

What lies beneath? The Gulf of Maine and its Implications for Benthic Habitat and Development

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Brian Andrews

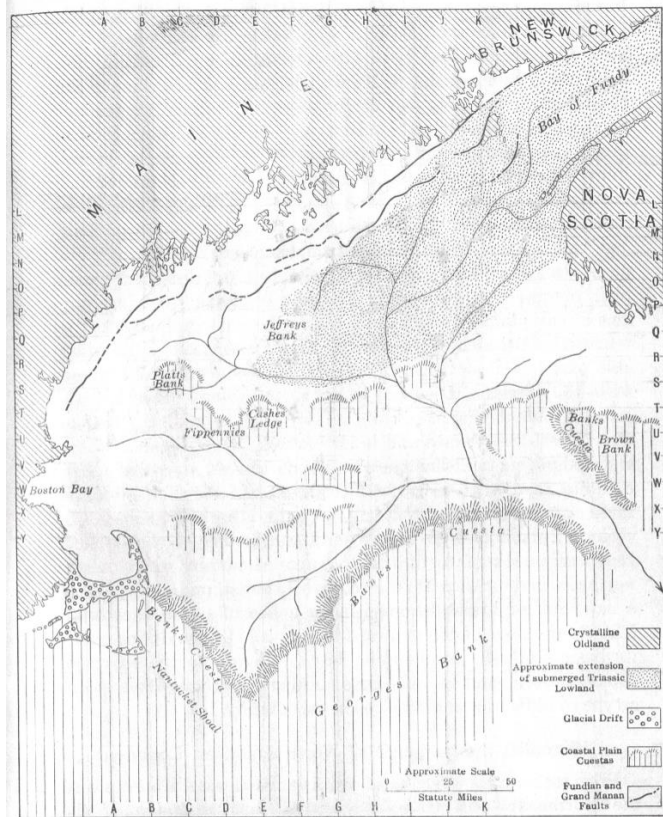
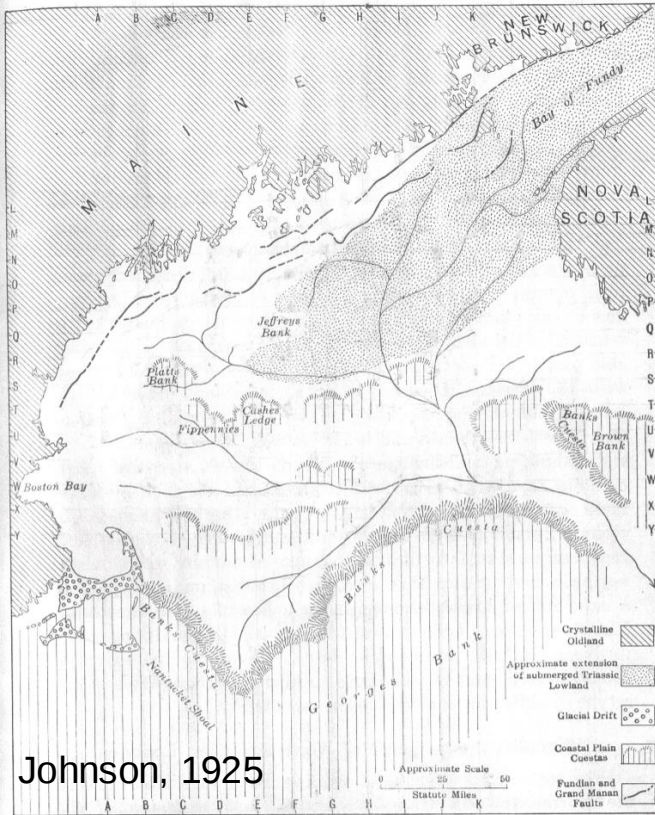


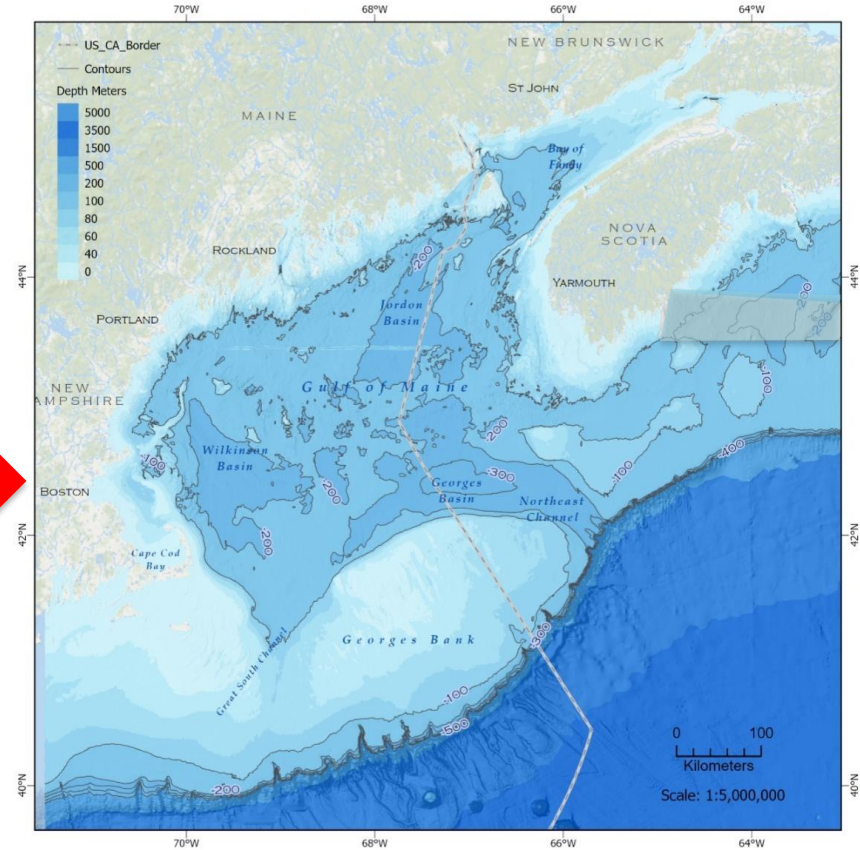
FIG. 144. Sketch map of the floor of the Gulf of Maine and the adjacent Banks, showing the New England oldland, the Gulf of Maine inner lowland, the Triassic Lowland, the Banks cuesta and minor cuestas, hypothetical pre-glacial drainage of the lowland, and the submarine scarps of the Fundian fault. The crystallines of the oldland continue southeastward (across unshaded area) until they disappear under the Triassic belt and the coastal plain cuestas. The profiled belts of Figs. 139 and 140 are indicated by the appropriate letters. D.W. Johnson (1925)

