



## COCESNA – NOAA

Washington, February-  
March , 2017



Central American  
Corporation  
for Air Navigation Services

# ***Introduction***



There is no tool in the world like this to the issue of search and rescue.



This Innovation Has Been Filed In Also in the NOAA(National Oceanic and Atmospheric Administration) since 2012 .



as it has been presented to the ICAO,Mr.Victor Hernandez, who is the SAR ICAO expert,



Nasa /Cuba/Dominic Republic/Trinidad and Tobago/Panamá and others.

# PRESENTATION CONTENT

1  
COCESNA's  
STRATEGIC AND  
INSTITUTIONAL  
ASPECTS

2  
SERVICE  
AREAS

3  
eXpert – SAR  
TRAKING  
SYSTEM

# 1. COCESNA's STRATEGIC AND INSTITUTIONAL ASPECTS

# ¿What is COCESNA?



Is a nonprofit and public services organisation of Central American Integration with legal status and financial autonomy. It holds exclusive rights in the provision of Air traffic services ,Aeronautical Telecommunications, Nav aids and Aeronautical information for the territories of the Member states and contracting parties in the region.



## **MISSION**

Provide air navigation services in a secure and efficient manner, added value for the aeronautical activity development.



## **VISION**

Being a world model as a provider of high performance in aeronautical navigation services.



