

SOUTH Hydrographic Products Introduction

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1.1. Single beam echo sounder



SDE-28S+
Single
frequency



SDE-260D
Dual
frequency



SDE-19S or 19D
19S: single
frequency
19D: dual
frequency



SDE-18S
single
frequency

1.1. Single beam echo sounder

SDE-19S or SDE-19D + N80



WIFI

Bluetooth

WebUI

Android software

Wireless connection

NEW echo sounder time

Sell point: Wireless connection

Portable and professional

Android software



1.1. Single beam echo sounder



The comparison between SDE-19 and classical echo sounder

1.1. Single beam echo sounder

Survey board build in the transducer
2KG weight

Carrying case

Convert cable

Connecting pole
(30cm or 150cm option)

18S echo sounder
with 5m cable

Power supply cable
(12V DC)

Sell point:
Supper Portable

SDE-18S
single frequency

1.1. Single beam echo sounder



SDE-28S+
Single
frequency

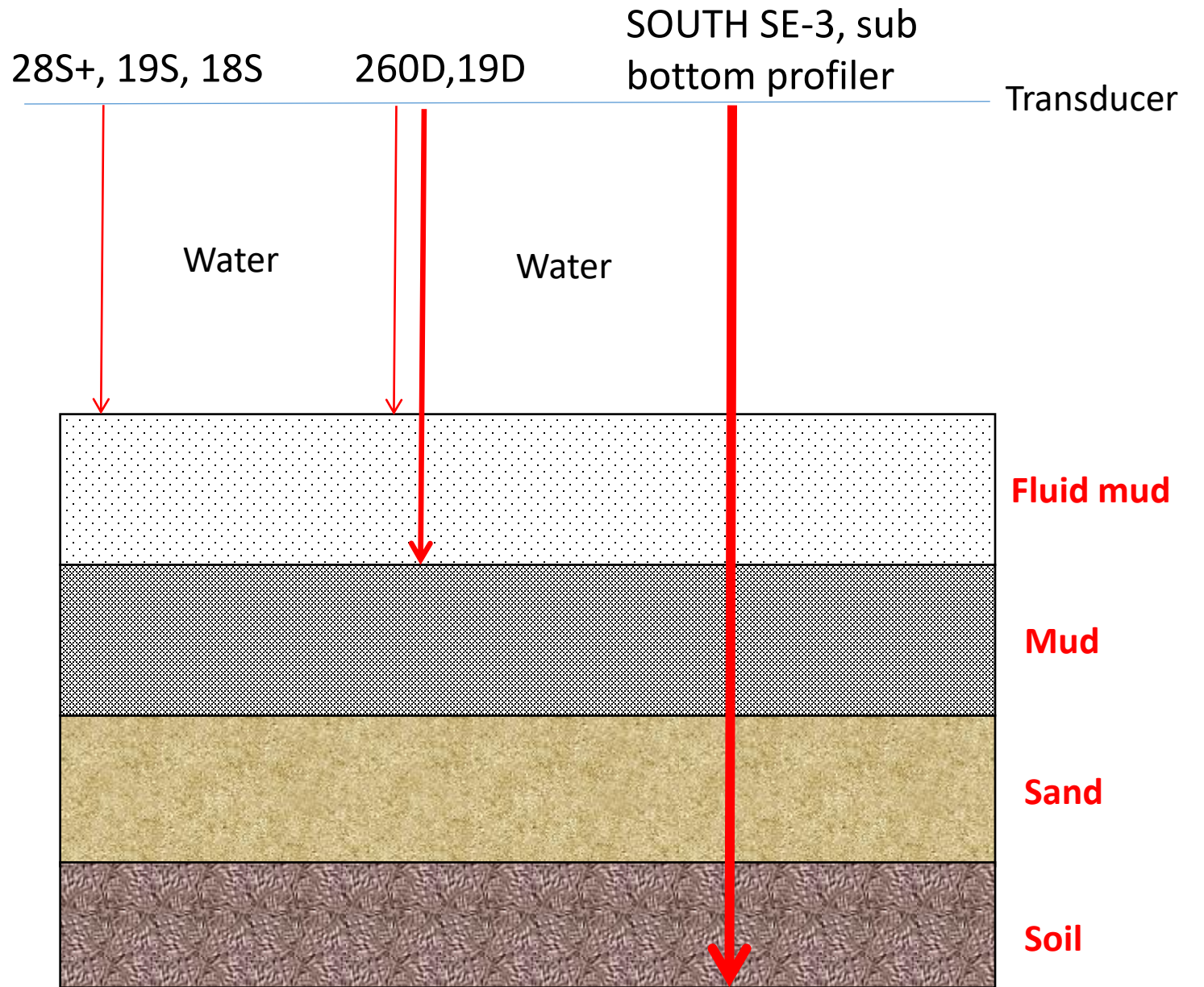


SDE-260D
Dual
frequency

Build-in Windows 7 OS
Build-in survey software
Classical echo sounder

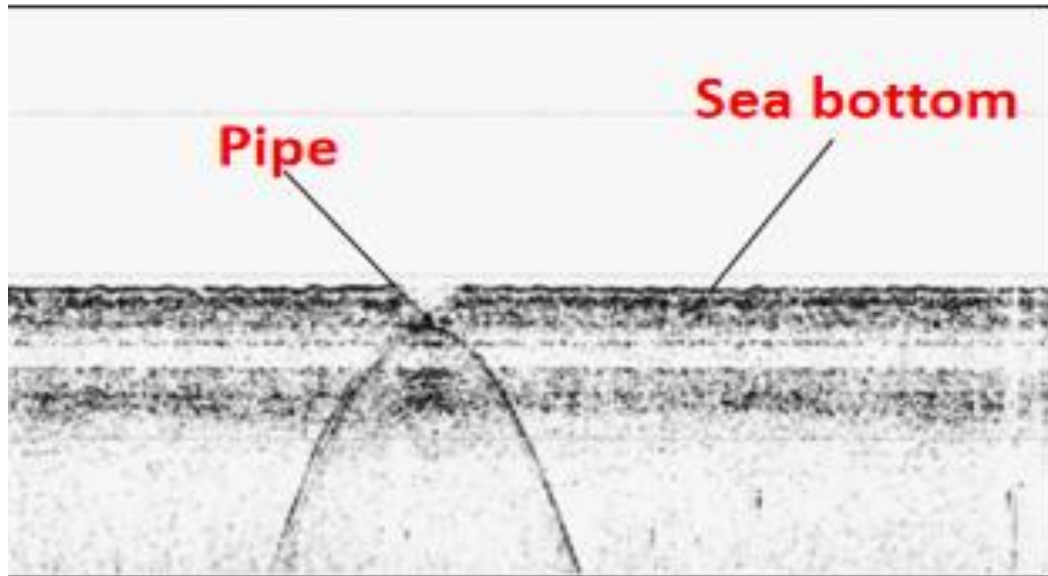
Sell point:
Build-in computer and
Build-in survey software

