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<origin>Kendra L. Daly</origin>

<origin>Paul O. Knorr</origin>

<pubdate>2013</pubdate>

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<supplinf>The USGS Saint Petersburg Coastal and Marine Science Center (SPCMSC) - St. Petersburg, Fla, assigns a unique identifier to each cruise or field activity. For example, 12BHM01 indicates the data were collected in 2012 for Benthic Habitat Mapping and the data were collected during the first field activity for that project in that calendar year. Refer to http://walrus.wr.usgs.gov/infobank/programs/html/definition/activity.html for a detailed description of the method used to assign the cruise ID. This publication contains data for each of the five benthic habitat cruises conducted aboard the Research Vessels (R/V) Weatherbird II and Bellows in 2012: 12BHM01 February 15-24 (Weatherbird II), 12BHM02 April 24 - 29 (Bellows), 12BHM03 May 8 - 17 (Weatherbird II), 12BHM04 June 29 - July 1 (Bellows) and 12BHM05 August 2 - 12 (Weatherbird II).</supplinf>

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<eadetcit>Robbins, L.L., Knorr, P.O., Barrera, K. E., Daly, K.L., 2012, USGS Field Activities 12BHM01, 12BHM02, 12BHM03, 12BHM04 and 12BHM05 on the West Florida Shelf, Gulf of Mexico, in February, April, May, June and August 2012: U.S. Geological Survey Data Series XXX, available online at http://dx.doi.org/XXX/.</eadetcit>

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<abstract>The United States Geological Survey (USGS) is conducting a study on the effects of climate change on ocean acidification within the Gulf of Mexico; dealing specifically with the effect of ocean acidification on marine organisms and habitats. To investigate this, the USGS participated in cruises on the West Florida Shelf and northern Gulf of Mexico regions aboard the R/V Weatherbird II, a ship of opportunity led by Dr. Kendra Daly, of the University of South Florida (USF). Cruises left from and returned to Saint Petersburg, Florida, but followed different routes (see Trackline). The USGS collected data pertaining to pH, dissolved inorganic carbon (DIC), and total alkalinity in discrete samples. Discrete surface samples were taken hourly while in transit during cruises. Along with the surface samples, another set of discrete samples were taken at various depths at stations. In addition to the discrete samples flow-through data was collected on cruises in a variety of forms. Surface CTD data were collected every five minutes and included temperature, salinity, and pH. Two additional flow-through instruments were setup to record pH and CO2 every 15 minutes. Vertical CTD profiles were collected by USF, using the following sensors: CTD, oxygen, chlorophyll fluorescence, optical backscatter, and transmissometer, corroborating USGS data. Additionally, discrete depth samples for nutrients, chlorophyll, and particulate organic carbon/nitrogen were collected.</abstract>

<purpose>Discrete water samples were collected underway to corroborate the continuous partial pressure of carbon dioxide (pCO2) measurements. Water samples were analyzed for salinity, pH, and total alkalinity at the USGS geochemistry laboratory in St. Petersburg, Florida. This continuous flow-through data is used to corroborate the discrete sample data using CO2SYS.</purpose>

<supplinf>The USGS Saint Petersburg Coastal and Marine Science Center (SPCMSC) - St. Petersburg, Fla, assigns a unique identifier to each cruise or field activity. For example, 12BHM01 indicates the data were collected in 2012 for Benthic Habitat Mapping and the data were collected during the first field activity for that project in that calendar year. Refer to http://walrus.wr.usgs.gov/infobank/programs/html/definition/activity.html for a detailed description of the method used to assign the cruise ID. This publication contains data for each of the five benthic habitat cruises conducted aboard the Research Vessels (R/V) Weatherbird II and Bellows in 2012: 12BHM01 February 15-24 (Weatherbird II), 12BHM02 April 24 - 29 (Bellows), 12BHM03 May 8 - 17 (Weatherbird II), 12BHM04 June 29 - July 1 (Bellows) and 12BHM05 August 2 - 12 (Weatherbird II).</supplinf>

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<eadetcit>Robbins, L.L., Knorr, P.O., Barrera, K. E., Daly, K.L., 2012, USGS Field Activities 12BHM01, 12BHM02, 12BHM03, 12BHM04 and 12BHM05 on the West Florida Shelf, Gulf of Mexico, in February, April, May, June and August 2012: U.S. Geological Survey Data Series XXX, available online at http://dx.doi.org/XXX/.</eadetcit>

