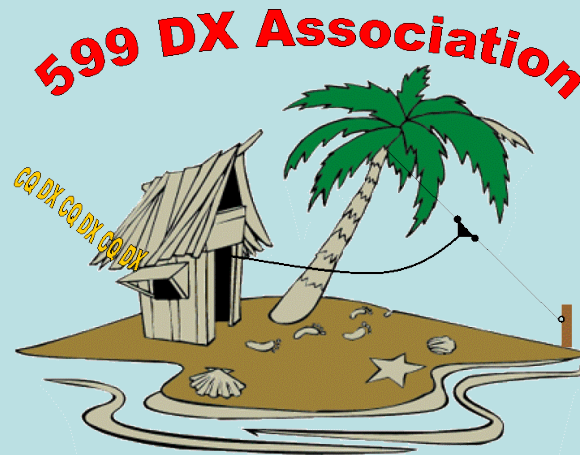


# DX College

(Introduction to DXing)



<http://599dxa.org>

Floyd Gerald, N5FG / Randy Becnel, W5UE / Glenn Lowery, K2FF

# Why are we here ????

*“Give a man a fish, and you’ll feed him for a day.  
Teach a man to fish, and you’ve fed him for a lifetime.”  
- Chinese Proverb*



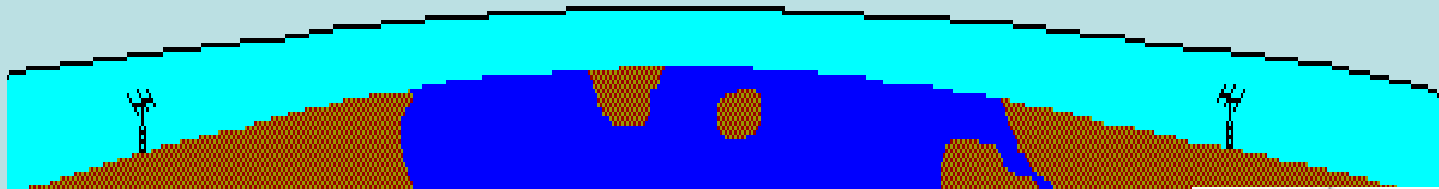
A fishing (DX) lesson

# Topics

- DX IS ????
- Location, Location, Location
- Bands, Frequencies, Modes
- Basic Station Equipment
- Administrative Tools
- Sounds of DX
- QSLs & Awards
- Contests
- DX Tips
- QSL Tips
- References
- Questions

# DX IS ????

- DX = Distance Communications
  - **Generically** – Making contacts with stations outside of the country, usually over long distances such as Europe, Asia, Australia, Africa, etc



- **Relative** – 2000+ miles on HF, 200 miles on VHF/UHF, 20 miles on microwave
- **Adventure** – Allows to travel around the globe without leaving our chairs
- **Infectious** – DXers don't have normal sleep patterns...some don't sleep at all
- **Exciting** – Working an all time new one can be like bagging that 10-point buck

# Location, Location, Location

- **Countries** can be traditional (Canada, Spain, France, Japan, etc) or geographical/political “entities”, i.e. Clipperton Island, Scarborough Reef, United Nations Building, etc



There are currently 340 “entities” on the ARRL DXCC List



Scarborough Reef

# Bands, Frequencies, Modes

- On the HF (High-Frequency) bands, you'll find DX signals on all modes including SSB, CW, digital (RITTY, Pactor, Amtor, Packet), SSTV(Slow Scan TV) and ATV(Amateur TV), and even FM (but rarely).
- Band Characteristics
  - 160 Late evening/night; best in winter 1820-1850 kHz. (CQWW 160m CW Contest Now!)
  - 80/75 Late evening/night, early morning; best in winter CW: 3500-3530; SSB: 3.795
  - 40 Early evening until early morning; Fall through Spring CW: 7000-7030; SSB: 7.125-7.200
  - 30 Sometimes like 40, sometimes like 20. Try it! CW and digital only; mixed anywhere
  - 20 Open ABOUT 24 hours, just about year round CW: 14.000-14.040; SSB: 14.150-14.250
  - 17 Sometimes like 20, sometimes like 15. Days/Eve. CW: 18.068-18.100; SSB: 18.110-18.168
  - 15 AM to Noon: EU/AF; Midday to Evening: JA/AS CW: 21.000-21.050; SSB: 21.150-21.350
  - 12 Sometimes like 15, Sometimes like 10. Try it! CW: 24.090-24.930; SSB: 24.930-24.990
  - 10 Lots of surprises! Dawn & Dusk...follow the sun! CW: 28.000-28.100; SSB: 28.300 & up
  - 6 Much like a fire alarm...tends to catch you off guard. CW/SSB: 50.100 – 50.250

