
The Government-Affiliated Disaster Amateur Radio Groups of Los Angeles County

Diana Feinberg, AI6DF

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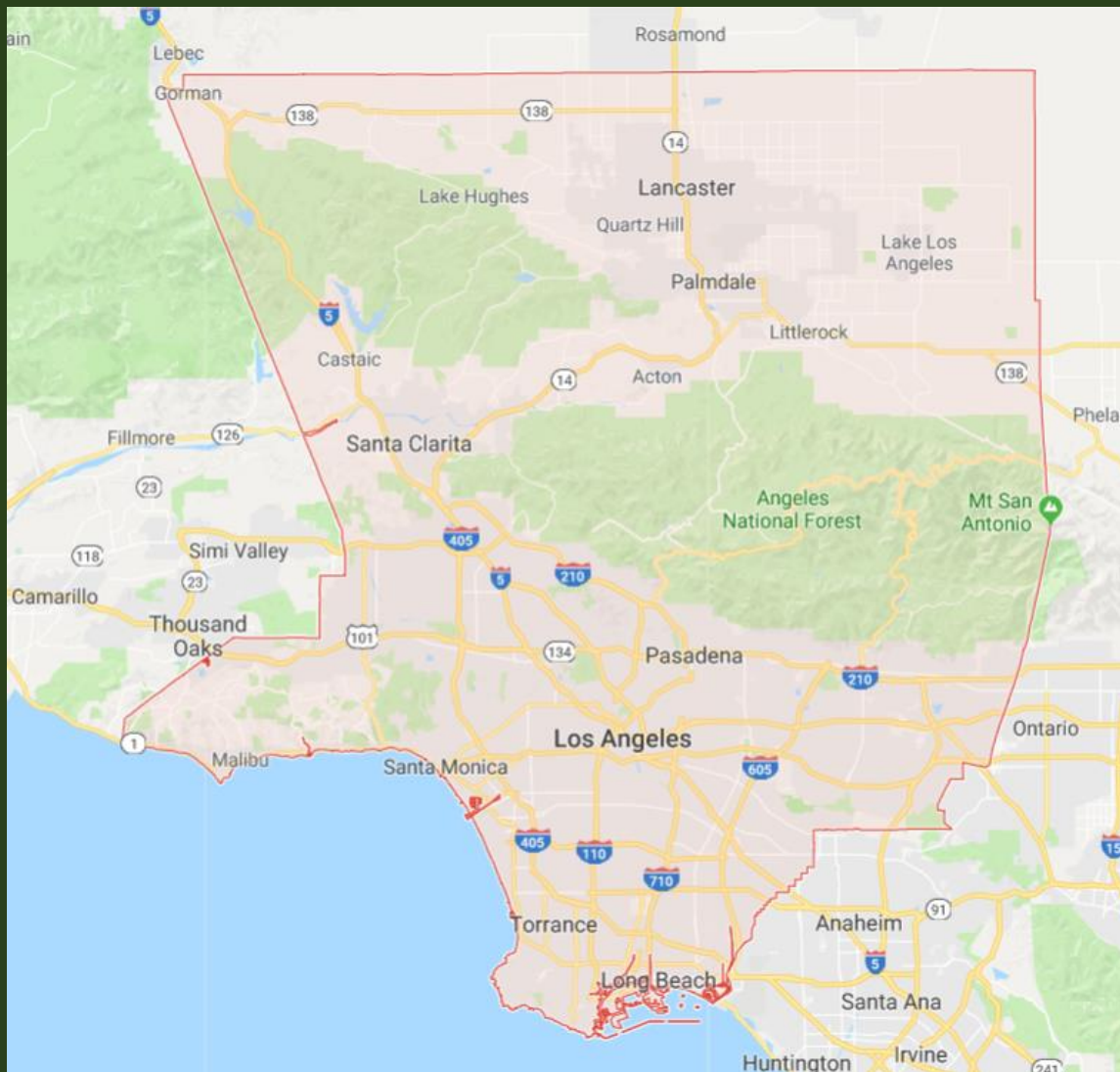
The Government-Affiliated Disaster Amateur Radio Groups of Los Angeles County

- 1. Overview**
 - 2. South Bay**
 - 3. Los Angeles & Westside**
 - 4. North & East County**
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 - 6. Interoperability**
 - 7. Future challenges for all
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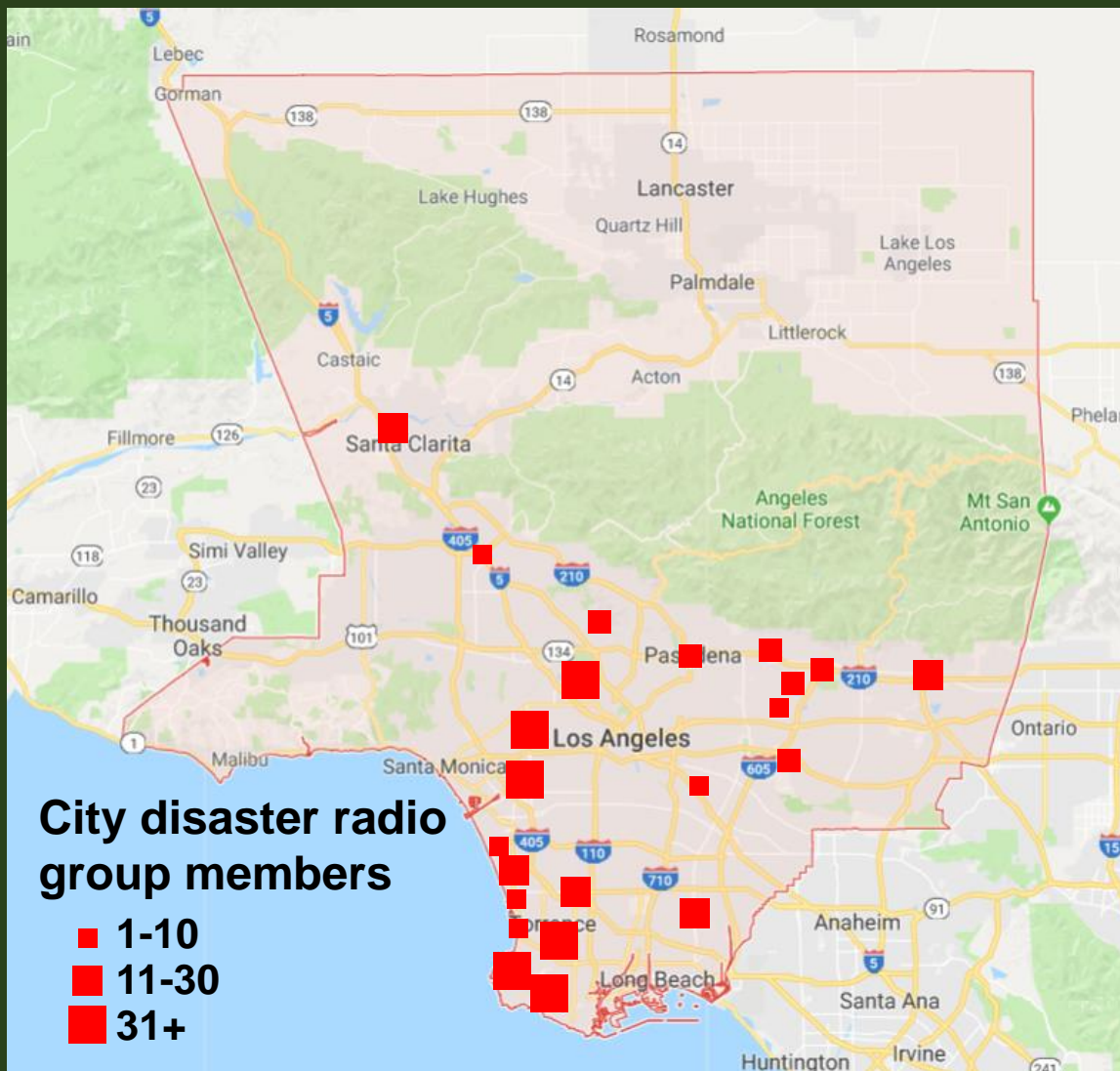
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Ham radio operators not uniformly distributed in Los Angeles County---some cities lack disaster groups