I. What we know



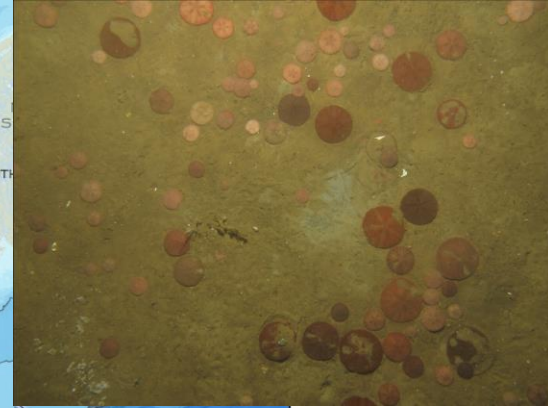
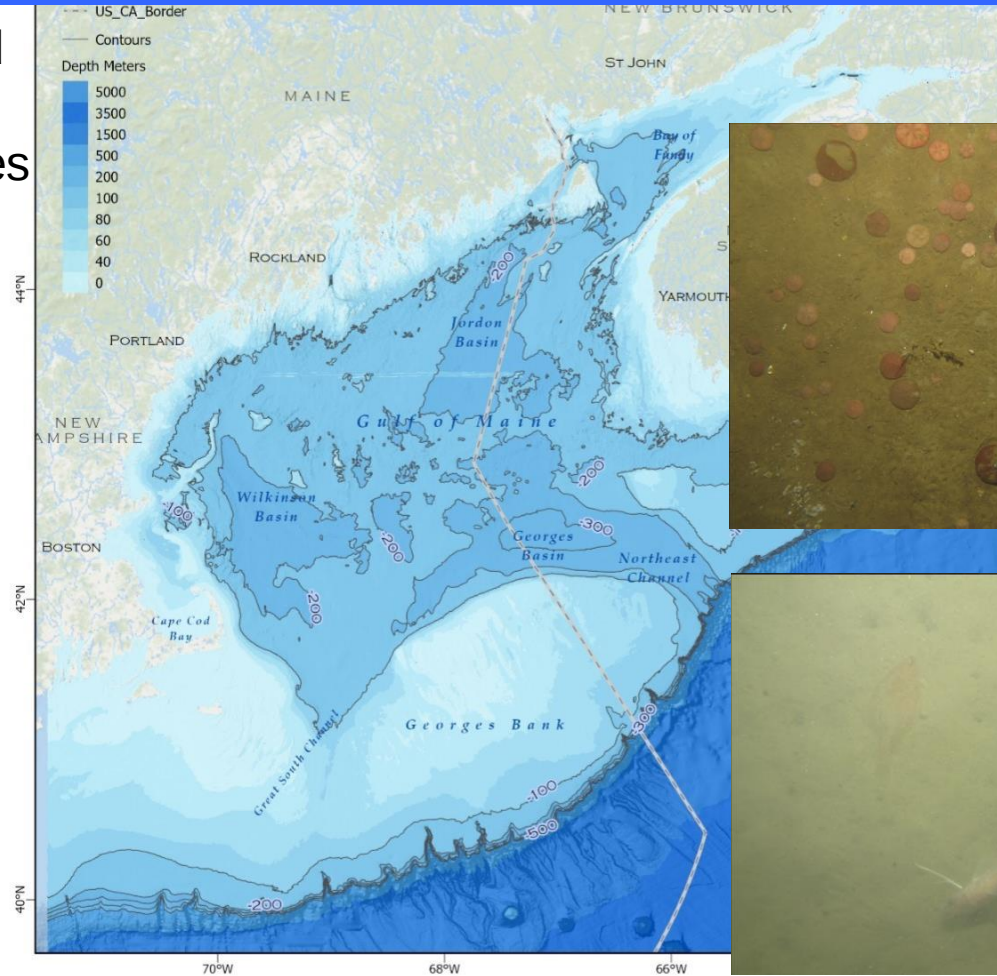
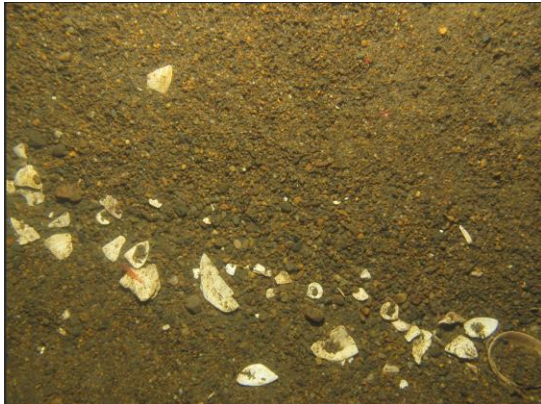
JOHNSON, 1925

FIG. 144. Sketch map of the floor of the Gulf of Maine and the adjacent Banks, showing the New England oldland, the Gulf of Maine inner lowland, the Triassic Lowland, the Banks cuestas and minor cuestas, hypothetical pre-glacial drainage of the lowland, and the submarine scarps of the Fundian fault. The crystallines of the oldland continue

