Standardization Recommendations

VHF/UHF frequency labels
Positional Reporting

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Presented by:

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General: 2012 -

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Objectives

- Obtain new awareness of alpha-numeric labeling standard for VHF/UHF radios
- Be introduced to Brevard County's map book
- Understand how 1 Km grid coordinates could be used easily by hams to determine locations and line of sight distances, when necessary
- Summary: all three objectives are about "pre-planning" ahead of the need, to make operations run smooth.

Alpha-Numeric Labeling Standard

- Developed in 2006
- Allows for immediate identification of frequency assignment to one or more users
  - By text message, (5) or (6) characters
  - Over the air
  - Multiple users of multiple radios
- Allows for quicker selection of frequency assignment by geographical area
  - By city, county, state
- No one can remember all the frequencies
- It is *not* call sign based
  - K4EOC stations exist on both VHF & UHF

Alpha-Numeric Labeling Standard

Copies of the original 2006 document are available here tonight

IRARC web page, documents section:

http://irarc.ham-radio-op.net/documents/documents.html

Filename **CODE_READ_ME**.pdf

- Five(5) characters defines VHF
- Six(6) characters defines UHF

VHF LABELS

147.135 MHz in Rockledge (K4EOC)
Label is: **135 RO**

Format: [last 3 of freq] [space] [2 letters of town]

Note: label format is based upon how hams refer to repeaters in many cases: 37 Machine, 88 machine, 135, 91, etc.

Next, a typical question on air is: "*where is this repeater?*" many times no one knows. This is priority information when responding to an area

UHF LABELS

Must easily differentiate with VHF; this is addressed by addition of "4" at the tail end.

444.525 MHz in Rockledge (*also* K4EOC)
Label is: **525RO4**

Format: [last 3 of freq] [2 letters of town][4 for 440]

FL-TF4 US&R Rev 0, 11-23-2011
2 meter / 70 centimeter frequencies

BREVARD COUNTY (BREVRD)

Town | Output | Input | Tones	LABEL
Rockledge |147.1350 |147.7350 |	**135 RO**
Rockledge| 444.5250 |449.5250 | 103.5/103.5	**525RO4**
Titusville |442.8500 |447.8500 |107.2/107.2	**850TI4**
Titusville| 146.9100 |146.3100 |	**910 TI**
Cocoa |145.3700 |144.7700 |156.7/156.7	**370 CO**
Melbourne |146.6100 |146.0100 |	**610 ML**
Palm Bay |146.8950| 146.2950 |	**895 PB**
Palm Bay |145.2500 |144.6500 |82.5/82.5	**250 PB**

SIMPLEX LABELS

Borrowed from LMR / emergency services for sure, however when the radio is used as a tool, time is important. No time to Tx & Rx seven characters, twice.

Local or "tactical" operations are always taken off the main channels (repeaters). Thus, "tactical" frequencies are referred to as "TAC" channels.

SIMPLEX LABELS

TAC x = Simplex, VHF
TAC y4 = Simplex, UHF
TACz4E = Simplex, UHF, DCS Encoded

Town	Output	Input	Label	
n/a	146.4900	146.4900	**TAC A**	
n/a	146.5800	146.5800	**TAC B**	
n/a	446.7000	446.7000	**TACC4E**	DCS 115
n/a	147.4500	147.4500	**TAC D**	

See TF4 handout document for real-world examples

Simplex Frequencies & Labels

Town | Output | Input | Code	LABEL
n/a | 146.5200 | 146.5200 *(national calling freq)*	CALL52
n/a | 146.4900 | 146.4900	TAC A
n/a | 146.5800 | 146.5800	TAC B
n/a | 147.4200 | 147.4200	TAC C
n/a | 147.4500 | 147.4500	TAC D
n/a | 147.5700 | 147.5700	TAC E
n/a | 146.5650 | 146.5650 *(was used during Katrina convoy)*	TF4
n/a | 146.5650 | 146.5650 | DCS 411	TF4 E
n/a | 446.0000 | 446.0000 *(national calling freq)*	CALL46
n/a | 446.5000 | 446.5000 |	TAC A4
n/a | 446.5000 | 446.5000 | DCS 115	TACA4E
n/a | 446.6000 | 446.6000 |	TAC B4
n/a | 446.6000 | 446.6000 | DCS 115	TACB4E
n/a | 446.7000 | 446.7000 |	TAC C4
n/a | 446.7000 | 446.7000 | DCS 115	TACC4E

