MEOSAR Update

Beacon Manufacturers Workshop

2017
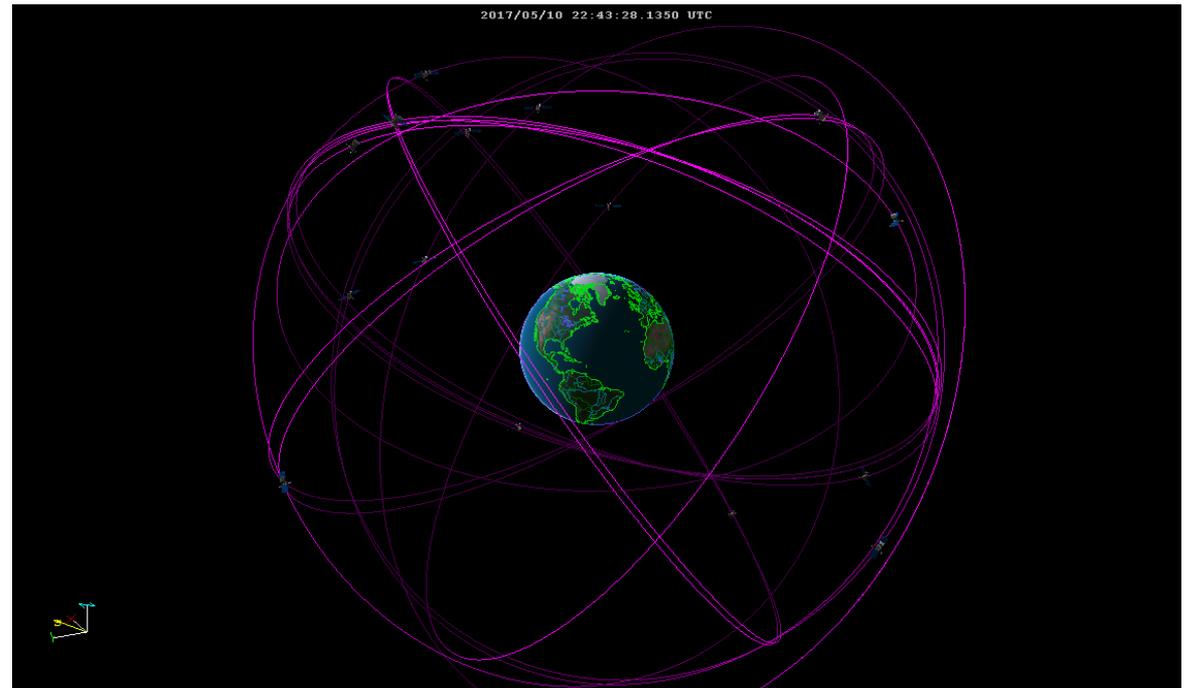
Chris Caporale

ERT, Inc.