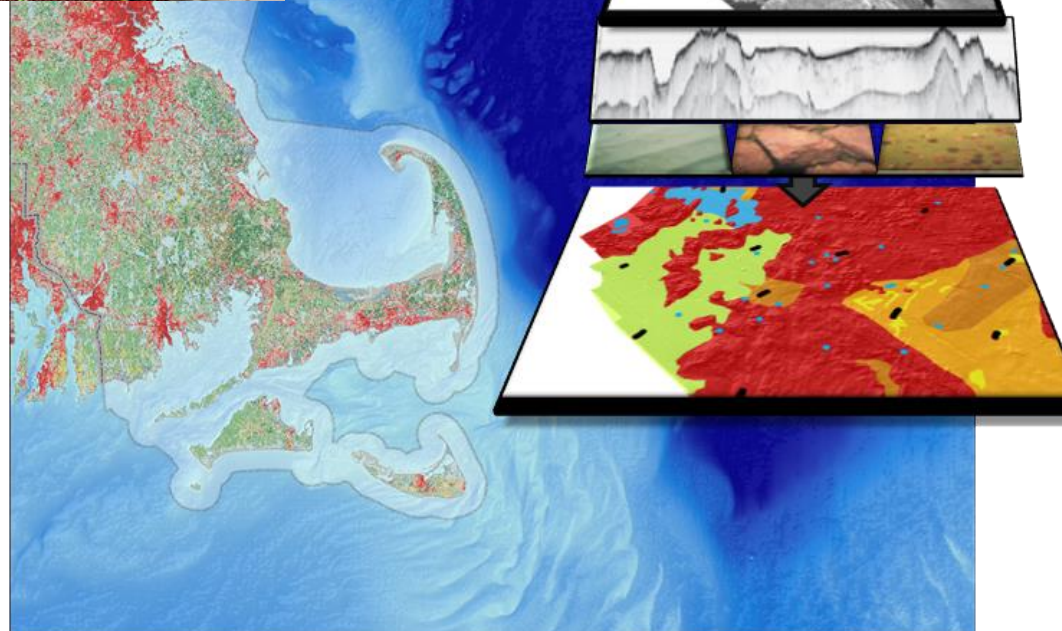
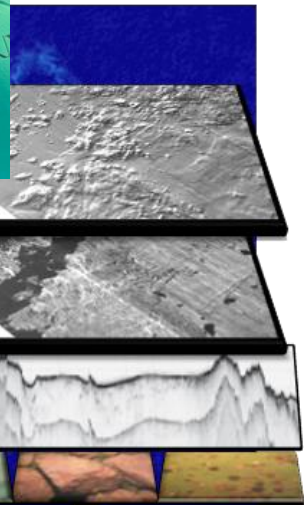
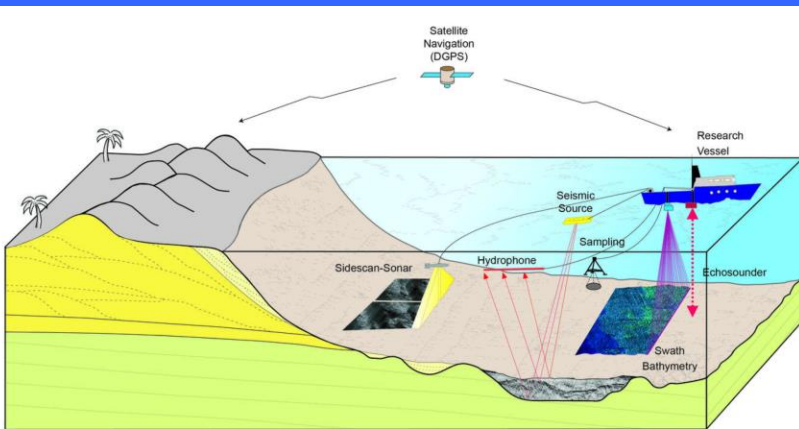


I. What we know

The Gulf of Maine is shaped by it's exciting(!) geologic, glacial and sea-level histories