Alpha-Numeric Labeling Summary

- Labeling augments "pre-planned" & expedited use.
- IRARC and/or BEARS can easily add "suggested" label to all EMCOMM plans. Standardization may make things just a little smoother for some, perhaps never for all
- Disclaimer: at no time does the label system replace the actual frequency completely -> that is user selected - all users should know the method to display and enter VFO
- ***We are never going to use this!!!***
  - Florida Repeater Council is - some day soon "suggested label" will be added to all lists of coordinated repeaters - using this very standard.

Brevard County Map Book

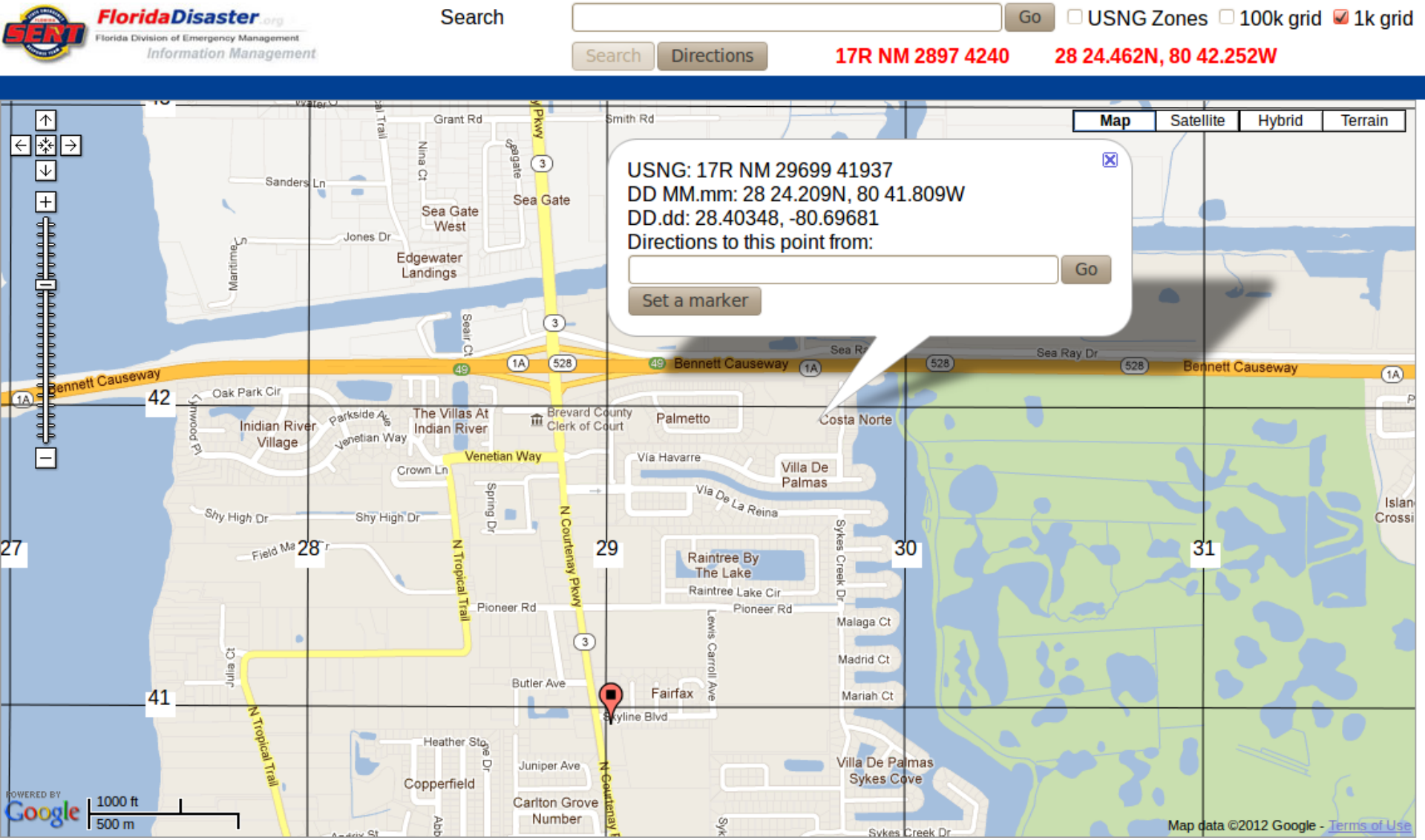
- Developed 2008 due to wildfires
- Available **FREE** on Brevard EM website
- 8.5"x11" intentionally
- 1/2" overlaps
- 1 Km grid squares
- State standard <u>is</u> **US National Grid** is not any version of Lat/Long.
  - *How many versions of Lat/Long are there*?
- Street addresses fail routinely in good weather. What is the navigation plan for when street signs are gone, structures are gone, burned over, etc?