Engineer

Current MEOSAR Status
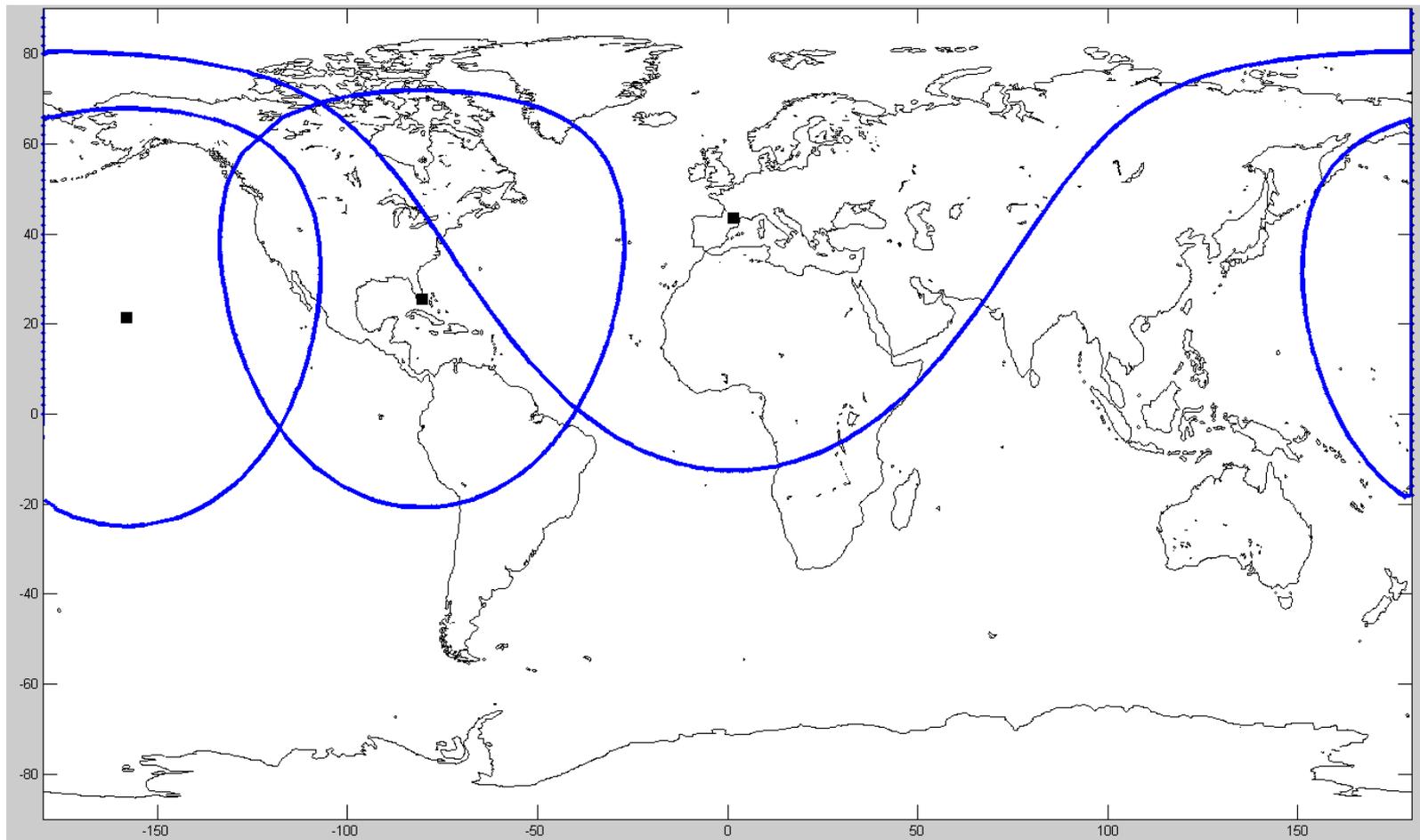
- Entered Early Operational Capability on Dec. 13th, 2016

- Twenty S-Band and seven L-Band satellites currently scheduled

- Three MEOLUTs
  - Hawaii
  - Florida
  - Toulouse

Jan 2017: MEOLUT Declared Coverage Area

3 MEOLUTS

Provided by Larry LeBeau, ERT Inc.

USA LEO/MEOLUT Plans

- NOAA selected a contractor in 2016 to replace the aging LEOLUTs.

- The 4th Generation LEOLUTs will have the capability to track MEOLUTs when no LEOSAR satellites are in view.

- The MEO data provided will be used as additional channels to the existing MEOLUTs.

- A LEO/MEOLUT will bridge the transition from LEOSAR to MEOSAR as the primary space segment

4ᵗʰ Generation LEO/MEOLUT Schedule

May 2017	Factory Acceptance Testing
Jul 2017	One (1) NOAA Suitland Test LEO/MEO
Jul 2017	Two (2) Florida LEO/MEO Channels
Sept 2017	Two (2) Hawaii LEO/MEO Channels
Dec 2017	Two (2) Guam LEO/MEO Channels
May 2018	Two (2) Alaska LEO/MEO Channels