II. How do we know it?



II. How do we know it? It takes a village . .



U Maine

U New Hampshire

U New Brunswick

Maine Geological Survey

Maine Coastal Mapping Initiative

Massachusetts Coastal Zone Management Office

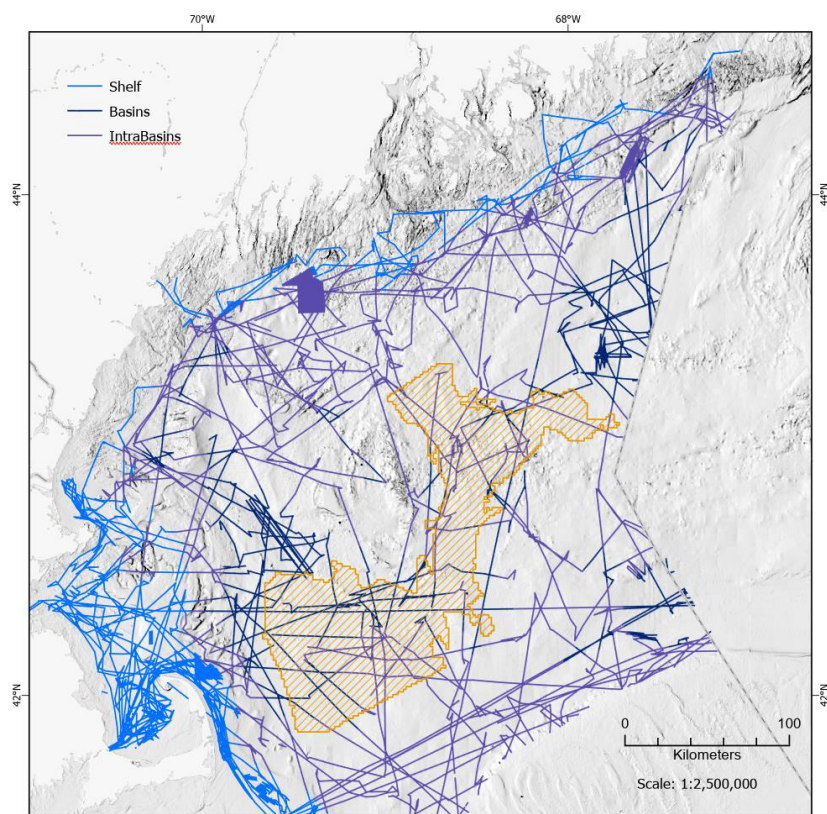
NOAA

USGS

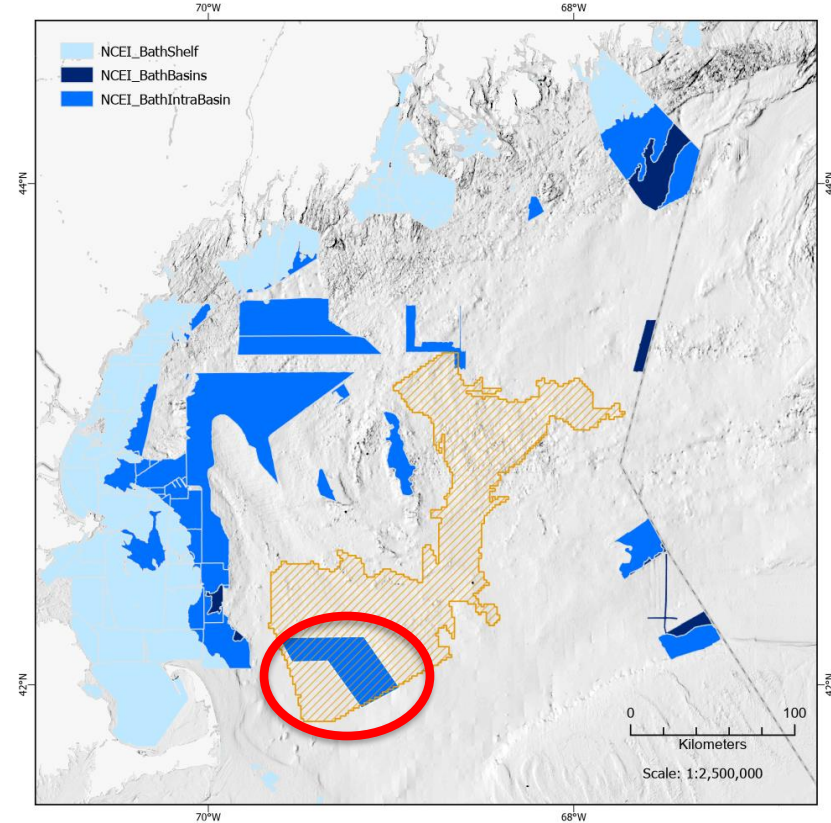
Natural Resources Canada



III. Are there some gaps? OH YES

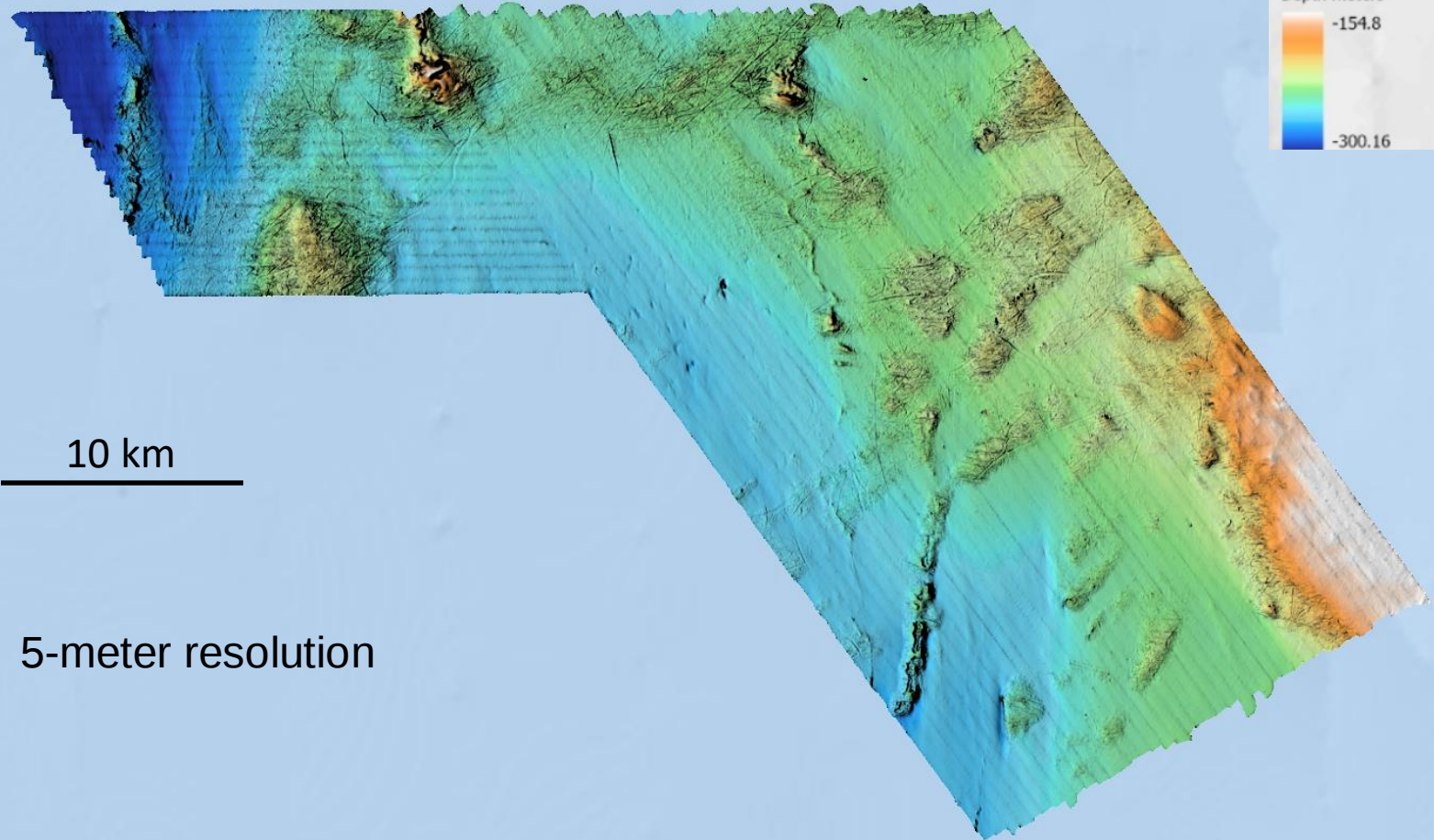
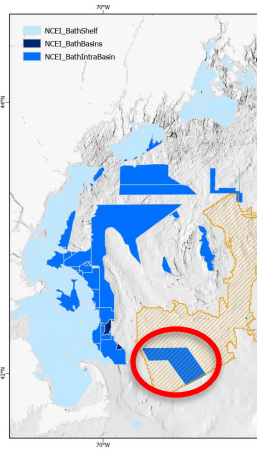


