Information Bulletin

COSPAS SARSAT

ISSUE 22, FEBRUARY 2010

1979-2009

Celebrating 30 Years of Success

INSIDE THIS ISSUE:

POINTS OF INTEREST

- In 2008, Cospas-Sarsat alert data assisted in 502 distress incidents in which 1,981 persons were rescued.
- On 1 February 2009, the Cospas-Sarsat System ceased satellite processing of 121.5/243 MHz distress signals.
- The 406 MHz beacon population reached 750,000 in 2008, almost double the population in 2004.

In 1971, responding to a Congressional mandate, the U.S. Federal Aviation Agency adopted new regulations requiring the carriage of 121.5 MHz Emergency Locator Transmitters (ELTs) onboard general aviation aircraft. The Congressional action followed a dramatic aircraft accident in California in 1967 when a 16-year-old crash survivor, Carla Corbus, starved to death after being stranded for many days. In another incident, three search aircraft crashed, claiming rescuers' lives during a long, unsuccessful search.

ELTs were only the beginning of a solution to the problem. Too often early ELT models failed to reliably deliver the expected alerting and locating function. Although performance improved with time, serious difficulties remained in detecting and locating ELT signals using overflying aircraft and an improved monitoring system was urgently needed.

By the mid-seventies, more than 250,000 ELTs had been deployed in commercial and general aviation aircraft and use of 121.5 MHz distress beacons had spread to recreational boats. Canada and the USA began investigating using satellites in low-altitude Earth orbit to detect the analogue 121.5 MHz beacon transmissions and locate the source of emissions using the Doppler location technique. This technique had already been used for environmental data collection in the French EOLE satellite system in 1971 and a follow-on cooperative French and American programme called Argos, using the 401 MHz frequency. It was thought that the same technology could enhance performance using a new distress beacon design at 406 MHz. The former Soviet Union had similar plans for the search of vessels in distress and East-West cooperation in space had a lot of appeal in the mid-seventies, in the wake of the Apollo-Soyouz mission.

The first Cospas-Sarsat Understanding was prepared at a July 1979 meeting in Ottawa and formally signed in Leningrad, USSR in November 1979. The above photograph illustrates the successful outcome of the preliminary discussions. From left to right: Mr. Yuriy Zurabov, Head of Soviet Delegation, Vice-President MORSVIAZSPUTNIK; Mr. J.L. Moalic, Head of French Delegation, SARSAT Program Manager, CNES; Dr. Bert Blevis, Head of Canadian Delegation, Director General Space Technology & Applications, Department of Communications; Dr. J. McElroy, Head of U.S. Delegation, Director, Communications Division, NASA Headquarters.

These efforts were united in a joint cooperation programme and the stage was set for the challenges and successes of the 30-year Cospas-Sarsat saga.

Read the detailed story in the 30th Anniversary Special Issue.

Investigating Next Generation Beacons

The 406 MHz beacon population increased by a considerable amount in both 2008 and 2009. The termination of 121.5/243 MHz processing by Cospas-Sarsat LEO satellites, which became effective on 1 February 2009, was an obvious reason for the population growth experienced in 2008. A 25.7% increase over the 2007 population brought the global 406 MHz beacon population to about 750,000 beacons at the end of 2008. Final figures for 2009 are not yet available, but the growth continued at a swift pace during the year, evidenced by the rapid rate of registration of new beacons in a number of countries. As a result, the population was expected to exceed the 900,000 mark at the end of 2009.

The growth will probably endure for a number of years to come, fuelled by the decreasing cost of 406 MHz beacons, in particular the personal type called PLBs. Another factor is that to date, a number of countries, including the USA, have not yet mandated the replacement of 121.5 MHz fixed ELTs installed in general aviation aircraft with the new 406 MHz type. Decreasing costs and enhanced performance should remain a strong incentive for the general aviation community to "switch to 406" in the years ahead. If these hypotheses are confirmed, the population of 406 MHz beacons could double to reach 1.8 million in 2014 and upwards of 2.1 million in 2019.

The improved performance of the digital 406 MHz beacons over the older (and now obsolete) 121.5 MHz beacons has been well advertised: global coverage, faster alerting with better location accuracy and a lower false alert rate. Cospas-Sarsat is now looking to further improve the performance and availability of 406 MHz beacons and is investigating enhancements that might be possible with new technologies.

Type approval procedures have been adopted by the Cospas-Sarsat Council, albeit in an interim form, to allow the use of Lithium-Ion rechargeable batteries in beacons. Further studies will be undertaken to ensure that performance and reliability are at least equivalent when compared to that of beacons equipped with non-rechargeable batteries. Specific attention will be paid to loss of battery capacity during storage at higher temperature, which may differently affect rechargeable and non-rechargeable batteries.

In another area, the performance of fixed ELTs with an antenna installed inside the aircraft should be further researched as there might be benefits in terms of installation cost and resilience in crash situations, particularly for general aviation aircraft. If adequate performance can be demonstrated, reduced installation complexity and reduced probability of breaking the cable linking the ELT to an external antenna during a crash would constitute significant advantages.

