COSPAS-SARSAT SYSTEM DATA

No.43
December 2017

COSPAS-SARSAT SYSTEM DATA

No.43 - December 2017

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1 SUMMARY STATUS

As at 31 December 2017

PARTICIPANTS	
Parties to the International Cospas-Sarsat Programme Agreement (ICSPA):	4
Ground Segment Providers:	29
User States:	9
Ground Segment Operators:	2
Total number of Participants:	**44**

SPACE SEGMENT (in Operation)	
LEOSAR payloads (low-Earth orbit):	5
GEOSAR payloads (geostationary orbit):	7
MEOSAR payloads (medium-Earth orbit):	37

GROUND SEGMENT (in Operation)	
Local User Terminals operating in the LEOSAR system (LEOLUTs*)	55
Local User Terminals in the GEOSAR system (GEOLUTs)	25
Local User Terminals in the MEOSAR system (MEOLUTs)	7
Mission Control Centres (MCCs) (including 2 commissioned LGM MCCs)	30

* All co-located LUTs are counted as two (with the exception of the French LEOLUTs, which operate as one LUT).

406 MHz BEACON POPULATION (end of 2016)	
Total beacon population estimated:	about 1,997,000
Registered beacon population:	about 1,540,000

SAR OPERATIONS (end of 2016)

	Type of Distress	SAR Events	Persons Rescued
From **January to December 2016**, the Cospas-Sarsat System provided assistance in **rescuing 2,057 persons in 876 SAR events**	Aviation	177	355
	Maritime	349	1,201
	Land	350	501
	Total	876	2,057

From **September 1982 to December 2016**, the Cospas-Sarsat System provided assistance in **rescuing at least 43,807 persons in 12,664 SAR events**.

2 ASSISTANCE IN SEARCH AND RESCUE OPERATIONS

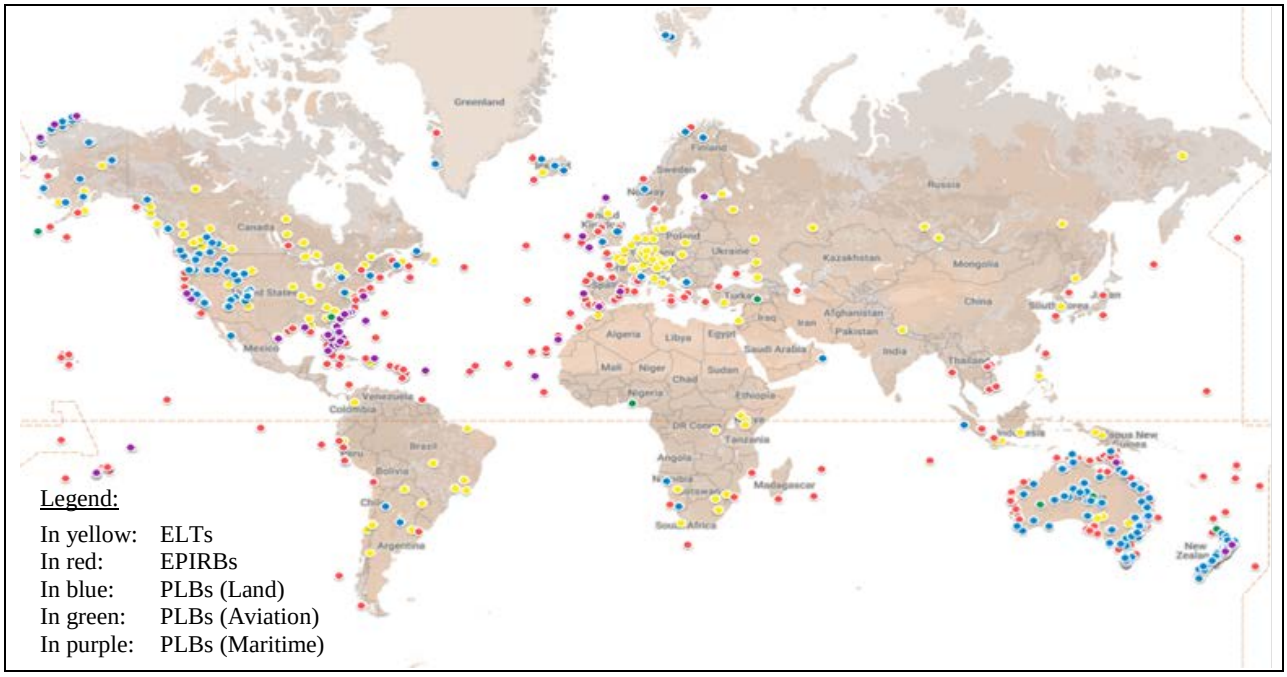

Figure 1: Geographic Distribution of Confirmed SAR Events for which Cospas-Sarsat Data Was Used (January - December 2016)

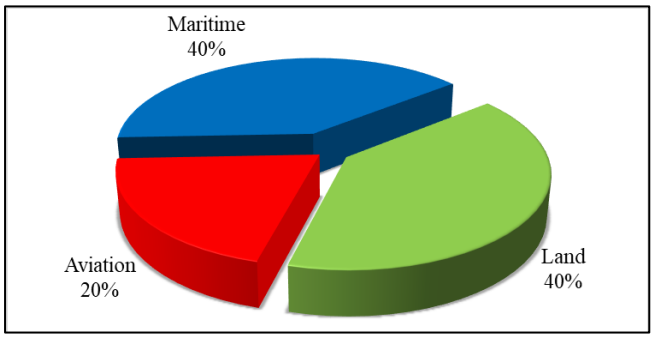

Figure 2: Distribution of SAR Events Assisted by Cospas-Sarsat by Type of Events (January - December 2016)