## **HEADQUARTERS**

**Headquarters Office, Honduras:** Executive Presidency, ACNA, Technology Management

**ACSA, Costa Rica:** Central American Agency for Aviation Safety

**ICCAE, El Salvador:** Central American Institute and Aviation Training

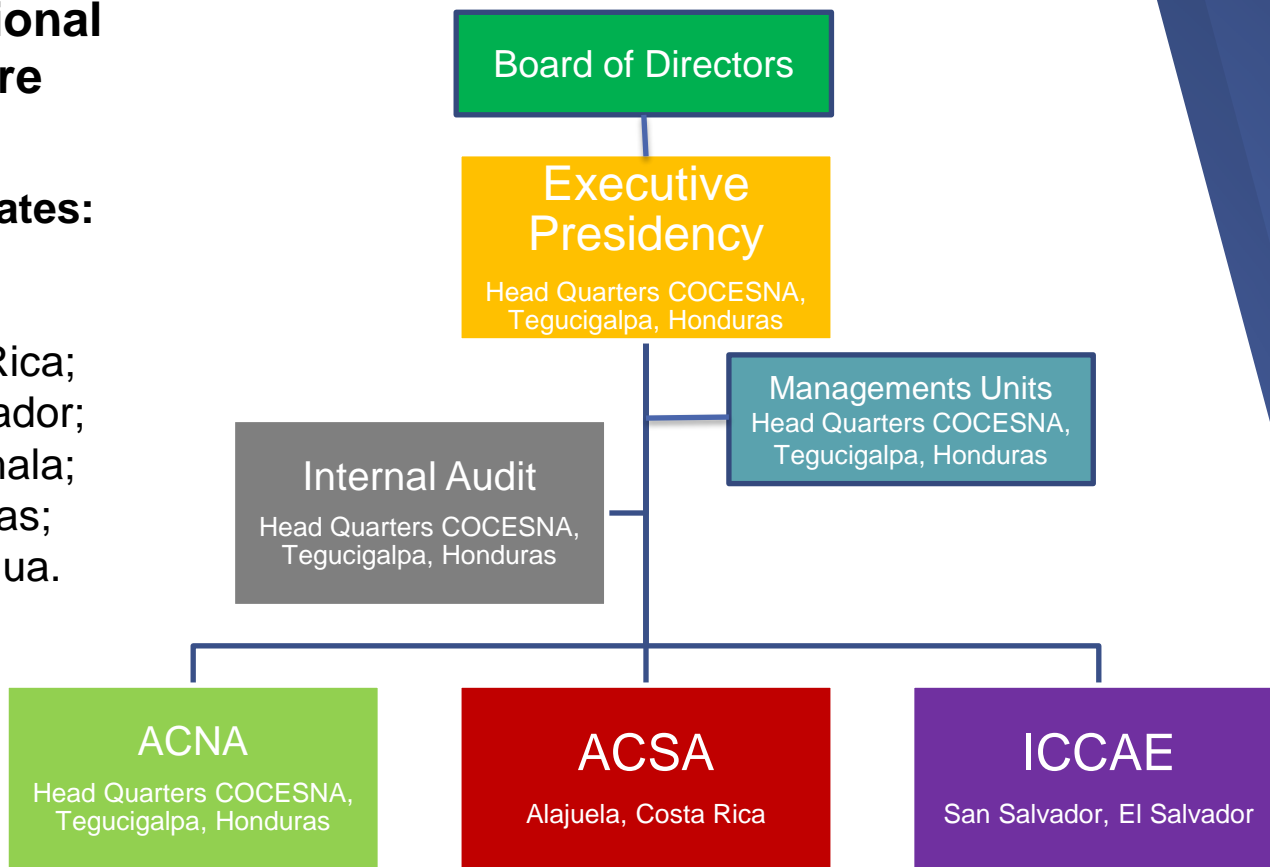


# **COCESNA**

# COCESNA's Organizational Structure

## Member States:

1. Belice;
2. Costa Rica;
3. El Salvador;
4. Guatemala;
5. Honduras;
6. Nicaragua.



A world map with a blue background. The Americas are highlighted in a light blue color. A semi-transparent grey box is overlaid on the Americas, containing several circular icons of national flags: Canada, USA, Mexico, Colombia, and Peru. A small globe icon is located in the bottom left corner. The text 'Provision of Air Navigation Services under a regional approach' is written in orange. Black triangles point to various regions: North America, Europe, Africa, Asia, and Australia.

Provision of Air Navigation Services under a regional approach

**AIR NAVIGATION SERVICES**



## 2. COCESNA's SERVICES AREAS



**COCESNA**

# SAR TRACKING SYSTEM

SAR  
Tracking  
System

eXpert-SAR  
Tracking System



# AERONAUTICAL TI SOLUTIONS

COCESNA provides technology solutions that optimize financial, material and human resources. Develops, implements, manages and markets technology solutions integrated air navigation, aviation safety and other applicable.

**SAR  
Tracking  
System**

eXpert-SAR  
Tracking System



# SYSTEM OBJECTIVES

Support the management of emergency messages received by COSPAS-SARSAT/USMCC, by monitoring ELT, EPIRB and PLB alert triggers and managing the coordination of rescue activities among RCC, RSC and other related entities. Its main objective is to allow all search and rescue coordination carried out in the shortest possible time.

Record coordination activities between the parties involved in the messages received and manage pilot reports regarding ELT alerts reported to air traffic controllers.