The next generation Cospas-Sarsat satellites, while providing full compatibility with existing beacons (see MEOSAR, page 7), present an opportunity to design a new generation of beacons, with enhancements to take advantage of the new satellites' characteristics. An example is the SAR Galileo Return Link Service (RLS), which will allow beacons equipped with a Galileo navigation receiver to accept "return messages". A survey of the SAR community on their preferences regarding possible operational use of the return link was undertaken by the European Commission. Cospas-Sarsat will continue work to define the desired operational characteristics of a new generation of 406 MHz beacons at the Experts' Working Group on Next Generation Beacon Requirements, to be held in Washington, D.C., USA in September 2010.

COSPAS SARSAT

Cospas-Sarsat Events

South Central DDR Meeting
Maspalomas, Spain, March 2009

Western DDR Meeting
Miami Beach, Florida, USA, January 2009

JC-23 Meeting
Cape Town, South Africa, June 2009

Northwest Pacific DDR Meeting
Tokyo, Japan, August 2009

Central DDR Meeting
Bari, Italy, March 2009

2010
Events Diary

TG-1/2010
QMS in the Cospas-Sarsat Ground Segment
(Montreal, Canada)
8 - 12 February

South Central DDR
(Maspalomas, Spain)
2-4 March

Central DDR
(Kinloss, UK)
9 – 10 March

EWG-1/2010
MEOSAR Proof-of-Concept (POC) / In-Orbit Validation (IOV) Phase
(Rio de Janeiro, Brazil)
22 - 26 March

44th Council Session-
Closed Meeting
(Moscow, Russia)
20 – 23 April

NOAA
Beacon Manufacturers Workshop
(San Diego, USA)
21 May

Joint Committee 24
Experts' Meeting
(Montreal, Canada)
14 June

Joint Committee 24
(Montreal, Canada)
15 – 22 June

EWG-2/2010
Next Generation Beacon Requirements
(Washington, DC, USA)
20-24 September

45th Council Session-
Closed Meeting
(Montreal, Canada)
20 – 22 October

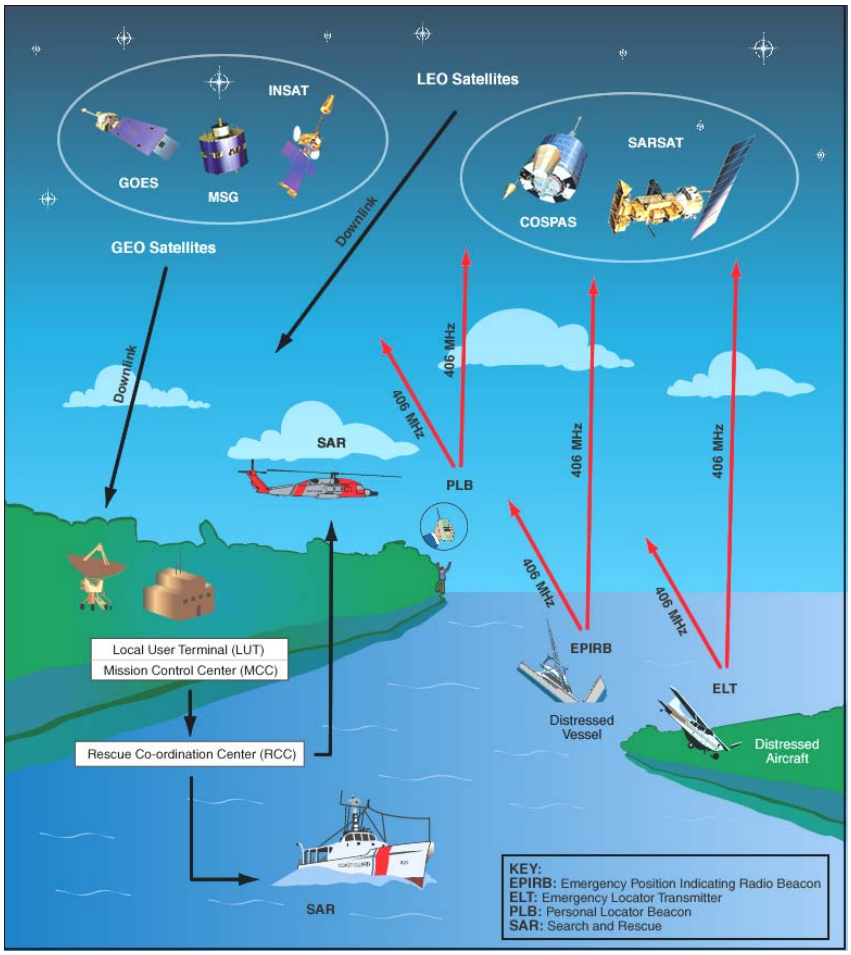
45th Council Session-
Open Meeting
(Montreal, Canada)
25 – 28 October

How Does the Cospas-Sarsat System Work?

