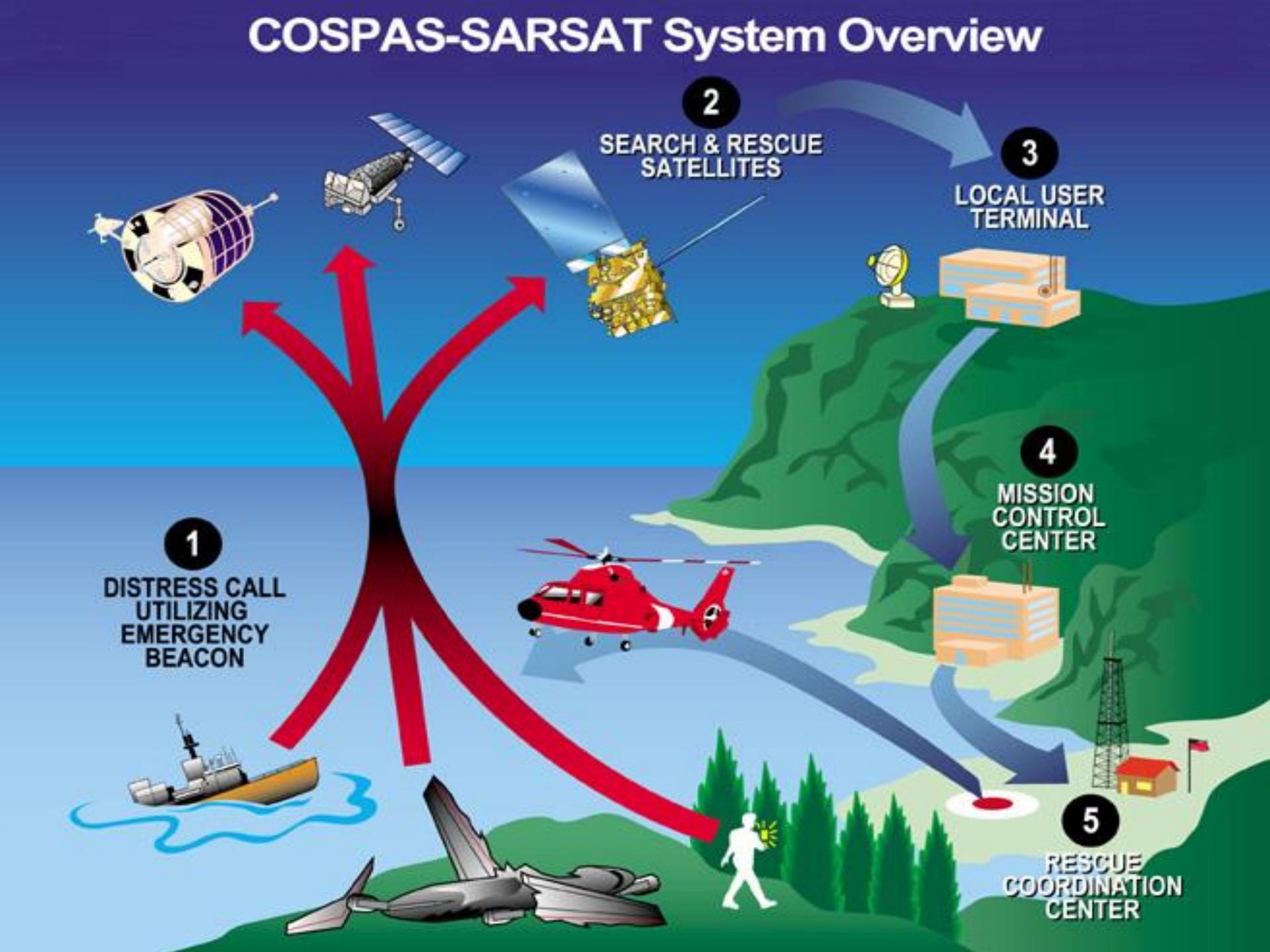

COSPAS-SARSAT
SYSTEM OVERVIEW
STEVEN LETT
HEAD OF SECRETARIAT


COSPAS-SARSAT System Overview
2
SEARCH & RESCUE SATELLITES
3
LOCAL USER TERMINAL
4
MISSION CONTROL CENTER
1
DISTRESS CALL UTILIZING EMERGENCY BEACON
5
RESCUE COORDINATION CENTER

COSPAS-SARSAT
PARTICIPATING COUNTRIES IN 2013

Algeria
Argentina
Australia
Brazil
Canada
Chile
China (P.R.)
Cyprus
Denmark
Finland
France
Germany
Greece
Hong Kong
India
Indonesia
Italy
ITDC
Japan
Korea (R. of)
Madagascar
Netherlands
New Zealand
Nigeria
Norway
Pakistan
Peru
Poland
Russia
Saudi Arabia
Serbia
Singapore
South Africa
Spain
Sweden
Switzerland
Thailand
Tunisia
Turkey
UAE
UK
USA
Vietnam

COSPAS-SARSAT ORGANIZATION

Cospas-Sarsat Council

Policy-Setting

"Carry out the relevant policies and coordinate the activities of the Programme."

