The Rip Current Program of Real Federación Española de Salvamento y Socorrismo (RFESS)

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RFESS Expert Committee Member

World Conference on Drowning Prevention 2015
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Stong rip currents at Salinas beach, Castrillón, Asturias. SPAIN

Rip Currents in Spain

- Rip currents are a major hazard in the Spanish Atlantic and Mediterranean beaches.
- Additional risks:
  - Associated rip channels (trap for people that can not swim)
  - Rip currents inducing stress on patients with previous pathologies (heart attacks, fainting, etc)
  - Million of foreign tourists visiting Spanish beaches every summer
- Nevertheless, ***rip currents do not appear yet as drowning causes in the Spanish statistics***. Reason:
  - Lack of knowledge on rip currents by the general public and most lifeguards.
- Urgent needs:
  - Research, Education, Awareness and Outreach activities.

The Security Flag

- Awarded to municipalities when beaches show a high security standard.
- Careful inspection of facilities, security equipment and personnel according to RFESS guidelines.
- RFESS has adopted the ILSE program integrating it into the characteristics of the Spanish swimming environments.
- RFESS inspectors have been trained and beaches are revisited every year to check security standards.
- **Rip currents** are an important part of the program by promoting the education and experience of lifeguards and the general public on this important subject.

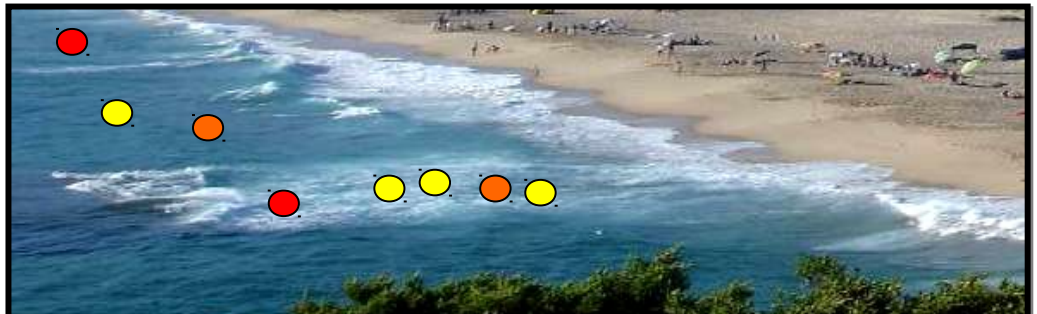
Rip Current Activities at RFESS (1 of 2)

Trough research, education, awareness and dissemination, the following main activities are undertaken:

- Geospatial correlation of drownings and rescues in RFESS databases with rip currents analysis from satellite images, photos, videos, etc. (Remote Sensing & GIS applications)
- Geospatial correlation of pathologies (heart attacks and other) with rip current analysis for possible relationship with induced stress.
- Proposal for new drowning and rescue reports to include rip currents details (GPS locations of rip currents & incidents).
- Rip current research in collaboration with Spanish universities.

GPS Locations

- **Drownings**
- **Rescues**
- **Heart attacks**



Rip Current Activities at RFESS (2 of 2)

- Development of face to face and online courses including beach visits and case studies from Spanish and South American beaches.
- Training lifeguards on rip current forecasting (wind speed and direction, beach orientation, wave characteristics, etc.).
- Liaison with weather agencies to provide rip current awareness and forecasting at national level.
- Knowledge transfer and outreach activities:
  - Permanent sign posting for information and warning on rip current in several languages
  - Rip current training and demonstrations at the beach
  - Designing specific brochures and leaflets
  - Dedicated website
  - Impact of dangerous waves
  - Dissemination articles to Spanish newspapers and TV stations.

RFESS Rip Current Courses

- Rip current identification in Spanish and South American beaches by observation of reliable indicators.
- Relevant examples and case studies in Spanish and South American beaches (including dangerous waves!)
- Face to face and online courses:
  - **http://cfc.ucjc.edu/curso-online-corrientes-de-resaca/**
- Multimedia support: photos, videos, webcams, satellite imagery, etc.
- Lifeguard advise and equipment for rip current detection
- Rip current forecasting at the beach (wind & wave parameters)
- New technologies for lifeguard support (drones and other)

Corriente de Resaca en Playa Cabo de la Plata, Tarifa. SPAIN

Spanish Rip Currents Models

Atlantic Ocean:

- NW and NE winds, beach orientation
- Sandbars attached to the beach cut by rip channels
- Well developed rip channels regularly spaced

Mediterranean Sea:

- Eastern winds (Levante); beach orientation
- Sand bars sub-parellel to the beach
- Sand bar erosion and rip channels

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RFESS National Drowning Report
(January - June 2015)