The Cospas-Sarsat System provides distress alert and location information to search and rescue (SAR) services throughout the world for maritime, aviation and land users in distress. The System is comprised of:

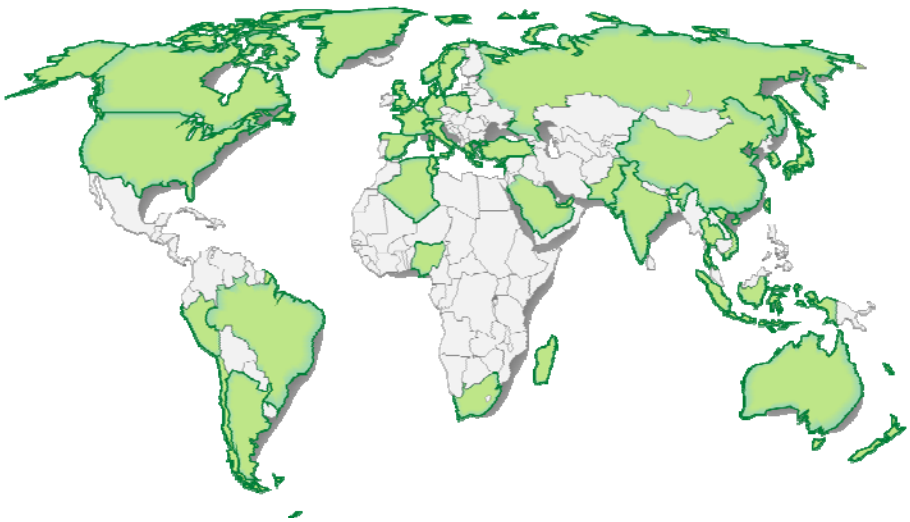
- satellites in low-altitude Earth orbit (LEOSAR) and geostationary orbit (GEOSAR) that process and / or relay signals transmitted by distress beacons;
- ground receiving stations called local user terminals (LUTs) which process the satellite signals to locate the beacon; and
- mission control centres (MCCs) that provide the distress alert information to SAR authorities.

The Cospas-Sarsat System detects distress beacons that operate at 406 MHz. Satellite processing of old analogue technology beacons that transmit at 121.5 MHz ended on 1 February 2009.



PARTICIPATING COUNTRIES AND ORGANISATIONS

Algeria
Argentina
Australia
Brazil
Canada
Chile
China (P.R. of)
Cyprus
Denmark
France
Germany
Greece
Hong Kong
India
Indonesia
Italy
ITDC
Japan
Korea (R. of)
Madagascar
Netherlands (The)



New Zealand
Nigeria
Norway
Pakistan
Peru
Poland
Russia
Saudi Arabia
Singapore
South Africa
Spain
Sweden
Switzerland
Thailand
Tunisia
Turkey
UAE
UK
USA
Vietnam

Cospas-Sarsat distress alert and location data are provided to national SAR authorities worldwide, with no discrimination, independent of the participation of countries in the management of the Programme.

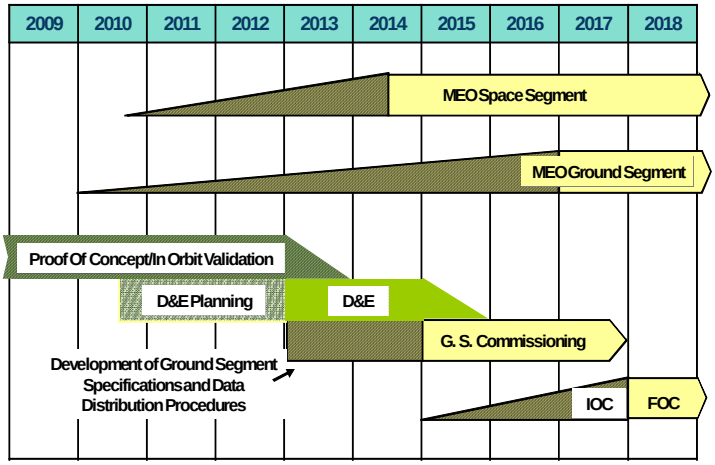
MEOSAR

Next Generation Satellites for Search and Rescue

Work towards establishment of the next generation satellite system for Cospas-Sarsat, MEOSAR (Medium-altitude Earth Orbiting satellites for Search And Rescue), continues to progress at the technical level. Early operational data availability is planned from 2014, subject to the availability of operational MEOSAR satellites and ground receiving stations (MEOLUTs). However, even with a complete MEOSAR satellite constellation, coverage will be dependent on availability of MEOLUTs and a complete ground segment providing global coverage will not be available for a number of years.

The Proof-of-Concept/In-Orbit Validation (POC/IOV) phase is currently underway using the POC payloads on nine GPS satellites. These satellites use a unique downlink, different from the planned operational downlink. Six prototype MEOLUTs are currently participating in this development phase.

The near-term outcome of the POC/IOV phase should be a confirmation in 2010 of the expected performance objectives of the MEOSAR system, which will allow Cospas-Sarsat to define and implement from 2011 a comprehensive Demonstration and Evaluation (D&E) phase of the new system. The start date of the D&E phase will be dependent on the number of available operational MEOSAR satellites with an operational downlink capability. The MEOSAR satellite providers (EC/ESA, Russia, USA) will continue to review the schedule to allow a smooth integration of MEOSAR capabilities into the Cospas-Sarsat System.



Tentative MEOSAR timeline indicating Initial Operational Capability (IOC) from 2015 and Full Operational Capability (FOC) from 2018.

The SAR/Galileo component of the future MEOSAR system will provide a capability for a Return Link Service (RLS) to compatible distress beacons. Cospas-Sarsat has agreed in principle to relay to the SAR/Galileo Return Link Service Provider (RLSP) and to RCCs information received within the alert message that the beacon is RLS compatible. Work is ongoing to define the applicable procedures and possible content of the Return Link Message.