January 2017: Coverage / Detection

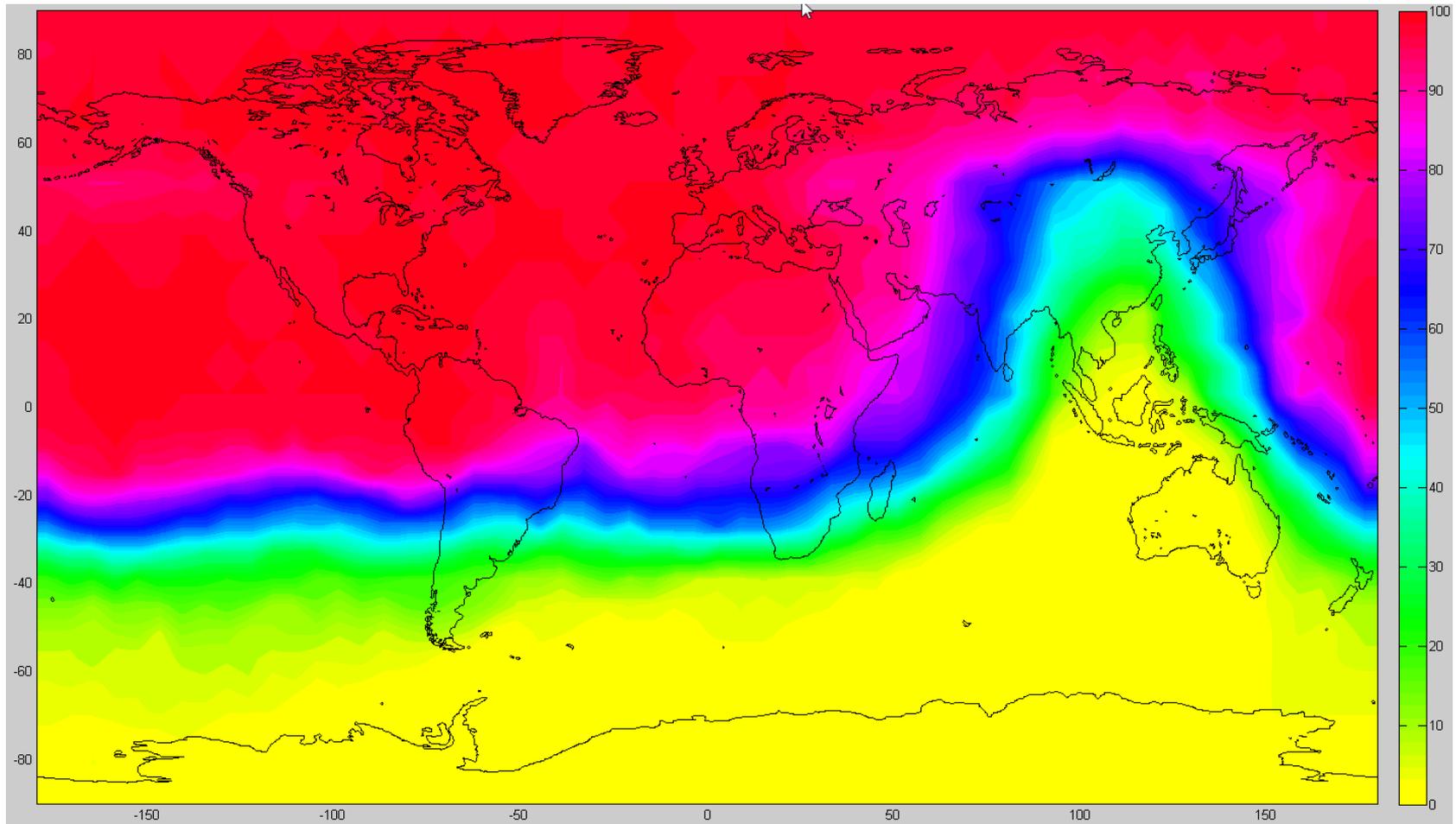**73.2%** meets 99% Probability of Detection – 31 Satellites (21 DASS / 10 Galileo) – 3 MEOLUTS

Provided by Larry LeBeau, ERT Inc.
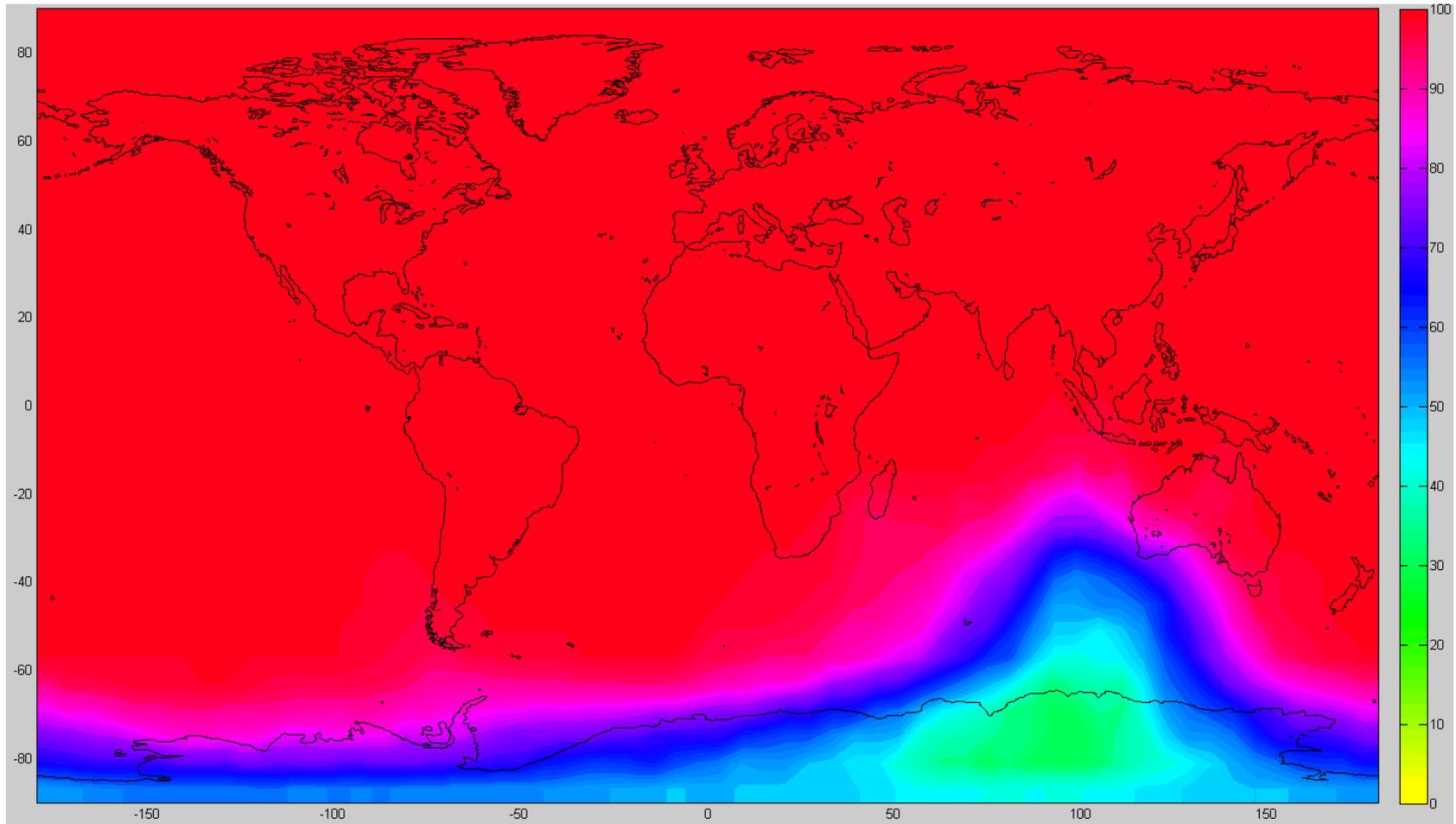
January 2017: Coverage / Accuracy