1.2. Sub bottom profiler

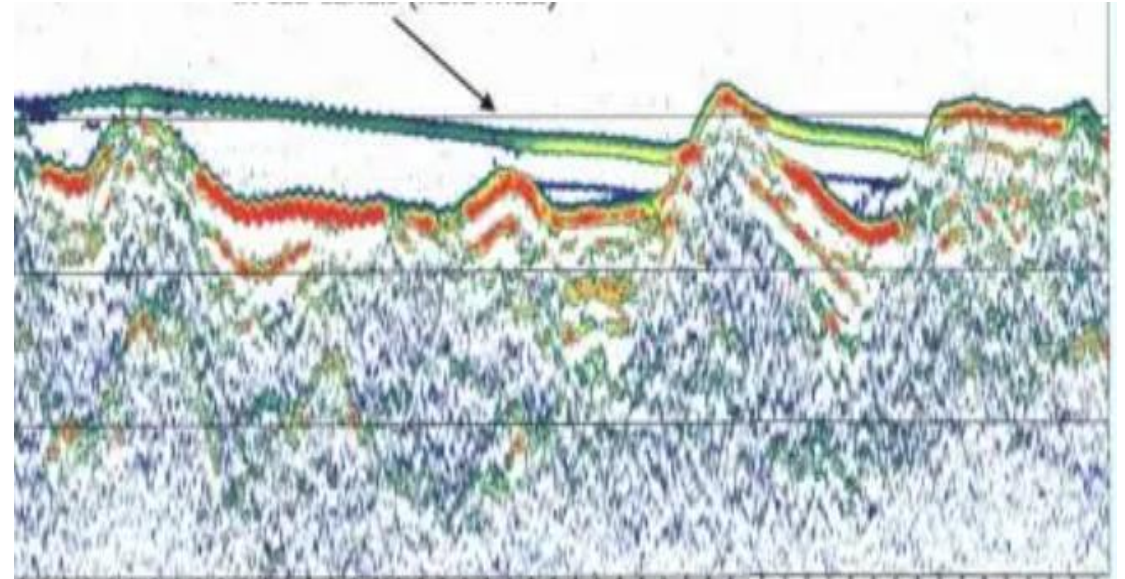


1.2. Sub bottom profiler - **Application**

Main application of SBP

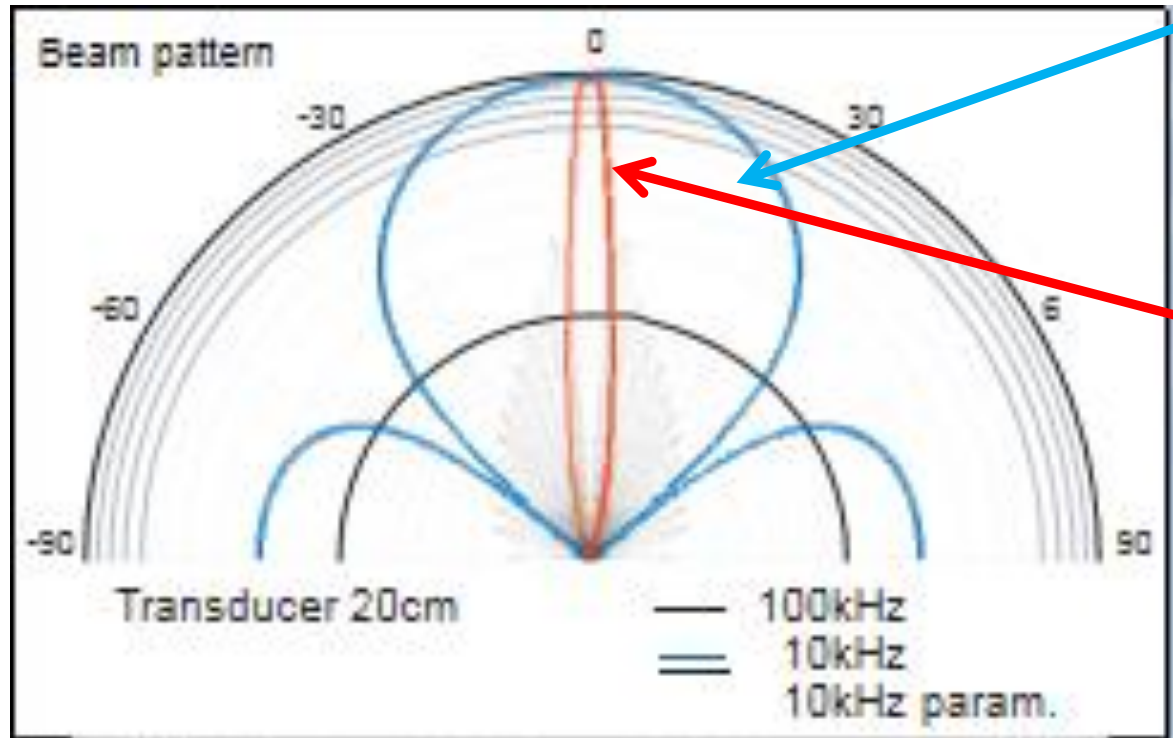


Under ground Pipe or other things detection



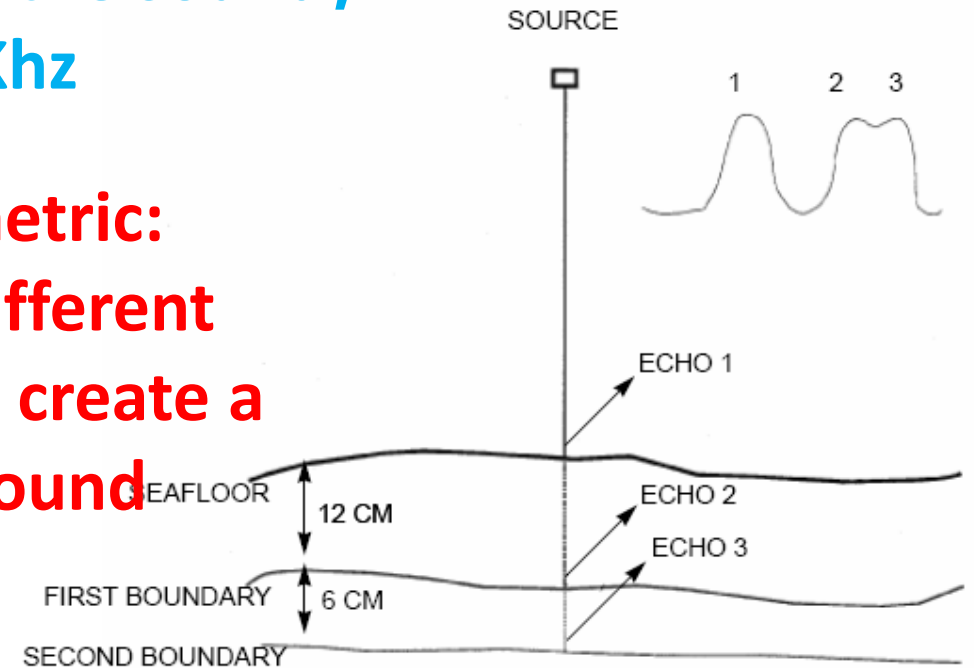
Geological exploration, volume calculation

1.2. Sub bottom profiler



Classical: directly create the sound, like 3KHz

Parametric: two different waves create a new sound



Sell point: Parametric type, higher resolution and accuracy(real 6cm), can use in shallow water(minimum 0.5m depth), much less weight

1.2. Sub bottom profiler



Weight: 8 kg in air, 4 kg in water

Size: 415mm(Length)*110mm(Diameter)

Penetration Capability: <15m (depends on the sediment and noise)

Maximum water depth: 50m

Primary Frequency: 270 ~ 330 kHz

Secondary Frequency: 10 ~ 35 kHz

Transmit angle: less than 4°

Output Power: > 3 kW

Power supply: 24VDC / 220V AC to 240VAC

Echo Sounder Applications

Topographic survey:

Single(200Khz) or dual frequency echo sounder(200Khz or 20Khz)

Some other brands echo sounder, their “dual frequency” echo sounder is 400Khz and 200Khz. These kind of echo sounder can not penetrate fluid mud.

If there is fluid mud, we need use SDE-19D or SDE-260D.

But the point is we don't very sure about where have the fluid mud

Low frequency(20 Khz) normally will get deeper depth



Fluid mud

Echo Sounder Applications

Dredging or sea-fill project survey:

In this kind of project, the volumn calculation is very important for contractors, so we suggest them to use dual frequency echo sounder.

If they need to know the mud volumn, we can support our sub bottom profiler to them.

For the mud volumn calculation, SBP is the only equipment for this requirement

Channel safety project survey:

For this project, we better use multi-beam echo sounder for underwater scanning

1.3 Multi-beam echo sounder system- SOUTH T400



Working frequency: 400 kHz
Swath coverage: 165°
Vertical track beam width: 1°
Parallel track beam width: 2°
Beam number: 512
Measuring range: 0.2-150m
Maximum ping rate: 60 Hz
Depth resolution: 7.5mm
Integrated INS:
heading: 0.1 ° (2m baseline)
Horizontal: 2cm
Heave: 5cm/5% rang

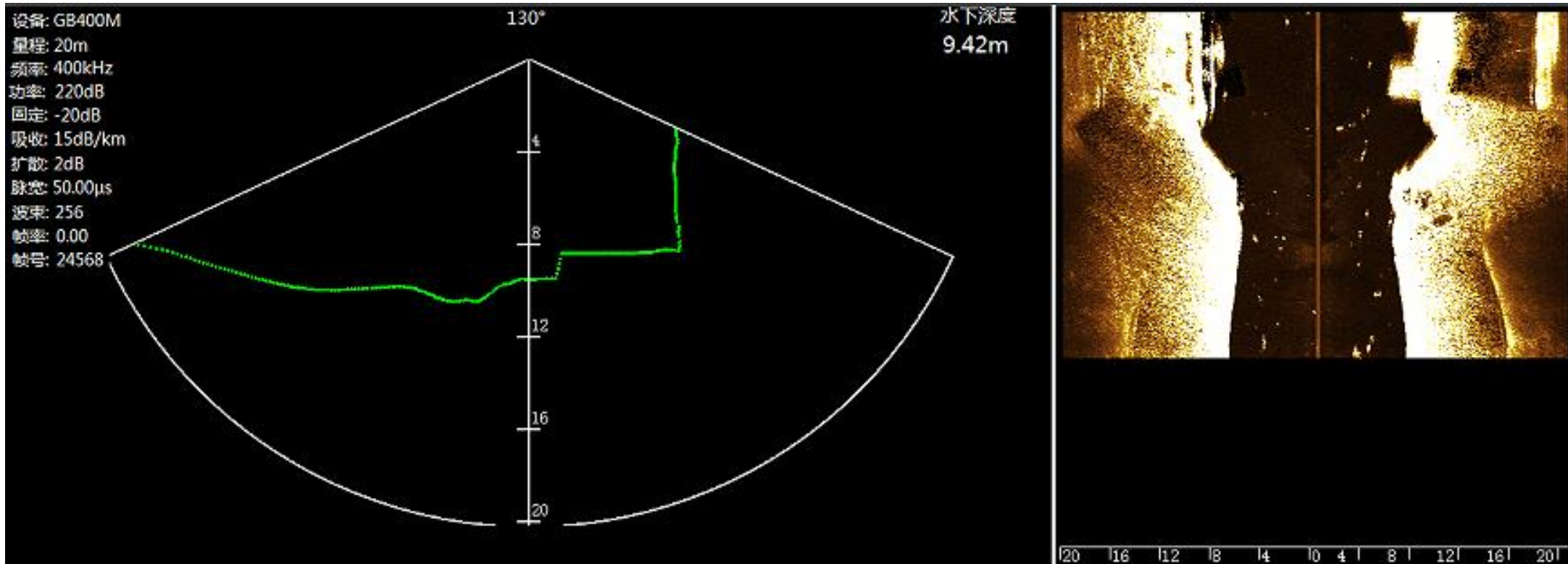
Sell point: Portable, high resolution and INS integrated