Cospas-Sarsat System Status

As at February 2010, the Cospas-Sarsat System comprised:

- **6 LEOSAR satellites in low-altitude polar orbits;**
- **5 GEOSAR satellites;**
- **55 LUTs receiving signals transmitted by LEOSAR satellites;**
- **21 LUTs receiving signals transmitted by GEOSAR satellites;**
- **30 Mission Control Centres for distributing distress alerts to SAR services; and**
- **More than 900,000 406 MHz beacons.**

Canadian ELT study

A recent study, performed for the Canadian National Search and Rescue Secretariat, examined ELT activation rates and human factor issues by analysing actual aircraft incidents that occurred in Canadian territory between the years 2003 and 2007. The success rate – the percentage of ELTs that survived a real aircraft incident and notified SAR authorities – was 74% (64% of the cases analysed involved automatic beacon activation).

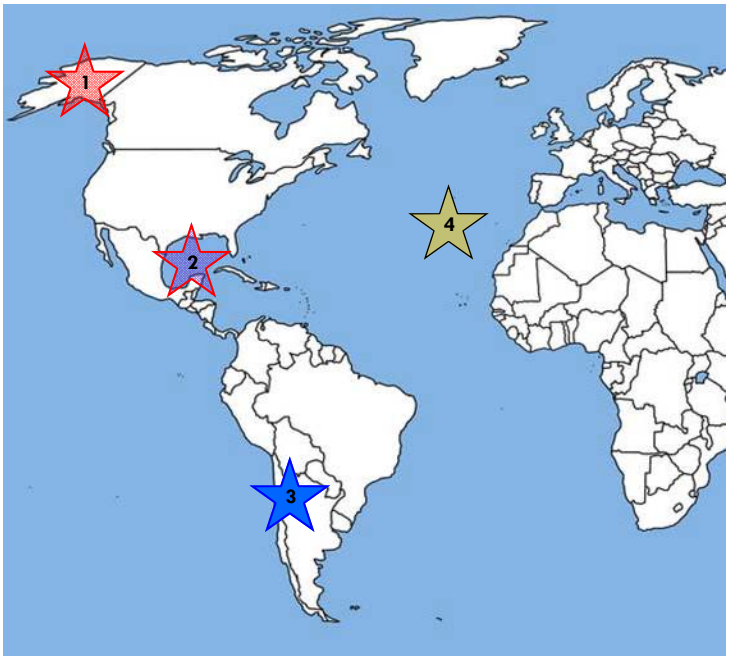
Recommendations were made to increase success rates and reduce false alarm rates by improving ELT survivability standards and by reducing the negative impact of human factor issues related to the design and use of the devices. Recommendations were also made to collect data across SAR organisations to gain better insight into ELT performance levels. Full details of the study are available at:

http://cradpdf.drdc.gc.ca/PDFS/unc90/p532159.pdf

2009 Notable Saves

15 November 2009 At 0049 UTC, the Cospas-Sarsat system detected a 406 MHz distress signal originating from an ELT at position 61 30 N, 150 47 W, on Mount Susitna, Alaska. The Alaska Rescue Coordination Center tasked a helicopter with Pararescuemen and they located an aircraft that had crashed. The aircraft had sustained damage to main landing gear and its struts were also destroyed; however, all occupants were found to be in good health . The three uninjured survivors were recovered and airlifted to Kulis Air National Guard Base in Anchorage.

10 October 2009 At 0259 UTC, the Cospas-Sarsat system detected a 406 MHz distress signal in position 27 52 N, 93 19 W, 130 miles southeast of Galveston, Texas. The EPIRB on board the vessel *Missin' Link* activated when the vessel capsized. Using the beacon registration data, the Coast Guard called the owner of the vessel who confirmed the location and said that there were seven people on board for a recreational dive trip. The Coast Guard issued an Urgent Marine Information Broadcast (UMIB) requesting mariners in the area to assist in the search. A search and rescue plane was launched from Coast Guard Air Station Corpus Christi, as well as a rescue helicopter from Air Station New Orleans and a rescue plane from Aviation Training Center, Mobile. The Coast Guard Cutter Skipjack, an 87-foot patrol boat from Galveston, Texas was also launched. At approximately 0600 UTC, the aircraft arrived on scene and located a life raft with six people on board. The helicopter crew dropped an additional life raft and radio into the water. The 250-foot research vessel *Mystic Viking*, which responded to the UMIB, located a person in the water and the crew safely brought him aboard. At approximately 0940 UTC, the *Mystic Viking* was directed to the location of the life raft with the remaining six people on board. The crew of the *Mystic Viking* was able to safely bring them on board. In this case, Cospas-Sarsat provided the first alert.



3 January 2009 When the organisers of the Dakar Rally announced that the 2009 Rally would be held in the deserts and mountains between Argentina and Chile, Argentina's Satellite-Aided Alerting Service (SASS) began preparing for the inevitable incidents associated with this challenging race. The 31st Dakar Rally set off from Buenos Aires on 3 January 2009 with the goal of reaching Chile in the next 15 days. During the two week event, a total of 531 vehicles attempted to cross 9574 km of the route of the competition, crossing the diverse landscapes of Argentina and Chile. The Rally, normally organized in Senegal, was held for the first time in 2009 in Latin America due to security concerns in North Africa. The role of Argentina's SASS was to track the detections of some 850 PLBs carried by the competitors in the 2009 Dakar Rally.

