



**OCEAN
INFINITY**

OCEAN INFINITY SHIPS, TECHNOLOGY & ASSETS – SCALE, PRECISION AND SPEED

- **3 X MULTI-PURPOSE SUPPORT VESSELS**
- **6000M AUVs**
- **USVs**
- **HIGH RESOLUTION SENSORS**
- **6000M WROVs**
- **SALVAGE CAPABILITY TO 6000M (CRANES, WINCHES, ETC)**
- **HULL MOUNTED MBES SYSTEM ON ALL VESSELS**



SEABED CONSTRUCTOR

DESIGN	MT 6022 MKII
YEAR	2014
LENGTH	115.4M
BREADTH	22M
ACCOMMODATION	102 PAX
CRANE	250 TON AHC
MOONPOOL	7.2M x 7.2M
MAIN DECK	1300 M²

ISLAND PRIDE

DESIGN	UT 737 CD
YEAR	2014
LENGTH	103.3M
BREADTH	21M
ACCOMMODATION	90 PAX
CRANE	125 TON AHC
MOONPOOL	7.2M x 7.2M
MAIN DECK	800 M²

NORMAND FRONTIER

DESIGN	VARD OSCV
YEAR	2014
LENGTH	122.8M
BREADTH	23M
ACCOMMODATION	100 PAX
CRANE	250 TON AHC
MOONPOOL	7.2M x 7.2M
MAIN DECK	1300 M²

ROV FLEET (2 PER VESSEL)

6000M WORK CLASS ROVs

- SCHILLING HD
- KRYSTDESIGN KD





HEAVY LIFT SYSTEM (x2)

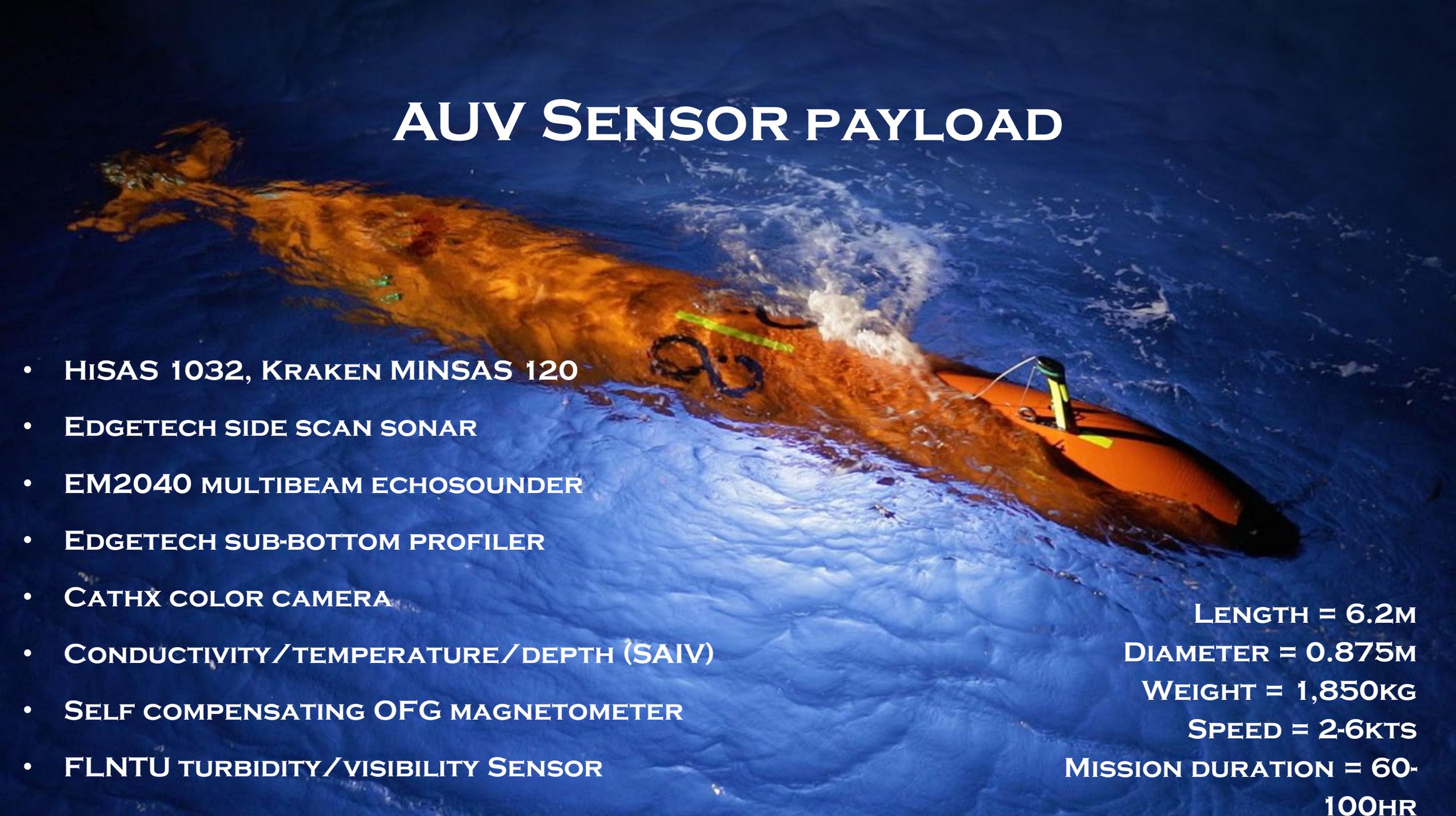
- 45T AT 6000M
- 250T AT 3000M

AUTONOMOUS SURFACE VEHICLES (ASV)

- 150HR ENDURANCE
- MULTIPLE PAYLOAD OPTION
SAFETY



AUV SENSOR PAYLOAD



- HISAS 1032, KRAKEN MINSAS 120
- EDGETECH SIDE SCAN SONAR
- EM2040 MULTIBEAM ECHOSOUNDER
- EDGETECH SUB-BOTTOM PROFILER
- CATHX COLOR CAMERA
- CONDUCTIVITY/TEMPERATURE/DEPTH (SAIV)
- SELF COMPENSATING OFG MAGNETOMETER
- FLNTU TURBIDITY/VISIBILITY SENSOR