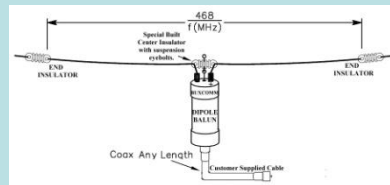
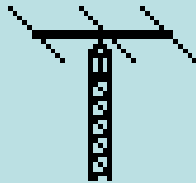
A good DXer is a good Short Wave Listener FIRST.  
Listen, Listen, Listen! Tune, Tune, Tune!

# Basic Station Equipment

- License with HF privileges
  - All levels have SOME HF privileges, but General Class or higher is better
- An HF Transceiver, Microphone, CW Key, and/or Digital Interface



- An Antenna or 2 or 3 or .....



Does NOT need to be elaborate  
Simple wire antennas will work

- The Desire
  - The “intangible”... can’t be bought... something (perhaps defective) inside us
- A Network of like minded friends and mentors (ELMERS).....

# Big Gun or Little Pistol

- Big Gun
  - W0AIH - <http://www.qth.com/w0aih/towerlist.php>
- Little Pistols

**Folks like you and  
me, for the most part!!!**

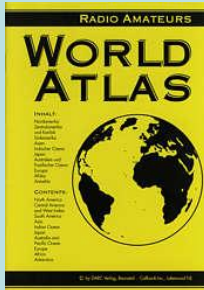
**The single most important  
station element is YOU,  
The Operator**



# Administrative Tools

- Basic Toolbag

- World Maps/Entity Lists



- DX Cluster

- Available via 2M (in most areas) or Internet (telnet/web)
    - Most logging software contains built-in packet cluster window
    - <http://www.ve7cc.net/>
    - <http://www.dxsummit.fi/DxSpots.aspx>

- Daily/Weekly Bulletins

- QRZ DX (\$25/year): [http://www.dxpub.com/qrz\\_dx\\_nl.html](http://www.dxpub.com/qrz_dx_nl.html)
    - Daily DX Bulletin (\$49/year): <http://www.dailydx.com/>
    - 425 DX Bulletin (FREE): <http://www.425dxn.org/>
    - Ohio/Penn DX Bulletin (FREE): <http://www.papays.com/opdx.html>
    - ARRL DX Bulletin (FREE): <http://www.arrl.org/w1aw-bulletins-archive-dx>

# Administrative Tools

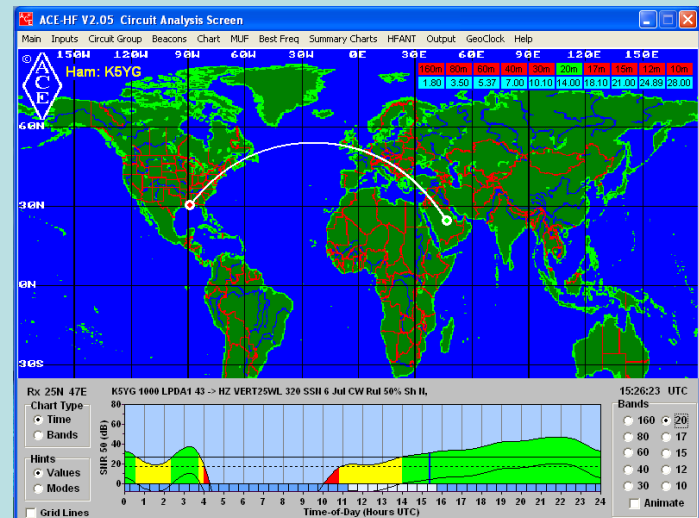
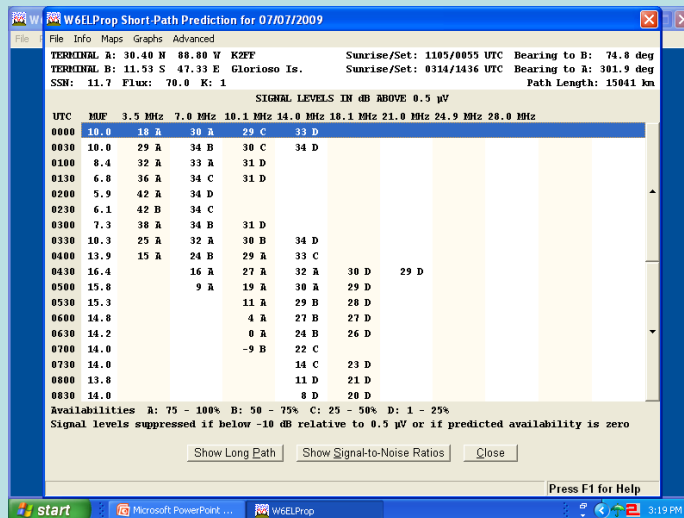
- Basic Toolbag
  - Logging Software
    - **General Logging**
    - XMLog <http://www.xmlog.com>
    - Ham Radio Deluxe <http://www.ham-radio-deluxe.com/>
    - Easy Log <http://www.easylog.com/eng/index.htm>
    - LOGic <http://www.hosenose.com/radio/>
    - Win-EQF <http://www.eqf-software.com/>
    - WriteLog <http://www.writelog.com/>
    - DX4Win <http://www.dx4win.com/>
    - DXbase <http://www.dxbase.com/>
    - DX Labs Suite <http://www.dxlabsuite.com/>
    - **Contest Logging**
    - N3FJP's Amateur Radio Software <http://www.n3fjp.com/>
    - N1MM Logger <http://n1mm.hamdocs.com/>
    - Win-Test <http://www.win-test.com/>
    - CT <http://www.k1ea.com/>