The Dakar Rally is more than a simple race of speed and places rigorous demands on the navigation skills of the competitors. It also requires boldness, physical strength and technical expertise. Rally organizers rely heavily on the use of technology for the location of competitors in distress, including Cospas-Sarsat personal locator beacons (PLBs).

By the end of the Rally, the ARMCC had processed a total of 16 SAR cases involving 406 MHz beacons, of which two required SAR response. In one case the competitor was rescued and in the other the competitor had unfortunately lost his life.

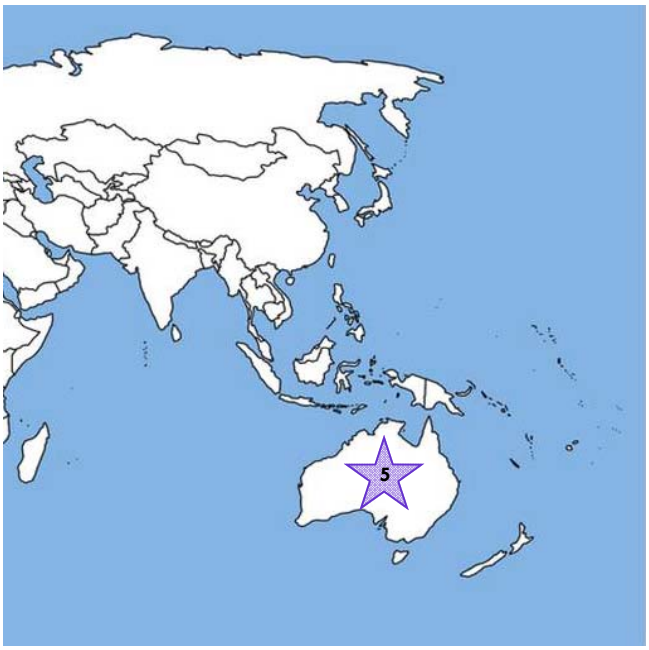
2009 Notable Saves

1 July, 2009 The Spanish fishing vessel *Villa de Aguete* sank at a position approximately 28 nautical miles southeest of Cabo Blanco, Mauritania. The case began when at 1346 UTC, the MRCC Madrid received an EPIRB alert within the Mauritanian SAR responsibility area from the SPMCC (Gran Canaria) .

Immediate communications were established with the SAR Authorities of Mauritania as well as with the ship owner. The ship owner provided the information that two other fishing vessels from the same company were located in the same area. These vessels were contacted to report the state of the vessel *Villa de Aguete*.

At 1405 UTC a "mayday" relay transmission from the fishing vessel *Manuel Nores* was received at the Regional Rescue Coordination Centre in Las Palmas indicating the same graphical position of the sinking fishing vessel *Villa de Aguete*.

Communication with the fishing vessels answering the alert call established that the vessel *Portomayor* was participating in rescue operations. The *Portomayor* informed that it had rescued 22 crew members (one dead) and that the *Villa de Aguete* had sunk at the position 20 26 N, 17 24 W. The Spanish fishing vessels *Curbeiro* and *Santomar* participated in the rescue operations along with an un-identified Mauritanian vessel. The rescued crew members were transferred to the *Estela* fishing vessel and taken to the port of Nouadhibou (Mauritania) where the 13 Mauritanian crew members disembarked.



In this case, the Cospas-Sarsat System provided the first alert.

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21 September 2009 Three Queensland hikers were treated in Alice Springs Hospital after becoming sick while walking in the West MacDonnell Ranges near Alice Springs, central Australia.

Northern Territory Police say an emergency beacon was activated five kilometres northwest of Mount Conway about 6.30 PM local time.

"It appears the three men from Queensland, aged in their 60s , were walking stage four of the Larapinta Trail when they contracted a gastro infection," police said in a statement. "The men became severely dehydrated after running out of water during the day. They continued to walk to find water, but two of the men became too ill to continue walking at which point they activated their PLB distress beacon."

The third man left the others to find water but he too became too sick to continue. He was eventually found by rangers and the others were found some hours later. They were airlifted out of the area the next morning.

Northern Territory Police search co-ordinator Andrew Barram says the rescue shows how extreme conditions in central Australia can put people in danger. "If you're going to go out and walk the Larapinta Trail in this sort of weather, carry more water than you think is necessary because you're going to go through it very quickly," he said.

The hikers had planned ahead for possible emergencies, hiring a "rental" PLB expressly for use during this hike.

Search co-ordinator Andrew Barram said, "A 406 MHz distress beacon is essential if you're going to walk a long distance. It's quite likely that the PLB they were carrying did save their lives in this case."

