

1

00:00:00,000 --> 00:00:05,640

Tonight on History's Greatest Mysteries.

2

00:00:10,640 --> 00:00:14,840

It is, perhaps, one of the most famous expeditions

3

00:00:14,940 --> 00:00:20,520

of the 20th century, Ernest Shackleton's disastrous mission

4

00:00:20,620 --> 00:00:22,720

to cross Antarctica.

5

00:00:22,820 --> 00:00:24,520

When Shackleton shipped the endurance

6

00:00:24,620 --> 00:00:27,020

got snared in polar ice, the mission

7

00:00:27,080 --> 00:00:29,980

became an all-out fight for survival.

8

00:00:30,080 --> 00:00:33,480

The ship disappeared beneath the ice.

9

00:00:33,580 --> 00:00:35,160

I'm Lawrence Fishburne.

10

00:00:35,260 --> 00:00:39,300

And tonight's mystery, what happened to Shackleton's lost

11

00:00:39,400 --> 00:00:40,800

ship?

12

00:00:40,900 --> 00:00:42,100

Can we find it?

13

00:00:42,200 --> 00:00:43,700

What secrets might it hold?

14

00:00:46,200 --> 00:00:48,440

Now, for the first time, an expedition

15

00:00:48,540 --> 00:00:50,600

is heading into the frozen waters of the Antarctic.

16

00:00:50,700 --> 00:00:52,380

Put it in the water!

17

00:00:52,480 --> 00:00:54,640

This is pretty much the Holy Grail,

18

00:00:54,740 --> 00:00:56,140

because it's so inaccessible.

19

00:00:56,900 --> 00:00:58,800

Armed with the latest technology,

20

00:00:58,900 --> 00:01:05,840

we're ready for arm state, and a century-old logbook.

21

00:01:08,420 --> 00:01:10,520

They'll use sonar and drone submarines

22

00:01:10,620 --> 00:01:13,220

to track down Shackleton's famous ship.

23

00:01:13,320 --> 00:01:18,560

But with winter approaching, there is no margin for error.

24

00:01:18,660 --> 00:01:20,960

Oh, well, what the hell is going on?

25

00:01:21,060 --> 00:01:22,860

This is the start of it here.

26

00:01:22,880 --> 00:01:25,520

The hunt for the endurance, tonight,

27

00:01:25,620 --> 00:01:28,160

on history's greatest mysteries.

28

00:01:28,260 --> 00:01:31,100

[? music playing ?]

29

00:01:46,180 --> 00:01:52,580

Antarctica, the most extreme place on Earth,

30

00:01:52,640 --> 00:01:54,680

temperatures reach 100 below.

31

00:01:57,680 --> 00:02:01,280

Wind whips across it at 200 miles per hour.

32

00:02:05,120 --> 00:02:10,020

This frozen continent surrounds the South Pole.

33

00:02:10,120 --> 00:02:13,960

It's a vast land, entirely covered in ice.

34

00:02:16,960 --> 00:02:20,540

Somewhere in these frozen seas lies the Holy Grail.

35

00:02:20,600 --> 00:02:24,560

The endurance, the ship that carried legendary explorer,

36

00:02:24,660 --> 00:02:29,640

Sir Ernest Shackleton, South, in 1914.

37

00:02:32,740 --> 00:02:36,140

Down here, the water is so cold, the wooden ship

38

00:02:36,240 --> 00:02:37,980

is likely perfectly preserved.

39

00:02:41,680 --> 00:02:44,680

But it's so hard to get to that no one's ever

40

00:02:44,780 --> 00:02:47,620

been able to get to the bottom of the ocean.

41

00:02:47,680 --> 00:02:49,840

It's so hard to get to that no one's ever been

42

00:02:49,940 --> 00:02:52,380

able to hunt for the wreck, until now.

43

00:02:57,280 --> 00:03:00,620

Flying in from across the globe is an international team

44

00:03:00,720 --> 00:03:03,660

of ship hunters, explorers, and scientists.

45

00:03:06,960 --> 00:03:12,000

Two years in the planning and over \$250 million

46

00:03:12,100 --> 00:03:16,900

of cutting-edge technology make them think they can pull off

47

00:03:16,920 --> 00:03:18,520

a world first.

48

00:03:18,620 --> 00:03:22,300

If the data that we have for the wreck site is correct,

49

00:03:22,400 --> 00:03:23,600

then we'll find it.

50

00:03:27,500 --> 00:03:29,600

Maritime archaeologist Mensen Bound

51

00:03:29,700 --> 00:03:32,500

is heading up the search.

52

00:03:32,600 --> 00:03:37,340

He's got 40 years' experience excavating shipwrecks.

53

00:03:37,440 --> 00:03:41,480

But finding the endurance is the ultimate challenge.

54

00:03:41,580 --> 00:03:45,980

The endurance is, to my mind, the most famous wreck of all time.

55

00:03:46,040 --> 00:03:49,200

She's up there with the Titanic.

56

00:03:49,300 --> 00:03:51,280

If anybody can find the endurance,

57

00:03:51,380 --> 00:03:53,480

it's going to be this expedition.

58

00:03:56,780 --> 00:04:00,680

This is the greatest wreck hunt that there's ever been.

59

00:04:04,020 --> 00:04:09,020

The first mission for the team members not arriving by chopper

60

00:04:09,120 --> 00:04:11,860

is just getting onto the ship with their gear.

61

00:04:12,860 --> 00:04:18,780

Access from a 100-foot ice cliff is not for the faint of heart.

62

00:04:21,880 --> 00:04:22,980

OK, everyone happy?

63

00:04:23,080 --> 00:04:23,980

Yep.

64

00:04:24,080 --> 00:04:25,180

Good to go.

65

00:04:25,280 --> 00:04:28,780

We'll be in the center like this, holding here, basically.

66

00:04:28,880 --> 00:04:29,780

OK.

67

00:04:29,880 --> 00:04:31,780

And then the other guys will surround you.

68

00:04:31,880 --> 00:04:32,780

It's quite interesting.

69

00:04:35,880 --> 00:04:36,880

Oh, OK.

70

00:04:37,880 --> 00:04:38,780

Oh, OK.

71

00:04:41,780 --> 00:04:44,680

This expedition will face the same risks and dangers

72

00:04:44,780 --> 00:04:48,880

that Shackleton did a century ago.

73

00:04:48,980 --> 00:04:52,880

But today's team has come prepared.

74

00:04:52,980 --> 00:04:54,580

The RV has the tension.

75

00:04:54,680 --> 00:04:55,880

You can release it.

76

00:04:55,980 --> 00:04:56,780

OK.

77

00:04:56,880 --> 00:04:58,620

It's just going to go under.

78

00:04:58,720 --> 00:05:04,100

Steve Santamore leads one of the elite teams of Subsea Explorers.

79

00:05:04,200 --> 00:05:06,160

So our job will be to document the condition

80

00:05:06,180 --> 00:05:08,660

of the wreck of the sea floor.

81

00:05:08,760 --> 00:05:12,220

Based in Maryland, his team has found missing plane wrecks

82

00:05:12,320 --> 00:05:15,220

and, most famously, surveyed the Titanic.

83

00:05:20,060 --> 00:05:23,760

But hunting Shackleton's wreck is their most challenging mission

84

00:05:23,860 --> 00:05:24,260

yet.

85

00:05:29,500 --> 00:05:31,960

The ship has not been to the Shackleton location

86

00:05:32,000 --> 00:05:38,100

primarily due to the ice pack and how difficult it is to get here.

87

00:05:38,200 --> 00:05:40,360

This is the equivalent of going to Mars

88

00:05:40,460 --> 00:05:44,800

and looking for the wreckage of spacecraft.

89

00:05:44,900 --> 00:05:46,180

It's just that remote.

90

00:05:48,980 --> 00:05:54,140

To help him search, Steve's got a secret weapon,

91

00:05:54,240 --> 00:05:58,920

a purpose-built, remotely operated vehicle, or ROV.

92

00:06:02,960 --> 00:06:08,620

This \$2 million bottom weighs in at over 6,000 pounds.

93

00:06:08,720 --> 00:06:11,120

It's equipped with deep sea cameras

94

00:06:11,220 --> 00:06:13,500

and two articulated titanium arms.

95

00:06:17,900 --> 00:06:23,240

Its mission, to dive to the seabed and explore the wreck,

96

00:06:23,340 --> 00:06:26,540

it can descend to nearly four miles under the water

97

00:06:26,640 --> 00:06:30,580

and withstand pressure that would crush a human in an instant.

98

00:06:32,720 --> 00:06:35,920

And before the ship sets off, Steve's team

99

00:06:36,020 --> 00:06:40,120

needs to give their robot a health check.

100

00:06:40,220 --> 00:06:43,460

And so one of the things that we do to prepare for the mission

101

00:06:43,560 --> 00:06:45,540

is go through, double check all the connections,

102

00:06:45,640 --> 00:06:48,240

and tighten up hardware.

103

00:06:48,340 --> 00:06:52,340

Dave O'Hara from Northern Ireland is Steve's pilot.

104

00:06:52,440 --> 00:06:54,140

He's right there.

105

00:06:54,240 --> 00:06:56,580

We're in there.

106

00:06:56,680 --> 00:06:59,180

An ex-British Navy engineer, he's

107

00:06:59,240 --> 00:07:03,040

been working on robot subs for 12 years.

108

00:07:03,140 --> 00:07:06,040

You've had the brains of the system out, put it back in,

109

00:07:06,140 --> 00:07:08,180

and both hook her back up and give it a test again

110

00:07:08,280 --> 00:07:09,120

in a few minutes.

111

00:07:11,980 --> 00:07:14,960

For me personally, it's a bucket list job.

112

00:07:15,060 --> 00:07:18,260

The shipwreck side of things, it got me inspired to come and do

113

00:07:18,360 --> 00:07:22,960

this for a living, watching guys find Titanic.

114

00:07:23,060 --> 00:07:24,760

Just for the history behind it, the story,

115

00:07:24,860 --> 00:07:27,100

the human aspect of it.

116

00:07:27,600 --> 00:07:29,520

And I think that's the same with endurance.

117

00:07:29,620 --> 00:07:30,720

OK, guys, just let her be.

118

00:07:30,820 --> 00:07:33,660

I'm going to start the hydraulics.

119

00:07:33,760 --> 00:07:37,100

Dave's confident that he can get the sub 10,000 feet down

120

00:07:37,200 --> 00:07:39,200

to the wreck.

121

00:07:39,300 --> 00:07:40,400

But first they've got to find it.

122

00:07:43,900 --> 00:07:47,040

Fortunately, the team has a big clue to where it could be.

123

00:07:50,440 --> 00:07:53,620

To find the exact spot to search, wreck archaeologist

124

00:07:53,680 --> 00:07:56,620

Menson Bound is investigating nautical charts

125

00:07:56,720 --> 00:07:59,920

and the ship's original log, kept meticulously

126

00:08:00,020 --> 00:08:05,020

by Shackleton's captain, Frank Worsley.

127

00:08:05,120 --> 00:08:10,320

These record endurance's position on the day she sank.

128

00:08:10,420 --> 00:08:14,400

It gives us a coordinates, latitude, and a longitude.

129

00:08:14,500 --> 00:08:20,640

If we look at the chart, here we have it right here.

130

00:08:20,740 --> 00:08:22,500

This is where she sank.

131

00:08:22,560 --> 00:08:26,460

This is X-Mark's spot.

132

00:08:26,560 --> 00:08:31,700

Using the data, Menson calculates a target 1,200 miles away

133

00:08:31,800 --> 00:08:34,740

across the treacherous Weddell Sea.

134

00:08:34,840 --> 00:08:39,880

It's a minefield of giant waves and jagged ice.

