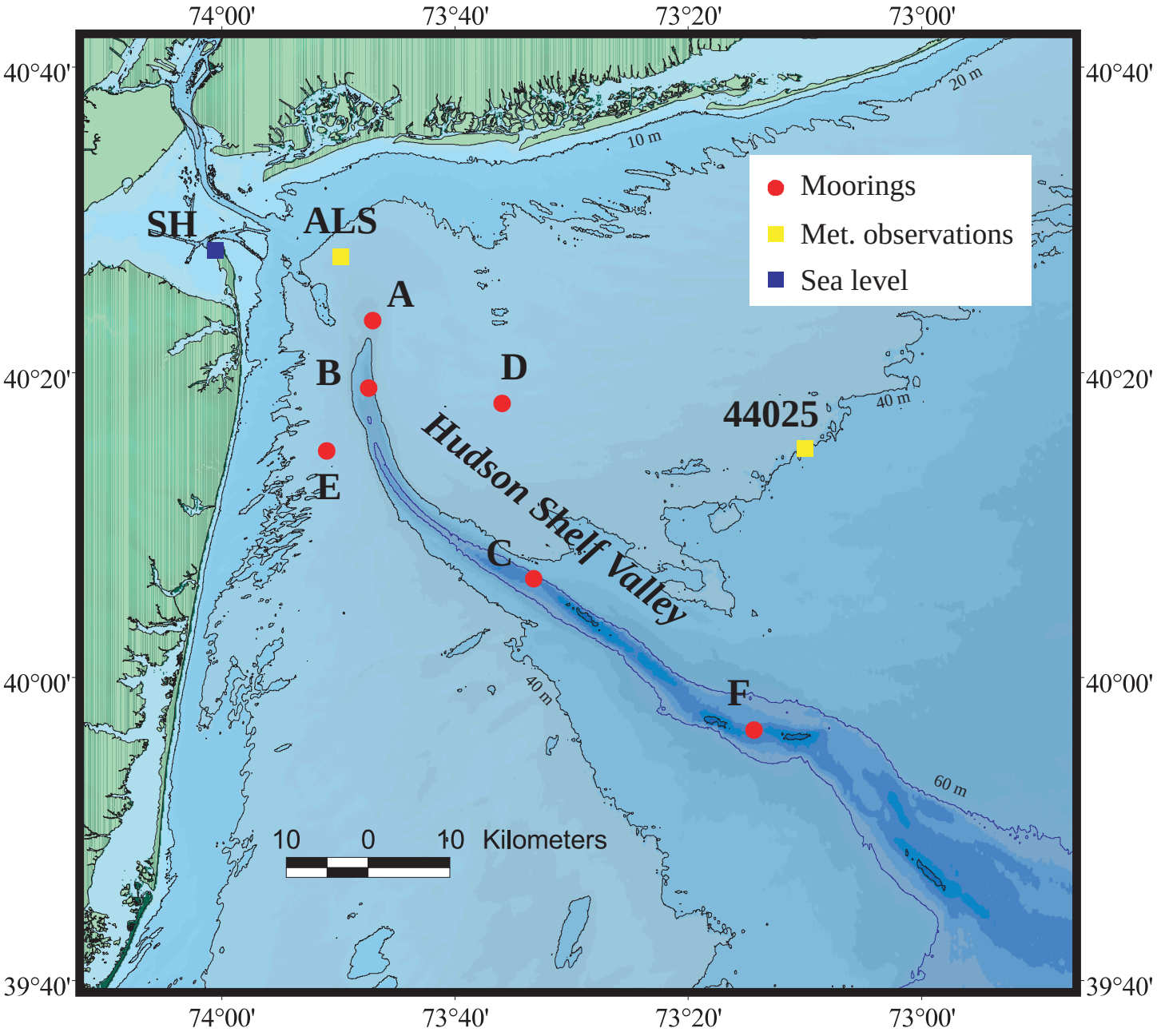

Figure 1. Map showing the location of the Hudson Shelf Valley offshore of New York. Moorings A-F were deployed from December 1999 to April 2000 as part of a field program to investigate the transport and fate of sediment and associated contaminants. Wind observations were obtained at Ambrose Tower (ALS) and at Buoy 44025. Sea level observations were obtained at Sandy Hook (SH).

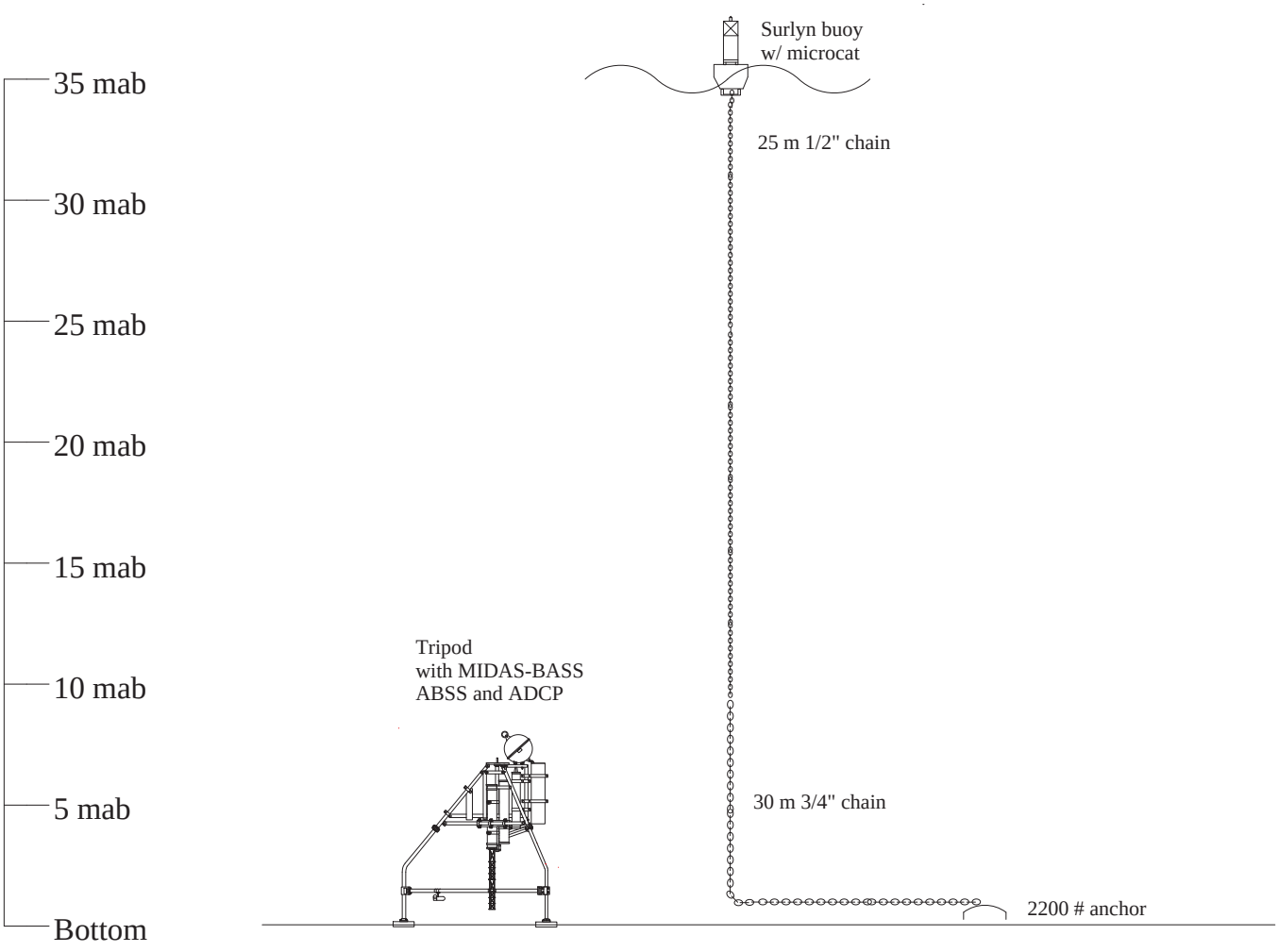

Figure 2A. Schematic of mooring deployed at station A.

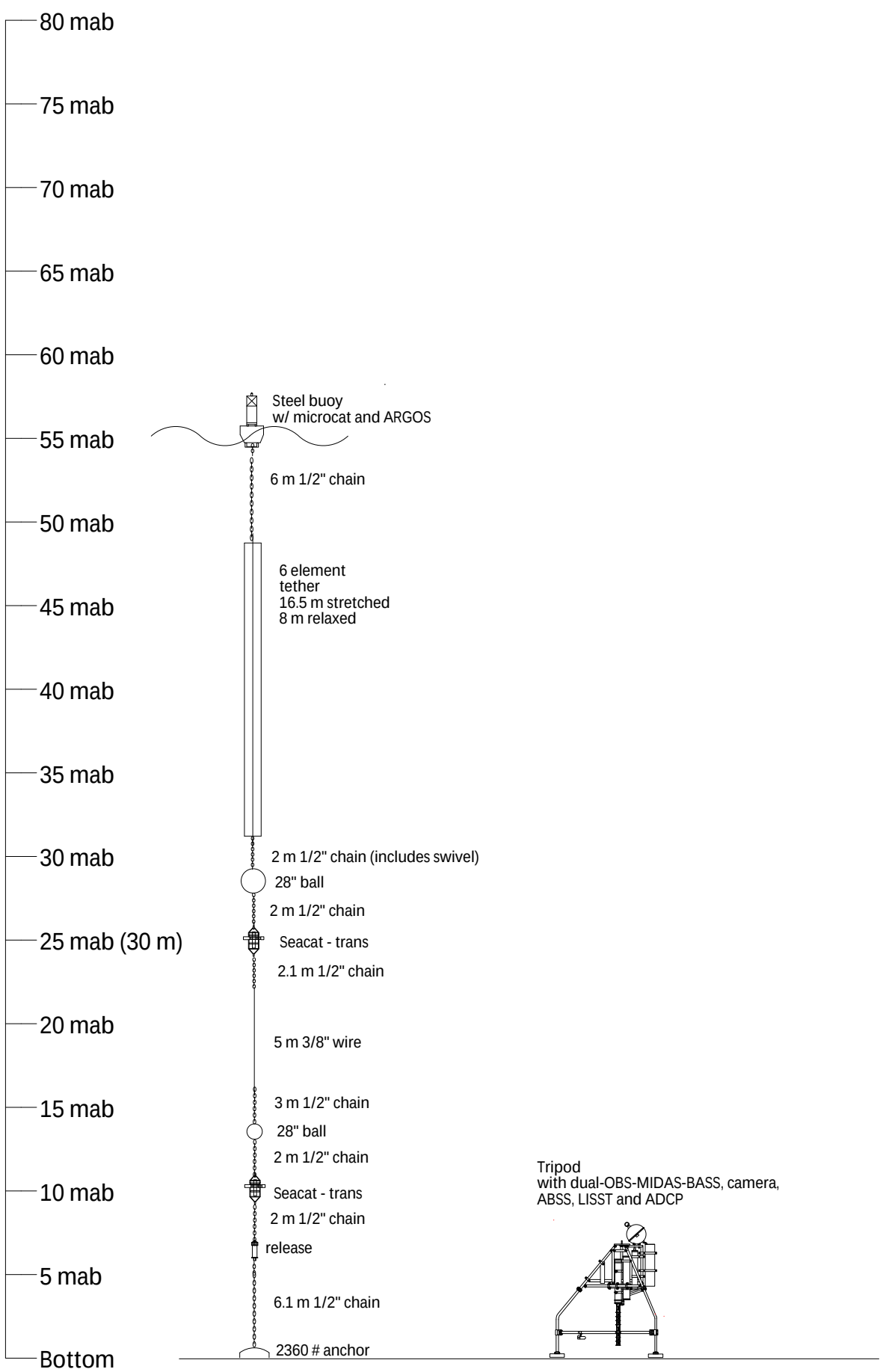

Figure 2B. Schematic of mooring deployed at station B.