Brevard County Map Book

Coordinates in map book are fully compatible with:

- Responders from other areas, Fire / USAR / LE
- National Guard
- GPS recievers
- Smartphone apps - search store for "MGRS"
- FREE web tools:
  - **USNGWEB MAP**: http://dhost.info/usngweb/
  - **FLORIDA INCIDENT MAPPER**: http://map.floridadisaster.org/mapper/
  - use these tools to convert street address to USNG
  - practice with zoom to see what all components mean: **17R**, **NM**, **NL**

FLORIDA INCIDENT MAPPER



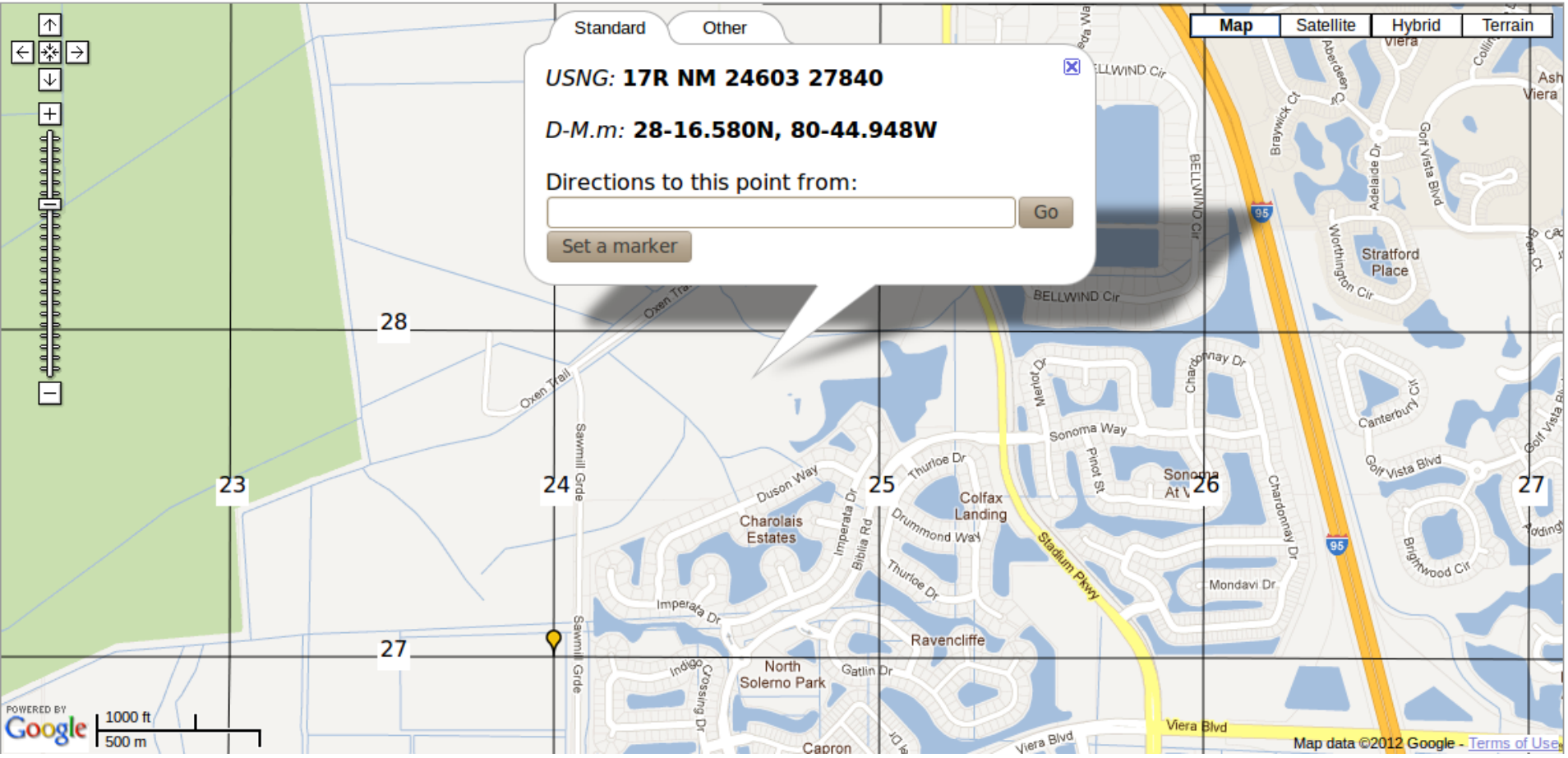
USNGWEB MAP

U.S. National Grid

Information about this application and the USNG

Search [ ] Go ☐ Zones ☐ 100k grid ☑ 1k grid

Search | Directions | 17R NM 2366 2879 28-17.100N, 80-45.522W



USNGWEB MAP

U.S. National Grid

Information about this application and the USNG

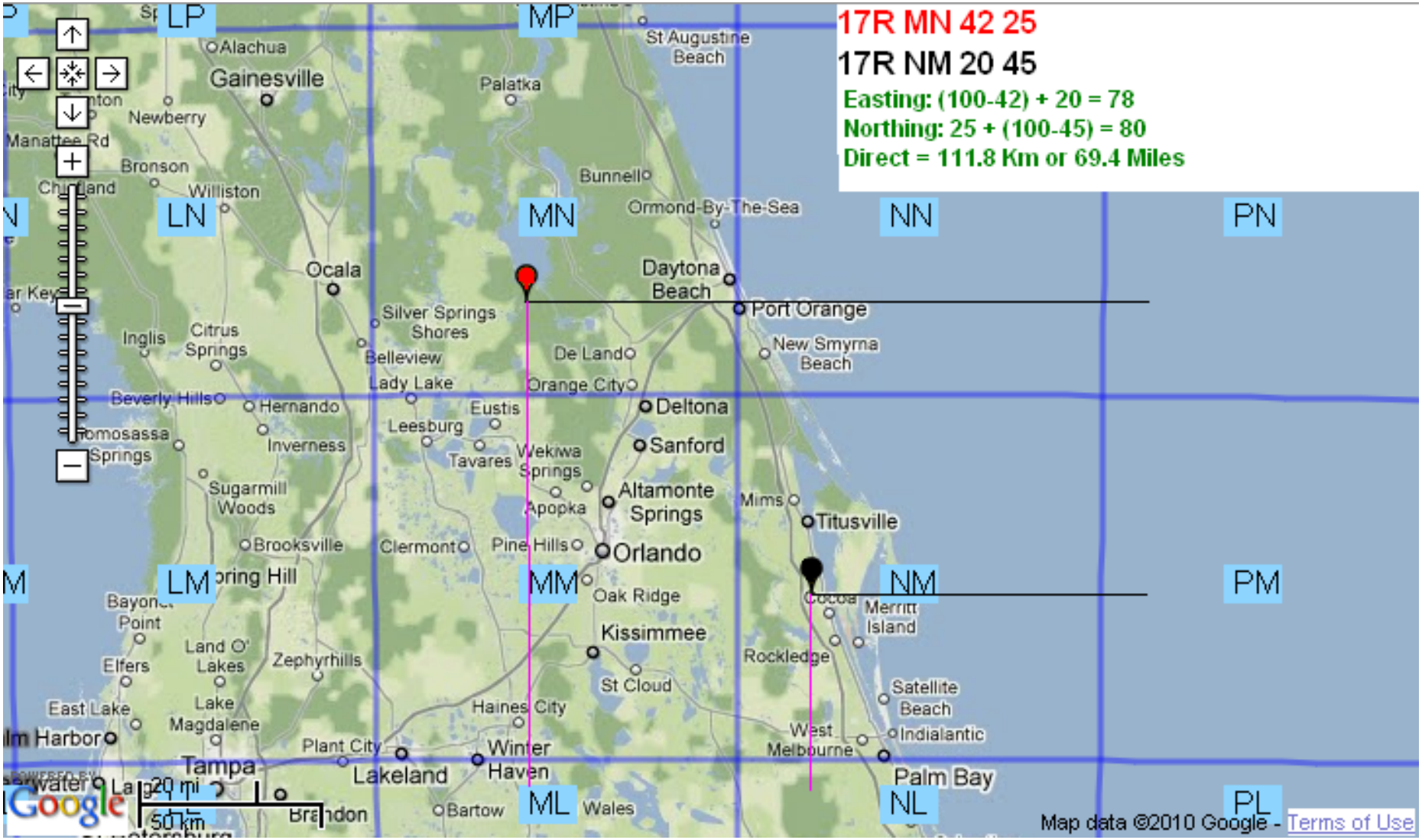
Search | Go | Zones | 100k grid | 1k grid