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

Provided by Larry LeBeau, ERT Inc.

Jan 2018: MEOLUT Declared Coverage Area
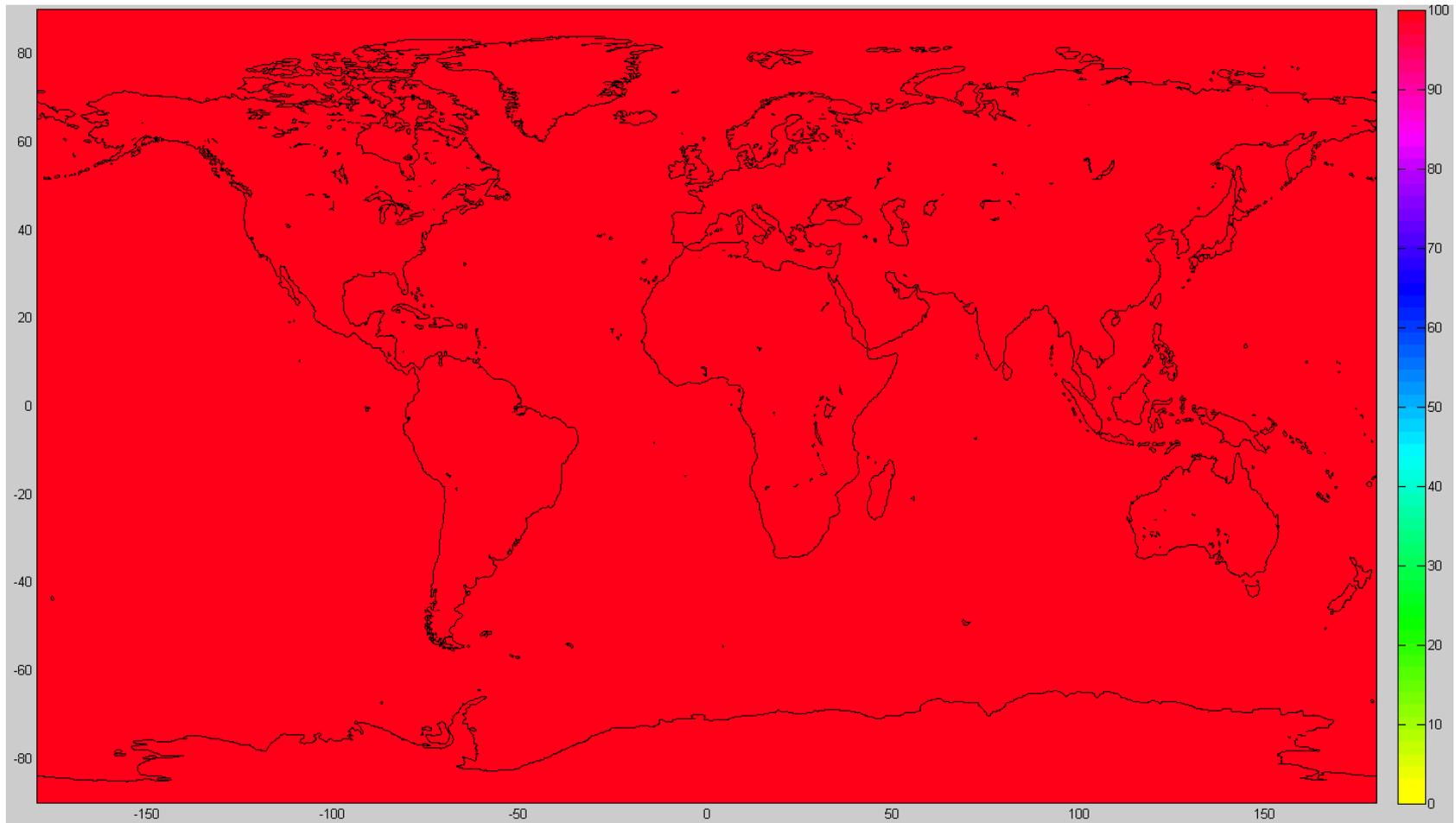
17 MEOLUTS