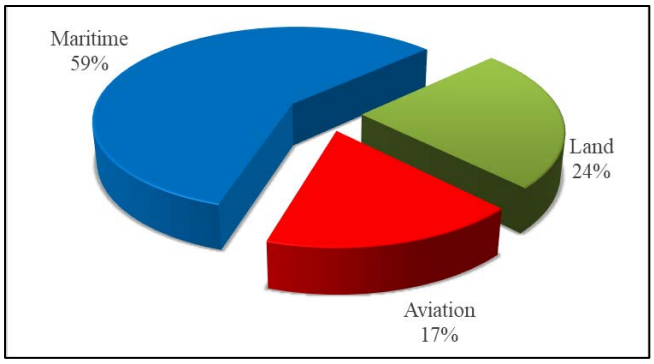

Figure 3: Persons Rescued by Type of SAR Event Assisted by Cospas-Sarsat (January - December 2016)

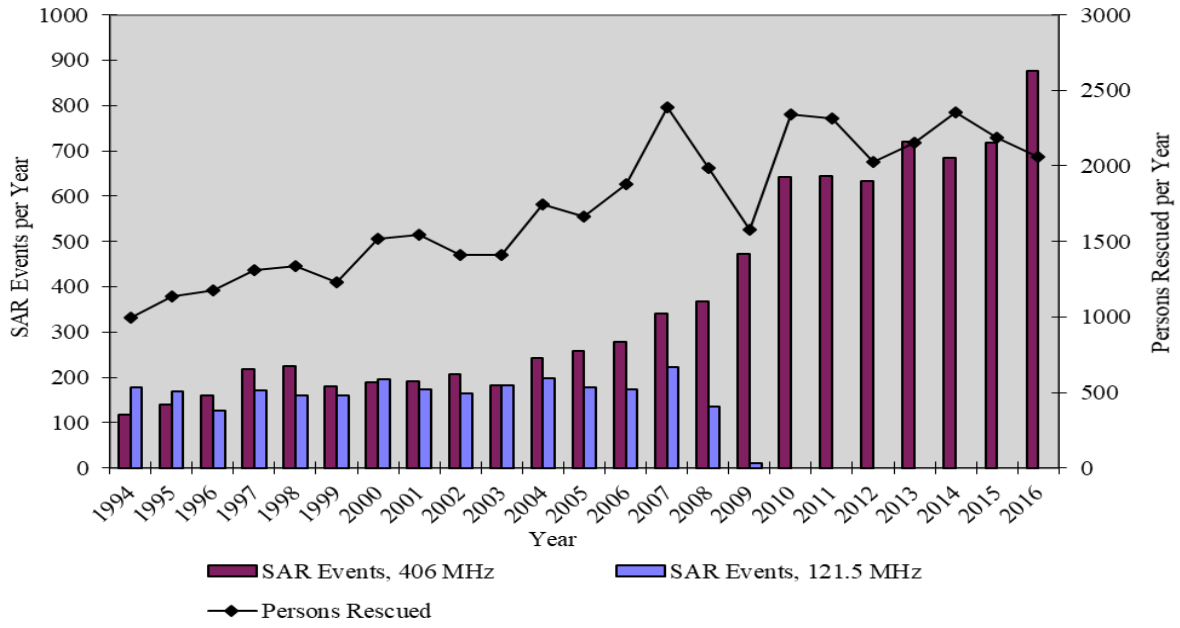

Figure 4: Number of SAR Events and Persons Rescued with the Assistance of Cospas-Sarsat Alert Data (January 1994 - December 2016)

