

# Integration of Web Application for SAR activities

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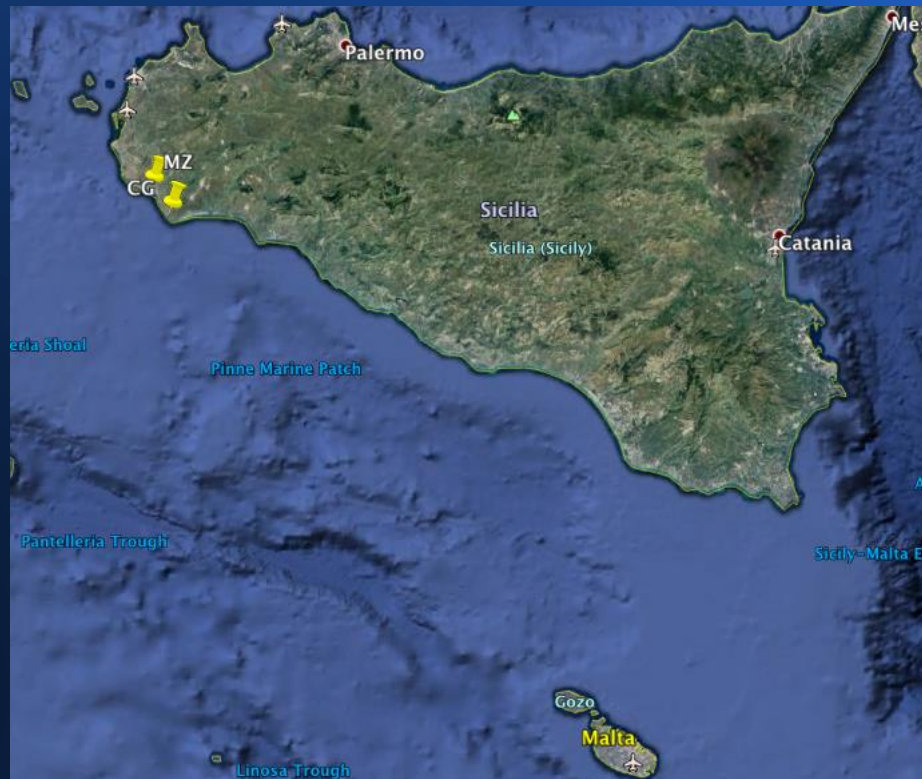


Our group of IAMC-CNR Institute has taken an active part in some projects in which, with the aid of the ICT technologies, we have been developed systems and services, aimed at technology transfer to fishing operators as well as at data collection, considering fishing vessels as vessels of opportunity (VOOs) in the marine environment and developing Search And Rescue application for the Italian Coast Guard.

# IAMC activity in the Calypso South project

- Weather stations installation

Mazara del Vallo harbour

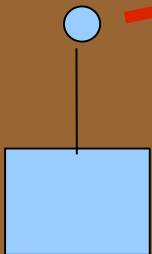
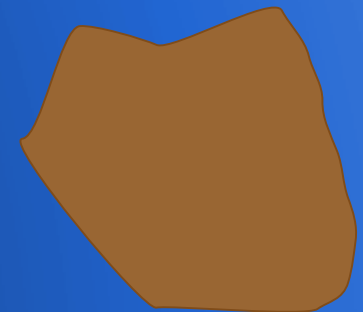


Capo Granitola harbour



# IAMC activity in the Calypso South project

- The S&R web application (SARWapp)



**Marine Intelligence – the value of data  
for sea-based applications**

*Malta - 18 April 2018*

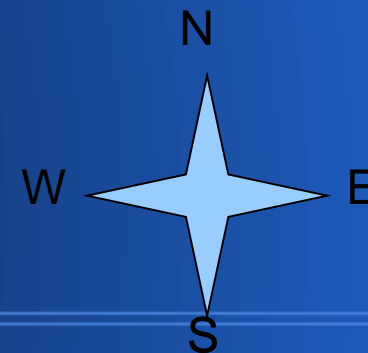
## Why SARWapp?