1.3 Multi-beam echo sounder system

T400 Installation pictures



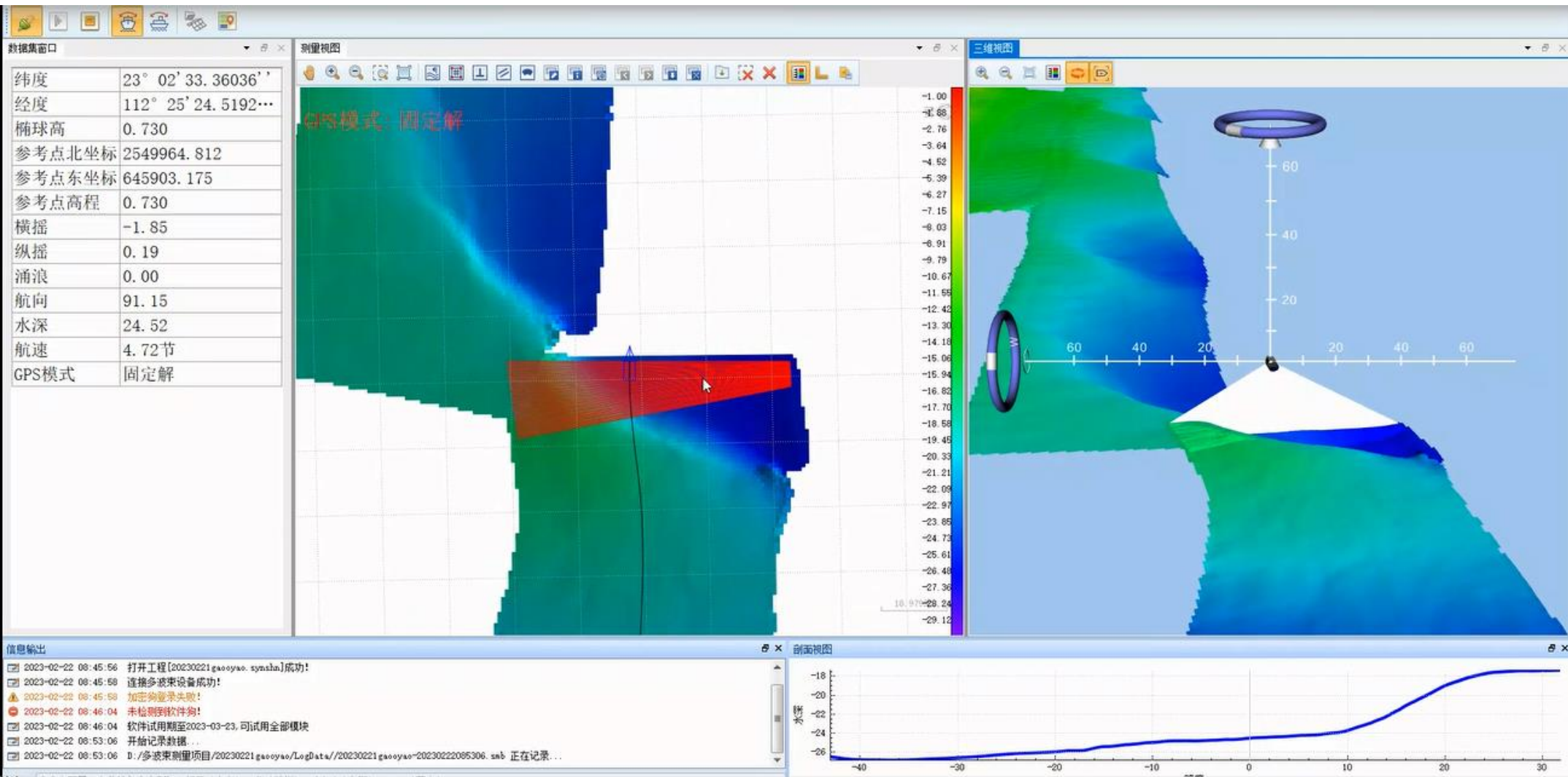
1.3 Multi-beam echo sounder system



T400 sounding configuration interface

Now the T400 is measuring the bridge column under water

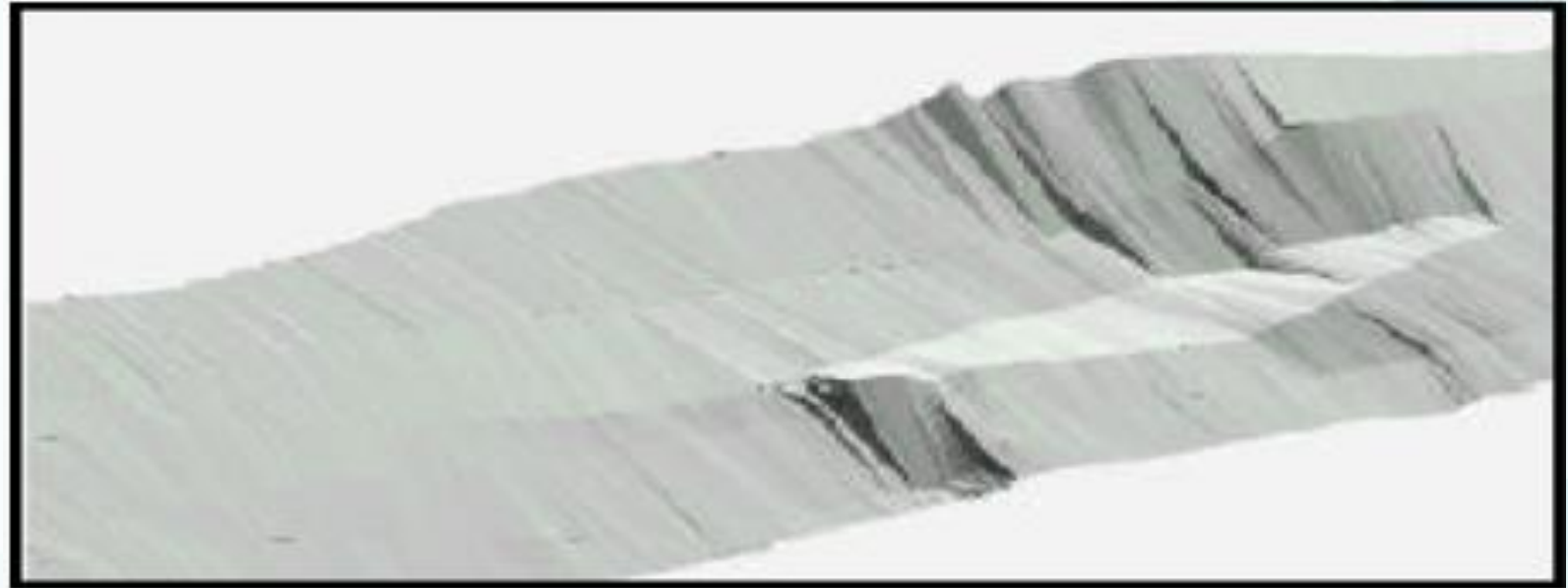
1.3 Multi-beam echo sounder system



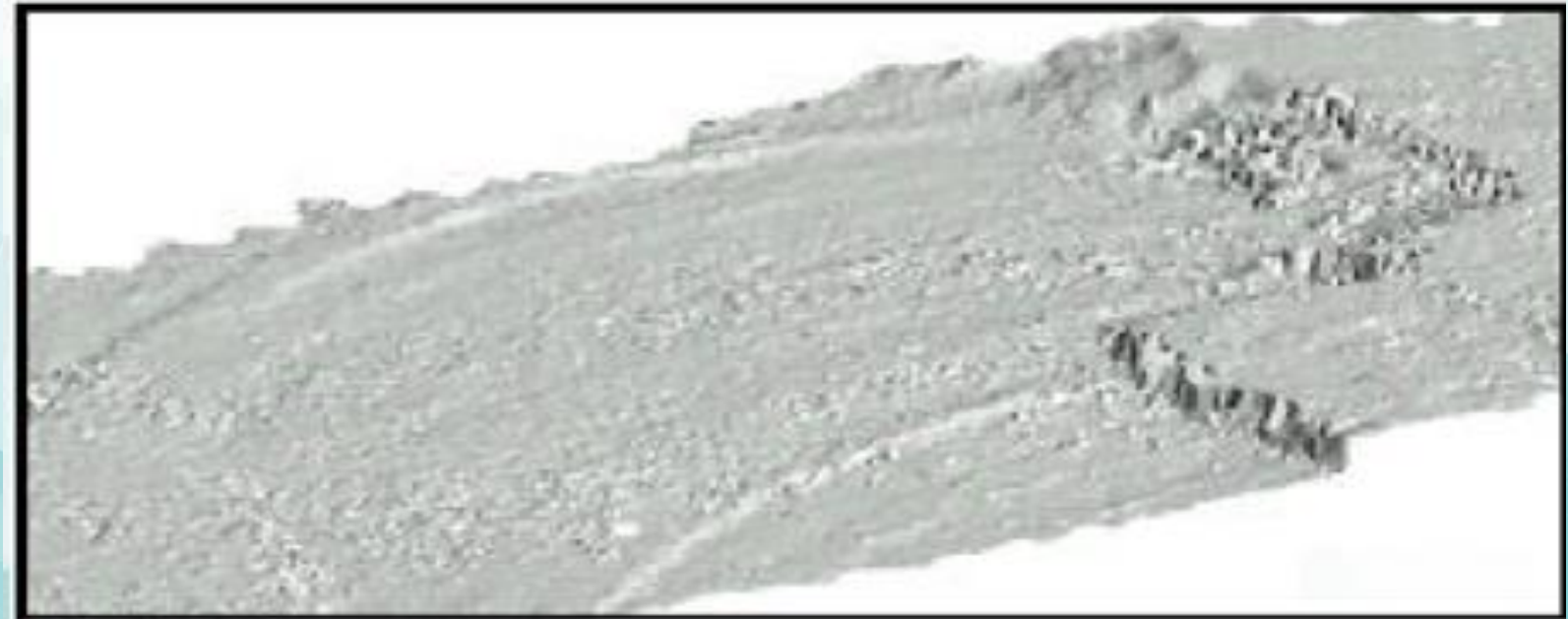
T400 navigation&survey software, 2D and 3D interface, coordinate and depth information

