladesh



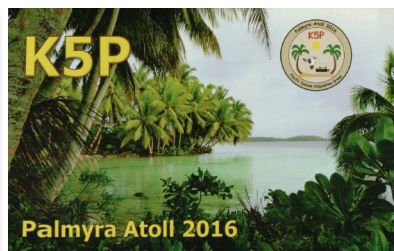
Navassa Is



Malpelo Is



Spratly Is



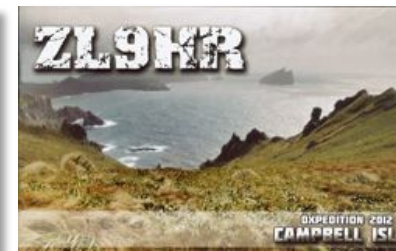
Palmyra Atoll



Annobon Is



Mozambique



Campbell Is

**Wake Atoll**  
**Highly Secure Military Base**

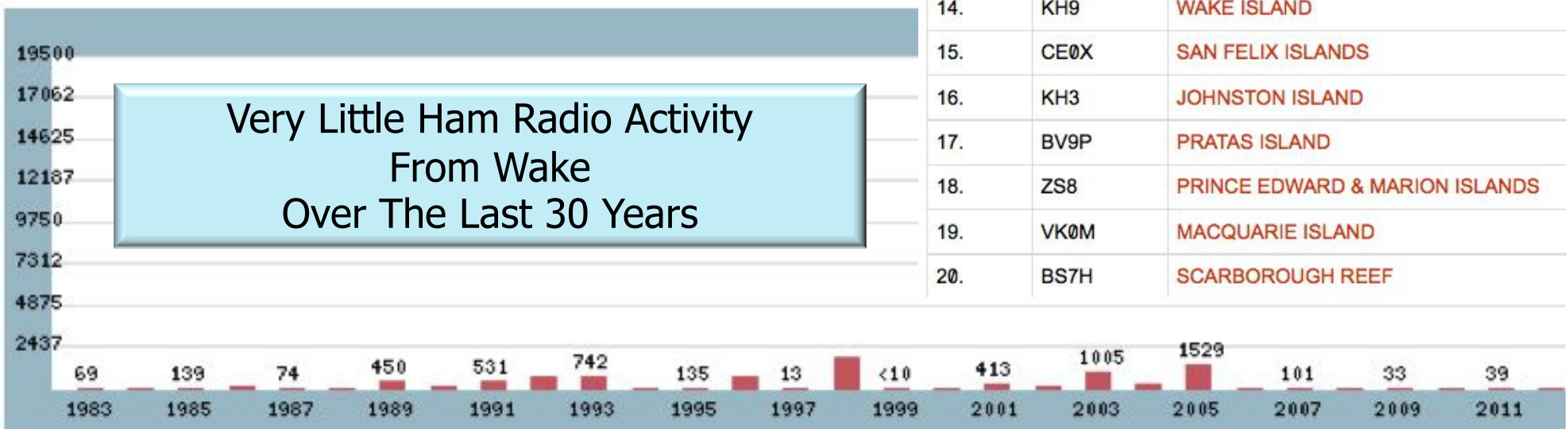


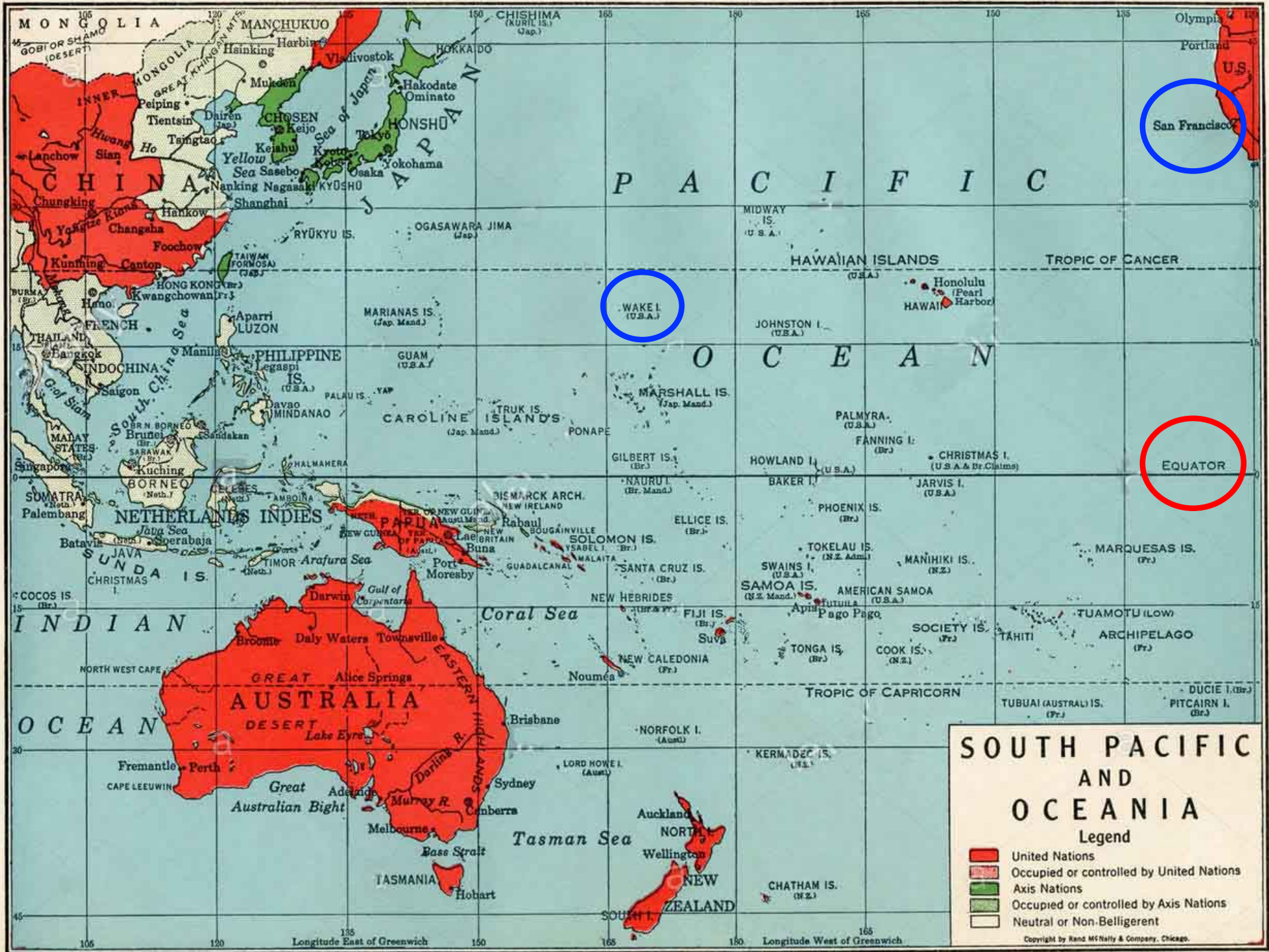
# Wake Atoll: Among The Most Wanted DXCC Entities

In 2013, Wake Atoll

- **Worldwide** Ranked #14 out of 340 entities

Rank	Prefix	Entity Name
1.	KP1	NAVASSA ISLAND
2.	P5	DPRK (NORTH KOREA)
3.	3Y/B	BOUVET ISLAND
4.	VP8S	SOUTH SANDWICH ISLANDS
5.	FT5W	CROZET ISLAND
6.	FT5Z	AMSTERDAM & ST PAUL ISLANDS
7.	VK0H	HEARD ISLAND
8.	KH5K	KINGMAN REEF
9.	FR/T	TROMELIN ISLAND
10.	FR/J	JUAN DE NOVA, EUROPA
11.	KH5	PALMYRA & JARVIS ISLANDS
12.	VP8G	SOUTH GEORGIA ISLAND
13.	KH1	BAKER HOWLAND ISLANDS
14.	KH9	WAKE ISLAND
15.	CE0X	SAN FELIX ISLANDS
16.	KH3	JOHNSTON ISLAND
17.	BV9P	PRATAS ISLAND
18.	ZS8	PRINCE EDWARD & MARION ISLANDS
19.	VK0M	MACQUARIE ISLAND
20.	BS7H	SCARBOROUGH REEF





San Francisco

WAKE I.  
(U.S.A.)

EQUATOR

# Wake Atoll



## Wake Atoll – Quick Facts

- Wishbone-shaped **Atoll** comprising three coral islands (**Peale, Wake and Wilkes**)
- Annexed by US 1899
- Built on underwater volcano
- Surface is disintegrated coral with boulders, trees, shrubs
- Beaches are white coral sand + jagged coral rocks
- 12 Mile Coastline; 3 Sq. Mi.
- Enclosed central lagoon
- Large 9,800 Foot Runway
- Avg Elevation: 12 feet
- Tropical climate. 80-85 °F
- **Highly restricted access**
- **United States Air Force**



# Wake Atoll: Getting Past



- Highly restricted access
- Need Special Permission from US Air Force **and** the Pentagon
- Access is only by chartered jet
- Must pass medical exam
- Limited to certain parts of the island
- Can only stay for 2 weeks



# Since 1947, Many DXpeditions Have Visited Rare & Remote Places



Iraq



Sint Maarten



Yemen



Wake Atoll



Conway Reef



Glorioso Is



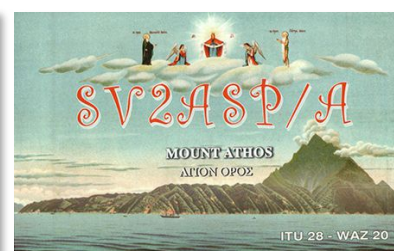
Baker Island



Amsterdam Is



Myanmar



Mount Athos



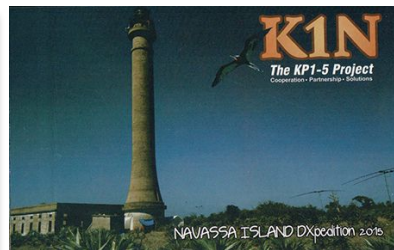
Bouvet Is



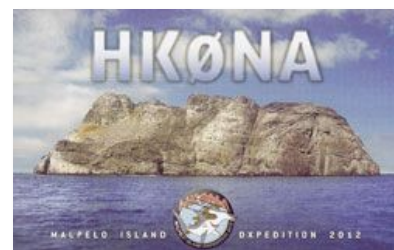
Scarborough Reef



Bangladesh



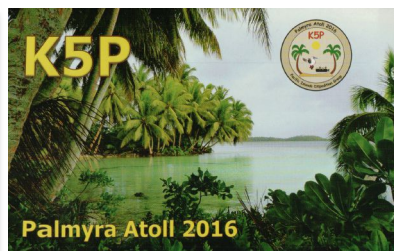
Navassa Is



Malpelo Is



Spratly Is



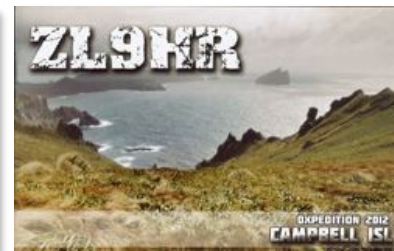
Palmyra Atoll



Annobon Is



Mozambique



Campbell Is

# **Navassa Island**

## **Secret Island In The Caribbean**



# Navassa Island: Ham Radio Activity

Generate Most-Wanted List ...Or... Analyse a specific DXCC

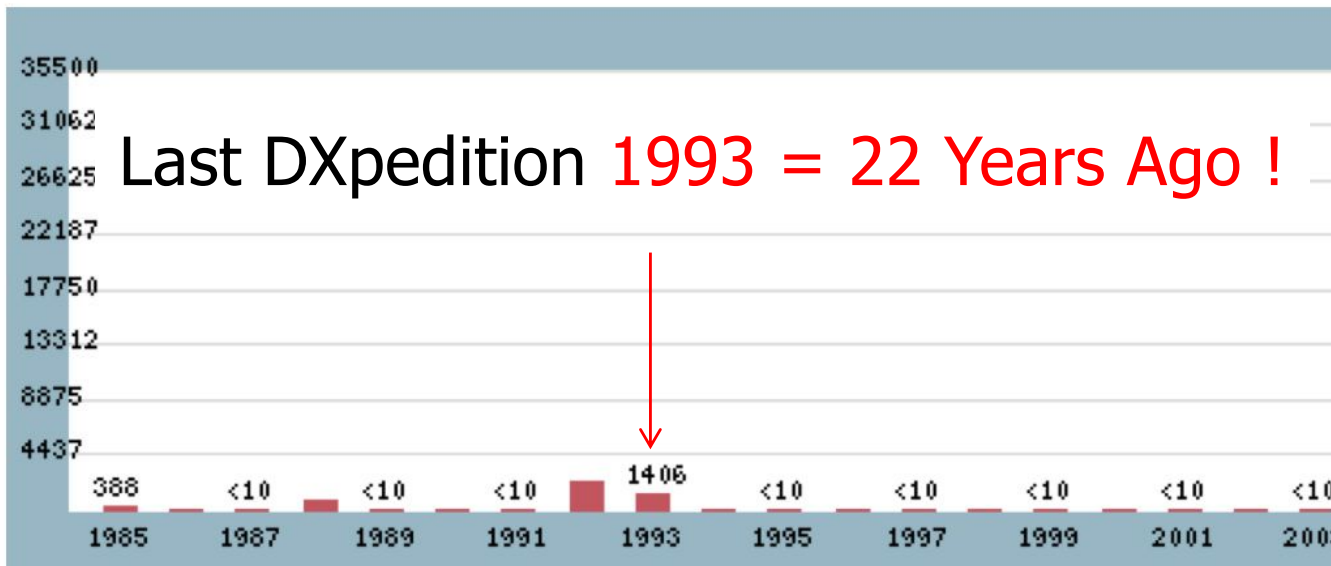
Rank	Prefix	Entity Name
1.	P5	DPRK (NORTH KOREA)
2.	KP1	NAVASSA ISLAND
3.	3Y/B	BOUVET ISLAND
4.	VP8S	SOUTH SANDWICH ISLANDS
5.	FT5W	CROZET ISLAND
6.	VK0H	HEARD ISLAND
7.	KH5K	KINGMAN REEF
8.	FT/J	JUAN DE NOVA, EUROPA
9.	VP8G	SOUTH GEORGIA ISLAND
10.	KH5	PALMYRA & JARVIS ISLANDS
11.	KH1	BAKER HOWLAND ISLANDS
12.	BV9P	PRATAS ISLAND
13.	BS7H	SCARBOROUGH REEF
14.	CE0X	SAN FELIX ISLANDS
15.	KH3	JOHNSTON ISLAND
16.	KH7K	KURE ISLAND
17.	VK0M	MACQUARIE ISLAND
18.	FT5X	KERGUELEN ISLAND
19.	SV/A	MOUNT ATHOS
20.	E3	ERITREA

In **2015** Navassa was ranked **#2** on the Most Wanted list



## Activation Chart for NAVASSA ISLAND

This chart shows the number of QSOs per year with this DXCC for the last thirty



# Navassa Island

No Beaches  
Only Steep Cliffs

No Beaches



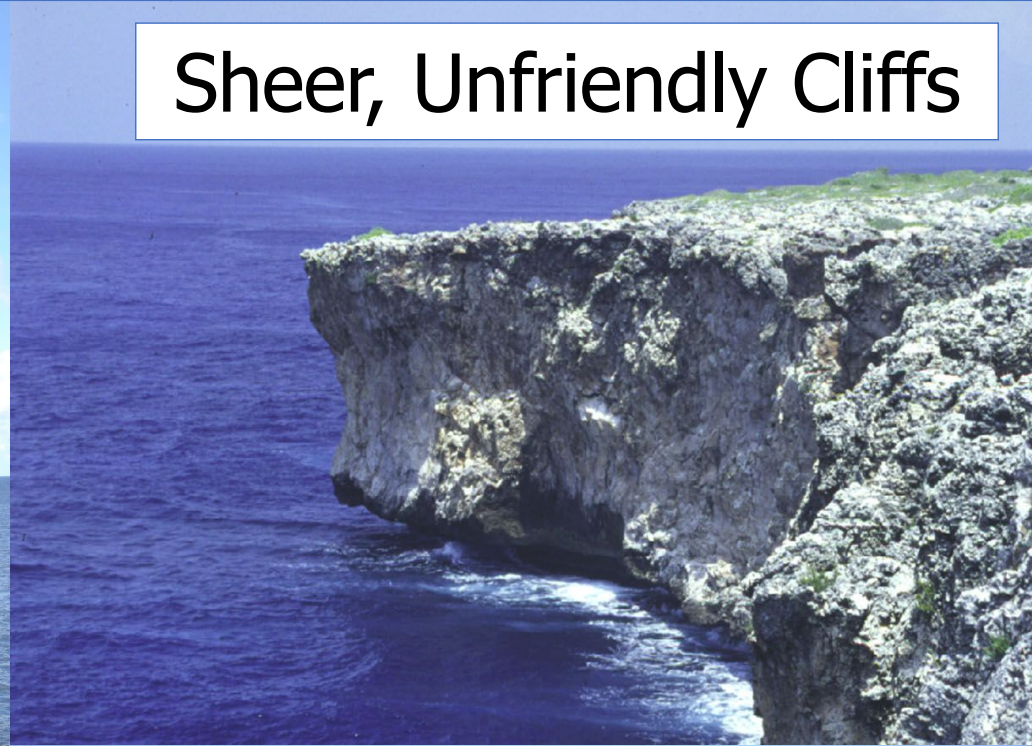
- Named by Christopher Columbus (1504) because of lack of fresh water ("nava" = plain)
- 2 Square Miles = size of Central Park in NYC
- Uninhabited
- Unincorporated US territory

# Challenge: Getting There – Safely

No Beaches



Sheer, Unfriendly Cliffs



# Navassa Island: Getting Past



- Need Special Use Permit (SUP) from USFWS
- Wildlife Refuge - Plan for protecting the large bird population
- Access is via **Helicopter** only
- Must have **Boat** standing by
- Must have MD on team
- Must take 6 USFWS personnel for safety and protection from intruders -- at no cost to the taxpayer