LENGTH = 6.2M

DIAMETER = 0.875M

WEIGHT = 1,850KG

SPEED = 2-6KTS

MISSION DURATION = 60-

100HR

OCEAN INFINITY – AUV FLEET



15 HUGIN AUTONOMOUS UNDERWATER VEHICLES

- **~27,000+ SURVEY HOURS**
- **140,000 LKM**
- **181,000 SQKM**
- **~700 MISSIONS**
- **OFF THE SHELF TECHNOLOGY – BUILT TO OI SPECIFICATIONS**



AUV HANGER



HIGH RESOLUTION, HIGH QUALITY DATA AND INFORMATION

HARDWARE SOLUTIONS



STORAGE

ALL-FLASH ARRAYS

- MANAGING LARGE DATA SETS —
- UP TO 90GB PER HOUR OF SURVEY
- SECURITY, ENCRYPTION, REDUNDANCY AND TIME/SPEED CRITICAL



NETWORK

LOW-LATENCY SWITCHES

- SCALABLE NETWORK ARCHITECTURE
- NETWORKING AND COMMUNICATION CHALLENGES
- FROM SEABED TO SHORE — ACOUSTIC COMMUNICATIONS, WIRELESS/RF, WIRED NETWORKING, VSAT, CLOUD STORAGE & PHYSICAL SERVERS



COMPUTE

HIGH-DENSITY SERVERS

- POST MISSION ANALYSIS
- DATA PROCESSING
- DELIVERY TO STAKEHOLDERS
- AUTOMATING WORKFLOWS
- FUTURED DEVELOPMENTS AI, ATR, MACHINE LEARNING & CLOUD COMPUTING

OCEAN INFINITY – MULTIPLE AUV

OPERATIONS

- R&D THROUGH REAL WORLD OPERATIONS:

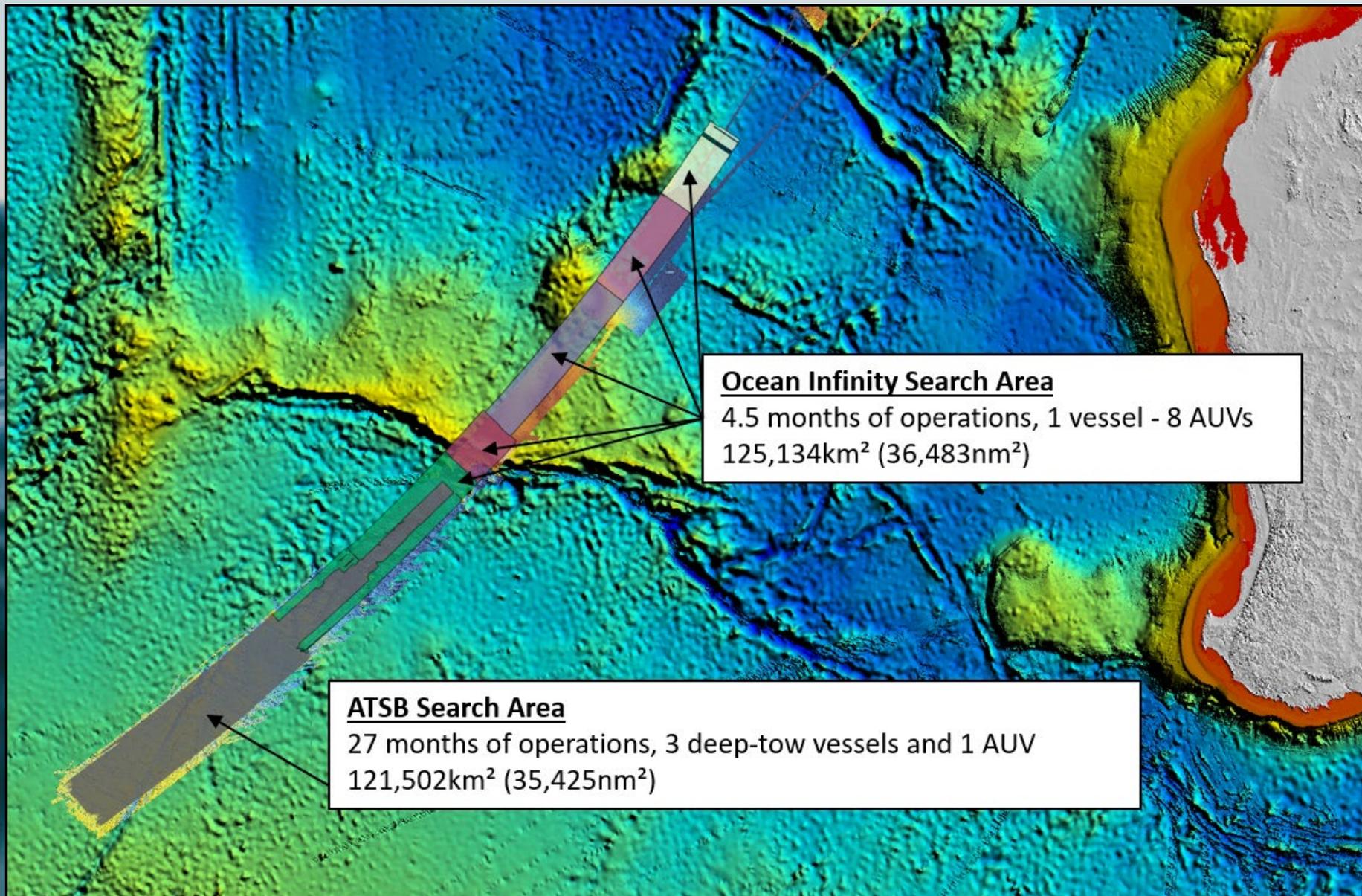
- WITHOUT SUPERVISION FROM SURFACE VESSELS, UNDER ICE, LONG ENDURANCE MISSIONS, CHALLENGING WEATHER
- L&R SYSTEMS, INFRASTRUCTURE IMPROVEMENTS, A-COMMS, RF, V-SAT, NETWORKING & NAVIGATION SYSTEMS



