



# MEOSAR Update and Plans for Initial Operational Capability (IOC)

SARSAT Beacon Manufacturers Workshop 2021

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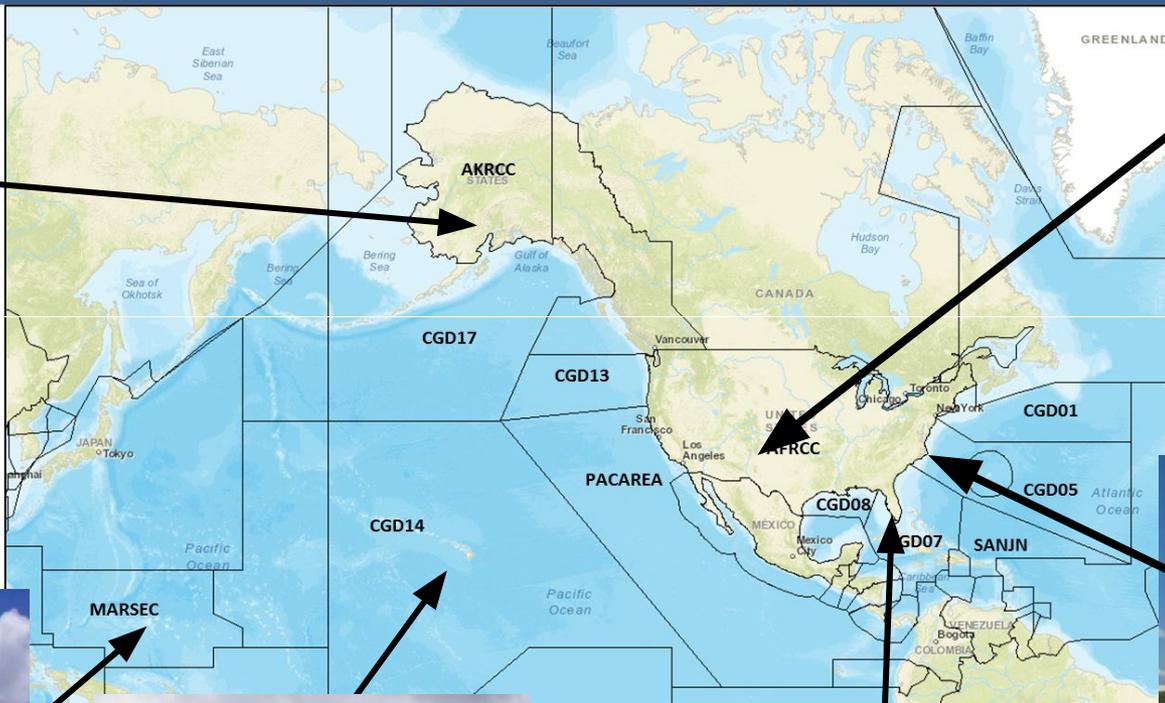




# US SARSAT Ground Segment



**Alaska**  
NOAA Command and Data Acquisition Station (FCDAS)  
Fairbanks, Alaska  
1 LEOLUT replaced by  
2 LEO/MEOLUTs



**New Mexico**  
SUSA MEOLUT  
2 phased arrays  
under development



**Guam**  
Andersen AFB  
2 LEOLUTs to be replaced by  
2 LEO/MEOLUTs in 2021



**Hawaii**  
2 LEO/MEOLUTs &  
6-antenna MEOLUT



**Florida**  
2 LEO/MEOLUTs &  
6-antenna MEOLUT



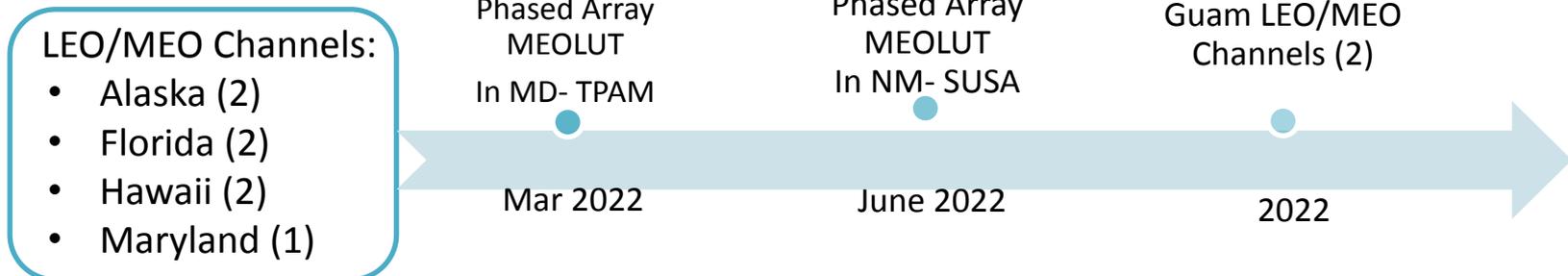
**Maryland**  
US Mission Control Center  
2 GEOLUTs  
&  
1 Test GEOLUT  
1 Test LEOLUT  
1 Test LEO/MEOLUT (FL9)  
1 Planned Test Phased-Array  
MEOLUT (TPAM)



# USA LEO/MEOLUT Plans

- Hybrid LEO/MEO LUTs bridge the transition from LEOSAR to MEOSAR
  - 2 more LEO/MEO planned (Guam)
    - The 4<sup>th</sup> Generation LEOLUTs track MEOSAR when no LEOSAR satellites are in view
    - The MEO data provided will be used as additional channels to existing MEOLUTs
    - Guam will feed MEO data to HI MEOLUT
- MEOLUTs
  - FL and HI MEOLUTs to be commissioned at IOC in 2021
  - New Mexico - Phased-Array MEOLUT planned (SUSA)
  - Maryland - Test Phased-Array MEOLUT planned (L-band only) (TPAM)

## Currently Operational:





# USA LGM MCC

## Commissioning Schedule

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- Commissioned
  - 2020 CHMCC went EOC November 2020
  - 2021 CHMCC FOC soon
- 2021 In Progress
  - CMCC
- 2022 Planned (WDDR Telecon Feb 24)
  - ARMCC still selecting an LGM vendor
  - BRMCC support contract pending
  - PEMCC is flexible



★ LGM Commissioned as of Sept 2021



# MEOSAR Initial Operational Capability (IOC)

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Florida MEOLUT – IOC commissioning Sep 2021

Hawaii MEOLUT – IOC commissioning late 2021

Challenges from the US perspective:

- Expected Horizontal Error (EHE)

- Slow-moving beacon location accuracy

- Suspect alerts

- QMS requirements



# C/S Beacon System Test

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- In June of 2021, C/S participants conducted a System Test focused on the new beacon technologies, ELT(DT)s (FGB and SGB) and SGBs in general
- This testing encompassed 6 days and demonstrated the end-to-end performance of the System to:
  - Validate the associated specifications
  - Assess the readiness of the C/S System to support these beacons
- Operational MCCs and LUTs were employed with key participants including Canada, France/EC, Spain, Russia, Turkey and the USA



# C/S Beacon System Test

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- LUTs and MCCs received alert data and distributed it throughout the global data distribution network
- The test campaign did uncover issues at both the national and global system levels, the most notable being the increased data load caused by ELT(DT)s:
  - ELT(DT)s transmit as many as 12 bursts per minute
  - Sending all this data throughout the system, in particular when in human readable form, proved overwhelming
  - Specifications are being changed to reduce this impact
- The testing was a success, significantly advancing C/S readiness for operational use of these new beacons



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QUESTIONS?

Contact USMC Chief

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