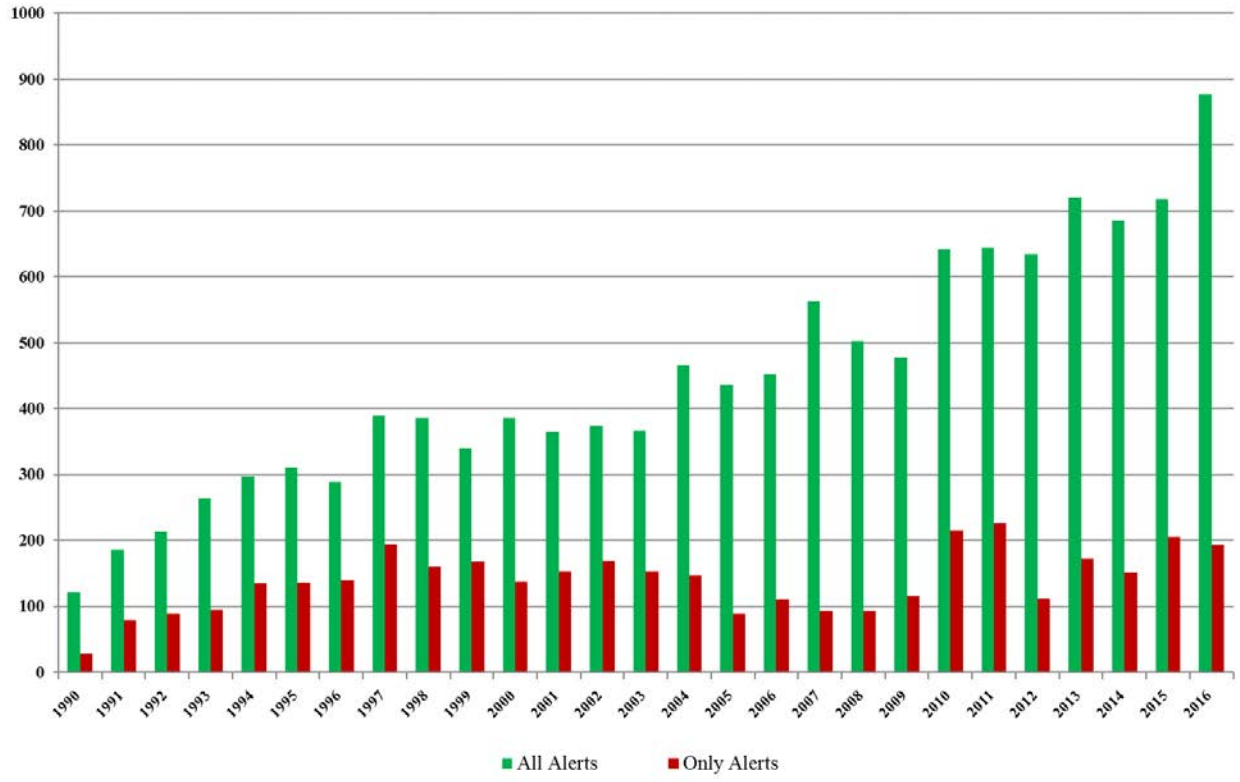

Figure 5: Number of SAR Events where Cospas-Sarsat Assisted and Number of SAR Events where Cospas-Sarsat Provided the Only Alert (January 1990 - December 2016)

3 PARTICIPATING COUNTRIES AND ORGANIZATIONS

Table 1: Cospas-Sarsat Participating Countries and Organizations (December 2017)

Participant	Agency	Status
Algeria	Ministry of National Defense, Search and Rescue Services	Ground Segment Provider
Argentina	Argentine Air Force, Satellite Emergency Alert Service (SASS)	Ground Segment Provider
Australia	Australian Maritime Safety Authority (AMSA)	Ground Segment Provider
Brazil	Air Space Control Department (DECEA), Operations Sub-Department (SDOP)	Ground Segment Provider
Canada	National Search and Rescue Secretariat (NSS)	Party-Space Segment Provider
Chile	Search and Rescue Service of the Chilean Air Force	Ground Segment Provider
China (P. R. of)	Maritime Safety Administration, Bureau of Harbour Superintendency	Ground Segment Provider
Cyprus	Larnaca Joint Rescue Co-ordination Centre (JRCC)	Ground Segment Provider*
Denmark	Denmark Transport Authority, Aviation Department	User State
Finland	Ministry of the Interior, Finnish Border Guard	User State
France	Centre National d'Etudes Spatiales (CNES)	Party-Space Segment Provider
Germany	Federal Ministry of Transport and Digital Infrastructure	User State
Greece	Ministry of Maritime Affairs and Insular Policy	Ground Segment Provider
Hong Kong, China	Hong Kong Marine Department	Ground Segment Operator
India	Indian Space Research Organisation (ISRO)	Space / Ground Segment Provider
Indonesia	National SAR Agency of Indonesia (BASARNAS)	Ground Segment Provider
Italy	Department of Civil Protection	Ground Segment Provider
ITDC	International Telecommunication Development Company - Chunghwa Telecom Co., Ltd. (Chinese Taipei)	Ground Segment Operator
Japan	Japan Coast Guard, Information - Communications Division	Ground Segment Provider
Korea (Rep. of)	Korea Coast Guard	Ground Segment Provider
Malaysia	Maritime Enforcement Agency	Ground Segment Provider*
Netherlands (The)	The Netherlands Coastguard	User State
New Zealand	Rescue Coordination Centre New Zealand (RCCNZ)	Ground Segment Provider
Nigeria	National Emergency Management Agency (NEMA)	Ground Segment Provider**
Norway	Ministry of Justice	Ground Segment Provider
Pakistan	Space and Upper Atmosphere Research Commission (SUPARCO)	Ground Segment Provider
Peru	General Directorate of Captaincies and Coastguard	Ground Segment Provider
Poland	Civil Aviation Authority	User State
Qatar	Doha Joint Rescue Coordination Centre (DJRCC), Ministry of Defence	Ground Segment Provider*
Russian Federation	Federal State Unitary Enterprise Morsviazsputnik	Party-Space Segment Provider
Saudi Arabia	General Authority of Civil Aviation, Directorate of Air Traffic Services	Ground Segment Provider
Serbia	Civil Aviation Directorate of the Republic of Serbia	User State
Singapore	Civil Aviation Authority of Singapore	Ground Segment Provider
South Africa	South African Maritime Safety Authority (SAMSA)	Ground Segment Provider
Spain	National Institute of Aerospace Engineering (INTA)	Ground Segment Provider
Sweden	Swedish Civil Contingencies Agency (MSB)	User State
Switzerland	Federal Office of Civil Aviation, Safety Division	User State
Thailand	Department of Civil Aviation	Ground Segment Provider
Tunisia	Ministry of Transport (DGAC)	User State
Turkey	Ministry of Transport, Maritime Affairs and Communication	Ground Segment Provider
UAE	Telecommunications Regulatory Authority (TRA)	Ground Segment Provider
UK	Department for Transport, Maritime and Coastguard Agency	Ground Segment Provider
USA	National Oceanic and Atmospheric Administration (NOAA)	Party-Space Segment Provider
Vietnam	Ministry of Transport, Vietnam Maritime Administration (VINAMARINE)	Ground Segment Provider

Notes: * Ground Segment equipment is not yet commissioned.

** Due to the unavailability of its Ground Segment equipment, Nigeria is configured as a SPOC of the SPMCC.

4 SPACE SEGMENT

Table 2: LEOSAR Payload Availability (December 2017)

Cospas-Sarsat Payload	Spacecraft	Launch Date	Capability	Status	SAR Processor (SARP)		SAR Repeater (SARR)
					Global Mode	Local Mode	
Sarsat-7	NOAA-15	May 1998	FOC	On	On	On	On
Sarsat-10	NOAA-18	May 2005	FOC	On	On	On	On
Sarsat-11	Metop-A	October 2006	FOC	On	On	On	On
Sarsat-12	NOAA-19	February 2009	FOC	On	On	On	On
Sarsat-13	Metop-B	September 2012	FOC	On	On	On	On

Note: FOC Full Operational Capability.