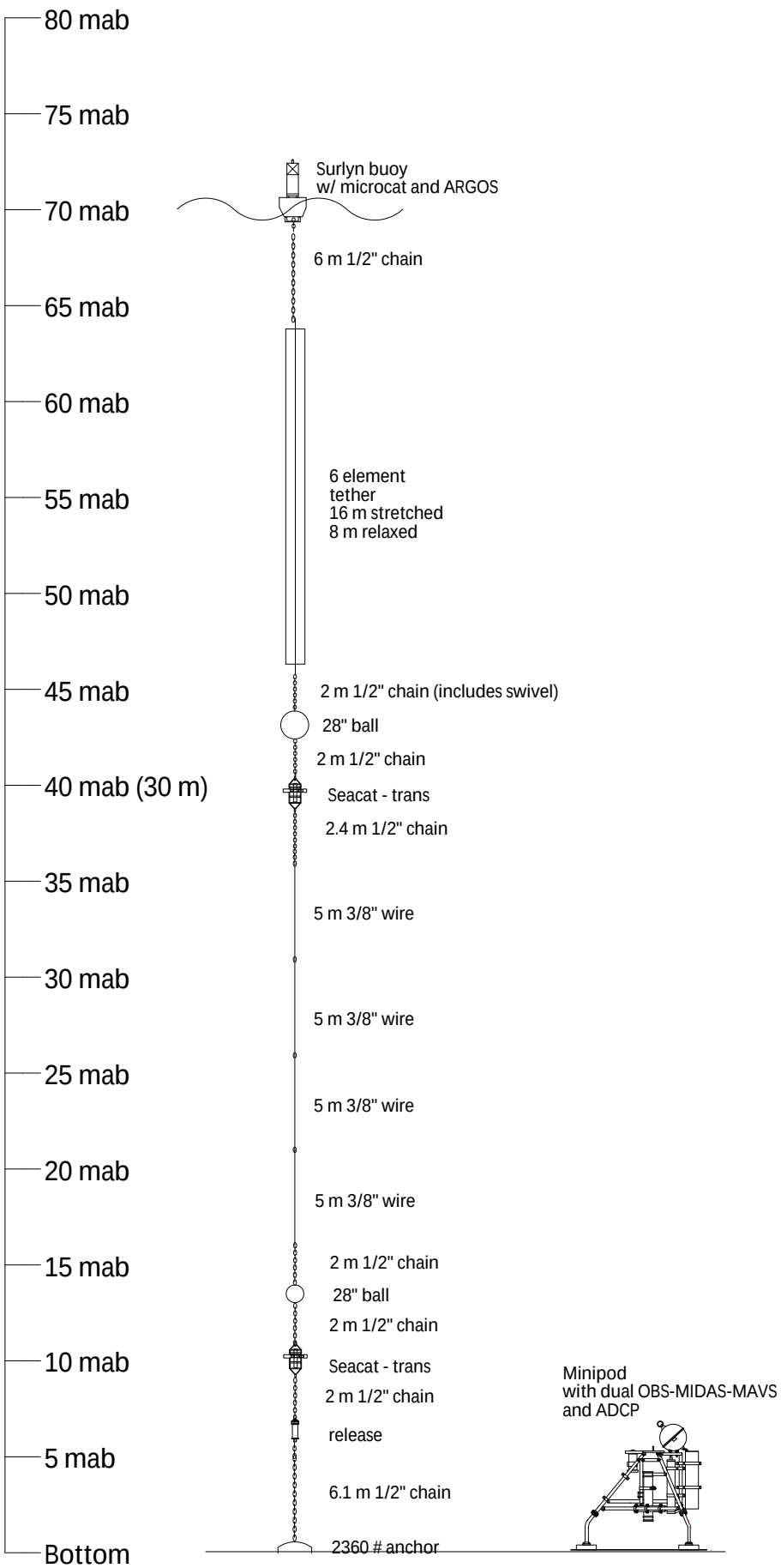

Figure 2C. Schematic of mooring deployed at station C.

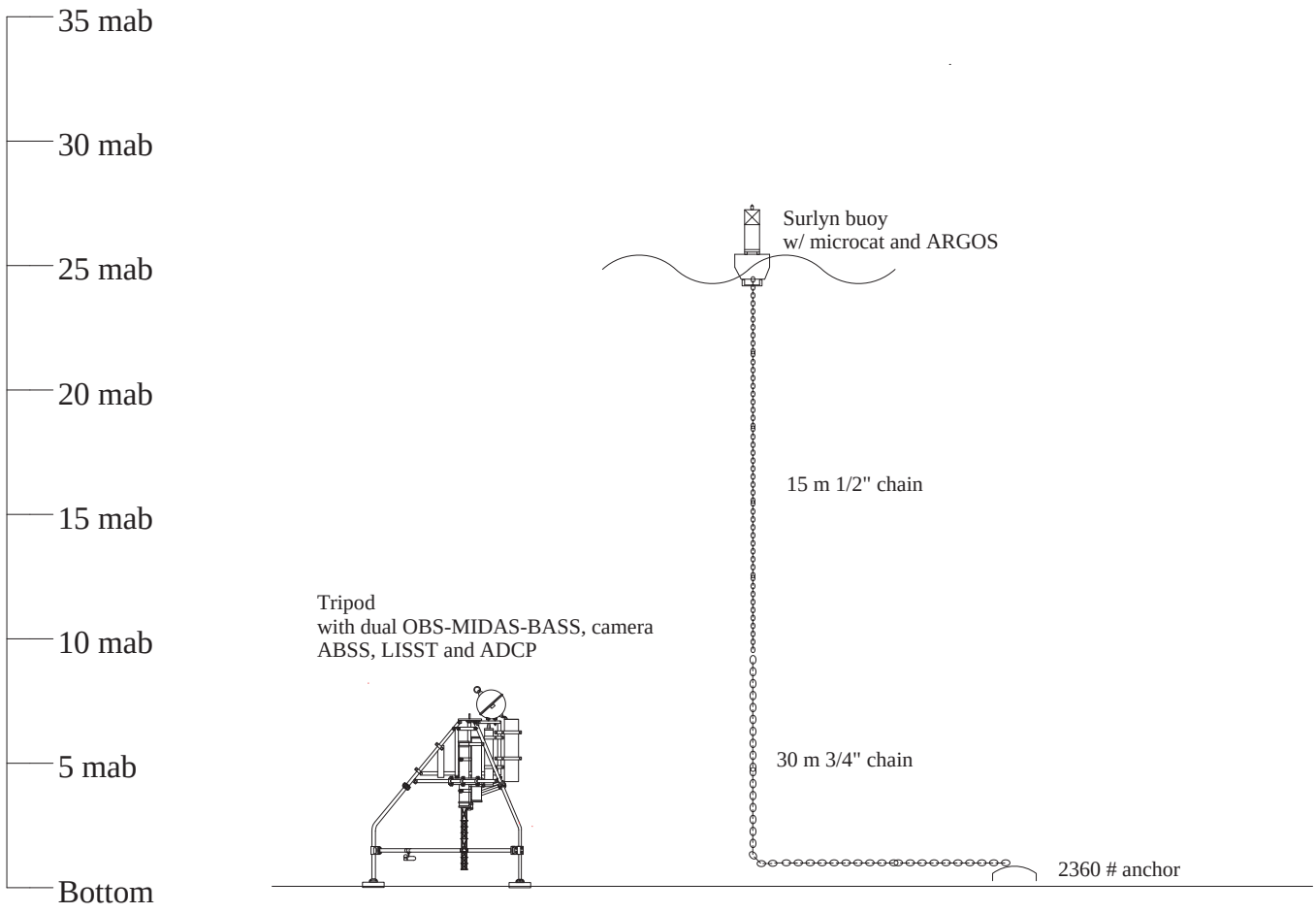

Figure 2D. Schematic of mooring deployed at station D.

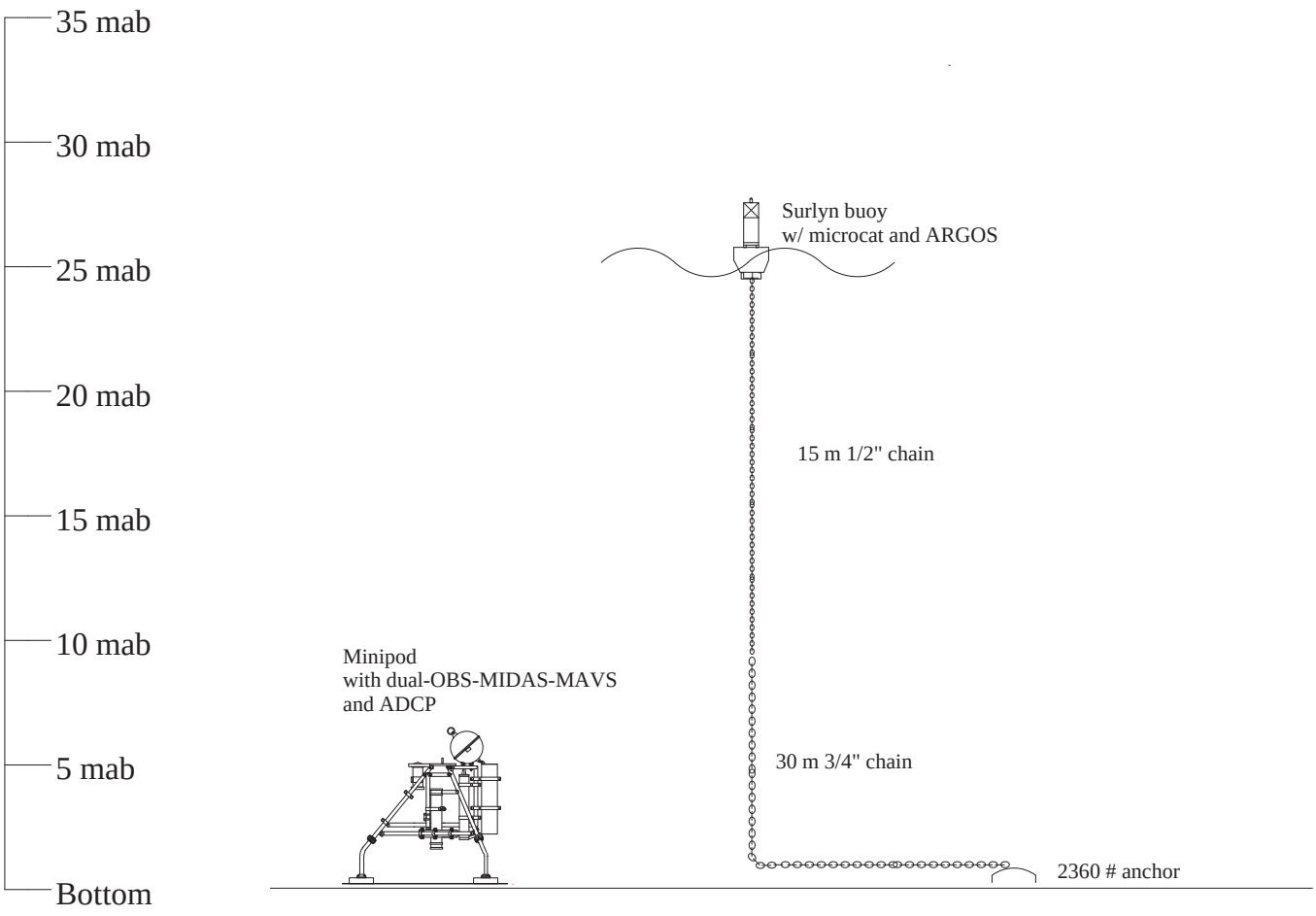

Figure 2E. Schematic of mooring deployed at station E.