The result comparison between single beam and multi-beam echo sounder

Single beam measure result



Multi beam measure result

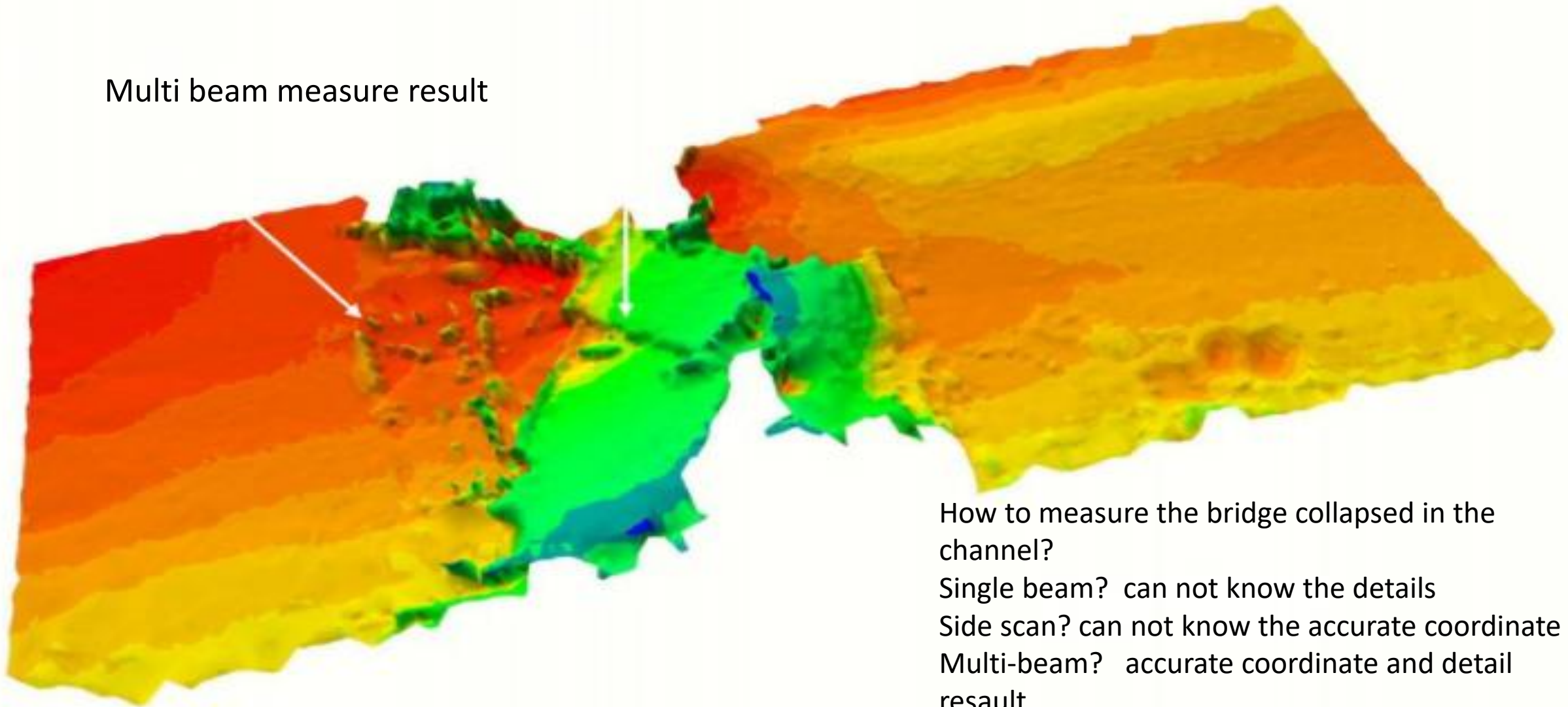


Multi beam echo sounder applications -- Bridge collapse in the channel



Bridge collapse in the channel

Multi beam measure result

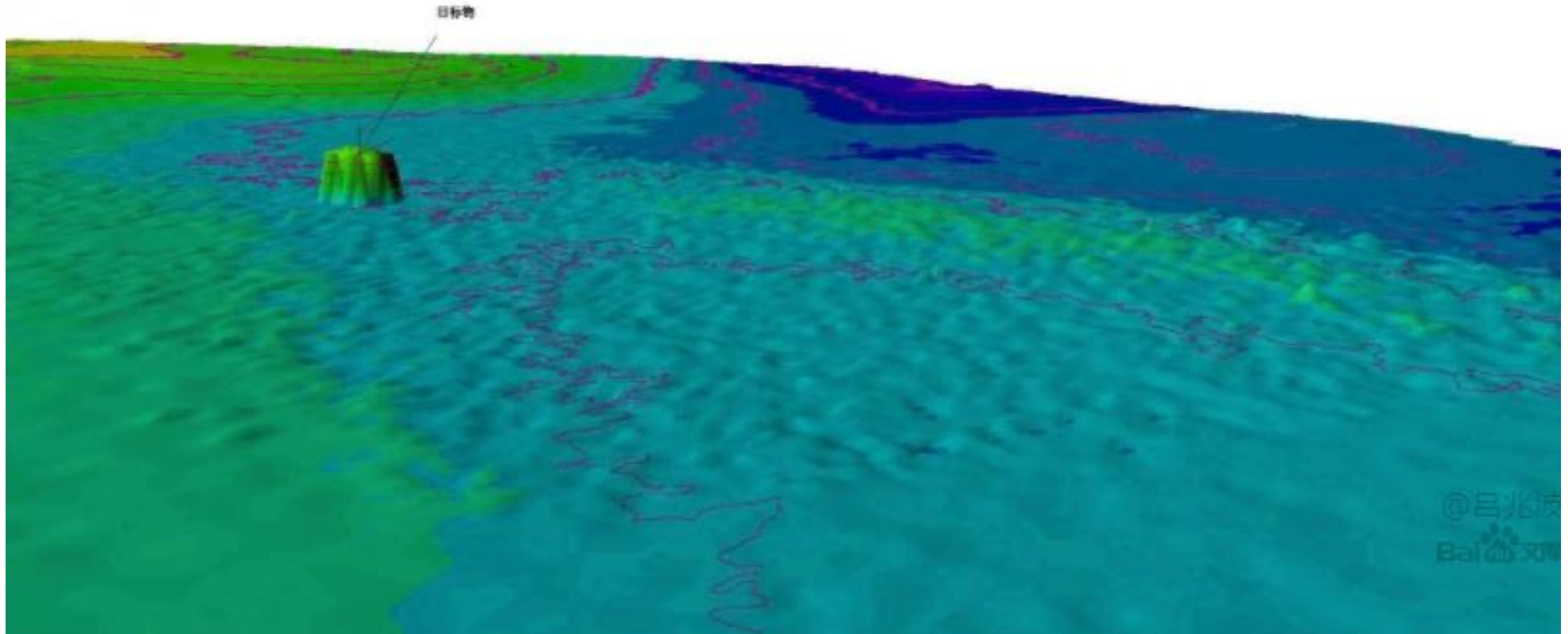


How to measure the bridge collapsed in the channel?
Single beam? can not know the details
Side scan? can not know the accurate coordinate
Multi-beam? accurate coordinate and detail result