Table 3: GEOSAR Payload Availability (December 2017)

Spacecraft	Launch Date	Position	Capability	Status	Comments
GOES-13	May 2006	TBD	FOC	Off	In-orbit spare
GOES-14	June 2009	105° W	FOC	Off	In-orbit spare
GOES-15 (West)	March 2010	135° W	FOC	On	
GOES-16 (East)	November 2016	75° W	FOC	On	Downlink center frequency is 1544.55 MHz
INSAT-3D	July 2013	82° E	FOC	On	
INSAT-3DR	September 2016	74° E	FOC	On	
GSAT-17	June 2017	93.5° E	UT	On	Not available for tracking
MSG-1	August 2002	41.5° E	FOC	On	See note 1
MSG-2	December 2005	9.5° E	FOC	On	
MSG-3	July 2012	0°	FOC	On	
MSG-4	July 2015	3.4° W	FOC	Off	In-orbit spare
Electro-L No.2	December 2015	76° E	UT	On	
Louch-5A	December 2011	167° E	UT	On	See note 2
Louch-5V	April 2014	95° E	UT	On	

Notes: 1 Moving on an elliptic orbit. Operational for GEOLUTs equipped with active-tracking capability.
2 Moving on an elliptic orbit. Can be used operationally by GEOLUTs equipped with active tracking capabilities.
FOC Full Operational Capability.
TBD To Be Determined.
UT Under Test.

A GEOSAR coverage map is available at Figure “GEOSAR Satellite Coverage” in this document, showing footprints for payloads that are switched on.

Table 4: MEOSAR Payload Availability (December 2017)

Constellation	Downlink Frequency	Capability	Number / Status	Comments
Galileo	L-Band	FOC	9/On[1] & 1/Off	Payload #422 switched off for maintenance.
	L-Band	IOC	6/On	Commissioning reports submitted to CSC-59.
	L-Band	UT	4/Off	Payloads switched off pending testing.
Glonass-K1	L-Band	UT	2/On	1 payload available for detection testing. 1 payload available for detection and location testing.
GPS BIIR & F	S-Band	IOC	20/On	Experimental payloads. Commissioning reports submitted to CSC-59.

Notes: FOC Full Operational Capability.
IOC Initial Operational Capability.
UT Under Test.
TBD To Be Determined.
1 In addition, two more Galileo satellites, with no SAR payload onboard, are Return-Link-Service-capable.

5 GROUND SEGMENT

Note: Ground Segment equipment under development is not listed under this section.

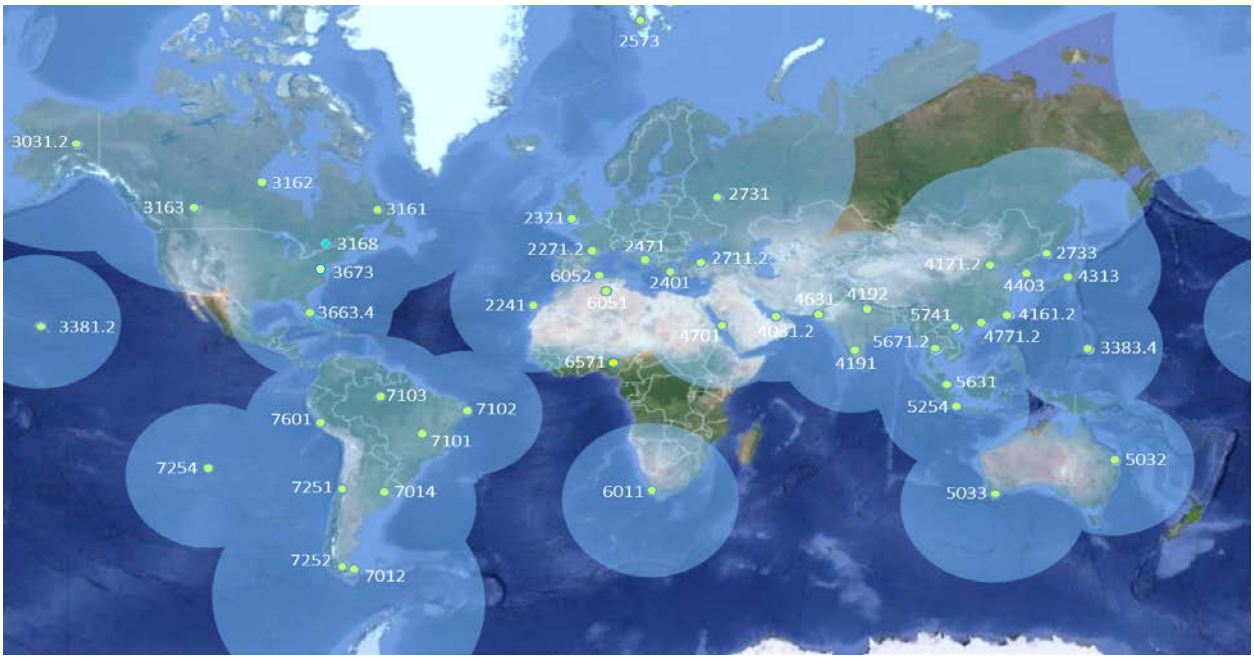

Figure 6: LEOSAR and Operational LEOLUT Mutual-Visibility Areas (December 2017)

Notes: 6571 The Abuja LEOLUT is not operational. Nigerian MCC is configured as a SAR point of contact of the Spanish MCC.

