

ANNEX #1

to

**MEMORANDUM of AGREEMENT
NOS-MOA-2011-80**

among the

**NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE**

and

SHELL OFFSHORE INC. AND SHELL GULF OF MEXICO INC.

and

CONOCOPHILLIPS COMPANY

and

STATOIL USA E&P Inc.

**FOR THE PURPOSE OF SHARING METEOROLOGICAL – OCEAN
OBSERVATIONS, AND SEA ICE ANALYSIS DATA IN THE
U.S. ARCTIC**

NOS Agreement Code: MOA-2011-080 (Annex #1)/8483

I. PARTIES AND PURPOSE

- A. This Annex #1 is entered into pursuant to Section IV of the *Memorandum of Agreement dated 23 August, 2011, by and among the National Oceanic and Atmospheric Administration, U.S. Department of Commerce, and Shell Exploration and Production Company, ConocoPhillips Company, and Statoil USA E&P Inc. for the Purpose of Supporting Collaborative Arctic Coastal And Ocean Science in U.S. Arctic Waters* (NOS Agreement Code: MOA-2011-080/8400) (hereinafter referred to as “the Agreement”) and is subject to the Agreement.
- B. The parties to this Annex #1 are the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, Shell Gulf of Mexico Inc. (SGOMI) and Shell Offshore Inc. (SOI) (SGOMI and SOI being hereinafter collectively referred to as “Shell”), ConocoPhillips Company, and Statoil USA E&P Inc. (hereafter “Industry Parties”), individually and collectively referred to herein as “Party” or “Parties”.
- C. The primary purpose of this Annex #1 is to establish a protocol for Industry Parties to provide their available Arctic meteorological-ocean (“met-ocean”) observation data, sea ice observations and analysis, and coastal observation data (“Information”) to NOAA so that NOAA can assess the Information for potential use in NOAA products and services, and may archive the Information at NOAA data centers.

II. AUTHORITIES

- A. The legal authorities for NOAA to participate in this Annex #1 are:
1. The Coast and Geodetic Survey Act, 33 U.S.C. § 883a et seq, which authorizes NOAA, *inter alia*, to enter into agreements with, and to receive and expend funds made available by, any State or subdivision thereof, any Federal agency, or a public or private organization, or individual, for surveys or investigations authorized by the Act, or for performing related surveying and mapping activities, including special-purpose maps, and for the preparation and publication of the results thereof, and to establish the terms of any agreement entered into under the Act, including the amount of funds to be received, and may contribute that portion of the costs incurred by NOAA, including ship time and personnel expenses, which NOAA determines represents the amount of benefits derived by the Administration from the agreement; and
 2. The National Weather Service Organic Act, 15 U.S.C. § 313, which authorizes the Secretary of Commerce to have charge of, among other duties, the forecasting of weather, the issue of storm warnings, the display of weather and flood signals, the collection and transmission of marine intelligence for the benefit of commerce and navigation, the distribution of meteorological

information in the interests of agriculture and commerce, and the taking of such meteorological observations as may be necessary to establish and record the climatic conditions of the United States.

III. STATEMENT OF WORK

- A. Under this Annex #1, the Industry Parties, in their individual sole discretion, will provide to NOAA copies of the Information described in Exhibit A, attached hereto. Exhibit A lists the Information that will be provided by the Industry Parties, including its metadata, source, ownership, and applicable restrictions, as well as the location in NOAA to which the Information will be provided.

Exhibit A shall be reviewed on an annual basis to update submission procedures, information offerings and instrumentation setup. Notwithstanding the foregoing, each Industry Party may in its sole discretion submit additional exclusively owned information, pursuant to this Annex #1, upon written notice to all Parties, including a detailed description of the additional information to be submitted.

It is the intention of the Industry Parties to transmit the Information to NOAA; however, failure to provide all Information does not give rise to any claim or liability. Nothing in the Agreement conveys or transfers any ownership rights in, or to, the Information.

Information provided may include data resulting from discrete observations or live streams that have been verified through defined quality assurance/quality control and calibration procedures, derivative data produced by analysis of discrete observations or the output from models, or reports that have been produced through incorporation and processing of these data. Information will be transmitted pursuant to Exhibit A.

Information sources include:

1. Met-ocean and sea ice observations in U.S. Arctic waters from Industry Party vessels participating in the U.S. Volunteer Observing Ship project (VOS), which exists to collect and disseminate critical real-time maritime weather observations through the recruitment and support of ships to fulfill National needs and International agreements supporting commerce, forecasts and warning programs, and the Safety Of Life At Sea worldwide, and to define the global climate and help measure extreme weather events, climate variability, and long-term climate changes. Industry Parties will endeavor to remind or encourage their respective VOS-eligible vessels, particularly those operating in the Arctic, to participate in VOS if they are not already doing so.
2. Met-ocean and coastal observation data transmitted in real time directly from Industry Party observing platforms (including buoys) in U.S. Arctic waters and along the Alaskan Arctic coasts to NOAA via NOAA Geostationary Operational Environmental Satellite uplink, to NOAA National Data Buoy

Center (NDBC) ftp site using an XML format specified by NDBC, or other such mutually agreed means following established NOAA procedures for transmission and receipt of such data, which are provided in Exhibit A.

