Information Bulletin

ISSUE 25

2013

SATELLITES AID IN RESCUE OF 35,000 PEOPLE

More than thirty-five thousand people have been rescued from plane crashes, sinking ships and wilderness mishaps over thirty years, through cooperation among more than 40 governments in the International Cospas-Sarsat Programme.

Cospas-Sarsat is a great achievement in multinational cooperation. Begun at the end of the 1970s by Canada, France, the former Soviet Union and the United States, despite the Cold War tensions of the time, Cospas-Sarsat is the sole global network capable of independently locating (e.g., without the aid of GPS) distress beacons of aircraft, ships and backcountry hikers. These alerts are provided free of charge to search-and-rescue agencies in more than 220 countries (including those not among the 43 member countries and agencies).

Site of the First Rescue Aided by Cospas-Sarsat, 10 September 1982

Helicopter SAR Exercise, Canadian Forces Base Esquimalt, British Columbia, 29 October 2012

Monday, 10 September 2012 was the thirtieth anniversary of the first "save", the rescue through use of the Cospas-Sarsat System of three individuals involved in a plane crash. Cospas-Sarsat formally commemorated this event during late October 2012 in Victoria, British Columbia with the dedication of a plaque that is on display at the Comox Air Force Museum in the Comox Valley of Vancouver Island (see photo on page 3), and a presentation by the pilot of the downed plane (see story on page 2). British Columbia is the Canadian Province where this first rescue occurred in 1982 with the help of the Soviet Union's Cospas-1 spacecraft and a Canadian tracking antenna in Ottawa.

Cospas-Sarsat operates the only global network for automatically distributing distress and search-and-rescue information.

Cospas-Sarsat is in the process of upgrading its satellite system by placing search-and-rescue receivers on new GPS satellites (with receivers supplied by Canada), navigation satellites of Russia (Glonass) that began deployment in February 2011, and European Galileo navigation satellites that began launching in October 2012 (see story on page 9). This will dramatically improve the speed of alert detection, as well as improving location-accuracy.

INSIDE THIS ISSUE:

POINTS OF INTEREST

- In **2012**, Cospas-Sarsat alert data assisted in **634 distress incidents** in which **2,029 persons** were rescued.
- The **406-MHz beacon** population will reach over **1.4 million units** during 2013, more than double the population in 2007!

Denmark Builds Bridges with Cross Border SAR Initiative

In January 2012, Denmark once again hosted its Cross-Border SAR Initiative, bringing together 60 SAR operators from across western and central Europe, and from Kenya and eastern African rescue forces. Within the context of visits to the Danish Joint Rescue Coordination Centre, fire and rescue agencies, coastal and naval rescue facilities, and the Danish Emergency Management Agency (DEMA), participants were able to engage in live demonstrations and to share best practices. Among these were demonstrations of cutting-edge hypothermia research by Dr. Benedict Kjærgaard of the Trauma Centre Aalborg. Presentations by SAR equipment manufacturers, including manufacturers of Cospas-Sarsat-related devices, and the Cospas-Sarsat Secretariat ensured that delegates were aware of the latest in life-saving technologies and the plans for the Demonstration and Evaluation phase of the medium-altitude Earth orbit search and rescue (MEOSAR) project.

Denmark hosted the event by providing housing at military facilities and buffet-style meals. The event coordinator and regular Cospas-Sarsat meeting contributor, Major Ove Urup-Madsen, observed: "One of our objectives with the Cross-Border SAR Initiative is to show participants that face-to-face collaboration does not need to be complicated or expensive. A solid willingness and a modest budget can go a long way to improving SAR cooperation. And face-to-face meetings help to bridge cultural barriers and pave the way for smooth interaction during real emergencies."

Several participants in the Cross Border SAR Initiative expressed interest in having their governments become formally associated with the Cospas-Sarsat Programme, with some subsequently attending Cospas-Sarsat meetings in an observer capacity at the invitation of the Council.

Thank you Denmark for this fine initiative!

A member of the Danish Emergency Management Agency demonstrates maintenance of an immersion suit that enables rescuers and others to survive frigid water temperatures.

The First Cospas-Sarsat Save: A Personal Perspective

Pilot Jonathan Ziegelheim

Pilot Jonathan Ziegelheim contributed to the 30th anniversary commemorations at the 49th Session of the Cospas-Sarsat Council in Victoria, British Colombia, Canada by relating the dramatic story of his rescue after the crash of his small aircraft 30 years ago in British Columbia. This incident has the distinction of being the first SAR operation initiated by an alert from the Cospas-Sarsat System. Mr. Ziegelheim described the fateful day:

"It was September 1982 and the clear and sunny weather in Dease Lake suddenly deteriorated. We came around the corner of the river branch we were following to face a dead end. We contacted the trees in perfect stall condition, and the trees grabbed the landing gear and twisted the aircraft around. We pitched over and hit the ground almost vertically at about 40 miles per hour."

"After assessing our injuries, we pulled out the survival gear from the aircraft and looked for the ELT - Emergency Locator Transmitter. We were able to remove the transmitter itself but the antenna was fastened to the fuselage. There were no tools to remove it from the airframe but I thought maybe I could cut around the base of the antenna. So I grabbed the axe and climbed up on top of the aircraft. I took one swing at the fuselage and made a small dent, then I took a harder swing and as I hit the fuselage the antenna popped off and flew through the air! The three of us watched it go with very wide eyes! We picked it up and put it with the transmitter. We hoped it would still work, but we had no way of knowing."