OCEAN INFINITY – AUV OPERATIONS



MH370 AREA COVERAGE



LA MINERVE – LOST 1968



UTC
Date: 21/07/2019
Time: 17:10:35

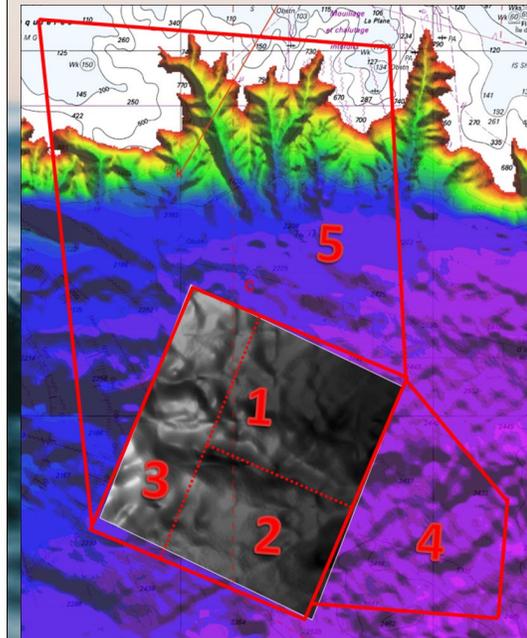
ROV KD 31
Easting : 718626.95 m
Northing: 4738193.31 m