3. End-of season data, derived data and reports generated from the Industry Party observing capacity noted above.
 4. Sea ice data and analyses for incorporation into NOAA sea ice analyses, forecast products, and historical sea ice atlases. For each Industry Party providing sea ice analyses to NOAA, such Party will coordinate and agree with NOAA sea ice analysts on a process by which NOAA will obtain secure access to such analyses.
- B. Once the Information is received, NOAA will, at no cost to the Industry Parties, perform the functions described in this subsection III.B.
1. For real-time Information comprising met-ocean data and coastal observations received from each of the Industry Parties as provided for in this Annex #1, including those Industry Parties that operate observing platforms and vessels participating in the U.S. Volunteer Observing Ship Program:
 - a. Conduct quality control per standard NOAA procedures on all such Information transmitted before acceptance and incorporation into NOAA products and services.
 - b. Support Information storage/archive through the NOAA National Data Buoy Center, the National Oceanographic Data Center, or other NOAA data centers, wherein interested parties and the general public may access the Information as NOAA receives and posts it, including the Alaska Ocean Observing System ("AOOS"), which may also provide public access to the Information through its data portal capabilities (to be described in a yet to be agreed Annex #2). Prior to enabling access to such Information by the general public, NOAA shall ensure compliance with OMB and NOAA guidelines implementing the Information Quality Act.
 - c. Incorporate and utilize received Information in the generation of NOAA-generated weather forecasts and other products and services, as appropriate.
 2. For each Industry Party participating in the U.S. Volunteer Observing Ships program:
 - a. Provide software and support for the NOAA/U.S. Coast Guard Automated Mutual-assistance Vessel Rescue system and Shipboard Environmental data Acquisition System (AMVER/SEAS).
 - b. Provide observing and data transmission training for Volunteer Observer Ship Program marine mammal observers and others assigned to take weather observations at sea.

- c. Incorporate and utilize received Information in the generation of NOAA weather forecasts and other products and services as appropriate.
3. For end-of-season Information from surface platforms and seafloor moorings:
 - a. Support Information storage/archive through the NOAA National Data Buoy Center, the National Oceanographic Data Center, and other NOAA data centers, wherein interested parties may access the data, including AOOS and the general public.
 - b. Incorporate and utilize received Information in the generation of NOAA generated weather forecasts and other products and services as appropriate.
4. For sea ice data and analyses received from any Industry Party providing this Information:
 - a. Coordinate on NOAA sea ice analysis with Industry Party sea ice analysts, the National Ice Center (NIC), and the NWS Alaska Region.
 - b. Incorporate Industry Party sea ice analyses into NIC and NWS Alaska Region sea ice analysis and forecast products.
 - c. Support Information storage/archive through the NIC and other NOAA data centers, wherein interested parties may access the data, including AOOS and the general public, following a period of fourteen (14) days from receipt of such sea ice data.
 - d. Be authorized by each Industry Party providing sea ice data and analyses to disclose or redistribute, in whole or in part, the results of the sea ice analyses following a period of fourteen (14) days from receipt of such sea ice analyses, unless NOAA obtains express written permission from the Industry Party contact(s) listed in Section V of this Annex #1 to release their sea ice data and analyses sooner, such as in the event of an emergency incident where the data may inform safety of life or spill response; and
 - e. Be authorized by each Industry Party providing sea ice data and analyses to disclose or redistribute, in whole or in part, the derivative sea ice analyses as long as such derivative products do not have sufficient information to readily retrieve the original content of Industry Party analyses provided under this Annex #1.