"It wasn't long before we heard an aircraft flying close to our position and they soon spotted us. We were amazed that they had found us so soon. That's when they told us a satellite had rescued us. What satellite? They told us that an international program had devised a SAR satellite, however it was only in the test stage and had just been turned on. This was the first time they had used it. Fortunately for us it worked! That's when they told me it was a good thing it did because I would have bled to death within the next day."

Mr. Ziegelheim, today a Boeing 777 captain for a major airline, closed his remarks on a personal note. "Last week my 24 year old daughter, Sandra, asked: 'Why are you going to Victoria? Mom said something about the satellite that rescued you.'"

"I said 'Yes, the one that found me. I'm going to talk to the men and women that keep the system up and running.'"

"And she said 'So if you hadn't been found, I wouldn't be here?'"

"I answered 'Yes, that's right!'"

"She said 'Say hello to them for me!'"

Cospas-Sarsat People and Events

During the October 2012 Council meeting in Victoria, British Columbia, Canada, Mr. Michael Donald, Representative of Canada, reads the inscription of a plaque presented to RAdm William Truelove, Commander of Canadian Maritime Forces Pacific/Joint Task Force Pacific, to commemorate the 30th anniversary of the first Cospas-Sarsat "save", as Council Chair Michel Margery (France) looks on.

1982 2012

In the late 1970s, Canada, France, the United States and the Soviet Union began collaboration on the development of the
International Satellite System for Search and Rescue, COSPAS-SARSAT.
On September 10, 1982, this new system detected and located an emergency radio signal from a small aircraft downed near Dawson Creek, British Columbia, Canada. This led to the successful rescue of all three occupants, marking the first ever life saved with the assistance of COSPAS-SARSAT.
Between 1982 and 2012, with the Russian Federation subsequently assuming the role of the former Soviet Union,
the system has helped to save over 33,000 lives around the world.
Today, the COSPAS-SARSAT System serves the aeronautical, maritime and terrestrial domains providing the vital link
between those in distress and the rescuers who put their lives at risk, so that others may live.

Events Diary

EWG-1/2013
Second Generation Beacon Specifications
Cairns, 25 February - 1 March 2013

Central DDR
Athens, 13 - 14 March 2013

South Central DDR
Maspalomas, 19 –21 March 2013

50th Council Session - Closed Meeting
Montreal, 24 - 26 April 2013

27th Joint Committee Meeting
Limassol, 10 - 19 June 2013
TG-1/2013

MEOSAR D&E Phase
Montreal, 16 - 20 September 2013

51st Council Session (Montreal)
Closed Meeting - 23 - 25 October 2013
Open Meeting - 28 - 31 October 2013

Western DDR Meeting
Lima, 19 - 21 November 2013

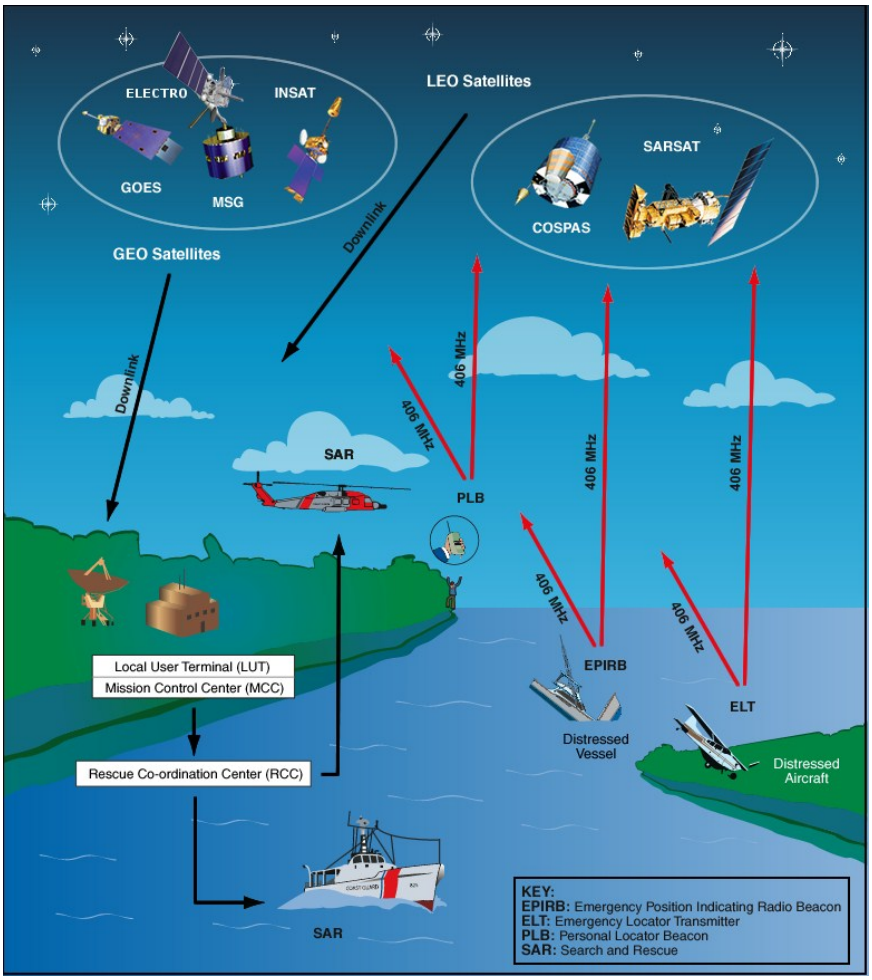
Central DDR Meeting, Izmir, Turkey, May 2012

