# Improving sidescan sonar data processing capacity for the US academic community

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• AUV *Sentry* has excellent sidescan sonar acquisition and it is routinely collected during near-bottom multibeam surveys.

• *Sentry* multibeam bathymetric data processing pipelines & procedures are excellent and yield important data for both real-time use and post-cruise.

• *Sentry* sidescan data are normally not fully processed at sea, hence they are archived as digital files that are not easily post-processed without commercially available software (much like MCS data).

• Can *Sentry* sidescan data be routinely processed post-cruise using a 'facility' or 'expert' approach similar to how the oceanographic community has developed the capacity for ADCP data acquisition and processing at U. Hawaii (J. Hummon et al.)
https://currents.soest.hawaii.edu/uhdas_home/
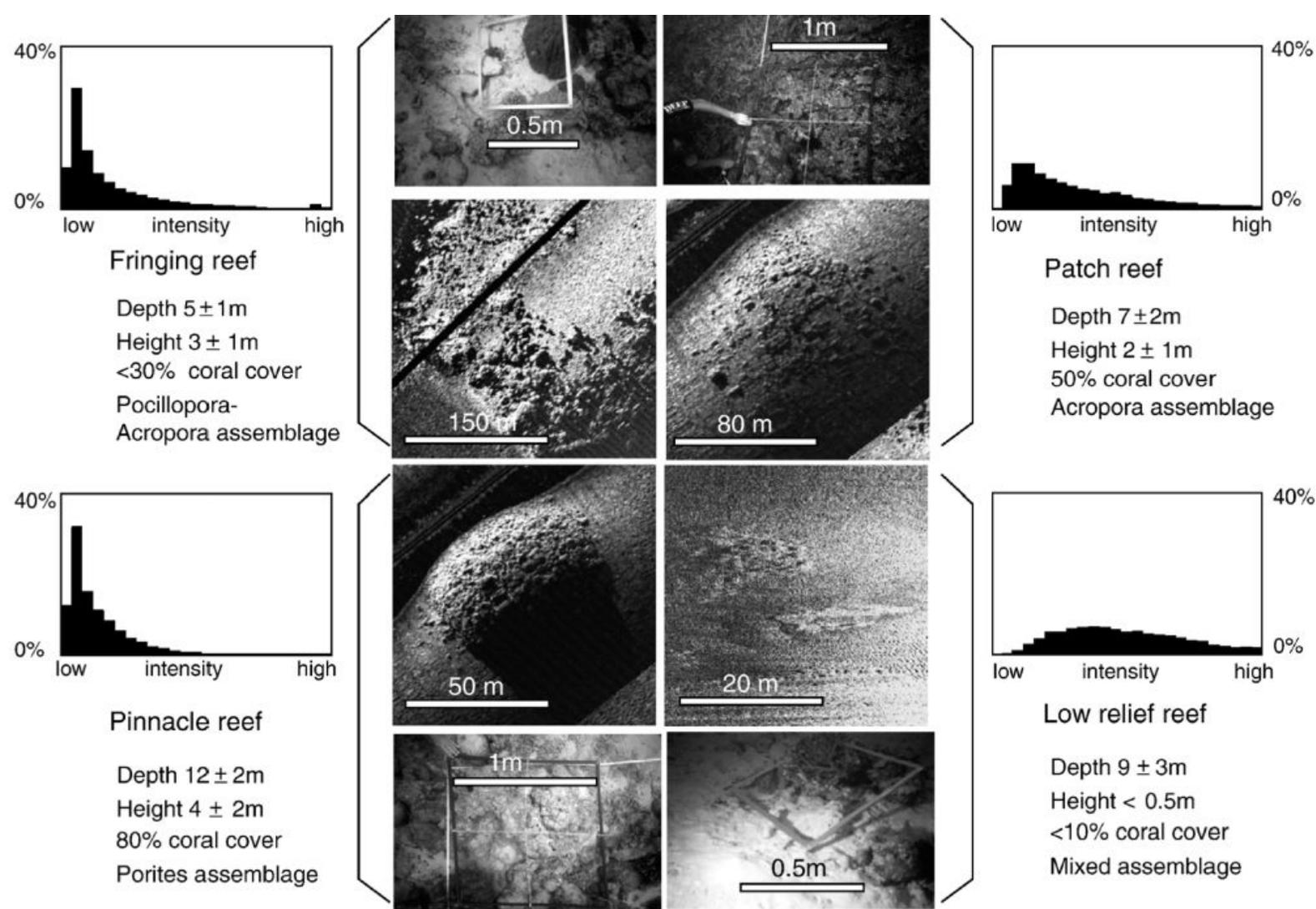
Fig. 5. Example side-scan sonar backscatter intensity images (central four images), underwater photographs and pixel histograms for the four identified reef categories. "Depth" is the average water depth of the seafloor surrounding the reef feature and "height" is the vertical relief of the feature from the perimeter depth.

