MEOSAR Update and Plans for Initial Operational Capability (IOC)

Beacon Manufacturers Workshop

2019

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Current MEOSAR Status

- 19 S-Band satellites currently available
- 19 L-Band satellites currently available

- 18 MEOLUTs Commissioned or Approved
  - Algeria, Argentina, Australia, Brazil (Brasilia, Recife), Canada, Cyprus, France, Japan, Malaysia, New Zealand, Norway, Spain, Turkey, UK, USA (Hawaii, Florida)
- 2 MEOLUTs Recommended for Approval
  - Korea, UAE
- 2 more currently under test
  - Indonesia, Russia

Planned MEOSAR Status

MEOSATS

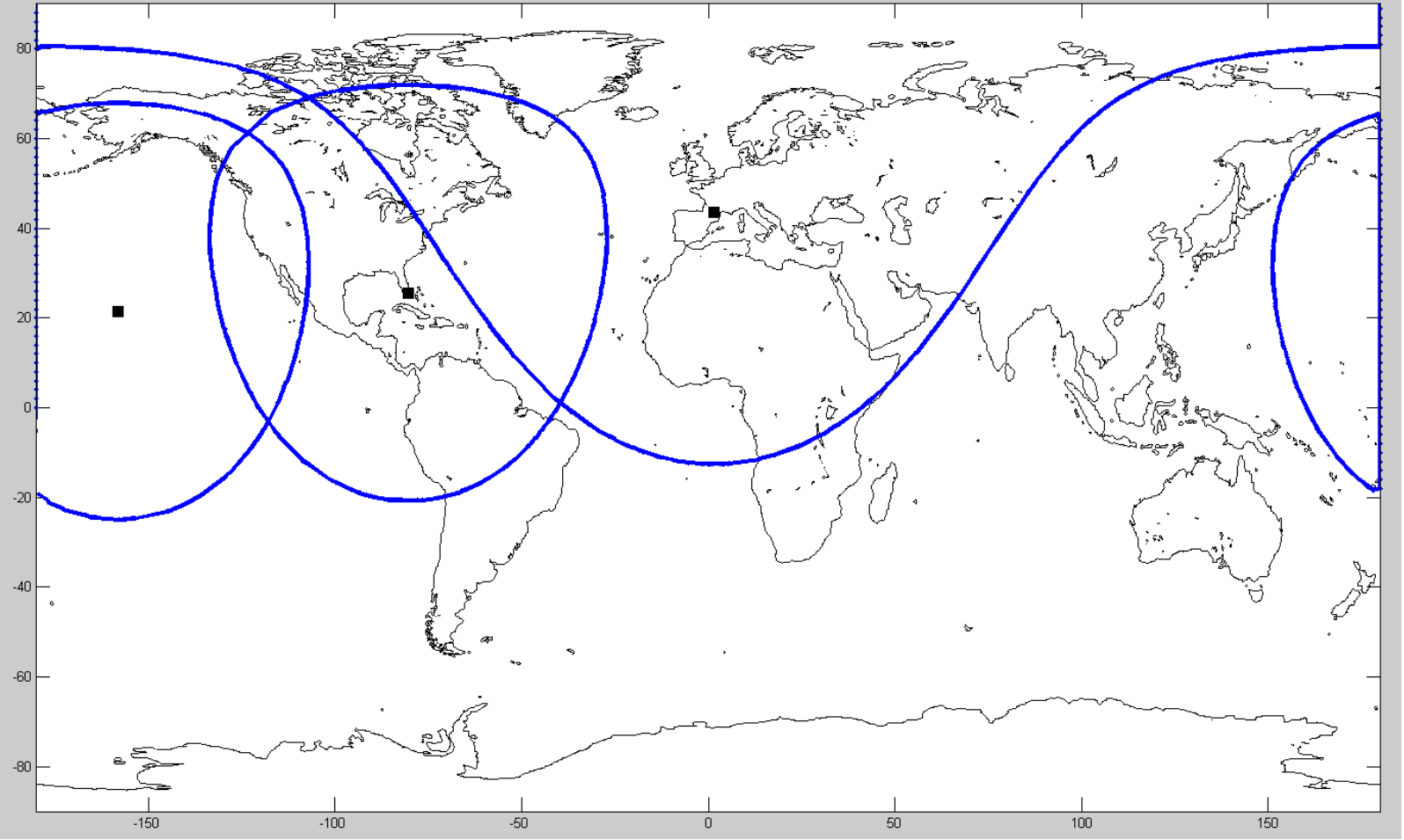
- GPS - 7 more planned beginning 2019 – 2026
  - 6 L-band and 1 S-band
- Galileo - 4 more L-Band satellites currently under test
- BDS – 2 launched 2018, 4 more planned by 2020