Welcome aboard Benoît Helin
(Technical Officer, MEOSAR)

South West Pacific DDR Meeting, Bali, Indonesia, February 2012

Western DDR Meeting, San Antonio, Texas, USA, January 2012

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:

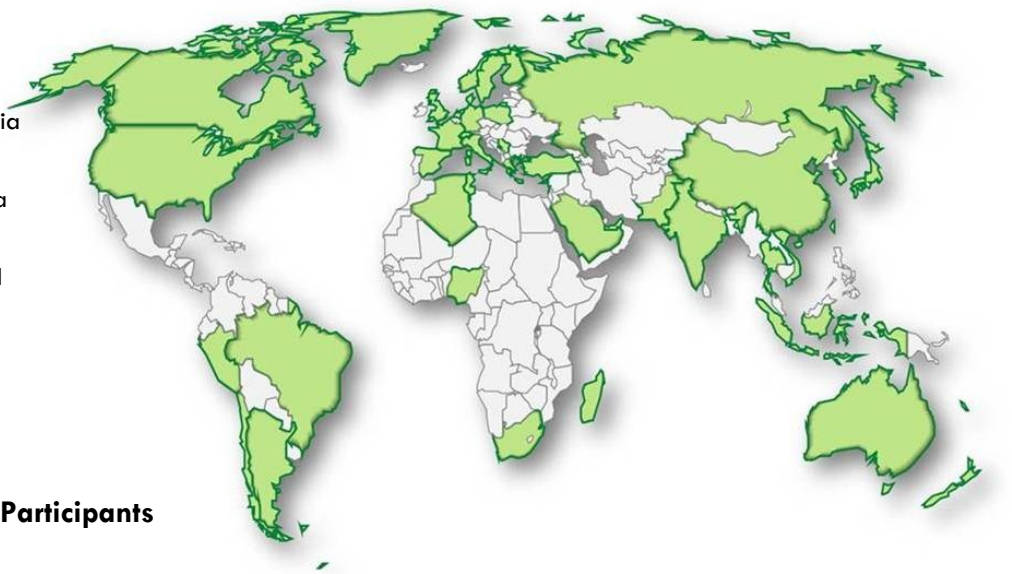
- satellites in low-altitude Earth orbit (LEOSAR) and geostationary orbit (GEOSAR) that process and/or relay signals transmitted by distress beacons;
- ground receiving stations called local user terminals (LUTs) which process the satellite signals to locate the beacon; and
- mission control centres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

The Cospas-Sarsat System detects distress beacons that operate at 406 MHz. Satellite reception and processing of legacy analogue-technology, 121.5-MHz beacon signals ended on 1 February 2009.

PARTICIPATING COUNTRIES AND ORGANISATIONS

Algeria
Argentina
Australia
Brazil
Canada
Chile
China (P.R. of)
Cyprus
Denmark
Finland
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
Serbia
Singapore
South Africa
Spain
Sweden
Switzerland
Thailand
Tunisia
Turkey
UAE
UK
USA
Vietnam

Total: 43 Participants



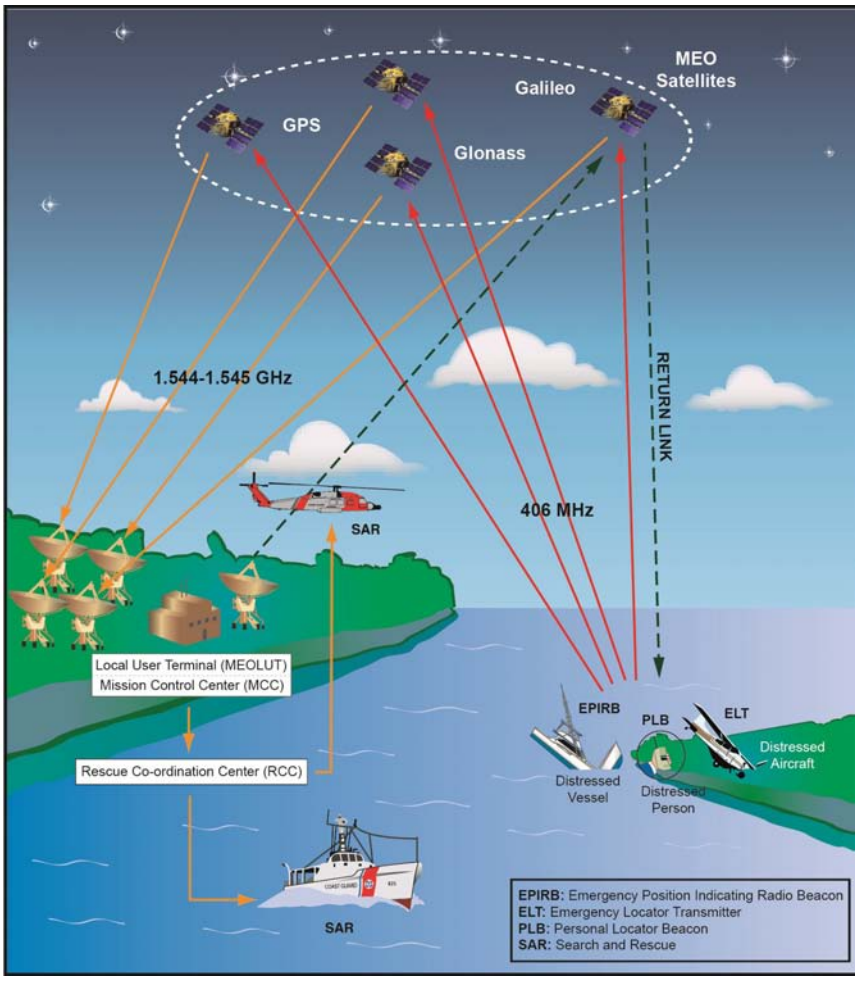
Cospas-Sarsat distress alert and location data are **provided to national SAR authorities worldwide, without discrimination**, and independent of whether their government is formally associated with the Programme.