Provided by Larry LeBeau, ERT Inc.
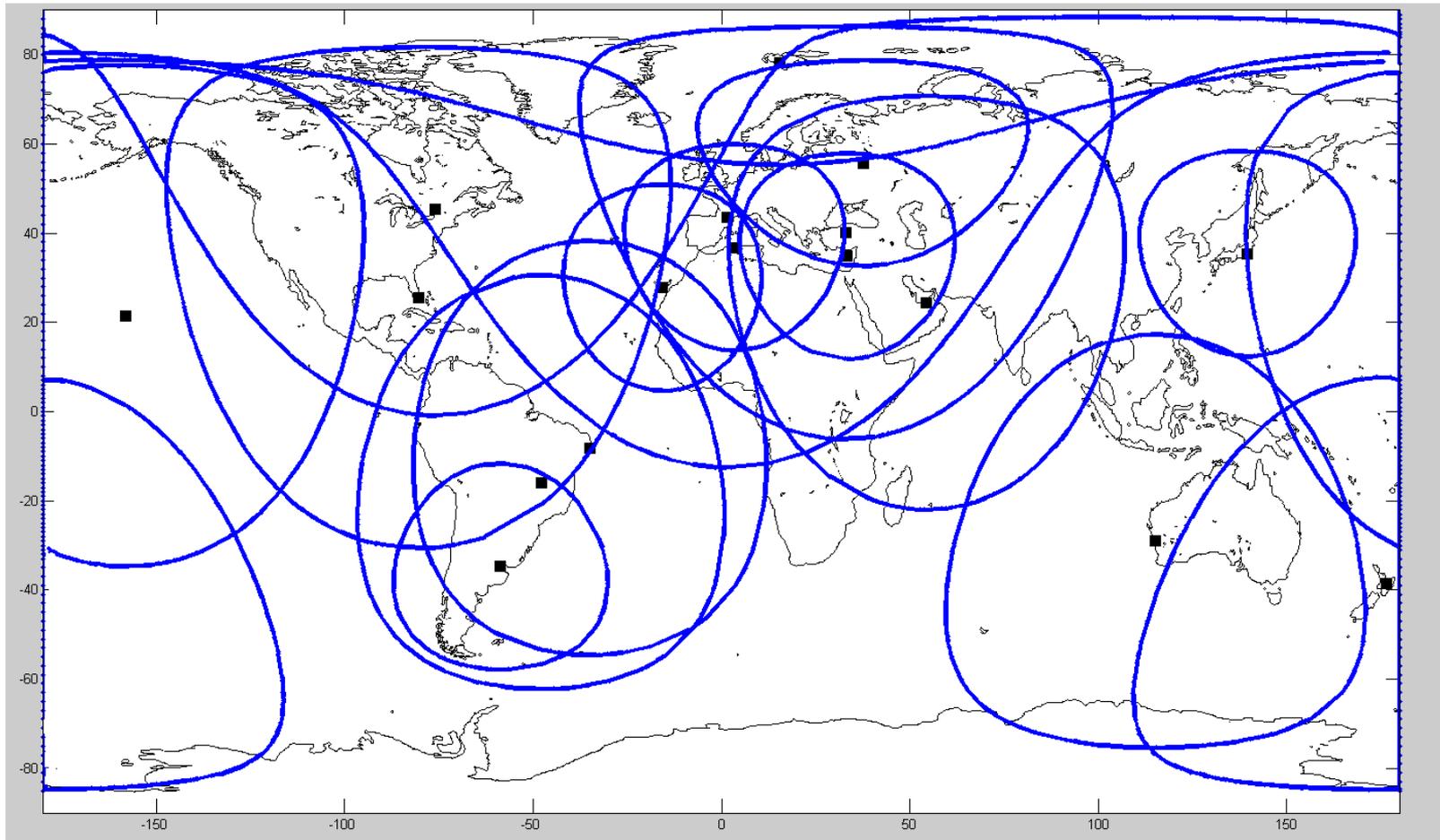
January 2018: Coverage / Detection