# THE BAHAMAS

## The Game Plan

Need Combination of Helicopter and Boat to access Navassa Island





# Since 1947, Many DXpeditions Have Visited Rare & Remote Places



Iraq



Sint Maarten



Yemen



Wake Atoll



Conway Reef



Glorioso Is



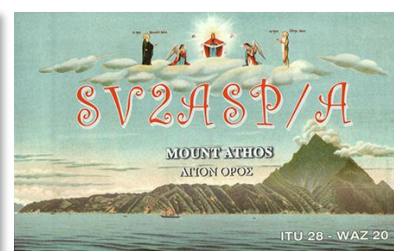
Baker Island



Amsterdam Is



Myanmar



Mount Athos



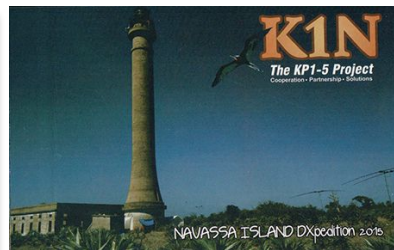
Bouvet Is



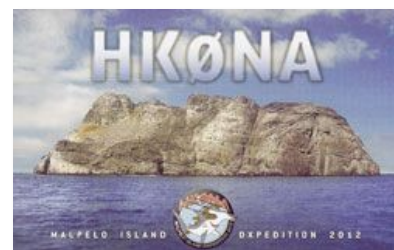
Scarborough Reef



Bangladesh



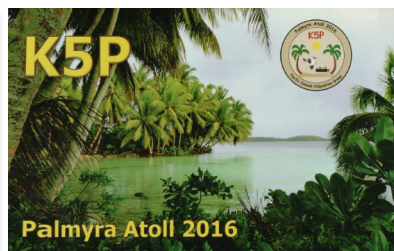
Navassa Is



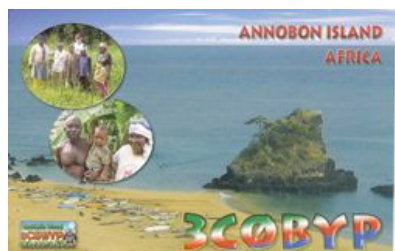
Malpelo Is



Spratly Is



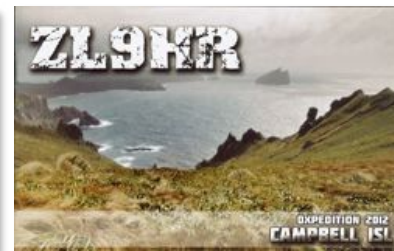
Palmyra Atoll



Annobon Is



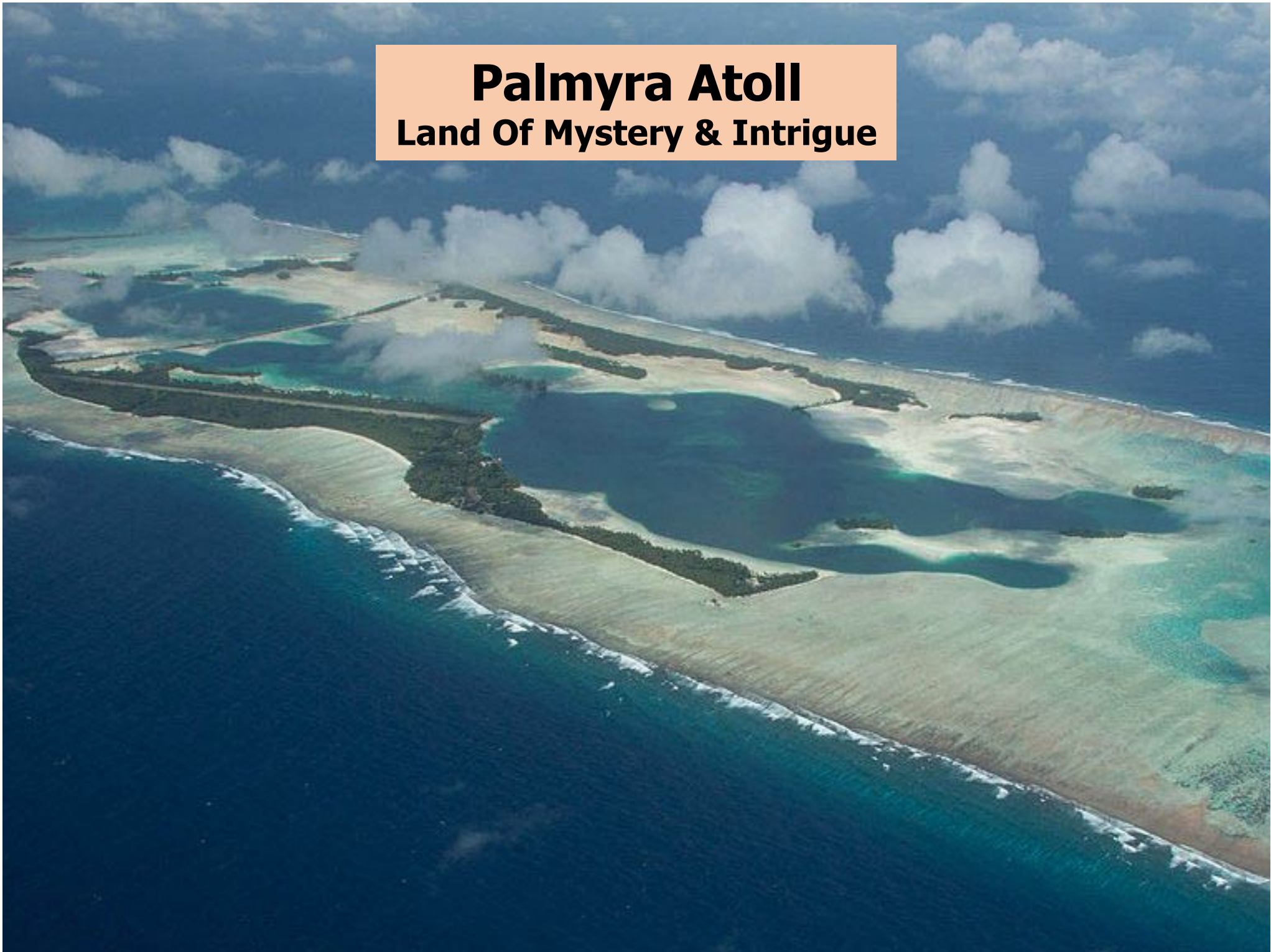
Mozambique



Campbell Is

# **Palmyra Atoll**

## **Land Of Mystery & Intrigue**



# Palmyra Atoll: Among The Most Wanted DXCC Entities

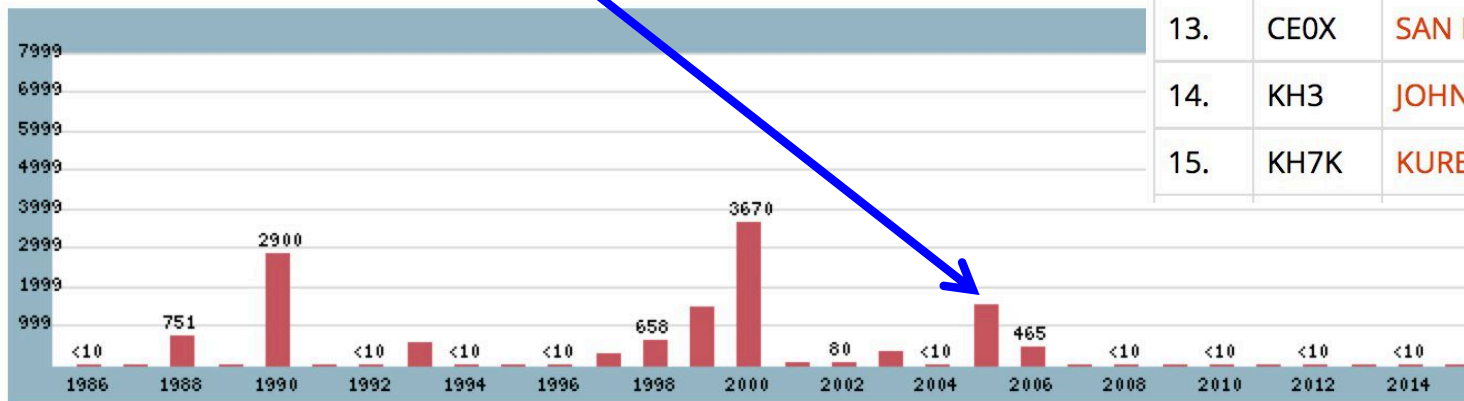
In 2016, Palmyra Atoll

- **Worldwide** Ranked #9 out of 340 entities
- **Europe** Ranked #2

Last DXpedition: 2005  
11 Years Ago

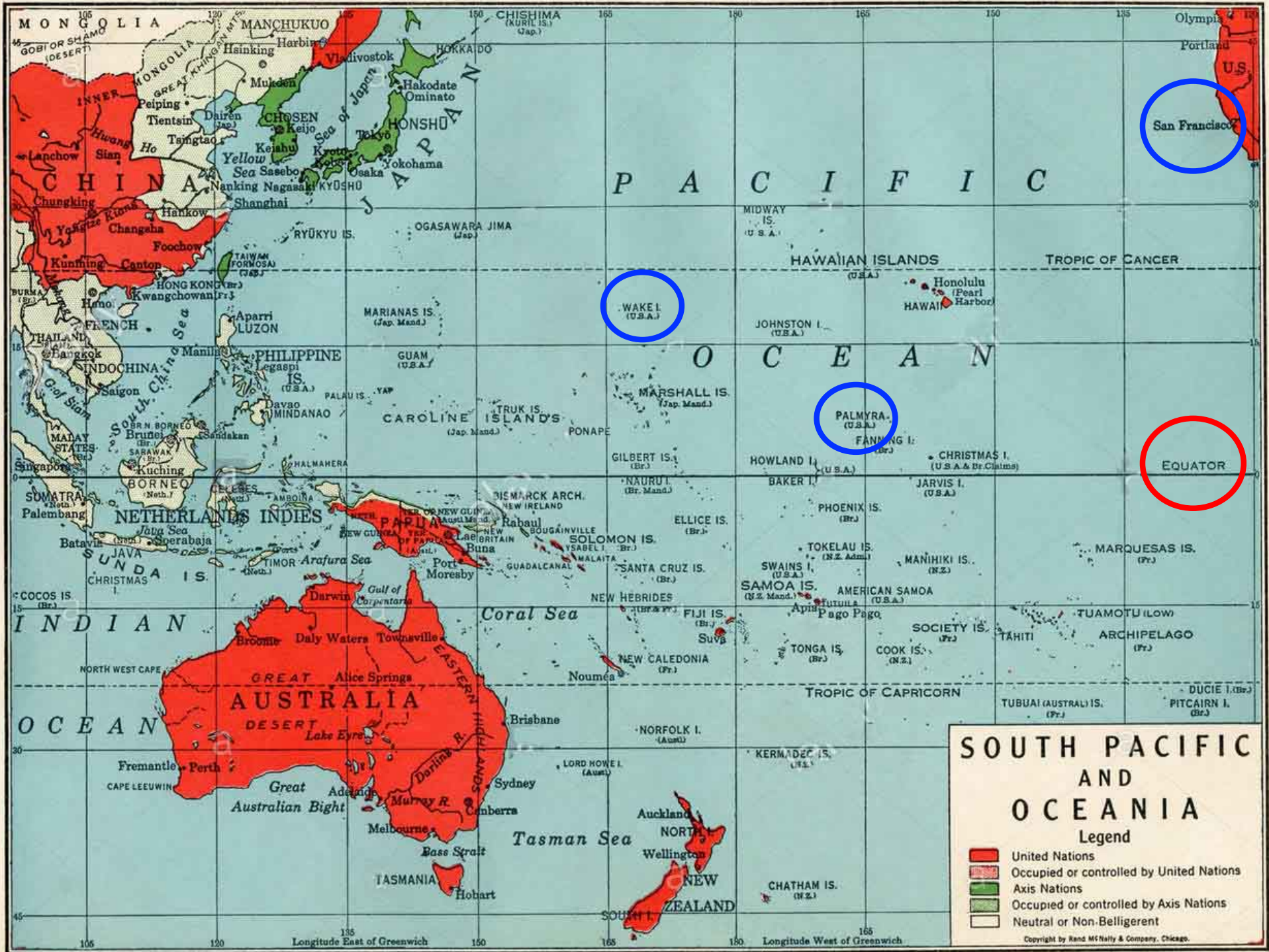
Activation Chart for PALMYRA & JARVIS ISLANDS

This chart shows the number of QSOs per year with this DXCC for the last thirty years.



Rank	Prefix	Entity Name
1.	P5	DPRK (NORTH KOREA)
2.	3Y/B	BOUVET ISLAND
3.	VP8S	SOUTH SANDWICH ISLANDS
4.	FT5/W	CROZET ISLAND
5.	VK0H	HEARD ISLAND
6.	FT/J	JUAN DE NOVA, EUROPA
7.	KH5K	KINGMAN REEF
8.	VP8G	SOUTH GEORGIA ISLAND
9.	KH5	PALMYRA & JARVIS ISLANDS
10.	KH1	BAKER HOWLAND ISLANDS
11.	BS7H	SCARBOROUGH REEF
12.	BV9P	PRATAS ISLAND
13.	CE0X	SAN FELIX ISLANDS
14.	KH3	JOHNSTON ISLAND
15.	KH7K	KURE ISLAND





San Francisco

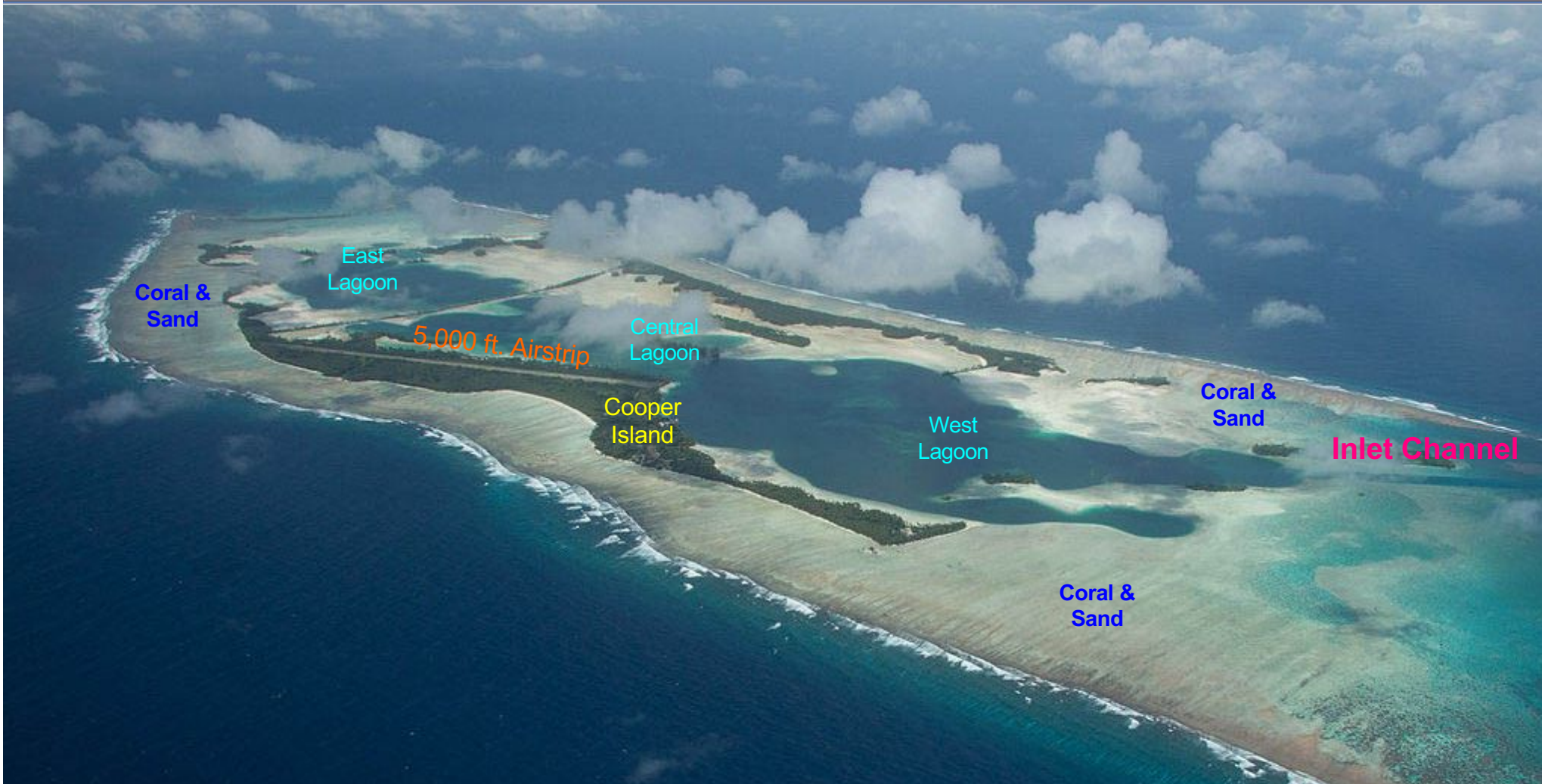
WAKE I.  
(U.S.A.)

PALMYRA  
(U.S.A.)

EQUATOR

## Palmyra – Aerial View

**Atoll** = island, or chain of islands, surrounding by coral reef



- Horseshoe-shaped reef. Platform of coral and hard sand. About 680 acres. 50 islets.
- 5 miles long and 1.5 miles wide, with a 12-mile “coastline”
- Largest Island: Cooper Island: 1.5 mile long x 0.5 mile wide; 5,000 foot runway
- The atoll encloses 3 lagoons (**East, Center, West**); depths of 120-160 feet

# Palmyra Atoll: Getting Past ~~NO~~



- Need Special Use Permit (SUP) from USFWS and The Nature Conservancy (TNC)
- Wildlife Refuge - Plan for protecting the large bird population
- Access is via small charter jet
- Must have MD on team
- Must freeze all clothes for 48 hours
- Only vertical antennas