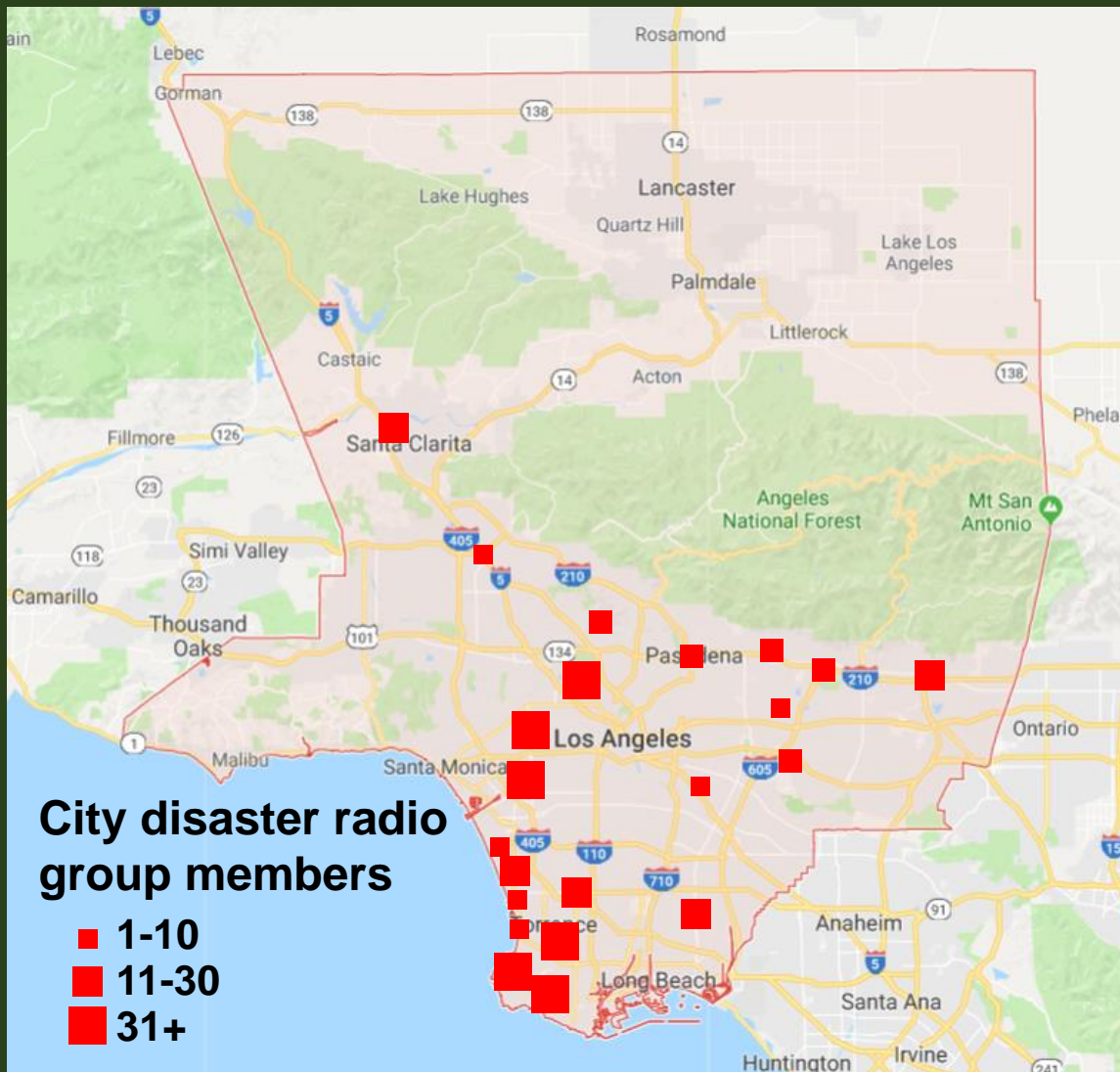
- L.A. County covers 4,083 square miles

Ham radio operators not uniformly distributed in Los Angeles County---some cities lack disaster groups



- L.A. County covers 4,083 square miles
- 88 incorporated cities...only 25 have government-affiliated disaster amateur radio group

Ham radio operators not uniformly distributed in Los Angeles County---some cities lack disaster groups



- L.A. County covers 4,083 square miles
- 88 incorporated cities...23 have known disaster amateur radio group
- Sheriff's Dept. serves 42 cities + all unincorporated areas
- Amateur operators per capita vary with:
 - Demographics
 - Terrain
 - Housing factors

City disaster amateur radio groups largely shaped by relationships with sponsoring entity

Why Disaster Amateur Radio Hasn't Always Succeeded

- Disaster amateur radio groups need to prove usefulness...
- ...but sometimes over-zealous / egotistical hams became liabilities instead of assets

City disaster amateur radio groups largely shaped by relationships with sponsoring entity