IV. TERMS AND CONDITIONS

- A. Disclosure. The Parties agree that the Industry Parties are not limited by this Annex #1, or by the overarching Agreement, and may share the same Information provided to NOAA herein with any entity as they see fit. Each Party will recognize each other, as appropriate, as the source of any Information used in presentations, reports, peer-reviewed literature, newsletters, and Web communications.
- B. Claims and Liabilities. Each Party shall be solely responsible for any claims, liabilities or obligations related to its disclosure or acceptance of Information, and for any damages it incurs arising from or related to the acquisition, distribution, maintenance, archiving, or use of any Information, including personal injury or death, property damage, and/or environmental liabilities. Such adjudications against NOAA will be promptly pursued under the Federal Tort Claims Act, 28 U.S.C. § 2671 et seq., the Federal Employees Compensation Act, 5 U.S.C. § 8101 et seq., or such other legal authority as may be pertinent. Notwithstanding the foregoing, no Industry Party shall have any obligation or liability to any other Industry Party for accessing, receiving, using or relying upon in any way, any Information provided by each of the Industry Parties pursuant to this Annex #1.
- C. Dispute Resolution. In the event of a dispute among the Parties concerning the interpretation or performance of any aspect of this Annex #1, the Party initiating such dispute shall provide the other Parties with written notice of the ground for the dispute and a request for discussions. Within fourteen (14) days (or such other period of time the Parties mutually agree upon) of written notice from the Party to the other Parties, the Parties shall meet and attempt to reach an amicable resolution. If the dispute is not resolved within fourteen (14) days of such meeting, or such time thereafter as is mutually agreed upon, any Party may refer the dispute to the signatory representatives (or their successors) in Section VII of this Annex #1 and/or the Agreement for appropriate resolution.
- D. Representations and Warranties.
1. NOAA and the Industry Parties make no warranty regarding Information disclosed pursuant to this Annex #1, expressed or implied, nor does the fact of distribution by NOAA of such Information constitute such a warranty. NOAA and Industry Parties cannot assume liability for any damages caused by any errors or omissions in use or reliance upon such Information, nor as a result of the failure of such Information to function on a particular system.
 2. Industry Parties hereby represent and warrant that they have the right and authority to disclose any Information provided pursuant to this Annex #1 to NOAA (or its representatives). All Information is provided "AS IS". Subject only to the foregoing, the Industry Parties make no representations and extend no warranties, express or implied, and assume no responsibilities or liabilities whatsoever including with respect to, but not limited to, the following:
 - a. The completeness, utility, or accuracy of any Information provided

- pursuant to this Annex #1; and
- b. Merchantability or fitness for a particular purpose of any Information provided by the Industry Parties pursuant to this Annex #1; and
 - c. The freedom from infringement of any patent, trade secret and/or copyright by any Party's use of this Information provided by the Industry Parties.
3. NOAA represents and warrants that NOAA has the necessary authority, capability and capacity to receive, conduct quality control, store, archive, disperse and use the Information as contemplated herein.
 4. In cases where NOAA quality-controls Industry Party Information to re-distribute in its own data feeds and/or uses Industry Party Information in its own U.S. Government-issued products and services, that Information will be covered by NOAA's own disclaimers of liability.
 5. With the exception of Industry Party Information covered by subsection IV.D.4., NOAA shall ensure that the following disclaimer is included in the metadata attached to Information provided to NOAA by any of the Industry Parties:

DISCLAIMER of LIABILITY: The user assumes the entire risk related to use of this data and information. NOAA and its third party data providers are providing this data and information "as is," and disclaim any and all warranties, whether express or implied, including (without limitation) any warranties of completeness, utility, accuracy, merchantability or fitness of this data for a particular purpose.

V. CONTACTS

- A. The contacts of each Party to this Annex are:
 1. Aimee Devaris
Acting Regional Director, NOAA National Weather Service Alaska Region
222 West 7th Avenue
Anchorage, AK 99513
phone: 907-271-5126
fax: 907-271-3711
E-mail: aimee.devaris@noaa.gov
 2. Rex Hervey
Director, NOAA National Data Buoy Center
1007 Balch Blvd, Rm 327 Building 3203
Stennis Space Center, MS 39529-6000

phone: 228-688-3007
fax: 228-688-3153
E-mail: Rex.hervey@noaa.gov

3. Krisa M. Arzayus
Chief, Marine Data Stewardship Division
National Oceanographic Data Center
1315 East-West Highway, Room 4651
Silver Spring, MD 20910
phone: (301) 713-3280 x119
fax: (301) 713-3302
E-mail: krisa.arzayus@noaa.gov
4. Dr. Pablo Clemente-Colon
Chief Scientist, National Ice Center
Suitland Federal Center, Rm 1740, Building NSOF
4231 Suitland Road
Suitland, MD 20746
phone: 301-817-3944
fax: 301-817-3990
E-mail: pablo.clemente-colon@noaa.gov
5. A. Michael Macrander, Ph.D.
Science Lead – Shell Alaska
3601 C Street, Suite 1000
Anchorage, AK 99516
phone: 907-646-7123
fax: 907-646-7135
E-mail: A.Macrander@Shell.com
6. Caryn Rea
Senior Staff Biologist
ConocoPhillips Company
700 G. Street, ATO 1966
Anchorage, Alaska
phone: 907-265-6515
fax: 907-265-6216
E-mail: Caryn.Rea@conocophillips.com
7. Ahmed Osman
HSE Manager
Statoil USA E&P Inc.
3800 Centerpoint Drive, Suite 920
Anchorage, Alaska 99503
phone: 907-433-5713

fax: 907-433-5799

E-mail: aosm@statoil.com

- B. The Parties agree that if there is a change regarding the information in this section, the Party making the change will timely notify each of the other Parties in writing of such change.

VI. TERM, AMENDMENTS, AND TERMINATION

- A. This Annex #1 will become effective when signed by NOAA and each of the Industry Parties that executes this Annex #1. The Annex #1 will only be in effect between NOAA and the Industry Party or Parties that sign this Annex #1. The Annex #1 will expire at midnight EST on November 1, 2016 or at the end of the open water drilling season in calendar year 2016, whichever occurs earlier.
- B. This Annex #1 may be amended within its scope and prior to its expiration by mutual written agreement of all of the Parties.

