Cruise: EX0824
Dates: August 17 - 23, 2008
Expocode: 33KF20080817
Chief Scientists: not applicable
Equipment: Surface samples collected.
Total number of stations: VOS Underway Cruise

Discrete Samples:

Collection:
The discrete samples were collected by Kevin Sullivan from a metering ball valve next to the underway pCO2 instrument. The underway pCO2 instrument was located in the bow thruster space next to the TSG and a short distance from the inlet pump. The sea water takes less than 10 seconds to travel from the inlet to the instruments. The TSG temperature is believed to be no more than 0.15 degrees C warmer than in-situ SST. The date and time listed in the data file are UTC when each sample bottle was collected.

DIC: 13 locations, 20 samples each 500-ml, 7 duplicate samples
PI: Dr. Rik Wanninkhof
Analyzed by: Esa Peltola

Chemical analysis:

DIC:
Analysis date: September 22-23, 2008
Coulometer used: AOML2
Blank range: 19.6-22 counts/min
CRM # used and assigned value (include both DIC and salinity): Batch 86, c: 1988.37 umol/kg,S: 33.097
CRM value measured: AOML 2: offset 7.0 umol/kg (1995.4 umol/kg)

Average run time, minimum run time, maximum run time: 12 min, 9 min, 20 min
Reproducibility: (# samples and average difference): 5 sets of duplicate samples, average difference 1.3 umol/kg (two duplicates have QC 4)
CRM, salinity and HgCl2 correction applied: Salinity correction was applied using TSG salinity; CRM and HgCl2 volume correction was applied
Remarks-
The volume correction was applied due to added HgCl2 (Measured DIC*1.00037).
The first CRM of each cell was used for a CRM correction.
There was a good agreement between the duplicate samples.
Sample run 501 had initially acid delivery problem and later overtitrated.
Sample run 516 had water delivery problem and the DIC value obtained was too low.

Comments:

The GPS transducer and the thermosalinographs (TSG) were logged by a computer system installed by NOAA and the University of Miami. These instruments were maintained by a technician from the University of Miami's Marine Technology Group (http://www.marinetechnologygroup.org/) sailing on the Explorer of the Seas full-time. The data from the TSGs, Seabird SBE-21 and SBE-45, is archived by the Ship of Opportunity Program at AOML (http://www.aoml.noaa.gov/phod/tsg/soop/index.php).

The latitude, longitude, temperature and salinity were read immediately before collecting the discrete samples. The values reported in the data file associated with the DIC measurements are provided for reference; no post-cruise assurance of accuracy has been done to this data.

UPDATE:
Between March and June of 2021, all of the data for the discrete samples was put into a uniform format. The supporting information was checked for accuracy, especially the expocode, date, time, and positions.