



Commissioners of  
**IRISH LIGHTS**

Navigation  
and Maritime  
Services



**Irish Lights**  
**Strategy 2018–2023**  
Safe Seas –  
Connected Coasts



## Weather and Sailing 2018

### Data – The Next Aid to Navigation?

6<sup>th</sup> October 2018

# Statutory Functions



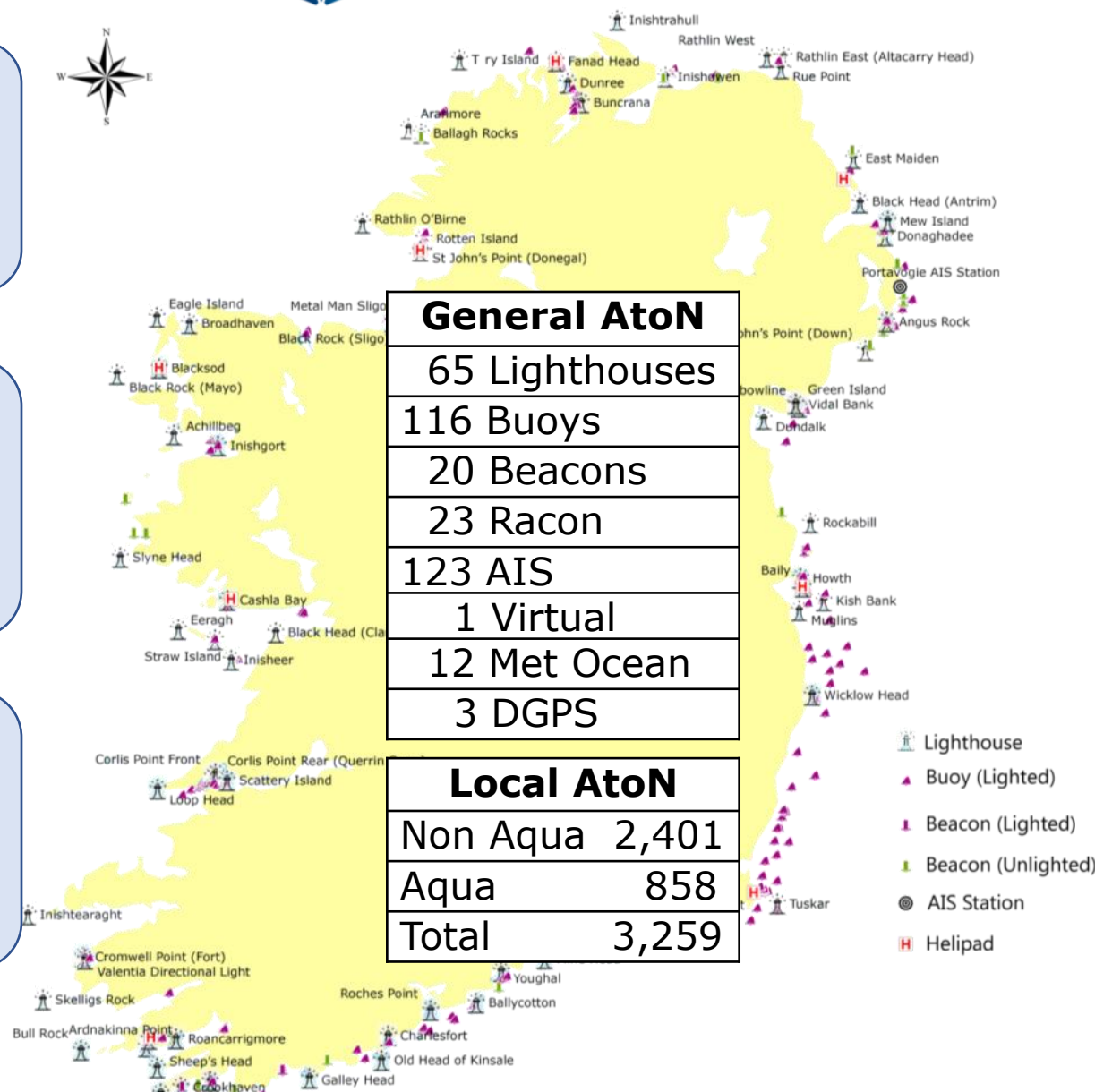
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**Provision & Maintenance of  
General Aids to Marine  
Navigation (AtoN)**