# Since 1947, Many DXpeditions Have Visited Rare & Remote Places



Iraq



Sint Maarten



Yemen



Wake Atoll



Conway Reef



Glorioso Is



Baker Island



Amsterdam Is



Myanmar



Mount Athos



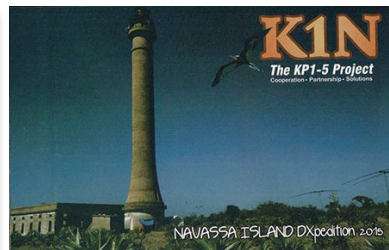
Bouvet Is



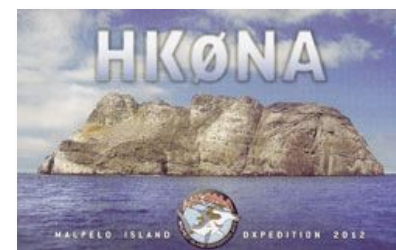
Scarborough Reef



Bangladesh



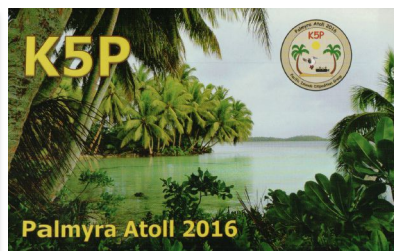
Navassa Is



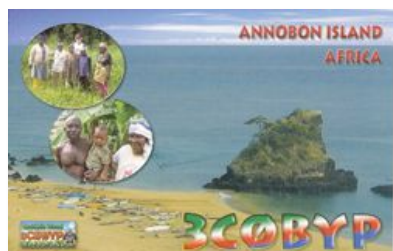
Malpelo Is



Spratly Is



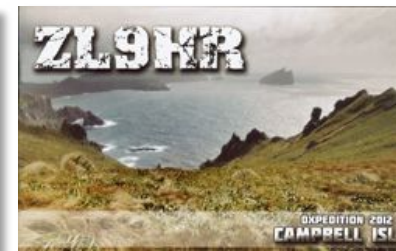
Palmyra Atoll



Annobon Is



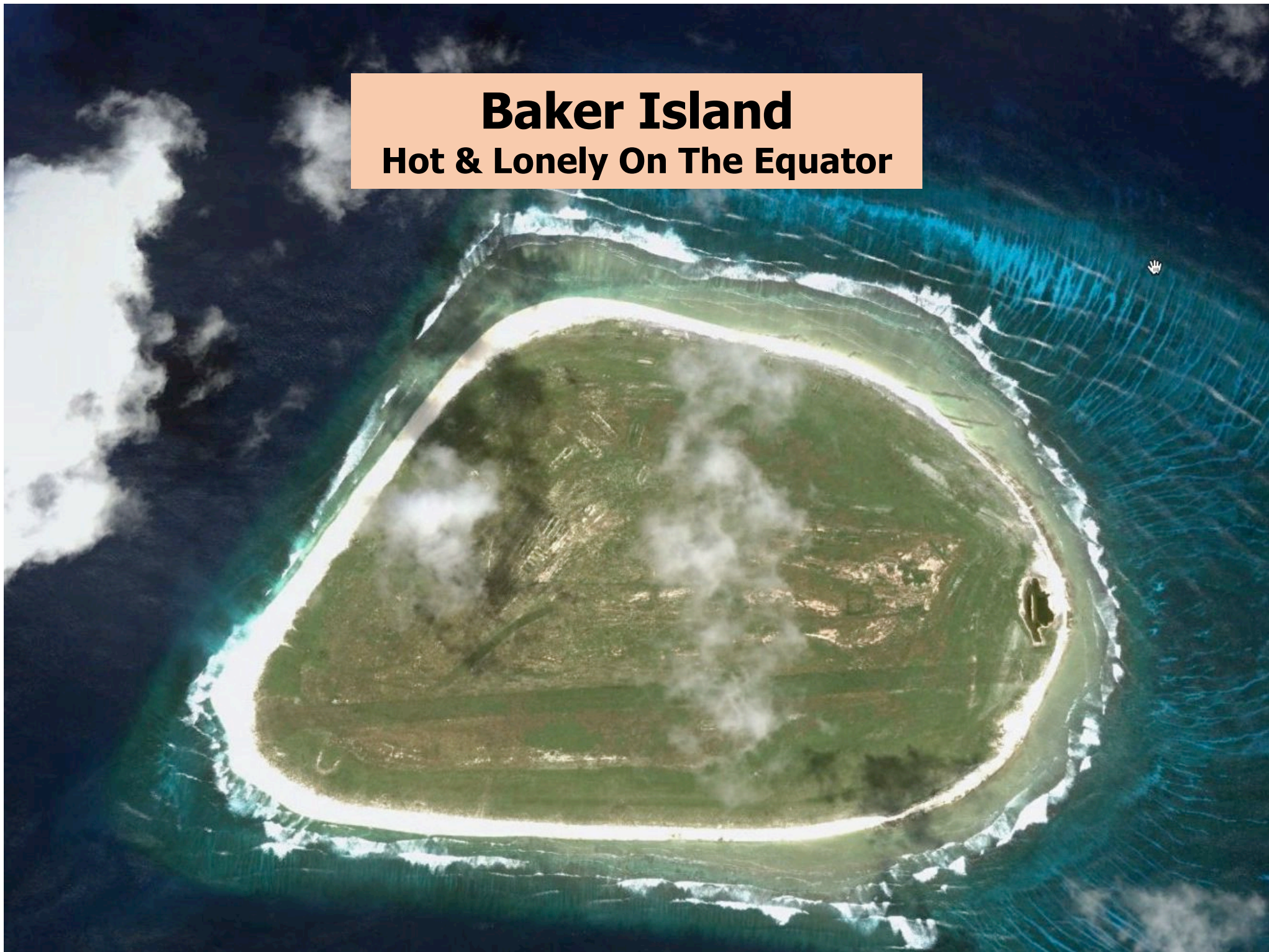
Mozambique



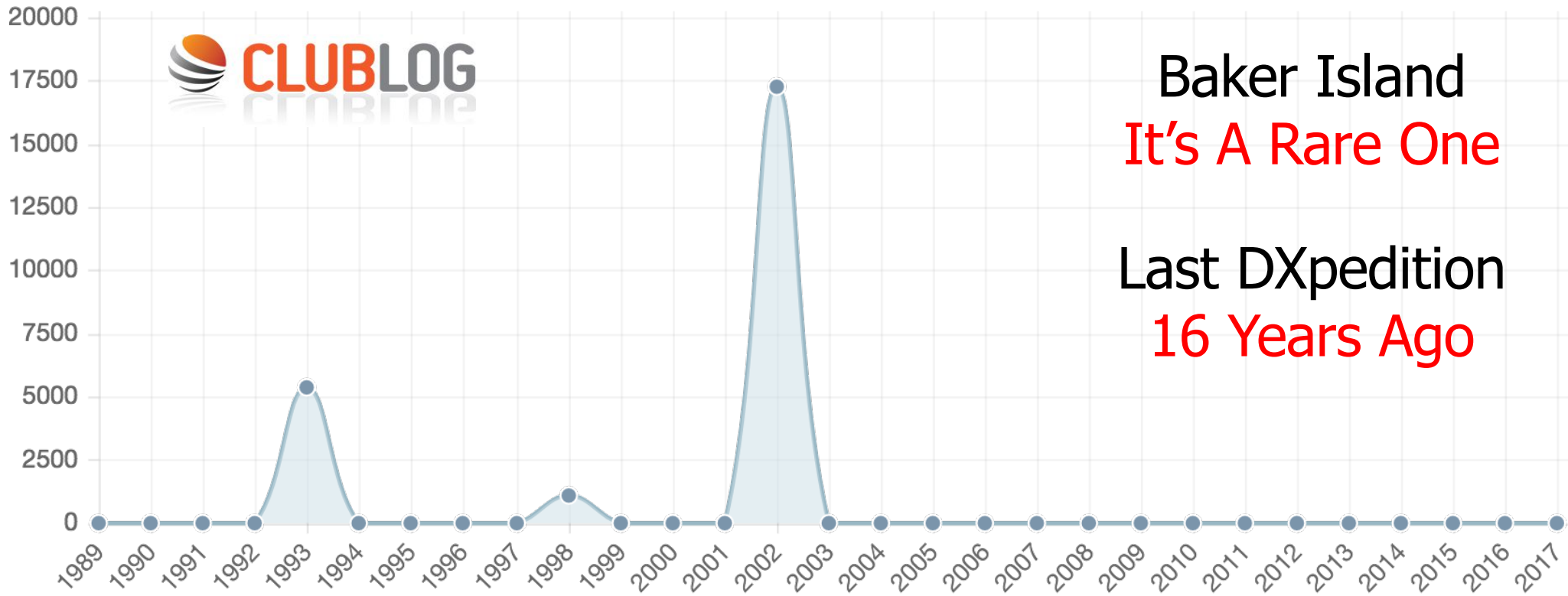
Campbell Is

# **Baker Island**

**Hot & Lonely On The Equator**







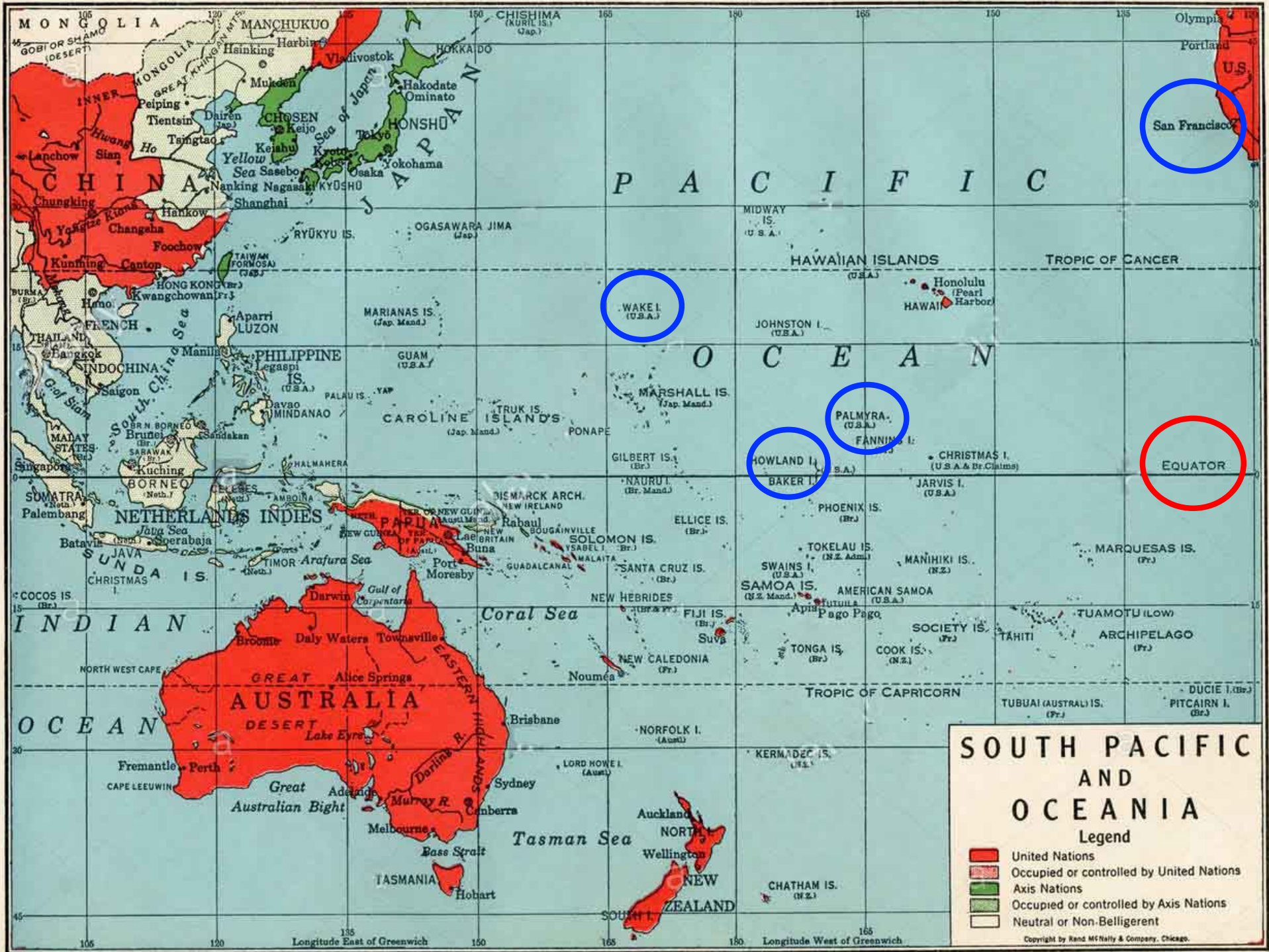
Baker Island  
It's A Rare One

Last DXpedition  
16 Years Ago

In 2018, Baker Island

- **Worldwide** Ranked #6 out of 340 entities
- **Europe** Ranked #2

Rank	Prefix	Entity Name
1.	P5	DPRK (NORTH KOREA)
2.	3Y/B	BOUVET ISLAND
3.	FT5/W	CROZET ISLAND
4.	Z6	REPUBLIC OF KOSOVO
5.	CE0X	SAN FELIX ISLANDS
6.	KH1	BAKER HOWLAND ISLANDS
7.	BS7H	SCARBOROUGH REEF



San Francisco

WAKE I. (U.S.A.)

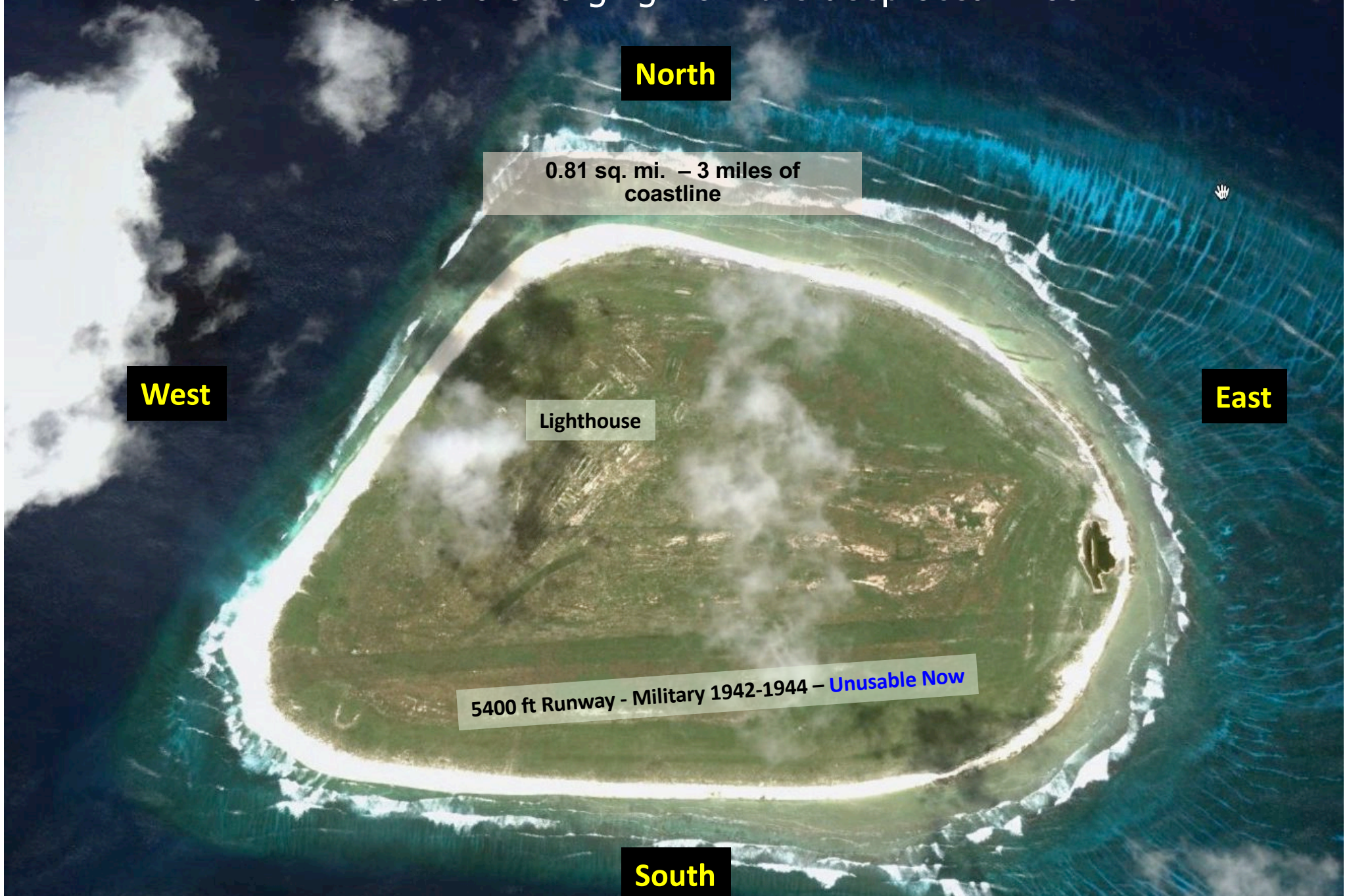
PALMYRA (U.S.A.)

HOWLAND I. (U.S.A.)

BAKER I. (U.S.A.)

EQUATOR

Think Of **Baker Island** as the crest of a coral reef cap on top of an extinct volcano emerging from the deep ocean floor



**North**

0.81 sq. mi. - 3 miles of coastline

**West**

Lighthouse

**East**

5400 ft Runway - Military 1942-1944 - Unusable Now

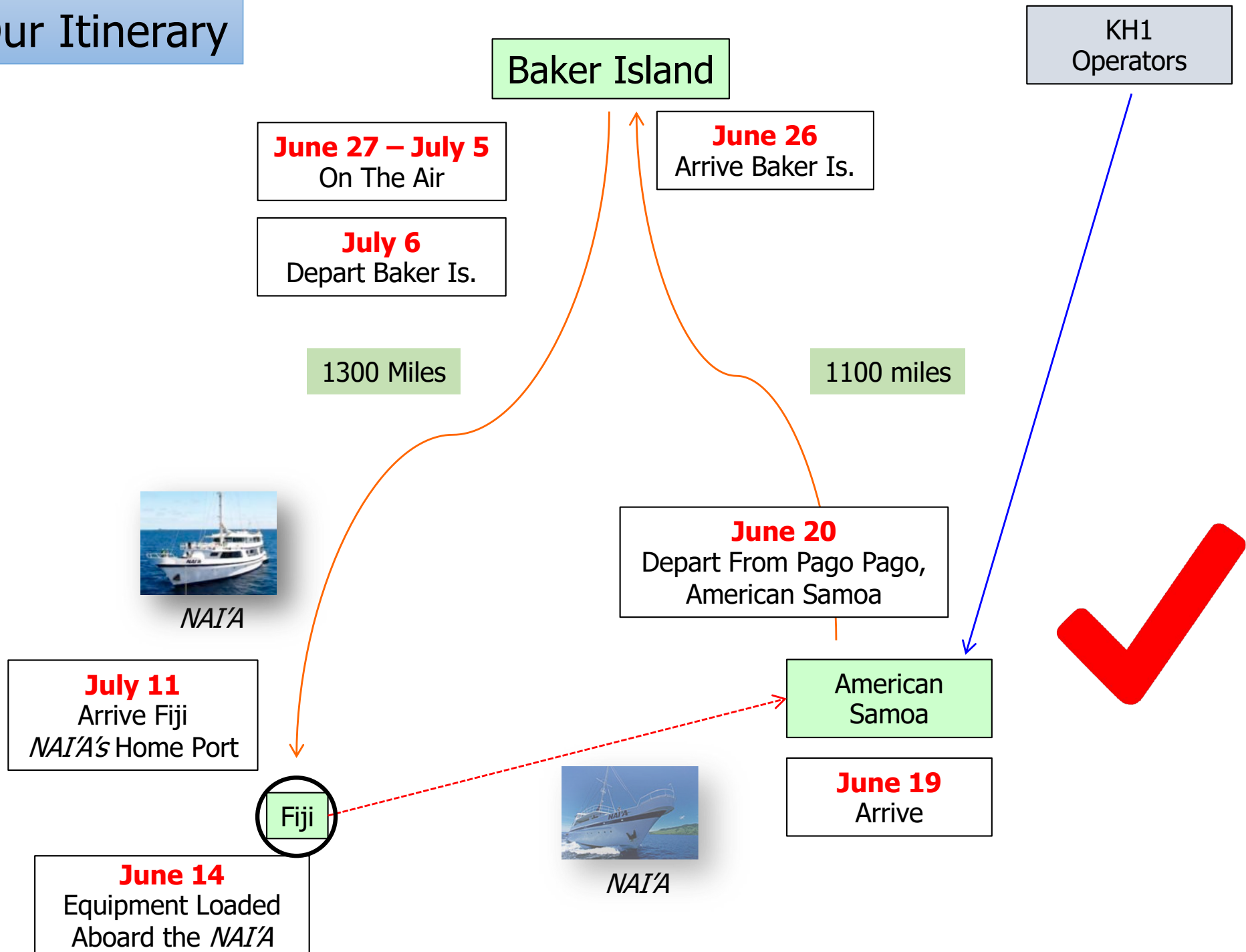
**South**

# Baker Island: Getting Past ~~NO~~



- Need Special Use Permit (SUP) from USFWS
- Wildlife Refuge - Plan for protecting the large bird population
- Access by boat only from **US port**
- Must have MD on team
- Must freeze all clothes for 48 hours
- Only vertical antennas
- Must take one USFWS biologist as supervisor