135

00:08:43,920 --> 00:08:47,860

The Weddell Sea is a churning bed of sea ice.

136

00:08:47,960 --> 00:08:50,520

This sea ice breaks into pieces, and it

137

00:08:50,580 --> 00:08:53,980

floats around, and it keeps running into each other,

138

00:08:54,080 --> 00:08:55,920

throwing up pressure ridges.

139

00:08:56,020 --> 00:08:59,020

And you never know when it's going to turn totally solid

140

00:08:59,120 --> 00:08:59,520

again.

141

00:09:02,320 --> 00:09:07,160

The expedition is also an erase against time.

142

00:09:07,260 --> 00:09:10,660

The Weddell Sea is full of ice year round.

143

00:09:10,760 --> 00:09:13,900

But as winter approaches, the ocean around the continent

144

00:09:14,000 --> 00:09:17,000

freezes over.

145

00:09:17,060 --> 00:09:21,260

Impassable sea ice, covering an area one and a half times

146

00:09:21,360 --> 00:09:23,060

the size of the United States.

147

00:09:30,600 --> 00:09:34,140

The team has a short window to get in and back out,

148

00:09:34,240 --> 00:09:36,880

or they'll get stuck in the ice.

149

00:09:36,980 --> 00:09:40,080

Anyone going into that area with a ship

150

00:09:40,180 --> 00:09:43,280

is putting their ship and their crew in jeopardy.

151

00:09:48,000 --> 00:09:52,500

In 1914, two years after the sinking of the Titanic,

152

00:09:52,600 --> 00:09:55,700

British explorers are earnest Shackleton heads south.

153

00:09:58,900 --> 00:10:01,780

I believe it is in our nature to explore,

154

00:10:01,880 --> 00:10:04,440

to reach out into the unknown.

155

00:10:04,540 --> 00:10:07,920

The only true failure would be not to explore at all.

156

00:10:10,960 --> 00:10:13,460

It's the golden age of the world.

157

00:10:14,460 --> 00:10:17,920

It's the golden age of polar exploration.

158

00:10:18,020 --> 00:10:22,420

Shackleton is full of ambition, seeking glory for himself

159

00:10:22,520 --> 00:10:25,360

and his country.

160

00:10:25,460 --> 00:10:28,560

He was really driven by the fact that it

161

00:10:28,660 --> 00:10:30,660

was one of the last few places on Earth

162

00:10:30,760 --> 00:10:32,100

that hadn't been touched by man.

163

00:10:32,200 --> 00:10:35,040

And he wanted to be one of the first persons there.

164

00:10:38,700 --> 00:10:43,140

Antarctica was the last place to show this sense of the word

165

00:10:43,920 --> 00:10:45,320

and this sense of adventure.

166

00:10:45,420 --> 00:10:46,920

It was the last challenge left.

167

00:10:52,720 --> 00:10:55,020

Shackleton's aim, to make history

168

00:10:55,120 --> 00:10:58,200

by crossing the entire Antarctic continent,

169

00:10:58,300 --> 00:11:02,200

from coast to coast for the first time.

170

00:11:02,300 --> 00:11:03,940

100 years ago crossing Antarctica

171

00:11:04,040 --> 00:11:06,800

would be more difficult than us going to the moon today.

172

00:11:07,300 --> 00:11:11,000

I think it's the nature of man to always see something

173

00:11:11,100 --> 00:11:15,380

we haven't seen before, whether it's the moon or the South Pole.

174

00:11:19,180 --> 00:11:23,680

Shackleton and his 27 men, they sailed off

175

00:11:23,780 --> 00:11:25,820

what we knew of the world.

176

00:11:29,020 --> 00:11:32,820

But Shackleton will never even make landfall.

177

00:11:32,920 --> 00:11:35,060

Here, at the end of the Earth,

178

00:11:35,320 --> 00:11:41,100

Shackleton's ship, the endurance, will sink

179

00:11:41,200 --> 00:11:43,900

in a disaster that will capture the world's attention.

180

00:11:49,440 --> 00:11:53,740

Fully loaded, the Agullus II finally sets off,

181

00:11:53,840 --> 00:11:55,280

ready to take on the weddle sea.

182

00:11:58,420 --> 00:12:01,520

So much has gone into this project so many years of work,

183

00:12:01,620 --> 00:12:03,020

so many dreams, so many dreams.

184

00:12:03,080 --> 00:12:06,280

It feels really like my whole life has just come down

185

00:12:06,380 --> 00:12:07,880

to this moment.

186

00:12:10,420 --> 00:12:13,120

Now it's time to put everything to the test.

187

00:12:19,500 --> 00:12:22,960

After five days at sea, the expedition

188

00:12:23,060 --> 00:12:25,300

to find the ship of legendary explorer

189

00:12:25,400 --> 00:12:29,300

Sir Ernest Shackleton is making good progress.

190

00:12:29,920 --> 00:12:35,160

Now 1,500 miles from her starting point at Penguin Booktah,

191

00:12:35,260 --> 00:12:38,140

the crew is zeroing in on the wreck site.

192

00:12:42,800 --> 00:12:45,740

On deck, Louisiana native and former Air Force

193

00:12:45,840 --> 00:12:49,940

engineer Devin James is part of a second elite team

194

00:12:50,040 --> 00:12:52,080

hunting the 100-year-old wreck.

195

00:12:53,080 --> 00:12:56,840

It's his job to look after another critical set of equipment,

196

00:12:56,940 --> 00:13:02,440

two autonomous underwater vehicles, or AUVs.

197

00:13:02,540 --> 00:13:04,880

It's basically a drone just like an aerial drone,

198

00:13:04,980 --> 00:13:06,780

but we use it in the ocean.

199

00:13:06,880 --> 00:13:10,720

So this is used all over the world to survey the sea floor

200

00:13:10,820 --> 00:13:14,120

without a operator going below the surface.

201

00:13:14,220 --> 00:13:16,620

So it's a very important thing to do.

202

00:13:16,720 --> 00:13:18,660

It's a very important thing to do.

203

00:13:19,340 --> 00:13:21,900

Also working on the subs is Chad Bonnet,

204

00:13:22,000 --> 00:13:24,300

like Devin, he's ex-military.

205

00:13:24,400 --> 00:13:25,900

Forward, project.

206

00:13:26,000 --> 00:13:29,740

We haven't dealt with ice conditions like this before.

207

00:13:29,840 --> 00:13:32,940

We were handpicked to come onto this job,

208

00:13:33,040 --> 00:13:36,940

so there's a lot of pressure to complete the task.

209

00:13:37,040 --> 00:13:39,540

Despite the challenges of sending their AUV subs

210

00:13:39,640 --> 00:13:43,120

under the ice, Chad's got a good attitude.

211

00:13:43,220 --> 00:13:46,620

As long as we're late, we're going to be on the right track.

212

00:13:46,680 --> 00:13:48,180

We're going to be on the right track,

213

00:13:48,280 --> 00:13:49,680

with a good attitude.

214

00:13:49,780 --> 00:13:51,080

As long as we're layered up, we're OK,

215

00:13:51,180 --> 00:13:52,680

because we're from South Louisiana.

216

00:13:52,780 --> 00:13:53,520

It's usually hot weather, you know.

217

00:14:01,920 --> 00:14:05,700

The team knows where to head, but getting there is tough.

218

00:14:09,200 --> 00:14:12,240

The expedition's hopes rest on the Agullus Tube,

219

00:14:13,240 --> 00:14:18,240

weighing in at 14,000 tons and costing \$170 million.

220

00:14:20,940 --> 00:14:24,780

This ship is designed to smash through ice up to 3 feet thick.

221

00:14:33,960 --> 00:14:37,760

A double hull of extra thick steel protects the Agullus Tube.

222

00:14:37,780 --> 00:14:41,620

And in the engine room, second engineer Mark O'Reilly

223

00:14:41,720 --> 00:14:45,160

is pushing her four engines to the limit.

224

00:14:45,260 --> 00:14:49,100

These deliver 12,000 horsepower.

225

00:14:49,200 --> 00:14:51,160

This is one of two prop shops.

226

00:14:51,260 --> 00:14:53,700

6,000 horsepower available on each.

227

00:14:53,800 --> 00:14:55,800

And that will give us enough power

228

00:14:55,900 --> 00:14:59,680

to break through one meter of ice at seven miles per hour.

229

00:15:07,760 --> 00:15:12,760

The Agullus Tube is built for the worst conditions on the planet.

230

00:15:12,860 --> 00:15:18,260

But even for this beast, hitting ice at speed is bad news.

231

00:15:18,360 --> 00:15:22,060

Captain Freddie Lohtello is the ice pilot.

232

00:15:22,160 --> 00:15:23,960

Part of the South African crew, he

233

00:15:24,060 --> 00:15:27,560

has 15 years experience in the Weddell Sea.

234

00:15:27,660 --> 00:15:31,960

If we should hit any sea, we'll be able to hit the ice.

235

00:15:32,060 --> 00:15:33,560

We'll be able to hit the ice.

236

00:15:33,660 --> 00:15:35,060

We'll be able to hit the ice.

237

00:15:35,460 --> 00:15:38,960

If we should hit any sea ice here at 15 knots,

238

00:15:39,060 --> 00:15:42,560

it could possibly cause heavy damage to the vessel.

239

00:15:42,660 --> 00:15:45,660

So we are continuously looking out.

240

00:15:45,760 --> 00:15:52,460

The Titanic famously sank in 1912 because it hit an iceberg at speed.

241

00:15:52,560 --> 00:15:57,160

One wrong move could bring this ship to the same fate.

242

00:15:57,260 --> 00:16:00,760

But unlike the Titanic, the Agullus Tube

243

00:16:00,860 --> 00:16:05,460

has an arsenal of modern navigational tools.

244

00:16:05,560 --> 00:16:06,460

This is us here.

245

00:16:06,560 --> 00:16:08,260

And this is our speed vector.

246

00:16:08,360 --> 00:16:14,360

And you can see that this iceberg is at a distance of 8.8 miles.

247

00:16:14,460 --> 00:16:19,460

Sometimes you could get 100 targets on a radar at a 12-mile range.

248

00:16:19,560 --> 00:16:24,660

And you would try to then just skirt as much as you can.

249

00:16:24,760 --> 00:16:26,760

To reach the wreck site, the Agullus Tube

250

00:16:26,760 --> 00:16:30,460

has been sailing around the northern edge of the ice pack.

251

00:16:30,560 --> 00:16:33,460

She will only head into the thicker ice when she has to.

252

00:16:36,360 --> 00:16:39,960

This sea ice is what explorer Sir Ernest Shackleton faced

253

00:16:40,060 --> 00:16:41,860

more than 100 years ago.

254

00:16:45,460 --> 00:16:49,160

When Shackleton took his ship into the Weddell Sea,

255

00:16:49,260 --> 00:16:52,860

he knew there was a tremendous risk that he'd never make it out alive.

256

00:16:53,860 --> 00:16:57,360

Caught on camera by photographer Frank Hurley,

257

00:16:57,460 --> 00:17:02,860

the endurance picks her way through hundreds of miles of pack ice.

258

00:17:02,960 --> 00:17:07,260

But how could the 144-foot wooden ship

259

00:17:07,360 --> 00:17:11,860

avoid the fate of the Titanic just two years previously?

260

00:17:15,860 --> 00:17:20,360

Wreck archaeologist Mensen Bound is studying the ship's plans.

261

00:17:20,860 --> 00:17:23,860

This is the original design for the endurance.

262

00:17:23,960 --> 00:17:27,160

She really was a beautiful, beautiful vessel.

263

00:17:27,260 --> 00:17:31,160

If you look at her bow, you can see it's got four huge,

264

00:17:31,260 --> 00:17:32,660

oaking timbers here.

265

00:17:32,760 --> 00:17:36,260

That's two times more than any other ship that I know of.