**Superintendence and  
Management of Local AtoN**

**Marking or Removal of  
Dangerous Wreck (outside of  
harbour areas)**

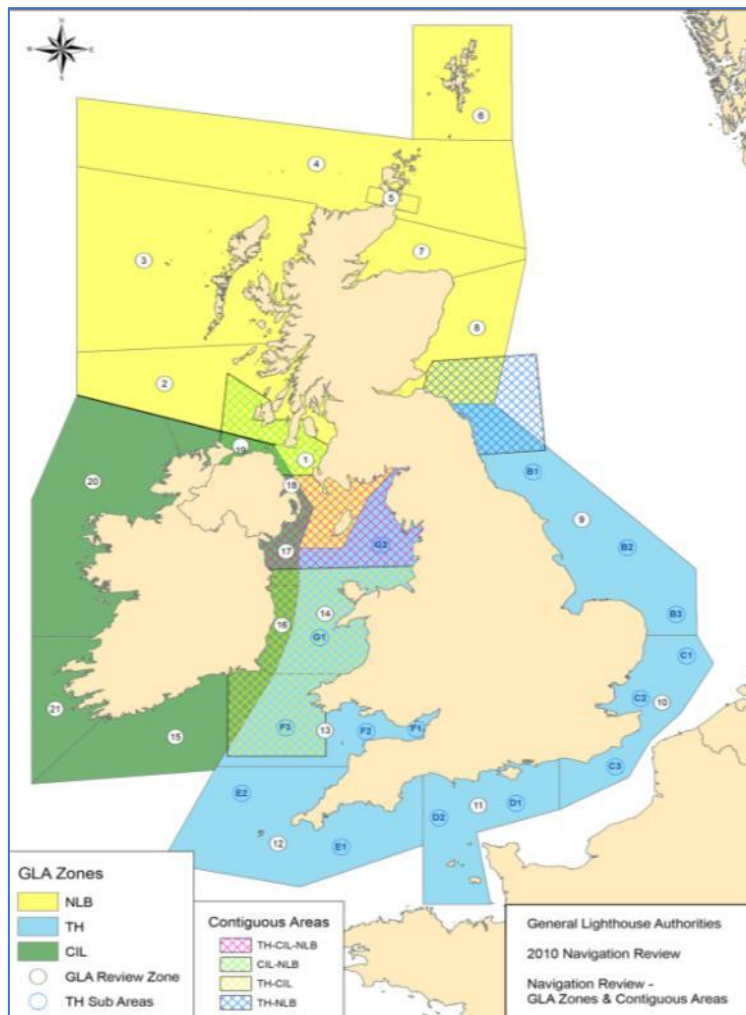


# International Standards



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Trinity House



# Mission



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## Safe Navigation at Sea

*To be a leading and innovative provider of reliable, efficient and cost effective navigation and maritime services for the safety of all*