- The search & rescue at the sea are regulated by a series of procedures defined and approved worldwide by International Maritime Organization and International Civil Aviation Organization (IMO and ICAO) ;
- The singles States are encouraged to develop and improve their SAR service, to cooperate with the Neighboring states and to consider their SAR services as part of a global system.
- The definition of the responsibilities of the interventions and the modalities with which these interventions must be carried out are collected in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual adopted by the IMO Resolution A.894(21);
- The need for a tool able to help the search and rescue of possible shipwrecks or wrecks;
- The optimization of these tools by integration with data of the HF Radar network.

# Re-elaboration of the research area considering the emerged lands



LKP



The software application will allow us to obtain:

- The estimate of the possible displacements of the survivors and/or of the wreck on the basis of the knowledge of the environmental conditions (currents, wind)
- The estimate of the search area for survivors and/or the wreck, showing also its bathymetry;
- Estimation of the excellent research path based on the available resources

File Tool Help

Estimate Datum Search Action Plan Plot Area

1  
Data e ora ricezione emergenza: 25/06/2010 16:45 Fuso: Z  
Posizione RIP, I KP, DR  
φ: 36 35 00 N λ: 13 00 00 E

2  
Data e ora dell'ultima notizia: 25/06/2010 01:00 Fuso: Z  
Tipo di Datum: Single  
φ: 36 00 00 N λ: 13 00 00 E  
Tipo di accertamento della posizione: Celestial Fix

3  
Data e ora previsti per l'arrivo in zona (CSP, Commence Search Point, pto stimato)  
26/06/2010 08:30 Fuso: Z

4  
Oggetto ricercato: boats  
 LSA - PIW - Cadaveri  ALTRO (sconosciuto)  
Navi da pesca (1-6-20m): Trollers/Sampans/Longliners (+-50°)[0.25]  
Search object for merchant Vessels: Boat 24m (79 ft)

Tempo  
Tipo di ricerca: Diurna  
Orario crepuscolo civile in ore e decimi di ora  
Alba: ora locale 5.32 ora UTC 3.32 arco diurno: 15.72  
Tramonto: ora locale 21.04 ora UTC 19.04 arco notturno: 8.28  
Orario  
Orologio: 11/1/2010 - 20:49:37 Fuso: B  
da UTC a local: 2.00  Orario estivo  
Traletteria imbarcazione  
Rotta oggetto ricerca all'ultima fix: 0.00 °T  
Distanza dall'ultima fix: 35.00 NM



**B. Dati del vento al suolo**

wind valid period	from	to	Number of Hours (A)	Wind Direction (B) [°T]	Speed (C) [kts]
25/06/2010	16:45	21:00	4,25		175
25/06/2010	21:00	03:00	6		190
26/06/2010	03:00	08:30	5,5		210

Total Hours: 15,75

Average Surface Wind (ASW): 193,56 °T 31,31 kts

**C. Correnti Marine**

Tipo di TWC: Computed Total Water Current

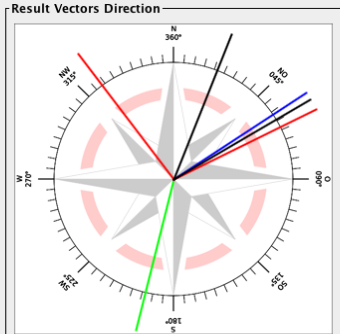
	direzione [°T]	intensità [kts]	Errore probabile [kts]
<input checked="" type="radio"/> Correnti osservate (es DMB):			0,2
<input type="radio"/> Valori ricavati dal sito IAMC-CNR Oristano:			0,2
Correnti di marea:			0,3
Correnti locali (pilot chart):	75	0,8	0,3
Wind Current (WC):	43,56	1,12	0,3
Altre correnti (OWC):			0,3

TWC Vector: 56,61 °T 1,85 Kts  
TWC Error: 0,42 Kts

	Direzione (left and right of d.w.) [°T]		Intensità (left and right of d.w.) [kts]	
Leeway:	323,56	63,56	1,25	1,25
Leeway Error:				0,25
Total Surface Drift:	21,54	59,41	2,18	3,10
Total Prob. Drift Velocity Error:				0,58