HDG: 186.02
Depth: 2230.22m
Alt: 2.24 m

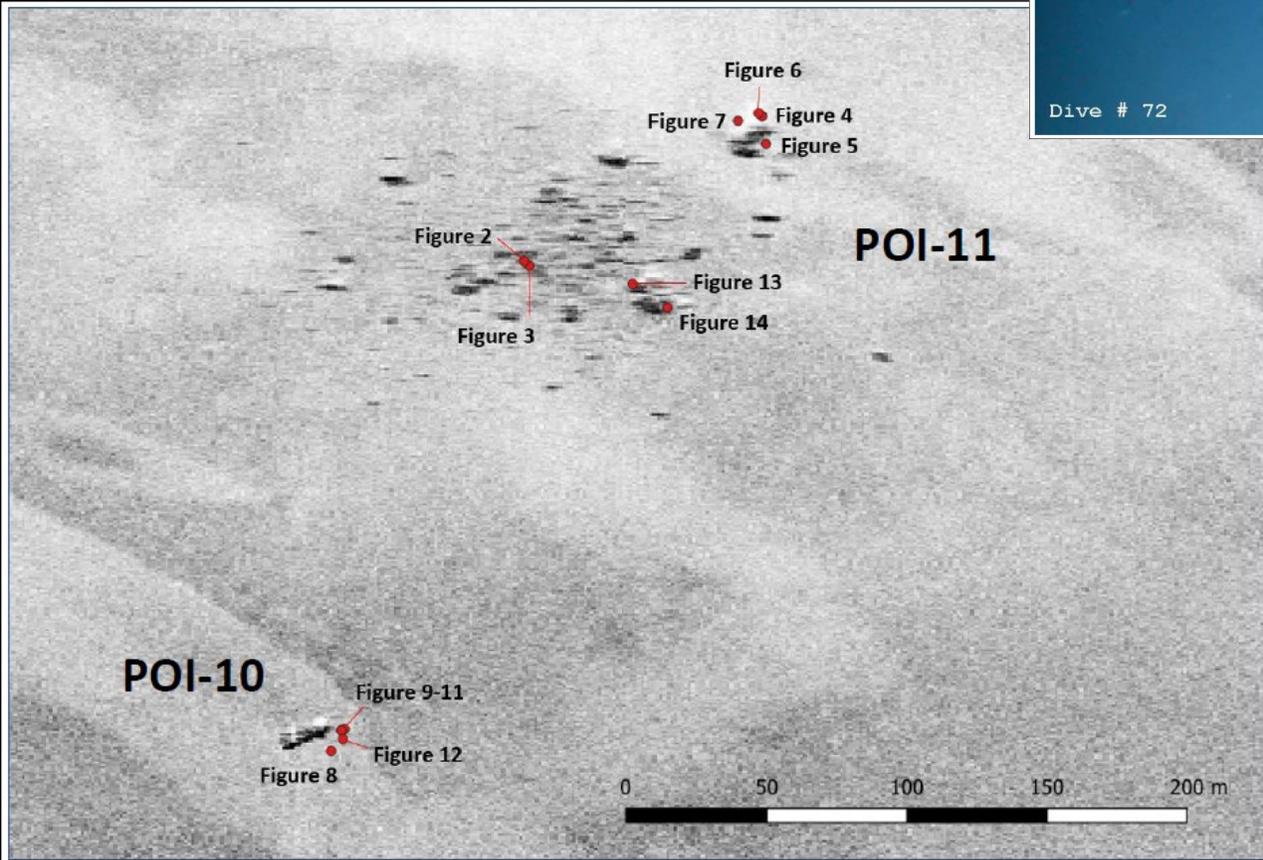
Frequency

POI-11 Visual Inspection

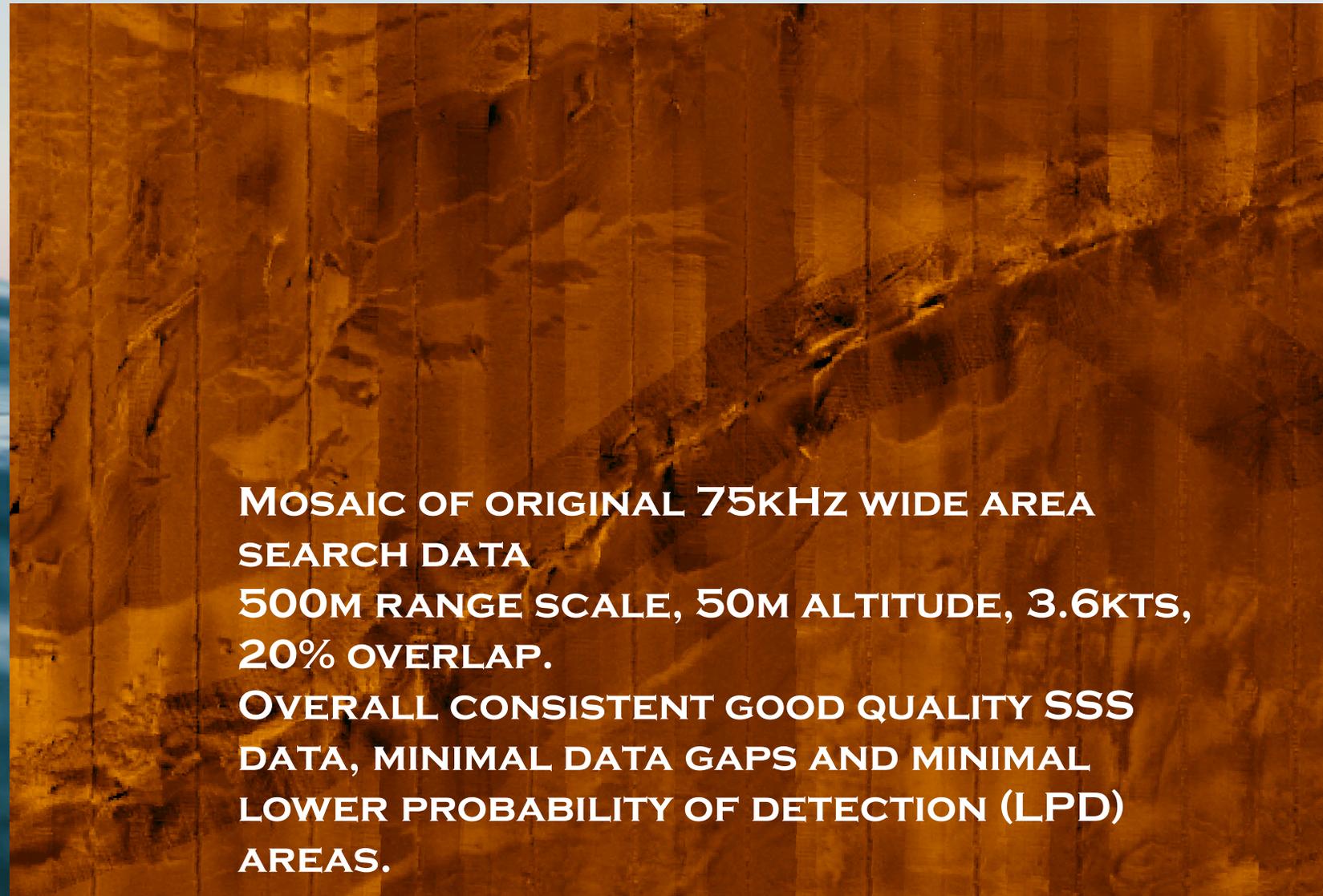
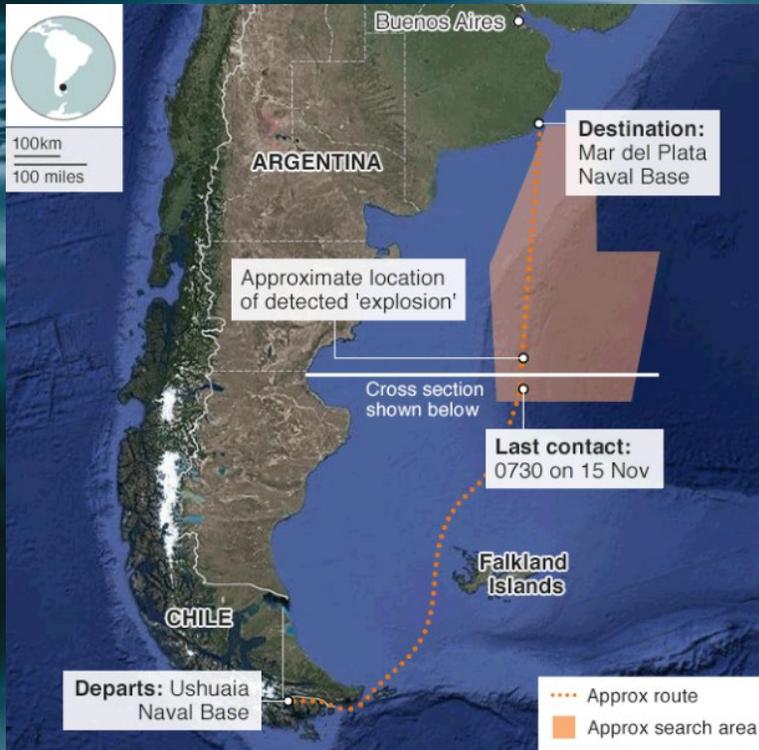
Dive # 72