- Tracklines of Bathy/sometimes Backscatter

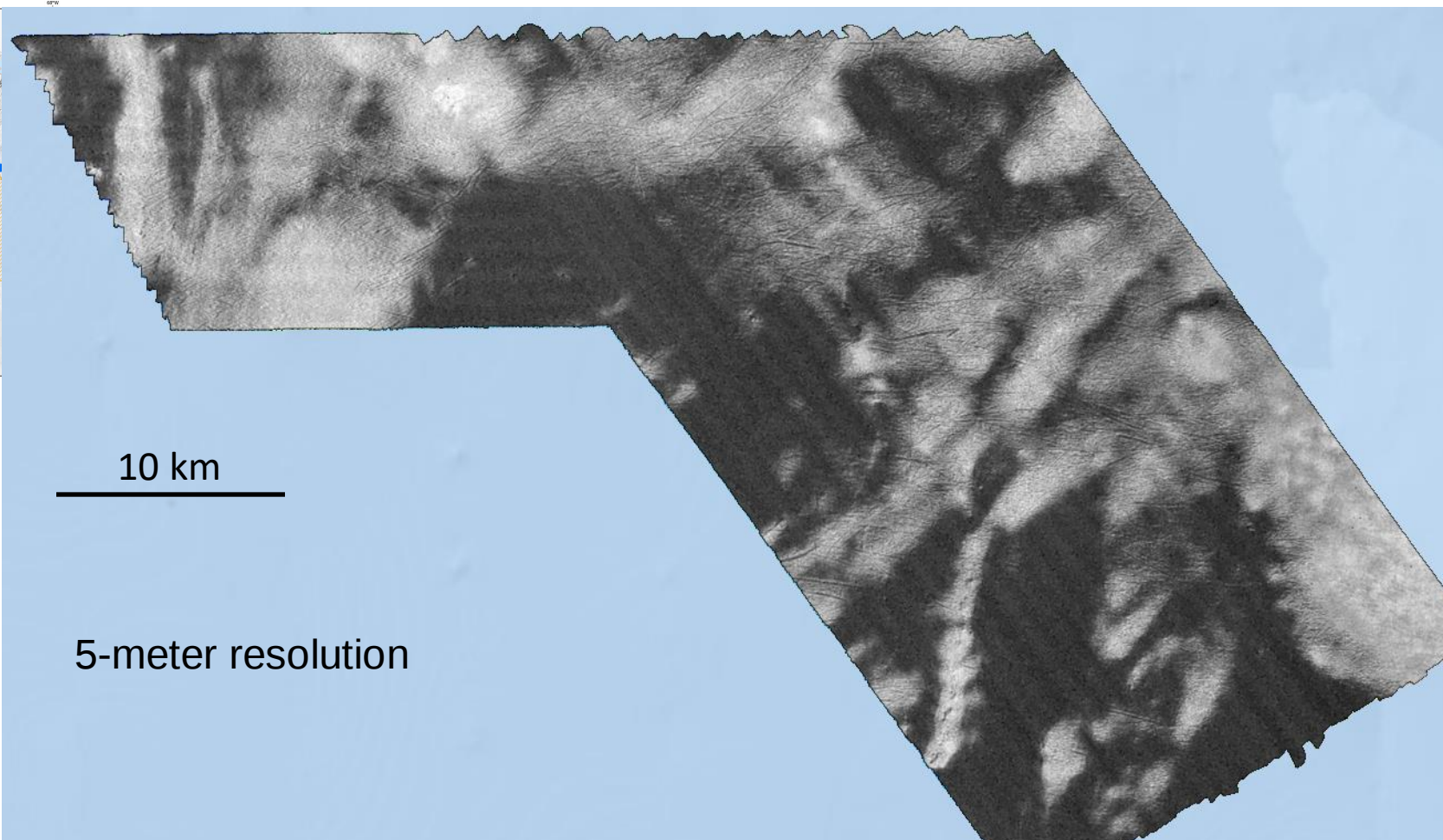
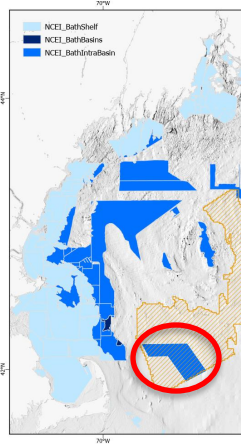


Polygons of comprehensive Bathy/sometimes Backscatter

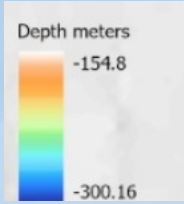
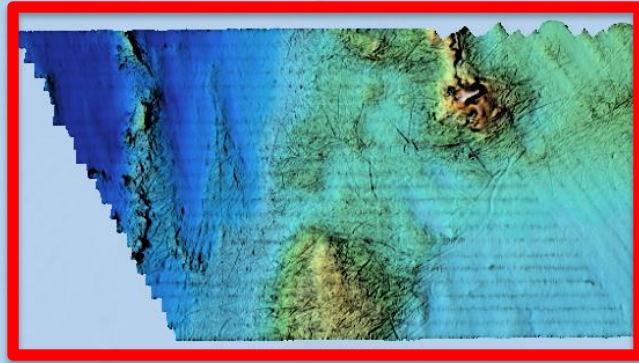
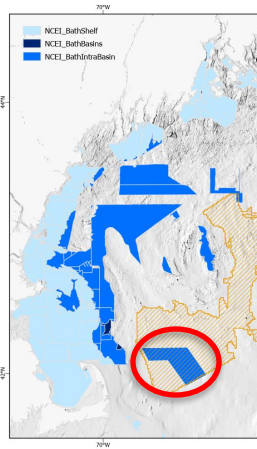
III. What do we see when we fill in a gap?



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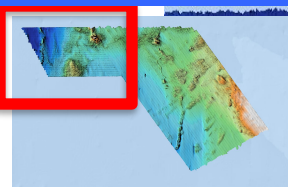
III. What do we see when we fill in a gap?



10 km

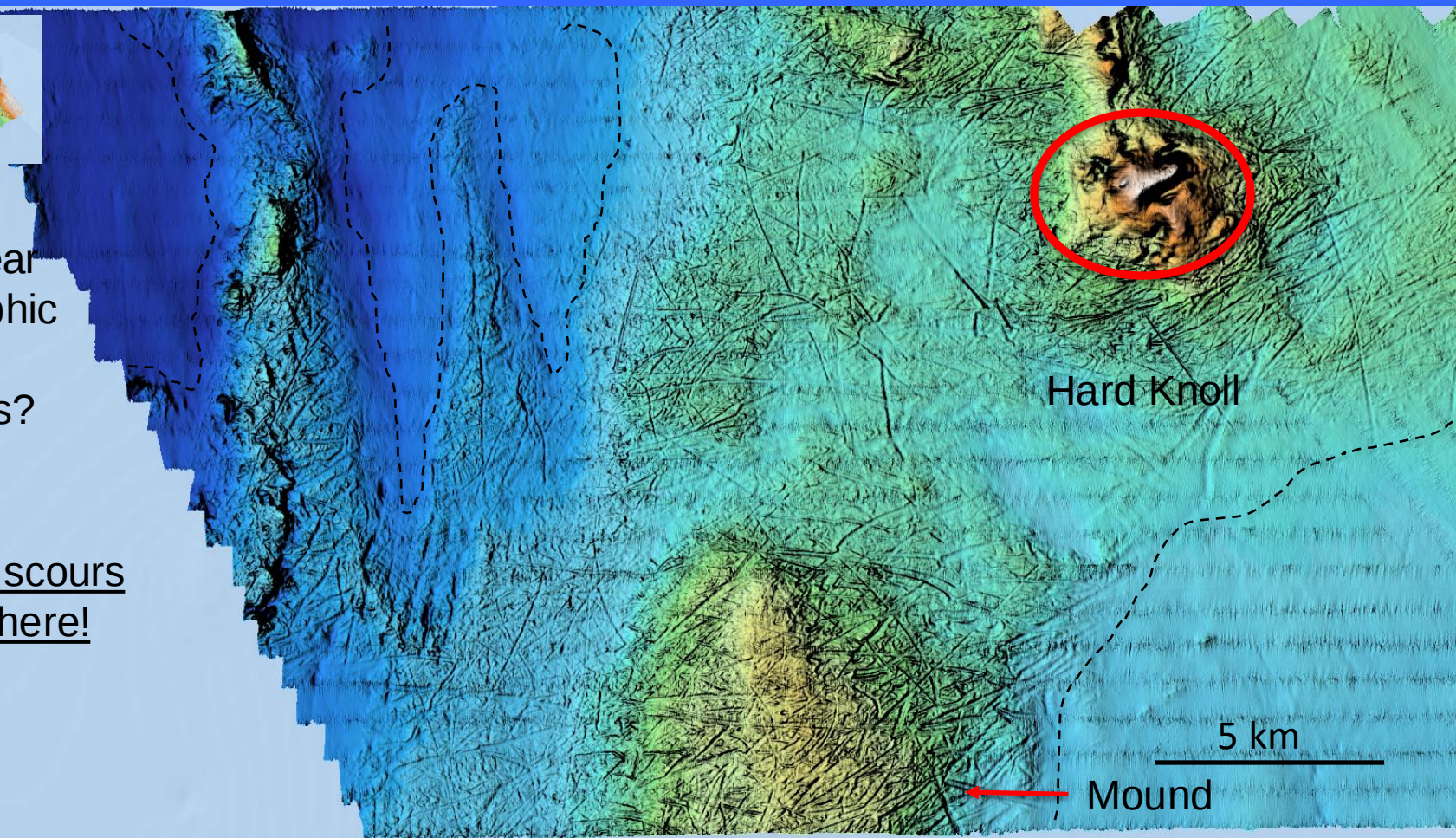
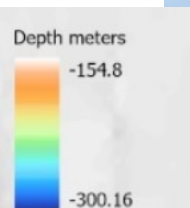
5-meter resolution

