

Section 1. Contributor Information	
1. Name of Contributor	Bigelow Laboratory for Ocean Sciences
2. Date of submission of this form (or its update):	April 6, 2010
3. Describe the scope of this data submission information:	Arctic Primary Production Database from 1954-2007. Primary production and Chlorophyll measurements from various sources and platforms.
4. Data set Title:	ARCSS-PP Arctic System Science Primary Production Marine primary production in the Arctic Ocean (1954-2007).
5. DATA PROVIDER'S Primary Point of Contact:	Dr. Patricia A. Matrai Bigelow Laboratory for Ocean Sciences 180 McKown Point Road W. Boothbay Harbor, Maine 04575-0475 PMatrai@bigelow.org
6. NODC Primary Point of Contact:	Donald W. Collins Oceanographer National Oceanographic Data Center NOAA/NESDIS/NODC E/OC1 SSMC3 Fourth Floor 1315 East West Highway Silver Spring MD 20910-3282 Donald.Collins@noaa.gov http://www.nodc.noaa.gov Telephone: 301.713.3272 xtn 154 Fax: 301.713.3302

Section 1. Contributor Information		
7. May NODC freely and openly redistribute this dataset?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
****If NO, list the constraints of redistribution of the data set in terms of:		
User access to the data set:		
Uses of the data set:		

Section 2. Basic Data Discovery and Usage Information	
1. What is the purpose for collecting this Data Set?	To compile available primary productivity data for the Arctic Ocean Region into a single database for analysis and synthesis.
2. Provide a general descriptive abstract about the Data Set:	Arctic Ocean primary production data were assembled from original input data archived in various international databases, provided by individual investigators or in publications. The data were collected by various methods and resulted from the efforts of many individual, national and international research efforts conducted between 1954 and 2007. Station data (cruise, station, latitude, longitude, depth), discrete data for productivity and chlorophyll a (value, method, phase, incubation type and length), photosynthetically available radiation (PAR) (incoming, integrated over incubation period), some integrated parameters, and some hydrographic parameters (nutrient concentration, mixed layer depth) as well as source (investigator, data base, publication, etc.), if available, were included.
3. What is the time period covered by the Data Set?	<i>Range_of_Dates/Times:</i> <i>Beginning_Date:</i> 1954 <i>Ending_Date:</i> 2007

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<p>4. What is the geospatial coverage of the Data Set (Easternmost longitude, westernmost longitude, northernmost latitude, southernmost latitude)?</p>	<p><i>Spatial_Domain:</i> <i>Bounding_Coordinates:</i> <i>West_Bounding_Coordinate:</i> -180.0 <i>East_Bounding_Coordinate:</i> 180.0 <i>North_Bounding_Coordinate:</i> 90.0 <i>South_Bounding_Coordinate:</i> 53.0</p>
<p>5. List the measured variables or parameters in the Data Set (e.g., Temperature, Salinity, etc.):</p>	<p>See Entity and Attribute section of accompanying FGDC metadata.</p>
<p>6. List the platform(s) from which the data is derived:</p>	<p>Various. See accompanying FGDC metadata records, Data Quality Section, Source elements.</p>
<p>7. List the instrument(s) used to derive the Data Set:</p>	<p>Various. See accompanying FGDC metadata records, Data Quality Section, Source elements.</p>
<p>8. List the observation types in the Data Set (e.g., Biological Data, Physical Data, etc.):</p>	<p>Biological Data.</p>

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9. List the mission/project name(s) to which the Data Set contributes.	This work was funded by NSF grant ARC-0629348. Arctic System Science Primary Production Marine primary production in the Arctic Ocean (1954-2007)
10. Give the expected size(s) in bytes and number of files in the submission.	1 comma delimited data file (32 MB). 1 FGDC metadata record in xml (66 KB) 1 FGDC metadata record in html plus format/style sheet folder (total size = 250 KB)
11. Give the file format and format version (e.g., netCDF-3, HDF-5, ASCII CSV, etc.).	Comma delimited ascii (csv), xml , html (with css and js files).
12. Does this Data Set conform to any file-level data content or metadata content standards? (e.g., COARDS/CF, HDF-EOS, WOCE, GHRST)	<i>Metadata_Standard_Name:</i> FGDC Content Standard for Digital Geospatial Metadata <i>Metadata_Standard_Version:</i> Version 2.0
13. Please describe the file contents.	<i>Primary productivity database (1954 – 2007) in Arctic Region and accompanying FGDC metadata</i>
14. Give the file-naming convention for the file(s) to be submitted, with the range/domain of each field value in the filename.	ARCSS-PP_FGDCmetadata.xml → FGDC metadata in xml format (also html format) ARCSS-PP.csv → Processed data set in comma delimited format
15. Please provide a list of existing reports, publications, user guides, web sites, or other supporting	Manuscript entitled “Synthesis of primary production in the Arctic Ocean: I. Surface waters, 1954-2007” submitted for publication in Progress in Oceanography. Data Set is posted at http://psc.apl.washington.edu/cgi-bin/PPobs/PPobs.cgi?id=opensesaplease .