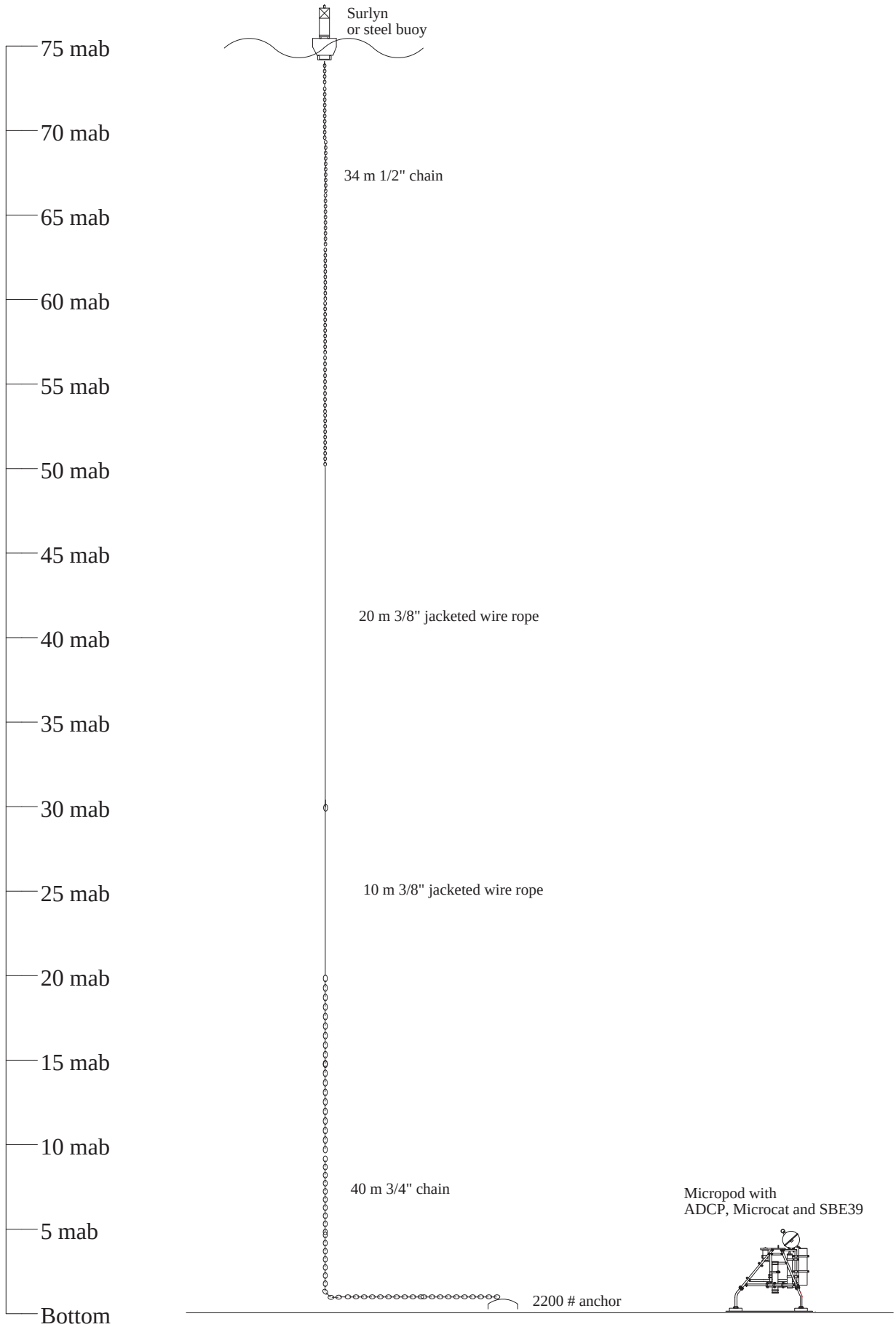

Figure 2F. Schematic of mooring deployed at station F.

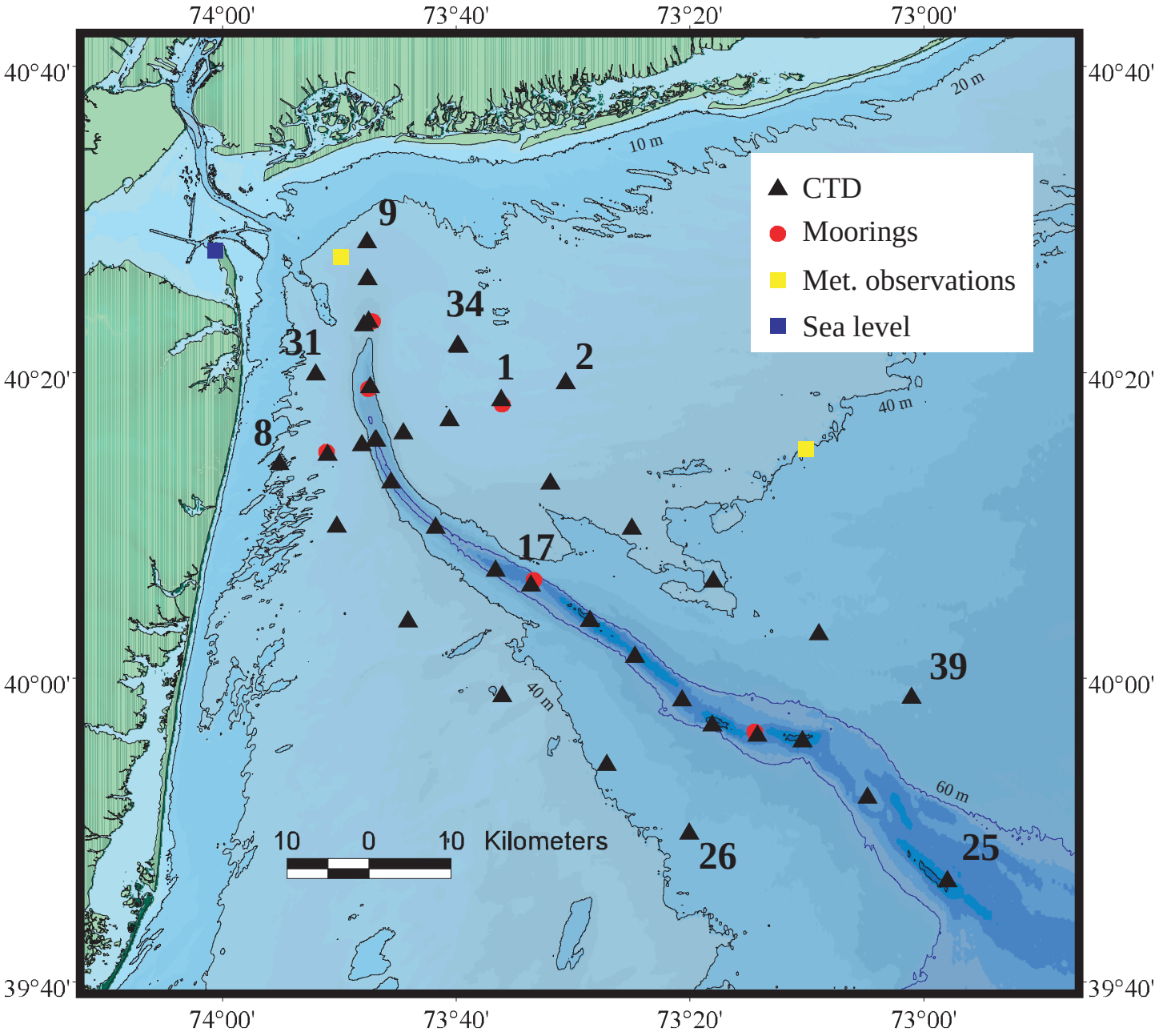

Figure 3. Locations of ConductivityTemperature/Depth (CTD) profiler stations (black triangles) made December 5-7, 1999 on RV *Oceanus.*

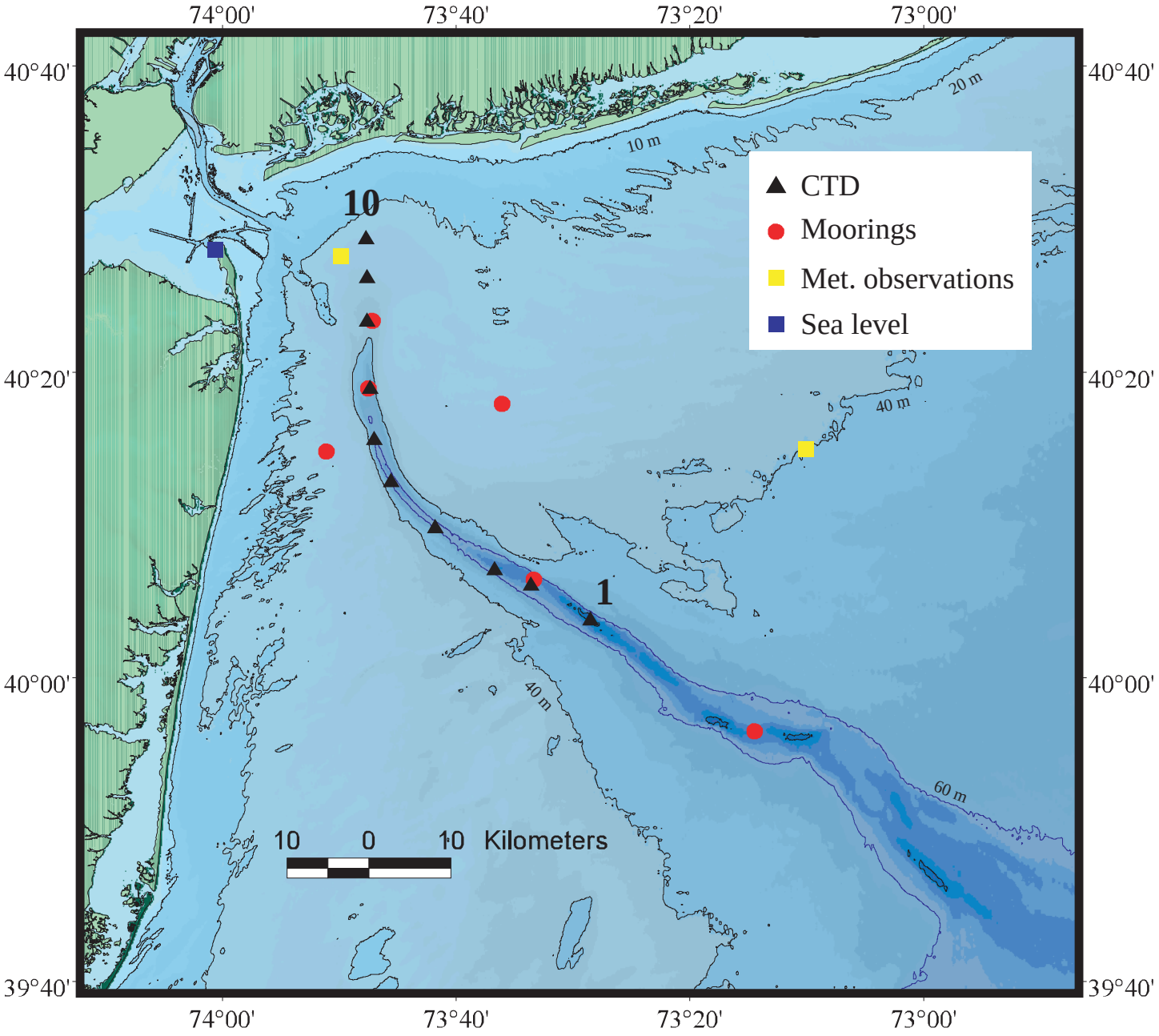

Figure 4. Locations of Conductivity/Temperature/Depth (CTD) profiler stations (black triangles) made April 15, 2000 on RV *Endeavor*.