266

00:17:36,360 --> 00:17:39,660

Her bow is over four feet thick.

267

00:17:39,760 --> 00:17:45,060

The keel, or spine of the ship, is seven feet of solid oak.

268

00:17:45,160 --> 00:17:47,960

And to stop her being ripped apart by ice,

269

00:17:47,960 --> 00:17:51,860

her hull is cloaked in a wood called Greenheart.

270

00:17:51,960 --> 00:17:56,760

So durable and strong that it's heavier than iron.

271

00:17:57,860 --> 00:18:01,260

It is extraordinarily hard.

272

00:18:01,360 --> 00:18:05,660

It's so hard you cannot even drive a nail into it.

273

00:18:05,760 --> 00:18:07,760

But this is what Shackleton needed,

274

00:18:07,860 --> 00:18:11,360

because it is resistant to the kind of wear and tear

275

00:18:11,460 --> 00:18:14,460

and abrasion that this hull is going to have to withstand

276

00:18:14,560 --> 00:18:16,360

once it got out of the water.

277

00:18:16,360 --> 00:18:19,160

Shackleton named his ship Endurance.

278

00:18:19,260 --> 00:18:23,760

After his family motto, by endurance, we conquer.

279

00:18:23,860 --> 00:18:27,060

And the endurance will need all her strength

280

00:18:27,160 --> 00:18:29,660

as she sails further into the ice.

281

00:18:35,260 --> 00:18:39,460

While the ice makes getting to the wreck site a massive challenge,

282

00:18:39,560 --> 00:18:42,160

these frigid waters are also the reason

283

00:18:42,260 --> 00:18:44,760

Shackleton is a very important vessel.

284

00:18:44,760 --> 00:18:47,260

And also the reason Shackleton's wooden ship

285

00:18:47,360 --> 00:18:51,560

is likely preserved at the bottom of the sea.

286

00:18:51,660 --> 00:18:55,260

In warmer seas, marine creatures eat wooden ships.

287

00:18:55,360 --> 00:19:00,060

The most destructive, a mollusk, called a shipworm.

288

00:19:00,160 --> 00:19:05,660

Shipworm can be incredibly destructive to wooden ships.

289

00:19:05,760 --> 00:19:06,960

And they are voracious.

290

00:19:07,060 --> 00:19:08,660

They just eat anything and everything.

291

00:19:08,760 --> 00:19:10,060

And no time at all.

292

00:19:10,160 --> 00:19:12,160

They can be up to two feet long.

293

00:19:12,160 --> 00:19:14,160

They just eat, eat, eat, eat.

294

00:19:19,160 --> 00:19:21,560

Recent experiments have revealed that shipworms

295

00:19:21,660 --> 00:19:25,160

can't survive in the freezing Antarctic waters.

296

00:19:27,460 --> 00:19:30,160

And newly discovered wrecks from Northern Canada prove

297

00:19:30,260 --> 00:19:35,160

that ICCs can preserve wooden ships even older than the Endurance.

298

00:19:38,960 --> 00:19:40,960

But even if it's well preserved,

299

00:19:40,960 --> 00:19:44,360

the Endurance rests 10,000 feet down.

300

00:19:44,460 --> 00:19:48,560

And right now, the sea there is entirely frozen over.

301

00:19:58,560 --> 00:20:03,460

For 11 days, the expedition to find Shackleton's lost wreck

302

00:20:03,560 --> 00:20:05,960

in the frozen waters of Antarctica

303

00:20:06,060 --> 00:20:09,960

has risked raging storms and ice fields.

304

00:20:11,960 --> 00:20:16,960

Now the crew is beyond the reach of helicopter rescue.

305

00:20:17,060 --> 00:20:20,960

If something goes wrong, they're on their own.

306

00:20:23,560 --> 00:20:26,560

They've reached the west side of the Weddell Sea,

307

00:20:26,660 --> 00:20:30,960

as close as they can get to the wreck site in open water.

308

00:20:31,060 --> 00:20:35,960

Beyond their position is pack ice up to 16 feet thick.

309

00:20:36,460 --> 00:20:39,960

Before they break in, Louisiana boys Chad and Devon

310

00:20:40,060 --> 00:20:43,960

want to test their AUV subs under a nearby ice flow.

311

00:20:45,060 --> 00:20:48,460

We'll be going to sea trials where we're actually going to launch the AUV.

312

00:20:48,560 --> 00:20:51,960

We'll go ahead and release it and send it underwater.

313

00:20:52,060 --> 00:20:53,960

And we'll be back in a few days.

314

00:20:54,060 --> 00:20:55,960

And we'll be back in a few days.

315

00:20:56,060 --> 00:20:57,960

And we'll be back in a few days.

316

00:20:58,060 --> 00:20:59,960

And we'll be back in a few days.

317

00:21:00,060 --> 00:21:01,960

And we'll be back in a few days.

318

00:21:02,060 --> 00:21:03,960

And we'll be back in a few days.

319

00:21:05,960 --> 00:21:09,460

At the wreck site, the AUVs will dive down

320

00:21:09,560 --> 00:21:12,960

and use sonar to scan the seabed for the wreck.

321

00:21:13,060 --> 00:21:19,460

It may sound simple, but even testing the AUVs like this is risky.

322

00:21:19,560 --> 00:21:22,460

They've never been under Antarctic ice.

323

00:21:22,560 --> 00:21:27,460

AUV team leader Channing Thomas knows the dangers.

324

00:21:27,560 --> 00:21:29,960

There is a lot of pressure.

325

00:21:30,060 --> 00:21:34,960

If this works, it's going to be extraordinary.

326

00:21:36,460 --> 00:21:39,960

Two years of planning and tens of millions of dollars

327

00:21:40,060 --> 00:21:43,960

rests on the AUV sub doing its job right.

328

00:21:44,060 --> 00:21:47,460

We're being extra cautious before we put it in the water.

329

00:21:47,560 --> 00:21:50,960

Once we launch it, there's no turning back.

330

00:21:53,460 --> 00:21:56,460

All right, let's go get us a successful launch.

331

00:21:56,560 --> 00:21:58,960

Chad is taking no chances.

332

00:21:59,060 --> 00:22:00,960

Ice is a constant threat.

333

00:22:01,460 --> 00:22:04,960

The fast response craft, or FRC, is the only way

334

00:22:05,060 --> 00:22:07,760

he can hope to protect their multimillion-dollar sub

335

00:22:07,860 --> 00:22:08,960

at the surface.

336

00:22:09,060 --> 00:22:13,960

We're on standby in FRC in case anything goes awry.

337

00:22:14,060 --> 00:22:18,460

All right, crank up, under Alex.

338

00:22:22,160 --> 00:22:25,460

Yeah, we definitely don't see this in the Gulf of Mexico.

339

00:22:25,960 --> 00:22:30,960

They'll do a quick test to make sure all of our settings are correct

340

00:22:31,060 --> 00:22:32,960

and then send it under the ice.

341

00:22:33,060 --> 00:22:34,960

This is the start of it here.

342

00:22:35,060 --> 00:22:36,960

Navy is an armed state. Go ahead, Channing.

343

00:22:37,060 --> 00:22:39,960

They put it in armed state. It's armed and ready to go.

344

00:22:44,960 --> 00:22:46,460

Navy in the water.

345

00:22:46,560 --> 00:22:47,960

Like a torpedo.

346

00:22:48,060 --> 00:22:49,460

It's a big one.

347

00:22:49,560 --> 00:22:50,960

It's a big one.

348

00:22:51,960 --> 00:22:52,960

Navy in the water.

349

00:22:53,060 --> 00:22:54,460

Like a torpedo.

350

00:22:56,460 --> 00:22:58,460

All right, looking good.

351

00:22:58,560 --> 00:23:00,460

All systems are go.

352

00:23:04,460 --> 00:23:06,460

Stay back here and monitor.

353

00:23:06,560 --> 00:23:08,460

Rod, is that ready to dive?

354

00:23:09,960 --> 00:23:12,460

All right, 30 seconds till it dies.

355

00:23:21,460 --> 00:23:22,460

Come on, cowboy.

356

00:23:32,960 --> 00:23:34,460

It's very, very flat.

357

00:23:34,560 --> 00:23:35,960

It's a real flat calm like this.

358

00:23:36,060 --> 00:23:37,460

It has a tough time diving.

359

00:23:38,460 --> 00:23:42,960

The only way to make the AUV dive is to make their own waves.

360

00:23:43,060 --> 00:23:45,960

They'll create that wake in front of it as it's traveling.

361

00:23:46,060 --> 00:23:47,960

And then they'll go into the water.

362

00:23:47,960 --> 00:23:50,960

They'll create that wake in front of it as it's traveling.

363

00:23:51,060 --> 00:23:53,460

To try to get that water on top of the bow,

364

00:23:53,560 --> 00:23:56,960

or the forward end of the AUV to get it to start digging in.

365

00:24:02,460 --> 00:24:03,460

Go, baby, go.

366

00:24:10,460 --> 00:24:11,460

Keep coming.

367

00:24:12,260 --> 00:24:13,460

You're making headway.

368

00:24:13,960 --> 00:24:15,960

It's going down, my man.

369

00:24:19,960 --> 00:24:20,960

Good job, boy.

370

00:24:22,960 --> 00:24:24,960

It took a little while, but it started diving.

371

00:24:27,960 --> 00:24:29,960

So as of now, we have a successful dive.

372

00:24:32,960 --> 00:24:34,960

It's a great relief to finally get it under.

373

00:24:35,060 --> 00:24:36,960

We're on our first mission.

374

00:24:37,460 --> 00:24:40,460

Now it's over to Devon's colleague, Blake Howard,

375

00:24:40,560 --> 00:24:42,460

to communicate with the AUV.

376

00:24:44,460 --> 00:24:45,460

We can pull forward a little more.

377

00:24:45,560 --> 00:24:48,460

She's, uh, AUV is getting down 300 meters right now.

378

00:24:50,960 --> 00:24:54,960

Once the AUV gets going on its pre-programmed four-hour test mission,

379

00:24:55,460 --> 00:24:56,960

Blake will have no control.

380

00:24:57,960 --> 00:25:00,460

All he can do is track it with the boat.

381

00:25:01,460 --> 00:25:04,460

And then he'll be able to get it to the bottom of the boat.

382

00:25:04,960 --> 00:25:06,960

All he can do is track it with this.

383

00:25:08,960 --> 00:25:12,960

A high-precision acoustic positioning system, or HIPAP.

384

00:25:17,460 --> 00:25:18,960

Dropped through the hull into the sea.

385

00:25:22,960 --> 00:25:26,960

The HIPAP picks up acoustic signals through the water from the sub.

386

00:25:29,960 --> 00:25:31,960

It even pulls in some curious locals.

387

00:25:34,960 --> 00:25:37,960

BEEP BEEP

388

00:25:38,960 --> 00:25:40,960

While the team tracks the AUV sub,

389

00:25:42,960 --> 00:25:46,960

expedition archaeologist Mensen Bound investigates how Shackleton's ship

390

00:25:47,460 --> 00:25:51,960

ended up on this side of the Weddell Sea a century ago.

391

00:25:52,460 --> 00:25:54,960

Here he is coming down the coast of the Weddell Sea

392

00:25:55,460 --> 00:25:57,960

and all the while working his way south-south.

393

00:25:58,460 --> 00:26:02,960

But as he's going, the ice is becoming more and more dense and impenetrable

394

00:26:02,960 --> 00:26:05,460

until eventually he gets all the way down here.

395

00:26:05,960 --> 00:26:08,460

And right here is where he becomes beset.

396

00:26:09,460 --> 00:26:13,460

Just 60 miles from the south coast of the Weddell Sea,

397

00:26:13,960 --> 00:26:16,460

the ice pack freezes solid around Shackleton's ship.

