

2009 Beacon Manufacturers' Workshop
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Cospas-Sarsat Update and Beacon Activities

Dany St-Pierre/Andryey Zhitenev
Cospas-Sarsat Secretariat
Montreal



Source: CNES - D. Duross

Cospas-Sarsat Update and Beacon Activities

- International Cospas-Sarsat Programme
- Space Segment status
- 2008 Saves (preliminary)
- MEOSAR System and status
- MEOSAR Return Link Service
- Beacon Type Approval Activities
- International Beacon Registration Database
- Results of the Beacon Manufacturers Survey (2008)
- Beacon Production Status



Cospas-Sarsat Mission and Objective



- Mission:** To provide accurate, timely and reliable distress alert and location data to help SAR authorities assist persons in distress.
- Objective:** To reduce, as far as possible, delays in the provision of distress alerts to SAR and the time to locate a distress and provide assistance.
- Strategy:** To implement, maintain, co-ordinate and operate a satellite system capable of detecting transmissions from radio-beacons that comply with C/S specifications.



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Cospas-Sarsat Participating Countries



- 4 Parties
- 25 Ground Segment Providers
- 9 User States
- 2 Organisations



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Cospas-Sarsat Participating Countries Statistics



Cospas-Sarsat Participating Countries

- 60% of global land mass
- 71% of worldwide population
- 84% of overall wealth



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Cospas-Sarsat System Combined LEO / GEO Operations



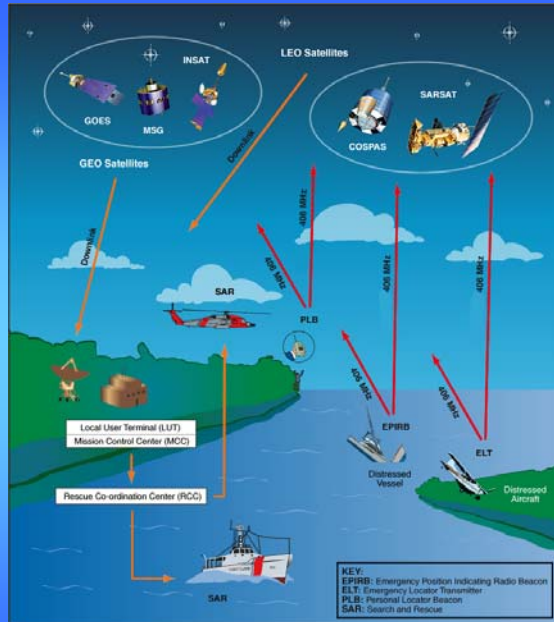
- LEOSAR: Sarsat (NOAA, MetOp) and Cospas (Sterkh)
- GEOSAR: GOES (USA), INSAT (India), MSG (EUMETSAT)



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Cospas-Sarsat System 406 MHz only

(121.5/243 MHz satellite processing terminated as of Feb 1 2009)



Cospas-Sarsat LEOSAR Space Segment

LEOSAR Space Segment Instrument Status

| Satellite | L-band Downlink | 406 MHz SARR | | 406 MHz SARP Status | | | | Comments |
|-----------|-----------------|--------------|--------------|---------------------|------------|------------|-------------|---|
| | | Status | Gain Control | Global Mode | Local Mode | Band-width | Pseudo Mode | |
| Sarsat-7 | F | F | AGC | F | F | 40 kHz | Disabled | |
| Sarsat-8 | F | F | AGC | F | F | 40 kHz | Disabled | |
| Sarsat-9 | F | F | AGC | F | F | 40 kHz | Disabled | |
| Sarsat-10 | F | F | AGC | F | F | 40 kHz | Disabled | |
| Sarsat-11 | F | F | AGC | F | F | 40 kHz | Disabled | SARP-3 instrument has an intermittent software issue that causes a memory reset approximately every 10 days |
| Sarsat-12 | Under test | Under test | Under test | Tested | Under test | Under test | TBD | Under commissioning |