**SAR**  
Tracking  
System

eXpert-SAR  
Tracking System



# AERONAUTICAL IT SOLUTIONS

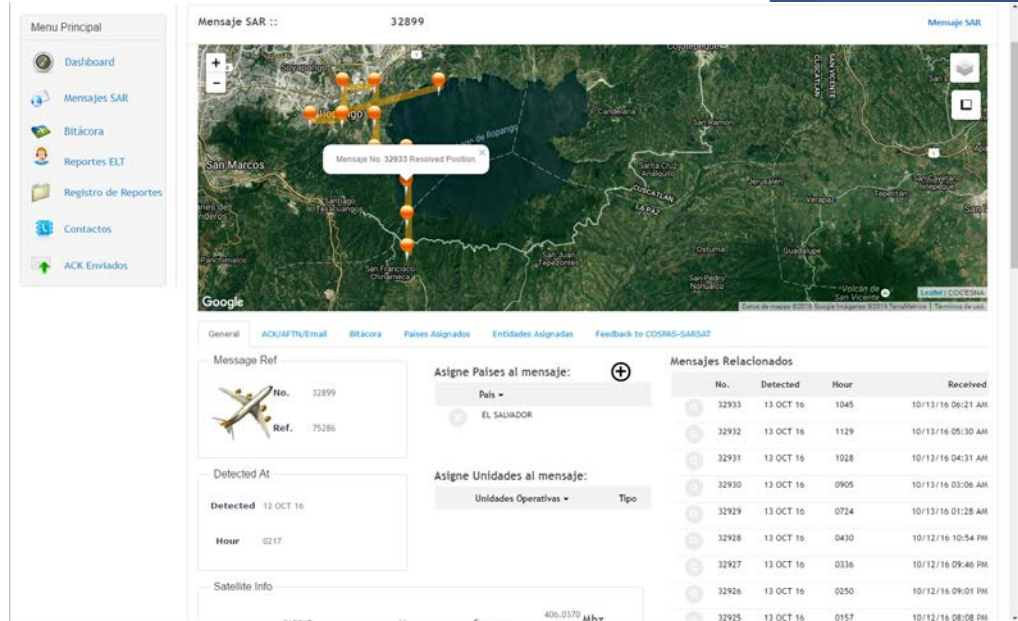
## SAR Tracking System

eXpert-SAR Tracking System



Is a system created to support the management of emergency messages received by COSPAS-SARSAT/USMCC, by monitoring ELT, EPIRB and PLB alert triggers and managing the coordination of rescue activities among RCC, RSC and other related entities. Its main objective is to allow all search and rescue coordination carried out in the shortest possible time.

**coordination in less than 5 seconds** which it means that the time gained passes to the operating units which reduces the search time between 70 and 80%.



The screenshot displays the SAR Tracking System interface. On the left is a 'Menu Principal' with options: Dashboard, Mensajes SAR, Bitácora, Reportes ELT, Registro de Reportes, Contactos, and ACK Enviados. The main area shows a satellite map of a region in El Salvador with a callout for 'Mensaje No. 32933 Resolved Position'. Below the map, there are tabs for 'General', 'ACK/AFTN/Email', 'Bitácora', 'Países Asignados', 'Entidades Asignadas', and 'Feedback to COSRAS-SARSAT'. The 'General' tab is active, showing message details for 'Mensaje Ref.' 32899 (No. 32899, Ref. 75286) detected at 12 OCT 16 02:17. It includes fields for 'Asigne Países al mensaje:' (set to EL SALVADOR) and 'Asigne Unidades al mensaje:'. A 'Mensajes Relacionados' table is also visible.

No.	Detected	Hour	Received
32933	13 OCT 16	1045	10/13/16 06:21 AM
32932	13 OCT 16	1129	10/13/16 05:30 AM
32931	13 OCT 16	1028	10/13/16 04:31 AM
32930	13 OCT 16	0905	10/13/16 03:06 AM
32929	13 OCT 16	0724	10/13/16 01:28 AM
32928	13 OCT 16	0430	10/12/16 10:54 PM
32927	13 OCT 16	0336	10/12/16 09:46 PM
32926	13 OCT 16	0250	10/12/16 09:01 PM
32925	13 OCT 16	0157	10/12/16 08:08 PM

# Main Features


1. The messages submitted to RCC are assigned to the States by the SAR/TS System. Those messages are immediately received by the States, so that they can reach appropriate coordinations.
2. The system submits the messages through AFTN/AMH. However, the SAR/TS system manages to send the information in a more effective way, adding value to the coordination between the operational units.
3. The coordination of the messages received from RCC can be monitored by the system administrator of each state. SAR managers' coordination information is displayed by means of logs and SIT-166 case closures.