Cospas-Sarsat Secretariat

Executive

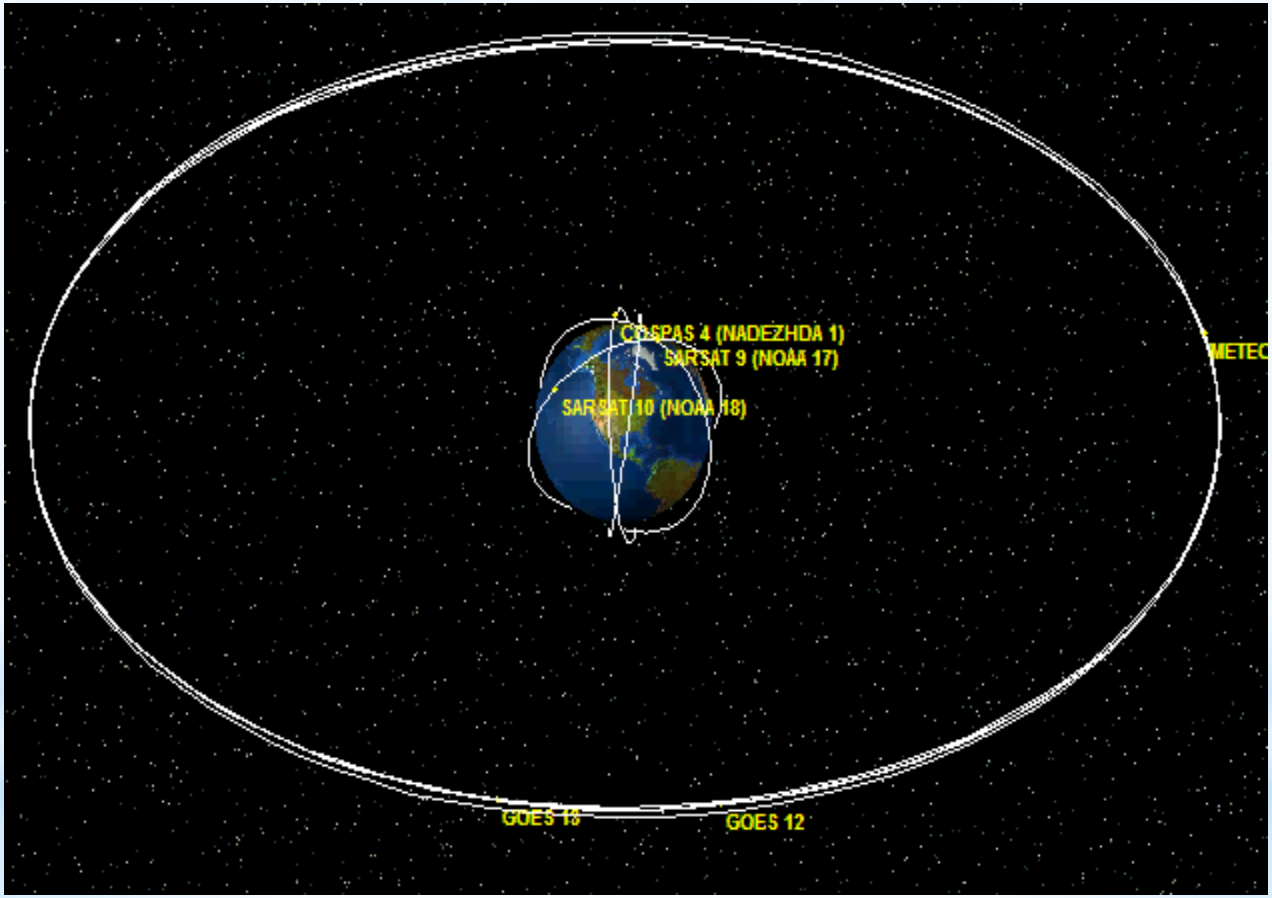
"The permanent administrative organ for the Programme [to] assist the Council in the implementation of its functions."