# Administrative Tools

- Basic Toolbag

  - Propagation

    - The W6ELProp <http://www.qsl.net/w6elprop/>
    - ACE-HF Pro <http://hfradio.org/ace-hf/>
    - ARRL's Radio Frequency Propagation Course (EC-011) <http://www.arrl.org/cce/courses.html#EC-011>
    - 3-day Solar-Geophysical Forecast: <http://www.swpc.noaa.gov/forecast.html>
    - Dynamic collection of propagation information <http://dx.qsl.net/propagation/>
    - NW7US propagation information website [http://hfradio.org/lastminute\\_propagation.html](http://hfradio.org/lastminute_propagation.html)
    - NCDXF/IARU Beacon Transmission Schedule <http://ncdx.org/beacon/beaconschedule.html>



# Administrative Tools

- Basic Toolbag
  - Tracking Tools

## DXCC Tracking

DXCC STATS		5/23/2009																			
PIx	Country	SP	LP	1	6	10	12	15	17	20	30	40	80	100	W	C	SSB	CW	RTY	N	
1A	Soviet Military Order Malta	50	230																		
1S	Spirito Islands	332	150																		
3A	Morocco	50	230																		
3B7	Agalega & St Brandon	65	245																		
3B8	Mauritius Island	80	260																		
3B9	Rodriguez Island	75	255																		
3C	Equatorial Guinea	65	265																		
3C0	Annobon	65	265																		
3D2C	Conway Reef	255	75																		
3D2F	Fiji Islands	255	75																		
3D2R	Rotuma	260	80																		
3D4	Southland	100	280																		
3V	Tunisia	55	235																		
5W	Vietnam	335	155																		
3X	Guinea	90	270																		
3YB	Bouvet Island	140	320																		
3YF	Peter Island	180	0																		
4J	Azerbaijan	30	210																		
4L	Georgia	35	215																		
4O	Montenegro	40	220																		
4B	St Lucia (Cayon)	20	200																		
4URB	ITU Geneva Switzerland	45	225																		
4UR5	UN Headquarters NY	45	225																		
4W	East Timor	300	115																		
4X	Israel	45	225																		
5A	Libya	55	235																		
5B	Cyprus	45	225																		
5H	Tanzania	75	255																		
5N	Nigeria	65	265																		
5R	Madagascar	65	265																		
5T	Mauritania	80	260																		
5U	Niger	80	260																		
5V	Togo	65	265																		
5W	Western Sahara	255	75																		
5X	Uganda	70	250																		
5Z	Kenya	70	250																		
6W	Senegal	65	265																		
6Y	Jamaica	135	315																		
7O	Vietnam	335	155																		
7P	Lesotho	105	285																		
7Q	Malawi	65	265																		
7X	Algeria	55	235																		
8P	Barbados	120	300																		

## DXPedition Tracking

Dxpedition XYZ (1-10 July)			
Band	CW	SSB	RTTY
160m	0600z/7July		
80m	0433z/6July		
40m		1045z/4July	
30m			
20m			
17m	1815z/3July		
15m			2123z/1July
12m			
10m			