# Primary Features

The SAR/TRACKING/SYSTEM has other features such as:

1. Log management
2. Contact book
3. Generation of air traffic controller's reports using ELT
4. Coordination of ELT reports
5. User management
6. Submission of ACK to COSPAS-SARSAT
7. User-friendly display of information

# Main Features



josram2  
Administrator

COCESNA/RCC/CENAMER

Buscar en  valor

Menu Principal

- Dashboard
- Mensajes SAR
- Bitácora
- Reportes ELT
- Registro de Reportes
- Contactos
- ACK Enviados

Mensaje SAR

No.	Ref.	Detected	Hour	Country ID	Country	Type	Description	ID	Emergency Code	Países	Entidades			
32938	75495	13 OCT 16	2149	332	GUATEMALA	ELT	SERIAL	265086	NONE	GUATEMALA		✓	!	!
32937	75480	13 OCT 16	2016	366	USA	ELT	SERIAL	162116	NONE	HONDURAS		✓	✓	!
32939	75480	13 OCT 16	2157	366	USA	ELT	SERIAL	162116	NONE	HONDURAS		✓	!	!
32934	75446	13 OCT 16	1428	366	USA	PLB	SERIAL	297	NIL	Otros		✓	!	!
32936	75446	13 OCT 16	1833	366	USA	PLB	SERIAL	297	NIL			✓	!	!
32899	75286	12 OCT 16	0217	359	ELSALVADOR	ELT	SERIAL	90	NIL	EL SALVADOR		✓	✓	!
32900	75286	12 OCT 16	0217	359	ELSALVADOR	ELT	SERIAL	90	NIL	EL SALVADOR		✓	✓	!
32901	75286	12 OCT 16	0311	359	ELSALVADOR	ELT	SERIAL	90	NIL	EL SALVADOR		✓	✓	!
32902	75286	12 OCT 16	0357	359	ELSALVADOR	ELT	SERIAL	90	NIL	EL SALVADOR		✓	✓	!
32904	75286	12 OCT 16	0735	359	ELSALVADOR	ELT	SERIAL	90	NIL	EL SALVADOR		✓	✓	!
32906	75286	12 OCT 16	0916	359	ELSALVADOR	ELT	SERIAL	90	NIL	EL SALVADOR		✓	✓	!
32907	75286	12 OCT 16	1053	359	ELSALVADOR	ELT	SERIAL	90	NIL	EL SALVADOR		✓	✓	!
32908	75286	12 OCT 16	1141	359	ELSALVADOR	ELT	SERIAL	90	NIL	EL SALVADOR		✓	✓	!
32909	75286	12 OCT 16	1232	359	ELSALVADOR	ELT	SERIAL	90	NIL	EL SALVADOR		✓	✓	!
32910	75286	12 OCT 16	1232	359	ELSALVADOR	ELT	SERIAL	90	NIL			✓	!	!
32911	75286	12 OCT 16	1321	359	ELSALVADOR	ELT	SERIAL	90	NIL	EL SALVADOR		✓	✓	!





<b>BEACON ID</b>	ADC041EFBC0028D	<b>Beacon</b>	CSTA#163
<b>Model</b>		<b>Email</b>	

User Class

<b>Type</b>	EPIRB	<b>Description</b>	SERIAL	<b>ID</b>	31727
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Emergency Code

<b>Emergency Code</b>	NONE
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**Position**

Confirmed

<b>Lat</b>	1339.1N	<b>Long</b>	08243.0W	<b>Prob</b>	
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<b>Lat</b>	1339.2N	<b>Long</b>	08245.1W	<b>Prob</b>	57
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Doppler B

<b>Lat</b>	1455.6N	<b>Long</b>	07714.8W	<b>Prob</b>	43
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Encoder

<b>Lat</b>	NIL	<b>Long</b>	NIL	<b>Prob</b>	
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**DOA**

<b>Lat</b>	NIL	<b>Long</b>	NIL	<b>Altitude</b>	
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OPERATIONAL INFORMATION