MEOSAR:
The Future of Cospas-Sarsat

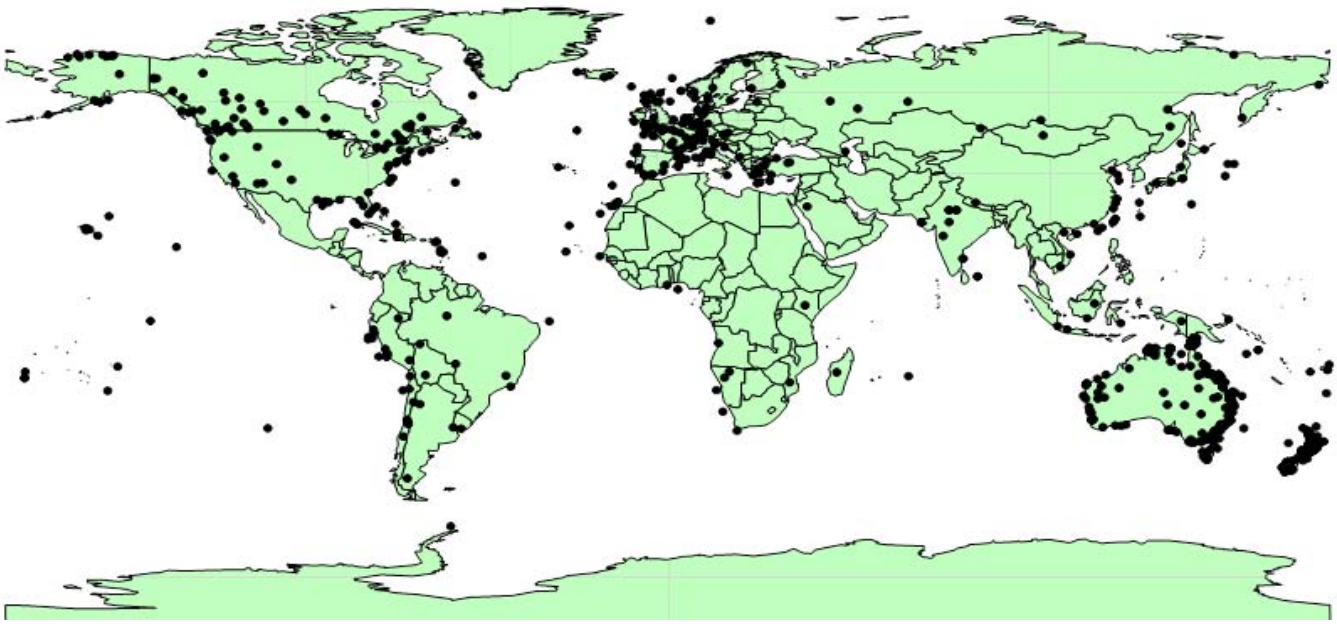
Cospas-Sarsat is in the process of upgrading its system with search-and-rescue repeaters placed aboard Global Navigation Satellites (GPS from the United States, Russian Glonass and European Galileo) orbiting the Earth at altitudes roughly between 19,000 and 23,000 km. These new Cospas-Sarsat space assets will be part of a system known as MEOSAR, for Medium-altitude Earth Orbit Search and Rescue system.

MEOSAR will offer the advantages of both the LEOSAR and GEOSAR systems, without many of their current limitations, by relaying beacon distress messages and simultaneously calculating the beacon location anywhere on Earth nearly the instant that the alert signal is received. The MEOSAR system also will allow an optional "return link" transmission back to beacons. One function this return link feature will provide will be confirmation to the person in distress that their alert message has been received.

In early 2013, Cospas-Sarsat initiated a demonstration and evaluation (D&E) phase for the MEOSAR system development (see story on page 8).