Notwithstanding the foregoing paragraph of this Section VI.B., and the right of each Industry Party to submit additional exclusively owned information pursuant to Section III.A, in such case, the agreement of the other Parties to this Agreement is not required.

- C. Any Party may terminate its participation in this Annex #1 by (1) providing thirty days written notice to all other Parties; or (2) mutual written agreement of the Parties.
- D. Upon termination of this Annex #1 for any reason, Information provided pursuant to this Annex #1 shall continue to be available to all the Parties to the Annex #1 and (to the extent legally permissible and subject to the confidentiality terms of the Agreement and Annex #1) to the public.
- E. Each Party shall be solely responsible for the payment of any expenses it incurs in implementing this Annex #1.
- F. In the event this Annex #1 is terminated, each Party shall be solely responsible for the payment of any expenses it has incurred.
- G. NOAA's participation in this Annex #1 is subject to the availability of appropriated Funds.

VII. APPROVALS

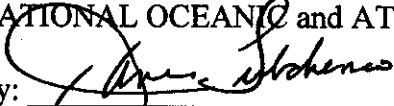
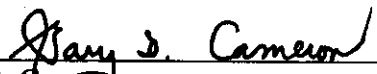



- A. ACCEPTED AND APPROVED FOR
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC and ATMOSPHERIC ADMINISTRATION
By:  Date: 5/21/12
Jane Lubchenco, Ph.D.
Under Secretary of Commerce
for Oceans and Atmosphere and NOAA Administrator
- B. ACCEPTED AND APPROVED FOR
SHELL GULF OF MEXICO INC.
By:  Date: 5/31/12
Gary D. Cameron
Attorney-In-Fact
- C. ACCEPTED AND APPROVED FOR
SHELL OFFSHORE INC.
By:  Date: 5/31/12
Gary D. Cameron
Attorney-In-Fact
- D. ACCEPTED AND APPROVED FOR
CONOCOPHILLIPS COMPANY
By:  Date: 5/24/12
David W. Brown
Attorney-in-Fact
- E. ACCEPTED AND APPROVED FOR
STATOIL USA E&P INC
By:  Date: 6/18/12
Lars Andreas Sunde
Head of Anchorage Office

Exhibit A

FINAL

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Data Deliverables

Met Buoy – Archived Data

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Lat/Lon (NAD 83)	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
<ul style="list-style-type: none"> Met Buoy Date/Time Winds – sp/dir Currents Air Temp. Water Temp. Relative Humidity Bar. Pressure Waves 	Fairweather Leasing	*.xls	2010	Chukchi: Devils Paw	<u>MET1:</u> Lat = 70.87 Lon = -165.24 <u>MET2:</u> Lat = 70.99 Lon = -164.00	COP/Statoil	RDI	Send in ASCII format to ftp://ftp.nodc.noaa.gov ; user name is <u>anonymous</u> , password is <u>your email address</u> . Place in <u>cd pub/incoming</u> and include metadata as explained at http://www.nodc.noaa.gov/General/NODC-Submit/ . Contact thomas.ryan@noaa.gov , 301-713-3272 x129 if any questions.	No	Yes	National Oceanographic Data Center
<ul style="list-style-type: none"> Met Buoy Date/Time Winds – sp/dir Currents Air Temp. Water Temp. Relative Humidity Bar. Pressure Waves 	Fairweather Leasing	*.xls	2011-2012	Chukchi: Devils Paw Burger Hanna Shoal	<u>MOB2 (Devils Paw):</u> Lat = 70.87 Lon = -165.24 <u>MOB3 (Burger):</u> Lat = 71.50 Lon = -164.08 <u>MOB1 (Hanna Shoal):</u> Lat = 72.16 Lon = -161.52	COP/Shell/Statoil	RDI	Send in ASCII format to ftp://ftp.nodc.noaa.gov ; user name is <u>anonymous</u> , password is <u>your email address</u> . Place in <u>cd pub/incoming</u> and include metadata as explained at http://www.nodc.noaa.gov/General/NODC-Submit/ . Contact thomas.ryan@noaa.gov , 301-713-3272 x129 if any questions.	No	Yes	National Oceanographic Data Center