LA MINERVE

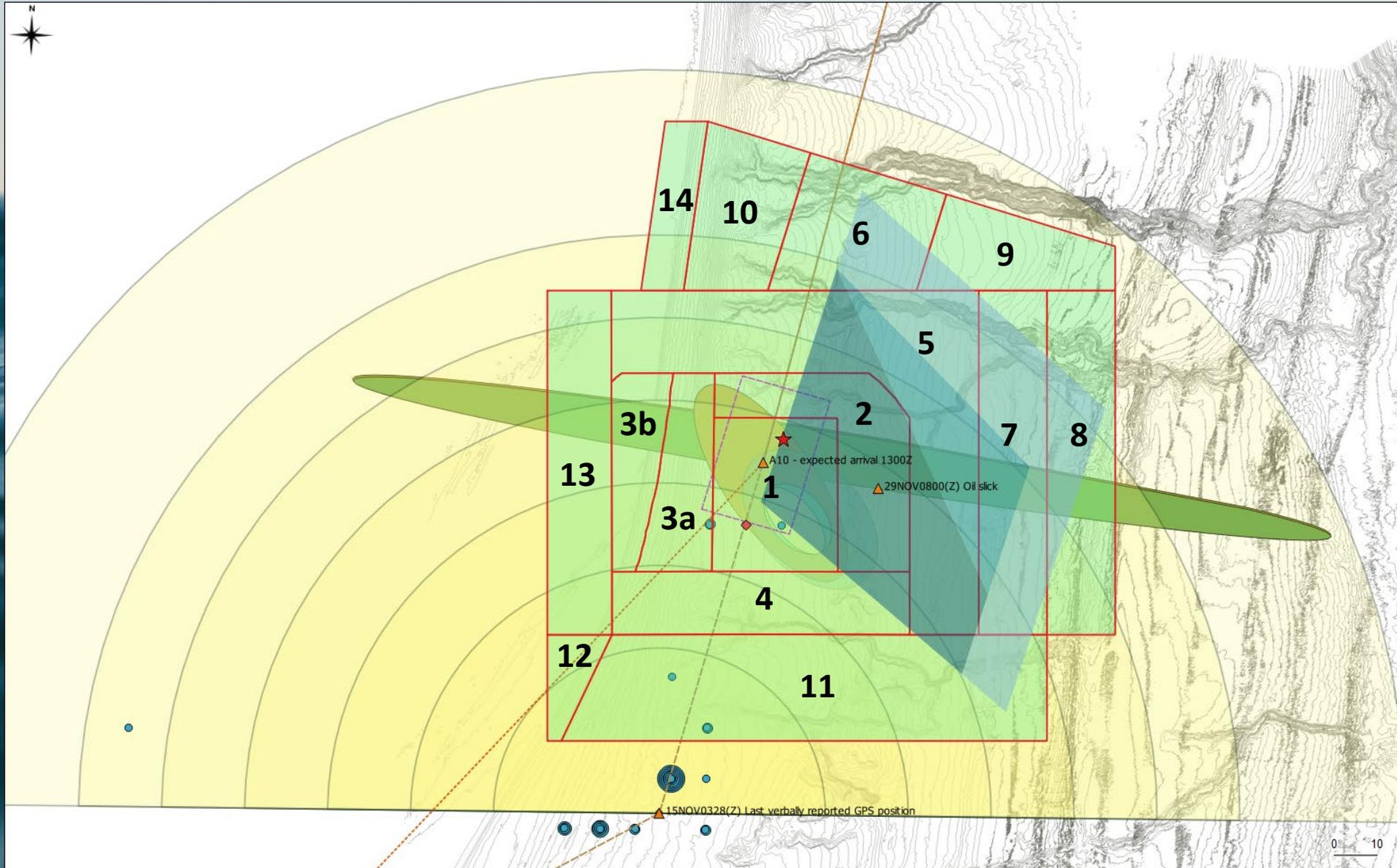


ARA San Juan search

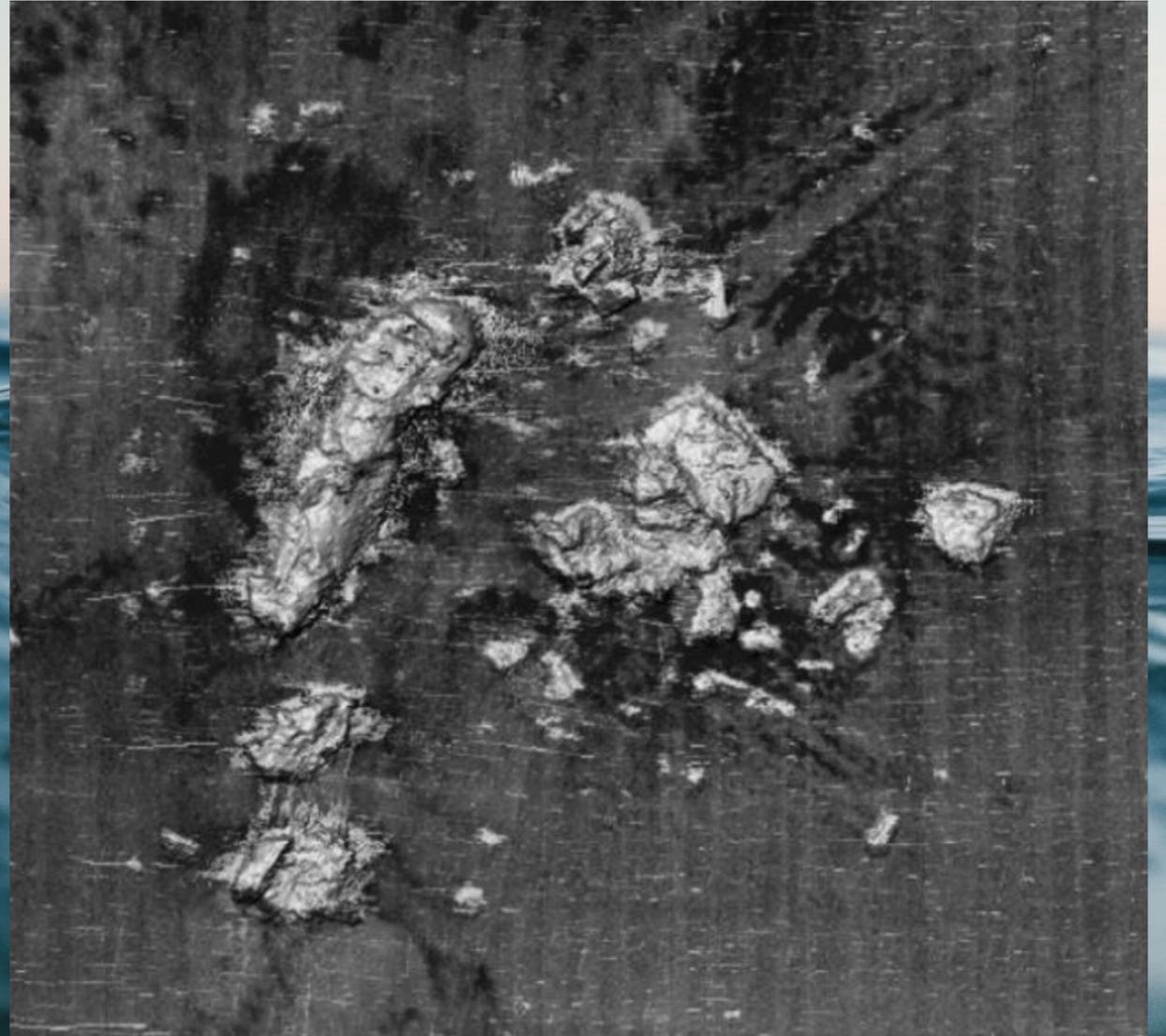


**MOSAIC OF ORIGINAL 75KHZ WIDE AREA
SEARCH DATA
500M RANGE SCALE, 50M ALTITUDE, 3.6KTS,
20% OVERLAP.
OVERALL CONSISTENT GOOD QUALITY SSS
DATA, MINIMAL DATA GAPS AND MINIMAL
LOWER PROBABILITY OF DETECTION (LPD)
AREAS.**