GEOGRAPHIC DISTRIBUTION OF CONFIRMED SAR EVENTS
Assisted by Cospas-Sarsat in 2012



2012 Notable "Saves"

1 Two Yachtsmen Rescued in the High Arctic

On 4 September 2012, two experienced yachtsmen, aged 74 and 78, were rescued after their vessel sank in freezing arctic waters. The captain of the sailing vessel said that it became grounded and they quickly understood that they were taking on too much water to keep the 33-foot "Arabel" afloat. "We tried to release the life raft, but for unknown reasons we could not release or inflate it. The Cospas-Sarsat **EPIRB** was then activated."

The beacon's distress signal was relayed to the Norwegian Joint Rescue Coordination Centre (JRCC), through the Norwegian Mission Control Centre for Cospas-Sarsat, which contacted authorities in the United Kingdom, the home port of the vessel, to retrieve beacon registration information. Because the beacon had been properly registered, emergency-contact information was available within three minutes that allowed rescue officials to confirm the identities of those aboard and their sail plan. Seven minutes later a rescue helicopter departed from Longyearbyen, Norway for the 120 nautical mile trip to the distress scene north of the island of Spitsbergen in the Norwegian archipelago of Svalbard, where the two sailors were rescued.

In this incident, Cospas-Sarsat provided the **only alert**.

2 Float Plane Crash in Quebec

On 9 June 2012, an alert was received from an **ELT** at 1825 GMT by the Canadian Mission Control Centre. Eleven minutes later the Cospas-Sarsat System, using its Doppler location technology, resolved a position near the small town of La Tuque, in south central Quebec, Canada. A Hercules aircraft and a Griffin helicopter were tasked to the location, revealing that a single engine aircraft on floats had crashed with two persons on board in a very remote area approximately 6 km from the resolved Doppler position.

As police and ambulance services on the ground were unable to reach the crash site, both passengers were transferred to the La Tuque airport by helicopter, where they were transported to hospital.

Cospas-Sarsat provided the **first alert** in this SAR case.

3 Solo Sailor Rescued After Yacht Disabled in Southern Ocean

Thanks to his **EPIRB**, French sailor Alain Delord was rescued on 20 January 2013 after 56 hours in a life raft. The solo sailor's yacht was demasted in rough seas of the Southern Ocean, 500 nautical miles southwest of Tasmania, Australia. Alain was forced to abandon his yacht for a life raft where he activated the EPIRB. At 1:14 PM local time, the Australia Mission Control Centre (AUMCC) was sent an alert after the beacon signal had been relayed over the Russian Electro-L1 geostationary satellite and received at the Moscow GEOLUT ground antenna. The particular beacon model had an integrated satellite-navigation receiver, and so its distress-alert message included his estimated location, which rescue authorities can use in addition to the location information that is independently calculated by the Cospas-Sarsat System.

The Australia Rescue Coordination Centre (RCC) immediately commenced rescue operations. The nearest vessel, the commercial cruise liner PV Orion, more than 600 nautical miles from the position of the yacht, diverted course to begin the 56 hour journey to the life raft. The distress signal also was relayed ten minutes after the initial alert by the Indian INSAT-3A geostationary satellite and the Bangalore GEOLUT. Additional location data was determined an hour later from Cospas-Sarsat Doppler-based calculations.

The life raft drifted over 100 nautical miles during the rescue, and continuously updated positions were provided by Cospas-Sarsat to provide sufficient precision to allow rescue aircraft to drop additional supplies to Mr. Delord. He subsequently was reported safe and well aboard the PV Orion.

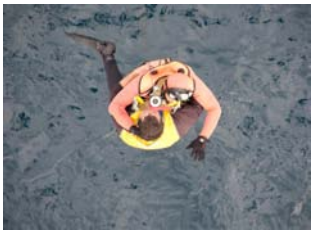
In this SAR incident, Cospas-Sarsat provided the **only alert** of the need for a rescue.

Assisted by Cospas-Sarsat

4 Lone Fisherman Rescued from Overturned Vessel Off French Coast

On the 25 September 2012 at 09:17 UTC, the French Mission Control Centre (FMCC) received an alert from an activated **EPIRB** that had been relayed over a Cospas-Sarsat GEOSAR satellite. The alert information was immediately relayed to the Maritime Rescue Coordination Centre (MRCC) Gris Nez, together with registration information showing that the alert was from a French fishing vessel.

At 09:23 UTC, the initial detection was followed by a LEOSAR satellite detection that enabled the location calculation using Doppler data. A Doppler position was calculated to be near the Glénan archipelago to the west of the French mainland. This information was sent to the MRCC, and MRCC Etel (who assumed coordination of the operation) attempted VHF contact with the fishing vessel identified from the beacon-registration information. MRCC Etel also contacted several vessels near the calculated location. At 09:51 UTC, a French customs aircraft spotted an overturned hull and a nearby life raft with one man on board.



At 10:37 UTC, less than two hours after the initial signal detection, a man was rescued by a French naval helicopter. The fisherman, in satisfactory condition, was transferred to hospital in Quimper. In this SAR incident, Cospas-Sarsat provided the **only alert**.