From: Collier and Humber (2007), Time-lapse side-scan sonar imaging of bleached coral reefs:A case study from the Seychelles, *Remote Sensing of Environment* · June 2007DOI: 10.1016/j.rse.2006.11.029

EPR 9° 50'N
DSL-120
sidescan
2001

All imagery
120 kHz

2001 & 2007
Deep-towed

2018 & 2019
Sentry
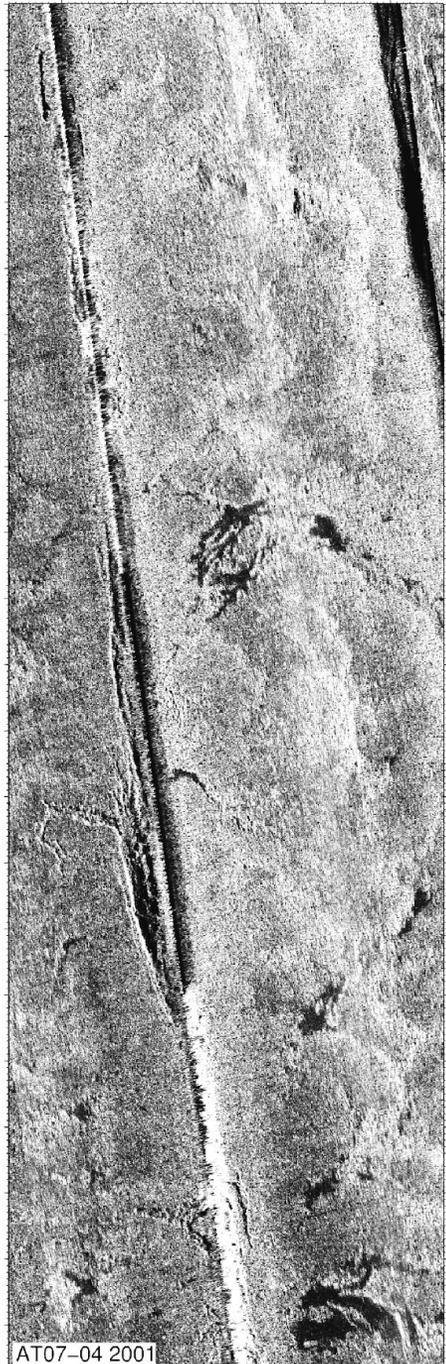
EPR 9°
50'N
DSL-120A
Sidescan
2007