Search | Directions | 17R NM 2380 2893 28-17.172N, 80-45.438W

What can be done with 1 Km grid square information?

- First, what 1 Km grid square do you reside in?
  - N4UTQ: NM 29 41
  - AB4GO: NM 24 27
  - K4RBD: NM 31 22
  - W6QCM: NM 31 41
- Options
  - Can be used to organize simplex or repeated nets
    - Orange County ARES net; 100 - 800 zones; where is zone 200?
    - Deal in blocks are area w/o street address.
  - Can be used to determine line of sight distance between stations
    - Simplex nets

QSO 69.4 miles



1 Km grid example use

What is the linear distance between home stations of **N4UTQ** and **AB4GO**?

Determine 1 Km coordinates:

- N4UTQ: NM 29 41 (17R NM 29 41)
- AB4GO: NM 24 27 (17R NM 24 27)

Determine East-West difference: 29-24 = 5 (a)

Determine North-South difference: 41-27= 14 (b)

Pythagoras's theorem: $a^2 + b^2 = c^2 = 25 + 14^2$

Solving for c, c = **14.9 Km**

/ 1.6 Km per mile = **9.3 miles**

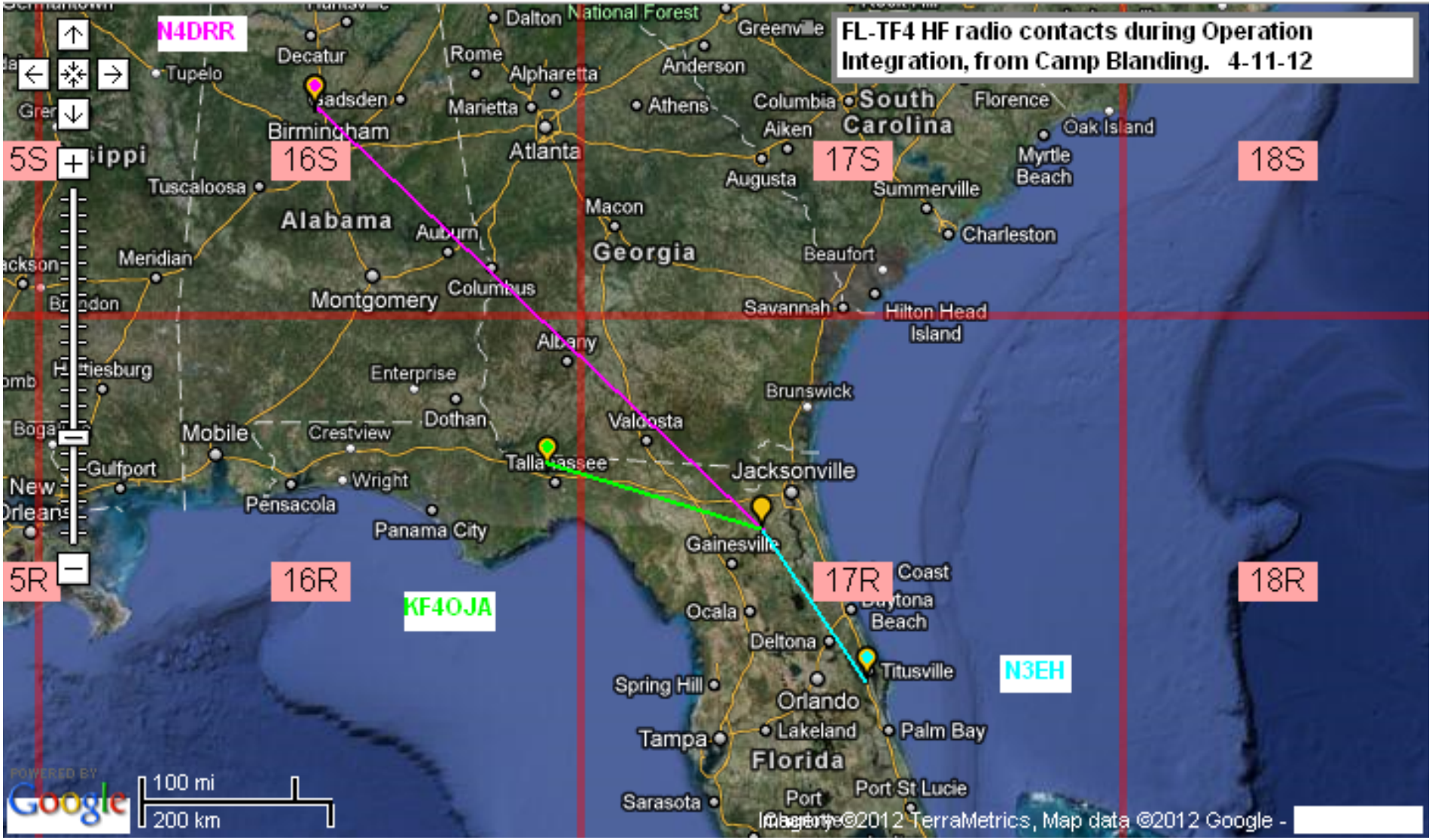
USNG SUMMARY

USNG is the Florida state standard coordinate system for land-based emergency operations

USNG information can be obtained by sending email to:

USNG08@gmail.com

Operation Integration, Camp Blanding, FL 04-11-12, FL-TF4


FL-TF4 HF radio contacts during Operation Integration, from Camp Blanding. 4-11-12