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Lat/Lon (NAD 83)	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
<ul style="list-style-type: none"> • Met Buoy • Time • Winds • Currents • Waves • Air Temp • Bar Pressure • Water Temp • Relative Humidity 	Fairweather Leasing / Evans Hamilton	*.xls	2008-2010	Chukchi: Burger	<u>Burger:</u> Lat = 71.51 Lon = -164.07	Shell	RDI	Send in ASCII format to <u>ftp://ftp.nodc.noaa.gov;</u> <u>user name is anonymous,</u> <u>password is your email</u> <u>address. Place in cd</u> <u>pub/incoming and include</u> <u>metadata as explained at</u> <u>http://www.nodc.noaa.gov/</u> <u>General/NODC-Submit/.</u> <u>Contact</u> <u>thomas.ryan@noaa.gov,</u> <u>301-713-3272 x129 if any</u> <u>questions.</u>	No	Yes	National Oceanographic Data Center
<ul style="list-style-type: none"> • Met Buoy • Date/Time • Winds • Currents • Waves • Air Temp • Bar Pressure • Relative Humidity • GPS Loc • Pitch/Roll • Water Temp 	Evans Hamilton	*.xls	2009-2012	Beaufort: Camden Bay (2009-2012) Harrison Bay (2011 2012)	<u>CB01 (Camden Bay)</u> Lat = 70.37 Lon = -146.04 <u>HB01 (Harrison Bay)</u> Lat = 70.87 Lon = -150.28	Shell	Evans Hamilton	Send in ASCII format to <u>ftp://ftp.nodc.noaa.gov;</u> <u>user name is anonymous,</u> <u>password is your email</u> <u>address. Place in cd</u> <u>pub/incoming and include</u> <u>metadata as explained at</u> <u>http://www.nodc.noaa.gov/</u> <u>General/NODC-Submit/.</u> <u>Contact</u> <u>thomas.ryan@noaa.gov,</u> <u>301-713-3272 x129 if any</u> <u>questions.</u>	No	Yes	National Oceanographic Data Center

Met Buoy – 2012 Near Real Time Data

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Lat/Lon (NAD 83)	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
<ul style="list-style-type: none"> • Met Buoy • Date/Time • Winds • Currents • Waves • Air Temp • Bar Pressure • Relative Humidity • GPS Loc • Pitch/Roll • Water Temp 	Evans Hamilton	*.xml	2012	Beaufort: Camden Bay	<u>CB01</u> Lat = 70.37 Lon = -146.04	Shell	Evans Hamilton	Send in XML format to <u>ftp://comms.ndbc.noaa.gov;</u> <u>user name and password will be provided in advance</u> <u>by contacting</u> <u>Rex.hervey@noaa.gov or</u> <u>228-688-3007</u>	Yes	Yes	National Data Buoy Center
<ul style="list-style-type: none"> • Met Buoy • Date/Time • Winds • Currents • Waves • Air Temp • Bar Pressure • Relative Humidity • GPS Loc • Pitch/Roll • Water Temp 	Evans Hamilton	*.xml	2012	Beaufort: Harrison Bay	<u>HB01</u> Lat = 70.87 Lon = -150.28	Shell	Evans Hamilton	Send in XML format to <u>ftp://comms.ndbc.noaa.gov;</u> <u>user name and password will be provided in advance</u> <u>by contacting</u> <u>Rex.hervey@noaa.gov or</u> <u>228-688-3007</u>	Yes	Yes	National Data Buoy Center

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Lat/Lon (NAD 83)	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
<ul style="list-style-type: none"> Met Buoy Date/Time Winds Currents Waves Air Temp Bar Pressure Relative Humidity GPS Loc Pitch/Roll Water Temp 	Fairweather Leasing	*.xml	2012	Chukchi: Devils Paw	<u>Devils Paw:</u> Lat = 70.87 Lon = -165.24	COP/Shell/ Statoil	Fairweather Leasing	Send in XML format to ftp://comms.ndbc.noaa.gov ; user name and password will be provided in advance by contacting Rex.hervey@noaa.gov or 228-688-3007	Yes	Yes	National Data Buoy Center
<ul style="list-style-type: none"> Met Buoy Date/Time Winds Currents Waves Air Temp Bar Pressure Relative Humidity GPS Loc Pitch/Roll Water Temp 	Fairweather Leasing	*.xml	2012	Chukchi: Burger	<u>Burger:</u> Lat = 71.50 Lon = -164.08	COP/Shell/ Statoil	Fairweather Leasing	Send in XML format to ftp://comms.ndbc.noaa.gov ; user name and password will be provided in advance by contacting Rex.hervey@noaa.gov or 228-688-3007	Yes	Yes	National Data Buoy Center

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Lat/Lon (NAD 83)	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
<ul style="list-style-type: none"> • Met Buoy • Date/Time • Winds • Currents • Waves • Air Temp • Bar Pressure • Relative Humidity • GPS Loc • Pitch/Roll • Water Temp 	Fairweather Leasing	*.xml	2012	Chukchi: Hanna Shoal	<u>Hanna Shoal</u> : Lat = 72.16 Lon = -161.52	COP/Shell/ Statoil	Fairweather Leasing	Send in XML format to <u>ftp://comms.ndbc.noaa.gov</u> ; <u>user name and password will be provided in advance by contacting Rex.hervey@noaa.gov or 228-688-3007</u>	Yes	Yes	National Data Buoy Center

Upward Looking Sonar:

Acoustic Doppler Current Profiler & Ice Profiling System (processed data)

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Lat/Lon (NAD 83)	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
ADCP <ul style="list-style-type: none"> • Current Profiles • Water Temp, if available 	ASL	*.pd0	2008-2010	Chukchi: Devils Paw (2008-2010) Burger (2009) Offshore Wainwright (2009-2010)	<u>Devils Paw:</u> Lat = 70.99 Lon = -165.00 <u>Burger:</u> Lat = 71.24 Lon = -163.28 <u>Offshore</u> <u>Wainwright:</u> Lat = 70.98 Lon = -160.98	COP/Statoil	RDI	<u>Send in ASCII format to</u> <u>ftp://ftp.nodc.noaa.gov; user name is</u> <u>anonymous, password is your email</u> <u>address. Place in cd pub/incoming and</u> <u>include metadata as explained at</u> <u>http://www.nodc.noaa.gov/General/NODC-</u> <u>Submit/. Contact thomas.ryan@noaa.gov,</u> <u>301-713-3272 x129 if any questions.</u>	No	Yes	National Oceanographic Data Center
IPS <ul style="list-style-type: none"> • Surface Deformation 	ASL	*.dat *.hdr	2008-2010	Chukchi: Devils Paw (2008-2010) Burger (2009) Offshore Wainwright (2009-2010)	<u>Devils Paw:</u> Lat = 70.99 Lon = -165.00 <u>Burger:</u> Lat = 71.24 Lon = -163.28 <u>Offshore</u> <u>Wainwright:</u> Lat = 70.98 Lon = -160.98	COP/Statoil	RDI	<u>Send in ASCII format to</u> <u>ftp://ftp.nodc.noaa.gov; user name is</u> <u>anonymous, password is your email</u> <u>address. Place in cd pub/incoming and</u> <u>include metadata as explained at</u> <u>http://www.nodc.noaa.gov/General/NODC-</u> <u>Submit/. Contact thomas.ryan@noaa.gov,</u> <u>301-713-3272 x129 if any questions.</u>	No	Yes	National Oceanographic Data Center

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Lat/Lon (NAD 83)	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
ADCP <ul style="list-style-type: none"> • Current Profiles • Water Temp, if available 	ASL	*.pd0	2009-2010	Chukchi: Burger Crackerjack	Burger Lat = 71.24 Lon = -163.28 Crackerjack Lat = 71.17 Lon = -166.75	Shell	RDI	Send in ASCII format to <u>ftp://ftp.nodc.noaa.gov</u> ; user name is <u>anonymous</u> , password is your email address. Place in <u>cd pub/incoming</u> and include metadata as explained at <u>http://www.nodc.noaa.gov/General/NODC-Submit/</u> . Contact <u>thomas.ryan@noaa.gov</u> , 301-713-3272 x129 if any questions.	No	Yes	National Oceanographic Data Center
IPS <ul style="list-style-type: none"> • Surface Deformation 	ASL	*.dat *.hdr	2009-2010	Chukchi: Burger Crackerjack	Burger Lat = 71.24 Lon = -163.28 Crackerjack Lat = 71.17 Lon = -166.75	Shell	RDI	Send in ASCII format to <u>ftp://ftp.nodc.noaa.gov</u> ; user name is <u>anonymous</u> , password is your email address. Place in <u>cd pub/incoming</u> and include metadata as explained at <u>http://www.nodc.noaa.gov/General/NODC-Submit/</u> . Contact <u>thomas.ryan@noaa.gov</u> , 301-713-3272 x129 if any questions.	No	Yes	National Oceanographic Data Center

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Lat/Lon (NAD 83)	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
ADCP <ul style="list-style-type: none"> • Current Profiles • Water Temp, if available 	ASL	*.pd0	2011-2012	Chukchi: Devils Paw Near Wainwright Burger Barrow Canyon Hanna Shoal	<u>ADCP01</u> Lat = 71.00 Lon = -165.00 <u>ADCP02</u> Lat = 71.67 Lon = -160.00 <u>Burger</u> Lat = 71.24 Lon = -163.28 <u>Crackerack</u> Lat = 71.17 Lon = -166.75 <u>BC1-11</u> Lat = 70.85 Lon = -159.67 <u>BC2-11</u> Lat = 70.93 Lon = -159.95 <u>BC3-11</u> Lat = 71.00 Lon = -160.25 <u>BC4-11</u> Lat = 71.06 Lon = -160.50 <u>BC5-11</u> Lat = 71.13 Lon = -160.79 <u>BC6-11</u> Lat = 71.20 Lon = -161.08 <u>HS01</u> Lat = 72.66 Lon = -163.77 <u>HS02</u> Lat = 72.42 Lon = -163.40 <u>HS03</u> Lat = 71.89 Lon = -162.90 <u>HS04</u> Lat = 71.81 Lon = -163.21 <u>HS05</u> Lat = 71.57 Lon = -162.30 <u>HS06</u> Lat = 71.30 Lon = -161.45	COP/Shell/ Statoil	RDI	Send in ASCII format to ftp://ftp.nodc.noaa.gov ; user name is anonymous, password is your email address. Place in cd pub/incoming and include metadata as explained at http://www.nodc.noaa.gov/General/NODC-Submit/ . Contact thomas.ryan@noaa.gov, 301-713-3272 x129 if any questions.	No	Yes	National Oceanographic Data Center