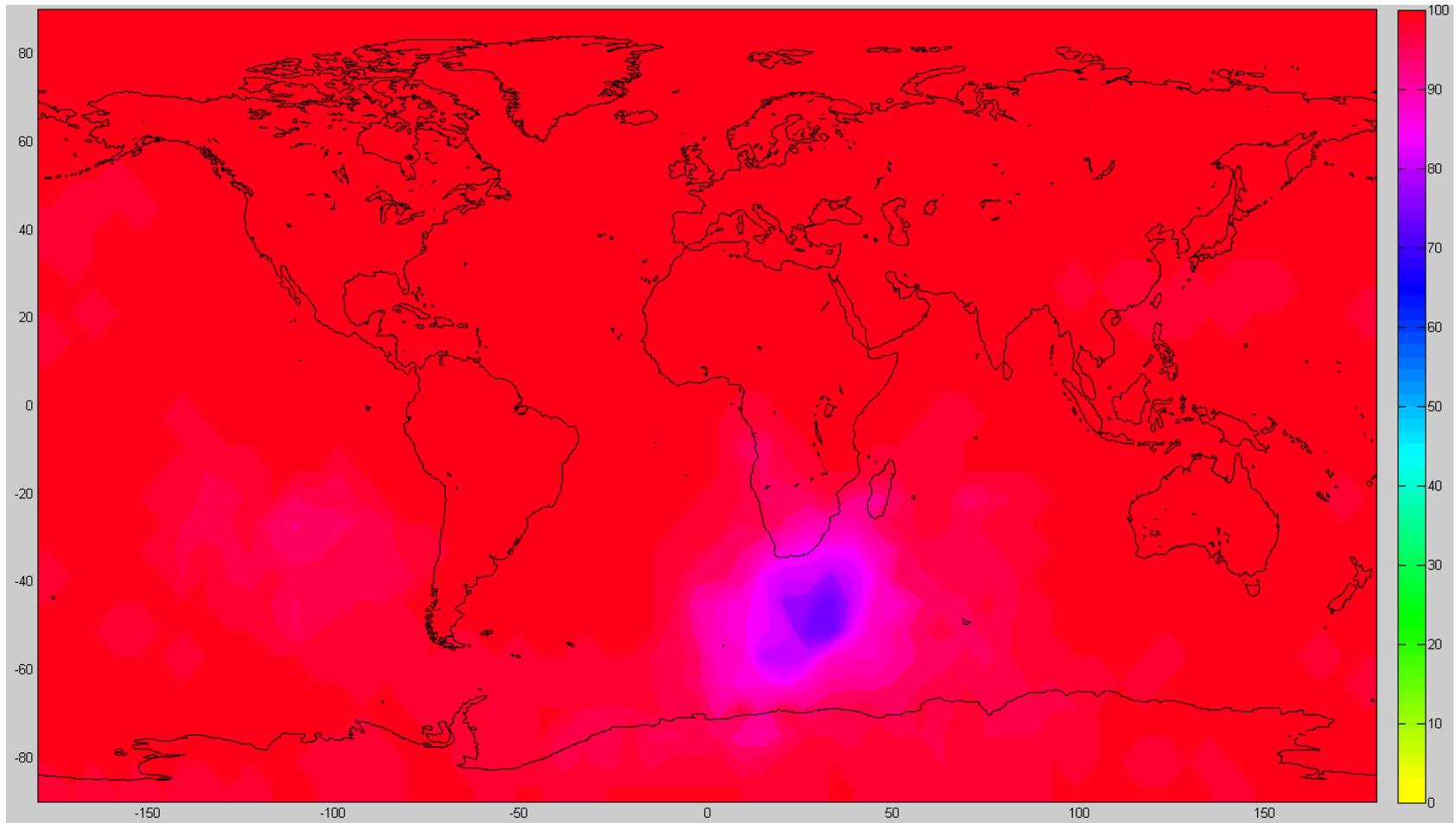**100%** meets 99% Probability of Detection – 39 Satellites (21 DASS / 18 Galileo) – 17 MEOLUTS

Provided by Larry LeBeau, ERT Inc.