Section 2. Basic Data Discovery and Usage Information	
documentation relevant to the Data Set.	
16. What metadata exists for this Data Set? Is it in a standard format/can it be automatically translated into a standard format? Describe the granularity of this metadata (For example, is it collection level metadata? If not, to what file or grouping of files does it apply?)	<i>Data set has accompanying FGDC compliant metadata.</i>
17. If applicable, describe the temporal resolution of the primary parameter(s) in the Data Set.	
18. If applicable, describe the horizontal resolution of the primary parameter(s) in the Data Set.	
19. If applicable, describe the vertical resolution of the primary parameter(s) in the Data Set.	
20. If applicable, describe the projection grid or coordinate system	Geographic (latitude, longitude). Stereographic Azimuthal Projection was used to make maps from data set

Section 2. Basic Data Discovery and Usage Information	
used in the Data Set.	
<p>21. If the Technical Contact for <i>DATA PROVIDER</i> is different from the Primary Contact listed in section 1.4, please provide name, organization, position, address, phone, fax, and email.</p>	<p>Steve Suttles, P.E. Green Eyes LLC 5745 Lovers Lane Cambridge, MD 21613 (410) 221-8242 steve@greeneyesobserving.com</p>
<p>22. If the Metadata Contact for the <i>DATA PROVIDER</i> is different from the Primary Contact listed in section 1.4, please provide name, organization, position, address, phone, fax, and email.</p>	<p>Steve Suttles, P.E. Green Eyes LLC 5745 Lovers Lane Cambridge, MD 21613 (410) 221-8242 steve@greeneyesobserving.com</p>
<p>23. If the Technical Contact for NODC is different from the Primary Contact for the NODC listed in section 1.5, please provide name, organization, position, address, phone, fax, and email.</p>	<p>Scott Mowery Northeast Regional Science Officer NODC / NCDDC c/o NOAA CO-OPS 672 Independence Parkway Chesapeake, VA 23320 757-842-4442 (w) 240-676-3619 (c) Scott.mowery@noaa.gov</p>

Section 2. Basic Data Discovery and Usage Information

<p>24. If the Metadata Contact for NODC is different from the Primary Contact for NODC listed in section 1.5, please provide name, organization, position, address, phone, fax, and email.</p>	<p>n/a</p>
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Section 3. Detailed Data Processing and Quality Information

These elements will provide a more complete and thorough understanding of the data for long term posterity

<p>1. What is the overall completeness and quality of the Data Set?</p>	<p><i>The published data is considered complete. The data has been processed, reviewed, and the appropriate calibrations have been applied. Complete FGDC metadata accompanies the data set. Data that found to not meet the QA/QC procedures (or no value was present) was replaced with an appropriate No Data Value (-999999, -99, “unknown”, or “none”).</i></p>
<p>2. Describe the data processing level of the Data Set. For example, is the Data Set unprocessed or minimally processed, quality controlled or calibrated, etc.? For satellite data, is it Level 0, 1, 2, 3, or 4?</p>	<p><i>The data are processed to the following standards:</i></p> <ul style="list-style-type: none"> • See data sources (listed in metadata) for processing of original source data. • Quality control was performed by eliminating duplicates (stations and cruises), outliers (located 3 standard deviations from a grid cell mean), CTD fluorescence data that were erroneously reported as chlorophyll (stations with >50 records), and checking source disagreements when included in more than one data set. This quality control was done every time a new data set was added and as analysis proceeded. • <i>Appropriate and correct metadata are attached.</i>
<p>3. Summarize the science algorithms(s) used to derive the</p>	<p>See original data sources for methods.</p>