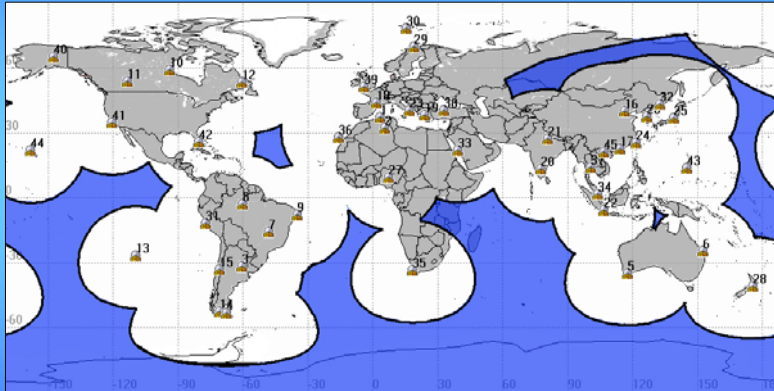
LEOSAR Future Space Segment

| Cospas-Sarsat Payload | Spacecraft | Launch Date | Status |
|-----------------------|------------|----------------|-------------------|
| Cospas-11 | Sterkh-1 | Projected 2009 | ready for launch |
| Cospas-12 | Sterkh-2 | Projected 2009 | Integration phase |
| Cospas-13 | Sterkh-3 | Projected 2012 | - |
| Cospas-14 | Sterkh-4 | Projected 2014 | - |
| Sarsat-13 | METOP-B | Projected 2011 | - |
| Sarsat-14 | NPOESS-C1 | Projected 2013 | - |
| Sarsat-15 | NPOESS-C2 | Projected 2016 | - |

Cospas-Sarsat

LEOLUT Visibility Areas (February 2009)

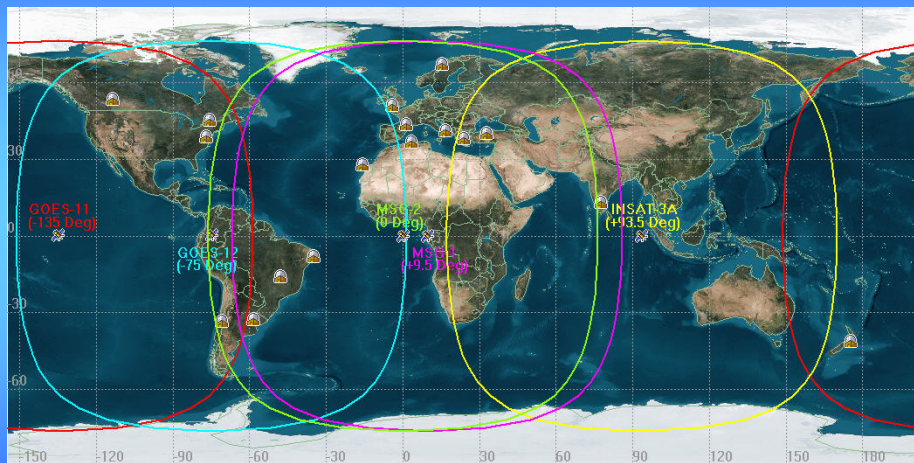
45 LEOLUTs in 30 countries



Blue = 406 MHz SARP only

Cospas-Sarsat

GEOSAR Coverage (March 2009)



Cospas-Sarsat GEOSAR Space Segment

- GEOSAR Spacecraft Availability

| Spacecraft | Launch Date | Position | Status |
|------------|---------------|----------|------------------------|
| GOES-10 | April 1997 | 60° W | In-orbit spare |
| GOES-West | May 2000 | 135° W | In operation (GOES-11) |
| GOES-East | July 2001 | 75° W | In operation (GOES-12) |
| GOES-13 | May 2006 | 105° W | In-orbit spare |
| INSAT-3A | April 2003 | 93.5° E | In operation |
| MSG-1 | August 2002 | 9.5° W | In operation |
| MSG-2 | December 2005 | 0° | In operation |