January 2018: Coverage / Accuracy

Coverage 97.1 %   meets 95% <= 5 km – 39 Satellites (21 DASS / 18 Galileo) – 17 MEOLUTS

Provided by Larry LeBeau, ERT Inc.

Jan 2020: MEOLUT Declared Coverage Area
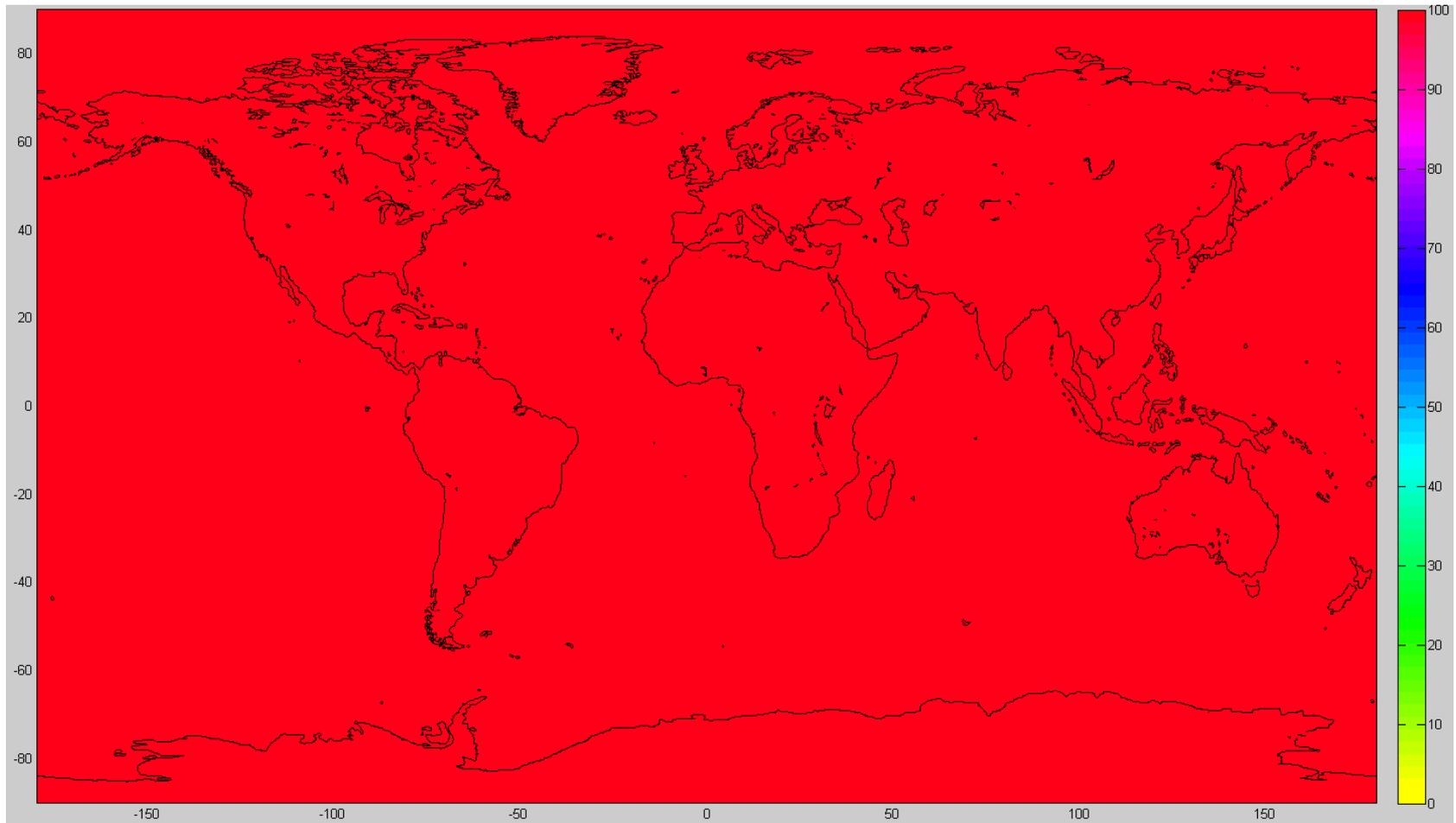
27 MEOLUTS