<b>Uncertainty Position</b>	NIL
<b>Data Source</b>	3664/FL2

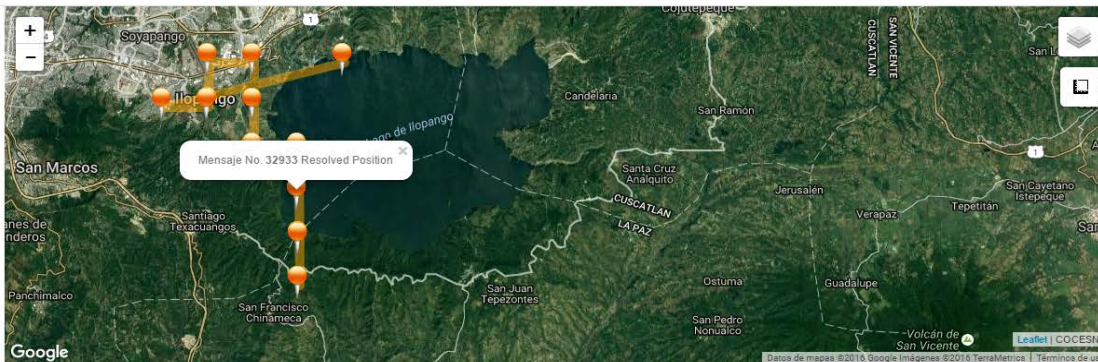
- AYAD06 150001
- DD MHTGYCYX
- 150001 KZDCZSZA
- 
- /34942 00000/3660/17 046 0001
- /185/CNAM
- /
- 1. DISTRESS COSPAS-SARSAT POSITION CONFLICT ALERT
- 2. MSG NO. 34942 USMCC REF 13314
- 3. DETECTED AT 14 FEB 17 2350 UTC BY SARSAT 10
- 4. DETECTION FREQUENCY 406.0279 MHZ
- 5. COUNTRY OF BEACON REGISTRATION 366/USA
- 6. USER CLASS - EPIRB SERIAL ID 31727
- 7. EMERGENCY CODE - NONE
- 8. POSITIONS
- CONFIRMED - 13 39.1N 082 43.0W
- DOPPLER A - 13 39.2N 082 45.1W PROB 57
- DOPPLER B - 14 55.6N 077 14.8W PROB 43
- DOA - NIL
- ENCODED - NIL
- 9. ENCODED POSITION PROVIDED BY: NIL
- 10. NEXT PASS / EXPECTED DATA TIMES
- CONFIRMED - MEOSAR DATA USUALLY SENT WITHIN 15 MINUTES
- DOPPLER A - NIL
- DOPPLER B - NIL
- DOA - NIL
- ENCODED - NIL
- 11. HEX ID ADC041EFBC0028D HOMING SIGNAL 121.5
- 12. ACTIVATION TYPE - AUTOMATIC OR MANUAL
- 13. BEACON NUMBER ON AIRCRAFT OR VESSEL NIL
- 14. OTHER ENCODER IDENTIFICATION

# Main Features

## Menu Principal

-  Dashboard
-  Mensajes SAR
-  Bitácora
-  Reportes ELT
-  Registro de Reportes
-  Contactos
-  ACK Enviados

Mensaje SAR :: 32899 Mensaje SAR



General [ACK/AFTN/Email](#) [Bitácora](#) [Países Asignados](#) [Entidades Asignadas](#) [Feedback to COSPAS-SARSAT](#)