398

00:26:17,460 --> 00:26:19,460

The endurance is trapped.

399

00:26:19,460 --> 00:26:28,960

MUSIC

400

00:26:29,460 --> 00:26:33,460

The temperature suddenly dropped from 20 degrees above zero to 20 degrees below it.

401

00:26:33,960 --> 00:26:35,960

The whole sea froze over and we froze in with it.

402

00:26:36,460 --> 00:26:38,960

Of course we had no explosive to blast our way out,

403

00:26:39,460 --> 00:26:41,960

but we just had picks and shovels.

404

00:26:42,960 --> 00:26:46,960

For 40 hours, his men throw everything at it.

405

00:26:49,460 --> 00:26:51,960

But they can't free her from the ice.

406

00:26:53,460 --> 00:26:58,960

And at that moment, Shackleton's heart sank because he knew

407

00:26:59,460 --> 00:27:03,960

because it was so late in the season that he was frozen in place for winter.

408

00:27:05,960 --> 00:27:08,960

And in the six-month-long Antarctic winter,

409

00:27:09,460 --> 00:27:11,960

just staying alive is nearly impossible.

410

00:27:13,460 --> 00:27:15,460

Everything is pushing against you.

411

00:27:15,960 --> 00:27:17,460

It's trying to kill you.

412

00:27:17,460 --> 00:27:20,460

That cold is physically painful.

413

00:27:20,960 --> 00:27:25,460

Any piece of exposed skin, just a little bit of a gap in your clothing,

414

00:27:25,960 --> 00:27:28,460

that's like somebody cutting your face with a knife.

415

00:27:28,960 --> 00:27:36,460

The winds, unrelenting, and the snow driven like needles into your face.

416

00:27:38,460 --> 00:27:40,960

I was out South Pole. It was so cold.

417

00:27:41,460 --> 00:27:45,460

I removed my glove for just about a minute, maybe a minute and 20 seconds.

418

00:27:45,460 --> 00:27:47,460

And my thumb froze solid.

419

00:27:47,960 --> 00:27:52,460

And you think about Shackleton and his men out there in wool and cotton

420

00:27:52,960 --> 00:27:55,460

and things that weren't really designed for that environment.

421

00:27:58,960 --> 00:28:02,460

It just reminds me how tough those men were.

422

00:28:06,960 --> 00:28:08,960

The endurance is completely stuck,

423

00:28:09,460 --> 00:28:13,460

but she's 550 miles from where she will finally sink.

424

00:28:14,460 --> 00:28:16,460

So how did she get there?

425

00:28:19,460 --> 00:28:22,460

Turns out the endurance is still on the move,

426

00:28:23,460 --> 00:28:26,460

because the ice is on the move.

427

00:28:27,460 --> 00:28:31,460

While it may look like a land mass, it's floating on water.

428

00:28:33,460 --> 00:28:37,460

That means whatever the water is doing, whatever the wind is doing,

429

00:28:37,960 --> 00:28:39,460

that affects that surface.

430

00:28:40,460 --> 00:28:43,460

Strong currents and winds in the Weddell Sea

431

00:28:43,960 --> 00:28:47,460

spin the entire ice pack in a giant clockwise rotation.

432

00:28:50,460 --> 00:28:54,460

For 10 months, the endurance moves with the ice.

433

00:28:59,460 --> 00:29:02,460

This is the route that the endurance was carried.

434

00:29:03,460 --> 00:29:07,460

We can follow the route very precisely.

435

00:29:09,460 --> 00:29:14,460

The crew was trapped, but they had reason to believe they would escape.

436

00:29:15,460 --> 00:29:18,460

Several years before, another ship, a ship called the Deutschland,

437

00:29:18,960 --> 00:29:21,460

had also become beset down here.

438

00:29:21,960 --> 00:29:25,460

Because the Deutschland was eventually released from the ice,

439

00:29:25,960 --> 00:29:29,460

the people on the endurance thought the same thing would happen to them.

440

00:29:33,460 --> 00:29:36,460

Out on deck in the early hours of the morning,

441

00:29:36,460 --> 00:29:40,460

the team is waiting for their AUP sub to return from its test run.

442

00:29:41,460 --> 00:29:43,460

But there's a problem.

443

00:29:43,960 --> 00:29:45,460

What the hell is going on?

444

00:29:47,460 --> 00:29:52,460

They've lost all contact with their brand new multi-million dollar sum.

445

00:30:00,460 --> 00:30:03,460

Two weeks into the expedition to find Shackleton's lost ship,

446

00:30:03,460 --> 00:30:06,460

the team is within striking distance of the wreck site.

447

00:30:09,460 --> 00:30:11,460

But their ship is going nowhere.

448

00:30:13,460 --> 00:30:15,460

Four hours into a test dive,

449

00:30:15,960 --> 00:30:21,460

AUV operator Blake Howard lost contact with their multi-million dollar drone submarine.

450

00:30:22,460 --> 00:30:24,460

Everything started to go well.

451

00:30:24,960 --> 00:30:29,460

We were gaining confidence and then we lost it.

452

00:30:34,460 --> 00:30:38,460

When we saw that it did not surface in front of us,

453

00:30:39,460 --> 00:30:41,460

or to either side of us,

454

00:30:42,460 --> 00:30:44,460

we figured it had to be in the ice.

455

00:30:45,460 --> 00:30:51,460

The fear is that the AUV came up underneath the seven-mile-wide ice flow it was diving under.

456

00:30:56,460 --> 00:30:58,460

The team needs to move fast.

457

00:30:58,460 --> 00:31:01,460

The AUV has 54 hours of battery.

458

00:31:02,460 --> 00:31:05,460

If the battery dies, they'll never get it back.

459

00:31:06,460 --> 00:31:09,460

That's a multi-million dollar loss they can't take.

460

00:31:10,460 --> 00:31:12,460

We're going to search that area right there.

461

00:31:14,460 --> 00:31:18,460

The expedition throws everyone and everything they've got into the hunt.

462

00:31:20,460 --> 00:31:21,460

Boats,

463

00:31:23,460 --> 00:31:25,460

aerial drones,

464

00:31:25,460 --> 00:31:28,460

and the remotely operated vehicle.

465

00:31:30,460 --> 00:31:33,460

The AUV has two flashes on it,

466

00:31:33,460 --> 00:31:37,460

and the general idea is to get the ROV down deep,

467

00:31:37,460 --> 00:31:41,460

turn off all our lights, and hopefully see those beacons.

468

00:31:43,460 --> 00:31:46,460

Okay, Stary, go into the water, come up over to the water, please.

469

00:31:51,460 --> 00:31:53,460

A cable tethers their submarine.

470

00:31:53,460 --> 00:31:57,460

A cable tethers their 6,400-pound robot to the ship.

471

00:31:59,460 --> 00:32:02,460

It gives pilot Dave O'Hara full control.

472

00:32:03,460 --> 00:32:06,460

Okay, Steve, our depth is three zero meters.

473

00:32:10,460 --> 00:32:12,460

We are at 20 meters.

474

00:32:13,460 --> 00:32:15,460

Can't see very much.

475

00:32:15,460 --> 00:32:17,460

Should we kill the lights and see what we've got?

476

00:32:20,460 --> 00:32:22,460

Whoa, it's dark.

477

00:32:23,460 --> 00:32:26,460

You know something? There's no way we're even going to see a flasher.

478

00:32:27,460 --> 00:32:33,460

A thick bloom of algae beneath the ice has reduced visibility to almost zero.

479

00:32:44,460 --> 00:32:46,460

We couldn't see anything.

480

00:32:47,460 --> 00:32:52,460

So, we aborted the dive, come back, just keep the vehicle safe,

481

00:32:52,460 --> 00:32:54,460

ready to try again.

482

00:32:57,460 --> 00:33:00,460

Right now, I'm very worried.

483

00:33:00,460 --> 00:33:05,460

From day one, we recognized that our nemesis was going to be the ice pack,

484

00:33:05,460 --> 00:33:09,460

just as it was Shackleton's, so was it going to be ours.

485

00:33:09,460 --> 00:33:13,460

And, hey, what? It's proved to be just that.

486

00:33:15,460 --> 00:33:17,460

It's a setback.

487

00:33:18,460 --> 00:33:20,460

But the team can't afford to give up.

488

00:33:23,460 --> 00:33:33,460

16 hours later, Blake finally detects a signal from the missing AUV sub.

489

00:33:38,460 --> 00:33:42,460

I started looking at everything and saw that 45 minutes ago,

490

00:33:42,460 --> 00:33:46,460

there was a high path that made contact somewhere nearby.

491

00:33:47,460 --> 00:33:52,460

The sub is within a mile of the ship, somewhere under the ice.

492

00:33:52,460 --> 00:33:57,460

The first ping when it actually did come through was a great feeling for everybody.

493

00:33:57,460 --> 00:34:01,460

It was extremely exciting for her to actually talk back to us,

494

00:34:01,460 --> 00:34:04,460

and it gave us a direction to head towards.

495

00:34:05,460 --> 00:34:11,460

But with only one acoustic hit, team leader Channing Thomas can't get an accurate fix.

496

00:34:11,460 --> 00:34:16,460

He needs his team to generate more hits to zero in on the AUV sub's location.

497

00:34:18,460 --> 00:34:22,460

That means a radical makeover to their underwater calm system.

498

00:34:22,460 --> 00:34:29,460

What we need to do is create a 45-degree angle so the high path is facing outwards instead of downwards.

499

00:34:41,460 --> 00:34:46,460

Making the calm system space forward is something they've never tried before.

500

00:34:52,460 --> 00:35:00,460

We've only got one high path on this ship, and although it looks to be quite robust, in fact, it's not.

501

00:35:00,460 --> 00:35:05,460

If we take just one knock from an ice flow, that's it. It's game over.

502

00:35:05,460 --> 00:35:09,460

You know, the search for the endurance is finished before it even begins.

503

00:35:11,460 --> 00:35:25,460

Then the team picks up a response.

504

00:35:30,460 --> 00:35:35,460

It's almost definitely a hit, so it's got to be within range.

505

00:35:36,460 --> 00:35:40,460

You know, we're no within its range.

506

00:35:40,460 --> 00:35:42,460

Yeah, compared to where we were.

507

00:35:42,460 --> 00:35:44,460

Yes, two hours ago.

508

00:35:44,460 --> 00:35:46,460

Yes, sir, exactly right.

509

00:35:46,460 --> 00:35:48,460

So we're getting there.

510

00:35:52,460 --> 00:35:56,460

After another Antarctic night, the team has picked up more new signals.

511

00:35:56,460 --> 00:36:01,460

Plotted from three different locations to triangulate about where she's located,

512

00:36:01,460 --> 00:36:04,460

and we're figuring she's about 800 meters ahead.

513

00:36:04,460 --> 00:36:08,460

Now it's not an exact location, but we've got a pretty good target zone.

514

00:36:08,460 --> 00:36:14,460

Half a mile might seem close, but the ship needs to get closer.

515

00:36:17,460 --> 00:36:25,460

Their robot tasked with rescuing the sub can go four miles straight down, but only 400 feet sideways from the ship.

516

00:36:25,460 --> 00:36:28,460

They have to close the gap.

517

00:36:28,460 --> 00:36:32,460

What are we looking at? Three meters to seven meters, Captain?

518

00:36:32,460 --> 00:36:34,460

Yeah.

519

00:36:37,460 --> 00:36:43,460

Twenty foot thick ice is well beyond what their ship's built to break,

520

00:36:43,460 --> 00:36:47,460

but it's a risk worth taking to salvage the mission.

521

00:36:58,460 --> 00:37:02,460

The Agullus II doesn't ram the ice.