# Our Itinerary



# Since 1947, Many DXpeditions Have Visited Rare & Remote Places



Iraq



Sint Maarten



Yemen



Wake Atoll



Conway Reef



Glorioso Is



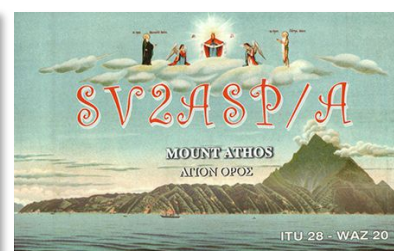
Baker Island



Amsterdam Is



Myanmar



Mount Athos



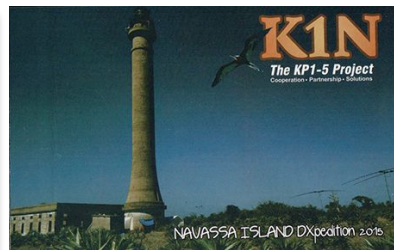
Bouvet Is



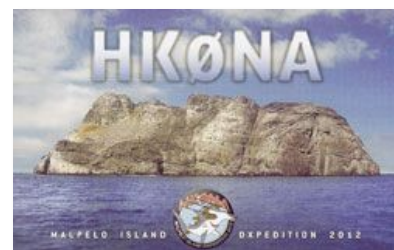
Scarborough Reef



Bangladesh



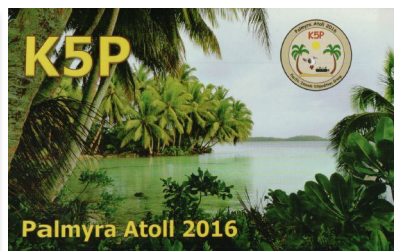
Navassa Is



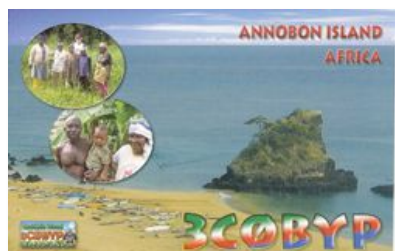
Malpelo Is



Spratly Is



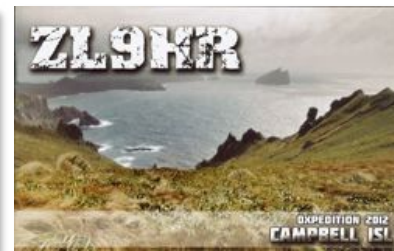
Palmyra Atoll



Annobon Is



Mozambique



Campbell Is

**Scarborough Reef**  
**South China Sea**  
**4 Non-Descript Rocks**

**Taiwan, China**

**Philippines**

Scarborough Shoal

Paracel Islands

South China Sea

Vietnam

Central Highlands

Babuyan Channel

Philippines

Manila

Tayabas Bay

Tablas Strait

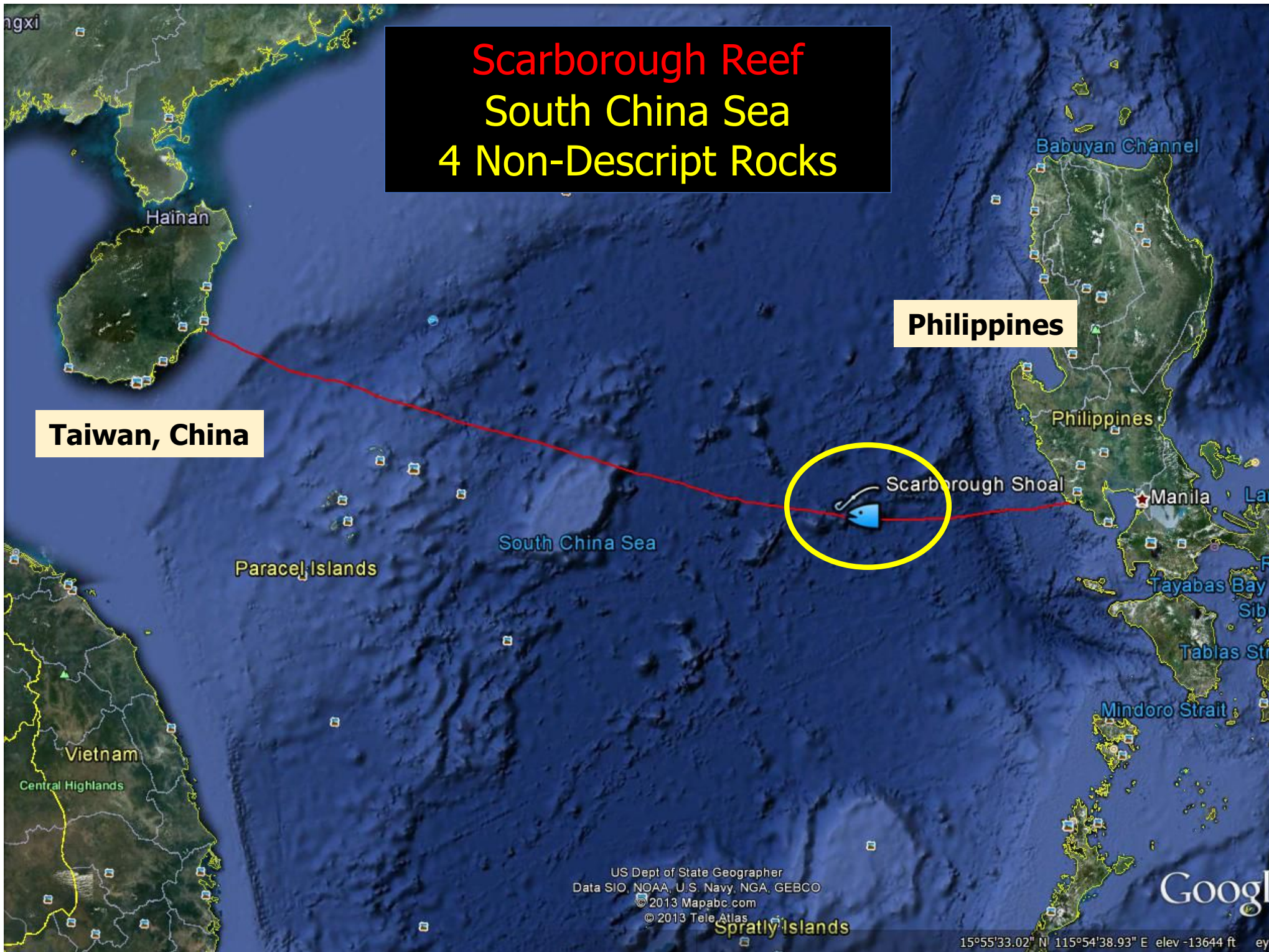
Mindoro Strait

US Dept of State Geographer  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
© 2013 Mapabc.com  
© 2013 Tele Atlas

Spratly Islands

Google

15°55'33.02" N 115°54'38.93" E elev -13644 ft eye



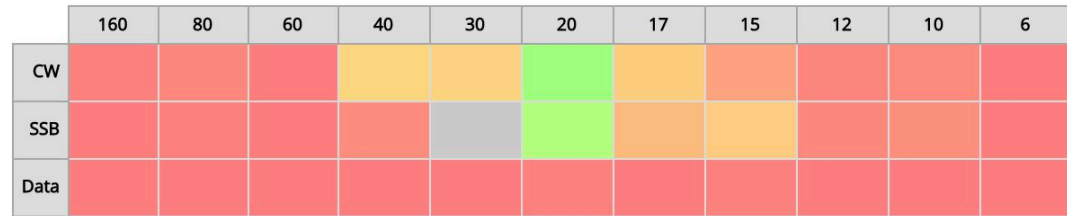
# #4 Scarborough Reef

1.	P5	DPRK (NORTH KOREA)
2.	3Y/B	BOUVET ISLAND
3.	FT5/W	CROZET ISLAND
4.	BS7H	SCARBOROUGH REEF
5.	CE0X	SAN FELIX ISLANDS
6.	BV9P	PRATAS ISLAND
7.	KH7K	KURE ISLAND
8.	KH3	JOHNSTON ISLAND
9.	3Y/P	PETER 1 ISLAND
10.	FT5/X	KERGUELEN ISLAND
11.	FT/G	GLORIOSO ISLAND
12.	VK0M	MACQUARIE ISLAND
13.	YV0	AVES ISLAND
14.	KH4	MIDWAY ISLAND
15.	ZS8	PRINCE EDWARD & MARION ISLANDS
16.	PY0S	SAINT PETER AND PAUL ROCKS
17.	PY0T	TRINDADE & MARTIM VAZ ISLANDS
18.	KP5	DESECHEO ISLAND
19.	SV/A	MOUNT ATHOS
20.	VP8S	SOUTH SANDWICH ISLANDS
21.	KH5	PALMYRA & JARVIS ISLANDS
22.	ZL9	NEW ZEALAND SUBANTARCTIC ISLANDS
23.	JD/M	MINAMI TORISHIMA
24.	EZ	TURKMENISTAN
25.	YK	SYRIA

## DXCC Analysis for SCARBOROUGH REEF from all areas

- Most Wanted Rank: 4
- CQ zone: 27
- Continent: AS
- Primary prefix: BS7H
- Approximate location: 15.00°N 118.00°E
- ADIF number: 506
- [Check propagation...](#)

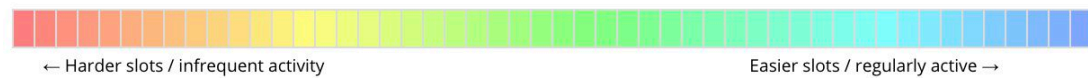
## Band/Mode Slots Analysis



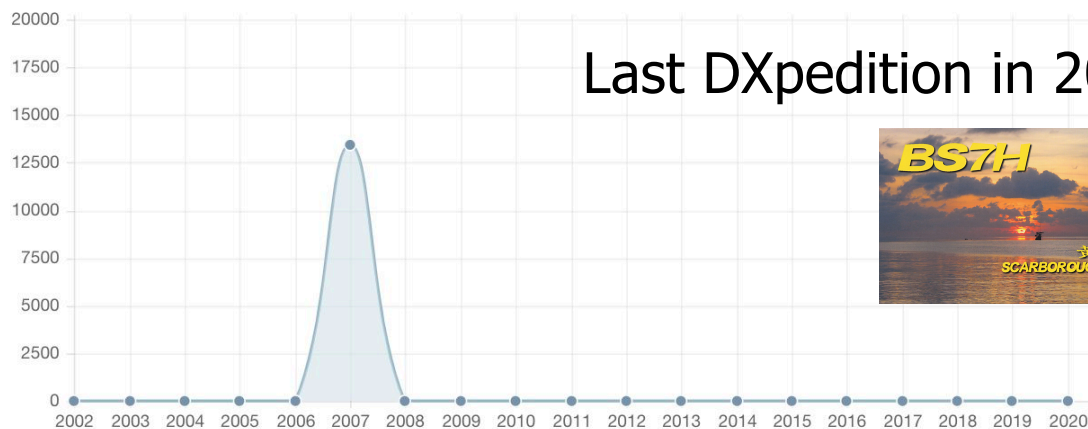
## Recorded Activity

	160	80	60	40	30	20	17	15	12	10	6
CW	2007-05	2007-04	Never	2007-05	2007-05	2007-05	2007-05	1995-04	2007-05	2007-05	Never
SSB	Never	2007-05	Never	2007-05	Grey	2007-04	2007-04	2007-05	2007-05	2007-05	Never
Data	Never	Never	Never	Never	Never	2007-05	Never	2007-05	Never	Never	Never

## Colour Legend



## QSO Activity Graph (all bands and modes)



Last DXpedition in 2007





A photograph of a sunset over the ocean. The sun is low on the horizon, partially obscured by dark, silhouetted clouds. The sky is a mix of orange, yellow, and blue. The water in the foreground is calm, reflecting the colors of the sky. A small boat is visible on the horizon line to the right of the sun.

**BS7H**

**黃岩島**  
**SCARBOROUGH REEF**  
**2007**

<http://www.scarboroughreef.com/>

## **BS7H Scarborough Reef 2007**



Full One-Hour Video Here: <https://vimeo.com/121222177>  
Or go to vimeo.com and search for BS7H

# BS7H QSL Card



Scarborough Reef, at the time of this activation was the number one most needed entity. It has proven to be one of the most difficult entities ever to operate from. This DXpedition has been in the making some five years and was presented with challenges that changed literally from day to day. After sailing from Hong Kong for almost 80 hours in bad weather on the motor vessel "Deep Blue", the team arrived at the reef. The building of the support structures required time and intense effort and one station on Rock 2 was fully operational the first night by AA4NN and IBNHJ. Rock 4 became operational on day 2, rock 1 on day 3 with rock 3 soon thereafter. When the operation was fully operational, four separate rocks were utilized allowing around the clock operation. The need to operate around the clock proved to be quite a challenge with the night shift lasting more than thirteen hours. Each operating position was completely self-contained with radio equipment, generator and antenna. Only one rock could hold two operators while the three remaining rocks operated with a single operator. Once darkness came there was no way to reach any of the rocks.

In 7 days of operating 45,830 QSOs were made on 160 through 10 meters in 145 DXCC countries using three modes. 20 meters was the most productive band producing 21,880 QSOs. 80 and 160 meters proved to be difficult because of limited space for the antennas required for those bands. Because our goal was to give a new entity to as many DXers as possible, two stations were kept on twenty meters twenty-four hours a day. This resulted in an extremely high number of unique stations worked: BS7H worked 17,884 uniques or 39% of the total QSOs.

Each rock was equipped with an ICOM IC7000, Acom 1010 amplifier and SteppIR vertical. Hell headsets were used on SSB. The 80 and 160 meter operation used a Butternut HF2V and computer logging was accomplished using CT. ICOM 2 meter handhelds provided around the clock local communications.

The team wishes to thank the CRSA for their efforts in obtaining authorization to land and operate. We also thank our off-site support team and web master for their there was no way to reach any of the rocks.

In 7 days of operating 45,830 QSOs were made on 160 through 10 meters in 145 DXCC countries using three modes. 20 meters was the most productive band producing 21,880 QSOs. 80 and 160 meters proved to be difficult because of limited space for the antennas required for those bands. Because our goal was to give a new entity to as many DXers as possible, two stations were kept on twenty meters twenty-four hours a day. This resulted in an extremely high number of unique stations worked: BS7H worked 17,884 uniques or 39% of the total QSOs.

Each rock was equipped with an ICOM IC7000, Acom 1010 amplifier and SteppIR vertical. Hell headsets were used on SSB. The 80 and 160 meter operation used a Butternut HF2V and computer logging was accomplished using CT. ICOM 2 meter handhelds provided around the clock local communications.

The team wishes to thank the CRSA for their efforts in obtaining authorization to land and operate. We also thank our off-site support team and web master for their

Operators: Front - AA4NN, DL3MBG, IRN4J, NDZT, BV5SHJ, W6RGG  
 Middle - OH2NH, KR9J, K4UJ, BA1HAM, N6MZ  
 Rear - 9V1VC, BA1RB, BA1AAX, BA4RC, BA4RF

Off Site Support Team: N4XP, N1DG, K5YY, BV4PH, DU1ZMG, DU9R6, DU1EV, VR286, W6XA, BV4DP, BM4H56, N4694

Web Master: N1DG

QSL Manager: KU9C  
 IOTA AS-116

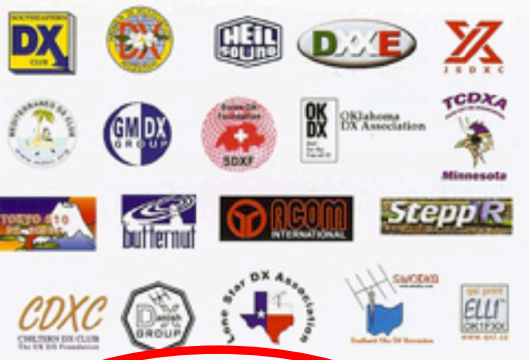
Grid Square Ok85

WWW.SCARBOROUGHREEF.COM



These DXers supported this DXpedition with a donation of \$100 or more:

- WSBXX
- K7HC
- W4YCH
- N4PH
- N6GM
- NM8EE
- N2NS
- K9VAL
- WA1S
- WB1JV
- BM9EAB
- W4NL
- W7ACD
- K0BS
- WA1JC
- EA7TV
- DL8CMM
- VE3IQ
- K9XJ
- W1AO
- K1NCK
- G3NCH
- K4XH
- PY2OCG
- K4XG
- VA3YX
- K5GH
- A1XO
- W4ZCB
- K3WGR
- W7HUY
- W1GDO
- K4BVQ
- N8TT
- W4JQ
- VK5WO
- WB1RL
- K7VC
- ON4UN
- N4AA
- N5PA
- W4JS
- WF4W
- KESPO
- K5YQ
- H4KN
- W3YY
- N3KS
- K0DEO
- HL1VAU
- W4ZRZ
- K1PL
- W2CR
- OK1FM
- K4JD
- WA4DDH
- K3UL
- K0PC
- K5AB
- N2OO
- N4TD
- W4Q2AX
- N4NX
- WSIZ
- K3DI
- W0BW
- K4MBO
- W9GIG
- WB5DNT
- K9CT
- W8TN
- W4JTL
- DJ0GN
- W4JS
- W4DK
- N4AH
- N6CC
- H8YUB
- K2HK
- W0BW
- W0KW
- KV4T
- W4AVY
- N6XI
- E4LBF
- WB1LC
- K4HGX
- WA5IPS
- K3LV
- W0XK
- KASM
- N6BU
- K2MLB
- K3ZD
- K4UEE
- W4VHF
- AA8EY
- WB8O
- WD5COV
- SM5AQD
- W2RS
- W3UR
- BA4TB
- W0FK
- DK3CU
- NN5O
- W2NRA
- E48BYR
- N6OX
- HASWA
- K4XR
- W4QB
- KS5J
- WB5JD
- W0ZT
- WD5COV
- JO3EVM
- M0ADG
- W4GF
- K6NR
- AA1ON
- K9R
- DL9RCF
- K2TE
- VA7XX
- AC8GJ37K
- XE1EK
- SM3DMP
- AB9H
- W5CN
- W8GC
- W5SL
- WB1WU
- DL2CE
- W8GG
- K8RD
- W6NB
- NF4A
- K0GY
- G4BWP
- OK1RD
- K4QJ
- K8SL
- K8CNT
- N6OI
- KYSI
- N4PJ
- OK2SK
- JH2BNL
- N7TR
- OE1TKW
- HB9DHG
- N5AU
- DL6AU
- K6MBY
- KM7PT



K6MM				
Date	UTC	Band	RST	2X
01-May-2007	05:39	20m	599	CW
02-May-2007	04:11	20m	599	CW
02-May-2007	06:38	20m	59	SSB
02-May-2007	08:45	20m	599	CW
03-May-2007	13:54	30m	599	CW



# Since 1947, Many DXpeditions Have Visited Rare & Remote Places



Iraq



Sint Maarten



Yemen



Wake Atoll



Conway Reef



Glorioso Is



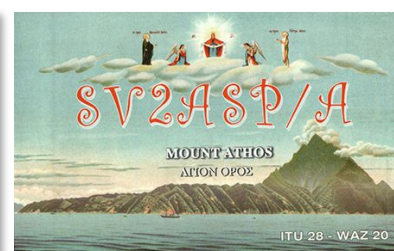
Baker Island



Amsterdam Is



Myanmar



Mount Athos



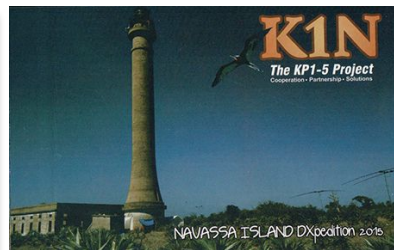
Bouvet Is



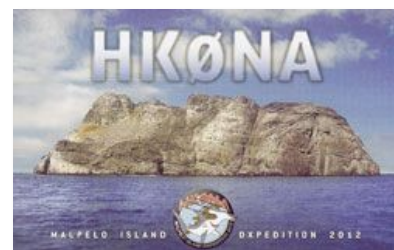
Scarborough Reef



Bangladesh



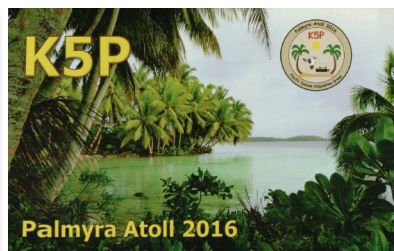
Navassa Is



Malpelo Is



Spratly Is



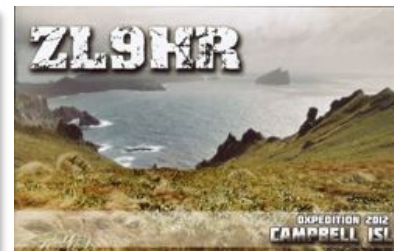
Palmyra Atoll



Annobon Is



Mozambique



Campbell Is

# Bouvet Island

- Uninhabited subantarctic volcanic island located in the South Atlantic Ocean
- 93% of the island is covered by glaciers, giving it a domed shape
- Landing on the island is very difficult, as it normally experiences high seas and features a steep coast.