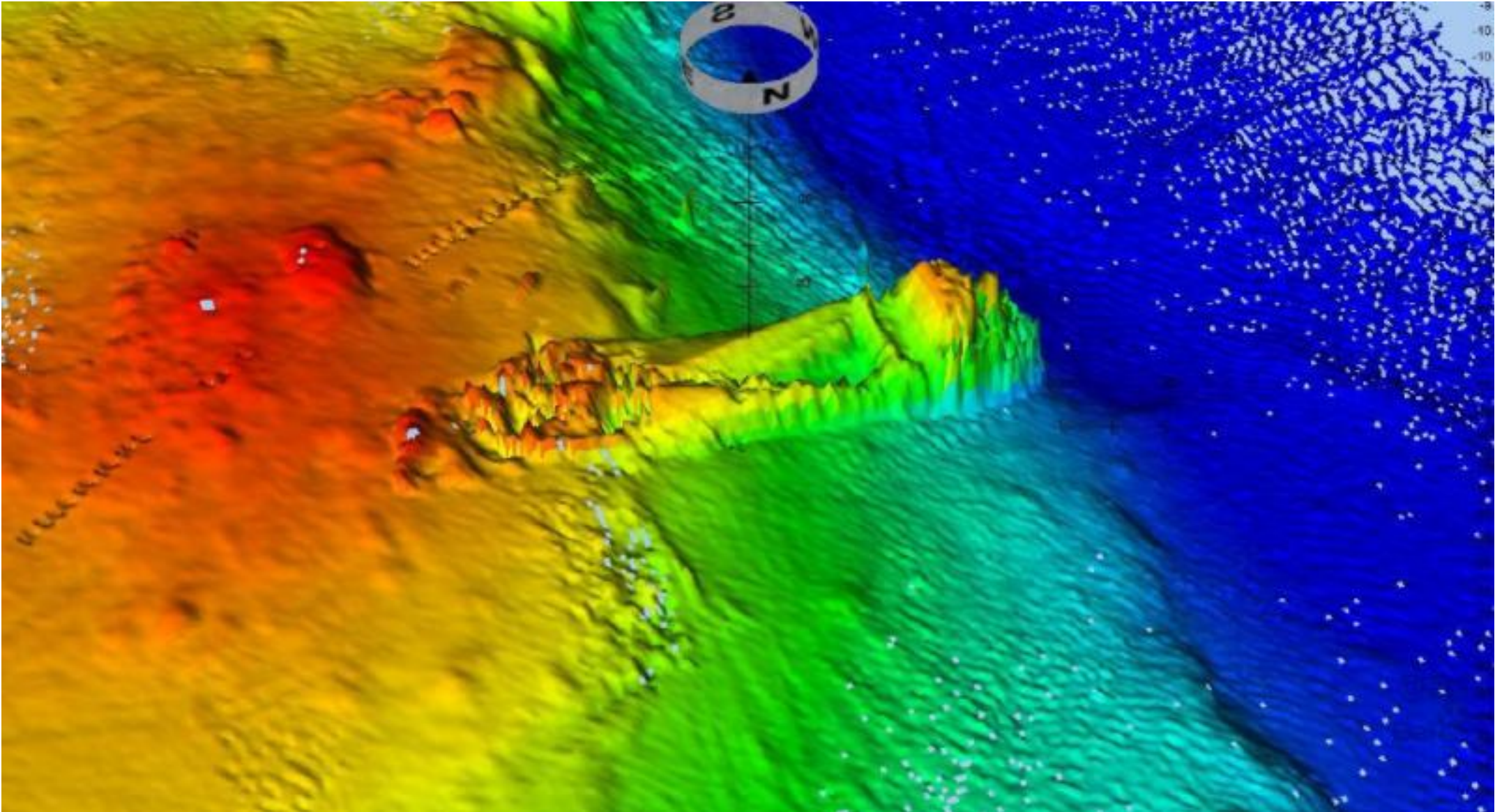
Multi-beam search under water

there is a small cargo fall in the sea, and we use multi-beam for searching it.

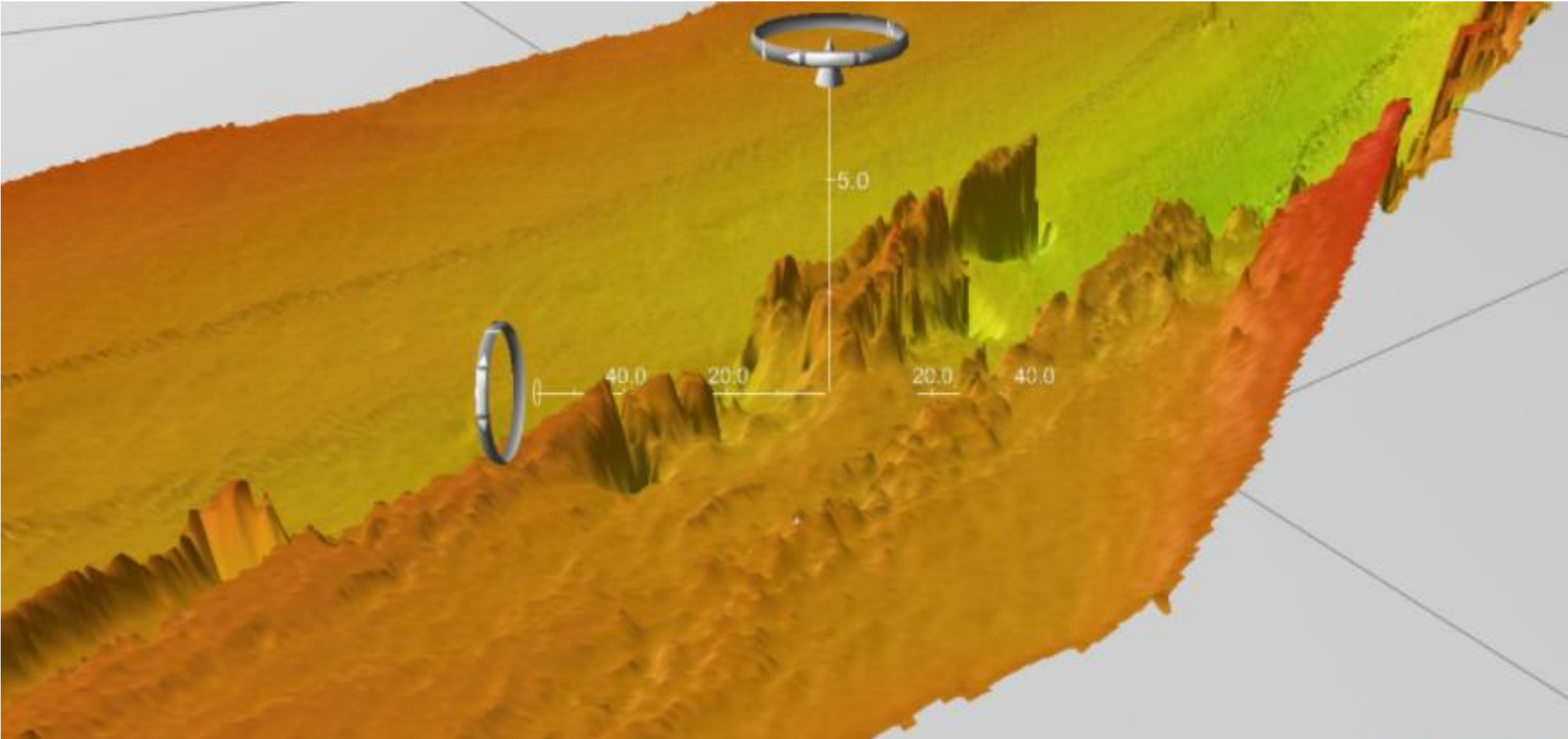
12米水深0.5m边长石块搜寻效果图



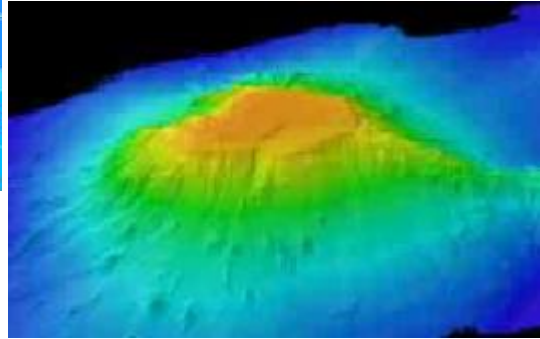
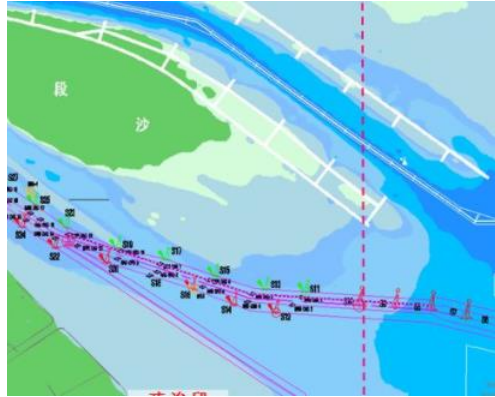
Multi-beam detect the shipwrecks underwater



Multi-beam survey the channel for the boat safe navigation



1.3 Multi-beam echo sounder system- **Application**



Maritime Transport – Safety of Navigation

Coastal Zone Management

Exploration and Exploitation of Marine

Resources

Marine engineering

Environment Protection and Management

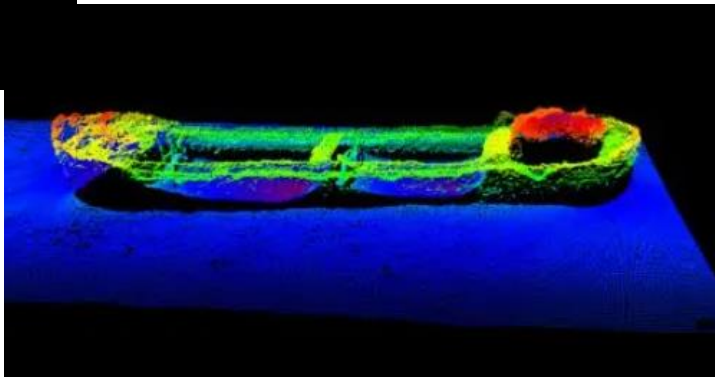
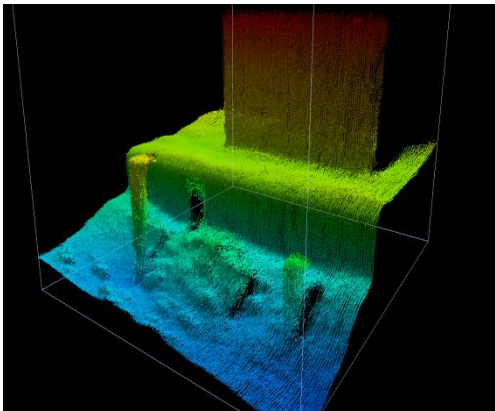
Marine Science