Either commercial tools such ARRL's DXCC List or home grown spreadsheets, databases, etc

# Sounds of DX

- Calling CQ - S53IV
  - <http://www.youtube.com/watch?v=5BuRjhXkRcQ>
- Pile Up - TF3ML/P
  - <http://qrzcq.com/page/videos/showsingle/id/448>
- DXpedition - VP2MRD
  - [http://hamradiation.com/browse\\_vidfeeders.php?tag=Montserrat](http://hamradiation.com/browse_vidfeeders.php?tag=Montserrat)
- CW Contest - TM6A
  - <http://f6irf.blogspot.com/2007/11/cqww-cw-contest-tm6a-audio-clips.html>
- Collection of 2012 Sound Bites
  - <http://hamgallery.com/dx2012/>

# Memories (QSL Cards)

- **QSL Cards** – Written confirmation from the station you contacted verifying that you had a successful QSO. Confirmation is required for award submissions

A QSL card for station AFGHANISTAN YA5T. The top left features the Northern California DX Foundation logo. The call sign "YA5T" is prominently displayed in large red letters. To the right are logos for "AY THE DX Magazine" and "ICOM". Below the call sign, it lists "CQ ZONE 21 ITU ZONE 40".

Operators:  
Mats Persson, **SM7PKK/5X1Z**  
Robert Kasca, **\$53R/AP2ARS**  
Mark Demeuleneere, **ON4WW**  
Peter Casier, **ON6TT/AP2ARS**  
Mark Tell, **VK4KMT**  
Karen Barsamian, **EK6KB**

**WSUE**  
Date: 01-Jun-2002 UTC: 02:51 Band: 15m RST: 599 2X: CW

QSO(s) Verified by KUBC - ku9c@arrl.net  
Verified and printed by DX4WVN

All six operators work for the World Food Programme ([www.wfp.org](http://www.wfp.org)), the main food aid organization of the United Nations. WFP is bringing in 52,000 tons of food per month to feed 6,000,000 Afghan people in need of assistance after 23 years of armed conflict and three years of consecutive drought. The four operators work for FITTEST, the fast intervention emergency response team that provides technical support to the WFP operations everywhere in the world.  
The YA5T operations take place during the different missions by the team members in Afghanistan while the operators fulfill their normal duties. We thank the Northern California DX Foundation for their support.

The QSL MAN® - W4MPY

A QSL card for station Kingdom of Bhutan A52A. The top left features the Northern California DX Foundation logo. The call sign "A52A" is prominently displayed in large red letters. To the right is the International DX Association logo. Below the call sign, it lists "Kingdom of Bhutan CQ ZONE 22 • ITU ZONE 41 • GRID: NL57".

Confirming QSO with: **WSUE**  
11-May-00 2019 UTC 15 2XCW 599

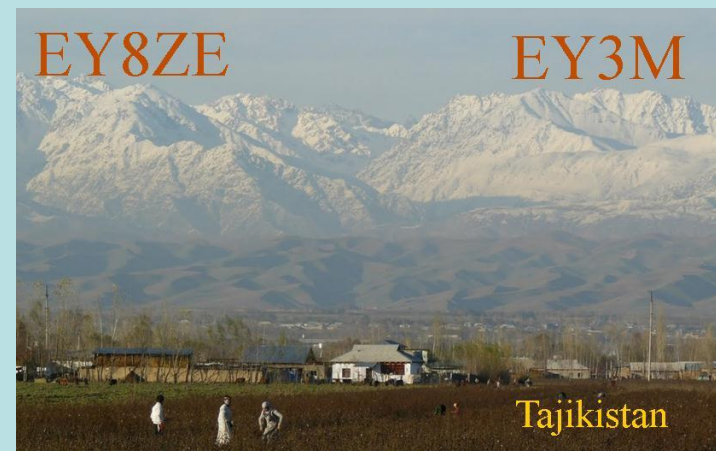
Thanks QSL

ICOM®  
[www.icomamerica.com](http://www.icomamerica.com)

QSLs furnished courtesy of the QSLMAN® - W4MPY

CUSHCRAFT COMMUNICATIONS ANTENNAS

verified qso wpa!