What's New?
Cospas-Sarsat Operations

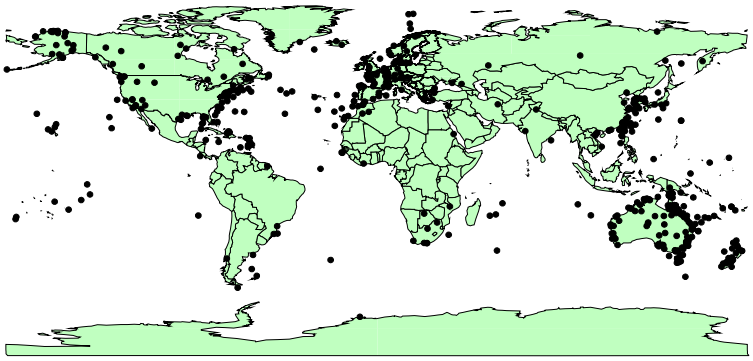
Association of the UAE

In November 2009, the United Arab Emirates became the forty-first Participant in the International Cospas-Sarsat Programme. The UAE will operate an MCC, LEOLUT and GEOLUT at Abu Dhabi.

System Use Statistics

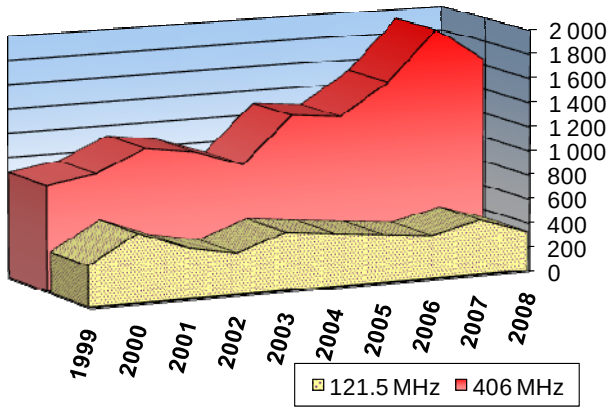
The figures below show the distribution of 2008 SAR events assisted by Cospas-Sarsat data and the evolution of use of the System since 1999. Since the beginning of its operation in September 1982 through the end of 2008, Cospas-Sarsat provided alerts that assisted in the rescue of almost 27,000 persons in about 7,300 SAR events.

Distribution of SAR Events which used Cospas-Sarsat Data (2008)

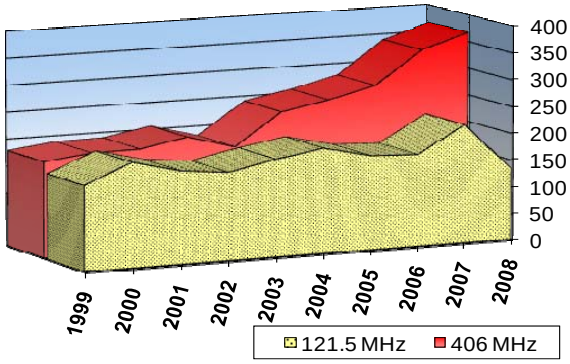


PAMCC: New Pakistan Mission Control Centre

A new Pakistan Ground Station consisting of an MCC and LEOLUT (PAMCC and PALUT) has been installed in Karachi, Pakistan. Commissioning tests were successfully completed in September 2009 for the PALUT and in November 2009 for the PAMCC. Initial Operational Capability (IOC) was announced on 8 December 2009. Two Rescue Coordination Centers (RCCs) were also established, one for the maritime domain installed at the Pakistan Maritime Security Agency (MSA) and the other for the rugged inland areas at the Pakistan Civil Aviation Authority (CAA) HQ, Karachi.



Persons Rescued with Cospas-Sarsat Assistance



SAR Events Assisted by Cospas-Sarsat

New Look for the Cospas-Sarsat Website

If you haven't visited in a while, come and see the newly redesigned Cospas-Sarsat website at www.cospas-sarsat.org. The new website went live on 14 October 2009. The new look and feel of the website is designed to help users find what they are looking for faster.

New features include:

- A search engine for web content and documents
- Better content access through menus
- Quick Links
- "What's New" stories
- Easy transfer to pages in other languages
- Improved glossary of terms
- Improved Meetings section (password required)
- New System monitoring tools (password required).

Launch

Photo Credit: Gene Blevins/ LA Daily News

NOAA-N Prime was successfully launched from Vandenberg Air Force Base at 2:22 AM local time on 6 February 2009. The LEOSAR payload was declared at FOC on 2 September 2009, and named Sarsat-12.

INSAT GEOSAR at Full Operational Capability

The Indian Space Research Organisation (ISRO) has installed 406 MHz Search and Rescue (SAR) repeaters on their INSAT-3 communication and meteorological satellites. To enhance the coverage of the Cospas-Sarsat GEOSAR system, the INSAT-3A SAR instrument has been made available for use in Cospas-Sarsat operation after completion of initial satellite on-orbit tests in 2003. Following the signing of the Understanding between the Cospas-Sarsat Programme and the Republic of India on the provision of Cospas-Sarsat GEOSAR services in February 2007, India agreed to formally assess the performance of the INSAT GEOSAR system.

With the support of France and Turkey, the Indian Space Research Organization (ISRO) undertook a test campaign in early September 2009 aimed at measuring the INSAT GEOSAR performance for system threshold (minimum power to receive a beacon message), processing time, frequency measurement accuracy, capacity, impact of interference, processing anomalies and satellite coverage. The results, compiled in a report (document C/S R.015) were submitted to the Cospas-Sarsat Council for consideration in October 2009. The Council acknowledged the good performance demonstrated by the INSAT system and the Full Operational Capacity (FOC) of the Bangalore GEOLUT.