Why Disaster Amateur Radio Hasn't Always Succeeded

- Disaster amateur radio groups need to prove usefulness...
 - ...but sometimes over-zealous / egotistical hams become liabilities instead of assets
 - City Emergency Services Managers frequently change or now work part-time, hampering long-term relationships
 - Issues about financial liability for volunteers
 - Background checks (if operate in first-responder building)
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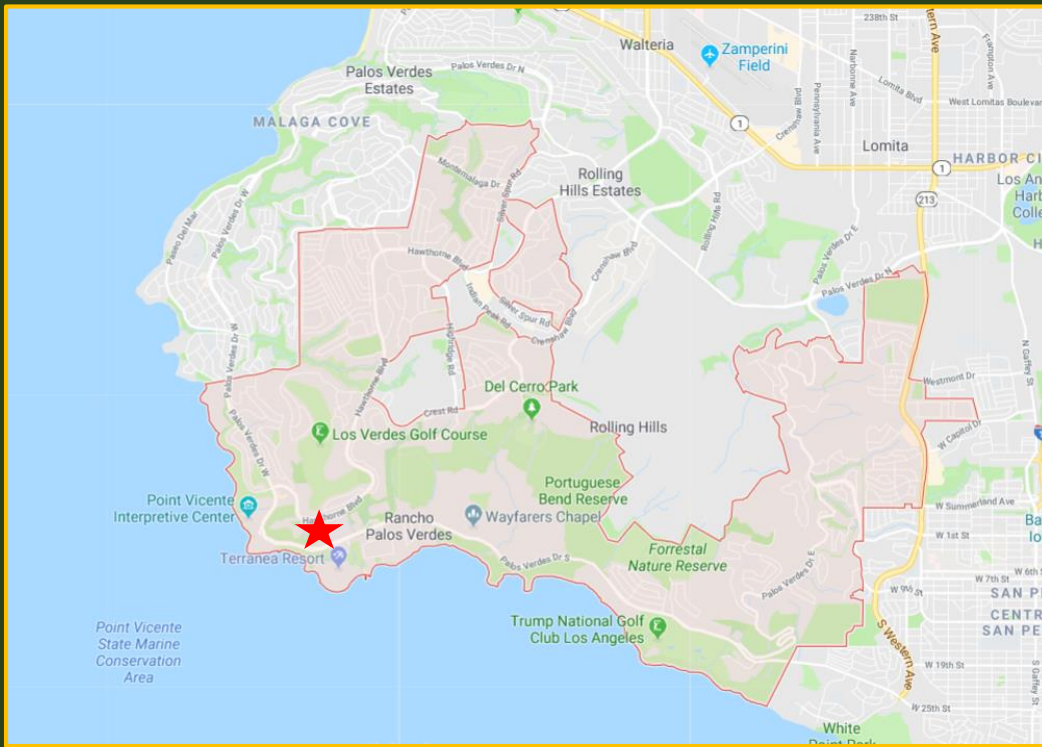
As background, the South Bay cities have very high per-capita levels of amateur operators

Amateur Radio Operators by South Bay Cities	Amateur Licenses Per 1,000 Residents	FCC Amateur Licenses, 2018 (Individuals)
Palos Verdes Peninsula	10.7	712
Manhattan Beach	6.6	237
El Segundo	6.1	103
Redondo Beach	6.0	405
Lomita	5.3	109
Torrance	5.2	764
Hermosa Beach	4.3	85
Gardena	3.0	183
Hawthorne	2.4	215
Lawndale	1.7	55
Inglewood	0.9	103
Total U.S.	2.2	

- Ham license databases not 100% accurate...
 - Include some Silent Keys, expired licenses
 - Over 50% of hams believed “Inactive”
- ...but South Bay has huge ham population vs. national average
 - Large aerospace employment
 - Many ham classes
 - Disaster prep awareness

Rancho Palos Verdes' PVAN has 75+ operators--uses PVARC club, city-owned N6RPV 440 MHz repeaters

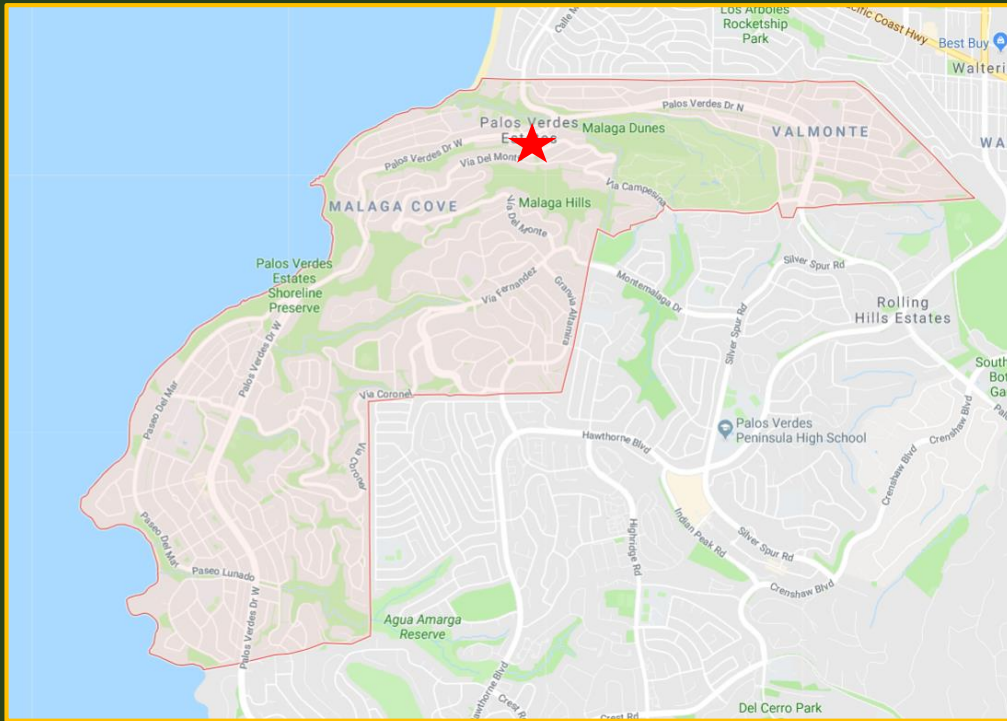
Rancho Palos Verdes faces a “C-Shaped” geography and terrain issues—city appreciates ham radio



- City spent \$85K+ for ham radio ECC, San Pedro Hill repeater site
- Most PVAN members to stay within 2-3 blocks of home in disaster; no background check or FEMA classes, little training
- But very capable net control operators, many in DCS
- Goal: interface with Neighborhood Watch and City Hall

Palos Verdes Estates' NART has most of city's hams, organized in six disaster zones (public school sites)

Disaster ham radio in Palos Verdes Estates also has a “C-Shaped” geography and terrain issues