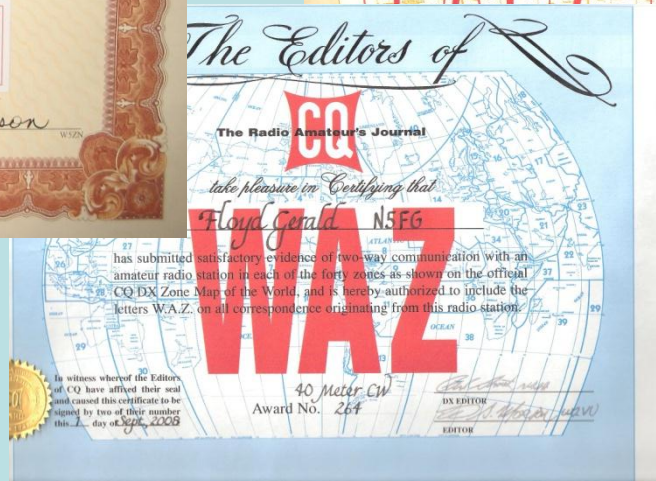
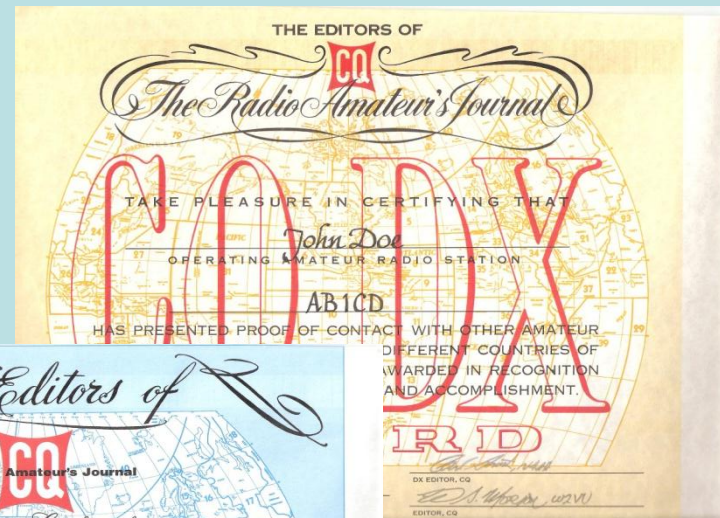
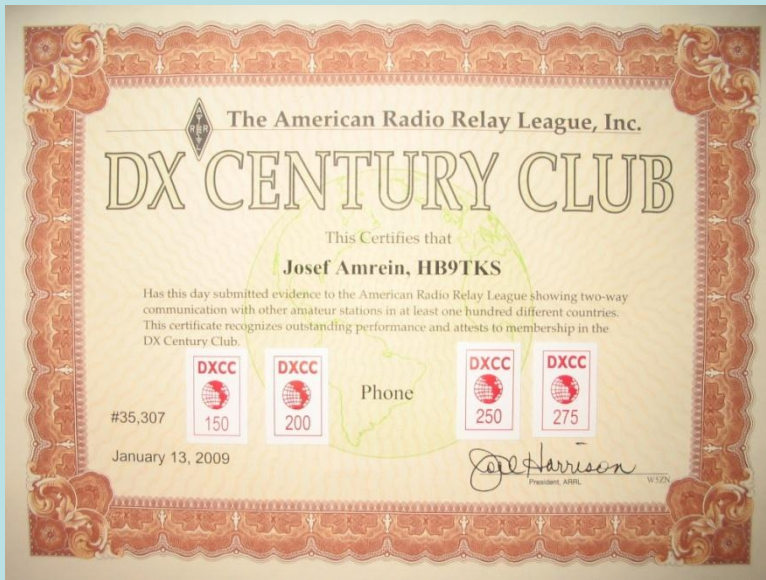


# QSLing – Methods and Tips

- **Direct:** Traditional method of obtaining paper QSLs
  - PROs – Written confirmation, attractive wallpaper, more personal, good for ANY award
  - CONs – Can be slow, expensive, can become an administrative burden
  - Either direct to DX station or their QSL manager (if he/she has one)
- **ARRL Bureau:** ARRL provides incoming/outgoing bulk QSL service
  - PROs – More economical than direct, suitable for non-critical QSLs
  - CONs – SLOOOOW, not 100% reliable, not all hams use
  - Incoming service free to all (you have to send SASEs to bureau manger)
  - Outgoing fee based to ARRL Members
- **Electronic:** Growing in acceptance/use
  - PROs – Quick, reliable, economical
  - CONs – Impersonal, not accepted for all awards, not all hams use
  - Examples: LoTW, eQSL, GlobalQSL
- **Tips:** Do your homework!!!
  - W5UE - <http://w5ue.net/qsI-slide1.html>
  - AC6V - <http://www.ac6v.com/qsItips.htm>
  - KA7NOC - <http://www.magiclink.com/web/shurst/Page3.html>
  - **ALWAYS** check station info on QRZ.COM, web site, newsletters, etc for specific instructions – not all stations exchange QSLs the same or by all of the above methods