SEARCH AREAS 1-14



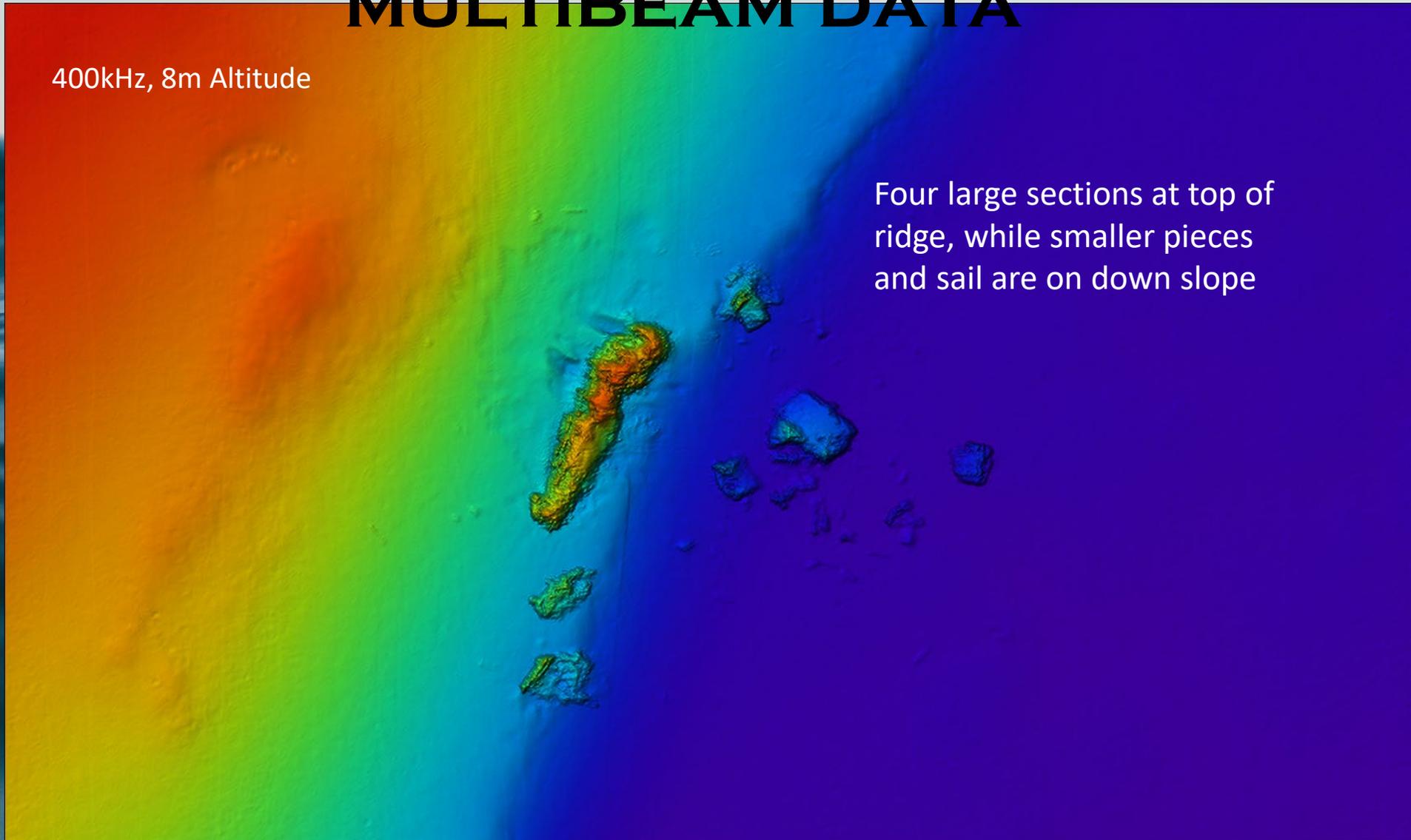
Multibeam Backscatter image:
Defines ridge line and impact crater



INVESTIGATION AUV DIVE - MULTIBEAM DATA

400kHz, 8m Altitude

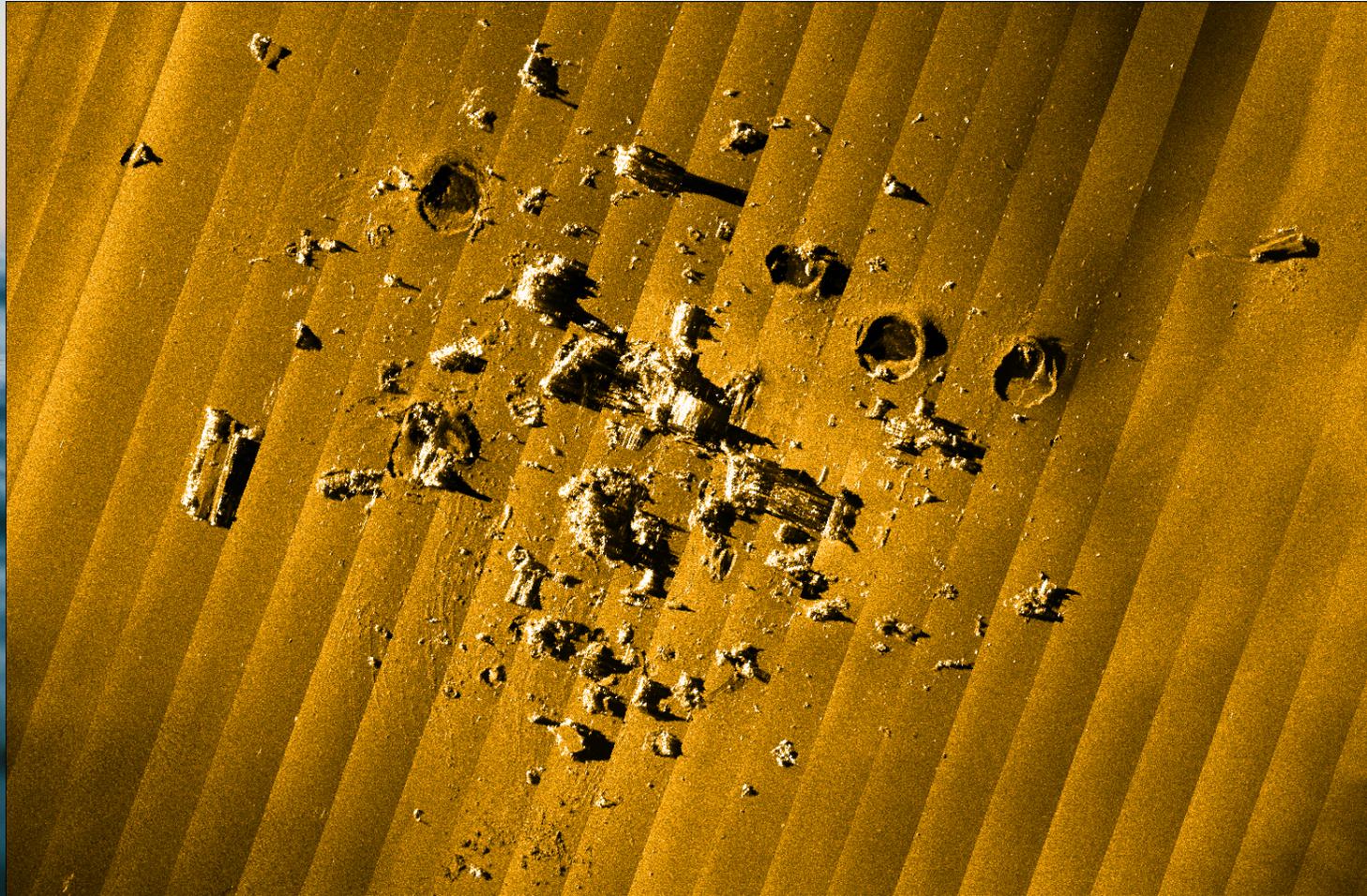
Four large sections at top of
ridge, while smaller pieces
and sail are on down slope