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Lat/Lon (NAD 83)	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
IPS <ul style="list-style-type: none"> • Surface Deformation 	ASL	*.dat *.hdr	2011-2012	Chukchi: Devils Paw Near Wainwright Burger Crackerjack	<u>IPS01</u> Lat = 71.00 Lon = -165.00 <u>IPS02</u> Lat = 71.67 Lon = -160.00 <u>BU01</u> Lat = 71.24 Lon = -163.28 <u>CJ01</u> Lat = 71.17 Lon = -166.75	COP/Shell/ Statoil	RDI	Send in ASCII format to ftp://ftp.nodc.noaa.gov ; user name is anonymous, password is your email address. Place in cd pub/incoming and include metadata as explained at http://www.nodc.noaa.gov/General/NODC-Submit/ . Contact thomas.ryan@noaa.gov, 301-713-3272 x129 if any questions.	No	Yes	National Oceanographic Data Center
ADCP <ul style="list-style-type: none"> • Current Profiles • Water Temp, if available 	ASL	*.pd0	2010	Beaufort: Camden Bay	<u>V01</u> Lat = 70.63 Lon = -146.14 <u>A01</u> Lat = 70.37 Lon = -146.00	Shell	RDI	Send in ASCII format to ftp://ftp.nodc.noaa.gov ; user name is anonymous, password is your email address. Place in cd pub/incoming and include metadata as explained at http://www.nodc.noaa.gov/General/NODC-Submit/ . Contact thomas.ryan@noaa.gov, 301-713-3272 x129 if any questions.	No	Yes	National Oceanographic Data Center
IPS <ul style="list-style-type: none"> • Surface Deformation 	ASL	*.dat *.hdr	2010	Beaufort: Camden Bay	<u>V01</u> Lat = 70.63 Lon = -146.14 <u>A01</u> Lat = 70.37 Lon = -146.00	Shell	RDI	Send in ASCII format to ftp://ftp.nodc.noaa.gov ; user name is anonymous, password is your email address. Place in cd pub/incoming and include metadata as explained at http://www.nodc.noaa.gov/General/NODC-Submit/ . Contact thomas.ryan@noaa.gov, 301-713-3272 x129 if any questions.	No	Yes	National Oceanographic Data Center

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Lat/Lon (NAD 83)	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
AWAC/Acoustic Doppler Current Profile	Evans Hamilton	*.wpr	2010	Beaufort: Harrison Bay	HB01 Lat = 70.87 Lon = -150.27	Shell	RDI	Send in ASCII format to ftp://ftp.nodc.noaa.gov ; user name is anonymous, password is your email address. Place in cd pub/incoming and include metadata as explained at http://www.nodc.noaa.gov/General/NODC-Submit/ . Contact thomas.ryan@noaa.gov, 301-713-3272 x129 if any questions.	No	Yes	National Oceanographic Data Center
AWAC/Acoustic Doppler Current Profile	Evans Hamilton	*.wpr	2010	Chukchi: Burger	MOB02 Lat = 71.53 Lon = -164.05	Shell	RDI	Send in ASCII format to ftp://ftp.nodc.noaa.gov ; user name is anonymous, password is your email address. Place in cd pub/incoming and include metadata as explained at http://www.nodc.noaa.gov/General/NODC-Submit/ . Contact thomas.ryan@noaa.gov, 301-713-3272 x129 if any questions.	No	Yes	National Oceanographic Data Center

Coastal Met Stations

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
Coastal Met	Various	*.xml	2008-2011	Barrow, Deadhorse, Kaktovik, Pt. Hope, Pt. Lay, Wainwright	Shell	RDI	Send in XML format to ftp://comms.ndbc.noaa.gov ; user name and password will be provided in advance by contacting Rex.hervey@noaa.gov or 228-688-3007	No	Yes	National Weather Service

Ice -- Archived Data

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
Ice Tracking Drifters	ASRC	*.xml	2007-2011	Beaufort	Shell	RDI	Send in XML format to ftp://comms.ndbc.noaa.gov ; user name and password will be provided in advance by contacting Rex.hervey@noaa.gov or 228-688-3007 (if no 14-day hold)	No	Yes	National Ice Center
Ice Charts (Complete)	ASRC	*.pdf	2007-2011	Beaufort, Chukchi	Shell	RDI	Place file on server accessible by NWS & NIC, provide a username and password and specify ftp or sftp for transfer protocol. Contact jeff.cotterman@noaa.gov to work out the periodicity of file retrievals.	No	Yes	National Ice Center
Ice Charts (Shapefiles)	ASRC	Shape-files	2007-2011	Beaufort, Chukchi	Shell	RDI	Place file on server accessible by NWS & NIC, provide a username and password and specify ftp or sftp for transfer protocol. Contact jeff.cotterman@noaa.gov to work out the periodicity of file retrievals.	No	Yes	National Ice Center