As part of the GEOSAR evaluation campaign, ISRO also performed commissioning tests for the Bangalore GEOLUT. These tests confirmed the operational status of the system and showed opportunities for some enhancements, which were subsequently introduced. The Bangalore GEOLUT provides essential coverage for the Indian Ocean and Western Pacific ocean regions. Its formal commissioning is expected to be completed in 2010.

Note from ICAO

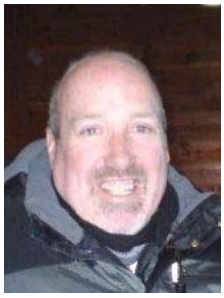
2009 was a memorable year for the Cospas-Sarsat organisation. The International Civil Aviation Organization (ICAO) congratulates Cospas-Sarsat on 30 years of successful operation. During these 30 years we have seen the Cospas-Sarsat System develop into the global success story that it is today, with many thousands of lives saved along the way. In 2009, a milestone was passed when the monitoring of 121.5/243 MHz distress frequencies by the satellite system was terminated. The world's aviation authorities have now successfully transitioned to a 406 MHz only beacon environment.

ICAO continues to work closely with Cospas-Sarsat and the International Maritime Organization (IMO) to help improve the system and provide contracting States with the latest information and guidance, so that the aviation community will receive the full benefits of this global alerting system. Of continuing concern at the moment is the non-responsiveness of some SAR Points of Contact (SPOC), which threatens to undermine the effectiveness of this global alerting system. ICAO, in cooperation with IMO, continues to look for ways to correct this deficiency.

ICAO's current focus of effort is on sub-regionalisation of SAR services in order to assist States with their SAR service. The ICAO planning and consultation for this type of service is well advanced in the southern African region where, at the request of African States and with funding from the United Arab Emirates, more concentrated activity will continue this year. Further work will be needed in many other areas of the world where a cooperative sub-regional approach to the provision of SAR services will enable a more effective, standardised service across areas of previously inconsistent response.

As Cospas-Sarsat's focus shifts towards the development of the MEOSAR system, ICAO stands ready to assist in the operational development of this system. ICAO and IMO, with support from our Joint Working Group on SAR, will turn their attention to the needs and impact on the worlds SAR services of this new system. The prospects for a more efficient and effective alerting system under the MEOSAR concept are exciting.

ICAO plans to cooperate with the General Civil Aviation Authority (GCAA) of the United Arab Emirates in convening a global civil aviation SAR Forum in Abu Dhabi, UAE, in June 2010. The Forum will address the theme of "Strengthening the Safety Net of Last Resort" and will explore the future organisation of global SAR services into the 21st century. This is a critically important consideration against a background of recent extraordinary demands being made of international SAR, at a time when financial pressures, needs of the industry and high expectations of the travelling public cannot tolerate anything less than properly compliant, cost-effective services. Some of the topics to be discussed include consolidation of RCCs, regionalisation of SAR services (including message distribution), application of emerging technology and improved civil/military cooperation. The Forum will benefit from broad input from technical, operational and management experts from leading agencies in every sector of the SAR service. Attendance and input from all States is warmly invited. Formal notice of the Forum will be posted to the ICAO website and publicised by other print means.



Mike Barton is currently serving as ICAO SAR Technical Officer, on a leave of absence from the Australian Maritime Safety Authority, where he is a Rescue Coordination Centre Chief. Mike has been involved in SAR for over 16 years in an aviation career spanning 31 years.

Note from IMO

IMO would like to highlight the good relationship with Cospas-Sarsat again in 2009. Cospas-Sarsat is a regular participant in IMO's Sub-Committee on Radiocommunications and Search and Rescue (COMSAR). IMO highly appreciates the information provided to its annual sessions, including the recent Cospas-Sarsat submissions to COMSAR 13 (19 to 23 January 2009) providing a status report on the Cospas-Sarsat System and information on new document C/S G.007 "Handbook on Distress Alert Messages for RCCs, SPOCs and IMO Ship Security Competent Authorities". IMO agreed to include the valuable Handbook in the list of documents and publications which should be held by all Maritime Rescue Coordination Centres (MRCC).

Hans van der Graaf is a Technical Officer in the Maritime Safety Division of IMO.

At the International Civil Aviation Organization/International Maritime Organization (ICAO/IMO) Joint Working Group (JWG) on the Harmonization of Aeronautical and Maritime Search and Rescue in 2009, many operational issues were discussed resulting in valuable guidance material supporting search and rescue in general and the distribution of Cospas-Sarsat distress beacon alerts in particular.

The IMO Secretariat looks forward to continue working together with Cospas-Sarsat in saving lives at sea.

A Few Words from the 2009 Council Chair

Cospas-Sarsat steadily continues to move forward in its operations and development. 2009 marked the 30th anniversary of the signing of the first Cospas-Sarsat Memorandum of Understanding (MOU). This event was celebrated in October 2009 in Montreal during 43rd Session of the Cospas-Sarsat Council. Cospas-Sarsat continues to meet its commitment to provide reliable distress alert data to help search and rescue authorities assist persons in distress, while concurrently striving to transition to MEOSAR.

The number of Cospas-Sarsat Participants grew in 2009 and reached 41 participating countries and organisations.