III. What do we see when we fill in a gap?



N-S Linear
topographic
high—
moraines?

Iceberg scours
everywhere!



Hard Knoll

5 km

Mound

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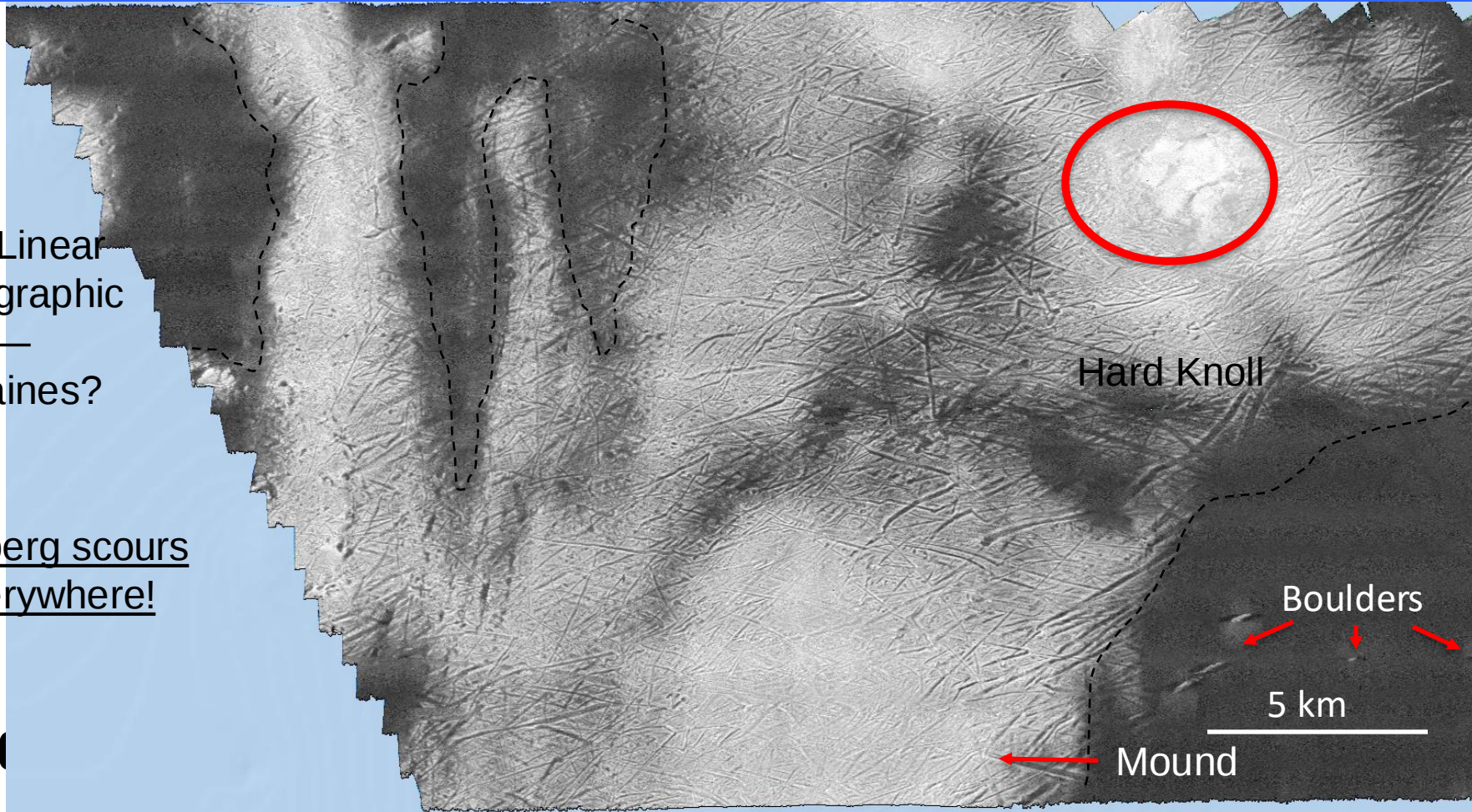