### Message Ref

 No. 32899  
Ref. 75286

### Detected At

**Detected** 12 OCT 16  
**Hour** 02:17

### Satellite Info

### Asigne Países al mensaje:

**País** ▼  
EL SALVADOR

### Asigne Unidades al mensaje:

**Unidades Operativas** ▼ **Tipo**

### Mensajes Relacionados

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406.0370 Mhz

# Main Features

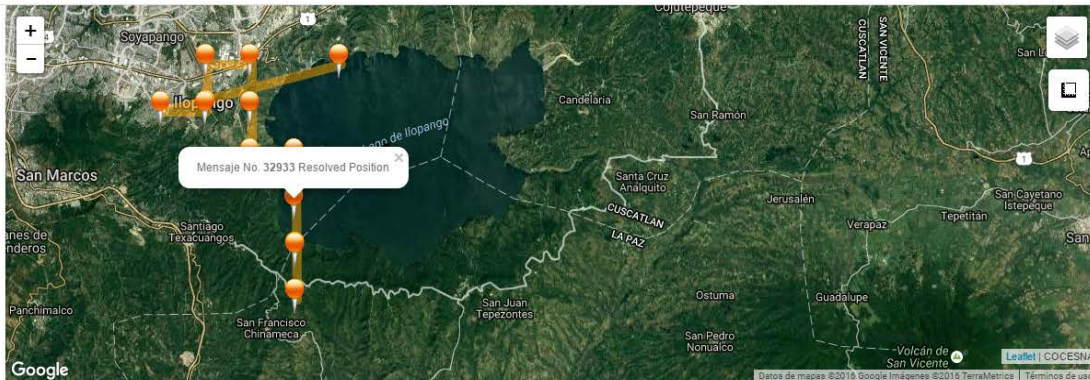
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-  Bitácora
-  Reportes ELT
-  Registro de Reportes
-  Contactos
-  ACK Enviados

Mensaje SAR ::

32899

Mensaje SAR



General ACK/AFTN/Email Bitácora Países Asignados Entidades Asignadas Feedback to COSPAS-SARSAT

Retransmisión de Mensaje

[Enviar ACK](#) [Re-Transmitir AFTN](#) [Enviar a Email](#)

Id	Usuario	Prioridad	Destinatarios	Contenido	Fecha/Hora Ingreso	Fecha/Hora Envío
17947	sartrackingsystem/local/jmendoza	SS	KZDCZSA	RESPONSE MESSAGE No.32899 Ref.75286 KZDCZSA TKS	10/11/2016 08:20:59 PM	10/11/2016 08:21:04 PM
17949	sartrackingsystem/local/randino	SS	KZDCZSA	RESPONSE MESSAGE No.32899 Ref.75286 KZDCZSA TKS	10/11/2016 09:14:06 PM	10/11/2016 09:14:10 PM
17952	sartrackingsystem/local/randino	SS	KZDCZSA	RESPONSE MESSAGE No.32899 Ref.75286 KZDCZSA TKS	10/11/2016 10:07:41 PM	10/11/2016 10:07:45 PM

# Main Advantages

Automatic transmission and coordination of alert messages / Safety

More effective coordination between RCC, RSCs and related entities.

Interface customised according to the needs of operational users

Follow up of RSC's and related entities' activities

New message alerts

Access to the application from anywhere and from any device thanks to Web technology.

# Super Important Advantage

ICAO recommends that data to facilitate location should be transmitted as soon as an emergency is detected on board, for commercial aeroplanes flying over oceanic or remote areas.

In this case, the SAR Tracking System is a programme that receives direct signals from COSPAS SARSAT satellite constellation, allowing the location of aircraft in the shortest time possible. This reduces rescue operation costs when an aircraft accident occurs, since the aircraft is located by means of point coordinates, facilitating location, coordination and rescue. This also increases the possibility of finding people alive, due to the short time used by the programme to re-transmit the messages to the different points of contact in any region of the world.

ICAO recommends that coordination should be done in the first 15 minutes for the SAR operation including operational or support units do not exceed 25 minutes, **with the eXpert -SAR -TRACKING SYSTEM can be achieved to make this coordination in less than 5 seconds** which it means that the time gained passes to the operating units which reduces the search time between 70 and 80%.



**THANKS!**

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Or [Karim.alvarez@cocesna.org](mailto:Karim.alvarez@cocesna.org)