# #2 Bouvet Island

1.	P5	DPRK (NORTH KOREA)
2.	3Y/B	BOUVET ISLAND
3.	FT5/W	CROZET ISLAND
4.	BS7H	SCARBOROUGH REEF
5.	CE0X	SAN FELIX ISLANDS
6.	BV9P	PRATAS ISLAND
7.	KH7K	KURE ISLAND
8.	KH3	JOHNSTON ISLAND
9.	3Y/P	PETER 1 ISLAND
10.	FT5/X	KERGUELEN ISLAND
11.	FT/G	GLORIOSO ISLAND
12.	VK0M	MACQUARIE ISLAND
13.	YV0	AVES ISLAND
14.	KH4	MIDWAY ISLAND
15.	ZS8	PRINCE EDWARD & MARION ISLANDS
16.	PY0S	SAINT PETER AND PAUL ROCKS
17.	PY0T	TRINDADE & MARTIM VAZ ISLANDS
18.	KP5	DESECHEO ISLAND
19.	SV/A	MOUNT ATHOS
20.	VP8S	SOUTH SANDWICH ISLANDS
21.	KH5	PALMYRA & JARVIS ISLANDS
22.	ZL9	NEW ZEALAND SUBANTARCTIC ISLANDS
23.	JD/M	MINAMI TORISHIMA
24.	EZ	TURKMENISTAN
25.	YK	SYRIA

## DXCC Analysis for BOUVET ISLAND from all areas

- Most Wanted Rank: 2
- CQ zone: 38
- Continent: AF
- Primary prefix: 3Y/B
- Approximate location: -54.50°N 3.40°E
- ADIF number: 24
- [Check propagation...](#)

## Band/Mode Slots Analysis



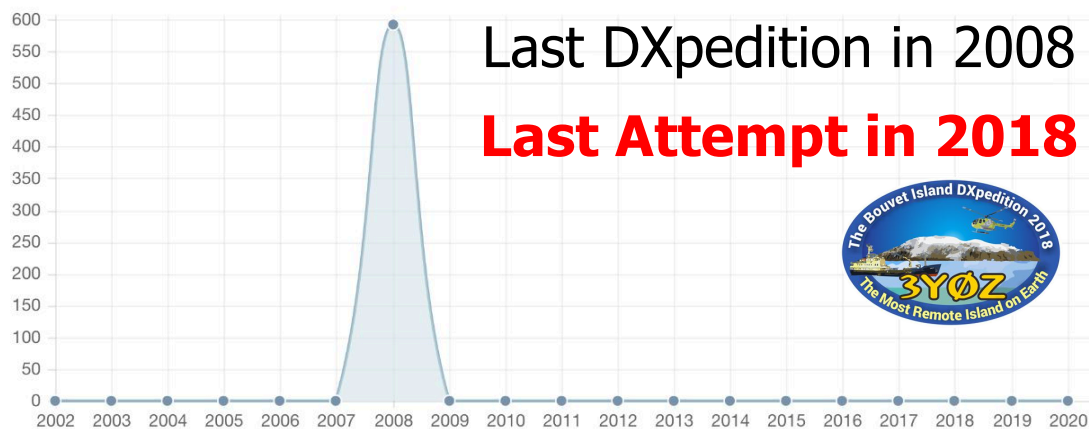
## Recorded Activity

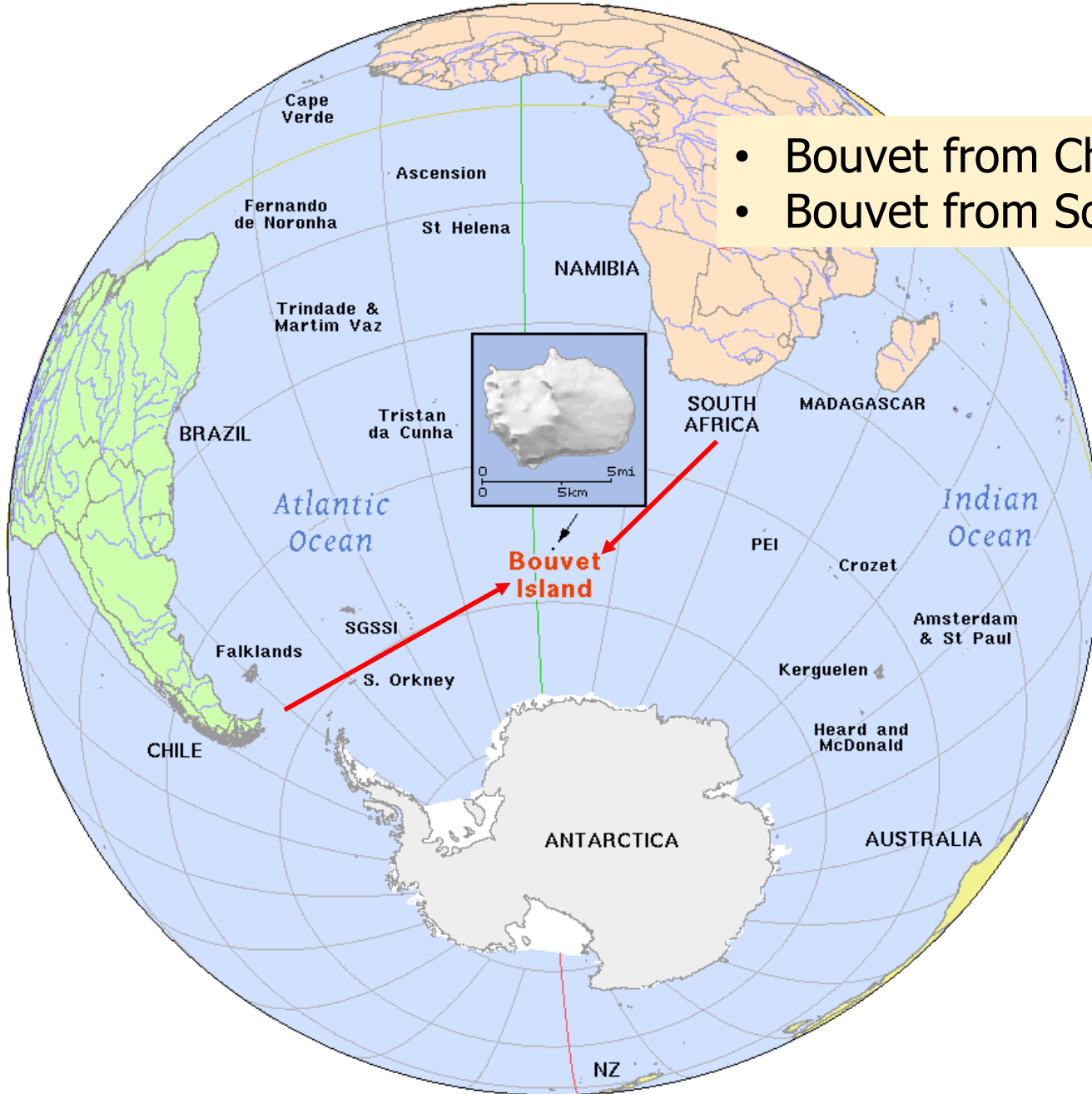
	160	80	60	40	30	20	17	15	12	10	6
CW	1990-01	2001-01	Never	2001-02	2001-02	2001-03	2001-03	2001-01	2001-02	2001-01	Never
SSB	Never	2001-01	Never	2000-12	Grey	2008-01	2001-01	2001-02	2000-12	2000-12	Never
Data	Never	Never	Never	Never	Never	2001-02	Never	1990-01	2001-03	1990-01	Never

## Colour Legend



## QSO Activity Graph (all bands and modes)





- Bouvet from Chile = 2,900 mi
- Bouvet from South Africa = 1,900 mi



Departed from  
Punta Arenas, Chile  
on January 19, 2018

Arrived At Bouvet  
on January 31, 2018

Bouvet (Bouvetøya), "the most remote island in the world", is a Norwegian dependency.

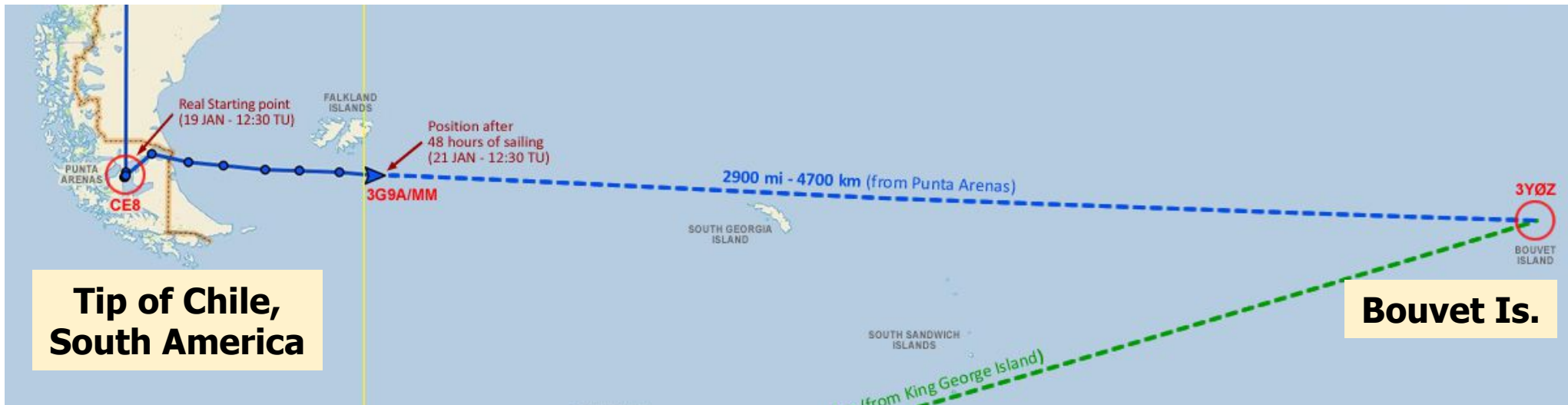
# B O U V E T I S L A N D

# 3Y0Z

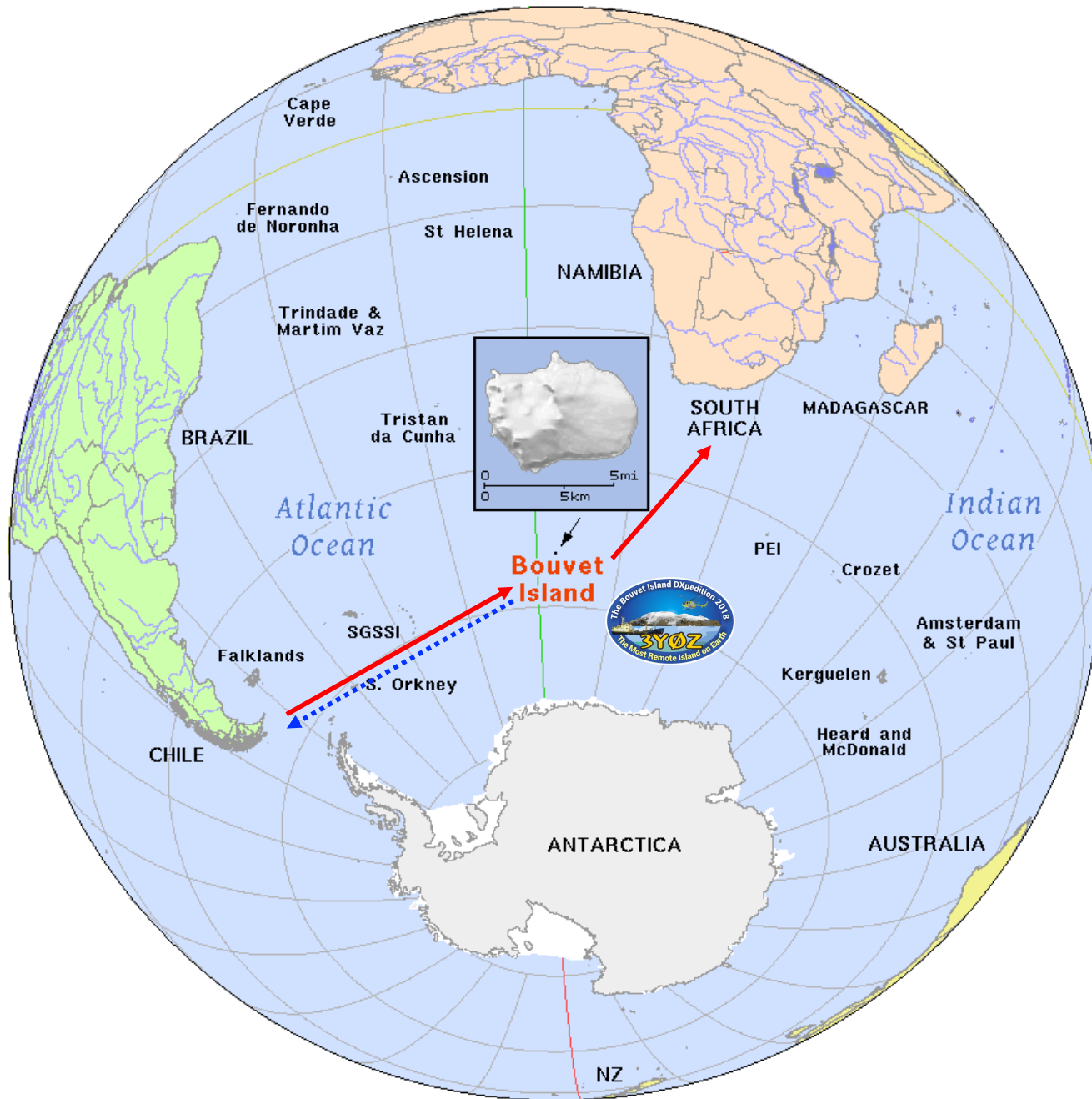
## BOUVET ISLAND

2018

BY NODIR TURSON-ZADE



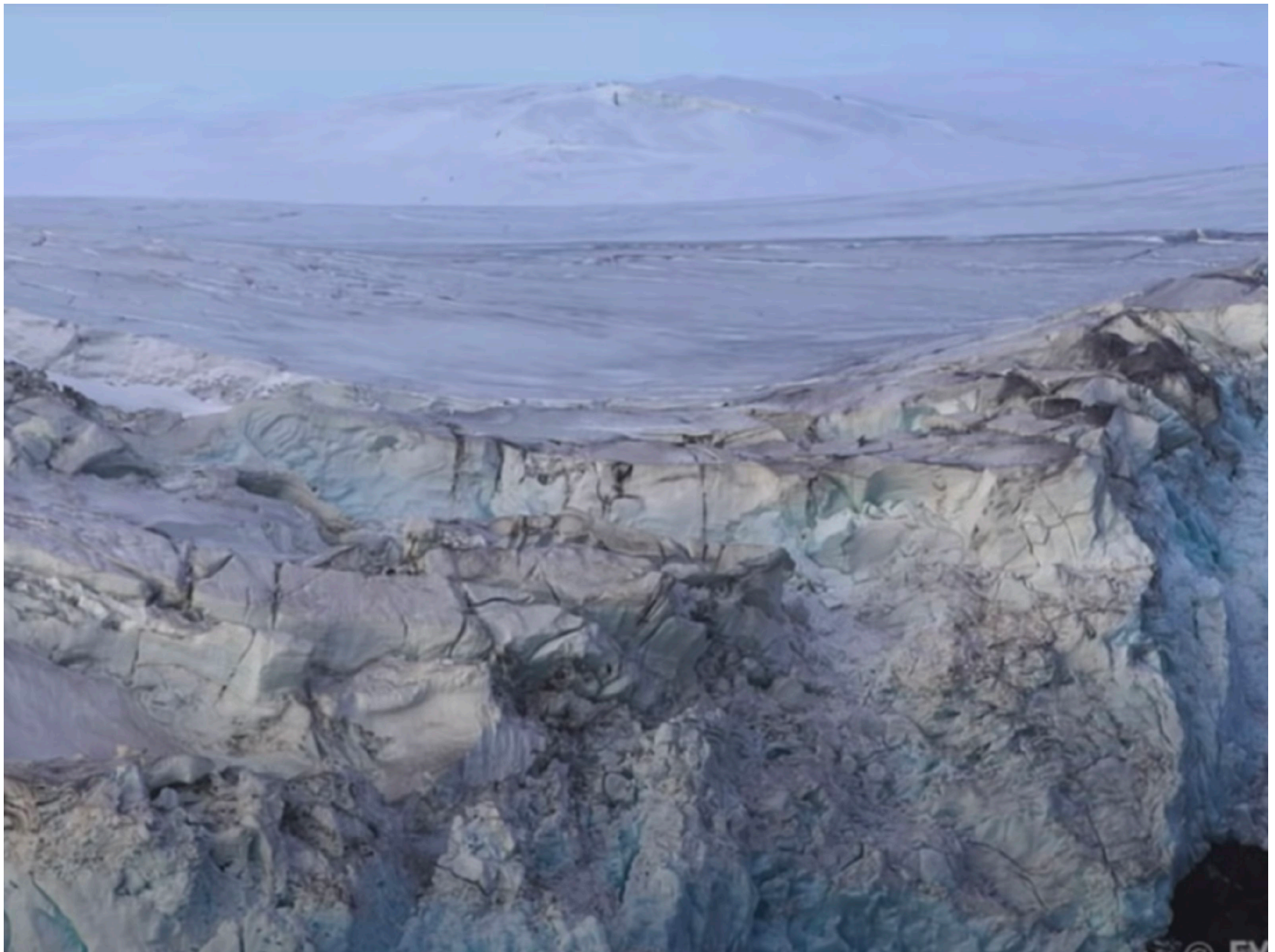




Bouvet (Bouvetøya), "the most remote island in the world", is a Norwegian dependency.

- Just one mile away from Bouvet and disaster struck
  - One of the two ship engines on the ***Betanza*** failed + hazardous weather conditions forced the DXpedition to abandon the trip
  - Captain chose not to return to Chile but to proceed to South Africa (shorter distance)
  - Total of 31 days on board ship in the cold South Atlantic Ocean from Chile to South Africa
  - But no ham radio activity
- Final Score:**  
 Mother Nature = 1  
 3YØZ Team = 0

**B O U V E T I S L A N D**



















The 3YØZ Bouvet team safe in South Africa – February 17, 2018

# Since 1947, Many DXpeditions Have Visited Rare & Remote Places



Iraq



Sint Maarten



Yemen



Wake Atoll



Conway Reef



Glorioso Is



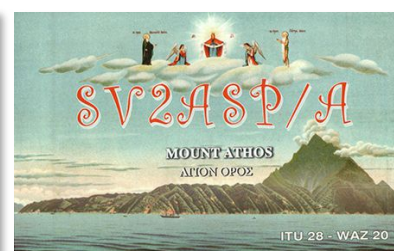
Baker Island



Amsterdam Is



Myanmar



Mount Athos



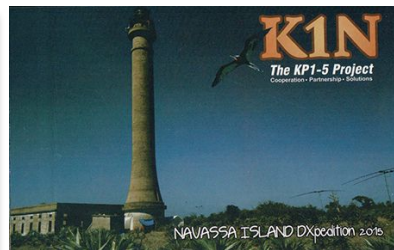
Bouvet Is



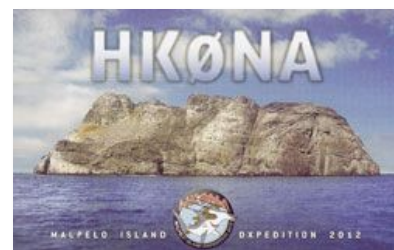
Scarborough Reef



Bangladesh



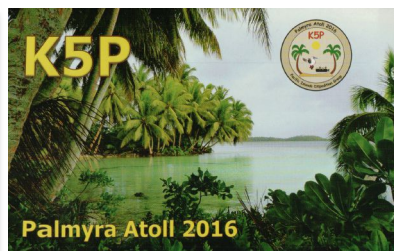
Navassa Is



Malpelo Is



Spratly Is



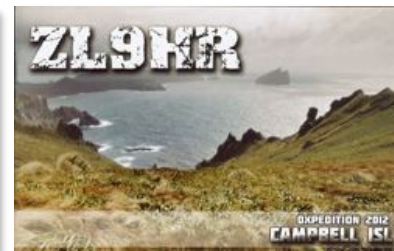
Palmyra Atoll



Annobon Is



Mozambique



Campbell Is

# #19 Mount Athos

1.	P5	DPRK (NORTH KOREA)
2.	3Y/B	BOUVET ISLAND
3.	FT5/W	CROZET ISLAND
4.	BS7H	SCARBOROUGH REEF
5.	CE0X	SAN FELIX ISLANDS
6.	BV9P	PRATAS ISLAND
7.	KH7K	KURE ISLAND
8.	KH3	JOHNSTON ISLAND
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10.	FT5/X	KERGUELEN ISLAND
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13.	YV0	AVES ISLAND
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15.	ZS8	PRINCE EDWARD & MARION ISLANDS
16.	PY0S	SAINT PETER AND PAUL ROCKS
17.	PY0T	TRINDADE & MARTIM VAZ ISLANDS
18.	KP5	DESECHEO ISLAND
19.	SV/A	MOUNT ATHOS
20.	VP8S	SOUTH SANDWICH ISLANDS
21.	KH5	PALMYRA & JARVIS ISLANDS
22.	ZL9	NEW ZEALAND SUBANTARCTIC ISLANDS
23.	JD/M	MINAMI TORISHIMA
24.	EZ	TURKMENISTAN
25.	YK	SYRIA