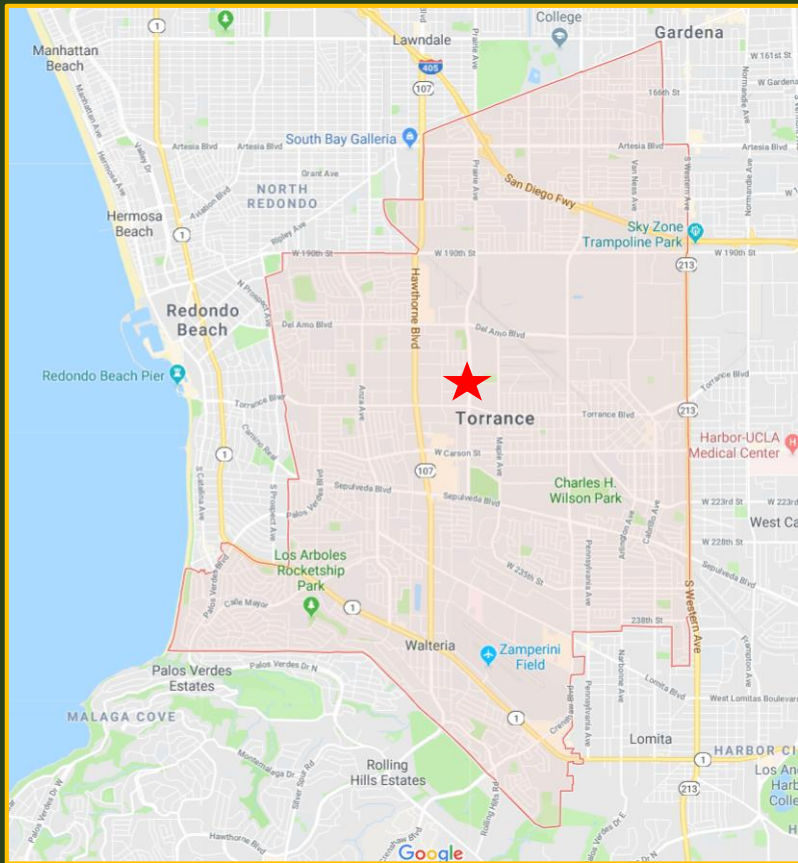


- No background checks, FEMA classes “recommended”; PVE PD gives free uniform
- City EOC inside City Council Chambers, also NART mobile command post trailer
- NART has six disaster zones by school sites, but limited training
- W6PVE: Uses 440 MHz repeater, with 2-meter cross-band

Torrance's TARA started from antenna issues, by 1988 became city's disaster amateur radio group

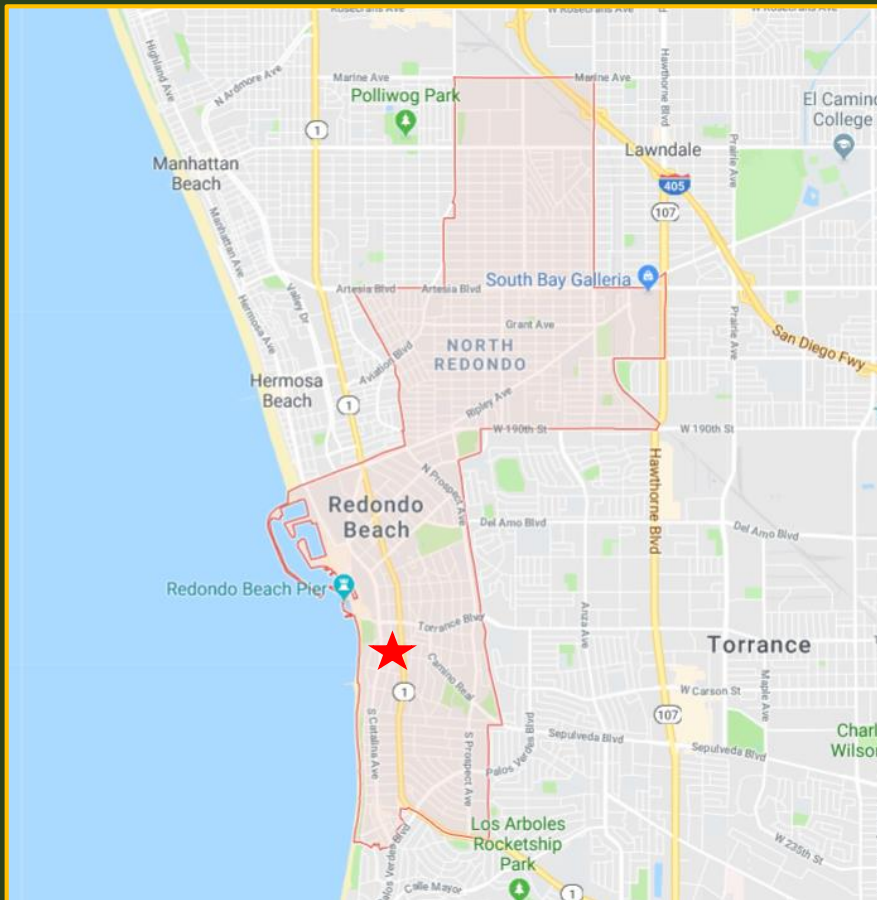
Torrance organizes its disaster ham radio around its public library branches, plus EOC at Torrance PD

- TARA (W6TPD) mostly a 220 MHz group, with some 440 MHz use
- TARA history veered with Torrance PD leadership changes + turnover in city's Emergency manager, now overseen by FD
- Today a 501(c)3 non-profit separate from city
- Extremely capable group: Membership standards like LACDCS



Redondo Beach uses disaster ham radio in both the police (K6RPD) and fire (K6RFD) departments

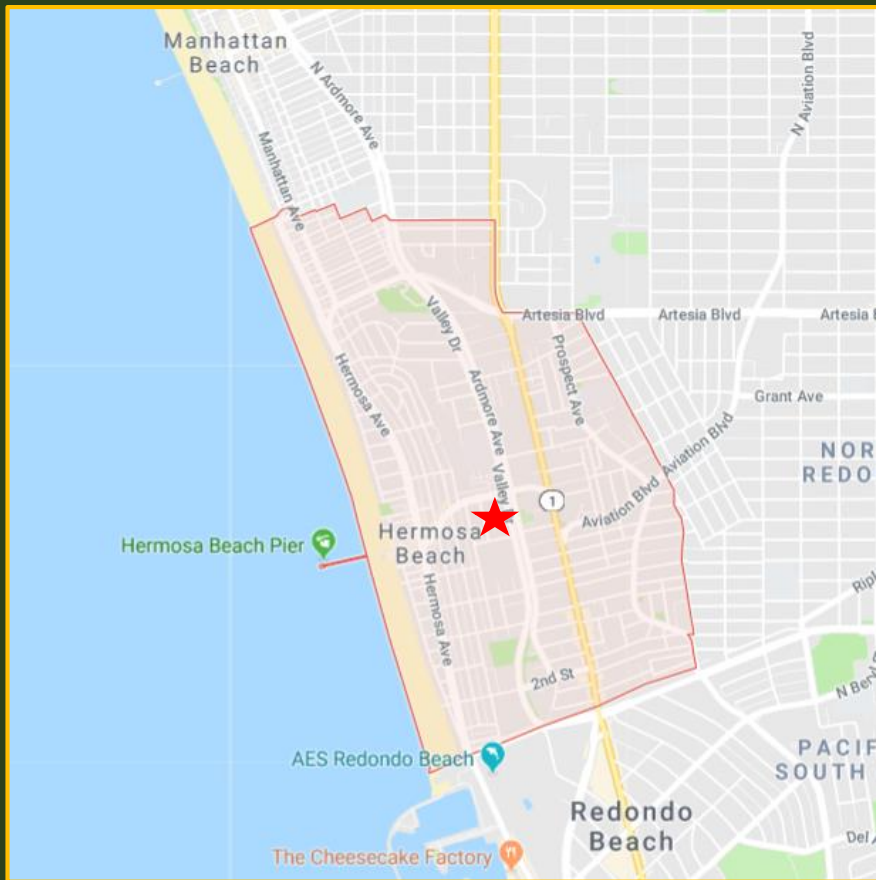
Most of Redondo's disaster hams are in CERT under Fire Dept.