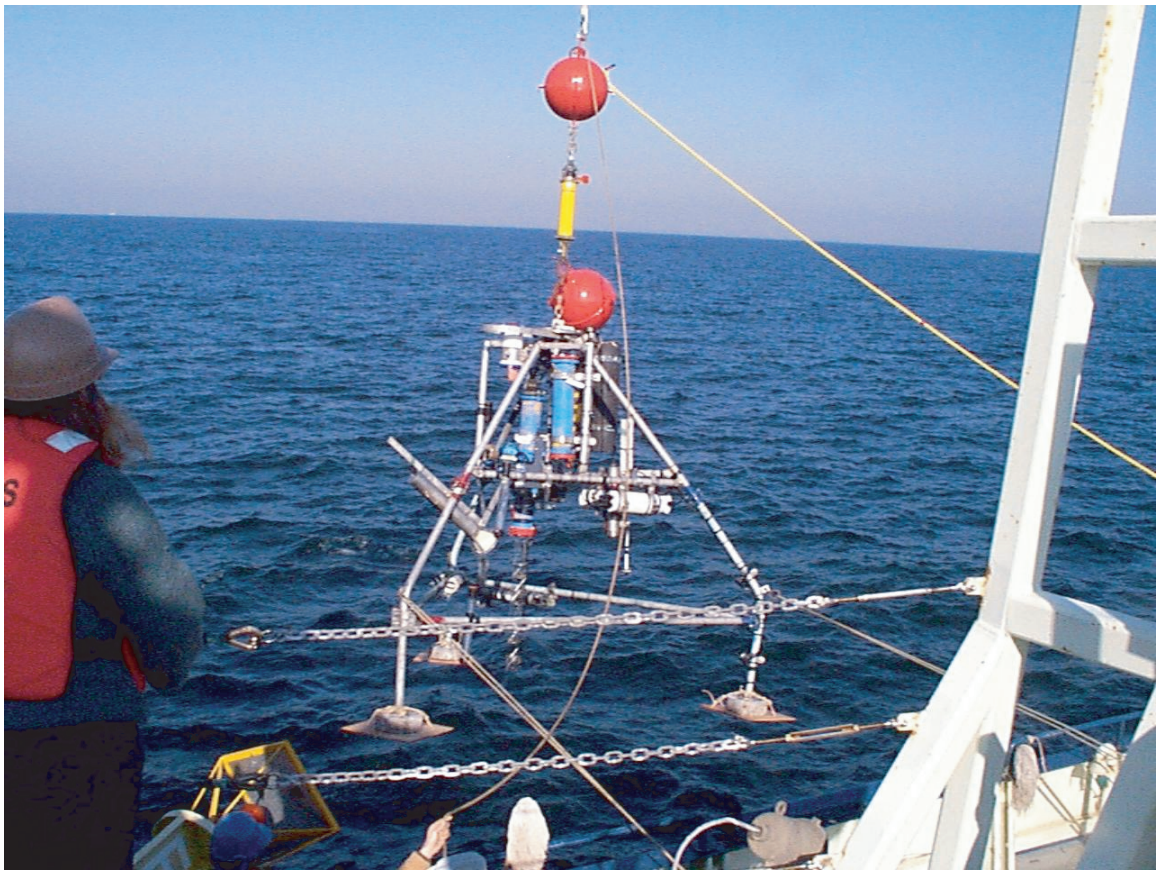

Figure 5. A bottom tripod system being deployed from RV *Oceanus*. Similar systems were used to collect near-bottom observations at Stations A, B and C. The tripod was lowered to the seafloor on the ship's trawl wire. Once on the bottom, the acoustic release (yellow canister just above the tripod) was activated, detaching the deployment line; the top orange float brought the wire to the surface. Plywood squares were tied to the lead anchor feet to inhibit settling into the muddy bottom at Stations A and B. For recovery, an acoustic release on the tripod released the orange float on the tripod and brought a line to the surface.

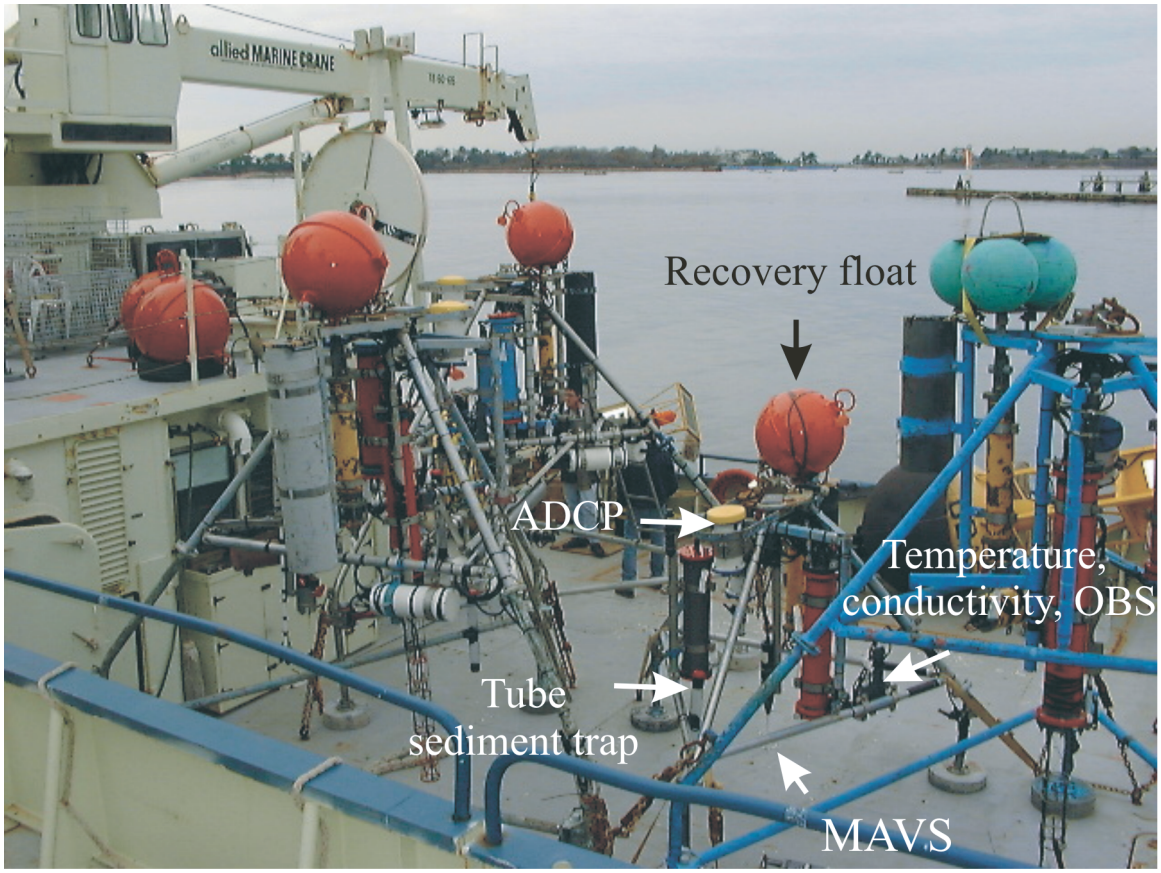

Figure 6A. The stern deck of the RV *Oceanus* loaded with 3 large tripods (deployed at stations A, B and C) and 1 small tripod (deployed at stations C and D). A MAVS current sensor (partially obscured by a horizontal strut) is mounted on the small tripod about 0.4 m above bottom.

Figure 6B. Modular Acoustic Velocity Sensor (MAVS) mounted on small tripod frame. These systems were deployed at Stations C and D with MAV and OBS sensors about 0.4 mab.

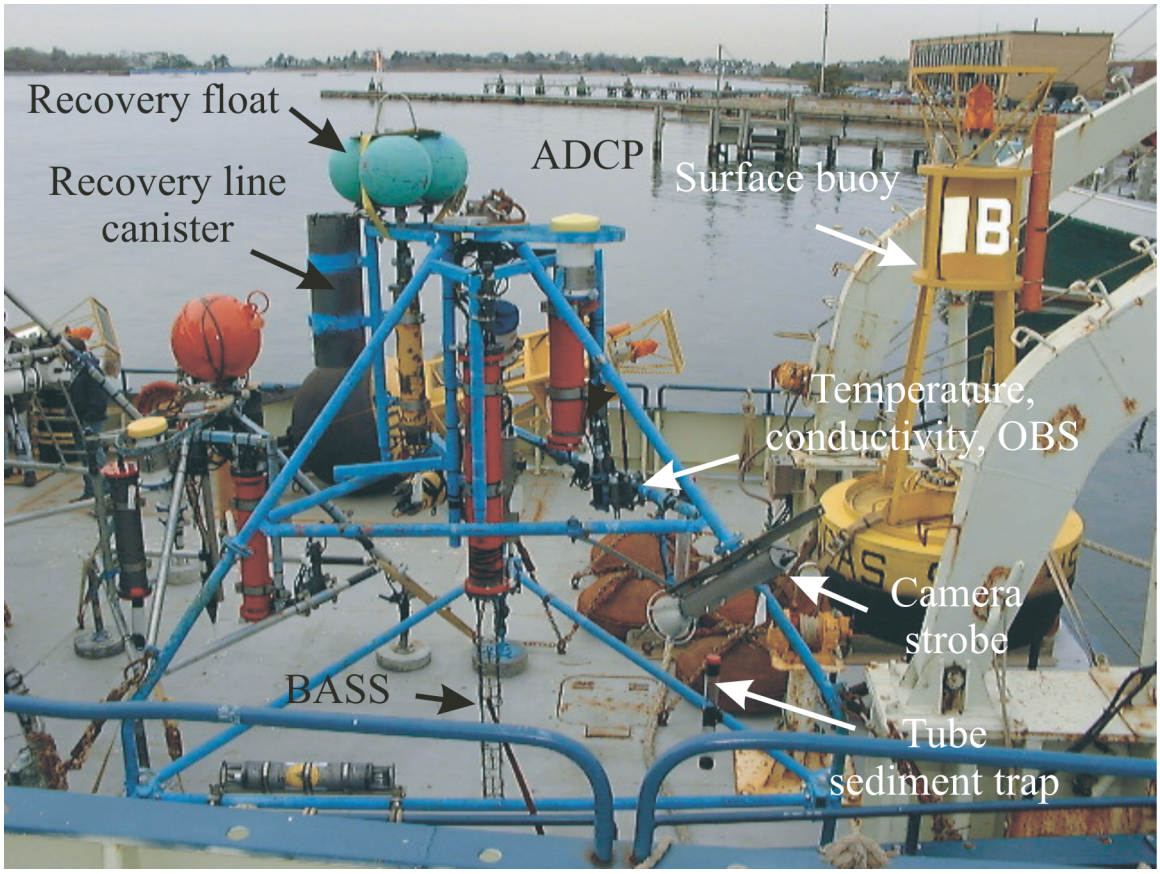

Figure 7A. The stern deck of the RV *Oceanus* showing a large bottom tripod, surface buoy, and other mooring gear. The Acoustic Doppler Current Profiler (ADCP), protected by a yellow cover prior to deployment, is mounted on the large tripod frame about 3 m above bottom.

Figure 7B. A micropod being recovered. The upward-looking Acoustic Doppler Current Profiler (ADCP), mounted in a corner of the triangular fame, has two pairs of transducers that measure currents in orthogonal directions. The rope canister contains line (in this picture the canister is empty) that is pulled to the surface by a float released by the acoustic release.

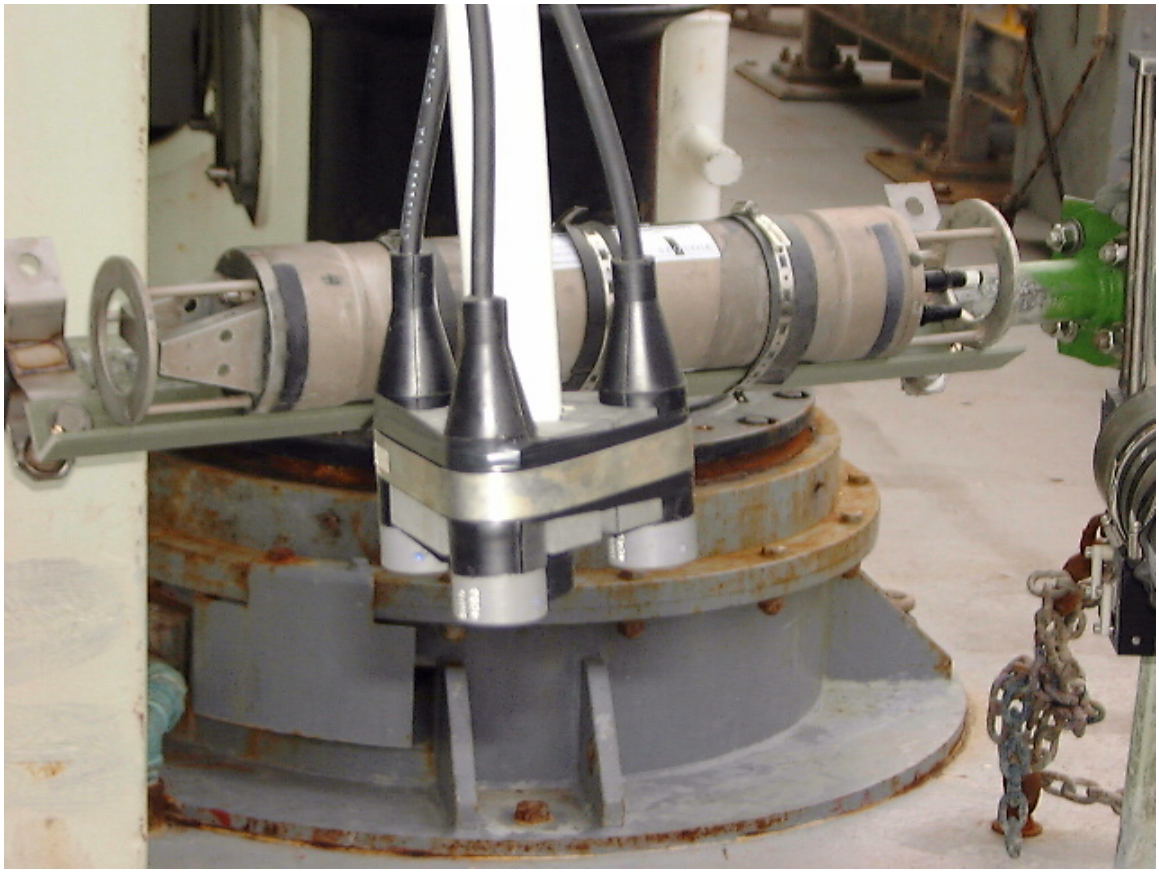

Figure 8A. The sensor of the 3 frequency (1, 2.5 and 5 mHz) Acoustic Backscatter System (ABS).