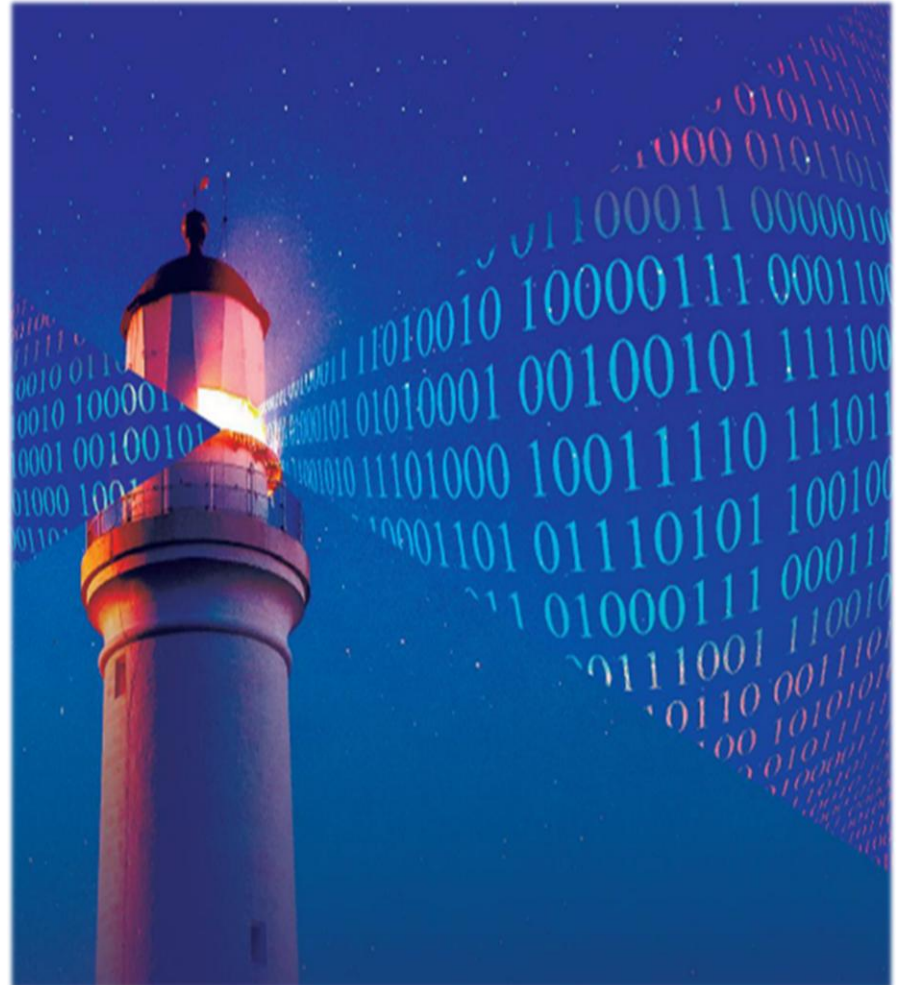






## Next Generation Maritime Services

Delivering Next  
Generation Maritime  
Services at the  
interface of navigation,  
technology,  
engineering and data  
management



# Strategy Consultation



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- International Aids to Navigation Providers
- Commercial SOLAS vessels
- Fishing and Aquaculture
- Leisure and recreation
- Local Authorities
- Government Agencies and Departments