Joint Committee

Operations Working Group

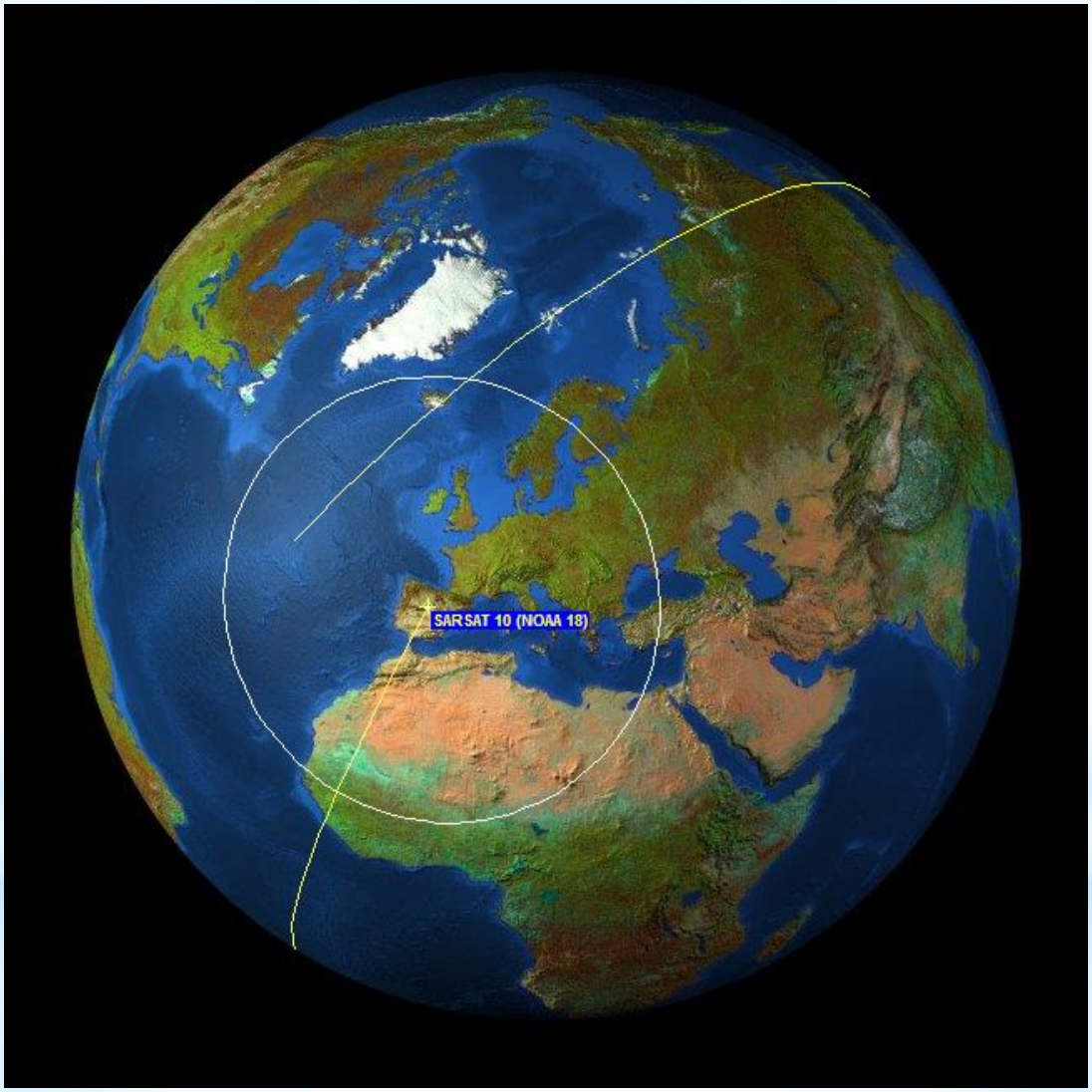
Technical Working Group