MEOLUTS

- 21 planned installations between 2019 - 2021
- 1 TBD

Jan 2017: MEOLUT Declared Coverage Area

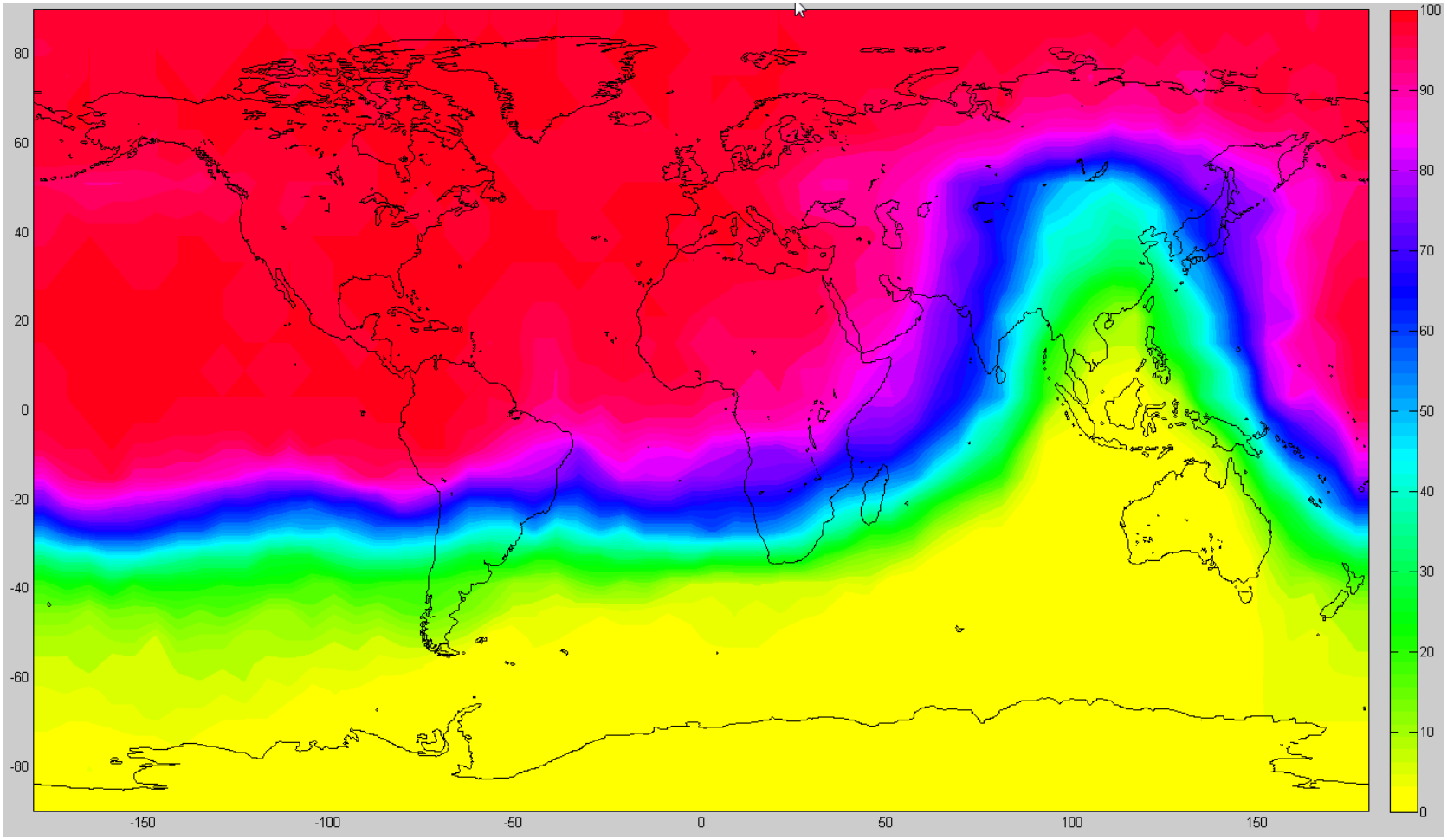
3 MEOLUTS



Provided by Larry LeBeau, ERT Inc.