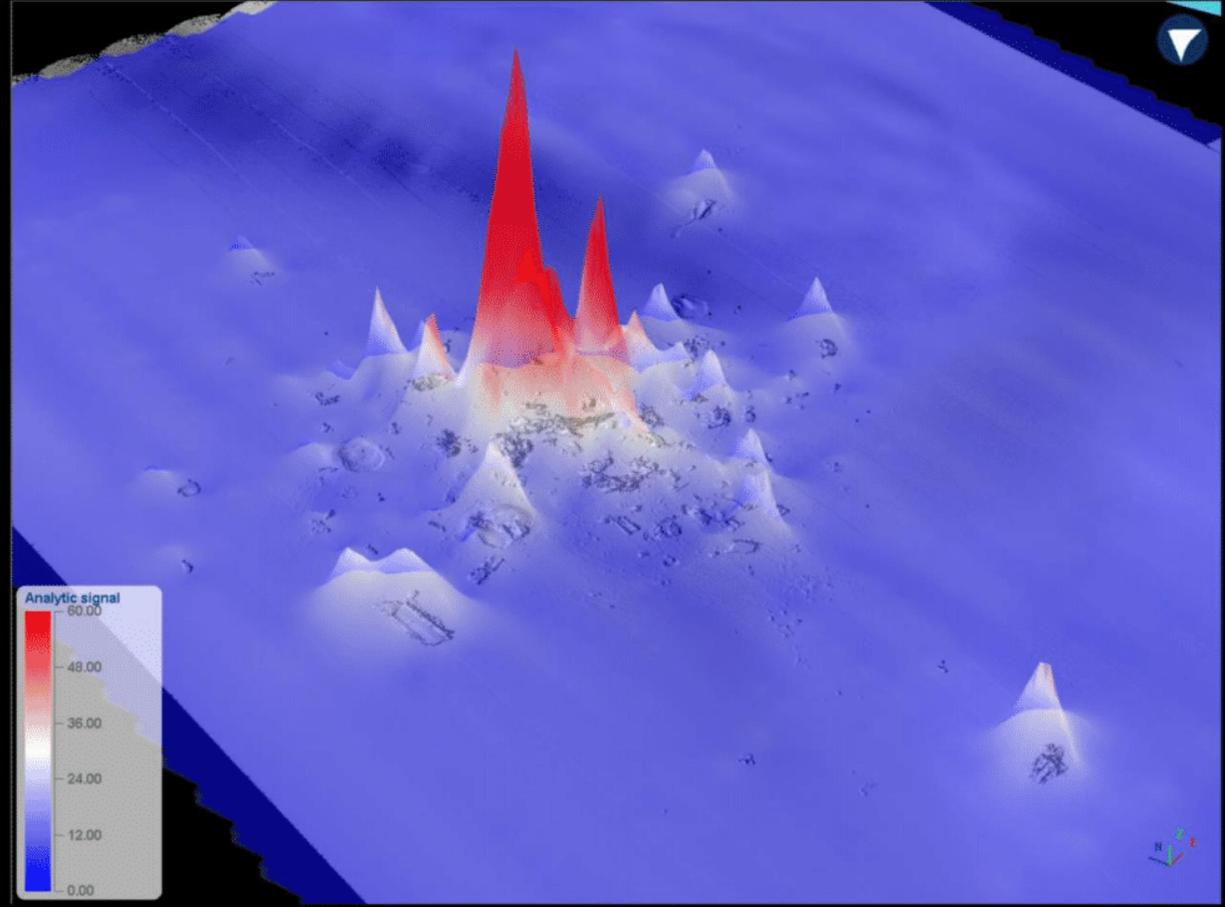
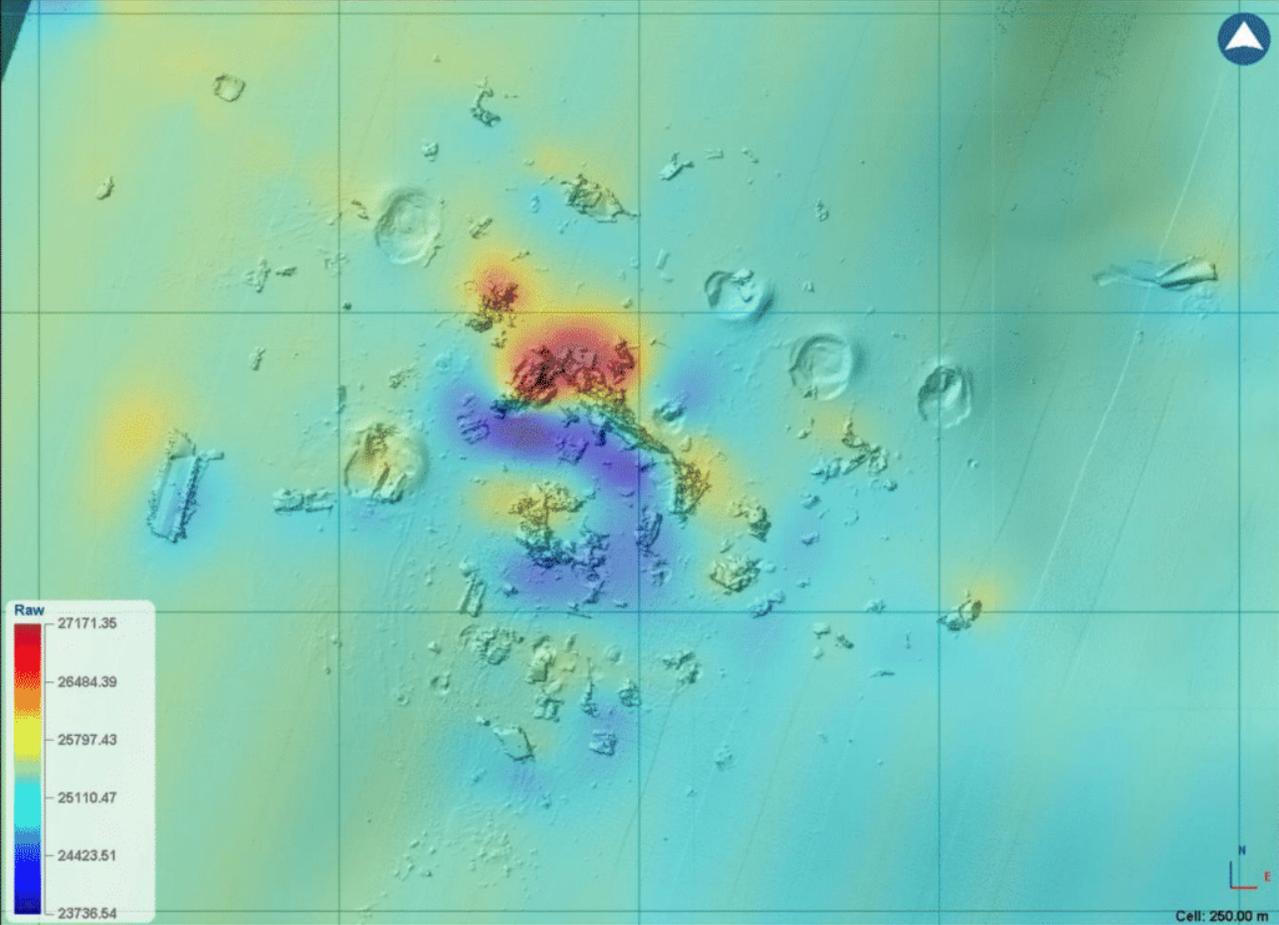
GEOLOGICAL ANOMALIES