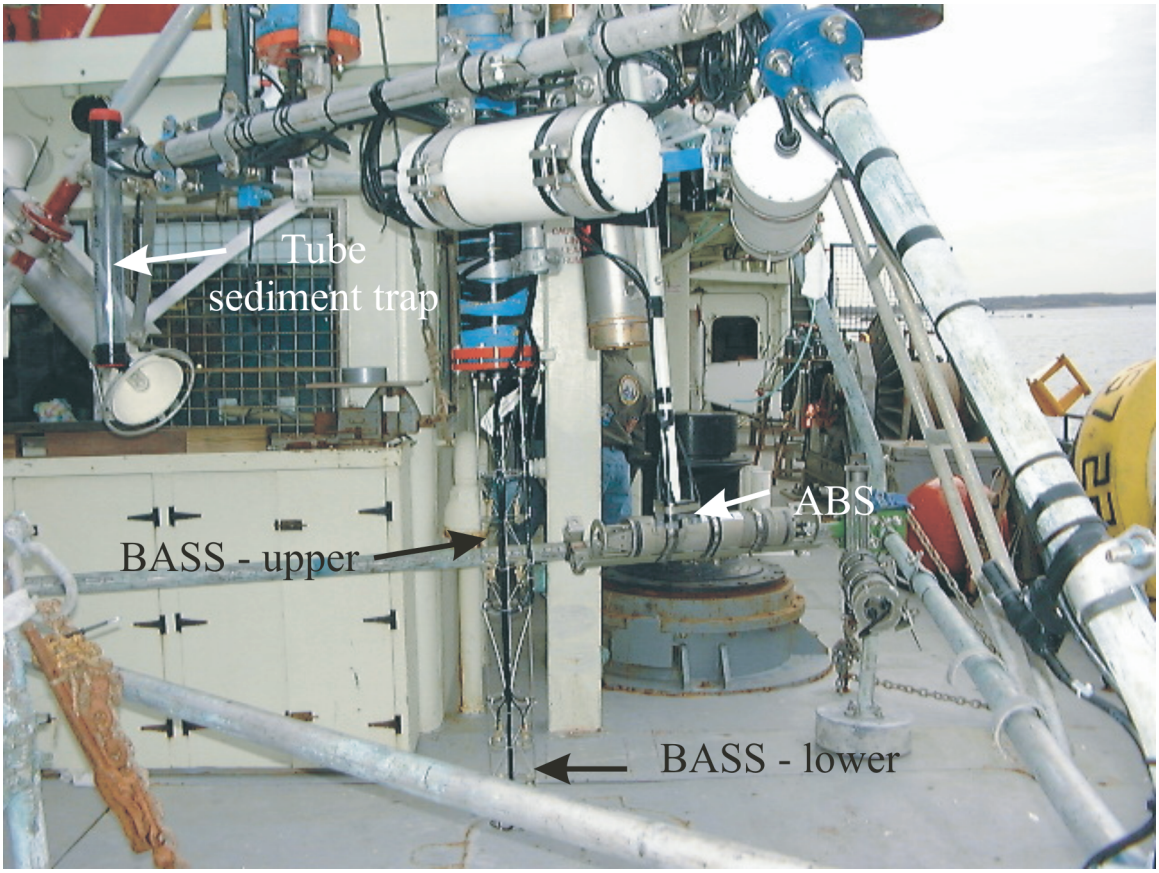

Figure 8B. Lower portion of a Benthic Acoustic Stress Sensor (BASS) tripod system on the deck of the RV *Oceanus*. BASS current sensors were mounted at 1.0 and 0.4 m above bottom and ABS sensors at 115 cm above bottom (the base of the tripod feet).

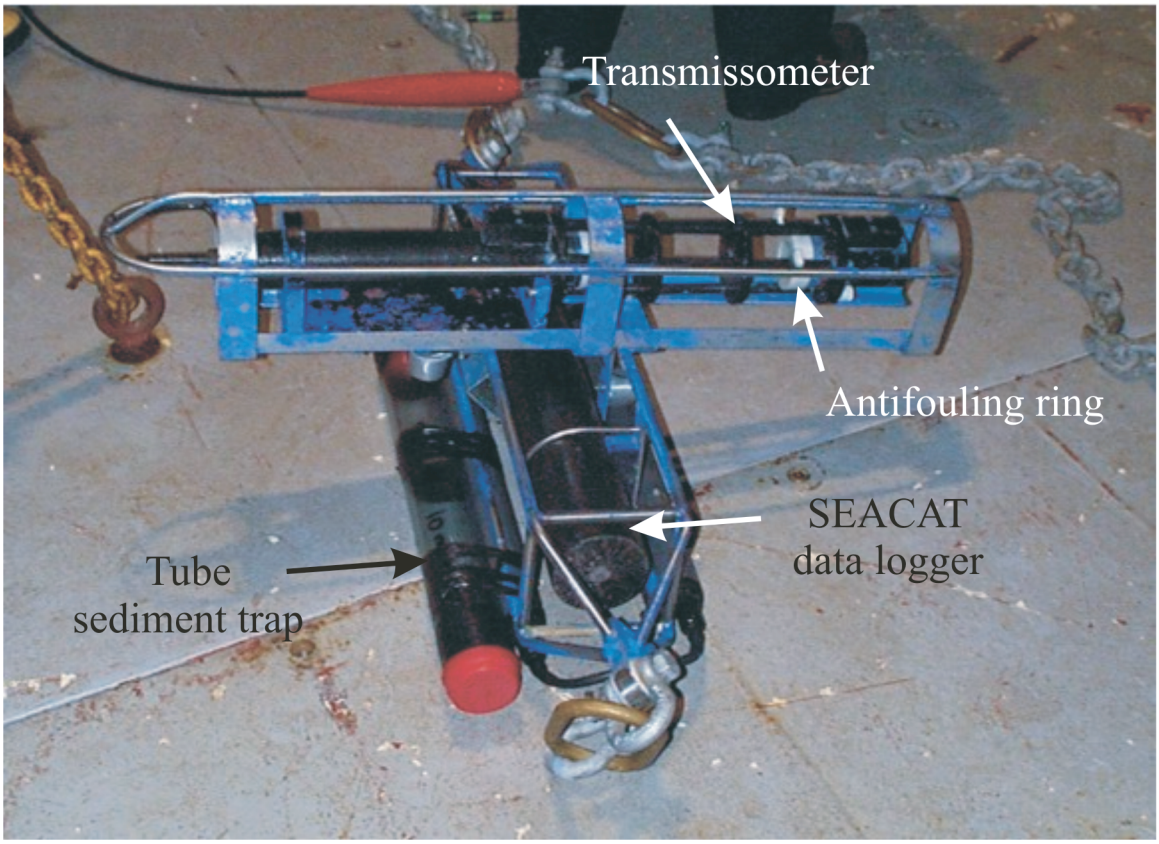

Figure 9. SEACAT with transmissometer and tube sediment trap. These instrument packages were deployed on moorings at Stations B and C. The antifouling ring fits around the transmissometer window.

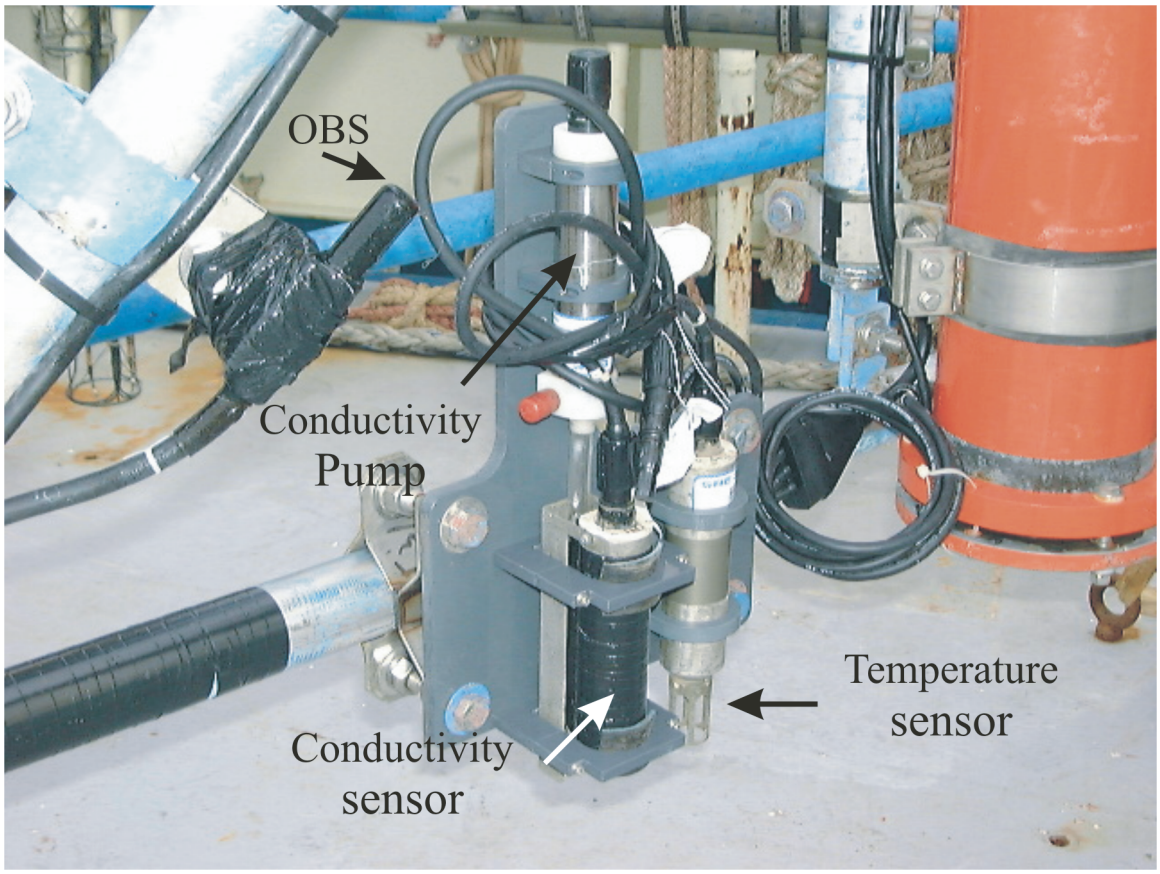

Figure 10. Optical backscatter sensor (OBS) and SeaBird conductivity and temperature sensors attached to the horizontal strut of a tripod frame.