- RB CERT linked with Hughes ARC for ham classes, got many hams in CERT
- RBCERTA is a 501(c)3 non-profit separate from city, but assisted by Fire Dept.
- Police Dept. ham group has just one operator, other issues
- City has North-South terrain problems but yacht radio club helps

Hermosa Beach has 440 repeater atop Palos Verdes, EOC room at HB Community Center on PCH

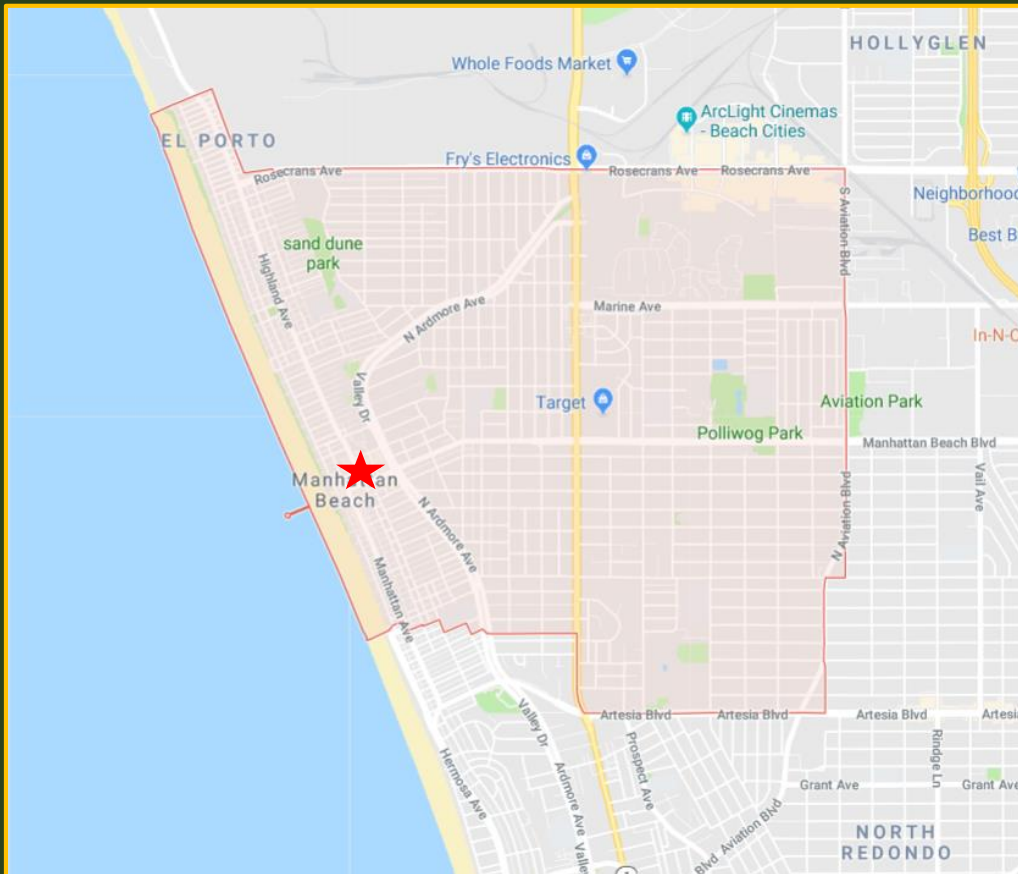
Hermosa Beach set up EOC inside former Home Economics classroom at Community Center



- Hermosa Beach ARA established in 2009
- HBARA not a large group, but has fully-equipped ham station at City EOC
- Community Center also used as a shelter, has large generator
- Recent change at EOC: Hermosa Beach Fire Dept. disbanded

Manhattan Beach, organized through MB CERT, uses a 440 repeater atop Skechers HQ plus 440 simplex

Manhattan Beach EOC in Community Room between PD and FD at Civic Center complex



- MB CERT had huge success in fund-raising, \$20-25K year
- As wealthiest CERT in South Bay has been able to purchase lots of equipment & radios
- Receives extensive support from Manhattan Beach FD
- MB PD receives support from W6TRW Radio Club

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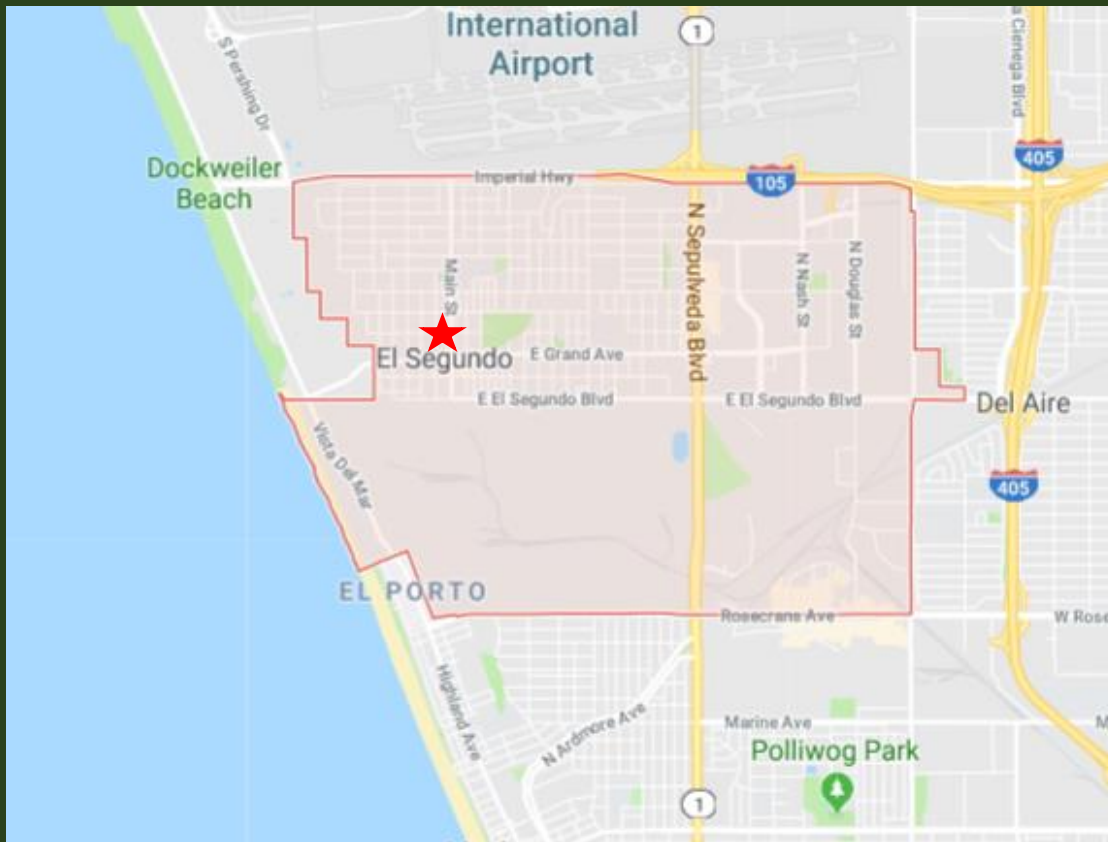
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El Segundo Amateur Radio Group largely keeps to itself, has WB6VMV 440 repeater at City Hall