Hard Knoll

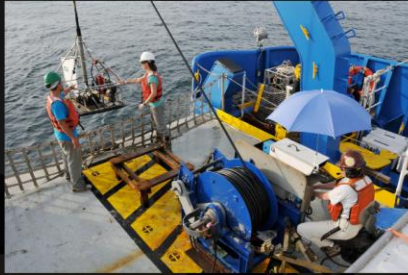
Boulders

5 km

Mound



III. Wouldn't it be nice to know more?

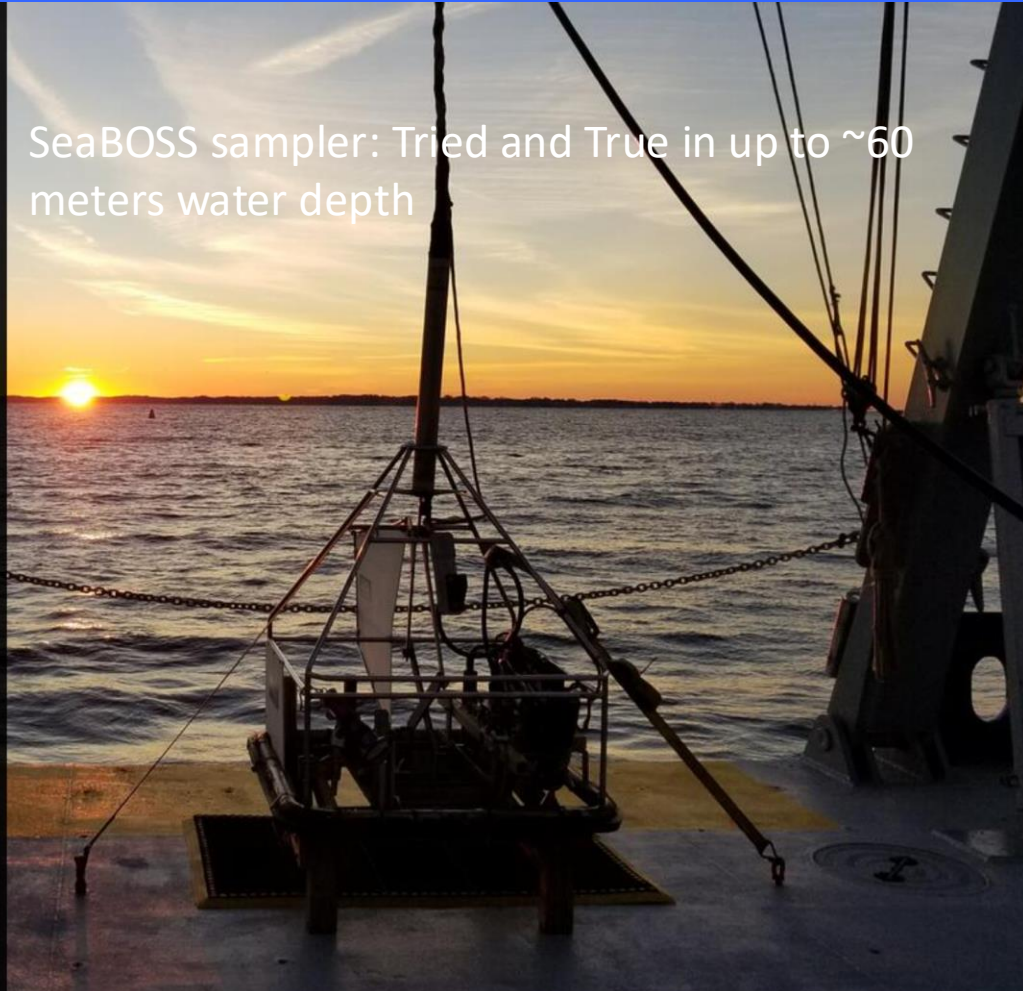


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SeaBOSS sampler: Tried and True in up to ~60 meters water depth

III. Wouldn't it be nice to know more?

USGS engineer are developing a new and improved (Super?) SeaBOSS that can image and sample
Up to 500 meters water depths



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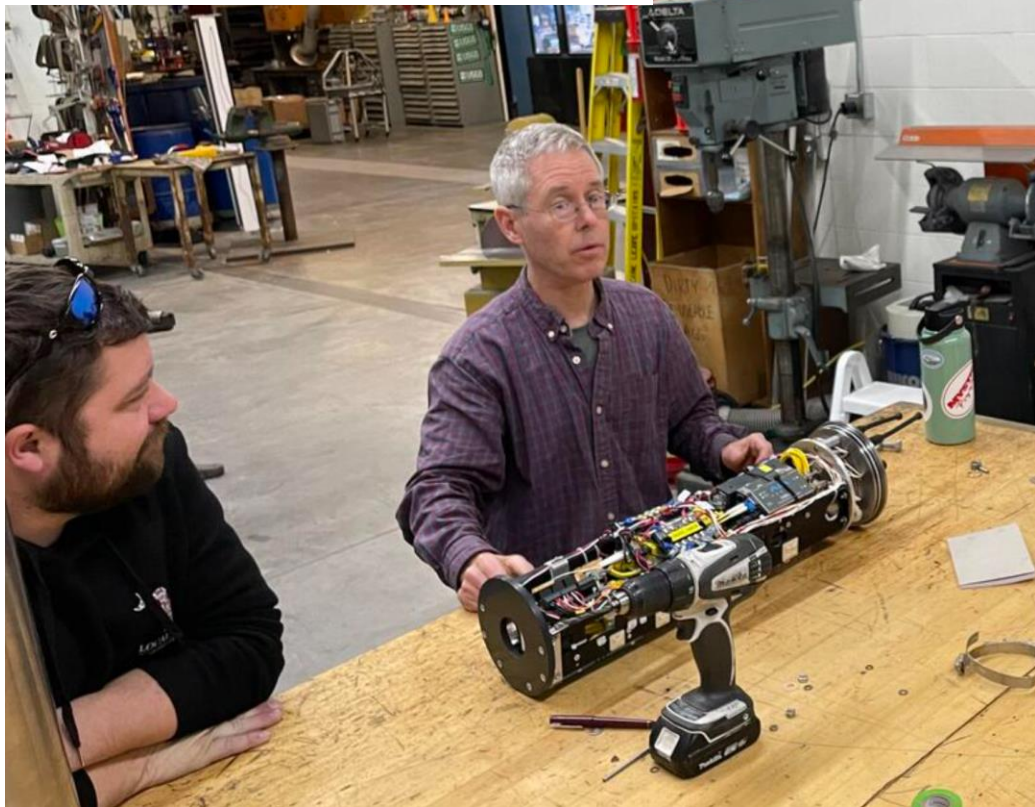


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III. Wouldn't it be nice to know more?