National Spatial Data Infrastructure

Maritime Boundary Delimitation

Maritime Defence

Tourism / Recreational Boating



2. Tide gauge SOUTH-SV40

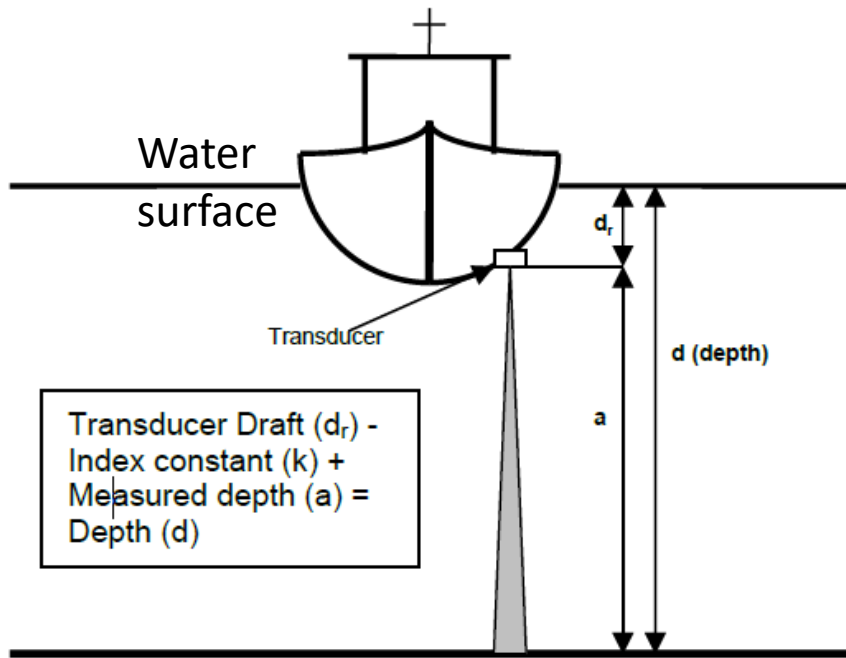


A simple but very common use device in hydrographic survey.

For the reasons that some projects requirement or some situation (rtk not fixed) or some hydrography survey standard issue, we need to use tide gauge to measure the water surface elevation.

Sell point: Simple use and stable

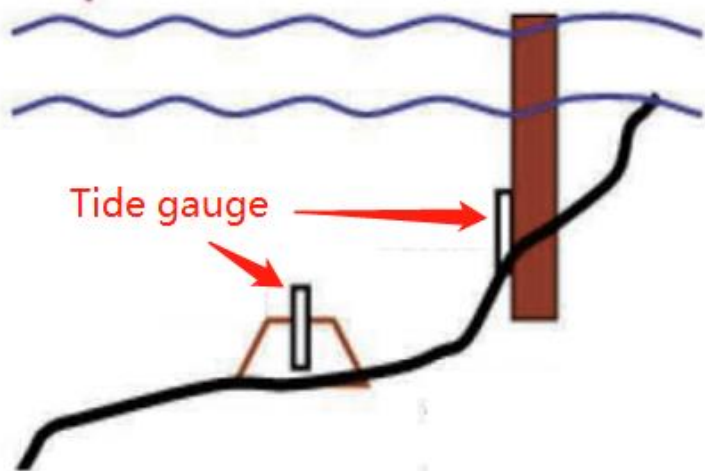
2. Tide gauge SOUTH-SV40



1. Use RTK to get the water surface elevation: Intall the RTK receiver on the survey pole
Water surface elevation = RTK receiver elevation - Pole height

2. Use tide gauge to get the water pressure then calculate the water depth and water surface elevation
water presure --> calculate--> depth
Water surface elevation = original tide gauge elevation + tide gauge measured depth

3. water bottom depth =
Water surface elevation - echo sounder measured depth



3. SOUTH USV - apply in the hydrological department

Delivery in one of the hydrological departments

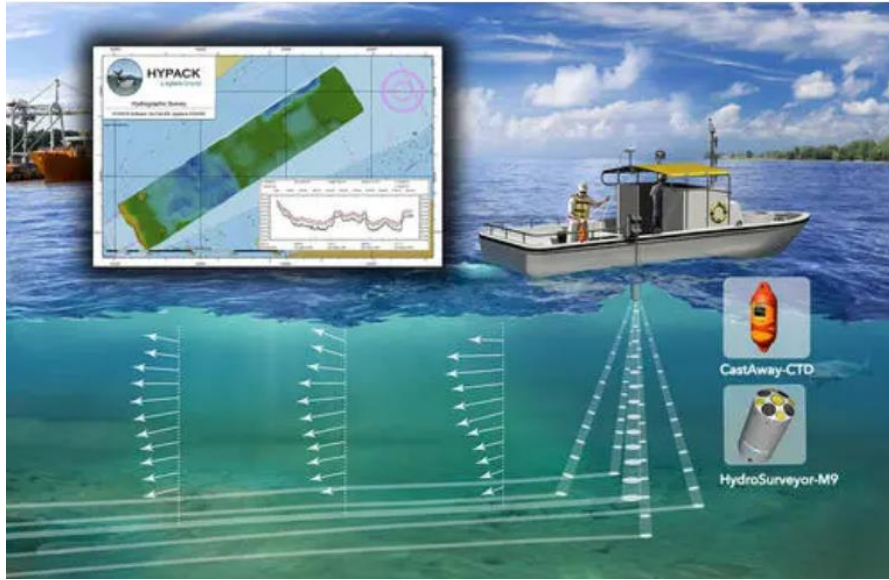


Strict test SOUTH USV+M9 ADCP with officers



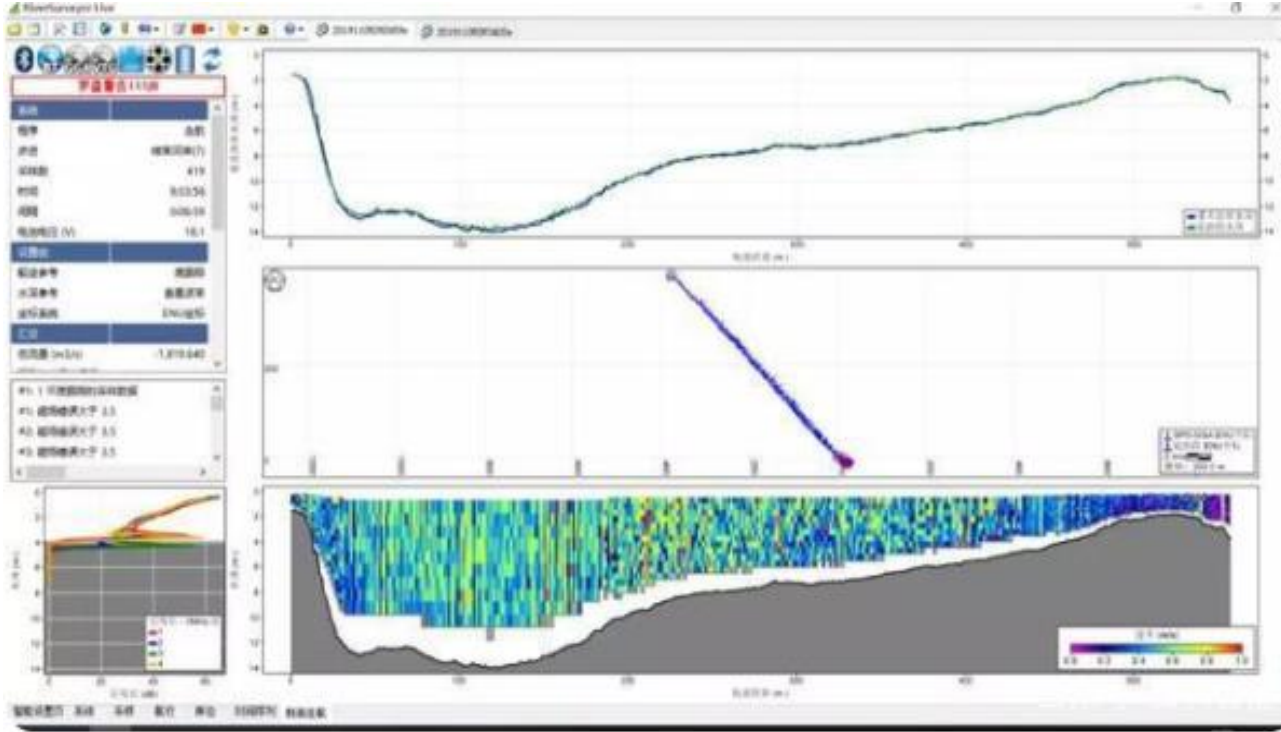
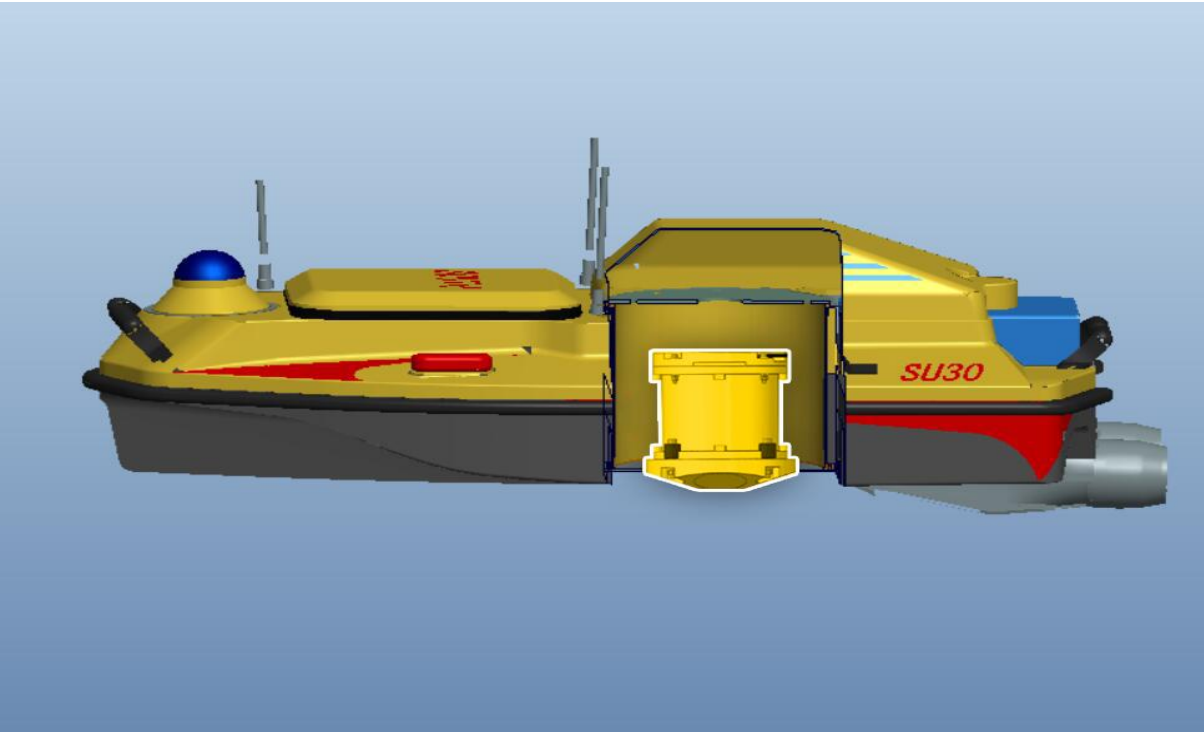
3. SOUTH USV