The Cospas-Sarsat LEOSAR system provides global coverage for 406-MHz beacons. Light-blue areas on the figure above show areas where LEOSAR satellites and operational LEOLUTs have mutual visibility. When a satellite is actively tracked, detected beacons have their signals directly relayed to the tracking LEOLUT for processing. When a satellite is outside a light-blue area and detects beacons, data are stored, and then sent down to a LEOLUT as soon as the satellite is tracked again entering a light-blue area. This map above was created assuming a satellite altitude of 850 km with a 5° elevation angle at each LEOLUT. Below is a list of the sites where LEOSAR local user terminals (LEOLUTs) are located.

Table 5: LEOSAR Ground Segment Status (LEOLUTs) (December 2017)

Code	Location	Provider	Status	MCC	Dual	Comments
6052	Algiers	Algeria	**FOC**	ALMCC	No	
6051	Ouargla	Algeria	**FOC**	ALMCC	No	
7014	El Palomar	Argentina	**FOC**	ARMCC	No	
7012	Rio Grande	Argentina	**FOC**	ARMCC	No	
5033	Albany	Australia	**FOC**	AUMCC	No	
5032	Bundaberg	Australia	**FOC**	AUMCC	No	
7101	Brasilia	Brazil	**FOC**	BRMCC	No	
7103	Manaus	Brazil	**FOC**	BRMCC	No	
7102	Recife	Brazil	**FOC**	BRMCC	No	
3162	Churchill	Canada	**FOC**	CMCC	No	
3163	Edmonton	Canada	**FOC**	CMCC	No	
3161	Goose Bay	Canada	**FOC**	CMCC	No	
3168	Ottawa	Canada	**Backup**	CMCC	No	Test and backup facility
7254	Easter Island	Chile	**FOC**	CHMCC	No	
7252	Punta Arenas	Chile	**FOC**	CHMCC	No	
7251	Santiago	Chile	**FOC**	CHMCC	No	
4121-2	Beijing	China (P.R. of)	**FOC**	CNMCC	Yes	
2271-2-d	Toulouse	France	**FOC**	FMCC	Yes	
2401	Penteli	Greece	**FOC**	GRMCC	No	
4771-2	Hong Kong	Hong Kong China	**FOC**	HKMCC	Yes	
4191	Bangalore	India	**FOC**	INMCC	No	
4192	Lucknow	India	**FOC**	INMCC	No	
5254	Jakarta	Indonesia	**FOC**	IDMCC	No	
2471	Bari	Italy	**FOC**	ITMCC	No	
4313	Gunma	Japan	**FOC**	JAMCC	No	
4403	Incheon	Korea (Rep. of)	**FOC**	KOMCC	No	
6571	Abuja	Nigeria	**CNO**	NIMCC	No	Configured as a SPOC of the Spanish MCC
2573	Spitsbergen	Norway	**FOC**	NMCC	No	
4631	Karachi	Pakistan	**FOC**	PAMCC	No	
7601	Callao	Peru	**FOC**	PEMCC	No	
2733	Nakhodka	Russia	**FOC**	CMC	No	
4031-2	Jeddah	Saudi Arabia	**FOC**	SAMCC	Yes	
5631	Singapore	Singapore	**FOC**	SIMCC	No	
6011	Cape Town	South Africa	**FOC**	ASMCC	No	
2241	Maspalomas	Spain	**FOC**	SPMCC	No	
4161-2	Keelung	ITDC	**FOC**	TAMCC	Yes	
5671-2	Bangkok	Thailand	**FOC**	THMCC	Yes	
2711-2	Ankara	Turkey	**FOC**	TRMCC	Yes	
4701	Abu Dhabi	UAE	**FOC**	AEMCC	No	
2321	Combe Martin	UK	**FOC**	UKMCC	No	
3031-2	Alaska	USA	**FOC**	USMCC	Yes	
3663-4	Florida	USA	**FOC**	USMCC	Yes	
3383-4	Guam	USA	**FOC**	USMCC	Yes	
3381-2	Hawaii	USA	**FOC**	USMCC	Yes	
3673	Maryland	USA	**FOC**	CMCC	No	LEOSAR Support Equipment
5741	Haiphong	Viet Nam	**FOC**	VNMCC	No	

Notes: CNO Commissioned, Not Operational.
FOC Full Operational Capability.

Table 6: GEOSAR Ground Segment Status (GEOLUTs) (December 2017)

Code	Location	Provider	Status	Associated GEOSAR	Comments
6053	Algiers	Algeria	FOC	MSG-2	
7011	El Palomar	Argentina	FOC	GOES-16 (East)	
7104	Brasilia	Brazil	FOC	GOES-16 (East)	
7105	Recife	Brazil	FOC	MSG-3	
3166	Edmonton	Canada	FOC	GOES-15 (West)	
3167	Ottawa	Canada	FOC	GOES-16 (East) & GOES-15 (West)	
7253	Santiago	Chile	FOC	GOES-16 (East)	
2273	Toulouse	France	FOC	MSG-3	
2402	Penteli	Greece	FOC	MSG-2	
4193	Bangalore	India	FOC	INSAT-3D	
4194	Bangalore	India	FOC	INSAT-3DR	
2472	Bari	Italy	FOC	MSG-3	
5123	Goudies Road	New Zealand	FOC	GOES-15 (West)	
5124	Goudies Road	New Zealand	IOC*	Louch-5A	Used for the Louch GEOSAR performance evaluation. Commissioning report submitted for approval by CSC-59.
2572	Fauske	Norway	FOC	MSG-3	
7602	Callao	Peru	FOC	GOES-15 (West)	
2735	Moscow	Russia	FOC	Pending	Satellite to be tracked is pending, as Electro-L No.1 was decommissioned on 1 June 2017.
2242	Maspalomas	Spain	FOC	GOES-16 (East)	
2243	Maspalomas	Spain	FOC	MSG-3	
2713	Ankara	Turkey	FOC	MSG-2	
4702	Abu Dhabi	UAE	FOC	MSG 3	
4707	Abu Dhabi	UAE	IOC*	MSG-1	Commissioning report submitted for approval by CSC-59.
2322	Combe Martin	UK	FOC	MSG-3	
3674	Maryland	USA	FOC	GOES-16 (East)	
3676	Maryland	USA	FOC	GOES-15 (West)	

Notes: FOC Full Operational Capability.
IOC Initial Operational Capability.
* GEOLUT equipped with an active-tracking-capable antenna.