# Rewards of DXing (Wallpaper)

- **Operating Awards** – ARRL DX Century Club (DXCC), CQ DX Award. etc – for awards, you must also obtain confirmation of the contact (QSL cards and/or electronic)





# Contests...A DXer's Friend

- More than a competition
- Opportunities exist to achieve:

## 100 Entities In 48 Hours

W5UE - CQWW CW 2011				
Band/Mode	Worked	Confirmed	Cards	LoTW
Mixed	119	100	10	96
CW	119	100	10	96
160	0	0	0	0
80	37	29	6	23
40	77	59	6	56
20	66	44	2	42
15	86	69	3	66
10	88	72	7	68
Bands/Countries	354	273	24	255

## 50 States in 24 Hours

W5UE - ARRL SS 2012			
Band/Mode	Worked	Confirmed	LoTW
Mixed	50	45	45
CW	50	45	45
160	0	0	0
80	19	16	16
40	40	32	32
20	36	30	30
15	29	24	24
10	9	6	6
Bands/States	133	108	108

- Note QSL success rate using LoTW

# Contests Calendars

- **ARRL**
  - <http://www.arrl.org/contest-calendar>
- **CQ**
  - [http://www.cq-amateur-radio.com/cq\\_contests/cq\\_annual\\_contest\\_calendar/cq\\_annual\\_contest\\_calendar.html](http://www.cq-amateur-radio.com/cq_contests/cq_annual_contest_calendar/cq_annual_contest_calendar.html)
- **WA7BMN Contest Calendar**
  - <http://www.hornucopia.com/contestcal/contestcal.html>
- **General**
  - <http://www.arrl.org/files/file/Contest%20Corral/2013-01-Vertical.pdf>

Don't fear contests, we all start somewhere!!!  
MS QSO Party is a great place to get your feet wet,  
Last weekend in February

# A Few DX Tips That Work

- **Goals:** Always have at least one current goal...measurable/trackable
- **Listen:** Spend at least twice as much time listening vs transmitting
- **Study:** DX stations have operating habits...use DX Summit search
- **Tune:** Spin that dial...go shopping...DX stations like to call CQ
- **Catfish:** Check the bottom 5 kHz of each band for bottom feeders
- **Volume:** Weak signals are often better at low volume...less QRM/N
- **Dual Receive:** There are two sides to every story...and split QSO
- **3-2-1 Go:** Delay your transmit a second or two during DX pileups
- **Recorders:** Memory keyers/voice recorders outlast most humans
- **WARC Bands:** 17 SSB by day and 30 CW by night...elbow room
- **Learn CW:** It's not going away and 3B8CF operates 99.9% CW
- **Low SWR:** Use antennas that are resonant...every watt counts
- **NEWS:** North, East, West, South...use beam headings/check LP
- **Contests:** Enter ones where MS is multiplier...you will be popular

# References

- Some Basic DX Resources
  - ARRL DXCC Page <http://www.arrl.org/awards/dxcc/>
  - ARRL QSL Service <http://www.arrl.org/qsl-service>
  - Logbook of the World (LoTW) <http://www.arrl.org/logbook-of-the-world>
  - DX Code of Conduct <http://dx-code.org/>
  - AC6V DX 101 <http://ac6v.com/DXSAMPLE.htm>
  - DX Scape (web cluster) <http://www.dxscape.com/>
  - NG3K Announced DX Operations <http://www.ng3k.com/Misc/adxo.html>
  - eQSL <http://www.eqsl.cc/qslcard/Index.cfm>
  - GlobalQSL <http://www.globalqsl.com/>
  - Intro to HF Propagation  
<http://www.ips.gov.au/Category/Educational/Other%20Topics/Radio%20Communication/Intro%20to%20HF%20Radio.pdf>

# References

- Content sources
  - <http://www.dslreports.com/faq/15690>
  - <http://www.qsl.net/crosscarc/pdf/DXing101.PDF>
- Clipart
  - <http://www.amateurradio.bz/clipart/index.html>

# QUESTIONS & THANK YOU

If you are viewing this outside of our live presentation  
send questions/comments to [w5ue@arrl.net](mailto:w5ue@arrl.net)