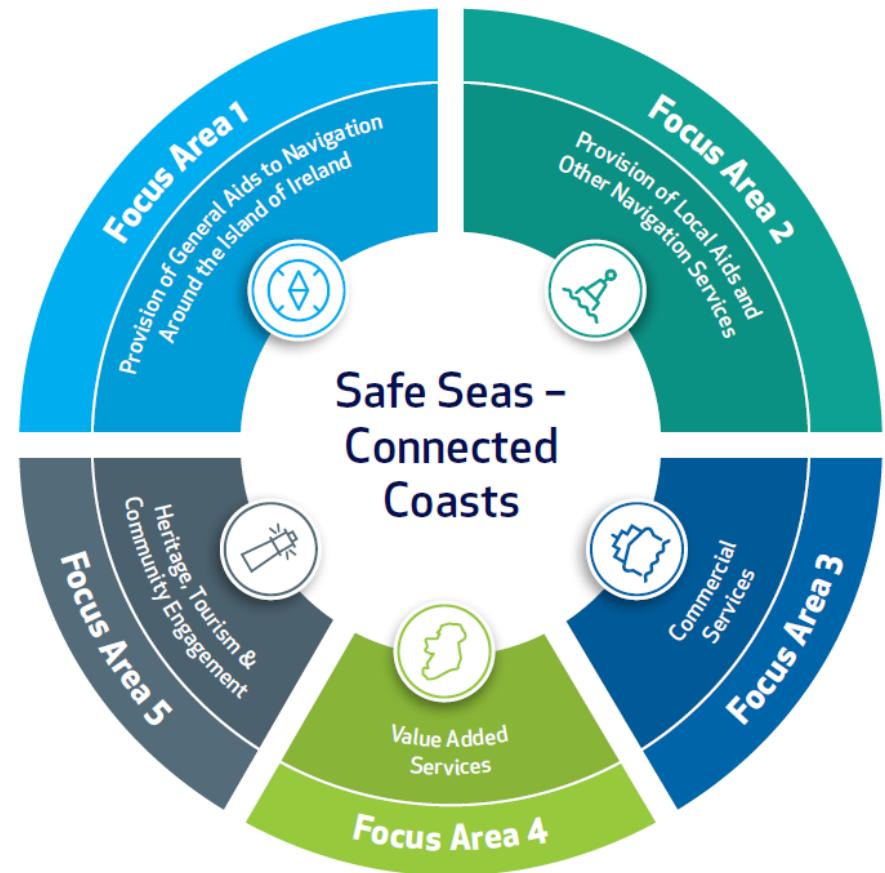
# Focus Areas



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- General Aids
- Local Aids & Navigation Services
- Commercial Services
- Value Added Services
- Heritage & Community



# Next Generation Services



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## A Digital Voice for the Sea





- 
- AIS
  - e-Navigation
  - Maritime Connectivity Platform
  - Maritime Services
  - VHF Data Exchange System
  - Battery and Renewable Energy Technology
  - Social Media
  - IOT
  - People
-

# Enablers in Action



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The Fastnet Project

Over 1,000 Watts to less than 30 Watts



# Buoys



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# New Buoys?



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# Data Stations & Sensors



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**10 Buoys**  
**2 Lighthouses**



## Sensor Data

- Average wind speed
- Average wind direction
- Wind gust speed
- Wind gust direction
- Wave height
- Wave period
- Sea water temperature
- Air temperature
- Relative humidity
- Air pressure

# Social Media



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**Ballybunion Buoy** @BallybunionBuoy · 6m

Avg Wind:5kts, Gust:12kts, Wave Height:2m, Wave Period:5s, Wind Dir:214 °(SW), Gust Dir:236 °(SW) at 26/09/2018 09:48:00



**Finnis Buoy** @FinnisBuoy · 6m

Water Temp:14.8 °C, Gust Dir:178 °(S), Wind Dir:224 °(SW), Wave Period:6s, Wave Height:3.7m, Gust:27kts at 26/09/2018 09:49:00



**Foyle Buoy** @foylebuoy · 6m

Water Temp:13.4 °C, Wave Height:0.7m, Wave Period:3s, Gust:27kts, Avg Wind:19kts, Wind Dir:237 °(SW) at 26/09/2018 09:50:00



**South Hunter Buoy** @southhunterbuoy · 6m

Water Temp:14 °C, Avg Wind:7kts, Gust:12kts, Wind Dir:180 °(S), Gust Dir:184 °(S) at 26/09/2018 09:48:00



**Dublin Bay Buoy** @DublinBayBuoy · 6m

Water Temp:13.7 °C, Wave Height:0.7m, Wind Dir:279 °(W), Gust Dir:294 °(NW), Avg Wind:14kts, Gust:20kts at 26/09/2018 09:50:00