5 Fishing Vessel Fire in the Mid-Pacific

In the middle of the night of 14 June 2012 a fire broke out in the engine room of the 72-foot fishing vessel Golden Eagle II while at work west of Hawaii. The smoke spread to the pilothouse so fast that the captain was unable to send a MAYDAY call. The fire quickly burned out of control. Fearing that it would ignite the 9000 gallons of diesel fuel aboard, the captain, crew and a U.S. NOAA Fisheries observer stationed aboard abandoned ship. As it was consumed by the fire, an **EPIRB** (belonging to the NOAA observer) still aboard the vessel transmitted a brief "unlocated" alert with no position information. Once in the life raft the crew activated a second EPIRB, but accidentally set it in the test position, not discovering their mistake until dawn. Using the identification information transmitted by the first beacon, the Honolulu Joint Rescue Coordination Centre (JRCC) sought from NOAA Fisheries authorities the name of the vessel to which the observer was assigned. The test-mode signal of the second beacon, relayed by the Cospas-Sarsat network to the U.S. Mission Control Centre (USMCC), was processed as an unknown beacon with no registration information. JRCC Honolulu, using a technique learned at USMCC SAR-controller training, took a portion of the unknown beacon message to search the registration database. Nearly simultaneously, the registration data and NOAA Fisheries contacts identified the stricken vessel as the Golden Eagle II.

JRCC Honolulu's work that identified the vessel based on the partial information from the two beacons allowed the use of U.S. NOAA vessel monitoring data (and limited "A" or "B" location data derived from the second beacon in test mode) to, at 16:10 UTC, successfully narrow the vessel's estimated position to approximately 400 nautical miles west of Honolulu. The JRCC launched an HC-130 aircraft to the area and, using the international Automated Mutual Assistance Vessel Rescue Program (AMVER) sponsored by the U.S. Coast Guard, identified the nearby AMVER-participant vessel M/V Forestal Diamante, requesting that they divert to assist. Through the diligence of JRCC Honolulu, it was possible to launch this rescue effort a full hour before the crew in the life raft switched the second beacon from the "test" mode to operational mode, providing improved location data to update the SAR responders already in route.

At 19:54 UTC the HC-130 aircraft was on scene and able to update the Forestal Diamonte with the distressed vessel's exact position. At 20:40 UTC the Forestal Diamonte was alongside and all six crew members of the Golden Eagle II, and the NOAA observer, were rescued.

Cospas-Sarsat provided the **only alert** in this incident.

What's New?

MEOSAR D&E Phase

The Cospas-Sarsat Council has directed that a Demonstration and Evaluation (D&E) be performed to confirm the expected capabilities and benefits of the new MEOSAR system. The D&E period is expected to extend through 2015 and will be followed by the MEOSAR Initial Operational Capability (IOC) phase, in which distress alerts provided by the MEOSAR system will be made operationally available to SAR authorities worldwide. When enough MEOSAR satellites and ground stations are available to provide near-real-time coverage globally, the MEOSAR system will be declared at Full Operational Capability (FOC).

The MEOSAR D&E is divided into three phases. Phase I, expected to last through 2013, is dedicated to technical tests to assess the system's capability to detect beacon alert transmissions and to calculate beacon locations. Phase I already is benefitting from recently launched SAR/Galileo satellite instruments (see box, page 9), along with previously launched SAR/GPS and SAR/Glonass instruments.

Phase II will add operational tests as well as technical tests. The prerequisite to enter Phase II is to have a sufficient number of satellites in view of antennas on Earth to allow assessment of the expected operational performance of the MEOSAR system in a real environment. Phase III will commence when a sufficient number of operational "L-band" satellites will be available for use.

The results of the D&E tests will be presented and discussed during future meetings dedicated to the MEOSAR system development, and for finalizing documents required for the integration of the MEOSAR system into the operational Cospas-Sarsat System.

New Cospas-Sarsat French Party Representative

The Cospas-Sarsat Programme welcomed a new Party representative in 2012: Mr. Eric Luvisutto is the new French Representative to the Cospas-Sarsat Council.

Eric Luvisutto, French Representative

Mr. Luvisutto is the program manager for Data Collection/Location/Search & Rescue in the Strategy, Programme and International Relations Directorate of CNES, the French Space Agency. In that role he is in charge of the Cospas-Sarsat and the ARGOS data collection programmes.

A graduate of the National Institute of Applied Sciences, Mr. Luvisutto acquired solid expertise in the space agency and in industry over the past 25 years. Early in his career, Mr. Luvisutto led R&D efforts, and then held management responsibilities across several satellite projects (STENTOR, WorldStar, and others). He created the Technical Competence Centre on Space Applications, a network of more than 200 professionals, and has been heavily involved in the promotion of this sector.

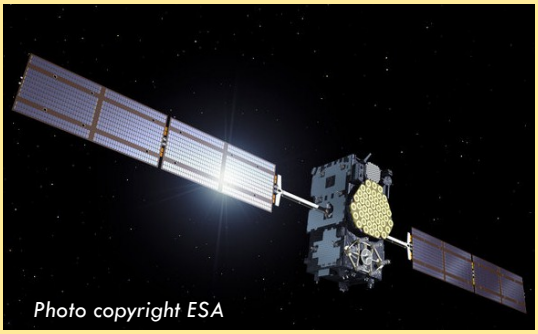
He has collaborated on many programmes with European, national and regional authorities. He has also held operational management positions, driving business strategies in the field of radio frequencies and telecommunications applications.