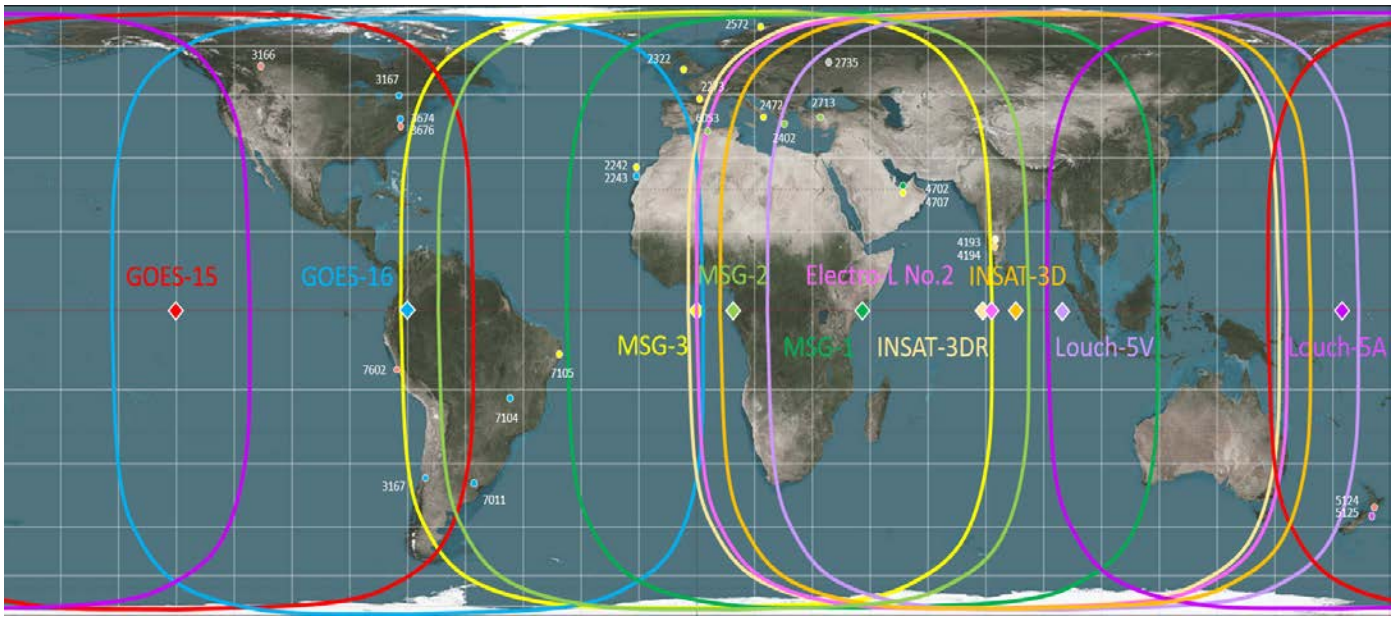

Figure 7: GEOSAR Satellite Coverage (December 2017)

Notes: MSG-1 and Louch-5A moving on elleptical orbits, associated footprints displayed on this map are centered on their average position.
Electro-L No.2, Louch-5A and Louch-5V SAR payloads are under test.

Table 7: Mission Control Centre Status (December 2017)

LG Code	MCC	Location	Provider	DDR	Status	Comments
4700	**AEMCC**	Abu Dhabi	UAE	SCDDR	FOC	
6050	**ALMCC**	Algiers	Algeria	SCDDR	FOC	
7010	**ARMCC**	El Palomar	Argentina	WDDR	FOC	
6010	**ASMCC**	Cape Town	South Africa	SWPDDR	FOC	LG commissioning report recommended for approval by CSC-59.
5030	**AUMCC**	Canberra	Australia	SWPDDR	FOC	
7100	**BRMCC**	Brasilia	Brazil	WDDR	FOC	
7250	**CHMCC**	Santiago	Chile	WDDR	FOC	
2730	**CMC**	Moscow	Russia	EDDR	FOC	
3160	**CMCC**	Trenton	Canada	WDDR	FOC	
4120	**CNMCC**	Beijing	China	NWPDDR	FOC	
2270	**FMCC**	Toulouse	France	CDDR	LGM	
2400	**GRMCC**	Athens	Greece	CDDR	FOC	
4770	**HKMCC**	Hong Kong	Hong Kong China	NWPDDR	FOC	
5250	**IDMCC**	Jakarta	Indonesia	SWPDDR	FOC	
4190	**INMCC**	Bangalore	India	EDDR	FOC	Manned seven days a week between 0300 UTC and 1130 UTC.
2470	**ITMCC**	Bari	Italy	CDDR	FOC	
4310	**JAMCC**	Gunma	Japan	NWPDDR	FOC	
4400	**KOMCC**	Incheon	Korea (Rep. of)	NWPDDR	FOC	
6570	**NIMCC**	Abuja	Nigeria	SCDDR	CNO	Configured as a SPMCC SPOC. Planned to be restored as an LGM MCC.
2570	**NMCC**	Bodoe	Norway	CDDR	FOC	LGM commissioning report recommended for approval by CSC-59.
4630	**PAMCC**	Karachi	Pakistan	EDDR	FOC	
7600	**PEMCC**	Callao	Peru	WDDR	FOC	
4030	**SAMCC**	Jeddah	Saudi Arabia	SCDDR	FOC	
5630	**SIMCC**	Singapore	Singapore	SWPDDR	FOC	
2240	**SPMCC**	Maspalomas	Spain	SCDDR	FOC	
4160	**TAMCC**	Taipei	ITDC	NWPDDR	FOC	
5670	**THMCC**	Bangkok	Thailand	SWPDDR	FOC	
2710	**TRMCC**	Ankara	Turkey	CDDR	FOC	
2320	**UKMCC**	Fareham	United Kingdom	CDDR	FOC	
3660	**USMCC**	Suitland	USA	WDDR	LGM	
5740	**VNMCC**	Haiphong	Viet Nam	NWPDDR	FOC	

