



# WEDDELL SEA EXPEDITION 2019

**Royal Geographical Society**  
with IBG

Advancing geography and geographical learning

## Aims of the expedition

**Follow** a ground-breaking 45-day expedition to the Weddell Sea, Antarctica with your class from January 2019 to see what discoveries the expedition researchers make

- **Discover** more about the Weddell Sea and the expedition's work through videos from its members, online animations and classroom resources
- **To follow the expedition**, visit [www.weddellseaexpedition.org/](http://www.weddellseaexpedition.org/) and for educational resources visit [www.rgs.org/wse](http://www.rgs.org/wse)

## Weddell Sea Facts

Named after a Scottish sailor, James Weddell

It is 2.8 million km<sup>2</sup> in size

The Adélie penguin is the most numerous species of penguin

The Weddell Sea is one of the hardest places in the world to get to because it is covered in sea ice

Weddell seals are impressive divers, they can reach 600m depth and spend as long as 82 minutes underwater



Weddell seals live farther south than any other mammal  
© Pete Bucktrout, British Antarctic Survey

- Undertake a major scientific research programme to study the Larsen C Ice Shelf
- Survey the rich marine life of the western Weddell Sea ecosystem
- Attempt to locate and survey the historic wreck of Sir Ernest Shackleton's ship *Endurance*

**Discover** why the Weddell Sea is such an extreme environment



## Search for Sir Ernest Shackleton's *Endurance* wreck

- Search for Sir Ernest Shackleton's expedition ship *Endurance* which was crushed by ice and lost in 3,000m deep water a century ago



'Frank Wild looks on at the wreck of the *Endurance*'  
Photograph by Frank Hurley  
© Royal Geographical Society (with IBG)

**Discover** how state of the art technology can access newly exposed water filled cavities beneath the Larsen C ice shelf

- Measure the **baseline temperature, salinity and chemistry** conditions in the Weddell Sea
- Map **seafloor morphology** (GIS) and determine the **shallow stratigraphy** beneath floating ice shelves
- Learn more about **global ocean circulation**

### Aerial Drone



Ice sheet

Sea level

Ice shelf

Icebergs

Ice flow

**AUVs**  
Autonomous Underwater Vehicle

**ROVs**  
Remotely Operated Vehicle

Ocean water

Sea bed

**Sediment Corer**