PRESENT LEOSAR/GEOSAR SYSTEM ORBITS



PRESENT LEOSAR SYSTEM

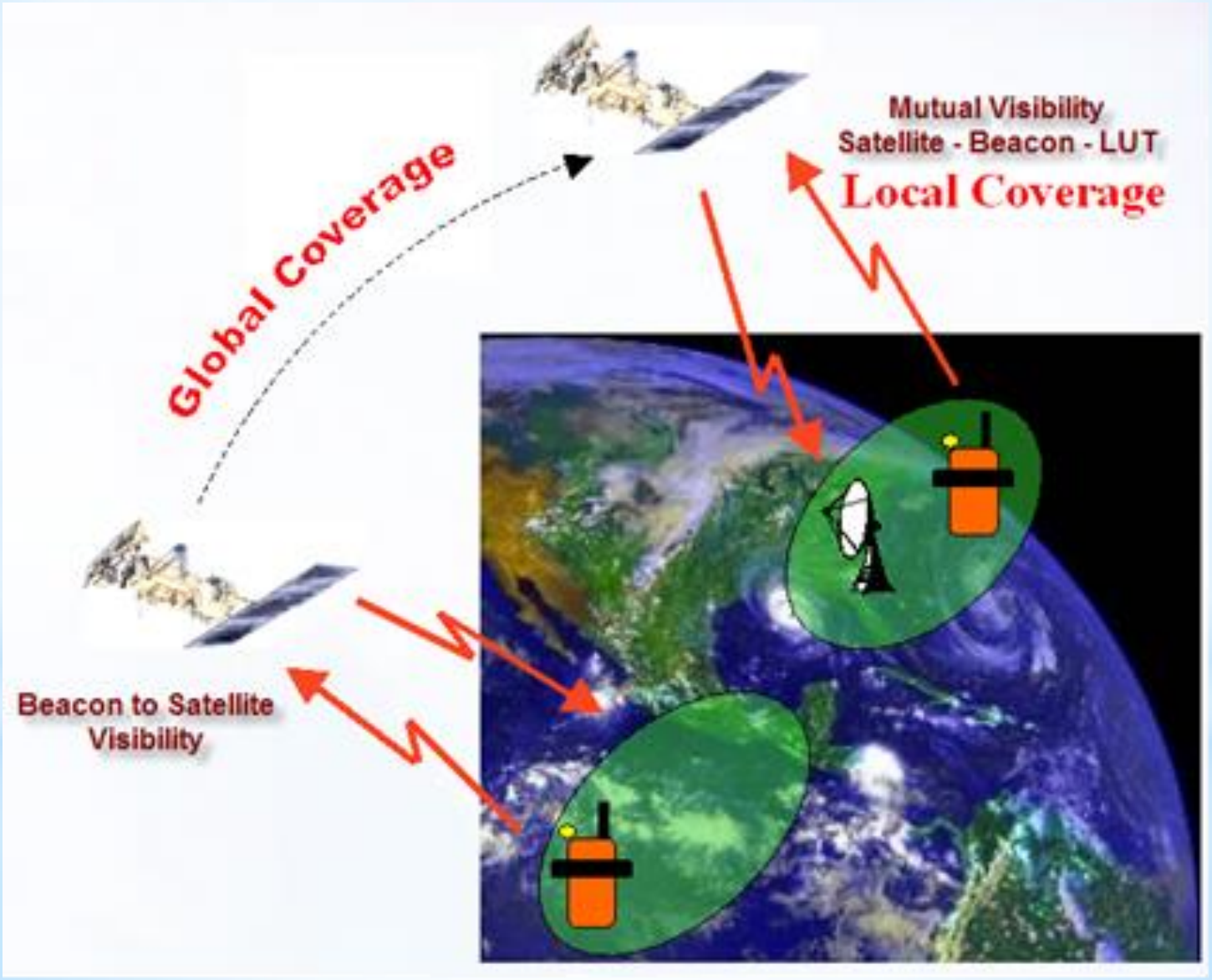
EXAMPLE TRACK



LEOSAR MOVING “FOOTPRINT”