522

00:37:02,460 --> 00:37:11,460

It rides up onto the ice, and under the weight of the 14,000-ton ship, the ice flow starts to break apart.

523

00:37:16,460 --> 00:37:22,460

The AUV is about here, about 200 meters away.

524

00:37:29,460 --> 00:37:36,460

Each strike releases colossal ice chunks bigger than the size of a house.

525

00:37:36,460 --> 00:37:44,460

By the time they're done, the ship smashed away 114 football fields worth of ice.

526

00:37:46,460 --> 00:37:50,460

Finally, they can attempt a second rescue dive.

527

00:37:50,460 --> 00:37:53,460

We're going to launch our RV.

528

00:37:53,460 --> 00:37:57,460

We're going to go in and locate it, and then basically they're going to drag her out.

529

00:38:04,460 --> 00:38:07,460

But what will their ROV robot find?

530

00:38:13,460 --> 00:38:17,460

Across the ship, all eyes are glued to the live feed.

531

00:38:24,460 --> 00:38:28,460

Right now we are at six and a half meters.

532

00:38:32,460 --> 00:38:33,460

In under the ice.

533

00:38:33,460 --> 00:38:34,460

Hey, is that an AUV?

534

00:38:34,460 --> 00:38:35,460

Look, look, look.

535

00:38:35,460 --> 00:38:38,460

And we've got the AUV visual.

536

00:38:39,460 --> 00:38:41,460

Roger, tell the bridge we've got a big.

537

00:38:42,460 --> 00:38:45,460

Binding the AUV is a huge relief.

538

00:38:47,460 --> 00:38:49,460

But now they need to bring it out.

539

00:38:49,460 --> 00:38:55,460

You can see the end of the AUV with the prop, so it's definitely in a crack.

540

00:38:58,460 --> 00:39:02,460

Dave has to grab the AUV with the robot arm.

541

00:39:03,460 --> 00:39:06,460

All right, so you're pretty much going to have to fly me into it.

542

00:39:13,460 --> 00:39:14,460

Come on, Bubba.

543

00:39:15,460 --> 00:39:17,460

Slow, slow, slow, slow, slow.

544

00:39:29,460 --> 00:39:32,460

As soon as we started to move, the fish dropped away below us.

545

00:39:32,460 --> 00:39:34,460

We got to go chase the fish down.

546

00:39:37,460 --> 00:39:40,460

I think getting back in there, we're going to try again.

547

00:39:44,460 --> 00:39:51,460

Every missed attempt pushes the AUV farther out of reach.

548

00:39:54,460 --> 00:39:58,460

And at the surface, moving ice is threatening to snag the robot's tether.

549

00:40:02,460 --> 00:40:05,460

The team needs a new solution and fast.

550

00:40:06,460 --> 00:40:12,460

Four days ago, the expedition lost contact with their multimillion dollar AUV sub.

551

00:40:13,460 --> 00:40:18,460

It's a vital tool in their hunt for Shackleton's lost Antarctic wreck.

552

00:40:19,460 --> 00:40:22,460

The team is now in the middle of a new mission.

553

00:40:23,460 --> 00:40:27,460

The mission is to get the robot's tether back to the base of the AUV.

554

00:40:28,460 --> 00:40:30,460

The team is now in the middle of a new mission.

555

00:40:30,460 --> 00:40:34,460

It's a vital tool in their hunt for Shackleton's lost Antarctic wreck.

556

00:40:36,460 --> 00:40:40,460

But it's now 1,500 feet below the ship, on the sea floor.

557

00:40:42,460 --> 00:40:43,460

Yeah, your heading's good.

558

00:40:44,460 --> 00:40:52,460

Subsea explorer Steve Santamore is sending the robot back down to locate the AUV sub and attempt a rescue.

559

00:40:53,460 --> 00:41:04,460

At this depth, the weight of water pressing down on the AUV is equivalent to two jumbo jets, one on top of the other.

560

00:41:07,460 --> 00:41:09,460

The robot's got a hook and a line.

561

00:41:10,460 --> 00:41:17,460

But pilot Dave O'Hara is finding that fishing at this depth is far from easy.

562

00:41:22,460 --> 00:41:33,460

The hook has to hold.

563

00:41:38,460 --> 00:41:40,460

Sorry, looks like we're starting to take tension.

564

00:41:42,460 --> 00:41:43,460

Yeah, copy.

565

00:41:44,460 --> 00:41:48,460

You could probably get the bridge to start moving real slowly forward now, man.

566

00:41:49,460 --> 00:41:55,460

After four days, the AUV is finally in hand and on the way up.

567

00:41:57,460 --> 00:42:01,460

But as it approaches the surface, Steve halts the ascent.

568

00:42:02,460 --> 00:42:03,460

Bridge, go ahead.

569

00:42:04,460 --> 00:42:07,460

Yeah, Dave, we're gonna stand down and we're gonna break a little bit more ice.

570

00:42:08,460 --> 00:42:09,460

Clear some of the ice out of the way.

571

00:42:12,460 --> 00:42:15,460

All the ice flows, the birds that we've broken off overnight,

572

00:42:15,460 --> 00:42:17,460

are all just sweeping in and around us.

573

00:42:20,460 --> 00:42:23,460

The ROV will get caught with some of these bigger flows.

574

00:42:25,460 --> 00:42:31,460

Ice chunks this big can weigh 2,000 tons, more than 13 blue whales.

575

00:42:33,460 --> 00:42:38,460

If one of them hits the cable, the team could lose their robot and the AUV sub.

576

00:42:39,460 --> 00:42:43,460

Bridge, can you give a kick ahead, please? I got this bird passing over the stern.

577

00:42:44,460 --> 00:42:45,460

Understood, kick ahead.

578

00:42:46,460 --> 00:42:48,460

Roger, I got a bird right on the stern.

579

00:42:49,460 --> 00:42:50,460

Get ready to hit my cable.

580

00:42:51,460 --> 00:42:52,460

Hurry, please.

581

00:42:53,460 --> 00:42:57,460

ROV, we will not trust you to clear the bay while making a hit.

582

00:42:58,460 --> 00:42:59,460

Roger.

583

00:43:04,460 --> 00:43:06,460

You're clear now, you're good.

584

00:43:07,460 --> 00:43:09,460

Finally, the path is clear.

585

00:43:09,460 --> 00:43:12,460

I just gotta get it up to surface.

586

00:43:21,460 --> 00:43:25,460

The ROV has the AUV in its grasp, it's coming back up.

587

00:43:27,460 --> 00:43:30,460

FRC, FRC, ROV approaching surface.

588

00:43:34,460 --> 00:43:35,460

All right, here we go.

589

00:43:40,460 --> 00:43:42,460

This is your only AUV.

590

00:43:45,460 --> 00:43:46,460

You got a hold?

591

00:43:47,460 --> 00:43:48,460

All right, back down a little bit.

592

00:43:50,460 --> 00:43:52,460

That's cold, buddy.

593

00:43:54,460 --> 00:43:58,460

After a very close call, the AUV is safe.

594

00:44:02,460 --> 00:44:04,460

All right, coming up easy.

595

00:44:09,460 --> 00:44:10,460

We're good.

596

00:44:13,460 --> 00:44:14,460

Got it, pal.

597

00:44:15,460 --> 00:44:16,460

That's it.

598

00:44:17,460 --> 00:44:19,460

I'm glad I have it on board.

599

00:44:21,460 --> 00:44:27,460

It's been a rough four or five days, so it'll be nice to actually get a full night's sleep instead of a few hours here and there.

600

00:44:30,460 --> 00:44:34,460

With the critical gear now on board, the hunt for the wreck is back on.

601

00:44:35,460 --> 00:44:36,460

Yeah, this is great.

602

00:44:36,460 --> 00:44:39,460

Have a back on board like this, it's the best.

603

00:44:40,460 --> 00:44:42,460

The team can now press ahead.

604

00:44:44,460 --> 00:44:48,460

But there's still 230 miles from where Shackleton's ship went down.

605

00:44:51,460 --> 00:44:55,460

And in that area, the sea is still entirely covered in ice.

606

00:44:58,460 --> 00:45:04,460

Shackleton and his ship drifted into this northwestern part of the Weddell Sea in October 1915.

607

00:45:07,460 --> 00:45:13,460

For ten long months, they'd been locked in the ice in a bitter struggle for survival.

608

00:45:15,460 --> 00:45:16,460

It's so damn cold.

609

00:45:17,460 --> 00:45:23,460

If you don't have an elaborate safety net of equipment, you'll die.

610

00:45:25,460 --> 00:45:28,460

Shackleton's only safety net is his ship.

611

00:45:29,460 --> 00:45:32,460

But now the mounting pressure in the ice is breaking it apart.

612

00:45:32,460 --> 00:45:36,460

They're in the ship. They can hear this ice moving against the ship.

613

00:45:37,460 --> 00:45:41,460

You hear the creaking of the ship, you hear the pressure on the joints.

614

00:45:42,460 --> 00:45:45,460

You never know if the ship's just going to break apart.

615

00:45:47,460 --> 00:45:49,460

The timbers began to crack and groan.

616

00:45:50,460 --> 00:45:53,460

It was there like heavy fireworks and blasting of guns.

617

00:46:03,460 --> 00:46:10,460

To see the pack ice move in and just squeeze the life out of that boat,

618

00:46:11,460 --> 00:46:18,460

it must have been so trying and so depressing.

619

00:46:21,460 --> 00:46:24,460

Mother Nature overwhelms the mighty endurance.

620

00:46:26,460 --> 00:46:29,460

Finally, Shackleton's ship is ready to go.

621

00:46:30,460 --> 00:46:34,460

Finally, Shackleton gives the order to abandon ship.

622

00:46:38,460 --> 00:46:42,460

Their only hope was to take everything off that ship that they needed

623

00:46:43,460 --> 00:46:47,460

and put it on their rescue boats and then switch into survival mode.

624

00:46:49,460 --> 00:46:56,460

The 28 men and 49 dogs can only watch as the endurance is overwhelmed.

625

00:47:00,460 --> 00:47:04,460

I can only imagine what it was like for him when he sat there and stood on the ice

626

00:47:05,460 --> 00:47:07,460

and watched it just slowly implode.

627

00:47:09,460 --> 00:47:14,460

Just a piece of his heart and soul would probably went down with that ship when it went.

628

00:47:18,460 --> 00:47:22,460

The ship disappears beneath the surface.

629

00:47:23,460 --> 00:47:29,460

Shackleton and his men are truly alone.

630

00:47:30,460 --> 00:47:34,460

I think they're much more lonely than I was on Apollo 13

631

00:47:35,460 --> 00:47:37,460

because I had communication with home.

632

00:47:38,460 --> 00:47:44,460

Shackleton, he didn't have a radio, he didn't have wifi, he didn't have a cell phone.

633

00:47:45,460 --> 00:47:46,460

He was alone.

634

00:47:46,460 --> 00:47:53,460

Shackleton's dream of becoming the first man to cross Antarctica is ultimately crushed along with his ship.

635

00:48:01,460 --> 00:48:05,460

This is where his real battle for survival begins.

636

00:48:06,460 --> 00:48:11,460

But if the ice crushed Shackleton's ship, what can the team expect to find on the sea floor?

637

00:48:13,460 --> 00:48:16,460

Mensenbound is searching for clues in the records.

638

00:48:17,460 --> 00:48:23,460

You see in this picture here, the stern rose up 45 degrees, the bow went even further down

639

00:48:24,460 --> 00:48:26,460

and then she just slid and was gone in minutes.

640

00:48:27,460 --> 00:48:31,460

The endurance then dives 10,000 feet to the sea floor.

641

00:48:33,460 --> 00:48:37,460

But Mensen spots evidence that the wooden ship likely survived the impact.