The new SeaBOSS will help us identify seafloor habitats, minerals and hazards

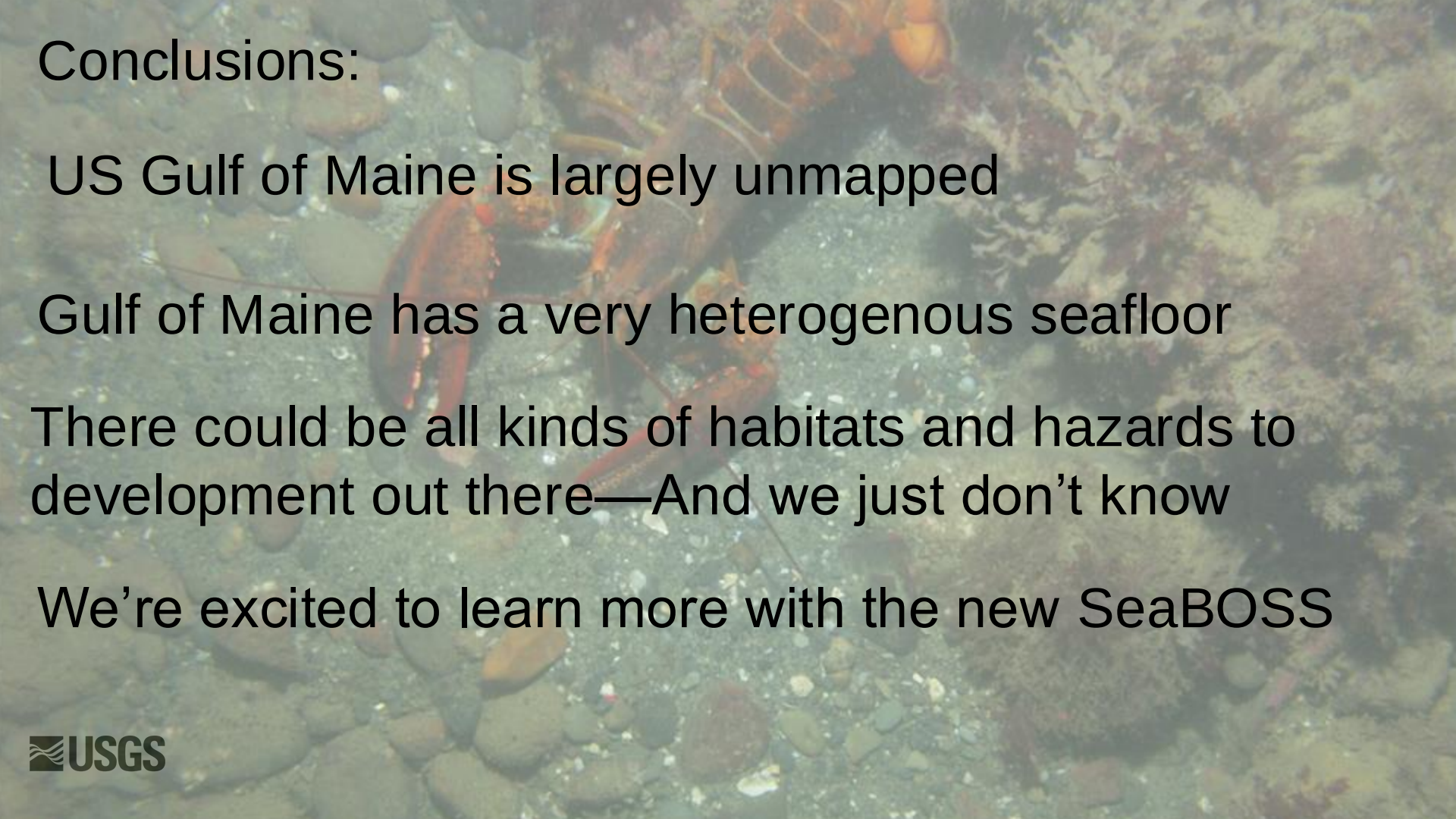


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The background of the slide is an underwater photograph of a rocky seafloor. A large, bright red lobster is visible in the center-left, its legs and claws spread out. The seafloor is covered with various sized rocks and patches of green and brown algae or seaweed. The water is slightly murky, giving the scene a natural, underwater feel.

Conclusions:

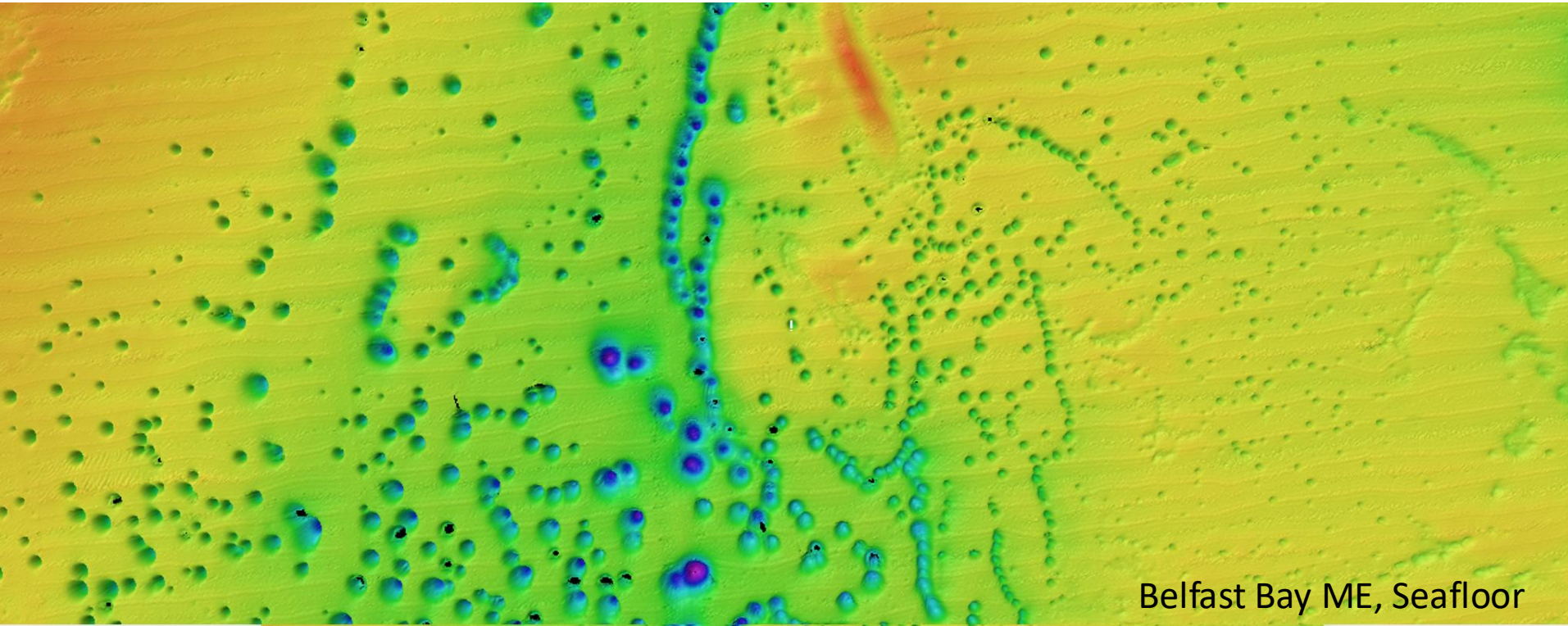
US Gulf of Maine is largely unmapped

Gulf of Maine has a very heterogenous seafloor

There could be all kinds of habitats and hazards to development out there—And we just don't know

We're excited to learn more with the new SeaBOSS

Questions?



Belfast Bay ME, Seafloor



Pockmarks...coming to a staging area near you?