## DXCC Analysis

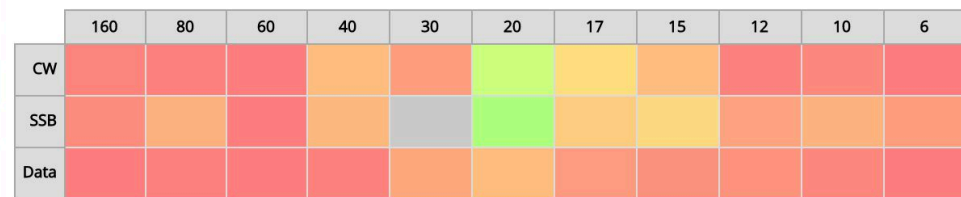
Filter reports by continent:

Select DXCC:

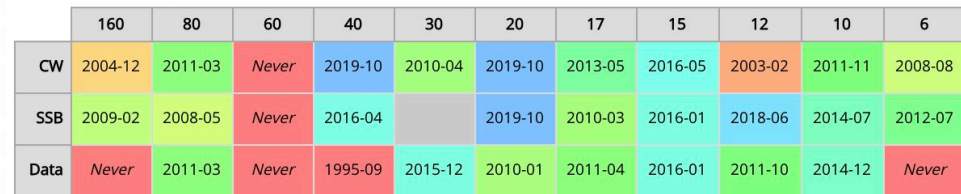
DXCC Analysis for MOUNT ATHOS from all areas

- Most Wanted Rank: 19
- CQ zone: 20
- Continent: EU
- Primary prefix: SV/A
- Approximate location: 40.20°N 24.30°E
- ADIF number: 180
- [Check propagation...](#)

## Band/Mode Slots Analysis



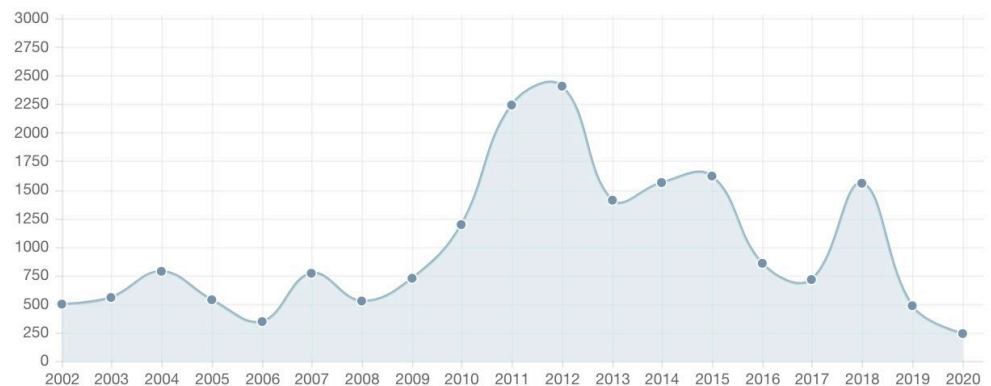
## Recorded Activity



## Colour Legend



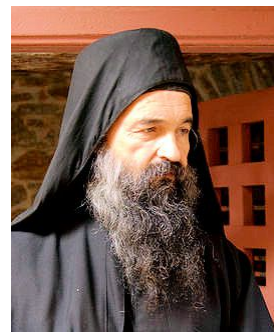
## QSO Activity Graph (all bands and modes)





# Orthodox Monastery of Docheiariou Mount Athos, Greece





**Monk Apollo  
SV2ASP/2**

Four Months Later, It Was A  
Happy QSL Card Day For Me !



- He became a monk in 1973 and joined the Orthodox Monastery of Docheiariou on Mount Athos in 1980.
- Because of the need for reliable communication from the monastery Monk Apollo became a radio amateur in 1988.
- Convincing the church Holy Council that only his QSO contacts were "blessed", Monk Apollo was essentially the lone DX voice from Mount Athos for many years
- Mount Athos consistently ranks #20 on the most-wanted DXCC entity
- Unpredictable operating schedule = very difficult to get a confirmed contact with Mount Athos
- On June 27, 2015 I got lucky on 40M SSB...and...


# A Beautiful 4-Sided QSL Card From Monk Apollo



Mount Athos is a mountain-peninsula that culminates in a majestic 2033meter-high peak, after which it is named. It is known among Orthodox Christians as Agion Oros (Holy Mountain), as it is a place exclusively dedicated to the worship of God and to the fight against passions and the Evil. It is also named 'the Garden of the Mother of God', because of its Most Holy Patroness and Guardian. After Our Lord Jesus Christ, She is the most venerated by the inhabitants of the peninsula – some 1800 monks of different nationalities, sharing the same Christian Orthodox faith.



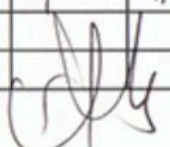
From an administrative point of view, the Athonite peninsula is divided in 20 sovereign monasteries. Their representatives constitute the Iera Koinotis (Holy Community), the governmental organ of this one-thousand-year-old self-ruled entity. My monastery, Docheiariou, occupies the tenth rank in the hierarchical order. Located on the western shore of the peninsula, it was built in the last quarter of the 10th century by Saint Euthymios (the storehouse keeper). Frescoed in 1568, its beautiful Katholikon (basilica) is dedicated to the Archangels Michael and Gabriel. The monastery also houses as a most precious treasure the Holy Icon of the Virgin Gorgoypekoos (the Quick to Hearken), who promptly hears the prayers of those who faithfully implore Her. May Her intercessions accompany us through the sufferings of this life and on the path to Life Eternal.




## SV2ASP/A

QTH: Docheiariou Monastery - Mount Athos


CFM QSO/HRD WITH RADIO KGMM

DAY	MONTH	YEAR	UTC	MHz	2WAY	RST
27	6	15	437	14	SSB	59
						

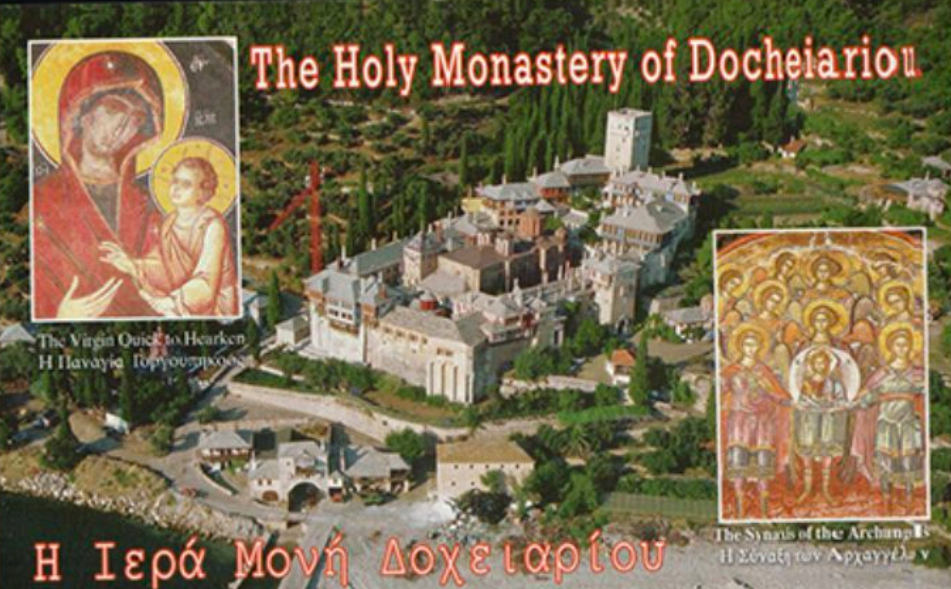


Op. Monk Apollo  
I.M. Docheiariou  
63087, Mount Athos  
Greece


Vy 73s and God bless you  
Ο Θεός να σ' ευλογεί



## The Holy Monastery of Docheiariou



## Η Ιερά Μονή Δοχειαρίου



The Virgin Quick to Hearken  
Η Παντογώγος Γοργυπηκοός

The Synaxis of the Archangels  
Η Σύναξις των Αρχαγγέλων

# K6MM

## Amateur Radio Station

### Collecting QSL Cards Is FUN !

Why Ham Radio? DXpeditions **On The Air** Log Radiosport  
 160M Vertical Fun Stuff Home Photos Resources  
 Antennas K6MM Mobile Propagation The Shack  
 Awards License History QSL Gallery Websites



























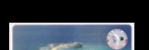

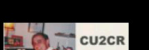

### QSL Gallery Sorted By DXCC Entity

Click on a link below to go to that DXCC country. Any QSL card received from that country will be displayed. All 340 current and all 62 deleted DXCC entities are included in the Gallery.

#### Quick Jump

Click on the first letter of the country that you want to visit!

ABCDEFGHIJKLMN OPQRSTUVWXYZ

 Abu Ail, Jabal at Tair (Deleted)	 Afghanistan	 St. Brandon Is.	 Aland Island	 Alaska
 Albania	 Aldabra (Deleted)	 Algeria	 American Samoa	 Amsterdam & St. Paul Islands
 Andaman & Nicobar Islands	 Andorra	 Angola	 Anguilla	 Annobon
 Antarctica	 Antigua, Barbuda	 Argentina	 Armenia	 Aruba
 Ascension Island	 Asiatic Russia	 Auckland & Campbell Islands	 Austral Island	 Australia
 Austria	 Azerbaijan	 Bahamas	 Bahrain	 Bangladesh

# K6MM

## Amateur Radio Station

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### QSL Gallery Sorted By DXCC Prefix

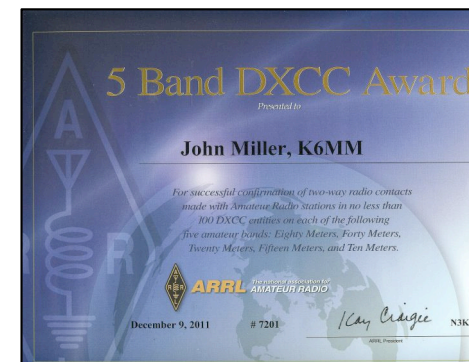
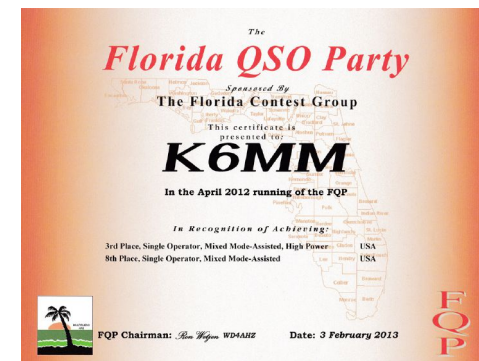
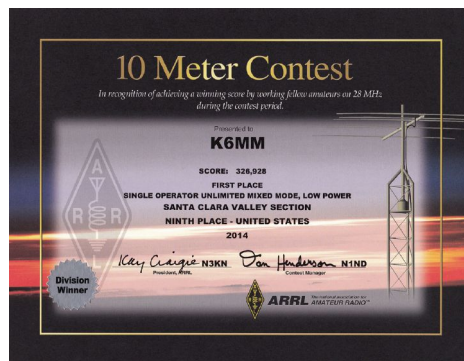
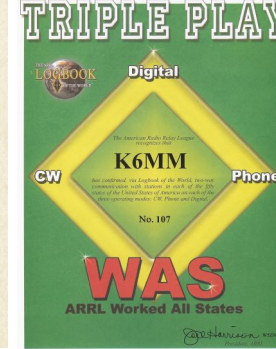
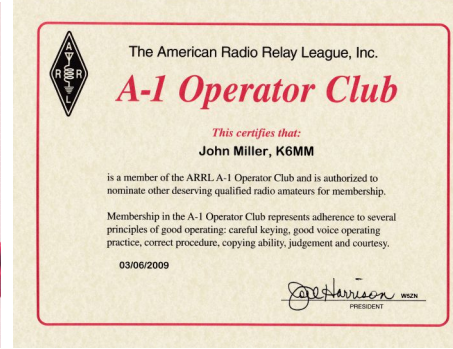
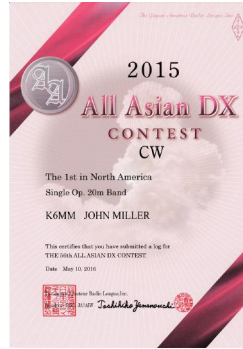
Click on the Prefix below that you want to review, and you will be taken to that DXCC entity. All 340 current and 62 deleted (\*) DXCC entities are included in the Gallery.

1A*	Abu Ail, Jabal at Tair	JD1	Ogasawara
1A0	Sov. Mil. Order of Malta	JT-JV	Mongolia
1B*	Bienheim Reef	JW	Svalbard
1G*	Geyser Reef	JX	Jan Mayen
1M*	Minerva Reef	JY	Jordan
1S, 9M0	Spraty Is.	JZ0*	Netherlands New Guinea
3A	Monaco	K, N, W, AA-AK	United States of America
3B6, 7	Agalega & St. Brandon Is.	KG4	Guantanamo Bay
3BB	Mauritius	KH0, AH0, NH0, WH0	Mariana Is.
3B9	Rodrigues Is.	KH1, AH1, NH1, WH1	Baker & Howland Is.
3C	Equatorial Guinea	KH2, AH2, NH2, WH2	Guam
3C0	Annobon (Pagalu) Is.	KH3, AH3, NH3, WH3	Johnston Is.
3D2	Fiji Is.	KH4, AH4, NH4, WH4	Midway Is.
3D2, 3DN-3DZ	Rotuma	KH5, AH5, NH5, WH5	Palmyra & Jarvis Is.
3D2	Rotuma	KH5K, AH5K	Kingman Reef
3DA-3DM, 3D6	Swaziland	KH6, 7, AH, NH, WH	Hawaii
3V, TS	Tunisia	KH7K, AH, NH, WH	Kure Is.
3W, XV	Vietnam	KH8, AH8, NH8, WH8	American Samoa
3X	Repblic of Guinea	KH8S, AH, NH, WH	Swains Is.
3Y/B	Bouvet Is.	KH9, AH9, NH9, WH9	Wake Is.
3Y/P	Peter 1st Is.	KL, AL, NL, WL	Alaska
4J-4K, UD	Azerbaijan	KP1, NP1, WP1	Navassa Is.
4L, UF	Georgia	KP2, NP2, WP2	Virgin Is.
4O, YU3, YU6	Montenegro	KP3, 4, NP3, 4, WP3, 4	Puerto Rico
4P-4S	Sri Lanka (Ceylon)	KP5, NP5, WP5	Desecheo Is
4U_ITU	ITU Geneva Switzerland	KR6*, JR6, KA6	Okinawa (Ryukyu Is.)
4U_UN	United Nations, HQ	KS4*	Swan Is.
4W	Timor-Leste	KZ5*	Canal Zone
4W*	Yemen Arab Republic	LA-LN, JW, JX	Norway
4X, 4Z	Israel	LO-LW, AY-AZ, L2-L9	Argentina
5A	Libya	LX	Luxembourg
5B, C4, H2, P3	Cyprus	LY, UP	Lithuania
5H-5I	Tanzania	LZ	Bulgaria
5N-5O	Nigeria	OA-OC, 4T	Peru
5R-5S, 6X	Madagascar	OD	Lebanon
5T	Mauritania	OE	Austria
5U	Niger	OF-OJ	Finland
5V	Togo	OH0	Aland Is.
5W	Samoa	OJ0	Market Reef
5X	Uganda	OK-OL	Czech Republic
5Y-5Z	Kenya	OK-OM*	Czechoslovakia
6V-6W	Senegal	OM	Slovak Rep. (Slovakia)
6Y	Jamaica	ON-OT	Belgium
7J1, JD1*	Okino Tori-shima	OU-OW, OZ, 5P-5Q	Denmark
7O	Yemen	OX, XP	Greenland
7P	Lesotho	OY, OW	Faroe Is.
7Q	Malawi	P2	Papua New Guinea
7T-7Y	Algeria	P2*, VK9	Papua Territory
8P	Barbados	P2*, VK9	Territory New Guinea
8Q	Maldive Is.	P4	Aruba
8R	Guyana	P5-P9	DPR of Korea (North Korea)
8Z4*	Saudi/Iraq Neutral Zone	PA-PI	Netherlands
8Z5*, 9K3	Kuwait/Saudi Neutral Zone	PJ2	Curacao
9A	Croatia	PJ2, PJ4, PJ9*	Bonaire, Curacao
9G	Ghana	PJ4	Bonaire
9H	Malta	PJ5, 6, 7, 8	Saba, St. Maarten, St. Eustatius
9I-9J	Zambia	PJ5, 6	Saba, St. Eustatius
9K	Kuwait	PJ7	St. Maarten
9L	Sierra Leone	PK1-3*	Java
9M2, 9M4, 9W	West Malaysia	PK4*	Sumatra
9M6, 9MB	East Malaysia	PK5*	Netherlands Borneo
9N	Nepal	PK6*	Celebe & Molucca Is.
9O-9T	Dem. Rep. of Congo (Zaire)	PP-PY, ZV-ZZ	Brazil
9U*	France	QV0*	French Guiana



# Operating Awards

## DXers Love To Collect Awards Along The Way



# QST



ARRL The national association for  
AMATEUR RADIO®

November 2019 www.arrl.org

DEVOTED ENTIRELY TO AMATEUR RADIO

## Beneath Autumn Skies

### QST Reviews

#### Yaesu FTdx101D

HF and 6-Meter Transceiver

#### SPE Expert 1.5K-FA

Solid-State Linear Amplifier

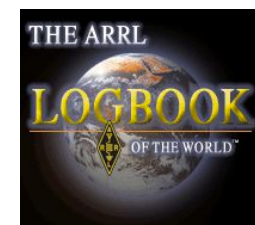
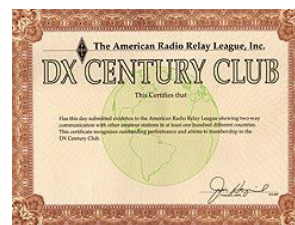


- **Extensive Awards Program**
- **WAS** = Worked All States
- **Triple-Play Award** = 50 States on all 3 modes: SSB, CW, Digital
- **5WAS** = 5-Band Worked All States
- **WAC** = Worked All Continents
- **VUCC** = VHF/UHF Century Club
- **DXCC** = DX Century Club