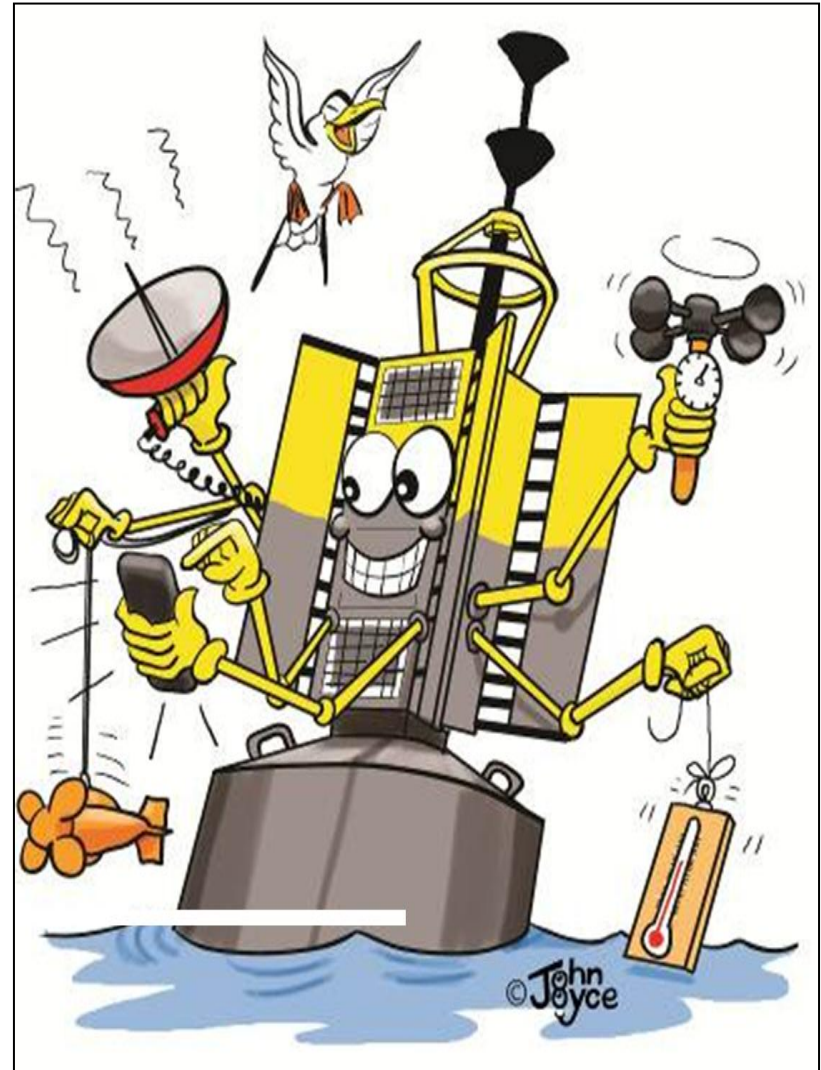
**South Rock Buoy** @southrockbuoy · 25m

Air Press:1027hPa, Avg Wind:26kts, Wind Dir:226 °(SW), Gust Dir:232 °(SW), Gust:37kts, Humidity:88% at 26/09/2018 09:26:00



**Ballybunion Buoy** @BallybunionBuoy · 25m

Avg Wind:9kts, Gust:17kts, Wave Height:2.2m, Wave Period:5s, Wind Dir:243 °(SW), Gust Dir:263 °(W) at 26/09/2018 09:30:00



# Web Data



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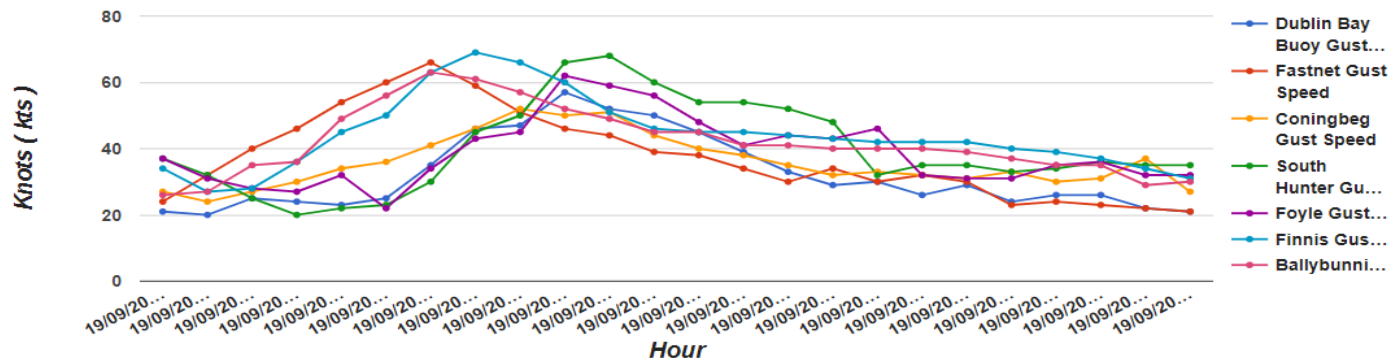
Data  
**MET**Ocean Charts