Results:

- Number of drownings: **75**
- Drowning at the beach: **64%**
- Drowning at beaches without lifeguards PLUS at beaches before & after lifeguard duty: **74.5%**
- Nationality of drowning victims:
  - **38.6%** (Foreign tourists. Most of them Europeans)
  - **57.4%** (Spanish nationality)
  - **04.0%** (Unknown)
- Most drownings occur in the most visited regions:
  - Canarias (29,3 %), Andalucía (14,7 %), Baleares (12 %), Cataluña (12 %)...

http://www.rfess.es/ultimas-noticias/420-informe-nacional-de-ahogamientos-producidos-en-el-primer-semestre-de-2015.html

The impact of rip currents on beach drowning is presently under investigation

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Urgent Prevention Issues

- Numerous drowning cases (mostly caused by rip currents) when lifeguards are not present:
  - Swimming before & after lifeguard duty
  - Beaches without lifeguards (limited municipality budgets!)
  - **Additional risks**:
    - Human chains (sometimes ending in tragedy)
    - Rescue attempts by persons without experience (many times ending in tragedy)

How to reduce these drownings effectively & economically?

Drowning at Garraf beach, Barcelona. 11/06/2015

October 14, 2015

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Quick-Thinking Strangers Form Human Chain, Save 3 Struggling Swimmers

The Huffington Post | By James Cave

Posted: 01/12/2015 10:02 am EST | Updated: 01/12/2015 10:59 am EST

How to reduce these drownings effectively & economically?:

The Permanent Rescue Post (PRP)



Best possible solution for beaches without lifeguards:

Strengths:

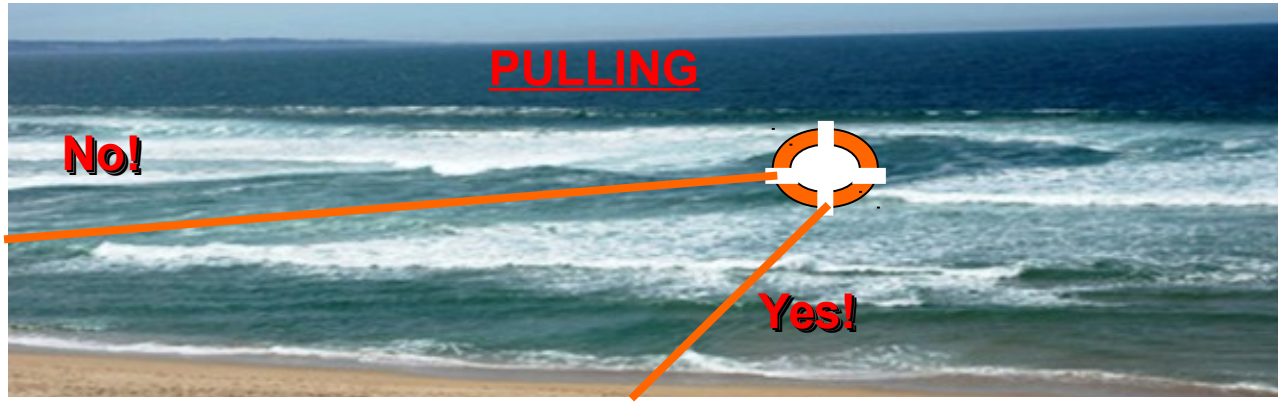
- Simple and Economical (approx. US $ 35 for both items)
- Effective (no need for human chains and/or inexperienced rescuers)

Weaknesses:

- Vandalism (stiff note announcing heavy penalties, gps device, etc.)
- Wear and Tear (protection case with easy opening)

Use of Life Rings in Rip Currents

Throwing the life ring in favor of rip currents



Pulling the life ring in favor of the translation waves

Photo: NOAA

The use of life rings should consider rip current dynamics for throwing & pulling

(The length of the rope should match the length of the largest rip current in the area)

Conclusions: Prevention Measures

- Monitoring cases indicate a high impact of rip currents in drowning and rescue cases at Spanish beaches:
  - Urgent needs of awareness, education and outreach activities
- Reports show a high number of serious incidents:
  - **Before & after lifeguard duty**
  - **Beaches without lifeguards**

  Prevention:
  - The "Permanent Rescue Post" (PRP) installed at all beaches (including those with lifeguards)
  - The PRP should be installed every 200 – 300 m of the beach
  - The PRP should be demonstrated periodically
  - Throwing and pulling the life ring should consider rip currents dynamics
  - The PRP could be a good alternative to prevent:
    - Risky human chains rescues
    - Rescues by inexperienced people

¡Muchas Gracias!

Questions?

Antonio de la Cruz, RFESS