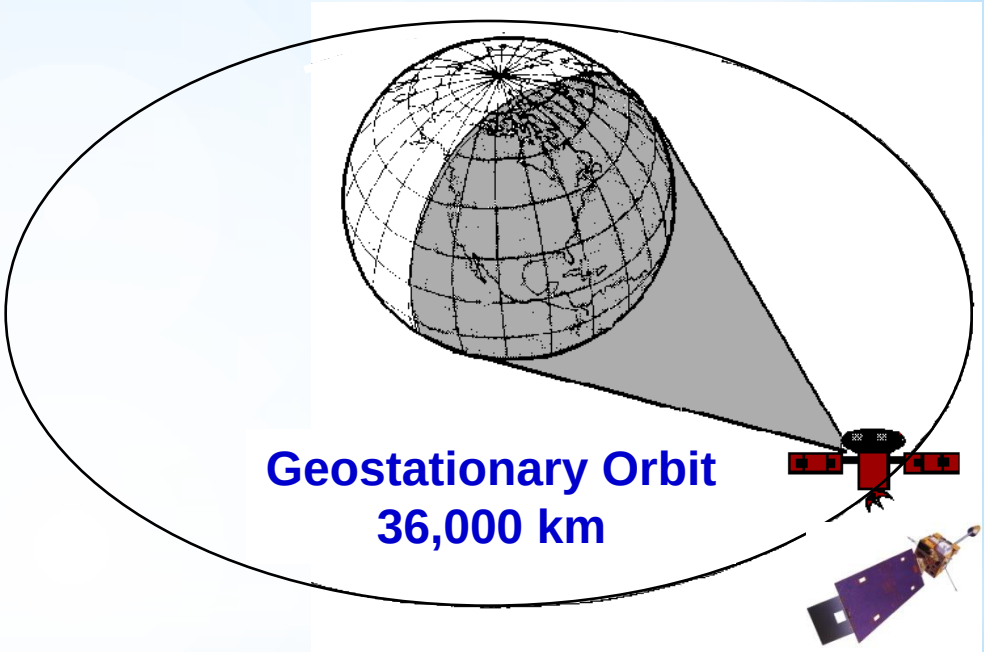
PRESENT LEOSAR SYSTEM

TWO MODES OF OPERATION

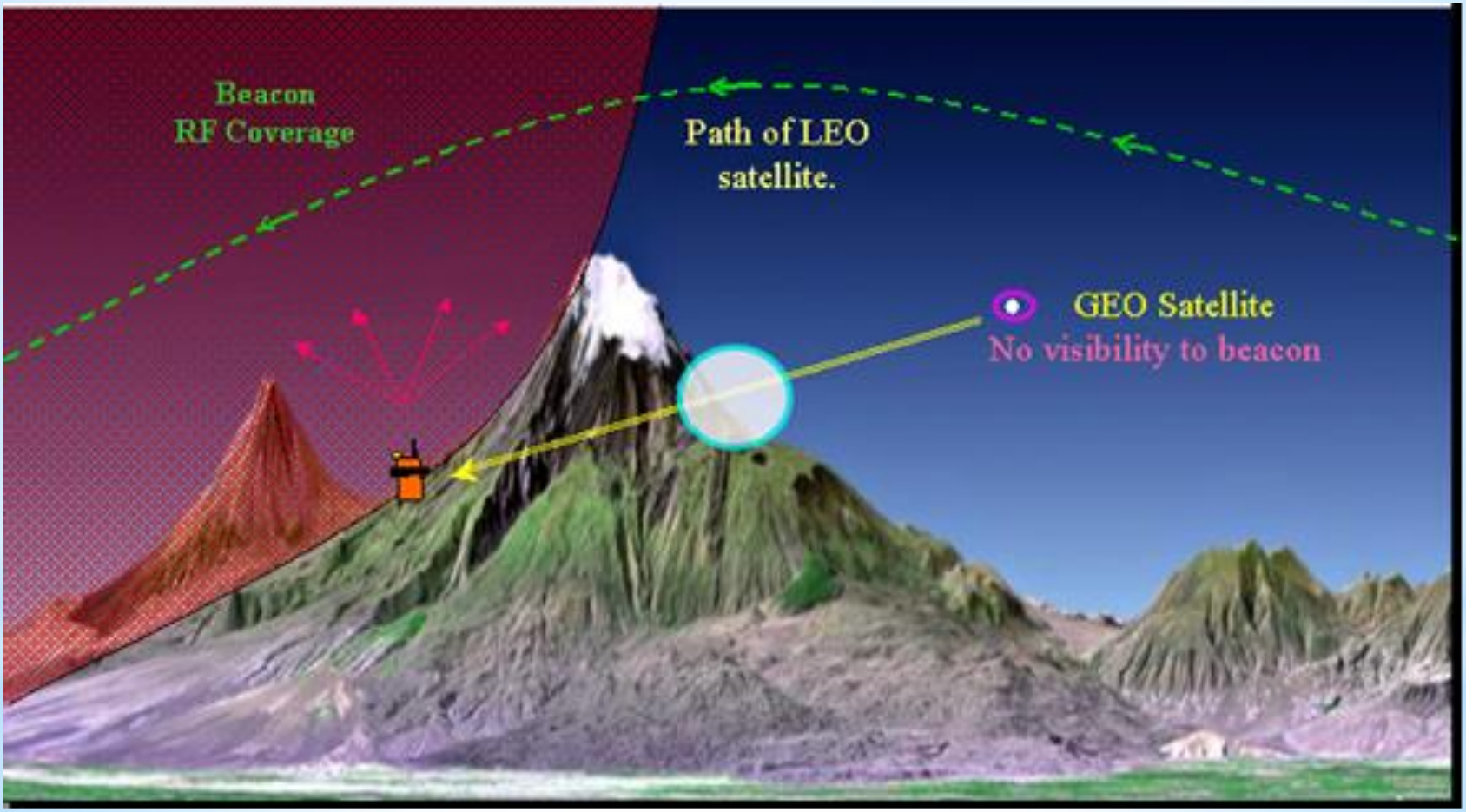


PRESENT GEOSAR SYSTEM

- 36,000 km high: Geostationary satellites relay transmissions from beacons
- GEOLUTs only “detect” alerts and repeat message
- Large, fixed coverage areas
- With no relative motion between beacon and satellite there is no Doppler effect on signal to use for determining location
- Location is available only if beacon has a GNSS receiver chip and encodes the location in the beacon message