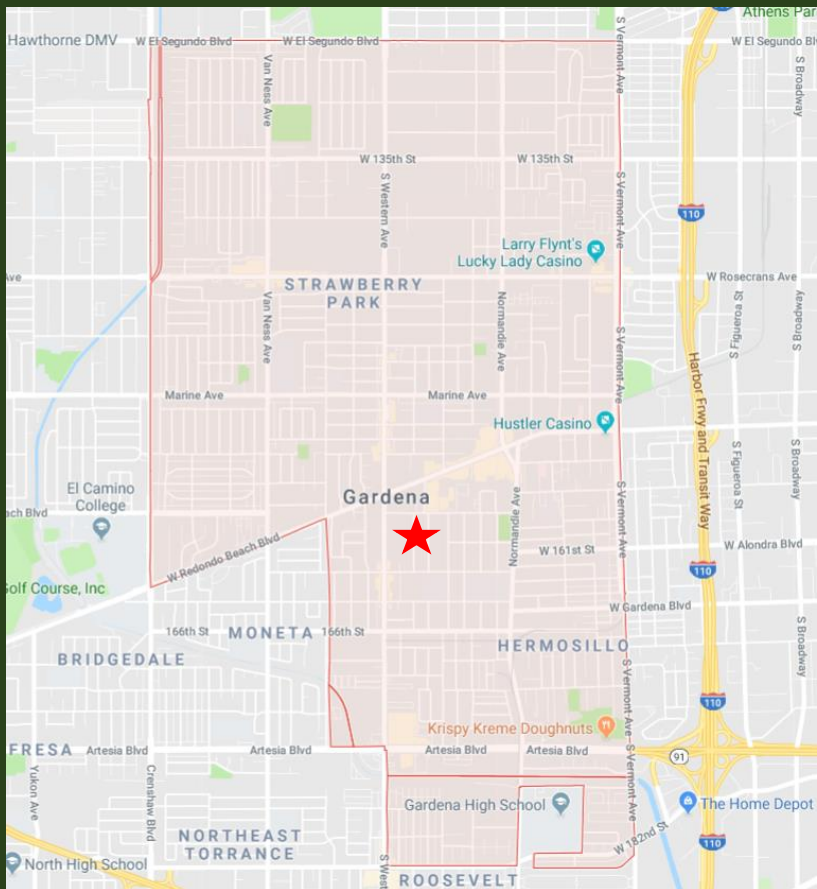
El Segundo ARG has seat at City EOC in Police Dept., but...



- Declining city support for volunteer disaster groups
- ESARG not heard during area nets
- Monday night nets have casual operating style
- Unknown how will perform in major incident

Gardena's disaster radio service opted for Part 90 instead of ham radio...use analog and DMR repeaters

Gardena wanted citywide volunteer radio operators ASAP, but ham coverage would take time



- Gardena DCS uses Part 90 analog and DMR repeaters on 464 and 461 MHz
- HT radios for Part 90 service now in \$100 range, very affordable ...no license required by users
- Disciplined weekly nets every Monday; leaders are hams, most DCS members

The South Bay's six remaining cities do not have city disaster radio groups currently

No city-affiliated disaster amateur radio groups in:

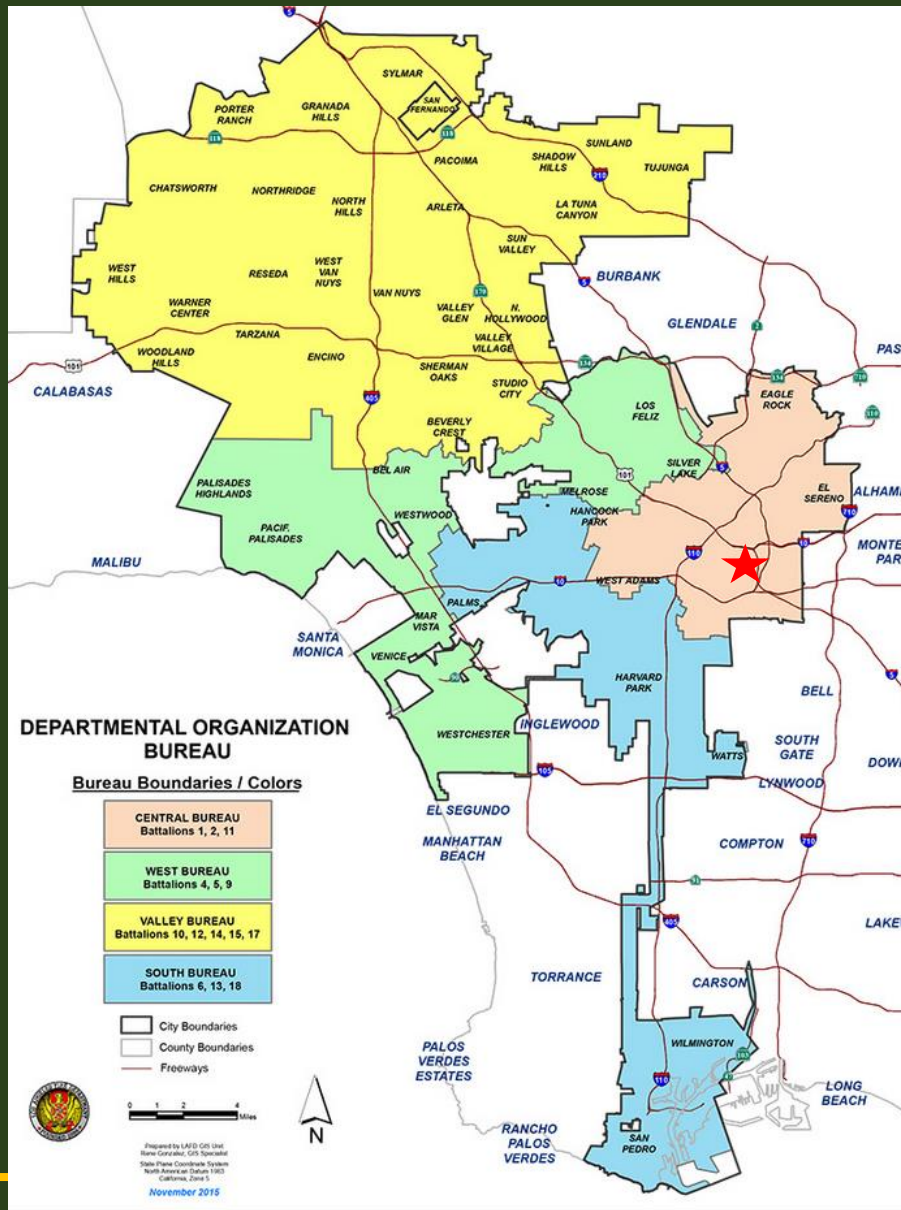
- Hawthorne
- Inglewood
- Lawndale
- Lomita
- Rolling Hills
- Rolling Hills Estates