642

00:48:39,460 --> 00:48:44,460

All this clutter that you see in this picture here, all these masts and yards,

643

00:48:45,460 --> 00:48:47,460

all that was still attached to the ship when it went down.

644

00:48:47,460 --> 00:48:52,460

And that would have imposed an incredible drag on the sinking ship.

645

00:48:53,460 --> 00:48:56,460

That would have kept her upright and would to some extent have slowed her down.

646

00:48:57,460 --> 00:49:03,460

I do believe that the ship itself is likely to be in upright state but also three-dimensionally intact.

647

00:49:18,460 --> 00:49:21,460

It's promising news for the rest of the team.

648

00:49:23,460 --> 00:49:26,460

But suddenly, there's a new problem.

649

00:49:27,460 --> 00:49:32,460

This time it's not the AUV sub, but the robot that's supposed to explore the wreck.

650

00:49:33,460 --> 00:49:34,460

Pause, dog.

651

00:49:35,460 --> 00:49:37,460

It looks like it suffered a death blow.

652

00:49:38,460 --> 00:49:41,460

The End

653

00:49:46,460 --> 00:49:51,460

Halfway into their mission time, the team in Antarctica is under mounting pressure

654

00:49:52,460 --> 00:49:54,460

to reach the site of Ernest Shackleton's wreck.

655

00:49:55,460 --> 00:50:02,460

Engineers Steve Santamore and Dave O'Hara are depth testing their underwater robot, so it's ready to go.

656

00:50:04,460 --> 00:50:06,460

But something's not right.

657

00:50:08,460 --> 00:50:10,460

Guys, we're going to bring it back.

658

00:50:20,460 --> 00:50:21,460

What?

659

00:50:21,460 --> 00:50:22,460

The pond's gone.

660

00:50:23,460 --> 00:50:28,460

A critical part has imploded under the extreme pressure 10,000 feet below the surface.

661

00:50:30,460 --> 00:50:33,460

The robot's electronic brain is now mangled metal.

662

00:50:33,460 --> 00:50:36,460

We've had a catastrophic failure.

663

00:50:37,460 --> 00:50:41,460

We don't have the electronic to rebuild the ROV.

664

00:50:42,460 --> 00:50:44,460

I don't know what to say, really.

665

00:50:44,460 --> 00:50:45,460

I just don't.

666

00:50:46,460 --> 00:50:47,460

Yeah, it's speechless.

667

00:50:50,460 --> 00:50:55,460

The aluminum pod was designed to withstand pressure nearly three miles below the surface.

668

00:50:56,460 --> 00:51:01,460

But Steve thinks the combination of extreme cold and a material flaw has caused it to be crushed.

669

00:51:03,460 --> 00:51:05,460

Like it was nothing more than a soda can.

670

00:51:06,460 --> 00:51:07,460

This is what we found.

671

00:51:07,460 --> 00:51:11,460

One half of the bottle has pancaked into the other half of the bottle.

672

00:51:11,460 --> 00:51:15,460

There were quite substantial electronics and they've been entirely crushed.

673

00:51:15,460 --> 00:51:18,460

This is the first time in my career that I've ever seen this firsthand.

674

00:51:18,460 --> 00:51:21,460

This is an example of what hydraulic pressure can do.

675

00:51:24,460 --> 00:51:28,460

It's a bitter blow for expedition archaeologist Mensen Bound.

676

00:51:29,460 --> 00:51:36,460

The worst possible news, I mean, to lose our electronics like that, there is no replacement.

677

00:51:36,460 --> 00:51:38,460

We can't fly in spare parts.

678

00:51:38,460 --> 00:51:40,460

There's nothing we can do.

679

00:51:41,460 --> 00:51:46,460

This is what I was going to use to study the wreck, really eyeball to eyeball with the wreck.

680

00:51:47,460 --> 00:52:03,460

To add to the problems on deck, the bridge has discovered their closest route to the wreck site is now totally shut off by the ice.

681

00:52:04,460 --> 00:52:10,460

Analyzing daily satellite photographs, ice pilot, Freddie Ludtelum, is hunting for another way in.

682

00:52:11,460 --> 00:52:19,460

He's looking for channels of open water called leads on the other side of the pack ice.

683

00:52:22,460 --> 00:52:27,460

It does appear that there's some leads opening up in that area, so we're quite excited about that.

684

00:52:28,460 --> 00:52:35,460

We can actually approach the search site coming right around all the ice and approaching it from the southeast.

685

00:52:35,460 --> 00:52:39,460

With a bit of luck, we can be cautiously optimistic.

686

00:52:41,460 --> 00:52:44,460

The new plan is to go the long way around.

687

00:52:45,460 --> 00:52:48,460

Skirt the pack ice and then head toward the wreck site.

688

00:52:52,460 --> 00:52:58,460

With a clear path ahead of them, the ship should be able to reach the wreck site in a matter of days.

689

00:53:00,460 --> 00:53:04,460

Out on the deck, the AUV team is making their final preparations.

690

00:53:06,460 --> 00:53:09,460

All hopes now rest on them to find the wreck.

691

00:53:10,460 --> 00:53:15,460

I'm excited about it. Can't beat the smile off my face right about now, you know?

692

00:53:15,460 --> 00:53:17,460

Finally getting there.

693

00:53:18,460 --> 00:53:29,460

To be in the same area where he was at and to finally locate that ship is just an excitement that I really can't explain.

694

00:53:30,460 --> 00:53:34,460

Binding Shackleton's ship is the ultimate goal of this expedition.

695

00:53:35,460 --> 00:53:45,460

But 100 years ago, losing the endurance was just the start of a journey that would make Ernest Shackleton a legend.

696

00:53:51,460 --> 00:53:55,460

Stranded on the ice, Shackleton's men face impossible odds.

697

00:53:56,460 --> 00:54:00,460

But they have blind faith in the man they call the boss.

698

00:54:01,460 --> 00:54:04,460

There's this classic quote and to paraphrase it,

699

00:54:05,460 --> 00:54:10,460

when the chips are down and all hope is gone, get down on your knees and pray for Shackleton.

700

00:54:12,460 --> 00:54:17,460

Shackleton orders his men to march for land 200 miles across the ice.

701

00:54:20,460 --> 00:54:29,460

Shackleton has these massive sleds with full wooden boats on them loaded with supplies.

702

00:54:31,460 --> 00:54:45,460

And you could come up to a massive pressure ridge, blocks of ice as big as semi-trucks that are shoved up into the air 10, 15, 20 feet.

703

00:54:45,460 --> 00:54:49,460

And so as you're approaching it, it basically is a wall of ice.

704

00:54:50,460 --> 00:54:55,460

I mean, I don't like to say things that are impossible, but I don't know how they would get over that stuff.

705

00:54:56,460 --> 00:55:00,460

The men cover only nine miles of pack ice in a week.

706

00:55:02,460 --> 00:55:06,460

Shackleton realizes reaching land is impossible.

707

00:55:07,460 --> 00:55:11,460

To make matters worse, they're slowly starving to death.

708

00:55:12,460 --> 00:55:19,460

As food supplies run out, they're forced to eat the only things that brought them joy in the wilderness, their dogs.

709

00:55:20,460 --> 00:55:26,460

The companionship that the dogs provided the team was quite significant.

710

00:55:27,460 --> 00:55:40,460

That moment must have been hard on an emotional point, but it was also a mirror of how extended they were and how precarious life was.

711

00:55:40,460 --> 00:55:45,460

If you're shooting your dogs, you're on the down and outs.

712

00:55:49,460 --> 00:55:58,460

Then, as the ice they're on drifts closer to the open ocean, it starts to break apart beneath them.

713

00:56:06,460 --> 00:56:11,460

And they have to rush onto their boats. They have to throw their things on their boats.

714

00:56:11,460 --> 00:56:15,460

They have to get into these boats with everything they need to survive.

715

00:56:16,460 --> 00:56:23,460

They have no choice but to go from relative safety to basically certain death.

716

00:56:26,460 --> 00:56:31,460

Shackleton has finally left the ice that's trapped him for 15 months.

717

00:56:31,460 --> 00:56:36,460

But now he faces a new danger, the open, weddle sea.

718

00:56:37,460 --> 00:56:43,460

Even today, this sea is nearly impossible to navigate, as the crew of the Agullus II is finding

out.

719

00:56:44,460 --> 00:56:48,460

We are now just stuck.

720

00:56:49,460 --> 00:56:56,460

To reach the site of Ernest Shackleton's wreck, the Agullus II has powered around the ice pack at the heart of the Weddle Sea.

721

00:56:56,460 --> 00:57:01,460

And she's smashed through thick ice for the last 24 hours.

722

00:57:01,460 --> 00:57:08,460

The Agullus II is now in the middle of the ocean, and the ice is now in the middle of the ocean.

723

00:57:08,460 --> 00:57:15,460

The Agullus II is now in the middle of the ocean, and the ice is now in the middle of the ocean.

724

00:57:15,460 --> 00:57:20,460

She's been through thick ice for the last 24 hours.

725

00:57:20,460 --> 00:57:28,460

But just 19 miles from where the endurance sank, the Agullus II runs into serious trouble.

726

00:57:38,460 --> 00:57:44,460

She's stuck in the ice, just like Shackleton's ship.

727

00:57:46,460 --> 00:57:49,460

We're stuck within a white-out.

728

00:57:49,460 --> 00:57:57,460

The ice is well over 3 meters thick, possibly even as much as 5, and we're way, way below zero.

729

00:57:59,460 --> 00:58:06,460

In the early hours of the morning, the ship was brought to a standstill by impenetrable fog.

730

00:58:06,460 --> 00:58:10,460

The ice moved in around her and froze her in.

731

00:58:11,460 --> 00:58:18,460

If the temperature drops further, the ice could trap the crew for days,

732

00:58:18,460 --> 00:58:22,460

and the harsh Antarctic winter is already barreling down on them.

733

00:58:22,460 --> 00:58:25,460

But Devons got an idea.

734

00:58:25,460 --> 00:58:28,460

Well, we could do like Shackleton did on the endurance when they got stuck in the ice

735

00:58:28,460 --> 00:58:34,460

and had the whole crew run from one side of the vessel to the other together to rock the ship free.

736

00:58:35,460 --> 00:58:41,460

Devons half-kidding, but his plan isn't as crazy as it sounds.

737

00:58:41,460 --> 00:58:47,460

Captain Ben-Goo has 18 years experience in Antarctic ice,

738

00:58:47,460 --> 00:58:52,460

and he's got a 21st century trick up his sleeve.

739

00:58:53,460 --> 00:59:00,460

Instead of moving his crew from one side to the other, he's shifting a 40-ton container of fuel.

740

00:59:04,460 --> 00:59:06,460

Using his crane.

741

00:59:06,460 --> 00:59:14,460

We use the heavy weights to create a lever for a ship to heel or lift to port to starboard.

742

00:59:17,460 --> 00:59:23,460

And in the engine room, engineer Marco Reilly is firing up the two propellers to maximum power.

743

00:59:24,460 --> 00:59:29,460

After 14 hours using its crane.

744

00:59:32,460 --> 00:59:35,460

And its 12,000 horsepower engines.

745

00:59:41,460 --> 00:59:45,460

The Agullus II finally breaks free.

746

00:59:54,460 --> 00:59:57,460

Sounds like we're moving again.

747

00:59:57,460 --> 01:00:01,460

So you can hear the distinct difference in the sound here.

748

01:00:01,460 --> 01:00:07,460

That's definitely ice scraping alongside of the vessel as we're moving forward.

749

01:00:07,460 --> 01:00:23,460

And now that the bog is lifted, the captain has a clear view of the route ahead.

750

01:00:26,460 --> 01:00:30,460

But the ship still has to get them inside the wreck zone.

751

01:00:30,460 --> 01:00:34,460

And the closer they get, the thicker the ice becomes.