EPR 9°
50'N
Sentry
Sidescan
2019
E and W
looking

AT07–04 2001

AT15–17 2007
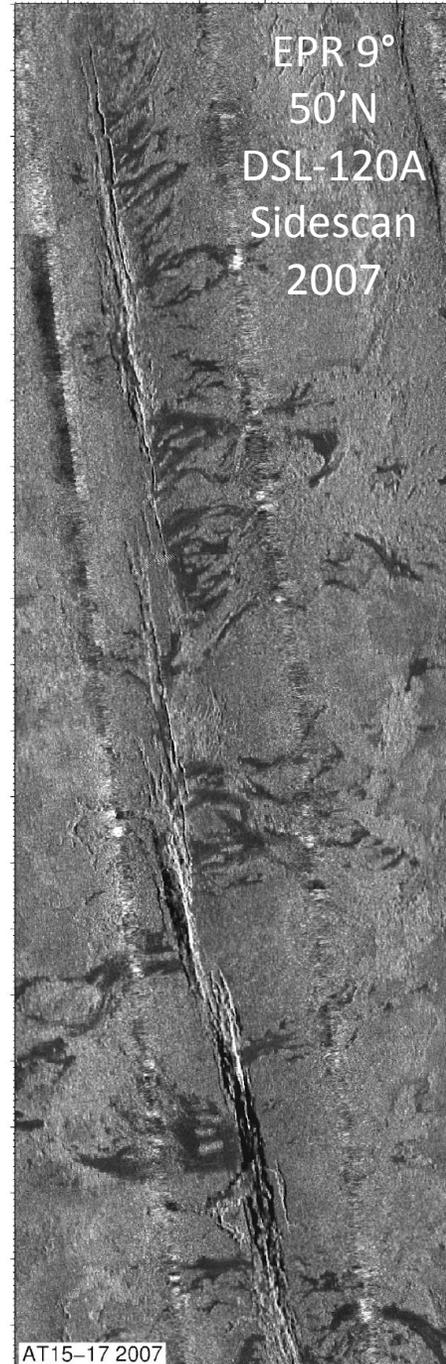
AT42–06 2018 east-looking

AT42–06 2018 west-looking

km
0   0.1   0.2

0   100   200
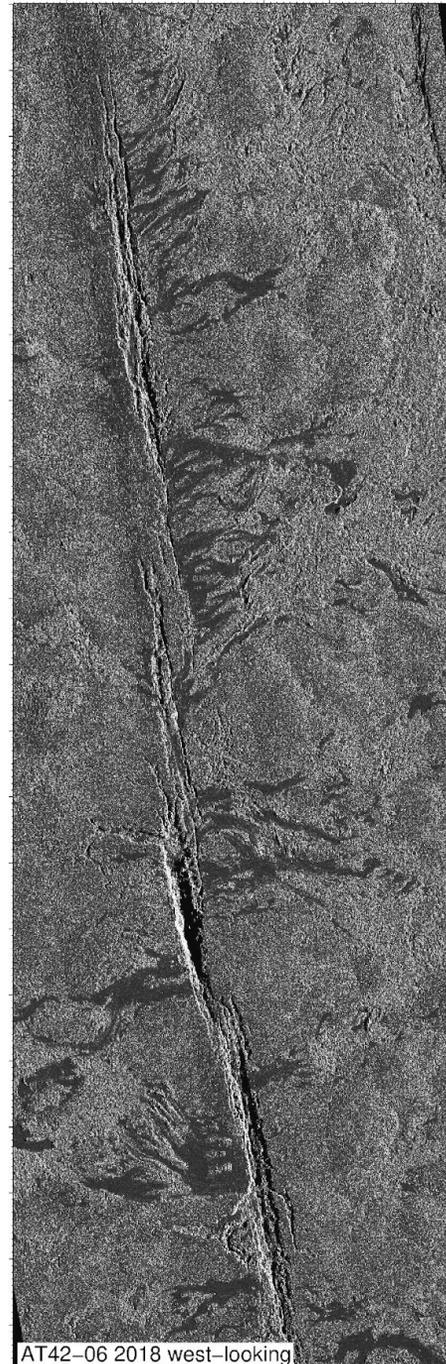
EPR Sentry
Sidescan
2018 Acquisition

a) Low-Frequency
120kHz (left)

b) High-Frequency
410 kHz (right)