January 2017: Coverage / Accuracy

Coverage 37.1% meets 95% <= 5 km – 31 Satellites (21 DASS / 10 Galileo) – 3 MEOLUTS



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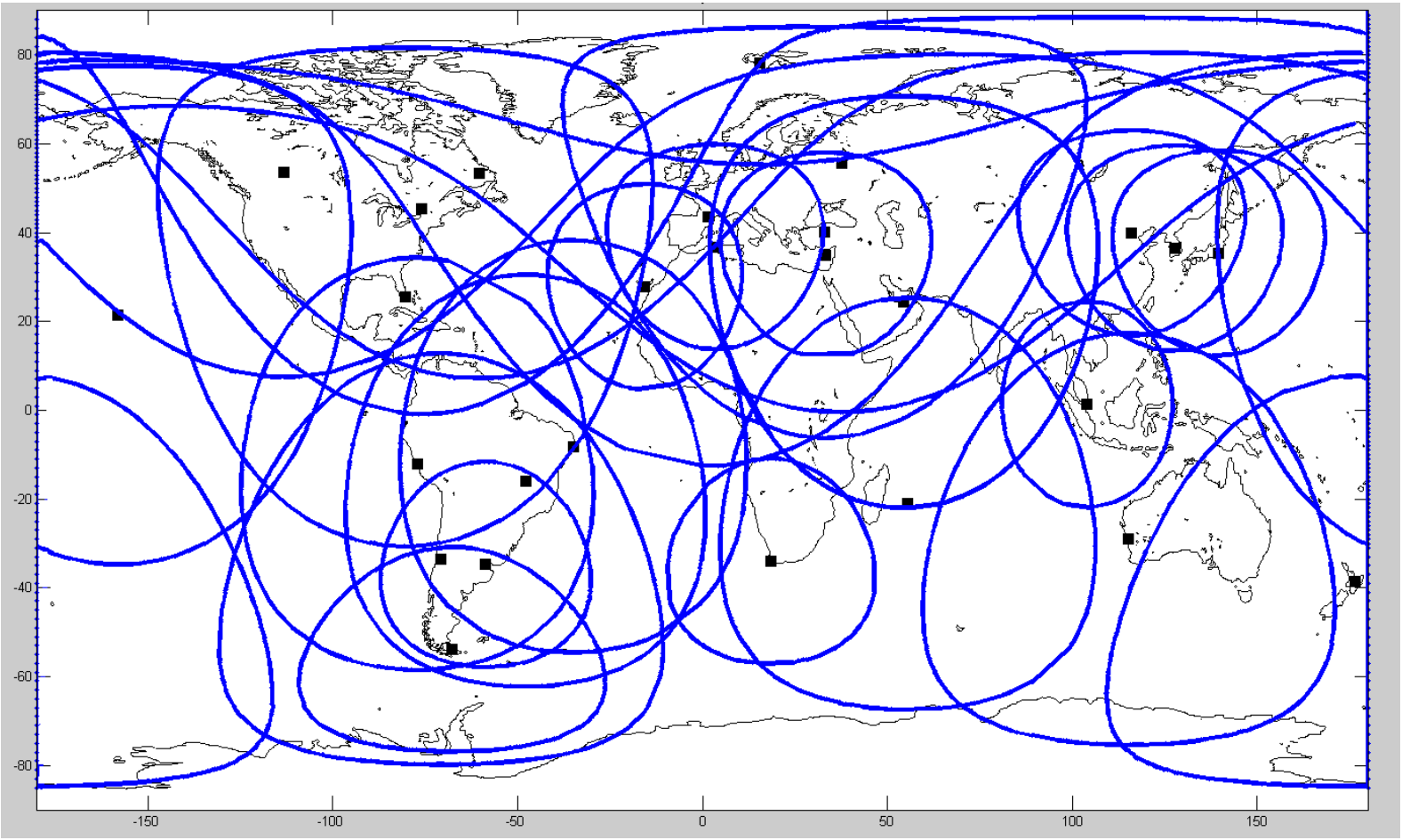
Future: MEOLUT Declared Coverage Area