Notes:
- CNO Commissioned, Not Operational
- FOC Full Operational Capability
- LGM LEOSAR, GEOSAR, MEOSAR-capable
- LG LEOSAR, GEOSAR-capable

6 BEACONS

The registered 406-MHz beacon population reported by the Administrations at the end of 2016 was about 1,540,000 devices. The global 406-MHz beacon population estimated using the registration rate method was about 1,997,000 units.

All information on Cospas-Sarsat type-approved 406 MHz beacons and a list of 406 MHz beacon manufacturers are available on the Cospas-Sarsat website at www.cospas-sarsat.int.

7 COSPAS-SARSAT DOCUMENTS

Table 8: Cospas-Sarsat Documents (December 2017)

Reference	Title	Issue	Rev.	Date
C/S A.000 Series - Operational				
C/S A.001	Cospas-Sarsat Data Distribution Plan (DDP)	7	1	December 2016
C/S A.002	Cospas-Sarsat Mission Control Centres Standard Interface Description (SID)	6	1	December 2016
C/S A.003	Cospas-Sarsat System Monitoring and Reporting	2	7	December 2016
C/S A.005	Cospas-Sarsat Mission Control Centre (MCC) Performance Specification and Design Guidelines	4	1	December 2016
C/S A.006	Cospas-Sarsat Mission Control Centre Commissioning Standard	4	1	December 2016
C/S D.000 Series - IBRD				
C/S D.001	Functional Requirements for the Cospas-Sarsat International 406 MHz Beacon Registration Database	2	1	October 2014
C/S D.002	Cospas-Sarsat International 406 MHz Beacon Registration Database (IBRD) Software Maintenance Manual	1	-	November 2005
C/S D.003	Cospas-Sarsat International 406 MHz Beacon Registration Database (IBRD) System Maintenance Manual,	1	1	October 2013
C/S D.004	Operations Plan for the Cospas-Sarsat International 406 MHz Beacon Registration Database	1	5	October 2013
C/S G.000 Series - General				
C/S G.003	Introduction to the Cospas-Sarsat System	6	2	October 2014
C/S G.004	Cospas-Sarsat Glossary	2	-	December 2016
C/S G.005	Cospas-Sarsat Guidelines on 406 MHz Beacon Coding, Registration and Type Approval	2	7	October 2014
C/S G.007	Handbook on Distress Alert Messages for Rescue Coordination Centres (RCCs), Search and Rescue Points of Contact (SPOCs) and IMO Ship Security Competent Authorities	2	-	December 2016
C/S G.008	Operational Requirements for Cospas-Sarsat Second-Generation 406-MHz Beacons	1	3	October 2014
C/S G.009	Action Plan in the Event of Possible LEOSAR Degradation Prior to MEOSAR Full Operational Capability	1	-	December 2015
C/S P.000 Series - Programme				
C/S P.001	International Cospas-Sarsat Programme Agreement	-	-	July 1988
C/S P.002	Procedure for the Notification of Association with the International Cospas-Sarsat Programme by States Non-Party to the Cospas-Sarsat Agreement	-	-	December 1992
C/S P.005	Arrangement between Canada, The Republic of France, the Russian Federation and the United States of America regarding the Headquarters of the International Cospas-Sarsat Programme	-	-	April 2005
C/S P.006	Understanding Between the Cospas-Sarsat Programme and the Gouvernement du Québec concerning Exemptions, Fiscal Advantages and Courtesies accorded to the Programme, Representatives of Member States and Officials of the Secretariat	-	-	May 2005
C/S P.007	Guidelines for Participating in the Cospas-Sarsat System	5	-	October 2009