Application- USV + ADCP



3. SOUTH new USV - SU30

Application- USV +ADCP

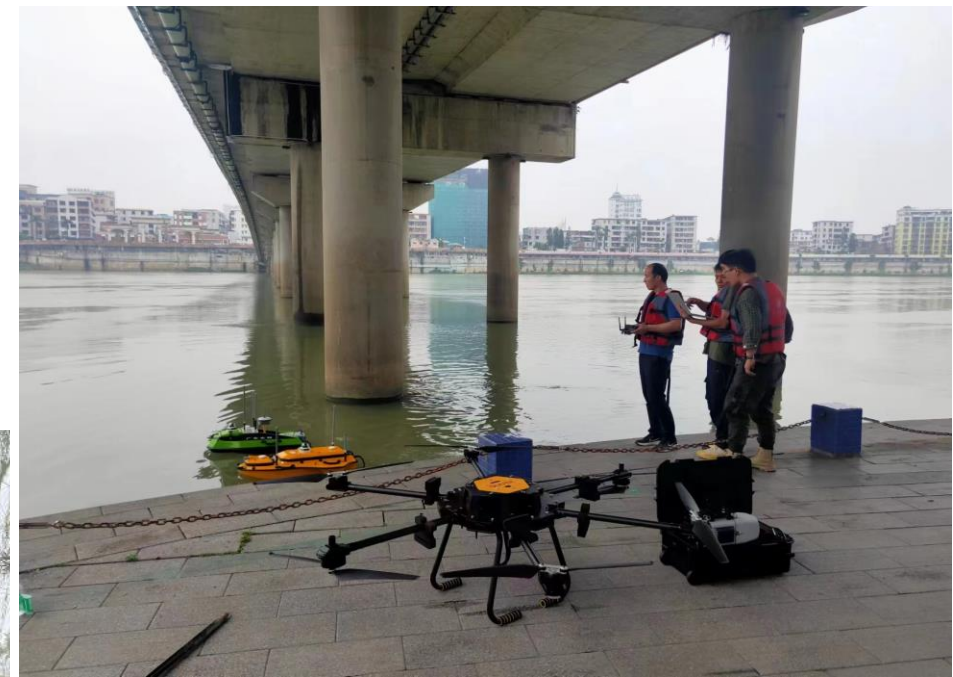


3. SOUTH new USV - SU30

Application- USV +ADCP

SU30 combine RDI ADCP M9,
Won a 3 sets of SU30 tender.

The pictures showed the
site testing with other brands



3. SOUTH new USV - SU30

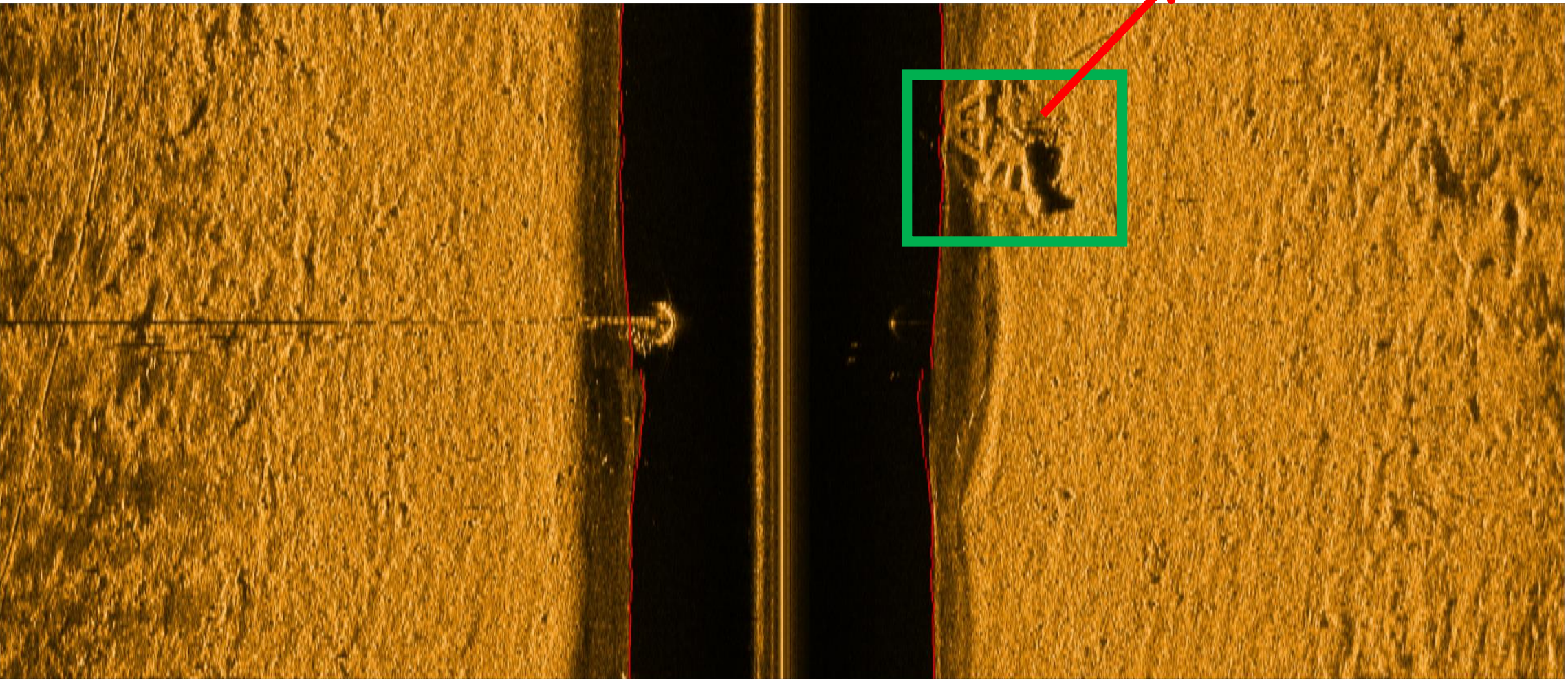
Application- USV +ADCP

SU30 combine RDI ADCP M9,
M9 data transmission via SU30
network bridge without the M9
radio.