752

01:00:34,460 --> 01:00:37,460

This really is Shackleton territory.

753

01:00:37,460 --> 01:00:47,460

The ice here is old, it's knelt, it's all hummocked and it's all raffled up and steeped up into these ridges.

754

01:00:48,460 --> 01:00:54,460

It's amazing that those guys survived as long as they did on ice like this.

755

01:00:54,460 --> 01:00:56,460

It's incredible.

756

01:00:57,460 --> 01:01:05,460

This is the ice that trapped Shackleton and his men for 15 months.

757

01:01:08,460 --> 01:01:15,460

When they finally escape it on lifeboats, they have to battle freezing winds and ice storms on the open ocean.

758

01:01:17,460 --> 01:01:22,460

Shackleton sets out for a tiny island 60 miles away.

759

01:01:22,460 --> 01:01:24,460

It's his final hope.

760

01:01:27,460 --> 01:01:33,460

On the seventh day of sea and barely alive, they miraculously spot land.

761

01:01:33,460 --> 01:01:43,460

And when they saw Elephant Island, everybody cheered and we pulled as hard as we could to make our landing.

762

01:01:44,460 --> 01:01:53,460

It was a weird sort of euphoria because they hadn't made it home, they had made it onto an inhospitable rock.

763

01:01:53,460 --> 01:01:59,460

The first night there, what was left of there, tents were just shredded in the wind.

764

01:01:59,460 --> 01:02:04,460

Humans were not meant to be there, the whalers didn't even come by there.

765

01:02:06,460 --> 01:02:10,460

They are on a tiny, storm-battered imprick of a rock.

766

01:02:11,460 --> 01:02:18,460

Of course, food was very short. We had very little except a little seal and penguin whenever they came up.

767

01:02:19,460 --> 01:02:25,460

Shackleton knew the men could not survive. Conditions would only get worse. He had to get help.

768

01:02:26,460 --> 01:02:30,460

And he knew he had to go as quick as possible.

769

01:02:31,460 --> 01:02:35,460

But the only way out is across the most dangerous ocean on the planet.

770

01:02:37,460 --> 01:02:47,460

Taking only five men, two barrels of water and four weeks of food rations, Shackleton launches their largest lifeboat, the James Caird.

771

01:02:48,460 --> 01:02:53,460

There's a picture taken by Hurley with a little brownie camera with a little camera he had.

772

01:02:54,460 --> 01:03:06,460

That picture scares the bejesus out of me. This tiny speck of a boat, them all waving bravely at them as if to give them encouragement.

773

01:03:08,460 --> 01:03:13,460

Most of them must have felt they're never going to make it and we're never going to be saved.

774

01:03:14,460 --> 01:03:22,460

Shackleton's plan is to head to the island of South Georgia, 800 miles across the Southern Ocean.

775

01:03:23,460 --> 01:03:30,460

The Southern Ocean is probably one of the most treacherous bodies of water on this planet.

776

01:03:31,460 --> 01:03:38,460

It's not uncommon to have winds in this 50, 60, 70 mile an hour. It swells up to 100 foot.

777

01:03:38,460 --> 01:03:44,460

The water temperature is just a little above freezing. It can sink a vessel in seconds.

778

01:03:47,460 --> 01:03:56,460

It's like going up a hill or a mountain and you go up and up and up and then you reach the top and then you go down and you skid down.

779

01:03:57,460 --> 01:04:08,460

The odds are stacked against them. But Shackleton knows if he doesn't make it to land, all his men will perish.

780

01:04:17,460 --> 01:04:21,460

A century on, after two years of planning.

781

01:04:22,460 --> 01:04:24,460

This is the point where she went down.

782

01:04:26,460 --> 01:04:28,460

Five and a half weeks at sea.

783

01:04:32,460 --> 01:04:34,460

And four days battling the ice.

784

01:04:44,460 --> 01:04:52,460

The Agullus II has finally broken through to the exact coordinates of the endurance wreck site.

785

01:04:57,460 --> 01:05:00,460

It's a major achievement.

786

01:05:06,460 --> 01:05:09,460

Only a handful of ships have ever been here.

787

01:05:10,460 --> 01:05:13,460

I'm struggling to sleep just from the excitement.

788

01:05:14,460 --> 01:05:19,460

It feels great. I was up on the bridge till late. I only got two hours sleep, I'm shattered.

789

01:05:19,460 --> 01:05:26,460

But at the same time, I'm really happy. But we still got to find it.

790

01:05:27,460 --> 01:05:34,460

To actually be here and able to be part of the search is very exciting. I'm ready for it.

791

01:05:35,460 --> 01:05:37,460

But can they reach the endurance?

792

01:05:37,460 --> 01:05:39,460

The Endurance

793

01:05:44,460 --> 01:05:53,460

Deep within the iciest part of the Weddell Sea, against all odds, the expedition to find Shackleton's wreck

794

01:05:54,460 --> 01:06:00,460

has broken through to the actual site where the ship sank over a hundred years ago.

795

01:06:01,460 --> 01:06:09,460

Steve and Dave's robot sub is out of the game. Damaged beyond repair, it can't hunt the wreck.

796

01:06:10,460 --> 01:06:16,460

But there's still the AUV sub, which will use sonar to scan the sea floor.

797

01:06:17,460 --> 01:06:23,460

We're close to the actual last known location of the sinking of the endurance is.

798

01:06:24,460 --> 01:06:28,460

We're going to launch from where we're at, all the way down to 3,000 meters to the bottom.

799

01:06:30,460 --> 01:06:34,460

Hopefully everything works well according to plan and we'll see what happens.

800

01:06:39,460 --> 01:06:46,460

Existing scans reveal that the Agullus II is floating above a vast underwater plain.

801

01:06:48,460 --> 01:06:55,460

Here the sea floor plunges down 40 times the height of Niagara Falls to a depth of 10,000 feet.

802

01:06:56,460 --> 01:07:05,460

This is the deepest zone of the Weddell Sea and the crew believes this plain is the final resting ground of Shackleton's ship.

803

01:07:08,460 --> 01:07:15,460

To program their sub's flight path, the team needs to know what the water conditions are like at the sea floor.

804

01:07:16,460 --> 01:07:24,460

They deploy a monitoring device called a CTD to analyze the water.

805

01:07:31,460 --> 01:07:40,460

Somewhere in these icy depths, 10,000 feet down lie the remains of Shackleton's ship.

806

01:07:41,460 --> 01:07:49,460

Mensen Bound wants to know what the data might also tell him about the condition of the wreck.

807

01:07:50,460 --> 01:07:51,460

Hey guys, what do you got?

808

01:07:52,460 --> 01:07:57,460

This is the CTD over the wreck site and it's just got to the bottom, so we're at about just over 3,000 meters.

809

01:07:58,460 --> 01:08:04,460

And as we get right to the bottom, so sort of in the last couple of hundred meters, the temperature goes down considerably.

810

01:08:05,460 --> 01:08:10,460

Remarkably, the water at the sea floor is below 32 degrees.

811

01:08:12,460 --> 01:08:16,460

It doesn't freeze solid because of the vast pressures at depth.

812

01:08:17,460 --> 01:08:23,460

The depth combined with the super cold water, any bacterial activity will be slowed down.

813

01:08:24,460 --> 01:08:27,460

This is all pretty good news for the preservation of the endurance.

814

01:08:28,460 --> 01:08:34,460

All they've got to do now is launch the AUV sub to hunt it down.

815

01:08:35,460 --> 01:08:37,460

Hit that hydraulic when you walk around.

816

01:08:38,460 --> 01:08:40,460

But all the ice here is a problem.

817

01:08:41,460 --> 01:08:46,460

The AUV normally needs an open run of several hundred feet to get below the water.

818

01:08:49,460 --> 01:08:53,460

To make it sink faster, Devin and Blake are trying out an unusual solution.

819

01:08:53,460 --> 01:08:56,460

Using a bag of salt to add weight.

820

01:08:59,460 --> 01:09:04,460

But will their improvised fix work when it comes to the actual launch?

821

01:09:06,460 --> 01:09:08,460

I've added five kilos of salt.

822

01:09:09,460 --> 01:09:14,460

Salt should help it get down in this flat, calm water and get down to bottom and start tracking.

823

01:09:16,460 --> 01:09:17,460

Ready for arm state?

824

01:09:17,460 --> 01:09:19,460

It's heavy. All right.

825

01:09:20,460 --> 01:09:22,460

Adding the salt is a success.

826

01:09:24,460 --> 01:09:27,460

The propellers bite and the AUV dies.

827

01:09:31,460 --> 01:09:33,460

The AUV is a success.

828

01:09:34,460 --> 01:09:37,460

The propellers bite and the AUV dies.

829

01:09:38,460 --> 01:09:40,460

The AUV is a success.

830

01:09:41,460 --> 01:09:43,460

The AUV is a success.

831

01:09:43,460 --> 01:09:45,460

The AUV dies.

832

01:09:50,460 --> 01:09:56,460

That was a successful launch for the first mission to search for the endurance.

833

01:09:57,460 --> 01:10:02,460

If all goes well on the mission plan, we should be recovering in about 42, 43 hours.

834

01:10:04,460 --> 01:10:08,460

If it's down there, we should be able to find it. Fingers crossed.

835

01:10:09,460 --> 01:10:13,460

So far, so good.

836

01:10:14,460 --> 01:10:22,460

The plan now is for the AUV to spend the next 43 hours away from the ship on a pre-programmed route beneath the ice.

837

01:10:23,460 --> 01:10:27,460

At the moment, we've just got to depth, almost 3,000 meters.

838

01:10:28,460 --> 01:10:32,460

And we just got comms with the AUV. Everything's good. She's where she's supposed to be.

839

01:10:33,460 --> 01:10:40,460

Channing's team checks in with the AUV at regular intervals using the underwater acoustic comm system.

840

01:10:43,460 --> 01:10:48,460

That's a very big relief that she's not giving us issues underneath the ice.

841

01:10:49,460 --> 01:10:55,460

So everything's looking good at the moment. We're going to keep her fingers crossed, keep thinking positive and keep pushing forward.

842

01:10:56,460 --> 01:11:01,460

Now the ship must follow the AUV no matter how thick the ice.

843

01:11:05,460 --> 01:11:13,460

After over 100 years, the hunt for Shackleton's wreck comes down to what happens in the next 40 hours.

844

01:11:14,460 --> 01:11:20,460

The team has succeeded in reaching the exact place Sir Ernest Shackleton lost his ship.

845

01:11:21,460 --> 01:11:23,460

Now can they find it?

846

01:11:24,460 --> 01:11:28,460

10,000 feet down, the AUV sub is halfway through its mission.

847

01:11:29,460 --> 01:11:36,460

She's proceeding on to line 3 and we're actually going to jump up to that line, find out where it is.

848

01:11:36,460 --> 01:11:43,460

For now, AUV team leader Channing Thomas and his team can only follow their sub's programmed route.

849

01:11:44,460 --> 01:11:51,460

We monitor it still on that line as long as we can to make sure that the ship is in the right place.

850

01:11:52,460 --> 01:11:54,460

The ship is in the right place.

851

01:11:54,460 --> 01:11:59,460

On the now and now stand in, look at the hot map of starting it towards the next location.

852

01:12:00,460 --> 01:12:01,460

We're out of here.

853

01:12:02,460 --> 01:12:10,460

We monitor it still on that line as long as we can to make sure that she's flying true and straight and at the right altitude.

854

01:12:11,460 --> 01:12:20,460

Much like on an airplane, all the scan data from the AUV sub is recorded onto a black box stored on the sub itself.

855

01:12:21,460 --> 01:12:26,460

Devin will only find out if it's found the wreck once they pull it out of the water.

856

01:12:27,460 --> 01:12:30,460

But that won't be for another 24 hours.