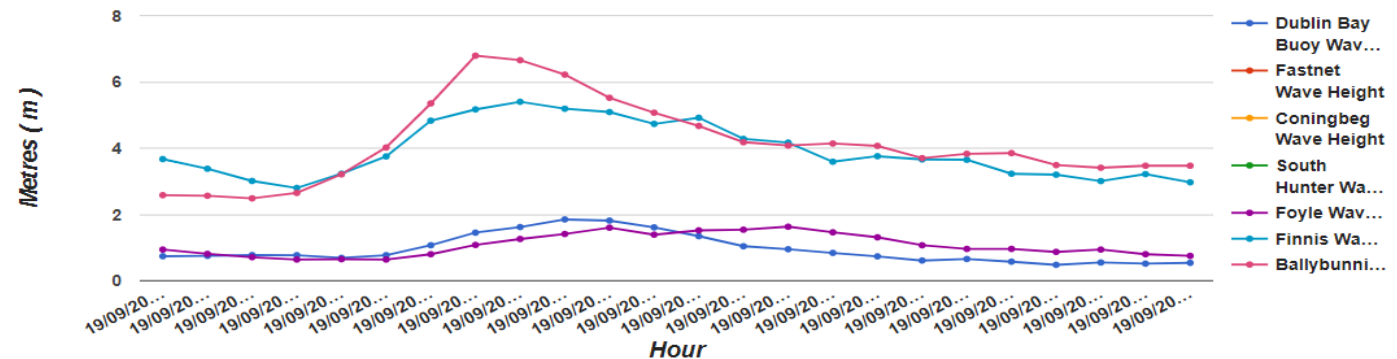
[Home](#) [Feedback](#)

Comparisons

## Gust Speed



## Wave Height



# Challenges



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- 
- Deployed on existing AtoN network
  - Validation and Correlation
  - Payload and power considerations
  - Platform design
  - Data quality and application
  - Data presentation to user
  - Data provisioning to other sources
-



# Next steps



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- 
- Data quality requirements
  - Operational network upgrades
  - Site assessments
  - Consumer services and engagement
  - Mobile application development
  - Collaboration partners
-

# Is Data An AtoN?



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## IALA Definition

*A device, system or service, external to vessels, designed and operated to enhance safe and efficient navigation of individual vessels and/or vessel traffic.*

# Please Don't



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# Buoys Are Not Playthings!



- 
- DGPS Survey
  - 2020 AtoN Review
  - GNSS Vulnerability
  - Apps
  - User Feedback
  - Great Lighthouses – TV Series
-

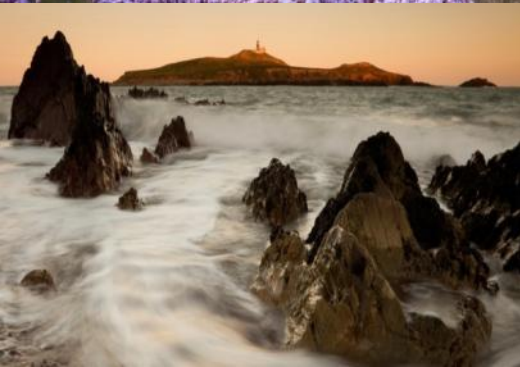


# Great Lighthouses



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