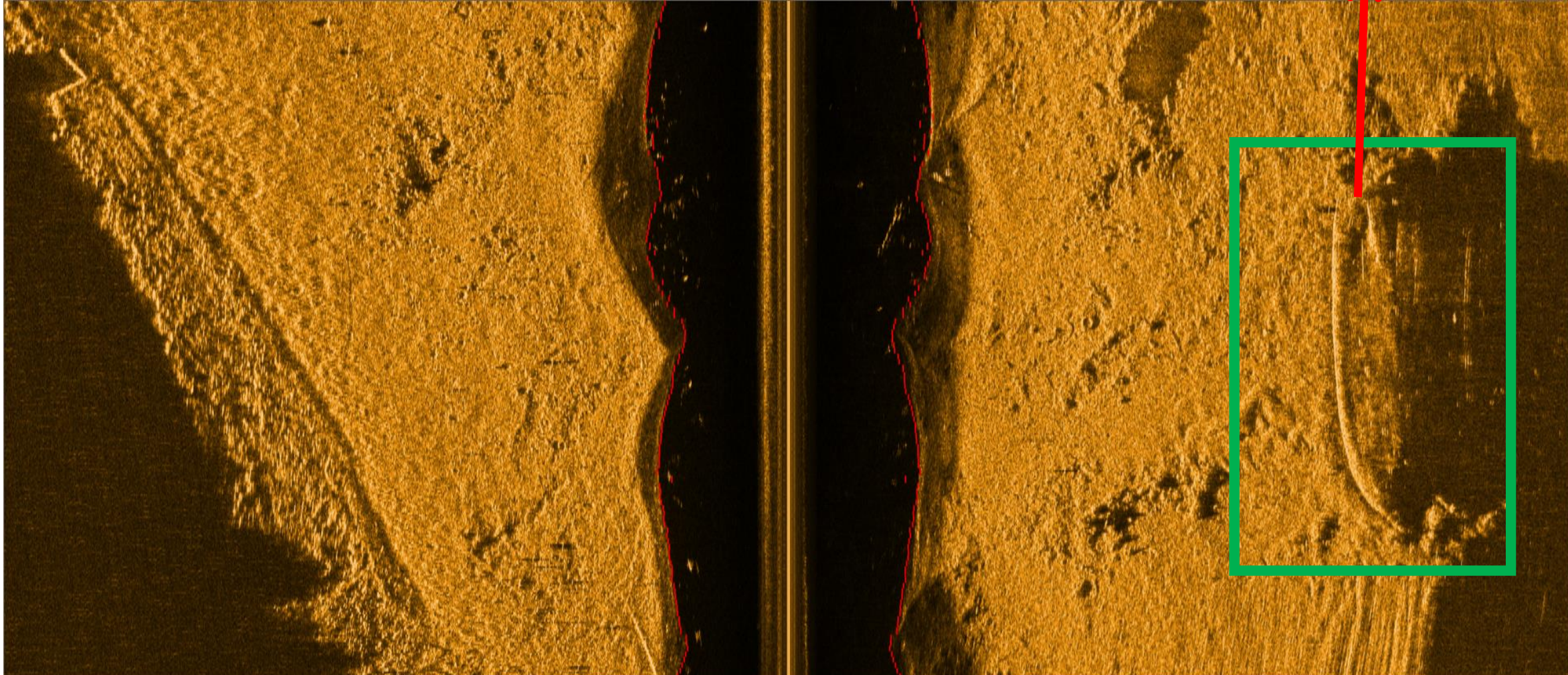
4. SOUTH side scan SS500

STRUCTURE



4. SOUTH side scan SS500

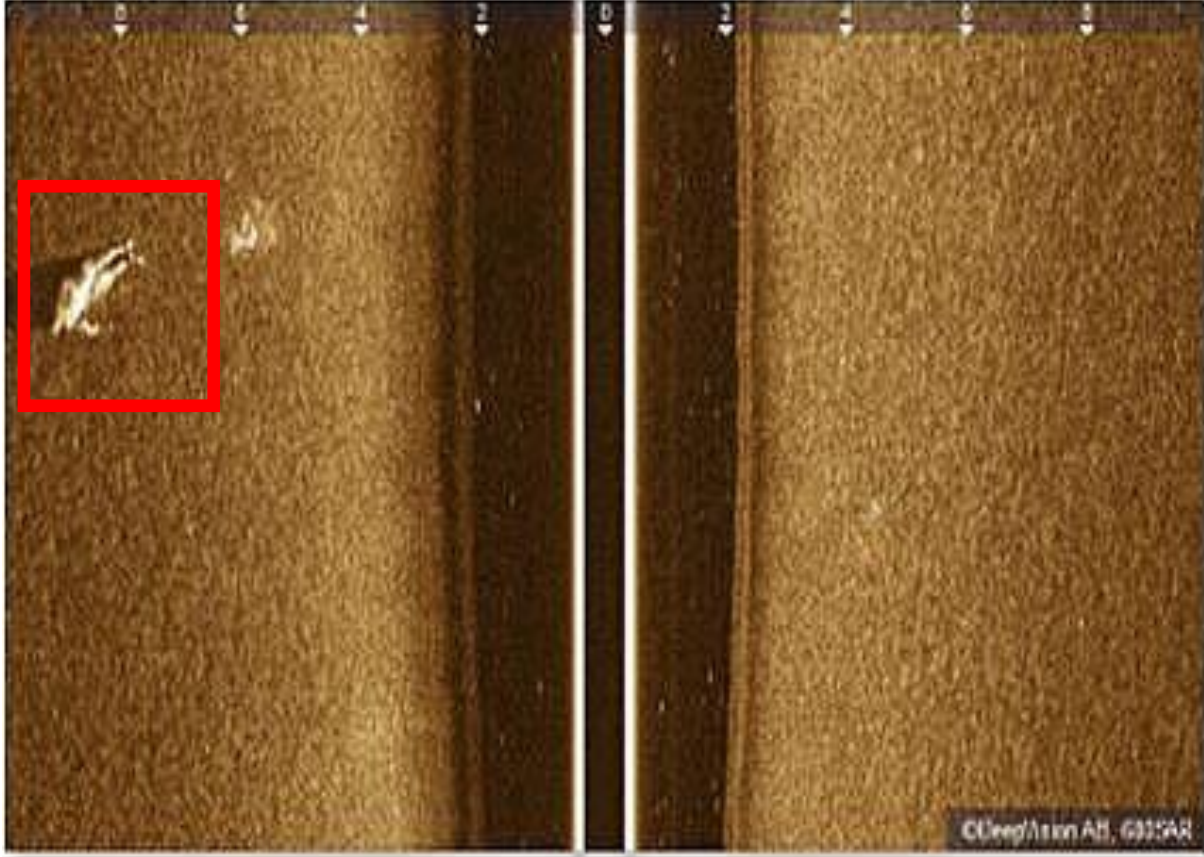
Shipwrecks



4. SOUTH side scan SS500

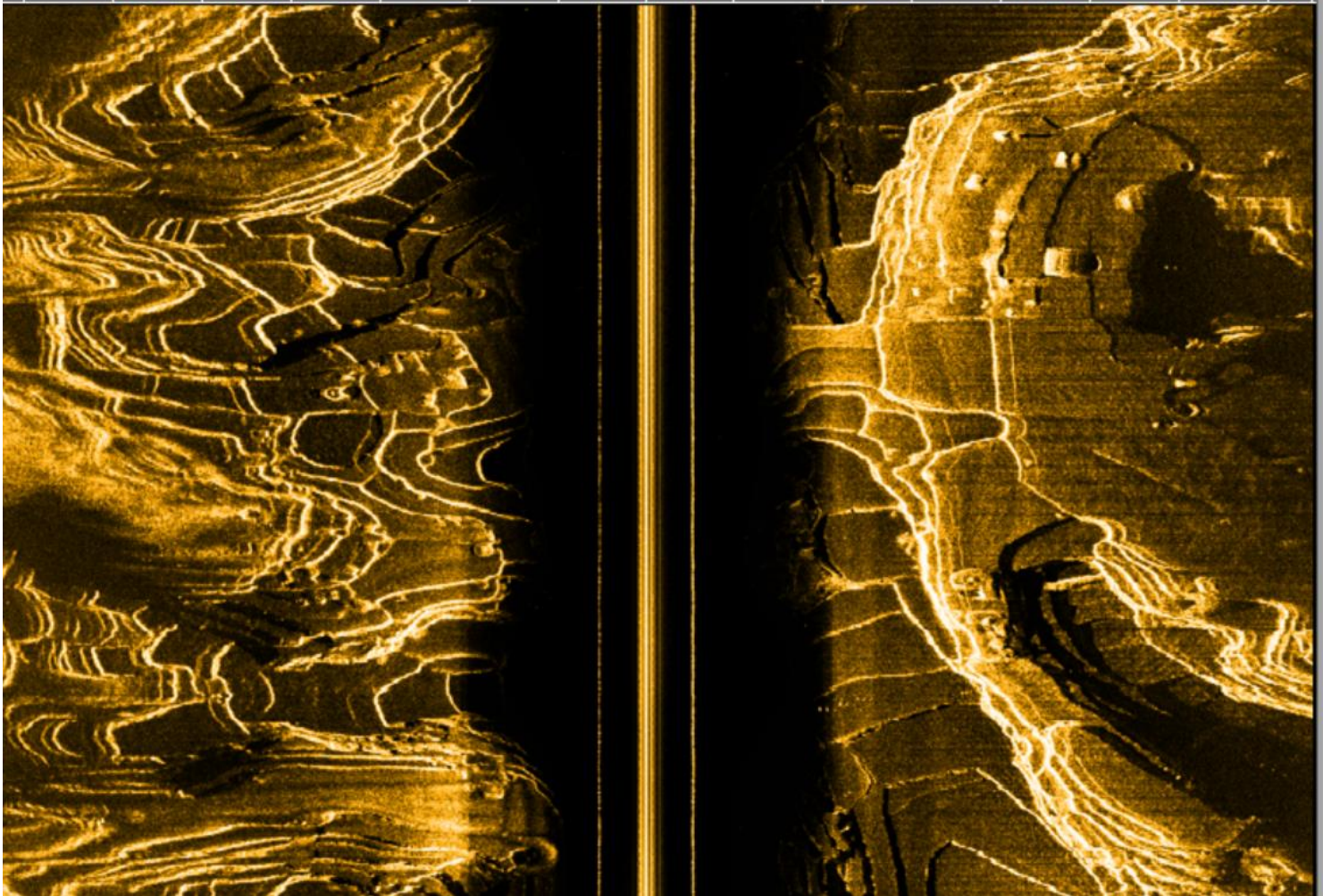
Applicatin of side scan

Underwater search and rescue



4. SOUTH side scan SS500

Application of side scan



Underwater detection:

Old city under water

Thanks
Q&A section