Provided by Larry LeBeau, ERT Inc.
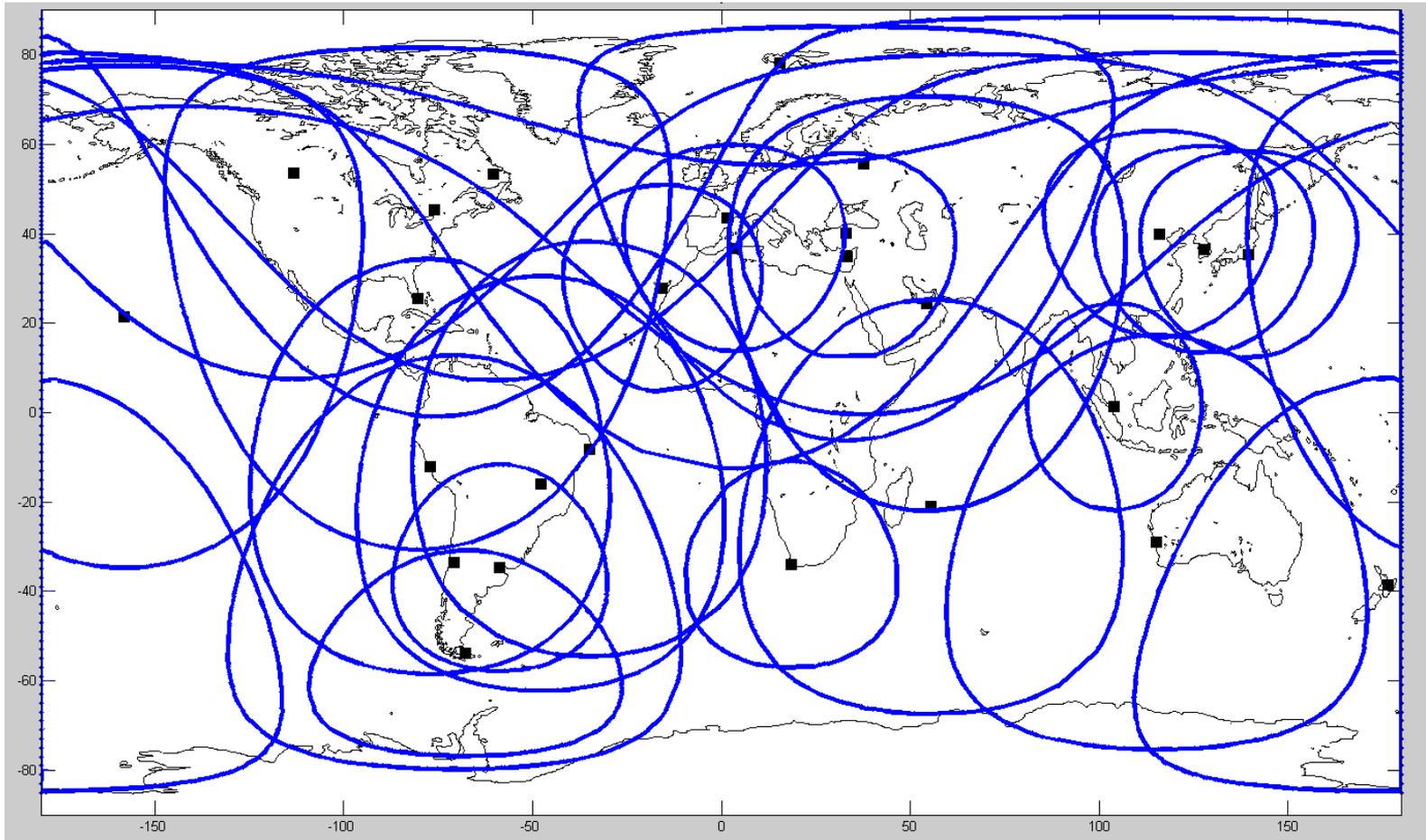
January 2020: Coverage / Accuracy

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

Provided by Larry LeBeau, ERT Inc.

MEOSAR vs LEOSAR cases

Alaska – December 14th, 2016

13:00 UTC	PLB Activation
13:00 UTC	MEOSAR confirmed location
14:06 UTC	First LEOSAR location
14:54 UTC	LEOSAR confirmed location
MEOSAR confirmed the location before LEOSAR by **114 minutes**	

Chincoteague, VA – April 12th, 2017

11:44 UTC	EPIRB Activation
11:44 UTC	MEOSAR confirmed location
12:09 UTC	First LEOSAR location
12:47 UTC	LEOSAR confirmed location
MEOSAR confirmed the location before LEOSAR by **63 minutes**	

Olympic National Forest - April 2nd, 2017

22:29 UTC	ELT Activation
22:30 UTC	First MEOSAR location
23:00 UTC	MEOSAR confirmed location
23:11 UTC	First LEOSAR location
23:22 UTC	LEOSAR confirmed location
MEOSAR confirmed the location before LEOSAR by **22 minutes**	