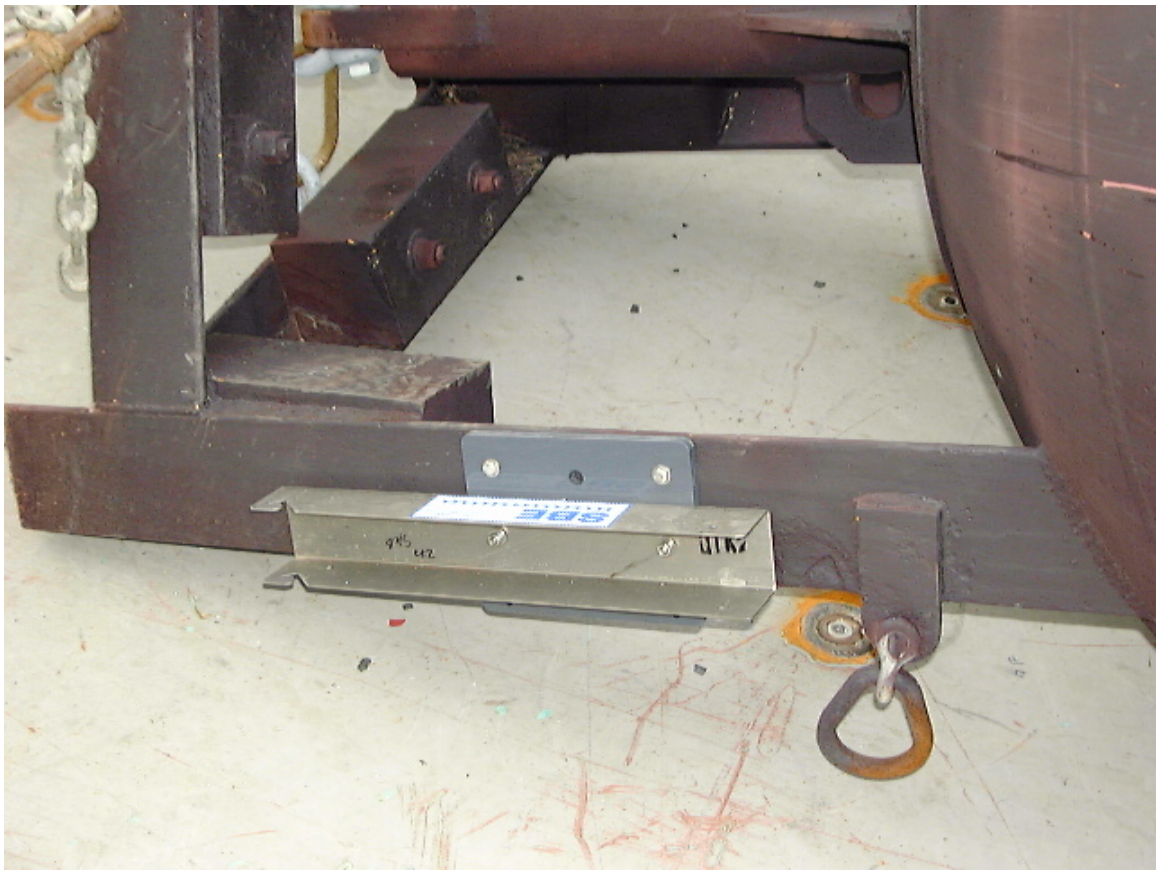

Figure 11. Bracket on bottom of surface buoy used for mounting a MicroCAT to measure near-surface temperature and salinity.

Figure 12. A McLane Labs Water Transfer System (WTS 6-24-47FH) in the laboratory prior to deployment on the tripod at station A. A dual multi-port valve sequentially directs water through 24, 47-millimeter filters to obtain a time series of suspended sediments. The positive displacement pump is placed downstream from the filters to prevent sample contamination. Both the multi-port valve and the positive displacement pump are controlled by an internal computer.

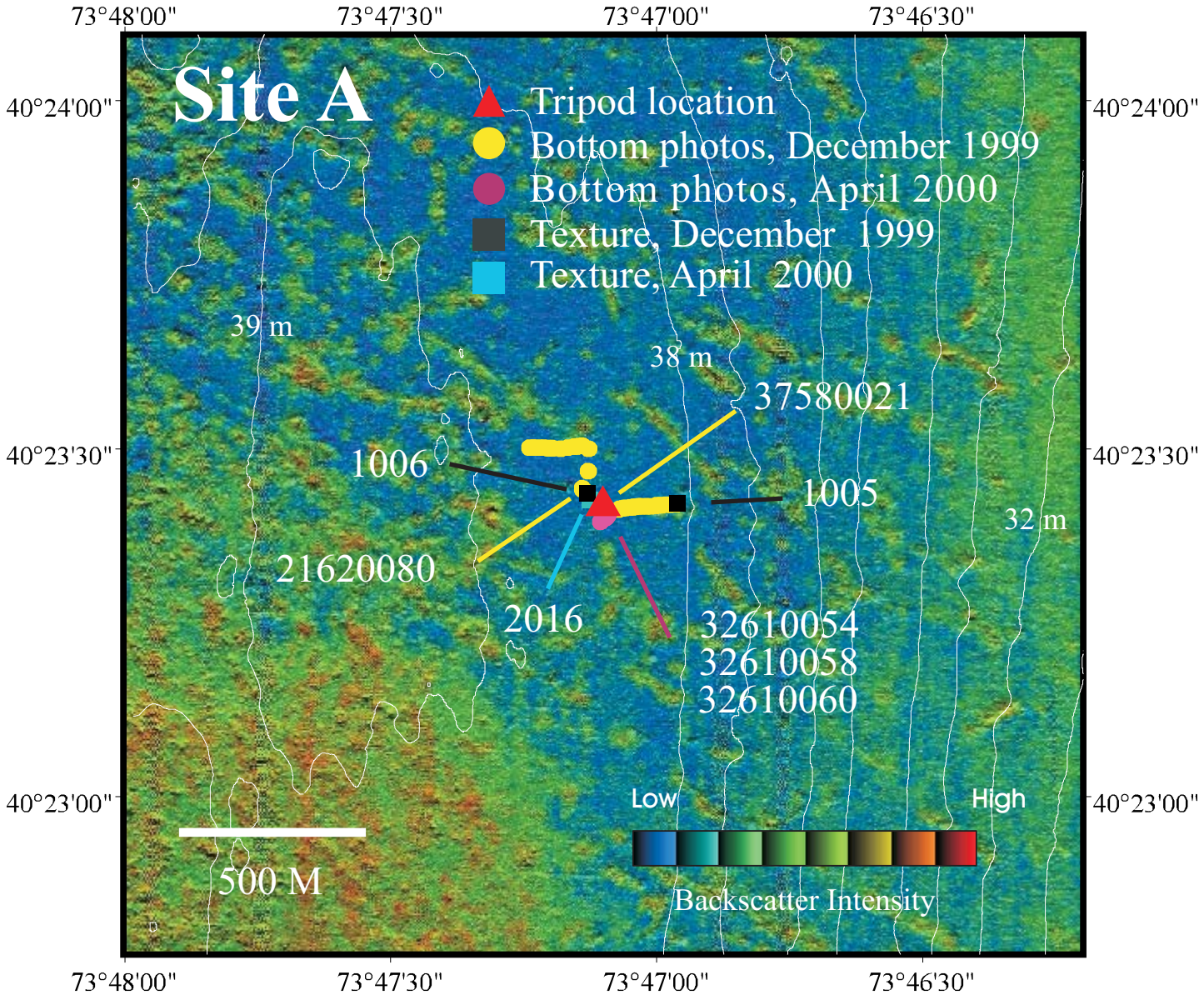

Figure 13A. Location map of site A at the head of the Hudson Shelf Valley (38 m water depth) showing the location of the tripod mooring, bottom photographs and sediment grab samples. The multibeam bathymetry was gridded at 3 m, smoothed over 48 m, and contoured at 1 m intervals. The background image is backscatter intensity from the multibeam surveys; the backscatter intensity is represented by a suite of eight colors ranging from blue, which represents low intensity (fine-grained sediments), to red, which represents high intensity (rock outcrops and coarse-grained sediments). These data are draped over a shaded relief image created by vertically exaggerating the topography four times and then artificially illuminating the relief by a light source positioned 45 degrees above the horizon from the north. Some features in the backscatter image are artifacts of data collection and environmental conditions. They include the unnatural-looking features and patterns oriented parallel or perpendicular to survey tracklines (the trackline orientation can be determined by the direction of the faint striping in the images).

Figure 13B1. Bottom photograph (37580021) taken at site A, December 1999. Field of view is approximately 76x51 cm.

Figure 13B2. Bottom photograph (21620080) taken at site A, December 1999. Field of view is nominally 76x51 cm.

Figure 13C1. Bottom photograph (32610054) taken at site A, April 2000. Field of view is approximately 76x51 cm.

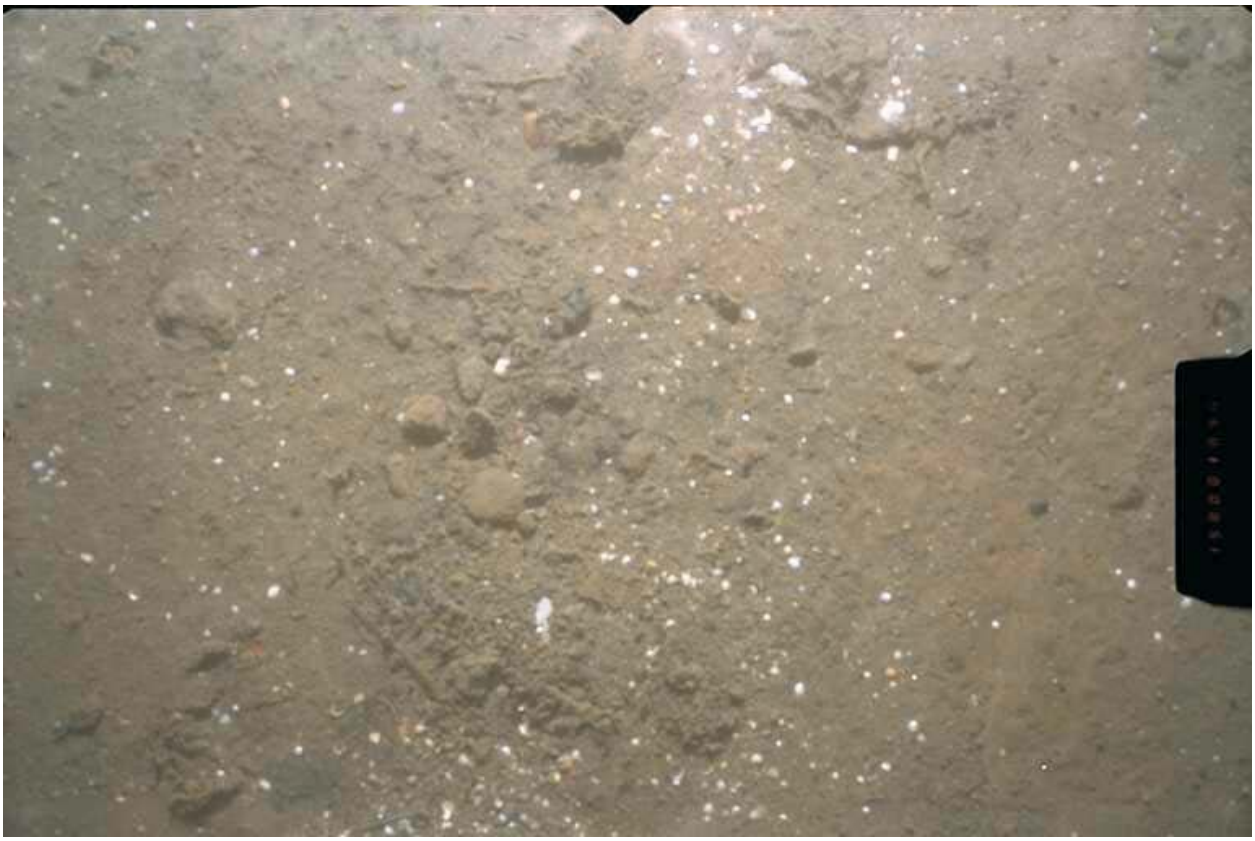

Figure 13C2. Bottom photograph (32610058) taken at site A, April 2000. Field of view is approximately 76x51 cm.

Figure 13C3. Bottom photograph (32610060) taken at site A, April 2000. Field of view is approximately 76x51 cm.