LEOSAR/GEOSAR SYSTEM LIMITATIONS

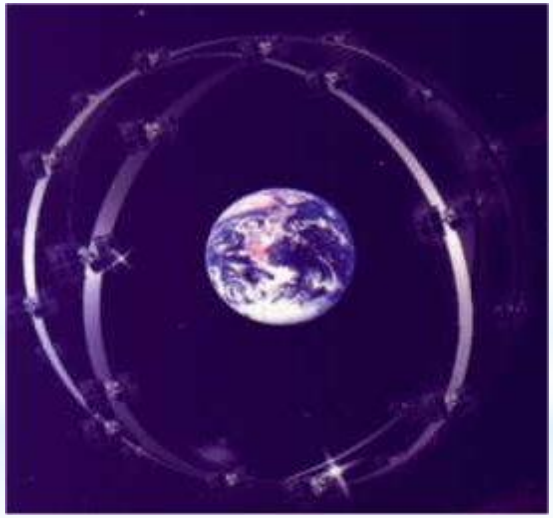


FUTURE MEOSAR SYSTEM FLEET

MEOSAR Includes SAR Payloads on Three Global Navigation Satellite Systems

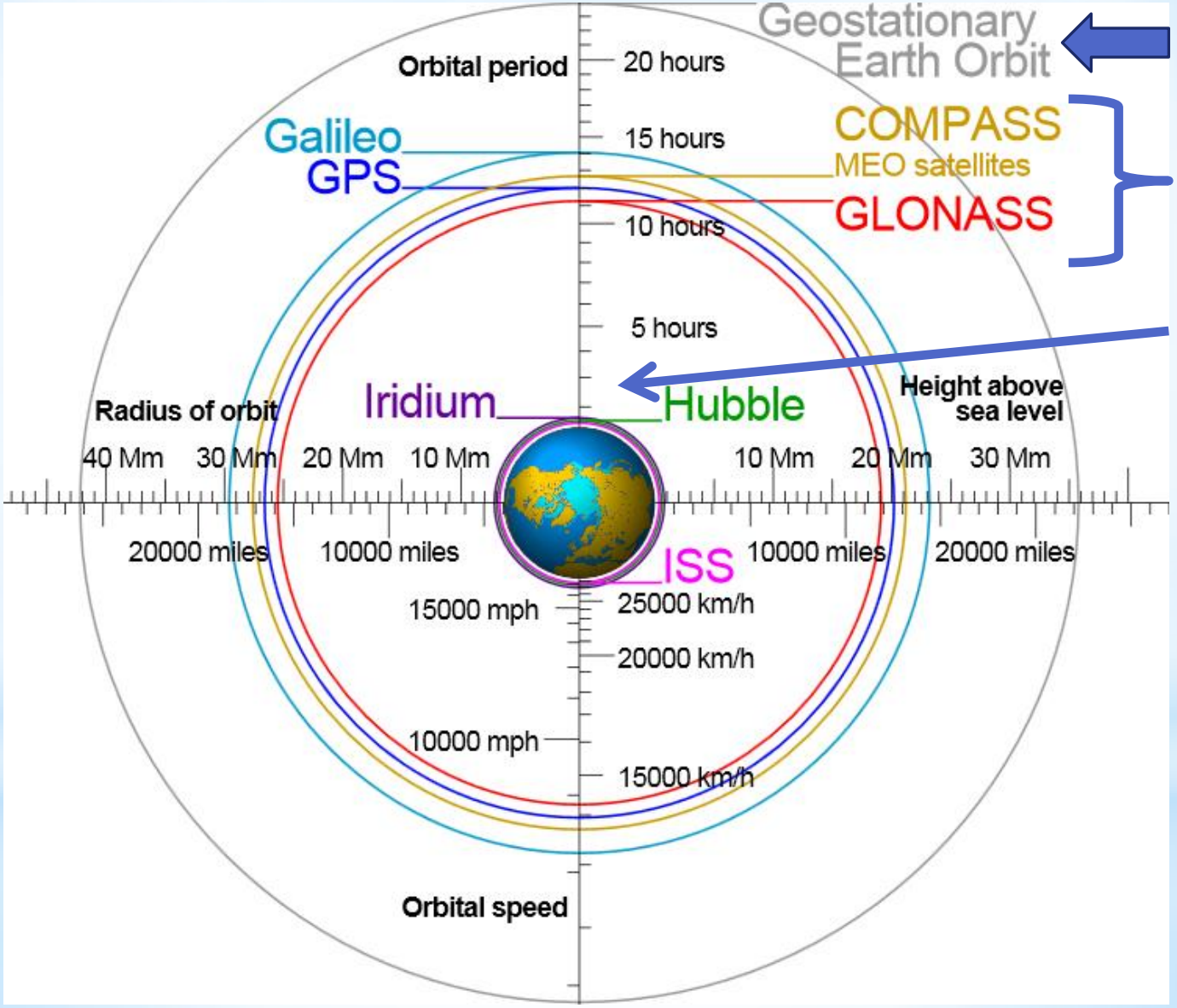
GPS / USA

Glonass / Russia

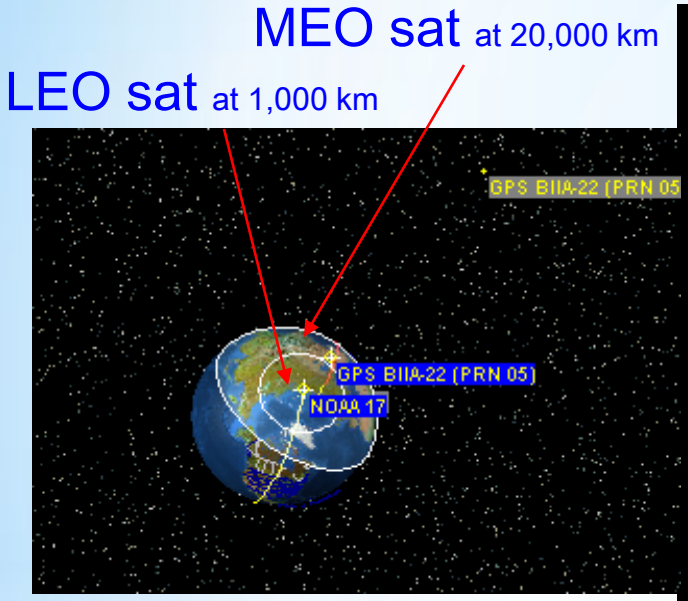


Galileo / Europe

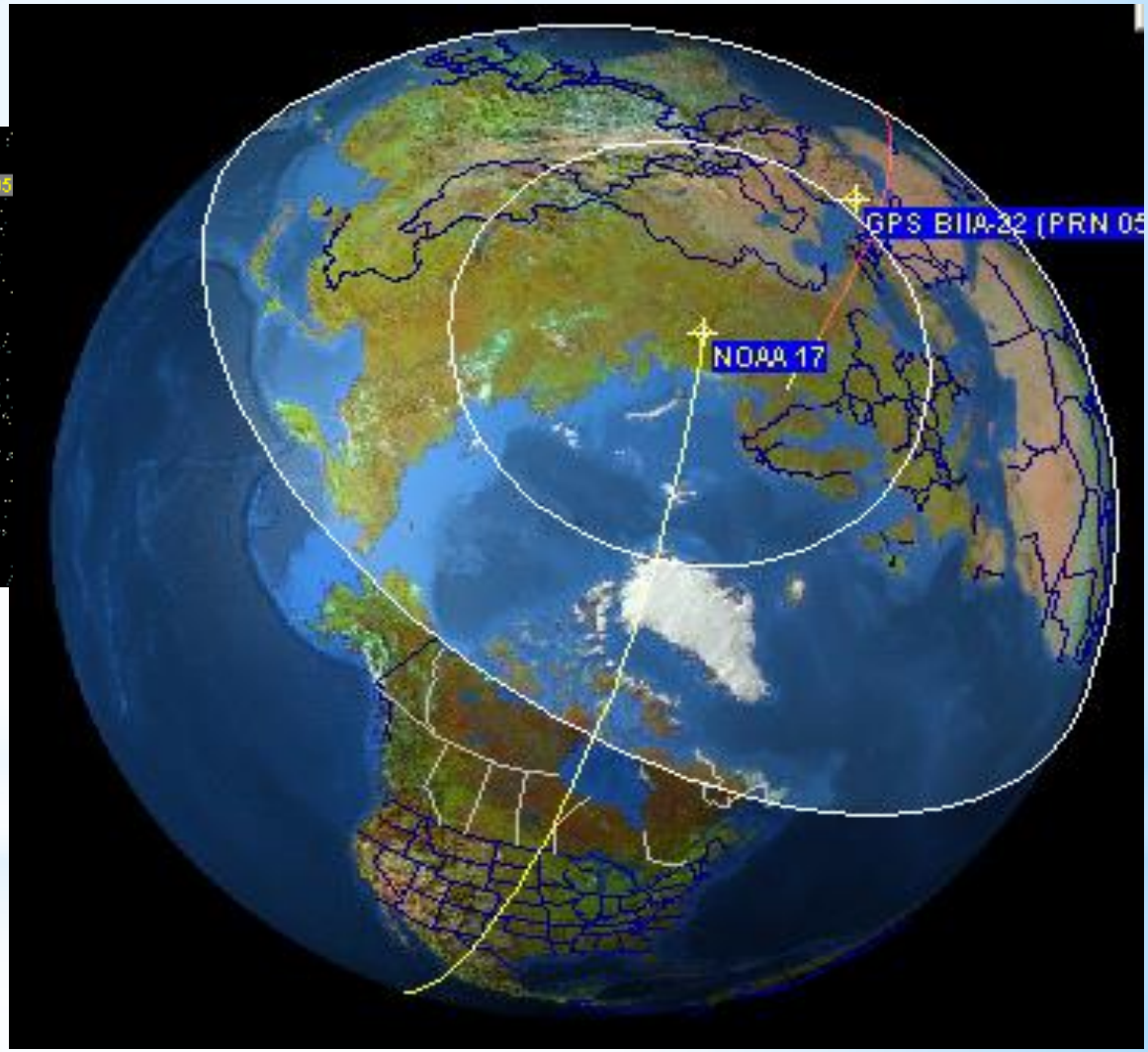
MEOSAR ORBIT COMPARISON