N4DRR
KF4OJA
N3EH
5S
16S
17S
18S
5R
16R
17R
18R
Dalton
National Forest
Greenville
Decatur
Rome
Anderson
Tupelo
Alpharetta
Gadsden
Marietta
Athens
Columbia
South Carolina
Florence
Oak Island
Birmingham
Atlanta
Aiken
Myrtle Beach
Augusta
Summerville
Tuscaloosa
Alabama
Macon
Auburn
Georgia
Charleston
Meridian
Beaufort
Montgomery
Columbus
Savannah
Hilton Head Island
Albany
Enterprise
Brunswick
Dothan
Valdosta
Mobile
Crestview
Tallahassee
Jacksonville
Gulfport
Wright
Pensacola
Panama City
Gainesville
Coast
Ocala
Beach
Deltona
Titusville
Spring Hill
Orlando
Tampa
Lakeland
Palm Bay
Florida
Sarasota
Port St Lucie
100 mi
200 km
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CENTRAL
FLORIDA
URBAN SEARCH AND RESCUE
TASK FORCE 4
SEMINOLE COUNTY
INCIDENT COMMAND

MOTOROL
PDR 3500


CENTRAL
FLORIDA
TF-4


SEMINOLE COUNTY
INCIDENT COMMAND

Overall Summary

- Standardization and interoperability allows for expeditious use during emergency operations
  - Standard labels may assist with speedier selection
  - A vetted, easy to use solution for navigation and geospatial positional reporting other than street address already exists; **US National Grid -** add it to any recorded address routinely in emergency plans

Questions?

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