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<supplinf>The USGS Saint Petersburg Coastal and Marine Science Center (SPCMSC) - St. Petersburg, Fla, assigns a unique identifier to each cruise or field activity. For example, 12BHM01 indicates the data were collected in 2012 for Benthic Habitat Mapping and the data were collected during the first field activity for that project in that calendar year. Refer to http://walrus.wr.usgs.gov/infobank/programs/html/definition/activity.html for a detailed description of the method used to assign the cruise ID. This publication contains data for each of the five benthic habitat cruises conducted aboard the Research Vessels (R/V) Weatherbird II and Bellows in 2012: 12BHM01 February 15-24 (Weatherbird II), 12BHM02 April 24 - 29 (Bellows), 12BHM03 May 8 - 17 (Weatherbird II), 12BHM04 June 29 - July 1 (Bellows) and 12BHM05 August 2 - 12 (Weatherbird II).</supplinf>

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<cntorg>USGS St. Petersburg Coastal and Marine Science Center</cntorg>

<cntper>Lisa Robbins</cntper>

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<cntpos>Research Oceanographer</cntpos>

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<country>US</country>

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<cntvoice>727-502-8004</cntvoice>

<cntfax>727-502-8182</cntfax>

<cntemail>lrobbins@usgs.gov</cntemail>

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<logic>These data were collected in the field and have not been checked for internal consistencies.</logic>

<complete>These data are collected along tracklines (2-D) and therefore are inherently incomplete. There are no data collected between tracklines.</complete>

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<procdesc>Surface samples were taken approximatly hourly from a flowthrough system during ship transit (not at stations). Samples then analyzed for total alkalinity and disolved inorganic carbon at the USGS St. Petersburg Carbon Analytical Laboratory.</procdesc>

<procdate>2012</procdate>

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<procdesc>Data entered into a spreadsheet and merged with other data sources: GPS from the ship, as well as the lab results of total alkalinity and disolved inorganic carbon from the USGS St. Petersburg Carbon Analytical Laboratory.</procdesc>

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<procdesc>The spreadsheet was imported into ArcGIS 10 and converted into a shapefile.</procdesc>

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<eadetcit>Robbins, L.L., Knorr, P.O., Barrera, K. E., Daly, K.L., 2012, USGS Field Activities 12BHM01, 12BHM02, 12BHM03, 12BHM04 and 12BHM05 on the West Florida Shelf, Gulf of Mexico, in February, April, May, June and August 2012: U.S. Geological Survey Data Series XXX, available online at http://dx.doi.org/XXX/.</eadetcit>

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<distliab>This digital publication was prepared by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, make any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed in this report, or represents that its use would not infringe privately owned rights. Reference therein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. Any views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof. Although all data published in this report have been used by the USGS, no warranty, expressed or implied, is made by the U.S. Geological Survey as to the accuracy of the data and related materials and/or the functioning of the software. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the USGS in the use of this data, software, or related materials. Graphical map depictions are intended to be used within the map scale limits applicable to the source data. Although software enables the user to view data at various scales, the user is cautioned to refer to the source documentation for the appropriate map scale limitations.</distliab>

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<cntorg>USGS St. Petersburg Coastal and Marine Science Center</cntorg>

<cntper>Kira E. Barrera</cntper>

</cntorgp>

<cntpos>Research Assistant</cntpos>

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<origin>Kira E. Barrera</origin>

<origin>Kendra L. Daly</origin>

<origin>Paul O. Knorr</origin>

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<abstract>The United States Geological Survey (USGS) is conducting a study on the effects of climate change on ocean acidification within the Gulf of Mexico; dealing specifically with the effect of ocean acidification on marine organisms and habitats. To investigate this, the USGS participated in cruises on the West Florida Shelf and northern Gulf of Mexico regions aboard the R/V Weatherbird II, a ship of opportunity led by Dr. Kendra Daly, of the University of South Florida (USF). Cruises left from and returned to Saint Petersburg, Florida, but followed different routes (see Trackline). The USGS collected data pertaining to pH, dissolved inorganic carbon (DIC), and total alkalinity in discrete samples. Discrete surface samples were taken hourly while in transit during cruises. Along with the surface samples, another set of discrete samples were taken at various depths at stations. In addition to the discrete samples flow-through data was collected on cruises in a variety of forms. Surface CTD data were collected every five minutes and included temperature, salinity, and pH. Two additional flow-through instruments were setup to record pH and CO2 every 15 minutes. Vertical CTD profiles were collected by USF, using the following sensors: CTD, oxygen, chlorophyll fluorescence, optical backscatter, and transmissometer, corroborating USGS data. Additionally, discrete depth samples for nutrients, chlorophyll, and particulate organic carbon/nitrogen were collected.</abstract>

<purpose>Discrete water samples were collected underway to corroborate the continuous partial pressure of carbon dioxide (pCO2) measurements. Water samples were analyzed for salinity, pH, and total alkalinity at the USGS geochemistry laboratory in St. Petersburg, Florida. This continuous flow-through data is used to corroborate the discrete sample data using CO2SYS.</purpose>