Reference	Title	Issue	Rev.	Date
C/S P.008	Arrangement on Cooperation between the Cooperating Agencies of the Parties to the International Cospas-Sarsat Programme Agreement and the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) on the EUMETSAT Contribution to the Cospas-Sarsat GEOSAR System	-	-	October 2010
C/S P.009	Understanding Between the States Parties to the International Cospas-Sarsat Programme Agreement and The Republic of India Concerning the Association of The Republic of India with the Cospas-Sarsat Programme as a Provider of Geostationary Satellite Service	-	-	February 2007
C/S P.010	List of States & Organizations Associated with the Cospas-Sarsat Programme	-	E	09 November 2017
C/S P.011	Cospas-Sarsat Programme Management Policy	1	9	December 2015
C/S P.012	Cospas-Sarsat Secretariat Management Guide	1	1	November 2005
C/S P.014	Declaration of Intent for Co-operation on the Development and Evaluation of the Medium Earth Orbit Search and Rescue (MEOSAR) Satellite System between the Co-operating Agencies of the International Cospas-Sarsat Programme and the Galileo Joint Undertaking	-	-	December 2006
C/S P.015	Cospas-Sarsat Quality Manual	1	2	October 2010
C/S P.016	Cospas-Sarsat Strategic Plan	1	6	December 2016
C/S P.017	Declaration of Intent Between the Co-operating Agencies of the International Cospas-Sarsat Programme and the European Commission for Co-operation on the Initial Operational Capability of the Cospas-Sarsat MEOSAR Satellite System	-	-	December 2016
C/S R.000 Series - Reports				
C/S R.006	Cospas-Sarsat Demonstration and Evaluation Plan for the 406 MHz GEOSAR Systems	1	3	October 1997
C/S R.007	Cospas-Sarsat Report on System Status and Operations No. 32 (Jan - Dec 2015)	32	-	December 2016
C/S R.009	Summary Report of the 406 MHz Geostationary System Demonstration and Evaluation	-	-	October 1999
C/S R.011	Cospas-Sarsat Meteosat Second Generation (MSG) GEOSAR Performance Evaluation Plan	1	1	October 2003
C/S R.012	Cospas-Sarsat 406 MHz MEOSAR Implementation Plan	1	12	December 2016
C/S R.013	METEOSAT Second Generation (MSG) GEOSAR Performance Evaluation Report	1	1	October 2006
C/S R.014	Cospas-Sarsat INSAT GEOSAR Performance Evaluation Plan	1	-	October 2009
C/S R.015	Cospas-Sarsat INSAT GEOSAR Performance Evaluation Report	1	-	October 2009
C/S R.016	Cospas-Sarsat Electro GEOSAR Performance Evaluation Plan	1	1	October 2011
C/S R.017	Second Generation 406 MHz Beacon Implementation Plan	1	6	December 2016
C/S R.018	Cospas-Sarsat Demonstration and Evaluation Plan for the 406 MHz MEOSAR System	2	4	December 2016
C/S R.019	Cospas-Sarsat Electro GEOSAR Performance Evaluation Report	1	-	October 2012
C/S R.020	Cospas-Sarsat Louch GEOSAR Performance Evaluation Plan	1	-	October 2012
C/S R.021	Cospas-Sarsat MEOSAR System Demonstration and Evaluation Phase I Report	1	-	December 2015
C/S S.000 Series - Secretariat				
C/S S.007	Handbook of Beacon Regulations	1	11	July 2017

Reference	Title	Issue	Rev.	Date
C/S T.000 Series - Technical				
C/S T.001	Specification for Cospas-Sarsat 406 MHz Distress Beacons	4	1	May 2017
C/S T.002	Cospas-Sarsat Local User Terminal Performance Specification and Design Guidelines	4	2	October 2012
C/S T.003	Description of the 406-MHz Payloads Used in the Cospas-Sarsat LEOSAR System	4	3	December 2016
C/S T.004	Cospas-Sarsat LEOSAR Space Segment Commissioning Standard	2	4	December 2016
C/S T.005	Cospas-Sarsat LEOLUT Commissioning Standard	3	1	October 2013
C/S T.006	Cospas-Sarsat Orbitography Network Specification	2	3	October 2013
C/S T.007	Cospas-Sarsat 406 MHz Distress Beacon Type Approval Standard	5	-	May 2017
C/S T.008	Cospas-Sarsat Acceptance of 406 MHz Beacon Type Approval Test Facilities	2	1	December 2016
C/S T.009	Cospas-Sarsat GEOLUT Performance Specification and Design Guidelines	1	9	October 2014
C/S T.010	Cospas-Sarsat GEOLUT Commissioning Standard	1	7	October 2013
C/S T.011	Description of the 406 MHz Payloads Used in the Cospas-Sarsat GEOSAR System	1	9	October 2014
C/S T.012	Cospas-Sarsat 406 MHz Frequency Management Plan	1	12	December 2016
C/S T.013	Cospas-Sarsat GEOSAR Space Segment Commissioning Standard	1	2	October 2013
C/S T.014	Cospas-Sarsat Frequency Requirements and Coordination Procedures	2	1	October 2010
C/S T.015	Cospas-Sarsat Specification and Type Approval Standard for 406 MHz Ship Security Alert (SSAS) Beacons	1	1	November 2007
C/S T.016	Description of the 406 MHz Payloads Used in the Cospas-Sarsat MEOSAR System	1	2	December 2016
C/S T.017	Cospas-Sarsat MEOSAR Space Segment Commissioning Standard	1	3	December 2016
C/S T.018	Specification for Second-Generation Cospas-Sarsat 406-MHz Distress Beacons	1	1	May 2017
C/S T.019	Cospas-Sarsat MEOLUT Performance Specification and Design Guidelines	2	-	May 2017
C/S T.020	Cospas-Sarsat MEOLUT Commissioning Standard	1	1	December 2016
C/S T.022	Cospas-Sarsat MEOSAR Reference Beacon Network Design Guidelines - Preliminary Issue A	-	-	December 2016
C/S IP Series - Interim Procedures				
C/S T.IP (LIRB)	Interim Procedure for Type Approval of 406 MHz Beacons Equipped with Li-Ion Rechargeable Batteries	-	4	October 2014
C/S T.IP (TCXO)	Interim Procedure for the Determination of Compliance of 406 MHz Beacons Equipped with a TCXO with Cospas-Sarsat Type Approval Requirements	1	5	October 2013

8 COSPAS-SARSAT SYSTEM OVERVIEW

Figure 8: Cospas-Sarsat System Overview

Legend:

COSPAS:	Space system for the search of vessels in distress	LEO:	Low Earth Orbit satellite system.
SARSAT:	Search and rescue satellite-aided tracking system	LUT:	Local User Terminal
		MCC:	Mission Control Centre
ELT(DT):	Emergency Locator Transmitter for in-flight Distress Tracking	MEO:	Medium Earth Orbit satellite system
		PLB:	Personal Locator Beacon
ELT:	Emergency Locator Transmitter	RCC:	Rescue Coordination Centre
EPIRB:	Emergency Position-Indicating Radio Beacon	RLSP:	Return Link Service Provider
GEO:	Geostationary satellite system.	SAR:	Search and Rescue.

Cospas-Sarsat Programme videos are available at:
https://www.cospas-sarsat.int/en/search-and-rescue/programme-videos-en

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