a

b

Tica

Crab spa

Bio9

Pvent

50 m

500 m
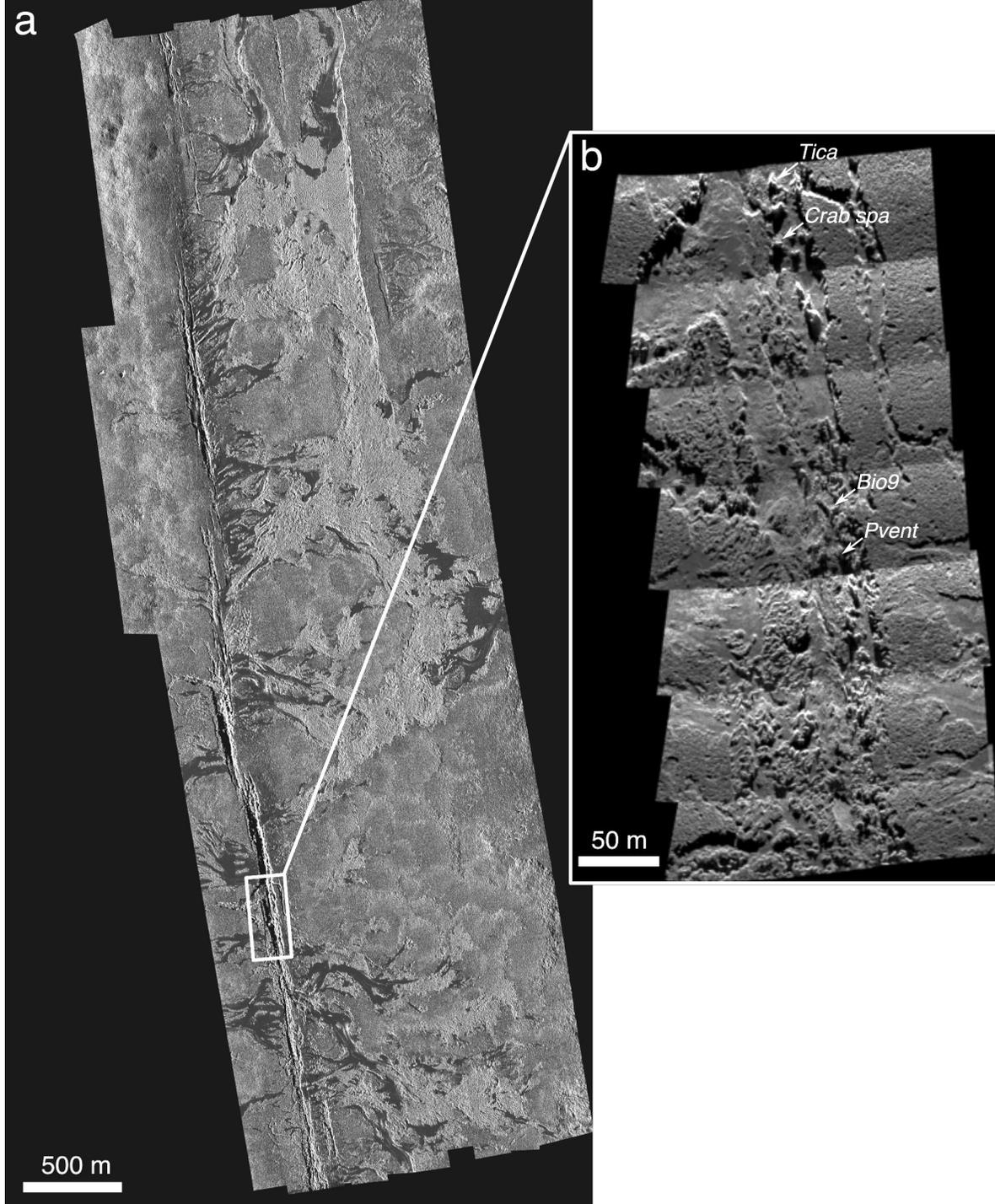
2019 Sentry Multibeam