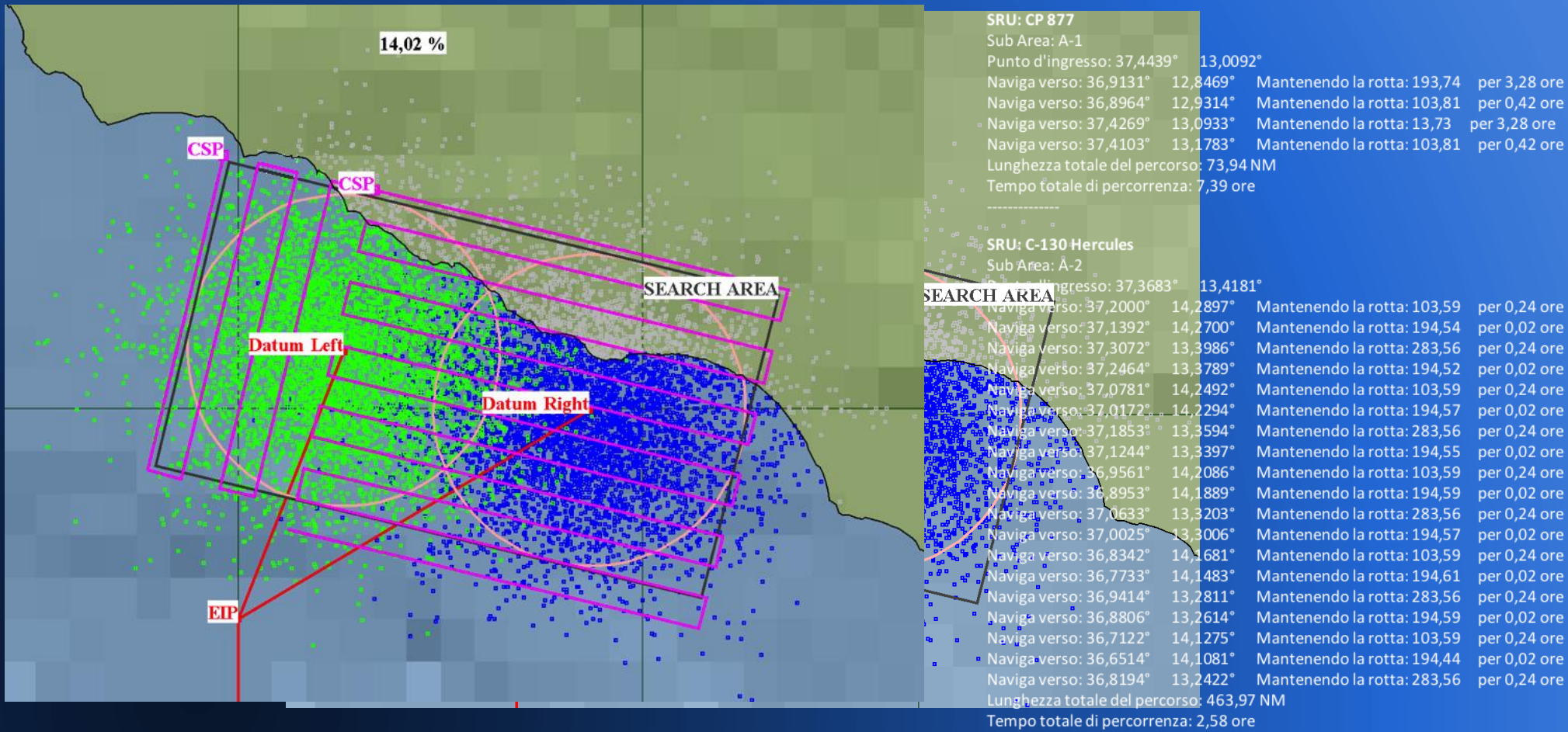
Estimate Datum

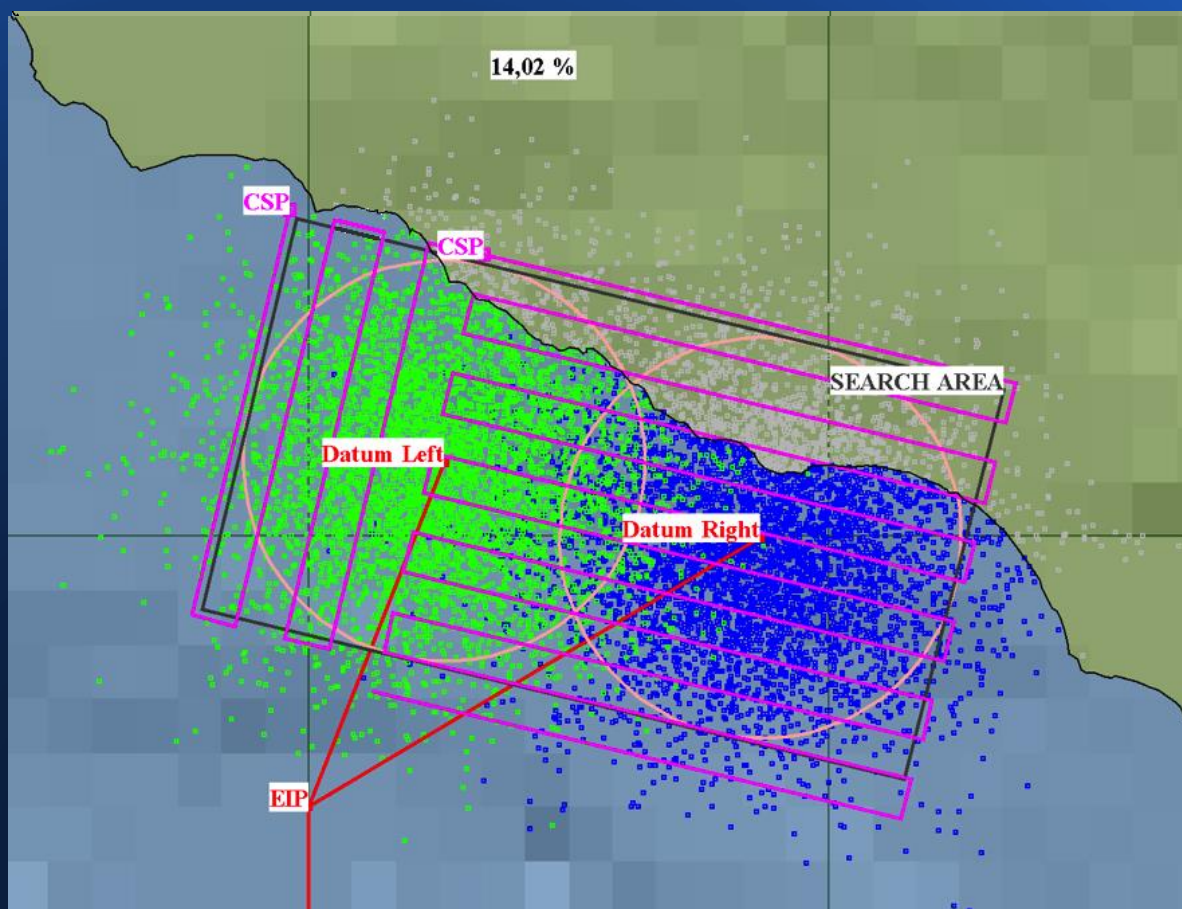
**Result Vectors Direction**



Average Surface Wind  
Total Water Current  
Leeway (left and right of d.w.)  
Total Surface Drift (left and right of d.w.)