Welcome to Cospas-Sarsat, Eric!

The Twenty-sixth Session of the Cospas-Sarsat Joint Committee, chaired by Mr. Andrey Kushev (Russia), met in Montreal, 12 - 20 June 2012. One hundred and fifty delegates from 36 countries, two agencies and four international organizations participated in deliberations about technical and operational aspects of the Cospas-Sarsat System (left photo). At the conclusion of the meeting, the delegates thanked retiring Programme contributor Christopher Payne (Australia) for his service over more than two decades. Several delegates spoke of his accomplishments and Chairman Kushev (far right) presented him with a commemorative plaque.

Cospas-Sarsat Operations

Launch of Galileo MEOSAR Satellites



The Galileo satellites IOV FM3 and FM4 were successfully launched by a Soyuz ST-B rocket from the Guiana Space Centre on 12 October 2012. The satellites are embarking the first two SAR/Galileo payloads that have been included in the Cospas-Sarsat MEOSAR Demonstration and Evaluation activities following completion of verification test campaigns initiated in January 2013. The European Commission and the European Space Agency plan to launch 14 additional Galileo-SAR payloads before the end of 2014.

WARNING! Non-Approved Beacon Batteries being Sold

Cospas-Sarsat type approval of beacon models is contingent on the use of original equipment battery packs. Therefore, Cospas-Sarsat recommends that beacon owners always use original equipment battery packs which have been approved as a part of the original Cospas-Sarsat beacon type approval and as provided either by a beacon manufacturer or one of their approved service centres. Certain aftermarket replacement battery packs that are not approved by the beacon manufacturer have been shown to be of inferior quality and may result in safety risk and/or the failure of the beacon to function properly in a distress situation.

Not a Cospas-Sarsat Participating State?

If you review the map of Cospas-Sarsat participants on page 4 and you don't see your country listed there, rest assured that distress alerts will still be delivered through the Cospas-Sarsat System to the search and rescue point of contact identified by your country.

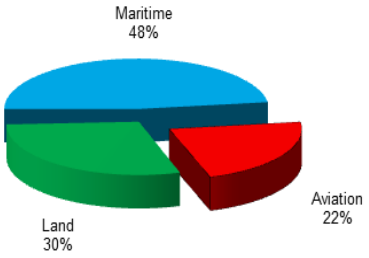
If your government would be interested in participating in decisions about the organization's future, and the development of specifications for new technologies and SAR procedures, consider joining the 41 States and two agencies that already contribute to the important work of Cospas-Sarsat. You will be supporting the SAR objectives of the International Maritime Organization, the International Civil Aviation Organization, and wilderness SAR agencies worldwide. For further information, please contact us (mail@cospas-sarsat.int).

Cospas-Sarsat System Status

As of August 2013, the Cospas-Sarsat System comprised:

- 6 LEOSAR satellites in low-altitude polar orbit
- 6 GEOSAR satellites in geostationary orbit
- 58 LUT earth station antennas receiving signals transmitted by LEOSAR satellites
- 22 LUT earth station antennas receiving signals transmitted by GEOSAR satellites
- 31 Mission Control Centres distributing distress alerts to SAR services
- More than 1.4 million 406 MHz beacons expected in service worldwide in 2013

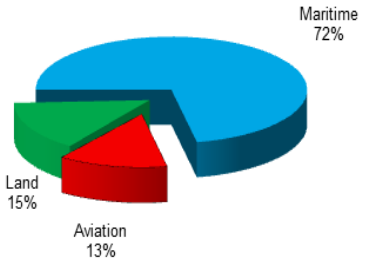
Distribution of SAR Events Assisted by Cospas-Sarsat (Jan. - Dec. 2012)



Total: 634 SAR Events

(283 Events Where Cospas-Sarsat Provided the First Alert; 111 Where It Provided the Only Alert)

Distribution of Persons Rescued with the Assistance of Cospas-Sarsat (Jan. - Dec. 2012)



Total: 2,029 Persons

Proper Disposal of Beacons at End-of-Life

By Alex Genicot, Chief, French Mission Control Centre

SEARCH & NOT RESCUE OPERATION TO FIND BEACON IN GARBAGE

Ships and aircraft are equipped with Cospas-Sarsat beacons, often in fulfillment of international requirements. Yet, when old beacons must be replaced, or when a ship or aircraft is decommissioned, what happens to those beacons? In the market for personal locator beacons (PLBs) used by hikers and other adventurers, there always are new and more attractive features (smaller size, built-in satellite navigation receivers, etc.). This leads to even more frequent replacement of old beacons with new ones. What happens to those old beacons?

The replacement of old beacons with new ones is accelerating, a trend likely to increase as new "second-generation" beacons with improved performance and new features become available in a few years. While having new beacon technologies in the hands of users is a good thing, it carries with it risks related to the disposal of the old beacons. Casual or thoughtless disposal of old beacons (for example, by simply throwing them in the garbage) can lead to problems when these beacons self-activate and generate false alerts. False alerts threaten lives. They divert valuable resources (MCC, RCC, SAR operators, police, rescue teams, etc.) from real emergencies. And false-alert transmissions can block transmissions from beacons activated in real emergencies.