857

01:12:37,460 --> 01:12:43,460

Five months after losing his ship, Shackleton faced impossible odds in Antarctica.

858

01:12:44,460 --> 01:12:51,460

He left 22 men behind on Elephant Island and he's braving the worst ocean on the planet.

859

01:12:52,460 --> 01:13:02,460

But after battling across 800 miles of it in two weeks and painfully dehydrated, he finally spots the island of South Georgia.

860

01:13:03,460 --> 01:13:09,460

They made it. They had made the toughest crossing in the world in a vessel.

861

01:13:09,460 --> 01:13:14,460

The vessel never made that crossing before. There was a sense of euphoria.

862

01:13:18,460 --> 01:13:25,460

From his landing point at King Harkin Bay, the closest settlement is a whaling station 30 miles to the east.

863

01:13:27,460 --> 01:13:31,460

But blocking his path now is a towering mountain range.

864

01:13:32,460 --> 01:13:36,460

The mountains were covered with snow and ice.

865

01:13:37,460 --> 01:13:46,460

And to get some sort of traction on the snow, they took nails out of the boat and pounded him through the bottom of the shoe.

866

01:13:47,460 --> 01:13:51,460

Mountaineer Conrad Anker has followed Shackleton's route.

867

01:13:52,460 --> 01:14:00,460

Shackleton's traverse of South Georgia in the context of when he did it was certainly one of the most technical climbs.

868

01:14:01,460 --> 01:14:06,460

Done in the mountains. If they didn't make it, their men were going to die.

869

01:14:07,460 --> 01:14:13,460

And when you have that degree of immediacy on your goals, you get things done.

870

01:14:14,460 --> 01:14:23,460

After climbing for 36 hours, Shackleton finally limps into civilization.

871

01:14:24,460 --> 01:14:31,460

When Shackleton told his story of what they'd been through, no one of the whaling station, they couldn't believe it.

872

01:14:32,460 --> 01:14:36,460

It was every step of this story was beyond belief.

873

01:14:39,460 --> 01:14:45,460

But of course, it wasn't over for Shackleton then. He had to go back and save the people on Elephant Island.

874

01:14:46,460 --> 01:14:50,460

Shackleton's strives tirelessly were always on the way.

875

01:14:50,460 --> 01:14:56,460

Shackleton strives tirelessly for four months to break back through the frozen sea.

876

01:14:59,460 --> 01:15:02,460

At last, he approaches Elephant Island.

877

01:15:03,460 --> 01:15:10,460

And as he's going ashore, the men on the island are seeing that their rescue boat is here and they're starting to come out from under the shelter.

878

01:15:11,460 --> 01:15:17,460

And Shackleton is counting one, two, three, four, all the way up until he's counted everyone.

879

01:15:21,460 --> 01:15:27,460

And he looks to, wordsily, and says, they're all there. They're all alive.

880

01:15:28,460 --> 01:15:33,460

And the emotion that he had at that time had to be just overwhelming.

881

01:15:38,460 --> 01:15:49,460

To bring everybody and his expedition back home alive was probably one of the greatest adventure achievements that we have in our history books.

882

01:15:51,460 --> 01:15:58,460

On board the Agullus II, the crew hunting down Shackleton's wreck has suffered a major blow.

883

01:16:02,460 --> 01:16:09,460

Thirty hours into the dive, the AUV that's scanning the sea floor has gone missing.

884

01:16:10,460 --> 01:16:14,460

The multi-million dollar machine has likely located the wreck.

885

01:16:15,460 --> 01:16:20,460

But AUV operators Devin and Blake have lost contact with it.

886

01:16:21,460 --> 01:16:25,460

If they can't reconnect, they'll never find out what's below.

887

01:16:26,460 --> 01:16:31,460

We've gotten over the site, we've got the best equipment and opportunity to find it.

888

01:16:32,460 --> 01:16:37,460

And if we can't recover the data after the AUV has already run its mission, that's kind of heartbreaking.

889

01:16:38,460 --> 01:16:47,460

Devin's last hope is that it's waiting at its rendezvous point, ten miles away, six hundred feet below the surface.

890

01:16:48,460 --> 01:16:53,460

But they need to get there fast. The AUV's battery is running down.

891

01:16:54,460 --> 01:16:59,460

And once the battery dies, the AUV's nothing more than a four thousand pound paperweight.

892

01:17:00,460 --> 01:17:05,460

The problem is, getting anywhere out here is far from easy.

893

01:17:07,460 --> 01:17:13,460

Twelve hours into the chase, the Agullus II grinds to a halt.

894

01:17:20,460 --> 01:17:21,460

We're stuck.

895

01:17:22,460 --> 01:17:29,460

In normal conditions with open water, we just shoot over to the loiter box, pick her up and everything would be fine.

896

01:17:30,460 --> 01:17:32,460

But you know, right now, we can't move.

897

01:17:33,460 --> 01:17:39,460

We're now almost eight nautical miles to get to the spot, and her battery's running out.

898

01:17:41,460 --> 01:17:44,460

It's tough to search for an AUV in this kind of situation.

899

01:17:44,460 --> 01:17:49,460

The team doesn't have time to wait. Last time the ship got stuck, it took fourteen hours to escape.

900

01:17:50,460 --> 01:17:55,460

If it takes that long again, the subs' battery will be dead before they reach it.

901

01:17:57,460 --> 01:18:04,460

It's just a waiting game, just depends on how long we need to wait. So hopefully not too much longer, because we are losing time.

902

01:18:04,460 --> 01:18:07,460

At last, the ship breaks free.

903

01:18:26,460 --> 01:18:29,460

At last, the ship breaks free.

904

01:18:35,460 --> 01:18:44,460

By the time the Agullus II makes it to the planned endpoint, the AUVs only got four hours of battery left.

905

01:18:47,460 --> 01:18:50,460

The team prepares to lower its main communication system.

906

01:18:52,460 --> 01:18:55,460

Yeah, we're just gonna get it together here, spin it and then lift it.

907

01:18:55,460 --> 01:19:08,460

But there's no signal. The AUV is not where they hoped.

908

01:19:11,460 --> 01:19:13,460

There's just one last possibility.

909

01:19:15,460 --> 01:19:18,460

Has it come up and gotten stuck under the ice?

910

01:19:19,460 --> 01:19:24,460

Devin and Blake want to use another device to boost the comm system.

911

01:19:25,460 --> 01:19:33,460

We're gonna drop this transponder down into the water and bounce the signal possibly to the AUV.

912

01:19:38,460 --> 01:19:40,460

At this point, any response is good.

913

01:19:41,460 --> 01:19:43,460

They need to pick up a signal from the sub.

914

01:19:44,460 --> 01:19:46,460

This is the last known possible location.

915

01:19:49,460 --> 01:19:50,460

I'm 50-50.

916

01:19:51,460 --> 01:19:52,460

It's the scrap chute.

917

01:19:53,460 --> 01:19:56,460

It's the team's final roll of the dice.

918

01:19:58,460 --> 01:20:00,460

But what will they find?

919

01:20:07,460 --> 01:20:15,460

At the site where Ernest Shackleton lost his ship a century ago, the team sent to find it has a tough call to make.

920

01:20:18,460 --> 01:20:24,460

Their final attempt to locate their multi-million dollar AUV son has failed.

921

01:20:26,460 --> 01:20:32,460

We got there and we could not establish communication and we started realizing it's not here.

922

01:20:33,460 --> 01:20:37,460

Without the AUV, the hunt for the wreck is over.

923

01:20:39,460 --> 01:20:41,460

It hurt, you know.

924

01:20:49,460 --> 01:20:51,460

The AUV could be anywhere.

925

01:20:52,460 --> 01:20:54,460

It's likely out of battery.

926

01:20:56,460 --> 01:20:58,460

And temperatures are dropping fast.

927

01:21:00,460 --> 01:21:05,460

The ice flows that have trapped them twice in the last 48 hours are closing in.

928

01:21:07,460 --> 01:21:14,460

If they don't get out soon, the ice could trap them for weeks, just like the endurance.

929

01:21:18,460 --> 01:21:20,460

Captain Ben-Goo makes the call.

930

01:21:23,460 --> 01:21:28,460

We've personally felt we've done exceptionally well and there's circumstances.

931

01:21:29,460 --> 01:21:31,460

I think we just accept and let go.

932

01:21:32,460 --> 01:21:35,460

We are at the end of the season now. This is where the ice starts forming first.

933

01:21:36,460 --> 01:21:38,460

And we should certainly get out of this area.

934

01:21:39,460 --> 01:21:41,460

Well, Antarctica is a tough cookie to crack.

935

01:21:42,460 --> 01:21:44,460

Shackleton figured that out. Obviously we're figuring it out.

936

01:21:48,460 --> 01:21:55,460

The Antarctic has already cost the team one of their AUV subs and destroyed their underwater robot.

937

01:21:58,460 --> 01:22:05,460

We came down with bigger, better technology, but the same rules that Shackleton was playing by still apply today.

938

01:22:09,460 --> 01:22:13,460

You know, mother nature, you know, at some point puts her foot down and lets you know who's boss.

939

01:22:14,460 --> 01:22:25,460

The ice still rules. The ice is still the king. And you have no choice. You're merely there trying to do the best you can.

940

01:22:26,460 --> 01:22:33,460

For now, the secret of Shackleton's lost ship remains locked in the AUV, hidden beneath the ice.

941

01:22:34,460 --> 01:22:39,460

The AUV can be anywhere. At this point, it's likely that it's buoyant and floating under the ice.

942

01:22:40,460 --> 01:22:46,460

That information that's on that AUV could hold the secret of the endurance.

943

01:22:49,460 --> 01:22:55,460

We were always up against the ice. That was always the enemy for us, just as it was for Shackleton.

944

01:22:56,460 --> 01:22:59,460

And yeah, it's beaten us also.

945

01:23:00,460 --> 01:23:06,460

The loss of the endurance a century ago turned Shackleton into a legend.

946

01:23:07,460 --> 01:23:17,460

Shackleton resonates today because of keeping his men together, keeping morale up, doing the impossible and then saving them. That's endurance.

947

01:23:17,460 --> 01:23:46,460

Whenever I'm out there in a tricky situation, climbing or where things might not be going my way, I take a bit of Shackleton and I plug it in and I'm like, yeah, Sir Ernest Shackleton, he would persevere.

948

01:23:47,460 --> 01:23:51,460

And that is the power of Shackleton's story.

949

01:23:56,460 --> 01:24:14,460

On the hunt for Shackleton's wreck, the crew has battled the same conditions faced by the endurance, broken through to one of the most remote places on the planet and explored for the first time the ship's final resting ground on the seafloor.

950

01:24:18,460 --> 01:24:23,460

For the expedition, getting this close to the wreck is a major feat of exploration.

951

01:24:24,460 --> 01:24:31,460

And while the onset of winter marks the end of this season, the team plans to return.

952

01:24:32,460 --> 01:24:36,460

If there's an opportunity to come back and search for it again, I'm going to be first on the list.

953

01:24:37,460 --> 01:24:41,460

Hopefully we find the AUV and the Shackleton ship in the same spot.

954

01:24:42,460 --> 01:24:56,460

I always said this was the greatest wreck hunt that there's ever been and still is. I mean, somewhere beneath my feet is the endurance and you know what? It isn't over yet.

955

01:24:57,460 --> 01:25:04,460

To be able to go down and find it and locate it and document it would be a closure for this whole endurance story.

956

01:25:04,460 --> 01:25:12,460

Though Polar Ice has forced the team to retreat for now, they are determined to one day return and find at last Shackleton's lost ship.

957

01:25:13,460 --> 01:25:17,460

I'm Lawrence Fishburne. Thanks for watching History's Greatest Mysteries.