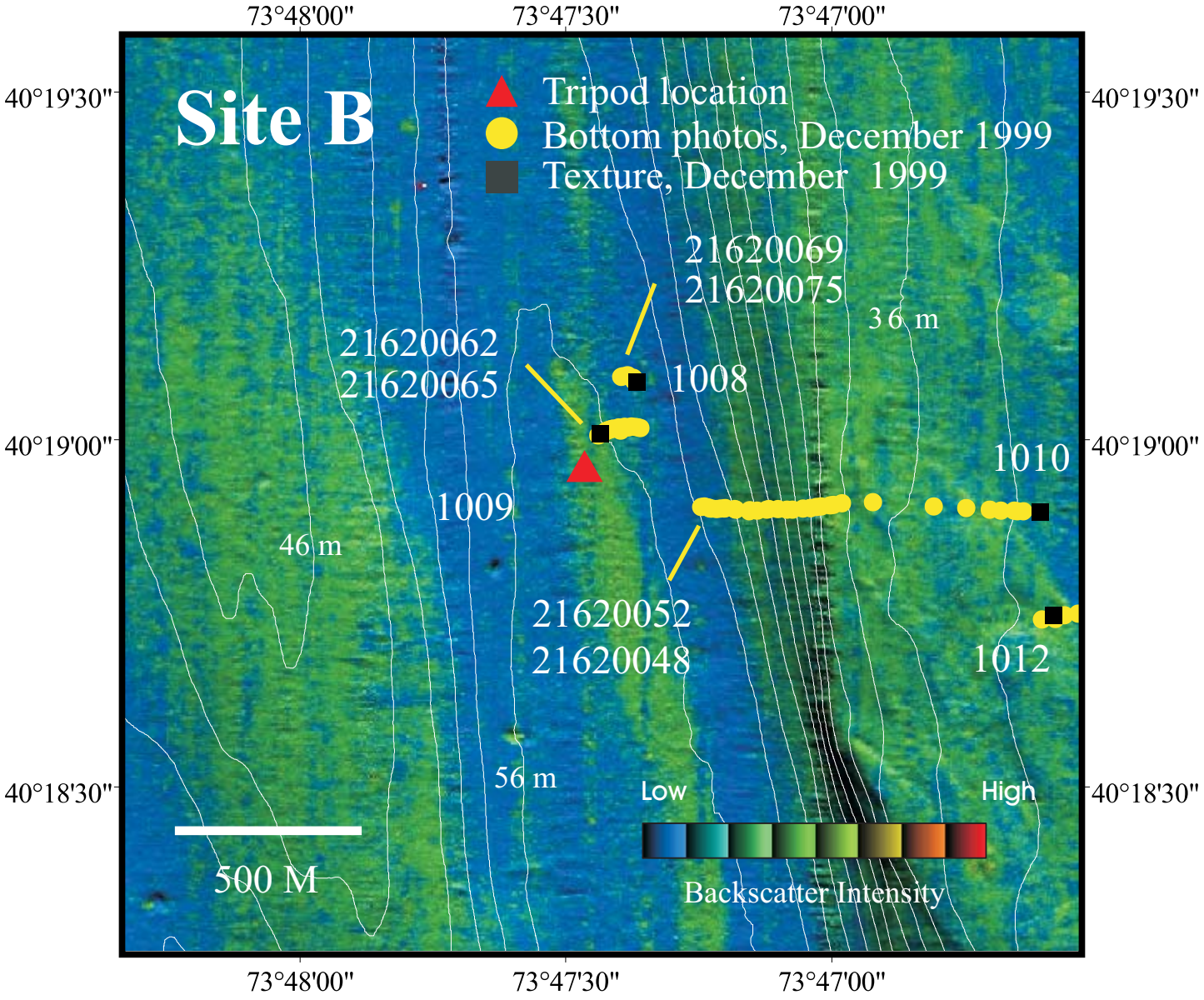

Figure 14A. Location map of site B in the upper portion of the Hudson Shelf Valley (56 m water depth) showing the location of the tripod mooring, bottom photographs and sediment grab samples. The multibeam bathymetry was gridded at 6 m, smoothed over 48 m, and contoured at 2 m intervals. The background image is backscatter intensity from the multibeam surveys; the backscatter intensity is represented by a suite of eight colors ranging from blue, which represents low intensity (fine-grained sediments), to red, which represents high intensity (rock outcrops and coarse-grained sediments). These data are draped over a shaded relief image created by vertically exaggerating the topography four times and then artificially illuminating the relief by a light source positioned 45 degrees above the horizon from the north. Some features in the backscatter image are artifacts of data collection and environmental conditions. They include the unnatural-looking features and patterns oriented parallel or perpendicular to survey tracklines (the trackline orientation can be determined by the direction of the faint striping in the images).

Figure 14B1. Bottom photograph (21620075) taken at site B, December 1999. Field of view is approximately 76x51 cm.

Figure 14B2. Bottom photograph (21620069) taken at site B, December 1999. Field of view is approximately 76x51 cm.

Figure 14B3. Bottom photograph (21620065) taken at site B, December 1999. Field of view is approximately 76x51 cm.

Figure 14B4. Bottom photograph (21620062) taken at site B, December 1999. Field of view is approximately 76x51 cm.

Figure 14B5. Bottom photograph (21620052) taken at site B, December 1999. Field of view is approximately 76x51 cm.

Figure 14B6. Bottom photograph (21620048) taken at site B, December 1999. Field of view is approximately 76x51 cm.

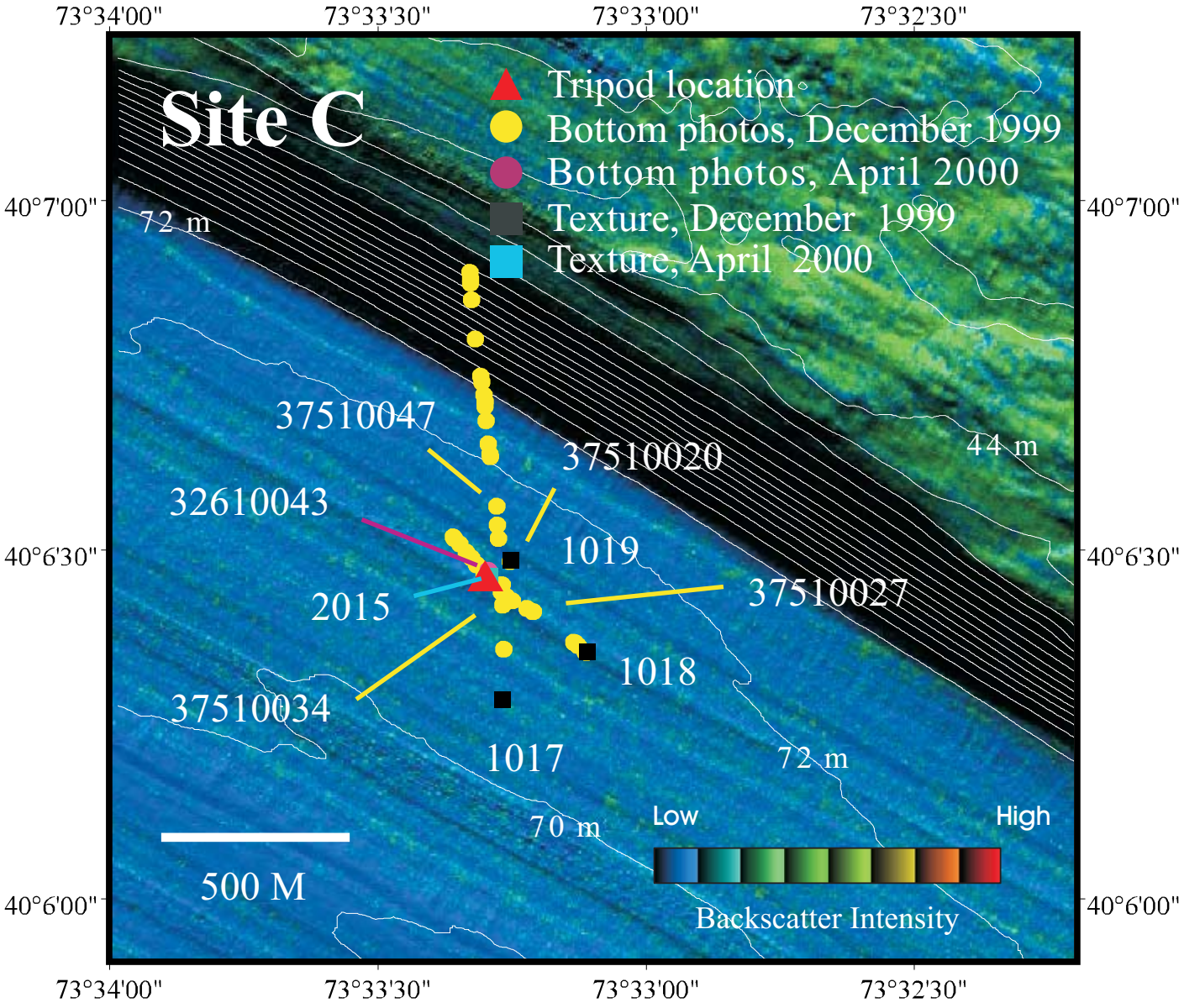

Figure 15A. Location map of site C in the Hudson Shelf Valley (71 m water depth) showing the location of the tripod mooring, bottom photographs and sediment grab samples. The multibeam bathymetry was gridded at 6 m, smoothed over 48 m, and contoured at 2 m intervals. The background image is backscatter intensity from the multibeam surveys; the backscatter intensity is represented by a suite of eight colors ranging from blue, which represents low intensity (fine-grained sediments), to red, which represents high intensity (rock outcrops and coarse-grained sediments). These data are draped over a shaded relief image created by vertically exaggerating the topography four times and then artificially illuminating the relief by a light source positioned 45 degrees above the horizon from the north. Some features in the backscatter image are artifacts of data collection and environmental conditions. They include the unnatural-looking features and patterns oriented parallel or perpendicular to survey tracklines (the trackline orientation can be determined by the direction of the faint striping in the images).

Figure 15B1. Bottom photograph (37510047) taken at site C, December 1999. Field of view is approximately 76x51 cm.

Figure 15B2. Bottom photograph (37510034) taken at site C, December 1999. Field of view is approximately 76x51 cm.

Figure 15B3. Bottom photograph (37510027) taken at site C, December 1999. Field of view is approximately 76x51 cm.

Figure 15B4. Bottom photograph (37510020) taken at site C, December 1999. Field of view is approximately 76x51 cm.

Figure 15C. Bottom photograph (32610043) taken at site C, April 2000. Field of view is approximately 76x51 cm.

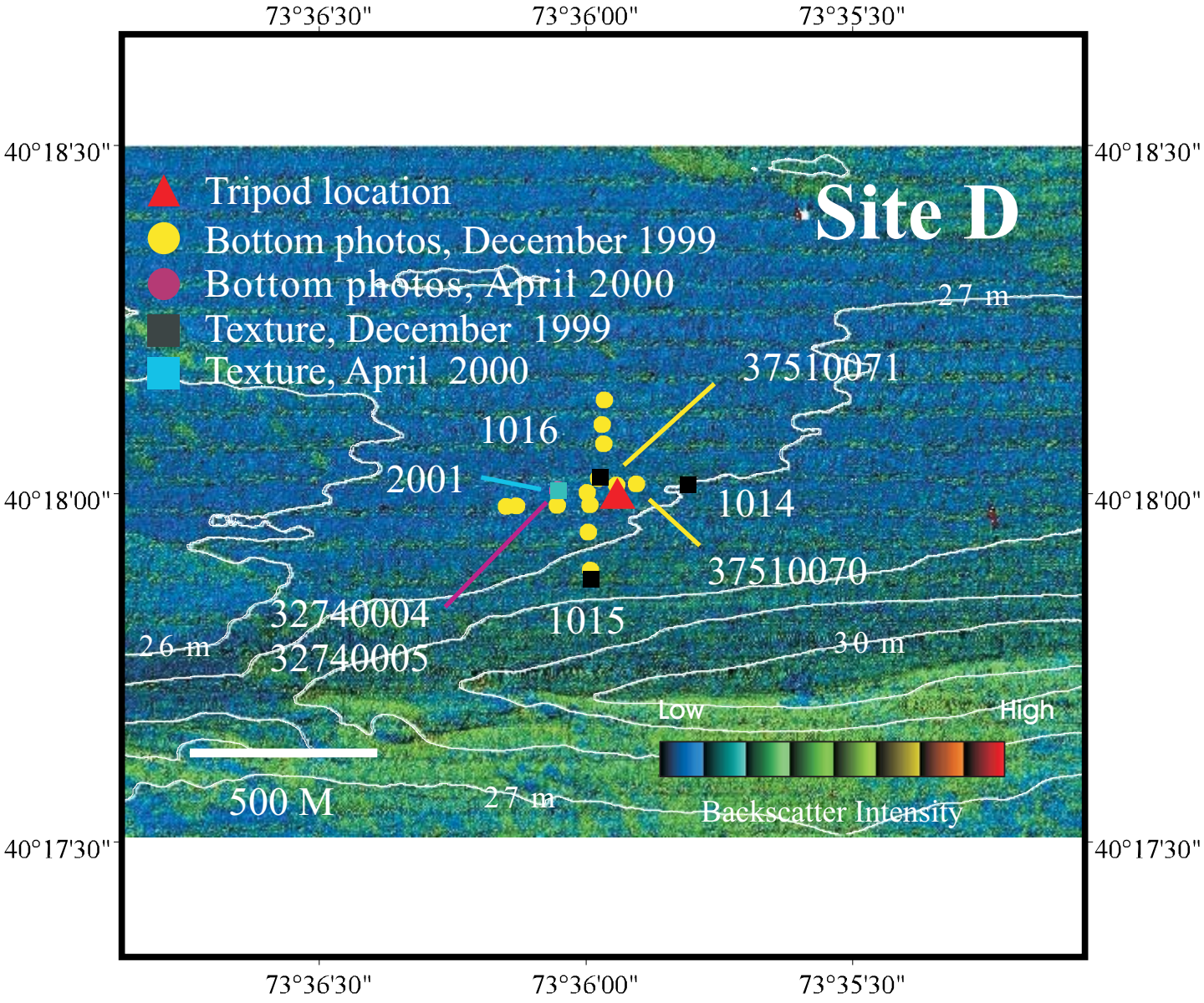

Figure 16A. Location map of site D on the shelf to the east of the Hudson Shelf Valley (26 m water depth) showing the location of the tripod mooring, bottom photographs and sediment grab samples. The multibeam bathymetry was gridded at 2 m, smoothed over 40 m, and contoured at 1 m intervals. The background image is backscatter intensity from the multibeam surveys; the backscatter intensity is represented by a suite of eight colors ranging from blue, which represents low intensity (fine-grained sediments), to red, which represents high intensity (rock outcrops and coarse-grained sediments). These data are draped over a shaded relief image created by vertically exaggerating the topography four times and then artificially illuminating the relief by a light source positioned 45 degrees above the horizon from the north. Some features in the backscatter image are artifacts of data collection and environmental conditions. They include the unnatural-looking features and patterns oriented parallel or perpendicular to survey tracklines (the trackline orientation can be determined by the direction of the faint striping in the images).