<supplinf>The USGS Saint Petersburg Coastal and Marine Science Center (SPCMSC) - St. Petersburg, Fla, assigns a unique identifier to each cruise or field activity. For example, 12BHM01 indicates the data were collected in 2012 for Benthic Habitat Mapping and the data were collected during the first field activity for that project in that calendar year. Refer to http://walrus.wr.usgs.gov/infobank/programs/html/definition/activity.html for a detailed description of the method used to assign the cruise ID. This publication contains data for each of the five benthic habitat cruises conducted aboard the Research Vessels (R/V) Weatherbird II and Bellows in 2012: 12BHM01 February 15-24 (Weatherbird II), 12BHM02 April 24 - 29 (Bellows), 12BHM03 May 8 - 17 (Weatherbird II), 12BHM04 June 29 - July 1 (Bellows) and 12BHM05 August 2 - 12 (Weatherbird II).</supplinf>

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<cntorg>USGS St. Petersburg Coastal and Marine Science Center</cntorg>

<cntper>Lisa Robbins</cntper>

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<dataqual>

<logic>These data were collected in the field and have not been checked for internal consistencies.</logic>

<complete>These data are collected along tracklines (2-D) and therefore are inherently incomplete. There are no data collected between tracklines.</complete>

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<procdesc>This is the data collected from all ship sensors running during cruises.</procdesc>

<procdate>2012</procdate>

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<procdesc>Data exported from comma deliminated .txt files into Microsoft Excel and formatted into a single spreadsheet.</procdesc>

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<eadetcit>Robbins, L.L., Knorr, P.O., Barrera, K. E., Daly, K.L., 2012, USGS Field Activities 12BHM01, 12BHM02, 12BHM03, 12BHM04 and 12BHM05 on the West Florida Shelf, Gulf of Mexico, in February, April, May, June and August 2012: U.S. Geological Survey Data Series XXX, available online at http://dx.doi.org/XXX/.</eadetcit>

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<origin>Kira E. Barrera</origin>

<origin>Kendra L. Daly</origin>

<origin>Paul O. Knorr</origin>

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<abstract>The United States Geological Survey (USGS) is conducting a study on the effects of climate change on ocean acidification within the Gulf of Mexico; dealing specifically with the effect of ocean acidification on marine organisms and habitats. To investigate this, the USGS participated in cruises on the West Florida Shelf and northern Gulf of Mexico regions aboard the R/V Weatherbird II, a ship of opportunity led by Dr. Kendra Daly, of the University of South Florida (USF). Cruises left from and returned to Saint Petersburg, Florida, but followed different routes (see Trackline). The USGS collected data pertaining to pH, dissolved inorganic carbon (DIC), and total alkalinity in discrete samples. Discrete surface samples were taken hourly while in transit during cruises. Along with the surface samples, another set of discrete samples were taken at various depths at stations. In addition to the discrete samples flow-through data was collected on cruises in a variety of forms. Surface CTD data were collected every five minutes and included temperature, salinity, and pH. Two additional flow-through instruments were setup to record pH and CO2 every 15 minutes. Vertical CTD profiles were collected by USF, using the following sensors: CTD, oxygen, chlorophyll fluorescence, optical backscatter, and transmissometer, corroborating USGS data. Additionally, discrete depth samples for nutrients, chlorophyll, and particulate organic carbon/nitrogen were collected.</abstract>

<purpose>Discrete water samples were collected underway to corroborate the continuous partial pressure of carbon dioxide (pCO2) measurements. Water samples were analyzed for salinity, pH, and total alkalinity at the USGS geochemistry laboratory in St. Petersburg, Florida. This continuous flow-through data is used to corroborate the discrete sample data using CO2SYS.</purpose>

<supplinf>The USGS Saint Petersburg Coastal and Marine Science Center (SPCMSC) - St. Petersburg, Fla, assigns a unique identifier to each cruise or field activity. For example, 12BHM01 indicates the data were collected in 2012 for Benthic Habitat Mapping and the data were collected during the first field activity for that project in that calendar year. Refer to http://walrus.wr.usgs.gov/infobank/programs/html/definition/activity.html for a detailed description of the method used to assign the cruise ID. This publication contains data for each of the five benthic habitat cruises conducted aboard the Research Vessels (R/V) Weatherbird II and Bellows in 2012: 12BHM01 February 15-24 (Weatherbird II), 12BHM02 April 24 - 29 (Bellows), 12BHM03 May 8 - 17 (Weatherbird II), 12BHM04 June 29 - July 1 (Bellows) and 12BHM05 August 2 - 12 (Weatherbird II).</supplinf>

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<procdesc>Data exported from YSI 650 MDS and converted to comma deliminated file (CDF) within EcoWatch software. These data were imported into Microsoft Excel and formatted into a single spreadsheet. Data from GPS with latitude/longitude were joined to water parameters using time and date stamps.</procdesc>

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