Proper disposal of a beacon includes the removal of the battery in order to avoid beacon self-activation and clear labelling on the beacon that it has been deactivated. Before throwing an old beacon in the garbage, ensure that it has been properly deactivated. Batteries must be disconnected and all components should be sent to an appropriate recycling facility.

India Announces Fifth Biennial SAREX a Success!

In January 2012, India conducted its fifth biennial national search and rescue exercise (SAREX-12), with observers in attendance from Japan, Indonesia, Sri Lanka, Malaysia, the Seychelles, the Philippines, Bangladesh, Mauritius and the Maldives. The exercise simulated a crash at sea of an aircraft en route from Mumbai to Muscat. An aircraft emergency locator transmitter (ELT) was activated and an alert was relayed by India's Mission Control Centre (INMCC) to the Maritime Rescue Coordination Centre (MRCC) Chennai from the INSAT GEOSAR satellite. All 100 "survivors" were rescued during the three-hour SAR exercise coordinated by MRCC Mumbai.

During the associated one-day workshop, a presentation recognizing 20 years of successful operation of the Cospas-Sarsat System in India was given by Dr. NK Shrivastava of the INMCC.

A Few Words from the 2012 Council Chair

Thirty years after the launch of the first satellite, the year 2012 will be remembered not only because Cospas-Sarsat confirmed its effectiveness in helping to save more than 35,000 people since its origin, but also as the 30th anniversary of the first successful rescue assisted by alert and location data provided by the System to search and rescue teams.

I would like to thank Canada and the Cospas-Sarsat Secretariat for cohosting the 49th Council Session in October 2012, in the outstanding location of Victoria, British Columbia, which provided the occasion for Mr. Jonathan Ziegelheim, one of three people rescued in that first Cospas-Sarsat "save", to portray the touching story of his rescue. His gratitude to Cospas-Sarsat, and that of his family, alone would be sufficient to encourage us to continue the work that we have inherited from the pioneers of the four countries that are Parties to the International Cospas-Sarsat Programme Agreement and the founders of the System: Canada, France, Russia and the United States.

Michel Margery (France)
Centre National d'Etudes Spatiales
2012 Council Chair

While celebrating its past and continuing its daily mission "to provide timely and reliable distress alert and location data to help SAR authorities to provide assistance to persons in distress," Cospas-Sarsat advanced its efforts in 2012 to prepare for the future:

- Further work on specifications for future "second-generation" beacons,
- Launch of new LEOSAR instruments on Metop-B,
- Launch of the first two European Galileo satellites (IOV 3 & 4) carrying an L-band SAR payload, and
- Finalization and adoption by CSC-49 of the Demonstration and Evaluation Plan for the future MEOSAR system.

The Programme's future strength will lie in the efficient integration of medium-altitude Earth orbit constellations of SAR/GPS, SAR/Glonass and SAR/Galileo. These MEOSAR components will provide improved services to users and SAR authorities, including alerts and nearly instant location data wherever a disaster may occur on the planet. With its demonstrated track record of efficacy and international cooperation among its 43 participating countries and international organizations, I am convinced that Cospas-Sarsat has the right tool in the new MEOSAR system to provide thirty more years of success in helping to save lives.

Personally, I would like to express my delight in working with the whole Cospas-Sarsat community over the last five years, and my gratitude to the Secretariat which, thanks to its new Head, Mr. Steven Lett, and the talented staff, are rising to the challenges and making the adaptations to advance one of the most beautiful space projects ever to serve humankind.

A Few Words from the Head of Secretariat

Steven Lett
Head of Secretariat

Thirty-five thousand people rescued with the assistance of Cospas-Sarsat. (See cover story.) This is an achievement of which the Cospas-Sarsat community justifiably can be proud. The men and women of Cospas-Sarsat have contributed countless hundreds of thousands of person-hours over the past three decades – some dedicating their entire careers – to build the world-class standard in globally-available distress alerting via satellite. But in many ways, the challenge is just beginning. The life-saving potential of Cospas-Sarsat beacons is attracting ever more boaters, aviators and others who travel beyond the coverage of mobile networks. To satisfy the distress-alerting expectations of today's ever-growing population of adventurers, beacon manufacturers are making the devices smaller, wearable and with an increasingly integrated set of features.

It is the obligation of Cospas-Sarsat to ensure that innovation, including new standards in beacon technology, keeps pace with user expectations while still meeting the unparalleled performance testing that every new beacon model is subjected to. Simultaneously, Cospas-Sarsat is in the midst of a rigorous demonstration and evaluation process for its future MEOSAR system. (See story on page 5.) MEOSAR and future beacon technologies will be engineered so that each takes maximum advantage of the other, with the promise of accurate distress and location information nearly from the moment of the first half-second burst of the beacon's transmitter. These intensive efforts will require many, many more hours from engineers, rescue professionals and other experts as we refine and perfect system performance and features in the months and years ahead. The result will be that very soon – years not decades – the dedicated men and women of Cospas-Sarsat will be able to look back with pride and celebrate the milestone of yet another 35,000 people – or more – rescued through their tireless efforts. Because 35,000 people rescued to date with the assistance of Cospas-Sarsat is just the start!

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.

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