Sentry multibeam, 1 m grid
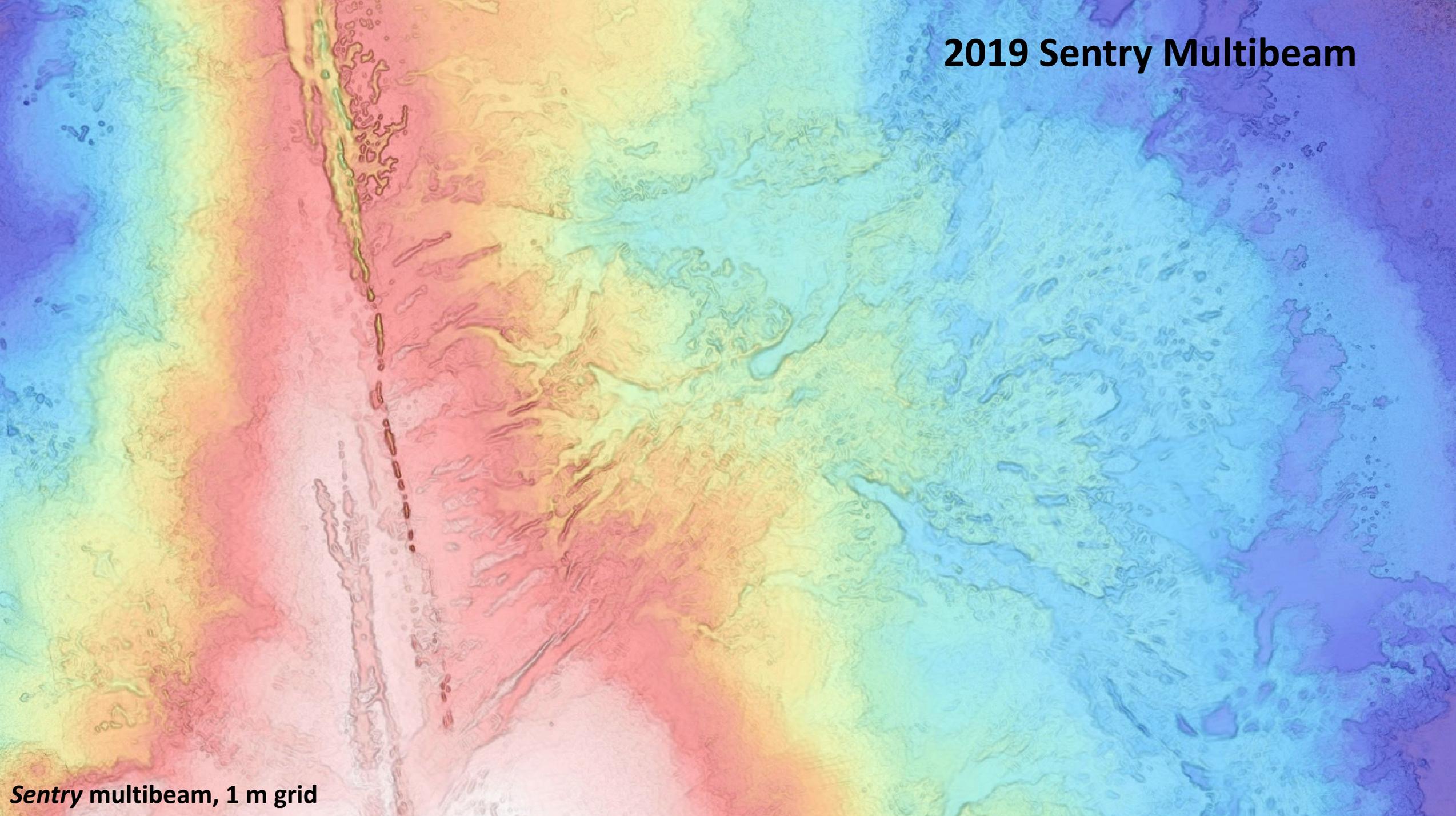
2019 Sentry 120kHz Sidescan

Sentry sidescan, 20 cm mosaic