Afghanistan	Cocos I.	Iceland	Myanmar	Somalia
Agalega & St. Brandon Is.	Colombia	India	Namibia	South Africa
Aland Is.	Comoros	Indonesia	Nauru	South Cook Is.
Alaska	Conway Reef	Iran	Navassa I.	South Georgia I.
Albania	Corsica	Iraq	Nepal	South Orkney Is.
Algeria	Costa Rica	Ireland	Netherlands	South Sandwich Is.
American Samoa	Cote d'Ivoire	Isle of Man	New Caledonia	South Shetland Is.
Amsterdam & St. Paul Is.	Crete	Israel	New Zealand	South Sudan
Andaman & Nicobar Is.	Croatia	Italy	New Zealand S.I.	Sov Mil Order of Malta
Andorra	Crozet I.	ITU HQ	Nicaragua	Spain
Angola	Cuba	Jamaica	Niger	Spratty Is.
Anguilla	Curacao	Jan Mayen	Nigeria	Sri Lanka
Annobon I.	Cyprus	Japan	Niue	St. Helena
Antarctica	Czech Republic	Jersey	Norfolk I.	St. Kitts & Nevis
Antigua & Barbuda	DPR of Korea	Johnston I.	North Cook Is.	St. Lucia
Argentina	DPR of the Congo	Jordan	North Macedonia	St. Paul I.
Armenia	Denmark	Juan de Nova, Europa	Northern Ireland	St. Peter & St. Paul Rocks
Aruba	Desecheo I.	Juan Fernandez Is.	Norway	St. Pierre & Miquelon
Ascension I.	Djibouti	Kaliningrad	Ogasawara	St. Vincent
Asiatic Russia	Dodecanese	Kazakhstan	Oman	Sudan
Austral I.	Dominica	Kenya	Pakistan	Suriname
Australia	Dominican Republic	Kerguelen Is.	Palau	Svalbard
Austria	Ducie I.	Kermadec Is.	Palestine	Swains I.
Aves I.	E. Kiribati (Line Is.)	Kingdom of Eswatini	Palmyra & Jarvis Is.	Sweden
Azerbaijan	East Malaysia	Kure I.	Panama	Switzerland
Azores	Easter I.	Kuwait	Papua New Guinea	Syria
Bahamas	Ecuador	Kyrgyzstan	Paraguay	Taiwan
Bahrain	Egypt	Lakshadweep Is.	Peru	Tajikistan
Baker & Howland Is.	El Salvador	Laos	Peter 1 I.	Tanzania
Balearic Is.	England	Latvia	Philippines	Temotu Province
Banaba I. (Ocean I.)	Equatorial Guinea	Lebanon	Pitcairn I.	Thailand
Bangladesh	Eritrea	Lesotho	Poland	The Gambia
Barbados	Estonia	Liberia	Portugal	Timor-Leste
Belarus	Ethiopia	Libya	Pratas I.	Togo
Belgium	European Russia	Liechtenstein	Prince Edward & Marion Is.	Tokelau Is.
Belize	Falkland Is.	Lithuania	Puerto Rico	Tonga
Benin	Faroe Is.	Lord Howe I.	Qatar	Trindade & Martim Vaz Is.
Bermuda	Federal Republic of Germa	Luxembourg	Republic of Korea	Trinidad & Tobago
Bhutan	Fernando de Noronha	Macao	Republic of Kosovo	Tristan da Cunha & Gough I.
Bolivia	Fiji	Macquarie I.	Republic of the Congo	Tromelin I.
Bonaire	Finland	Madagascar	Reunion I.	Tunisia
Bosnia-Herzegovina	France	Madeira Is.	Revillagigedo	Turkey
Botswana	Franz Josef Land	Malawi	Rodrigues I.	Turkmenistan
Bouvet	French Guiana	Maldives	Romania	Turks & Caicos Is.
Brazil	French Polynesia	Mali	Rotuma I.	Tuvalu
British Virgin Is.	Gabon	Malpelo I.	Rwanda	Uganda
Brunei Darussalam	Galapagos Is.	Malta	Saba & St. Eustatius	UK Sovereign Base Cyprus
Bulgaria	Georgia	Mariana Is.	Sable I.	Ukraine
Burkina Faso	Ghana	Market Reef	Saint Barthelemy	United Arab Emirates
Burundi	Gibraltar	Marquesas Is.	Saint Martin	United Nations HQ
C. Kiribati	Glorioso Is.	Marshall Is.	Samoa	United States of America
Cambodia	Greece	Martinique	San Andres & Providencia	Uruguay
Cameroon	Greenland	Mauritania	San Felix & San Ambrosio	Uzbekistan
Canada	Grenada	Mauritius	San Marino	Vanuatu
Canary Is.	Guadeloupe	Mayotte	Sao Tome & Principe	Vatican
Cape Verde	Guam	Mellish Reef	Sardinia	Venezuela
Cayman Is.	Guantanamo Bay	Mexico	Saudi Arabia	Viet Nam
Central Africa	Guatemala	Micronesia	Scarborough Reef	Virgin Is.
Ceuta & Melilla	Guernsey	Midway I.	Scotland	W. Kiribati (Gilbert Is. )
Chad	Guinea	Minami Torishima	Senegal	Wake I.
Chagos Is.	Guinea-Bissau	Moldova	Serbia	Wales
Chatham Is.	Guyana	Monaco	Seychelles	Wallis & Futuna Is.
Chesterfield Is.	Haiti	Mongolia	Sierra Leone	West Malaysia
Chile	Hawaii	Montenegro	Singapore	Western Sahara
China	Heard I.	Montserrat	Sint Maarten	Willis I.
Christmas I.	Honduras	Morocco	Slovak Republic	Yemen
Clipperton I.	Hong Kong	Mount Athos	Slovenia	Zambia
Cocos (Keeling) Is.	Hungary	Mozambique	Solomon Is.	Zimbabwe

## DXCC Country List: 340 Entities

- The **DX Century Club** is the premier operating DX award in all of Amateur Radio.
- The basic certificate is awarded for working and confirming at least 100 entities on the ARRL DXCC List.
- Logging and verification system can be done online (LoTW)
- QSL cards also can be verified by 'Field Checkers'
- All amateur bands allowed



# Getting to 100

- Working your first 100 DXCC entities is challenging but not difficult
- Lots of DX entities in the Pacific and Caribbean
- Contest weekends will offer lots of DX
- Even a casual operator can “stumble” onto DX
- Working the next 100
  - Develop good listening skills
  - Pay attention to operating styles
  - Stay informed of DXpeditions and events
  - Pay attention to spotting networks
- Get your QSOs confirmed by mail or electronically via Logbook of the World (LoTW)



The American Radio Relay League, Inc.



# DX CENTURY CLUB

#22,234

September 30, 1981

This Certifies that JOHN G. MILLER, WA6OMA

HAS THIS DAY SUBMITTED EVIDENCE TO THE AMERICAN RADIO RELAY LEAGUE SHOWING TWO-WAY COMMUNICATION WITH OTHER AMATEUR STATIONS IN AT LEAST ONE HUNDRED DIFFERENT COUNTRIES. THIS CERTIFICATE RECOGNIZES OUTSTANDING PERFORMANCE AND ATTESTS TO MEMBERSHIP IN THE DX CENTURY CLUB.

Harry J. Stanch W2HD  
President

John J. Swisher W1XX  
Communications Manager

# 5 Band DXCC

Award for working and confirming **100 countries** on each of the following five bands: **80, 40, 20, 15 & 10 Meters**



# DXCC Honor Roll



- There are **340** current entities on the DXCC list
- **331** current entities are required for the DXCC Honor Roll
- All 340 entities are required for Top Of The Honor Roll (a lifetime achievement for many hams)



- CQ Magazine as an awards program similar to the ARRL's
- Worked All Zones award
- The world is sectioned into 40 different CQ zones

## Awards

*As part of our ongoing commitment to serving the active radio operator and to encouraging activity on our frequency bands, CQ proudly sponsors a variety of on-air contests and operating awards.*

*Click on award for complete details.*

- [CQ DX Awards](#)
- [CQ DX Marathon](#)
- [CQ WAZ Awards](#)
- [CQ Diamond Jubilee WAZ Award](#)
- [CQ WPX Awards](#)
- [CQ Halls of Fame](#)
- [CQ USA-CA Award](#)

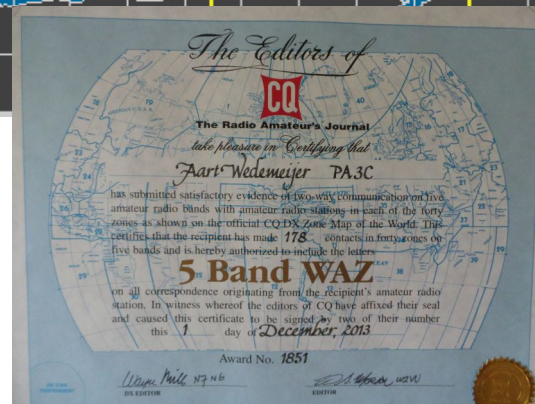
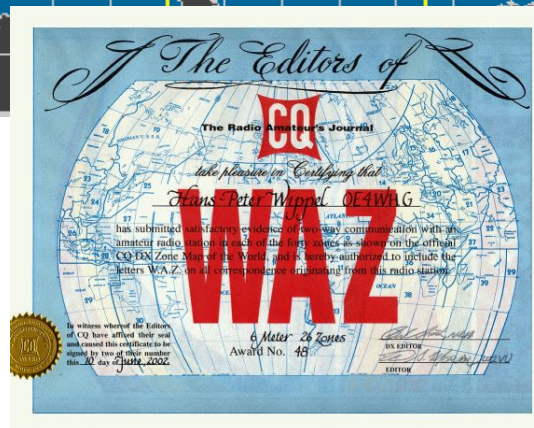
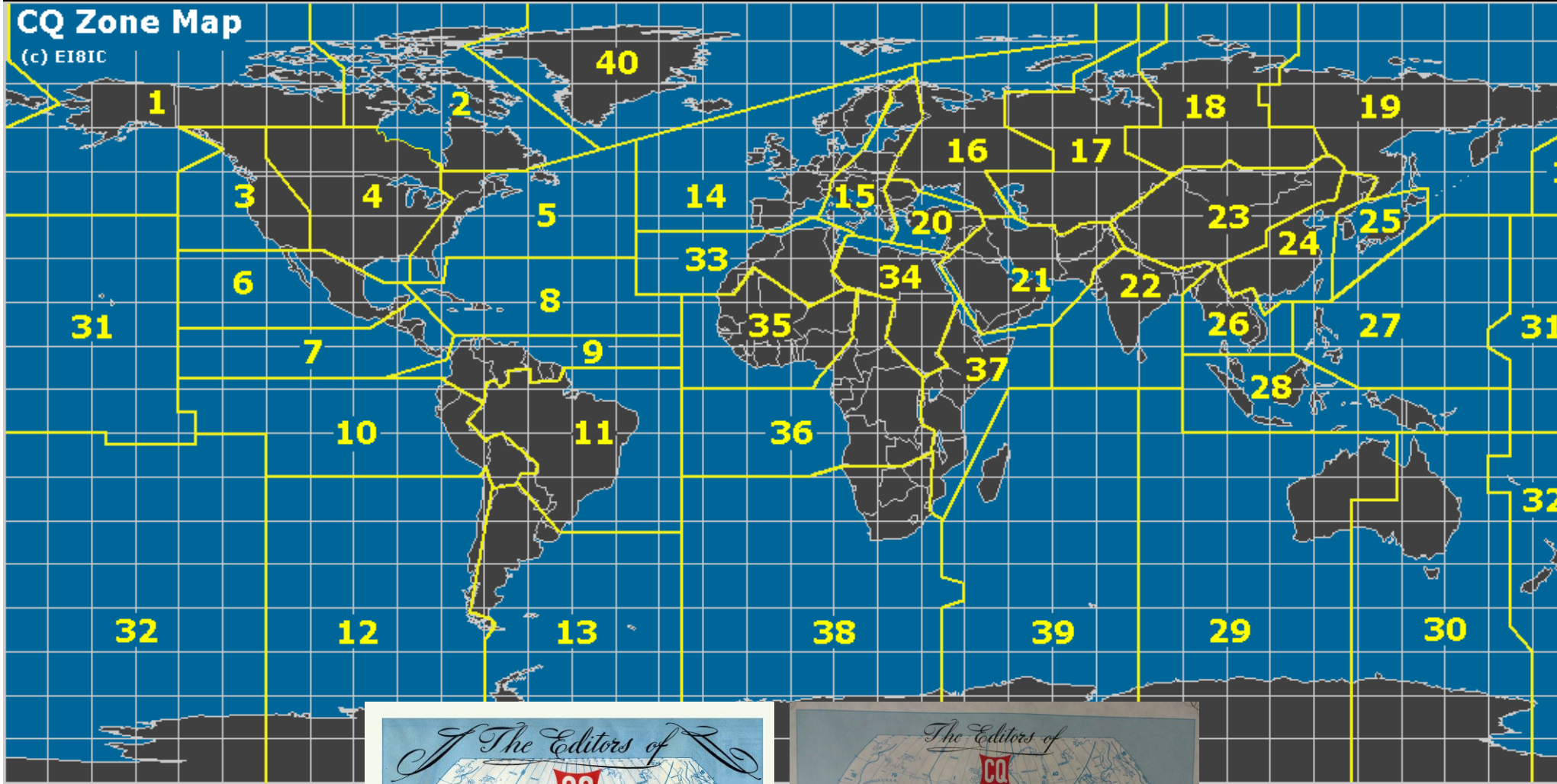
[CQ Award Application Forms](#)  
[CQ Award Checkpoint List](#)  
[On-line Confirmations](#)



[cq-amateur-radio.com/](http://cq-amateur-radio.com/)



# The world is sectioned into 40 different CQ zones



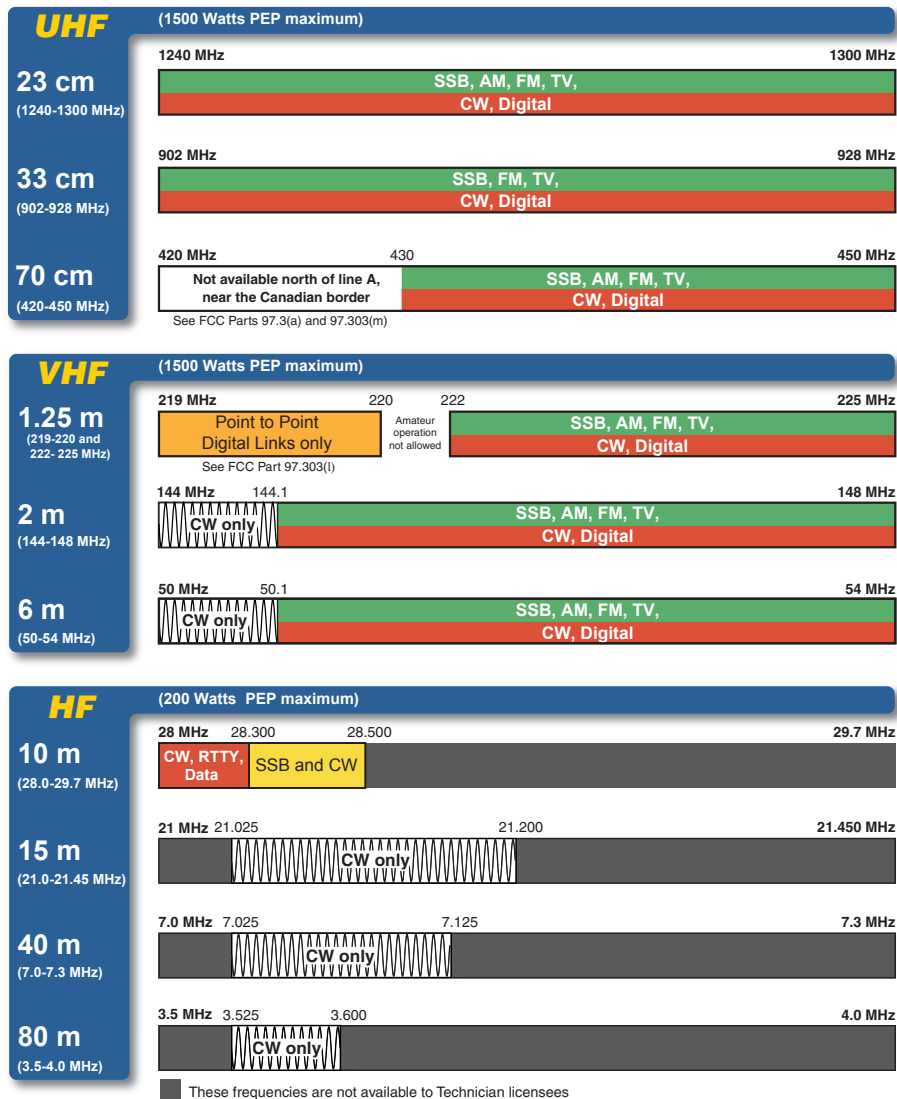
# US Amateur Radio Technician Privileges

This chart shows privileges and band plan recommendations for each of the frequencies, as granted by the FCC to the Technician licensee. It is good amateur practice to follow the band plan established by the Amateur Radio community. The band plan is developed so that spectrum allocated for our use is used most effectively. You'll find a complete description of the band plan online at [www.arrl.org/band-plan](http://www.arrl.org/band-plan).



Effective Date March 5, 2012

# DXing With A Technician Class License



- All privileges above 50 MHz (6M)
- 1500 watts on VHF and higher bands.
- 200 watts on the HF bands

Great Opportunities for HF DXing if you learn Morse Code

- 80 Meters: 3.525 to 3.600 MHz. CW only
- 40 Meters: 7.025 to 7.125 MHz. CW only
- 15 Meters: 21.025 to 21.200 MHz. CW only

**Notes:**

Technician Licenses may use up to 1500 Watts PEP on the VHF and higher bands, but are limited to 200 Watts on the HF bands. You also have privileges to explore these microwave bands with CW, Digital, SSB, AM, FM and TV:

2300-2310 MHz	2390-2450 MHz	3300-3500 MHz	5650-5925 MHz	10.0-10.5 GHz	24.0-24.25 GHz	
47.0-47.2 GHz	76.0-81.0 GHz	122.25-123.0 GHz	134-141 GHz	241-250 GHz	All above 275 GHz	rev. 10-29-15

# **DXing With A Technician Class License**

- Full privileges in two slices of 10 Meters
  - a. 28.000 MHz to 28.500 MHz CW, RTTY, FT8. Other digital. 200 watts maximum
  - b. 28.300 MHz to 29.700 MHz CW, Phone, Image; 200 watts maximum
- HF Propagation influenced by the sunspot cycle. Typically only 3 years out of 11 for good propagation on 10M.
- Cycle 25: Next good years likely around 2023, plus or minus
- Great Opportunities for DXing if you learn Morse Code
  - 80 Meters: 3.525 to 3.600 MHz. CW only
  - 40 Meters: 7.025 to 7.125 MHz. CW only
  - 15 Meters: 21.025 to 21.200 MHz. CW only
- “Having Fun With Morse” by K8ZT  
[https://drive.google.com/file/d/14LA9GqRAw6\\_H75pkGNU4WYCB0JYzAgaY/view](https://drive.google.com/file/d/14LA9GqRAw6_H75pkGNU4WYCB0JYzAgaY/view)
- Upgrading to General Class opens up a whole new world of operating frequencies and operating modes (e.g., FT8).

# US Amateur Radio Bands

**US AMATEUR POWER LIMITS — FCC 97.313** An amateur station must use the minimum transmitter power necessary to carry out the desired communications. (b) No station may transmit with a transmitter power exceeding 1.5 kW PEP.



**ARRL** The national association for AMATEUR RADIO®

## KEY

- Note:**  
 CW operation is permitted throughout all amateur bands.  
 MCW is authorized above 50.1 MHz, except for 144.0-144.1 and 219-220 MHz.  
 Test transmissions are authorized above 51 MHz, except for 219-220 MHz
- = RTTY and data
  - = phone and image
  - = CW only
  - = SSB phone
  - = USB phone, CW, RTTY, and data
  - = Fixed digital message forwarding systems only

- E = Amateur Extra
- A = Advanced
- G = General
- T = Technician
- N = Novice

See *ARRLWeb* at [www.arrl.org](http://www.arrl.org) for detailed band plans.

## ARRL We're At Your Service

ARRL Headquarters:  
 860-594-0200 (Fax 860-594-0259)  
 email: [hq@arrl.org](mailto:hq@arrl.org)

Publication Orders:  
[www.arrl.org/shop](http://www.arrl.org/shop)  
 Toll-Free 1-888-277-5289 (860-594-0355)  
 email: [orders@arrl.org](mailto:orders@arrl.org)

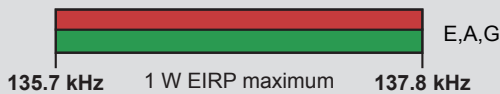
Membership/Circulation Desk:  
[www.arrl.org/membership](http://www.arrl.org/membership)  
 Toll-Free 1-888-277-5289 (860-594-0338)  
 email: [membership@arrl.org](mailto:membership@arrl.org)

Getting Started in Amateur Radio:  
 Toll-Free 1-800-326-3942 (860-594-0355)  
 email: [newham@arrl.org](mailto:newham@arrl.org)

Exams: 860-594-0300 email: [vec@arrl.org](mailto:vec@arrl.org)

Amateurs wishing to operate on either 2,200 or 630 meters must first register with the Utilities Technology Council online at <https://utc.org/plc-database-amateur-notification-process/>. You need only register once for each band.