- Difficult to form radio groups in some cities
 - Hawthorne and Inglewood recently tried, gave up
 - DCS offers of help made to Lawndale
 - Rolling Hills has block captains with Part 90 radios, linked with guard service
 - RHE considering own group, has ham radios
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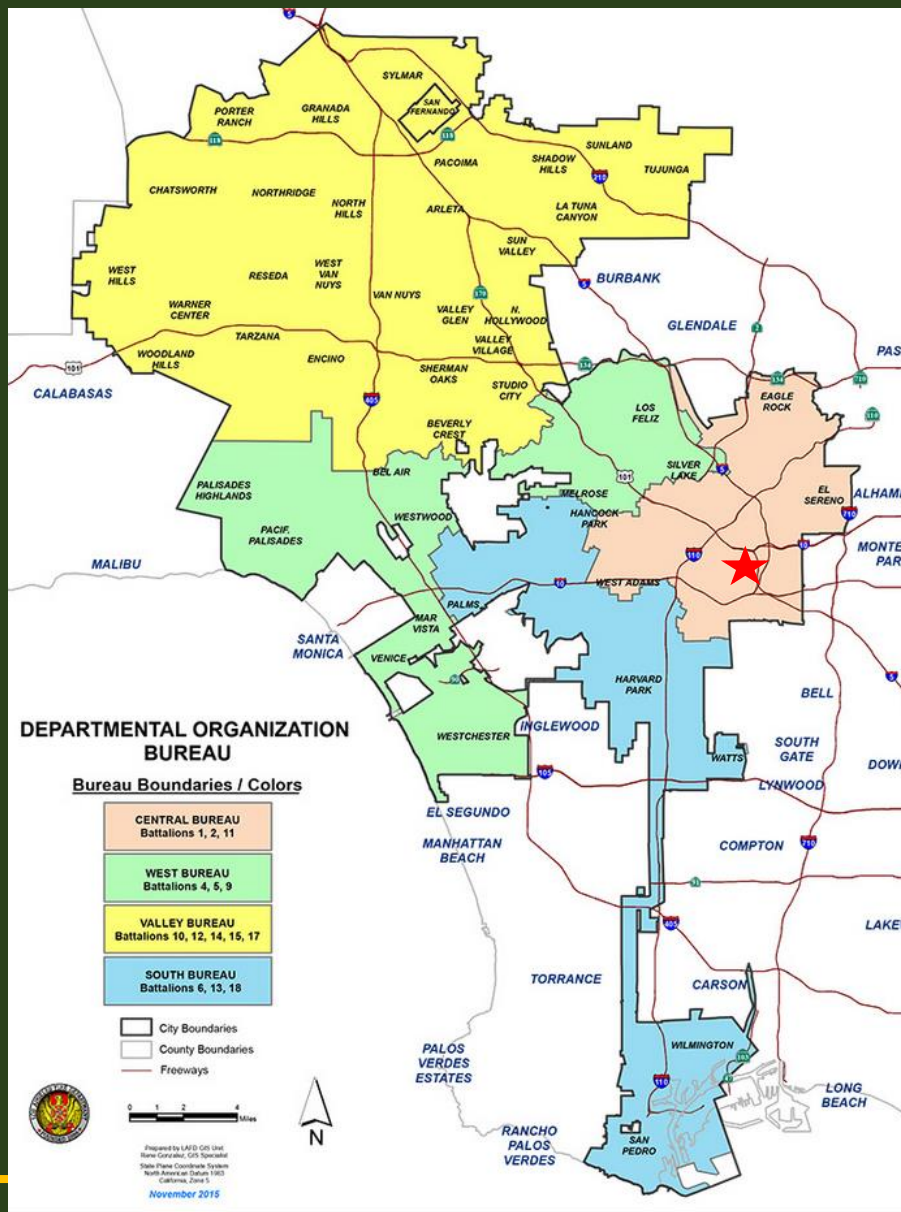
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Among all other city radio groups in L.A. County, the City of Los Angeles Fire Department ACS is largest



- L.A. Fire Department Auxiliary Communication Service is authorized for up to 500 members
- LAFD Stations grouped into four Bureaus
 - South (*blue*)
 - West (*green*)
 - Central (*tan*)
 - Valley (*yellow*)
- ACS members assigned to Fire Station in their Bureau
- ACS members also operate from two LAFD command trucks and City EOC

LAFD ACS operates 2-meter repeaters on Mt. Lee above Hollywood sign and on Verdugo Peak, uses simplex too



- Primary mission is back-up for LAFD's 800-MHz repeater system, work with CERT teams
- Interview required but no criminal background check
- LAFD ACS provides regular training programs
- ACS committed to interoperability with other disaster radio groups
- ...Needs more operators in South and Central areas

Beverly Hills Disaster Communications System is ham group overseen by Beverly Hills Police Dept.



- Founded in 1994 after Northridge Earthquake
- Receives extensive donations
- Has hired Gordon West to teach ham license classes in Beverly Hills
 - Now 5.3 hams per 1,000 residents
- Police Dept. background check required to join
- Has fabulous mobile station...

Beverly Hills Disaster Communications System is ham group overseen by Beverly Hills Police Dept.

- ...Mobile trailer has “creature comforts”
- Members also trained in CERT, amateur TV, city public safety radio, and assessing damage
- Uses 440 MHz ham band, extensive amateur fast-scan TV
- Will be (for now) on same repeater frequency as RPV’s San Pedro Hill repeater



Culver City's CCARES group is perhaps best-trained city radio group in L.A. County, if not most enthusiastic

**Home of Culver City ARES –
Culver City Fire Station 1, Culver Blvd.**

- **Culver City ARES is:**
 - **Overseen by Culver City FD**
 - **Also an ARRL affiliated club**
- **CCARES other goal is work with CC CERT to give citywide damage assessment within one hour after major incident**
- **Has base station inside Fire Station 1**



Culver City's CCARES group is perhaps best-trained radio group in L.A. County, if not most enthusiastic

Culver City ARES net control point—
Culver City Fire Station 1, Washington Blvd.