**SRU: CP 877**

Sub Area: A-1

Punto d'ingresso: 37,4439° 13,0092°

Naviga verso: 36,9131° 12,8469° Mantenendo la rotta: 193,74 per 3,28 ore

Naviga verso: 36,8964° 12,9314° Mantenendo la rotta: 103,81 per 0,42 ore

Naviga verso: 37,4269° 13,0933° Mantenendo la rotta: 13,73 per 3,28 ore

Naviga verso: 37,4103° 13,1783° Mantenendo la rotta: 103,81 per 0,42 ore

Lunghezza totale del percorso: 73,94 NM

Tempo totale di percorrenza: 7,39 ore

**SRU: C-130 Hercules**

Sub Area: A-2

Punto d'ingresso: 37,3683° 13,4181°

Naviga verso: 37,2000° 14,2897° Mantenendo la rotta: 103,59 per 0,24 ore

Naviga verso: 37,1392° 14,2700° Mantenendo la rotta: 194,54 per 0,02 ore

Naviga verso: 37,3072° 13,3986° Mantenendo la rotta: 283,56 per 0,24 ore

Naviga verso: 37,2464° 13,3789° Mantenendo la rotta: 194,52 per 0,02 ore

Naviga verso: 37,0781° 14,2492° Mantenendo la rotta: 103,59 per 0,24 ore

Naviga verso: 37,0172° 14,2294° Mantenendo la rotta: 194,57 per 0,02 ore

Naviga verso: 37,1853° 13,3594° Mantenendo la rotta: 283,56 per 0,24 ore

Naviga verso: 37,1244° 13,3397° Mantenendo la rotta: 194,55 per 0,02 ore

Naviga verso: 36,9561° 14,2086° Mantenendo la rotta: 103,59 per 0,24 ore

Naviga verso: 36,8953° 14,1889° Mantenendo la rotta: 194,59 per 0,02 ore

Naviga verso: 37,0633° 13,3203° Mantenendo la rotta: 283,56 per 0,24 ore

Naviga verso: 37,0025° 13,3006° Mantenendo la rotta: 194,57 per 0,02 ore

Naviga verso: 36,8342° 14,1681° Mantenendo la rotta: 103,59 per 0,24 ore

Naviga verso: 36,7733° 14,1483° Mantenendo la rotta: 194,61 per 0,02 ore

Naviga verso: 36,9414° 13,2811° Mantenendo la rotta: 283,56 per 0,24 ore

Naviga verso: 36,8806° 13,2614° Mantenendo la rotta: 194,59 per 0,02 ore

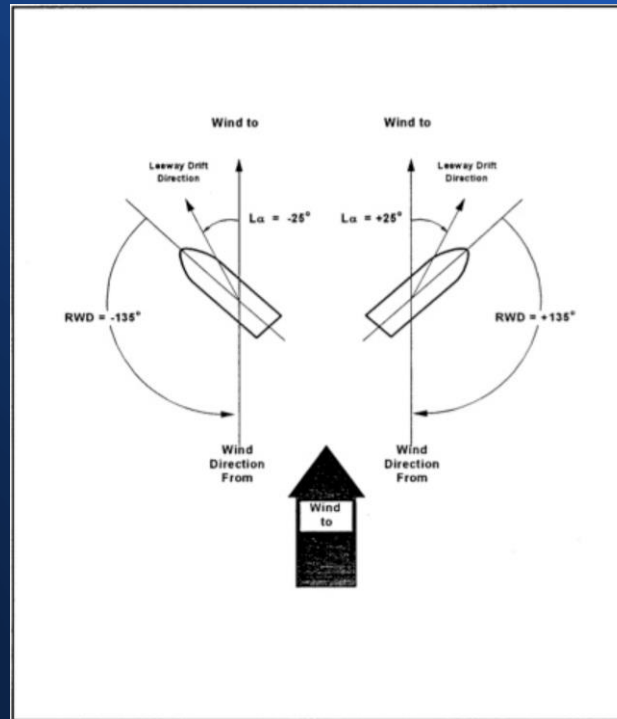
Naviga verso: 36,7122° 14,1275° Mantenendo la rotta: 103,59 per 0,24 ore

Naviga verso: 36,6514° 14,1081° Mantenendo la rotta: 194,44 per 0,02 ore

Naviga verso: 36,8194° 13,2422° Mantenendo la rotta: 283,56 per 0,24 ore

Lunghezza totale del percorso: 463,97 NM

Tempo totale di percorrenza: 2,58 ore



**THANK SO MUCH  
FOR YOUR ATTENTION!!**