MEOSAR: AN IMPROVED SYSTEM CONCEPT

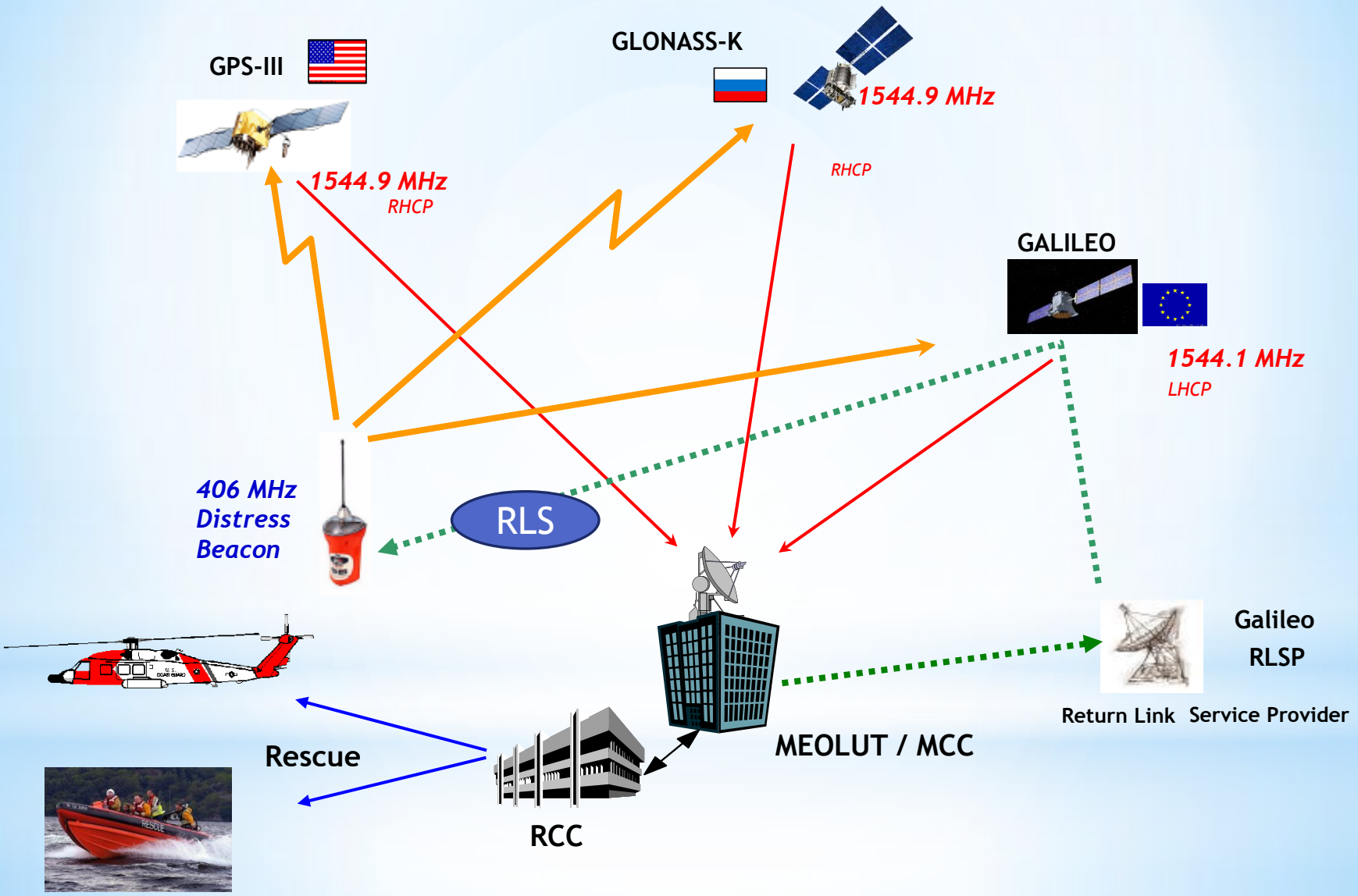


- MEO larger footprint than LEO
- Like GEO footprint but slowly moving
- Continuous global coverage (including poles)



MEO VIEW FROM SPACE

FUTURE MEOSAR SYSTEM OPERATION



FUTURE "SECOND-GENERATION" BEACONS

- Next generation of beacons can be optimized to take best advantage of the MEOSAR system
- More distress related information sent to RCCs
- Return link capabilities
- Reduced battery consumption and/or smaller size
- Expanded "homing" options

SECOND-GENERATION BEACONS

- Smaller
- Improved location accuracy
- Better detection rates
- Lower false alert rates
- Offers growth opportunities in personal protection market, including for wilderness areas


COSPAS
SARSAT