

NOAA Ship MILLER FREEMAN  
Cruise MF-10-05  
06 – 20 September 2010  
FOCI Fall Groundfish / Flatfish Juvenile Survey  
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### General SCS Information

Times and Dates are in UTC. The Marine Operations Abstract (MF-10-05 MOA.xls) is the operations log for this cruise in the form of an Excel spreadsheet. The MOA has important information regarding sensor performance such as when the TSG pump is turned on and when the centerboard is raised and lowered as well as logging each operation along with time, position, and environmental data. The MF-10-05 Event folder has raw uncorrected snap files that are the basis for the MOA spreadsheet and are usually rife with errors. The MOA Continuous.elg files need no corrections. Another event of note is NavMetOcn which is a comma delimited continuous logger of instantaneous time, position, and all meteorological and oceanographic sensors in both 5 and 30 second intervals.

### SENSOR METADATA

The RMYoung relative wind direction is 180 deg high due to a mounting offset. True wind as calculated by SCS is correct. Relative wind direction can be obtained by subtracting 360 degrees from any value greater than 360.

The EK60 depth below surface sensor is erroneously deep by 4 meters when the centerboard is up. EK60 DBT (depth below transducer) is always correct but the fact that the transducer moves from roughly 5 meters below the surface to 9 meters below the surface when the centerboard is lowered must be taken into consideration. Charted depths should be considered before using the EK60 depths due to the sounder's occasional selection of scattering layers rather than actual bottom. The delayed ping from the ADCP can be seen as consistent line that shows up at approximately 675 meters.

The ES60 depth is usually only good when it was turned on briefly for CTDs to verify depth. EK60 target strength data is bad when ES60 or the bridge sounder is on. In passive mode the ES60 may give good depths down to ~1500 meters by "listening" to the EK60's 18kHz ping.

The speed log (speed through the water) is very roughly calibrated between 1 and 6 knots ahead. Lower and higher forward speeds and all speeds in reverse are approximate at best. The speed log often does not register until above 0.8 knots in either direction.

When relative wind direction is between 150 and 180 (corrected per above RMYoung statement), stack gasses from main engine, generators and boiler may affect air temperature and humidity readings.

A large number of shallow stations on this cruise forced the Bridge crew to use their near shore protocol. The centerboard was raised and the Bridge FE-70 echo-sounder was on during these periods. This compromises ER-60 and ADCP data and causes the EK-60 depth in SCS to be ~4 meters too deep.

## INCIDENTS

9/09/2010	Returned to Dutch Harbor for a med-evac.
9/10/2010	Returned to working grounds. Due to time constraints, Bongo operations were suspended.
9/15/2010, 0817 – 1139Z	The EK-60 system locked up causing no ER-60 fisheries data to be logged. No EK-60 or ES-60 depths were reported to SCS and no ADCP data was collected during that period.
9/18/2010, 1202	Electrical malfunction caused the Bridge computer to shut down and the MOA to stop. The NS 6000i GPS, the Speed Through the Water and the ES-60 GPT stopped logging to SCS altogether.
9/18/2010, 1351	The MOA was restarted. All sensors back on line. The EK-60 client on the Bridge could not be restarted requiring the Bridge FE-70 echosounder to run. This compromises ER-60 data.
9/18/2010, 1858	After the clean power UPS was determined to be the cause of, or casualty of the electrical malfunction, course was set for Dutch Harbor. End of operations. Bridge sounder still on so EK-60 and ADCP data is compromised.

Any questions about data collected during this cruise can be directed to [Phil.White@noaa.gov](mailto:Phil.White@noaa.gov).