### 2,200 Meters (135 kHz)



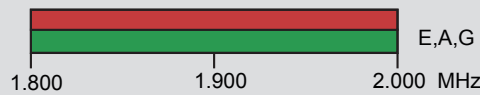
### 630 Meters (472 kHz)

5 W EIRP maximum, except in Alaska within 496 miles of Russia where the power limit is 1 W EIRP.

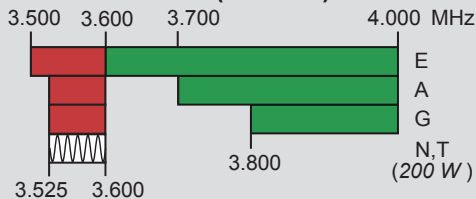


### 160 Meters (1.8 MHz)

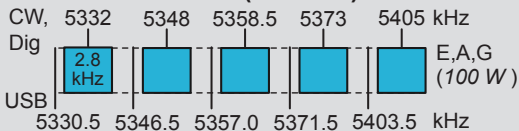
Avoid interference to radiolocation operations from 1.900 to 2.000 MHz



### 80 Meters (3.5 MHz)

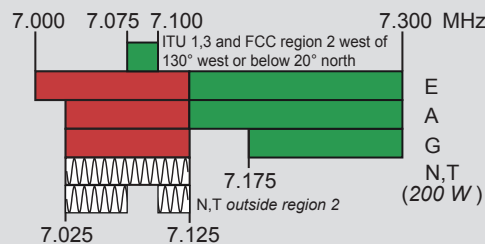


### 60 Meters (5.3 MHz)



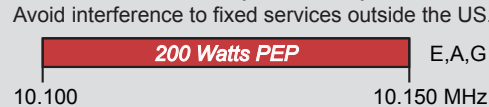
General, Advanced, and Amateur Extra licensees may operate on these five channels on a secondary basis with a maximum effective radiated power (ERP) of 100 W PEP relative to a half-wave dipole. Permitted operating modes include upper sideband voice (USB), CW, RTTY, PSK31 and other digital modes such as PACTOR III. Only one signal at a time is permitted on any channel.

### 40 Meters (7 MHz)



See Sections 97.305(c), 97.307(f)(11) and 97.301(e). These exemptions do not apply to stations in the continental US.

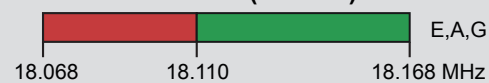
### 30 Meters (10.1 MHz)



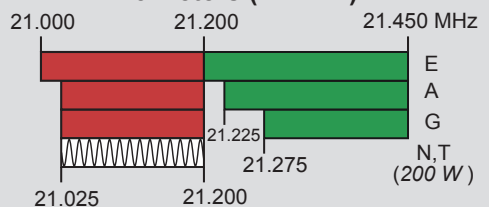
### 20 Meters (14 MHz)



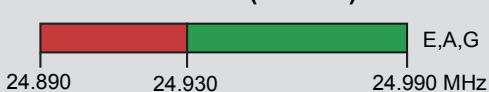
### 17 Meters (18 MHz)



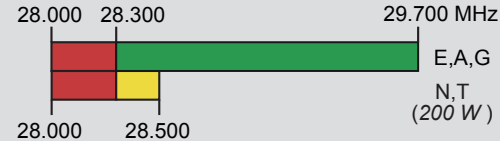
### 15 Meters (21 MHz)



### 12 Meters (24 MHz)



### 10 Meters (28 MHz)



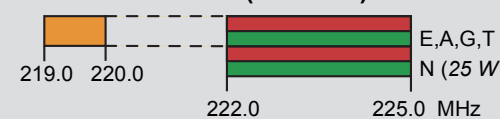
### 6 Meters (50 MHz)



### 2 Meters (144 MHz)



### 1.25 Meters (222 MHz)



\*Geographical and power restrictions may apply to all bands above 420 MHz. See *The ARRL Operating Manual* for information about your area.

### 70 cm (420 MHz)\*



### 33 cm (902 MHz)\*



### 23 cm (1240 MHz)\*



All licensees except Novices are authorized all modes on the following frequencies:

2300-2310 MHz	10.0-10.5 GHz ±	122.25-123.0 GHz
2390-2450 MHz	24.0-24.25 GHz	134-141 GHz
3300-3500 MHz	47.0-47.2 GHz	241-250 GHz
5650-5925 MHz	76.0-81.0 GHz	All above 275 GHz

± No pulse emissions

# More DX Fun: Operate From.....

**SOTA = Summits On The Air**



**POTA = Parks On The Air**



**LHOTA = Lighthouses On The Air**



**BOTA = Beaches On The Air**



# **DX Resources**



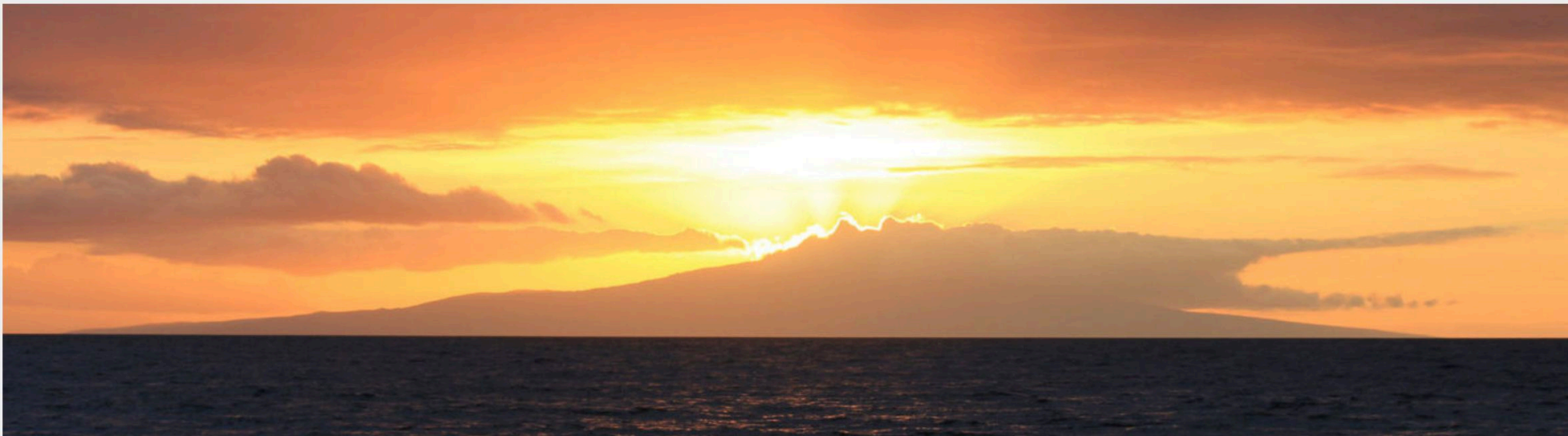
# FREE DX NEWS EVERYDAY

MACQUARIE ISLAND - VK/M



# The Daily DX

*are you listening?*



## Join Our DailyDX Today!

Stay up to date on all things DX

Free 2 Week Trial

Sample Issue



# K6MM

## Amateur Radio Station



**DX**  
CW SSB RTTY

Why Ham Radio?

DXpeditions

On The Air

Log

Radiosport

160M Vertical

Fun Stuff

Home

Photos

Resources

Antennas

K6MM Mobile

Propagation

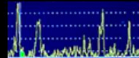
The Shack

Awards

License History

QSL Gallery

Websites



### Resources

#### Ham Radio Clubs & Organizations

- |  |  |
|--|--|
| <a href="#">AC6V.com</a>                                 | <a href="#">Islands On The Air (IOTA)</a>                      |
| <a href="#">AE7Q.com</a>                                 | <a href="#">ITU Zones</a>                                      |
| <a href="#">Amateur Radio Emergency Service (ARES)</a>   | <a href="#">K6TU Propagation</a>                               |
| <a href="#">Amateur Radio Lighthouse Society (ARLHS)</a> | <a href="#">Kenwood USA</a>                                    |
| <a href="#">American Radio Relay League (ARRL)</a>       | <a href="#">Logbook Of The World (LoTW)</a>                    |
| <a href="#">Announced DXpeditions by NG3K</a>            | <a href="#">Mobile Amateur Radio Awards Club (MARAC)</a>       |
| <a href="#">Band &amp; Frequency Charts - US</a>         | <a href="#">Mother Lode DX/Contest Club (MLDXCC)</a>           |
| <a href="#">CheapQSLs.com</a>                            | <a href="#">N1MM Logger+</a>                                   |
| <a href="#">CLubLog</a>                                  | <a href="#">National Contest Journal (NCJ)</a>                 |
| <a href="#">Contest University</a>                       | <a href="#">National Contest Journal (NCJ)</a>                 |
| <a href="#">Contesting.com</a>                           | <a href="#">Northern California Contest Club (NCCC)</a>        |
| <a href="#">CQ Magazine</a>                              | <a href="#">Northern California DX Club (NCDXC)</a>            |
| <a href="#">CQ Zone Map</a>                              | <a href="#">Northern California DX Founpaaradation (NCDXF)</a> |
| <a href="#">CW Operators' Club (CWOPS)</a>               | <a href="#">Palo Alto Amateur Radio Association (PAARA)</a>    |
| <a href="#">DX Engineering</a>                           | <a href="#">Pizza Lovers 259 (PL259)</a>                       |
| <a href="#">DX Heat</a>                                  | <a href="#">QRZ.com</a>  |
| <a href="#">DXLab Suite</a>                              | <a href="#">QSLINFO.de</a>                                     |
| <a href="#">DX Summit</a>                                | <a href="#">QSL.net</a>  |
| <a href="#">DX University</a>                            | <a href="#">QTH.com</a>  |
| <a href="#">DX-World</a>                                 | <a href="#">Quarter Century Wireless Association (QCWA)</a>    |
| <a href="#">DXWATCH.com</a>                              | <a href="#">Radio Amateur Civil Emergency Service (RACES)</a>  |
| <a href="#">Elecraft</a>                                 | <a href="#">Radio Amateur Satellite Corporation (AMSAT)</a>    |
| <a href="#">eHam.net</a>                                 | <a href="#">Radioqth.net</a>                                   |
| <a href="#">eQSL.cc</a>                                  | <a href="#">Redwood Empire DX Radio Association (REDXA)</a>    |
| <a href="#">FlexRadio</a>                                | <a href="#">Six Meters International Radio Klub (SMIRK)</a>    |
| <a href="#">FCC.gov</a>                                  | <a href="#">Ten-Ten International</a>                          |
| <a href="#">GigaParts</a>                                | <a href="#">The Daily DX</a>                                   |
| <a href="#">Ham Radio Academy</a>                        | <a href="#">The DX Zone</a>                                    |
| <a href="#">Ham Radio Outlet</a>                         | <a href="#">Universal Radio</a>                                |
| <a href="#">HamCall</a>                                  | <a href="#">US Call Sign Numbering</a>                         |
| <a href="#">Hamdata.com</a>                              | <a href="#">UX5UO QSL Cards</a>                                |
| <a href="#">HamQth.com</a>                               | <a href="#">W4DXCC Convention</a>                              |
| <a href="#">Hamvention.com</a>                           | <a href="#">W9DXCC Convention</a>                              |
| <a href="#">ICOM America</a>                             | <a href="#">WM7D.net</a>                                       |
| <a href="#">IK3QAR.it</a>                                | <a href="#">World Radiosport Team Championship (WRTC)</a>      |
| <a href="#">International Amateur Radio Union (IARU)</a> | <a href="#">World Wide Radio Operators Foundation (WWROF)</a>  |
| <a href="#">International DX Association (INDEXA)</a>    | <a href="#">WSJT-X Software</a>                                |
| <a href="#">International DX Convention (IDXC)</a>       | <a href="#">Yaesu America</a>                                  |

# K6MM.com

## DX Resources QSL Card Gallery

# K6MM

## Amateur Radio Station



**DX**  
CW SSB RTTY

Why Ham Radio?

DXpeditions

On The Air

Log

Radiosport

160M Vertical

Fun Stuff

Home

Photos

Resources

Antennas

K6MM Mobile

Propagation

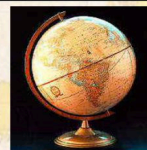
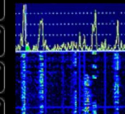
The Shack

Awards

License History

QSL Gallery

Websites



### QSL Gallery

My QSL Card Collection has been organized into **4 sections**. Click on the link below that you want to review, and you will be taken to that section. I have included all 339 current and 62 deleted DXCC entities in the DXCC Galleries.

#### Section 1

Sorted by DXCC Prefix



Click [Here](#) or on the QSL Card to go to the Prefix Gallery, arranged alphabetically by **DXCC Prefix**. This is a collection of QSL cards received via direct mail or the Bureau.

#### Section 3

eQSL Gallery



Electronic QSL Card Collection using eQSL.cc service. Click on the eQSL logo to go to the eQSL Gallery.

#### Section 2

Sorted by DXCC Entity



Click [Here](#) or on the map to go to the Country Name Gallery arranged alphabetically by DXCC entity. This is a collection of QSL cards received via direct mail or the Bureau.

#### Section 4

IOTA Gallery





# DX Resources

## DXing, DX News, Clubs

Source: [K8ZT.com/dx](http://K8ZT.com/dx)

# Join A DX Club !

## Northern California DX Club

- Major DX club in the Bay Area
- Many knowledgeable DXers freely share tips and tricks
- Co-sponsor of the International DX Convention in Visalia
- Meets 3<sup>rd</sup> Thursday of the month in San Jose (via Zoom now)
- Monthly newsletter on the web site
- W6TI 2M Repeater and reflector for DX chasing
- Free outgoing QSL bureau service
- You do not need to hold DXCC to join
- More info at <http://ncdxc.org>



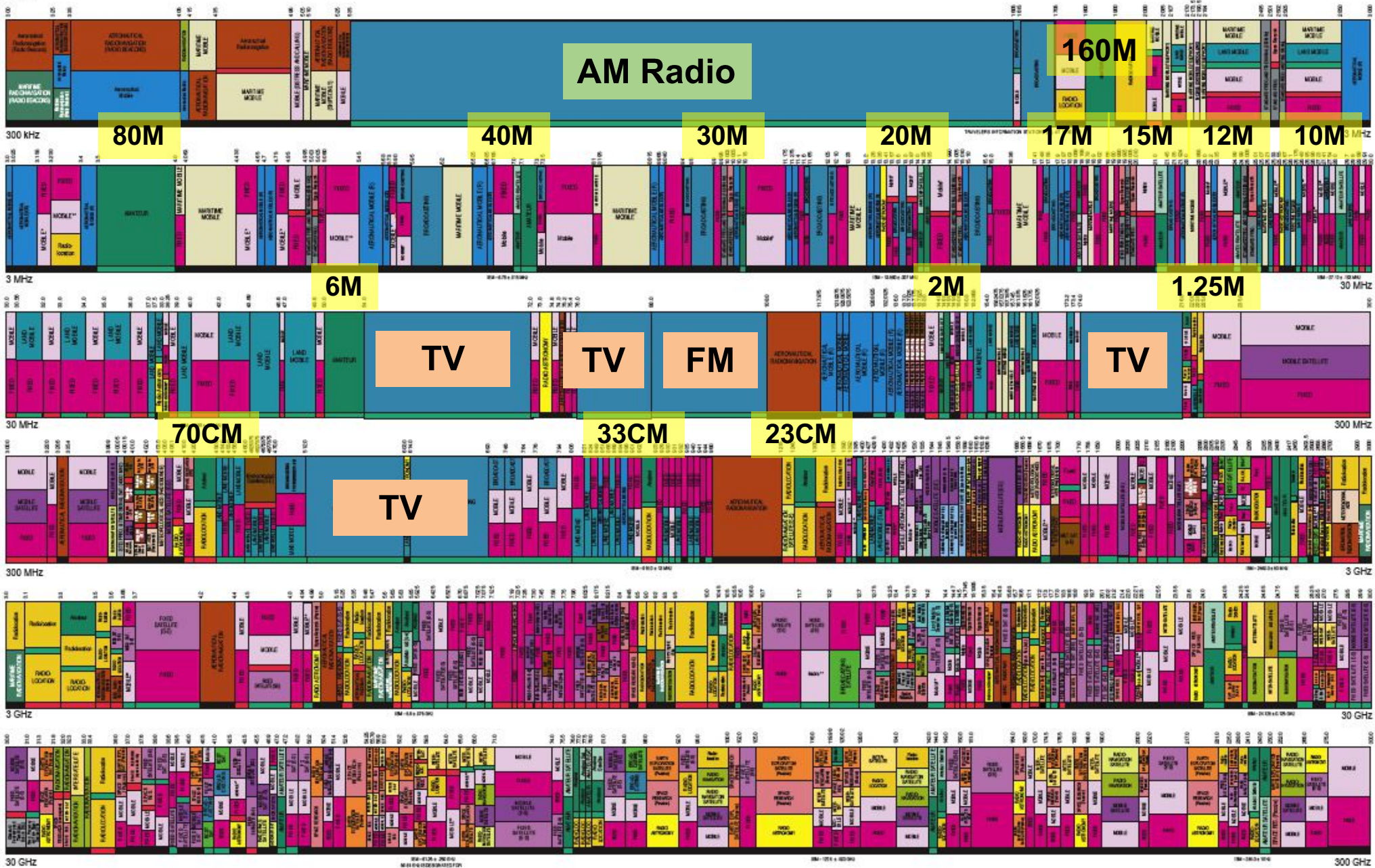
# Summary

- DXing challenges you but it's fun.
- Good privileges for Technicians, especially if you learn CW
- Better privileges for General & Extra
- Many DX resources available
  - Online Videos, Podcasts
  - Clubs
  - Publications
  - Elmers
- Many Personal Rewards
  - Skill Development
  - Operating Awards
  - Expand your world
- Have some FUN....Become an active DXer

# U.S. Frequency Allocations

## Amateur Radio Bands

Use Them, Or Lose Them...



# Next Week – Take A DXpedition Trip With Me You Choose !

## **2013 - K9W Wake Atoll**

Purpose was to put this highly secured military base on the air to commemorate the lives of 98 civilian contractors who were massacred during WWII. I was also the webmaster for this DXpedition. <http://wake2013.org/>

## **2015 - K1N Navassa Island**

Discovered by Christopher Columbus in 1504, this was a rare opportunity to visit an important but remote Wildlife Refuge in the Caribbean. For 80 years the still-standing lighthouse served as a beacon for ships traveling through the Windward passage from the Panama Canal. Only accessible via helicopter, uninhabited Navassa screams "Stay Away". Those attending the presentation will soon discover "why".. <http://t-rexsoftware.com/k1n/main.htm>

## **2016 - K5P Palmyra Atoll**

A rare opportunity to spend some time in paradise. Cooper Island on Palmyra is overseen by The Nature Conservancy, a national wildlife refuge. Also the site of a double murder in 1974. I was also the webmaster for this DXpedition. <http://palmyra2016.org/>

## **2018 - KH1/KH7Z Baker Island**

A rare opportunity to visit this uninhabited National Wildlife Refuge on the Equator to commemorate the 81st anniversary of Amelia Earhart's disappearance on July 2, 1937. I was also the webmaster for this DXpedition. <http://www.baker2018.net/>

A dramatic seascape with a large iceberg and a cloudy sky. The sky is filled with dark, heavy clouds, with a bright light source breaking through near the horizon. The water is dark and choppy. In the distance, a large, jagged iceberg floats on the sea. To the right, a range of mountains or hills is visible on the horizon.

**DXing**  
**The Ultimate Contact Sport**