Ice – 2012 Near Real Time Data

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
Ice Tracking Drifters	ASRC	*.xml	2012	Beaufort	Shell	Shell	Send in XML format to ftp://comms.ndbc.noaa.gov ; user name and password will be provided in advance by contacting Rex.hervey@noaa.gov or 228-688-3007 (if no 14-day hold).	Yes	Yes	National Ice Center
Ice Charts (Complete)	ASRC	*.pdf	2012	Beaufort, Chukchi	Shell	Shell	Place on SIWAC website for download as pdf. Provide username and password.	Yes	14 day delay	National Ice Center
Ice Charts (Shapefiles)	ASRC	Shape-files	2012	Beaufort, Chukchi	Shell	Shell	Place file on server accessible by NWS & NIC, provide a username and password and specify ftp or sftp for transfer protocol. Contact jeff.cotterman@noaa.gov to work out the periodicity of file retrievals.	Yes	14 day delay	National Ice Center

Vessel Data

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
CTD castings • STATION • SHIP • RECORDED_BY • INSTRUMENT • RAW_DATAFILE_NAME • DATE_TIME_GMT • LATITUDE • LONGITUDE • DEPTH_M • DEPTH_SAMPLE_M • PRESSURE_DBAR • TEMP_WTR_C • SALINITY_PSU • CONDUCTIVITY_S_M • SOS_WTR_M_SEC • SIGMA_T • BEAM_ATTEN_M • BEAM_XMISSION_PCT • FLUORESCENCE • DATA_FLAG • REPORT • CONTRACTOR • NOTES	Olgoonik Fairweather LLC	File gdb	2008- 2010	Chukchi: Klondike, Burger	COP/Shell/ Statoil	RDI	Send in ASCII format to ftp://ftp.nodc.noaa.gov ; user name is <u>anonymous</u> , password is your email address. Place in <u>cd</u> pub/incoming and include metadata as explained at http://www.nodc.noaa.gov/ <u>General/NODC-Submit/</u> . Contact thomas.ryan@noaa.gov , 301-713-3272 x129 if any questions.	No	Yes	National Oceanographic Data Center

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
ADCP <ul style="list-style-type: none"> • SHIP • DATE_TIME_GMT • LATITUDE • LONGITUDE • DEPTH_M • TEMP_WTR_C • BIN_NUMBER • DEPTH_BIN_M • U_VELOCITY_MPS • V_VELOCITY_MPS • W_VELOCITY_MPS • ERROR_VELOCITY_MPS • PERCENT_GOOD • BM_TRACK_SPEED_MPS • BM_TRACK_HEADING_DEG • REPORT • CONTRACTOR • NOTES 	Olgoonik Fairweather LLC	*.xls	2010	Chukchi: Klondike, Burger	COP/Shell/ Statoil	RDI	Send in ASCII format to <u>ftp://ftp.nodc.noaa.gov</u> ; user <u>name is anonymous</u> , <u>password is your email</u> <u>address</u> . Place in cd <u>pub/incoming and include</u> <u>metadata as explained at</u> <u>http://www.nodc.noaa.gov/</u> <u>General/NODC-Submit/</u> . Contact <u>thomas.ryan@noaa.gov</u> , <u>301-713-3272 x129</u> if any <u>questions</u> .	No	Yes	National Oceanographic Data Center

Volunteer Observing Ship

Information Description	Source (Supplying Contractor)	Format	Time Period	Location	Ownership	Party Submitting Information	NOAA Guidance for Intake of Data	Near Real Time Delivery?	Available for Public Disclosure?	NOAA Recipient Organization
Volunteer Observations <ul style="list-style-type: none"> • Ship Callsign • Date/Time • GPS location • Wind Speed • Wind Direction • Air Temperature • Dew Point • Temperature • Relative Humidity • Sea level Pressure • Pressure Tendency • Water Temperature • Wind Wave Height • Wind Wave period • Swell Height • Swell Direction • Ice Accretion Cause • Ice Accretion Thickness • Ice Accretion Rate • Present Weather • Cloud conditions • Sea Ice Concentration • Sea Ice Arrangement • Sea Ice Origin of ice • Sea Ice Stage of Development • Sea Ice Bearing of principal ice edge • Sea Ice Present ice & 3 hr trend 	Various		2012	Chukchi, Beaufort	Shell	Shell	1) Send in BBXX code through AMVER SEAS via Inmarsat-C or email, 2) HF or VHF voice to Alaska Region WSOs, or 3) Matrix Satellite Phone number 9999. Contact Larry.Hubble@noaa.gov, 907-271-5135	Yes	Yes	National Data Buoy Center