GEOSAR Future Space Segment

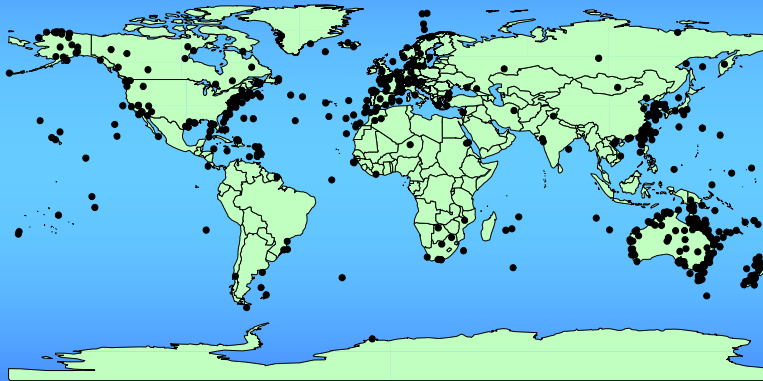
| | | | |
|----------------|------|---------|-----------|
| GOES-14 | 2009 | T.B.D. | Projected |
| GOEG-15 | 2009 | T.B.D. | Projected |
| GOES-16 | 2012 | T.B.D. | Projected |
| GOES-17 | 2014 | T.B.D. | Projected |
| INSAT-3D | 2009 | 83.5° E | Projected |
| MSG-3 | 2011 | T.B.D. | Projected |
| MSG-4 | 2013 | T.B.D. | Projected |
| Electro-L No.1 | 2009 | 76° E | Projected |
| Luch-M-5 | 2011 | 95° E | Projected |
| Electro-L No.2 | 2011 | T.B.D. | Projected |

Notes: T.B.D. To be determined.



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Cospas-Sarsat 2008 - Alert Locations (preliminary)

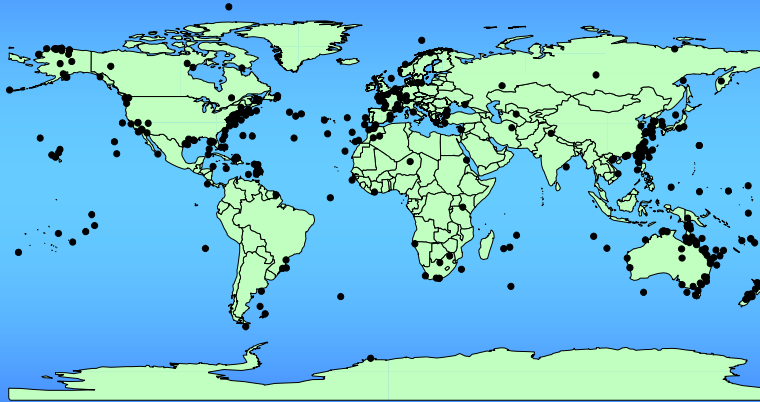


SAR Events: 508 (+12.4% from 2006)
P. Rescued: 1,984 (+5.5% from 2006)



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Cospas-Sarsat 2008 – 406 MHz Alert Locations (preliminary)

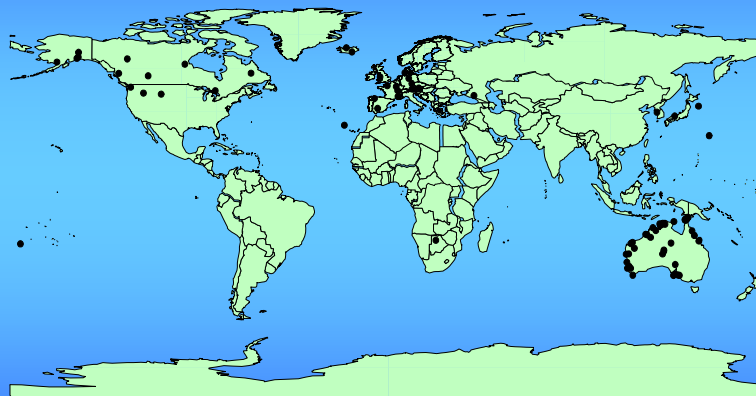


SAR Events: 372 (73% of total)
P. Rescued: 1,517 (83% of total)



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Cospas-Sarsat 2008 - 121.5 MHz Alert Locations (preliminary)



SAR Events: 136 (-21.4% from 2006)
Rescued: 364 (-8.2% from 2006)



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