Figure 16B1. Bottom photograph (37510070) taken at site D, December 1999. Field of view is approximately 76x51 cm.

Figure 16B2. Bottom photograph (37510071) taken at site D, December 1999. Field of view is approximately 76x51 cm.

Figure 16C1. Bottom photograph (32740004) taken at site D, April 2000. Field of view is approximately 76x51 cm.

Figure 16C2. Bottom photograph (32740005) taken at site D, April 2000. Field of view is approximately 76x51 cm.

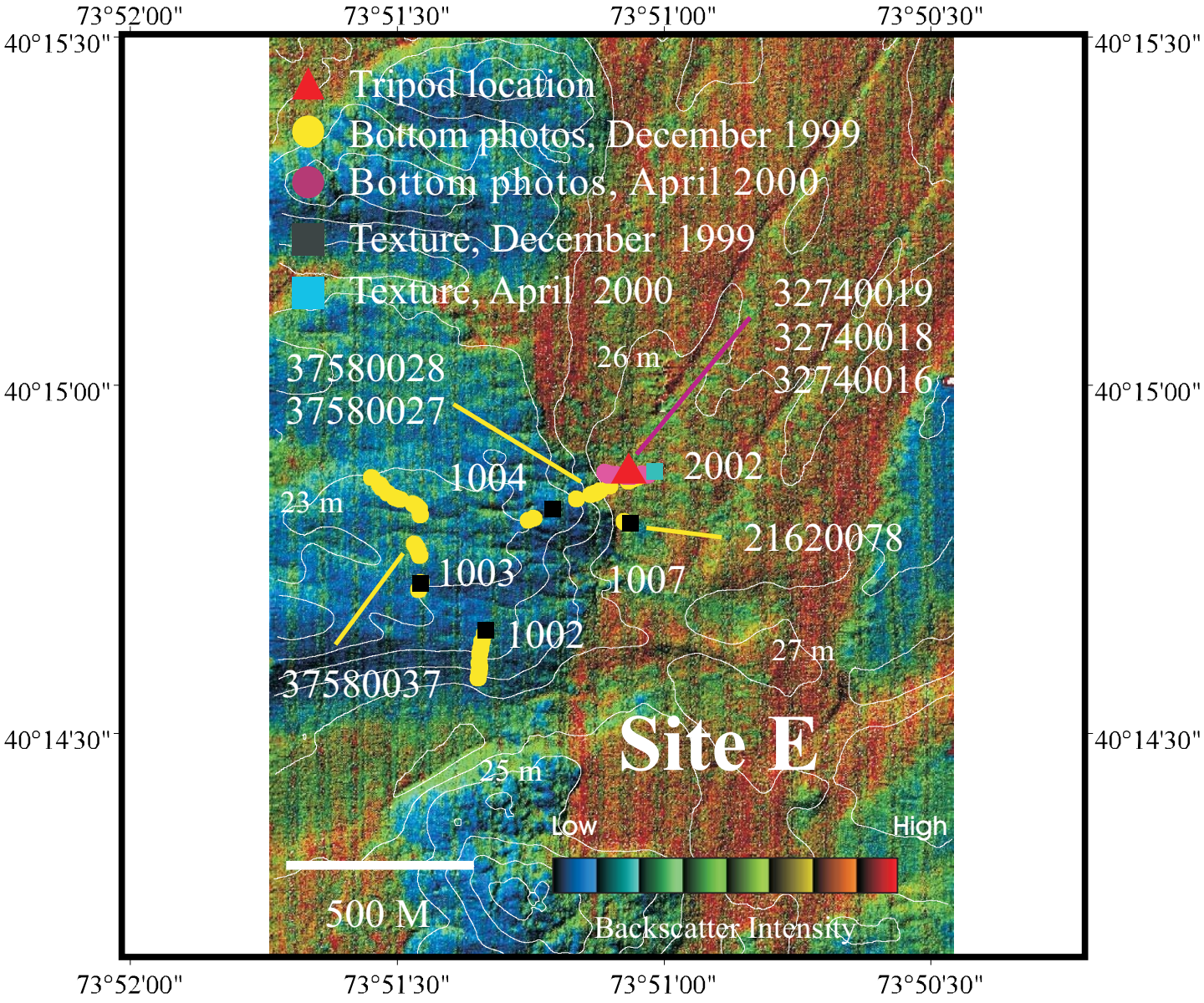

Figure 17A. Location map of site E on the shelf to the west of the Hudson Shelf Valley (26 m water depth) showing the location of the tripod mooring, bottom photographs and sediment grab samples. The multibeam bathymetry was gridded at 2 m, smoothed over 40 m, and contoured at 1 m intervals. The background image is backscatter intensity from the multibeam surveys; the backscatter intensity is represented by a suite of eight colors ranging from blue, which represents low intensity (fine-grained sediments), to red, which represents high intensity (rock outcrops and coarse-grained sediments). These data are draped over a shaded relief image created by vertically exaggerating the topography four times and then artificially illuminating the relief by a light source positioned 45 degrees above the horizon from the north. Some features in the backscatter image are artifacts of data collection and environmental conditions. They include the unnatural-looking features and patterns oriented parallel or perpendicular to survey tracklines (the trackline orientation can be determined by the direction of the faint striping in the images).

Figure 17B1. Bottom photograph (37580037) taken at site E, December 1999. Field of view is approximately 76x51 cm.

Figure 17B2. Bottom photograph (37580028) taken at site E, December 1999. Field of view is approximately 76x51 cm.

Figure 17B3. Bottom photograph (37580027) taken at site E, December 1999. Field of view is approximately 76x51 cm.

Figure 17B4. Bottom photograph (21620078) taken at site E, December 1999. Field of view is approximately 76x51 cm.

Figure 17C1. Bottom photograph (32740019) taken at site E, April 2000. Field of view is approximately 76x51 cm.

Figure 17C2. Bottom photograph (32740018) taken at site E, April 2000. Field of view is approximately 76x51 cm.

Figure 17C3. Bottom photograph (32740016) taken at site E, April 2000. Field of view is approximately 76x51 cm.

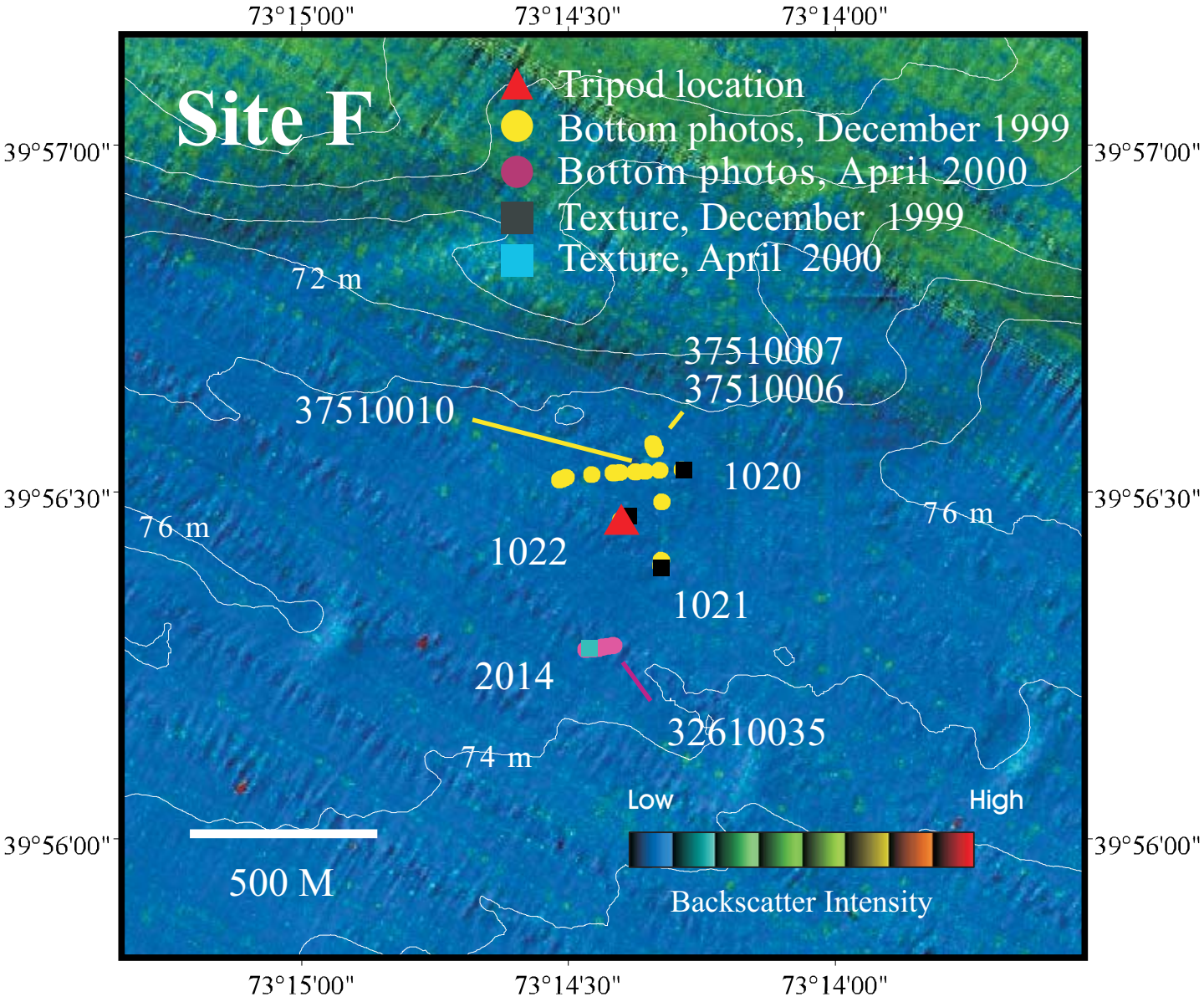

Figure 18A. Location map of site F in the Hudson Shelf Valley (74 m water depth) showing the location of the tripod mooring, bottom photographs and sediment grab samples. The multibeam bathymetry was gridded at 6 m, smoothed over 96 m, and contoured at 2 m intervals. The background image is backscatter intensity from the multibeam echosounder surveys; the backscatter intensity is represented by a suite of eight colors ranging from blue, which represents low intensity (fine-grained sediments), to red, which represents high intensity (rock outcrops and coarse-grained sediments). These data are draped over a shaded relief image created by vertically exaggerating the topography four times and then artificially illuminating the relief by a light source positioned 45 degrees above the horizon from the north. Some features in the backscatter image are artifacts of data collection and environmental conditions. They include the unnatural-looking features and patterns oriented parallel or perpendicular to survey tracklines (the trackline orientation can be determined by the direction of the faint striping in the images).

Figure 18B1. Bottom photograph (37510010) taken at site F, December 1999. Field of view is approximately 76x51 cm.

Figure 18B2. Bottom photograph (37510007) taken at site F, December 1999. Field of view is approximately 76x51 cm.

Figure 18B3. Bottom photograph (37510006) taken at site F, December 1999. Field of view is approximately 76x51 cm.

Figure 18C. Bottom photograph (32610035) taken at site F, April 2000. Field of view is approximately 76x51 cm.