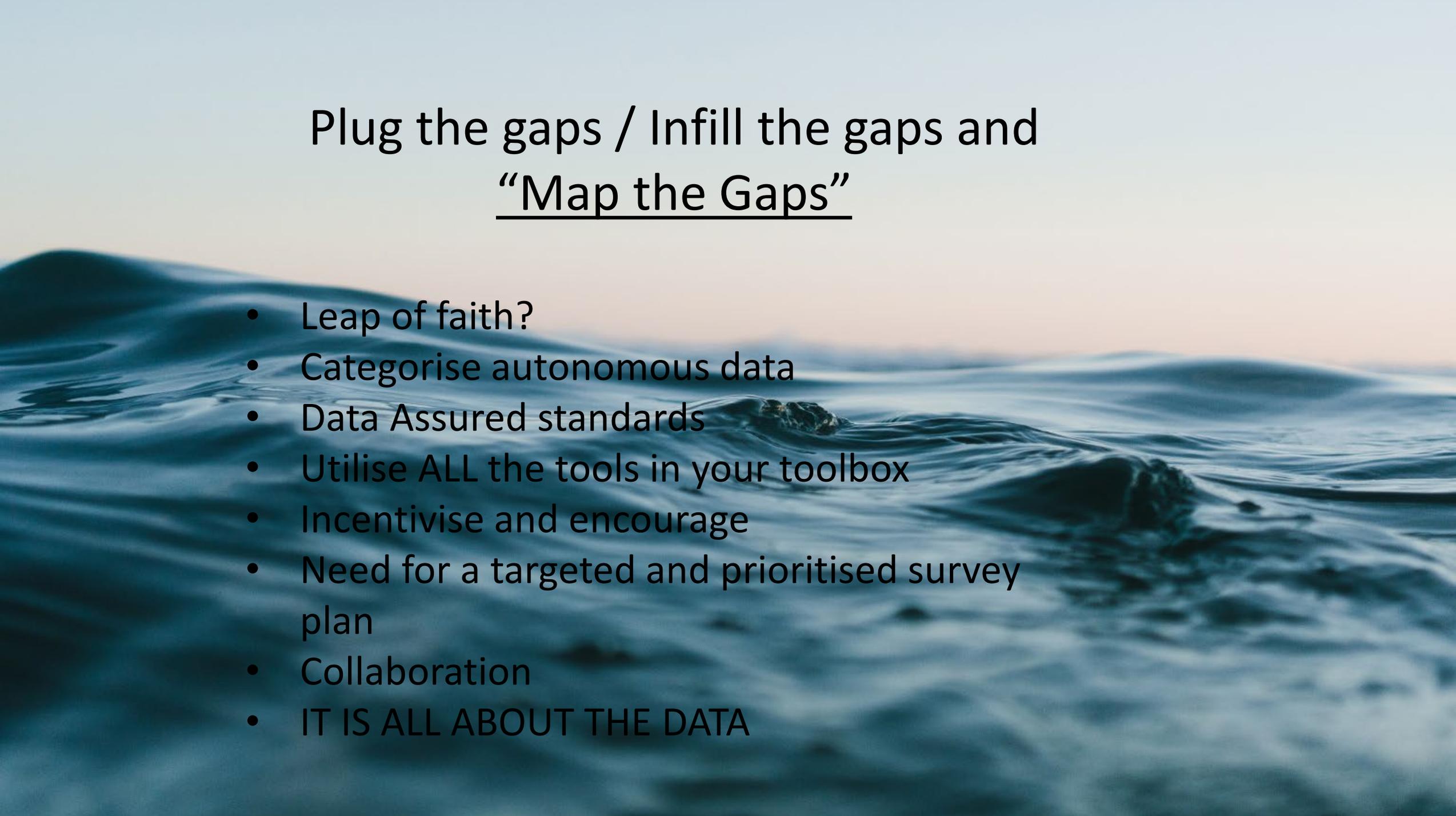


STELLAR DAISY



Magnetometer Signature, draped over SSS





Plug the gaps / Infill the gaps and “Map the Gaps”

- Leap of faith?
- Categorise autonomous data
- Data Assured standards
- Utilise ALL the tools in your toolbox
- Incentivise and encourage
- Need for a targeted and prioritised survey plan
- Collaboration
- IT IS ALL ABOUT THE DATA



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