27 MEOLUTS



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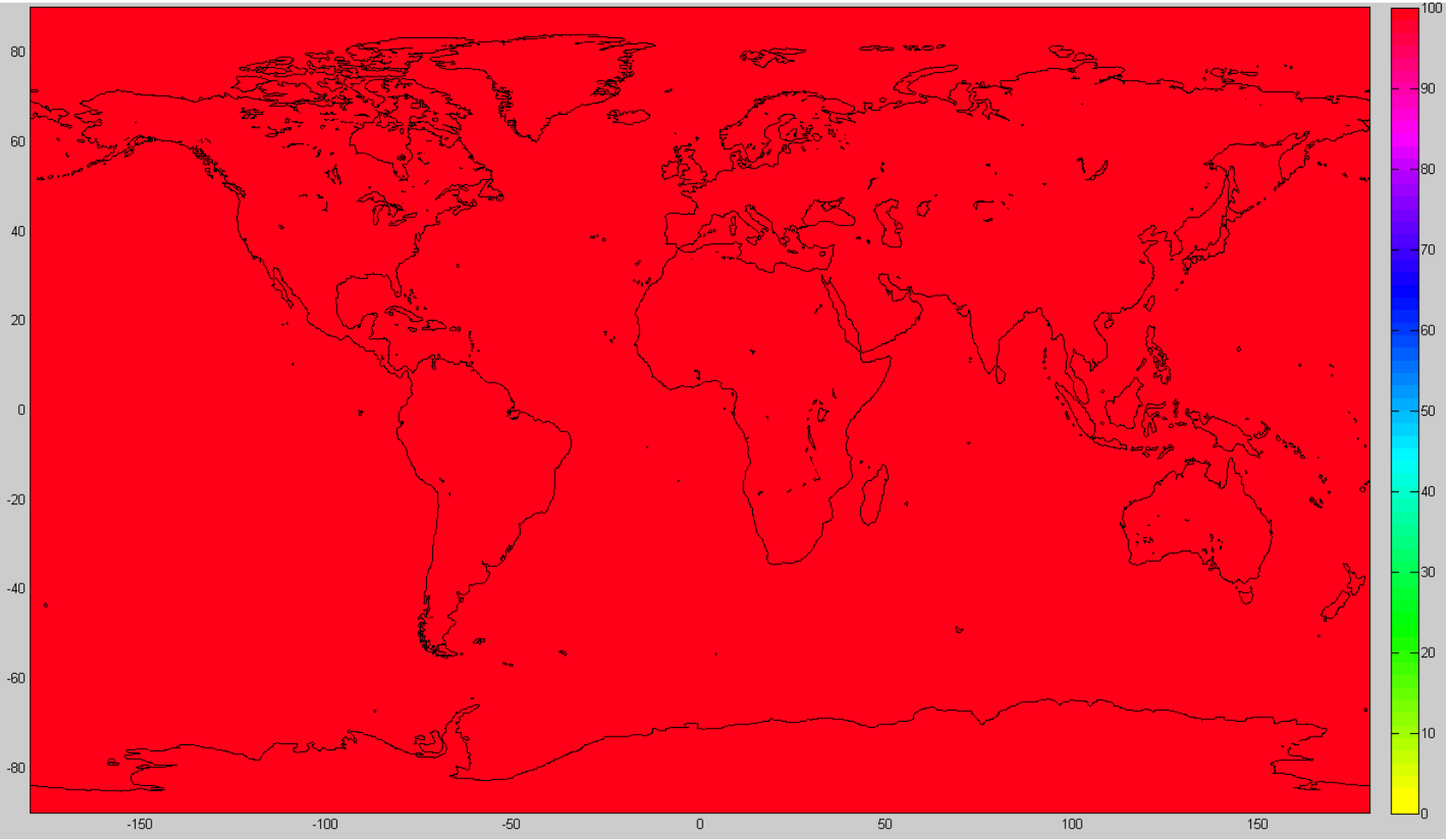
Future: Coverage / Accuracy

Coverage 100% meets 95% <= 5 km – 48 Satellites (24 DASS / 24 Galileo) – 27 MEOLUTS



Provided by Larry LeBeau, ERT Inc.

USA LEO/MEOLUT Plans

- Hybrid LEO/MEO LUTs
  - 4 more LEO/MEO planned (Alaska and Guam)
    - The 4th Generation LEOLUTs track MEOSAR when no LEOSAR satellites are in view.
    - The MEO data provided will be used as additional channels to existing MEOLUTs.
    - Alaska, Guam will feed MEO data to HI MEOLUT
  - LEO/MEOLUTs will bridge the transition from LEOSAR to MEOSAR

- MEOLUT
  - New Southwest USA Phased-array MEOLUT planned

4th Generation LEO/MEOLUT Schedule for Operations

Operational	Two (2) Florida LEO/MEO Channels
Operational	Two (2) Hawaii LEO/MEO Channels
Operational	One (1) Maryland LEO/MEO Channel
Late 2019	Two (2) Alaska LEO/MEO Channels
Late 2019	Two (2) Guam LEO/MEO Channels
Mid 2020	One (1) phased-array SW MEOLUT

LGM MCC Status

- 5 commissioned
  - USMCC, FMCC, NMCC, AUMCC, SPMCC
- 15 installed and available for testing
- 16 planned installations by 2020

USA LGM MCC
Commissioning schedule

- 2018 Commissioned
  - AUMCC (was reported at JC-32, and went operational in July of 2019)
- 2019 In progress
  - JAMCC
- 2019-2020 Planned
  - CMCC, ARMCC, BRMCC, CHMCC, PEMCC

LGM Initial Operational Capability (IOC)

Plan:

Reach IOC by end of 2019

Challenges:

Expected Horizontal Error (EHE)

Slow-moving beacon location accuracy

Suspect alerts

QMS requirements

QUESTIONS?