Cospas-Sarsat also continues to formalise its relationship with other international organisations. During 2009, the Cospas-Sarsat Council worked with the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) to formalize the EUMETSAT contribution to the Cospas-Sarsat GEOSAR system. A draft Arrangement was prepared and is expected to be signed in 2010.

Some other important events took place in 2009. In particular, 121.5/243 MHz satellite processing was terminated on 1 February 2009 after co-ordination with IMO and ICAO; a new modernized website was introduced; a decision was made on commissioning of the Republic of India's contribution (the INSAT GEOSAR system) to the Cospas-Sarsat System, thus completing a multi-national effort over the last several years. Further development of strategic planning was accomplished and near-real-time monitoring of the Ground Segment was implemented under the Quality Management System (QMS). Finally, capability to upload multiple beacons to the International Beacon Registration Database was provided.

This was possible thanks to the real commitment and active participation of all Programme participants. The practical results of their efforts cannot be overemphasized - providing assistance in saving almost 27,000 human lives since Cospas-Sarsat System inception in 1982.

Andrey Kushev
Head of Department
Morsviazsputnik, Russia
2009 Council Chair

A Few Words from the Head of Secretariat

The termination of satellite processing of 121.5 MHz beacons on 1 February 2009 was a significant milestone in the thirty-year Cospas-Sarsat saga. It was the accomplishment of the vision of the System developers, who chose to merge a system which would provide immediate enhancements to existing 121.5 MHz ELT detection capabilities and a new 406 MHz digital distress beacon concept. The only development unforeseen in the early days of the project was the subsequent emergence of a new category of users of personal locator beacons (PLBs) who would generate new demands on SAR authorities. Success can clearly be seen in the ever increasing 406 MHz beacon population, which is forecast to reach one million beacons by the end of 2010.

Although the transition of 121.5 MHz beacon users to 406 MHz is far from complete, particularly in the general aviation community, Cospas-Sarsat is already focusing on future enhancements to the 406 MHz system. Specifically, the smooth integration of 406 MHz MEOSAR satellites and the development of a comprehensive Ground Segment providing global MEOSAR coverage are the new challenges for Cospas-Sarsat. The use of MEOSAR satellites will potentially allow evolution of the 406 MHz beacon, which will be both attractive to beacon owners and challenging to system operators. A return link capability, if widely adopted by users, could significantly impact the management of SAR operations. Its introduction will require in depth evaluation and close cooperation with the System's customers, i.e. SAR authorities.

Beacon technology is fast evolving and small, inexpensive handheld units are already a reality. The MEOSAR concept offers additional opportunities to revisit some beacon requirements. This effort will be undertaken in 2010 with the participation of Cospas-Sarsat customers and other stakeholders.

2009, therefore, was not the end of the story. The challenges to be met will inspire the development of a new System, including a new generation of beacons, which should ensure the continuation of the saga for at least the next 30 years!

Daniel Levesque,
Head of Secretariat
International Cospas-Sarsat Programme

International Cospas-Sarsat Programme

Mission Statement

The International Cospas-Sarsat Programme provides accurate, timely and reliable distress alert and location data to help search and rescue authorities assist persons in distress.

Objective

The objective of the Cospas-Sarsat system is to reduce, as far as possible, delays in the provision of distress alerts to SAR services, and the time required to locate a distress and provide assistance, which have a direct impact on the probability of survival of the person in distress at sea or on land.

Strategy

To achieve this objective, Cospas-Sarsat Participants implement, maintain, coordinate and operate a satellite system capable of detecting distress alert transmissions from radiobeacons that comply with Cospas-Sarsat specifications and performance standards, and of determining their position anywhere on the globe. The distress alert and location data is provided by Cospas-Sarsat Participants to the responsible SAR services.

Cospas-Sarsat co-operates with the International Civil Aviation Organization, the International Maritime Organization, the International Telecommunication Union and other international organisations to ensure the compatibility of the Cospas-Sarsat distress alerting services with the needs, the standards and the applicable recommendations of the international community.

SECRETARIAT CONTACT INFORMATION

700 de la Gauchetière Ouest - Suite 2450
Montréal, Québec, Canada H3B 5M2
Phone: +1 514 954 6761
Fax: +1 514 954 6750
Email: mail@cospas-sarsat.int
Website: www.cospas-sarsat.org

General Information	Diane Hacker dhacker@cospas-sarsat.int
Conference Services	Marie-Jo Deraspe mderaspe@cospas-sarsat.int
International Beacon Registration Database	Melanie Roberge mroberge@cospas-sarsat.int
Technical Matters (specifications, beacon type approval, etc.)	Dany St-Pierre Principal Technical Officer dstpierre@cospas-sarsat.int
	Andryey Zhitenev Technical Officer azhitenev@cospas-sarsat.int
Operational Matters (data distribution, reports, System status, etc.)	Cheryl Bertoia Principal Operations Officer/ Deputy Head of Secretariat cbertoia@cospas-sarsat.int
	Vladislav Studenov Operations Officer vstudenov@cospas-sarsat.int
Finance & Administration Officer	Anthony Boateng aboateng@cospas-sarsat.int
Head, Cospas-Sarsat Secretariat	Daniel Levesque dlevesque@cospas-sarsat.int

This information bulletin is available on the web at
www.cospas-sarsat.org