- CCARES has training day every month
- General meetings 4x year
- Additional training drills
- Also created city-wide mesh network on 5 GHz amateur band
- Very energetic group
- Leaders are elected



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Burbank's volunteer disaster radio group uses both amateur radio and public safety frequencies

Burbank Fire Corps Auxiliary Communication Service

(Overseen by Burbank Fire Department, has regular training, interface with Verdugo Emergency Network)

- BFCACS members need not be ham operators...
- ...use public safety and amateur radios
- Members assist with:
 - Monitoring frequencies
 - Arson / fire watch patrol
 - CERT teams
 - Local command posts



Pasadena is finding it slow to build their Fire Dept. ham radio group

**Pasadena FD Auxiliary
Communications Service**

**(Started by Fire Department in
summer 2017)**

- **Complex application form...five personal references needed**
- **Pasadena FD ACS members must complete:**
 - **Interview**
 - **Background checks by City Human Resources and Pasadena Police Dept.**
 - **Various training classes**
- **But low level of required annual involvement: 2 meetings, 4 nets**



Other North and East County cities have rather small disaster amateur radio groups, limited training

Other cities in Northern and Eastern parts of Los Angeles County with radio groups

- Arcadia
 - Azusa (AACES)
 - Cerritos
 - Downey
 - Glendale (“GEARS”)
 - Glendora (GEARS)
 - Rosemead
 - San Fernando
 - San Gabriel
 - Santa Clarita
 - Sierra Madre
 - Whittier

 - ...Re-starting soon: Long Beach (within LB CERT)
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L.A. County DCS is one of only two government disaster amateur radios groups truly “countywide”

- L.A. County DCS has undergone many improvements since mid-2015
 - Re-structured leadership team
 - Greatly increased training opportunities
 - New radios in most DCS rooms
 - New 2-meter six-repeater simulcast system, great HT coverage



LACDCS provides many training opportunities and higher participation levels than most city groups



- DCS offers voluntary opportunities to learn in many other settings

- Sheriff's Comm. Center

- Helping in other DCS Districts

- Assisting some city radio groups

- Regional "radio rodeos"

- Special events, using Sheriff radios



The other countywide radio organization is ARRL's ARES (Amateur Radio Emergency Service)



L.A. County Dept. of Health Services
Medical Alert Center, Santa Fe Springs



- ARRL ARES focuses on ER hospitals; open to all hams, no background checks currently
- Four Districts in LAX Section, mostly using DARN 440 MHz system
 - LAX-Northwest (Van Nuys)
 - LAX-Northeast (Pasadena)
 - LAX-South (Long Beach)
 - LAX-High Desert (Lancaster)
- Has MOU with L.A. County Dept. of Health Services for hospital back-up communication
- New challenges with new healthcare categories...

In mid-2017 Centers for Medicare & Medicaid said 16 other healthcare types need back-up comm plans

ARES units now working to train employees of new classes of healthcare that need detailed disaster plans

**If accept Medicare/Medicaid,
need full emergency plan—and
many looking at amateur radio**

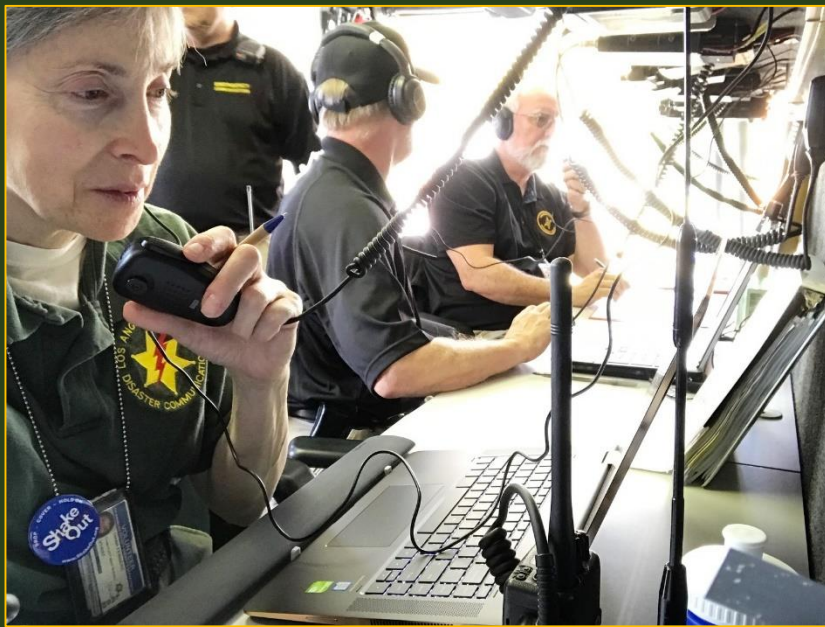
- 1. Hospitals**
 - 2. Religious non-medical health care institutions**
 - 3. Ambulatory surgical centers**
 - 4. Hospices**
 - 5. Psychiatric Residential Facilities**
 - 6. All Inclusive care for elderly**
 - 7. Transplant centers**
 - 8. Long-term care facilities**
 - 9. Intermediate Care facilities**
 - 10. Home health agencies**
 - 11. Outpatient Rehab facilities**
 - 12. Critical access hospitals**
 - 13. Providers of outpatient physical therapy**
 - 14. Community mental health centers**
 - 15. Organ procurement organizations**
 - 16. Rural health clinics**
 - 17. End-Stage Renal facilities**
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Until recently, many disaster amateur radio groups weren't concerned with interoperability

In past year major steps taken to enable the various radio groups to communicate with each other, if necessary



Great California ShakeOut,
October 19, 2017: First time LACDCS,
ARES, and LAFD ACS operated jointly



Major interoperability strides made in past 18 months

In past year major steps enable the various radio groups to communicate with each other, if necessary

- **LACDCS and LAFD ACS tasked with finding all disaster amateur group frequencies in L.A. County**
 - **California Office of Emergency Services also encourages interoperability through “Red Book”**
 - **LACDCS and LAFD ACS to fully interoperate this year**
 - **ARES operators given frequencies to City or County for non-medical situations at their hospital**
 - **DCS encouraging its Districts to interact with their contract and contact cities**
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Disaster amateur radio groups in L.A. County are facing major demographic challenges...

What's changing in Los Angeles County among hams?

- Ham population getting older
 - Some hams moving to Nevada or Arizona (Prescott area now has 14.0 hams per 1,000 people)
 - Ethnicity changes
 - Some ethnic groups vastly under-represented in disaster amateur radio and...
 - ...certain official radio groups require U.S. citizenship
 - Economics
 - Longer work-weeks make participation difficult
 - Longer commutes
-

... and during a major incident established disaster amateur radio groups will experience some disorder

Likely scenarios for disaster amateur radio groups

- **Some group members run out of electrical power**
 - **Not enough group members available**
 - **Non-member hams will interfere**
 - **They hear a frequency... they ask for urgent help**
 - **Not being trained, communication becomes inefficient**
 - **Frequencies tied up dealing with traffic that should have gone through other channels**
 - **But it's not all bleak...a good future for disaster radio groups and their government partners working together**
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We've covered a lot...

thanks for listening and please get involved

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