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Data Set.	
4. Describe the steps taken to process the Data Set, including for each step the methodology, source data, and time/frequency, and listing any input data sets used to derive the Data Set.	
5. Describe the Data Set's dependency on other data (e.g. ancillary files), processing systems, software, or entities that are not to be submitted to NODC.	
6. Detail any measures taken by the <i>DATA PROVIDER</i> to assess the quality of the Data Set, including data comparisons, and an assessment of the attribute accuracy. Give information about omissions, selection criteria, and other rules used to derive the Data Set.	This information can be found in the accompanying metadata record.
7. List any quality assessment	<ul style="list-style-type: none"> • Data flag is included in the Data Set. No = No bad data flag set and data is considered acceptable (92005 lines). Yes = bad data flag set and data is considered questionable (56

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<p>parameters included in the Data Set. For example, this may be an explanation of quality flags and their range/domain of values.</p>	<p>lines).</p>
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Section 4. Data Stewardship Information

<p>1. Please describe any quality control or quality assurance procedures NODC should perform on this Data Set when it is submitted to NODC.</p>	<p>None required.</p>
<p>2. How will <i>DATA PROVIDER</i> provide updates to NODC when changes occur in the Data Set, transmission mechanism, format, content, etc.? How often might such changes be expected to occur?</p>	<p><i>The Data Provider will notify NODC POC's of any changes to the original dataset. Updates or changes are not anticipated.</i></p>
<p>3. Does <i>DATA PROVIDER</i> request reports on NODC's dissemination of the Data Set? If so, what statistics should be included? (Please note federal regulations strictly limit the amount and kind of information that can be recorded by federal agencies.)</p>	<p>No.</p>

Section 4. Data Stewardship Information

<p>4. Does <i>DATA PROVIDER</i> request standards compliance testing on the Data Set? For example, should NODC verify data files are meeting netCDF Climate and Forecast (CF) conventions, or should metadata records be checked for adherence to the FGDC content standard? Will <i>DATA PROVIDER</i> perform standards compliance testing prior to submission to NODC?</p>	<p>No. Data provider will verify FGDC metadata is compliant to the standard.</p>
<p>5. Suggest action(s) for NODC in the case of an error in transmission (e.g. missing data, duplicate data, incorrect file name or size, failure of compliance checks).</p>	<p>If there is an error in transmission and NODC fails to receive the entire dataset or the dataset is corrupted, please contact the NODC Technical Contact listed in section 2.23.</p>
<p>6. Please list any known NODC product databases (e.g. World Ocean Data Base, EcoWatch, etc.) that this Data Set should become a part of:</p>	<p>To be determined by NODC. Metadata / KML files may be used to supplement discovery through NOAA web portals.</p>
<p>7. Please identify one or more Representative Users of the <i>Designated Community</i>. The Designated Community is defined in the OAIS Reference Model as the group of potential users who should be able to understand a Data Set over the long term. NODC works specifically to preserve the data and information for this Designated Community.</p>	<p>n/a</p>

Section 4. Data Stewardship Information	
a. Describe this user community and their requirements	n/a
b. Provide Contact Information for a representative of this community - please provide name, organization, position, address, telephone, fax, and e-mail address	n/a
8. List security requirements for dissemination of the Data Set from NODC to the users.	n/a
9. Once the Data Set is transferred to NODC, how long should it take for it to become searchable? How long should it take to become accessible online?	NODC expects the data set to be listed in NODC inventory (searchable) within 3-6 days of receipt and accessible online (barring limited distribution request from the data provider) within 30 days of receipt.
10. Describe any preferred search criteria to be enabled for this Data Set in the NODC archive (e.g., search by time, search by geographic bounding box on a Polar Stereographic map, etc.)	n/a
11. Describe any preferred access mechanisms to be enabled for this Data Set in the NODC archive (e.g., OPeNDAP, Web Coverage Services, FTP, etc.)	n/a

Section 5. Logistics Information for Routine Transfers to NODC

In that we expect the *DATA PROVIDER* data submissions to be routine transmissions to NODC, all questions in this section are required. This information will allow NODC to establish and maintain automated ingest procedures for the *DATA PROVIDER* submissions.

<p>1. Provide the mechanisms used to transfer digital data to NODC. For routine, repeated submissions include the server, location, and protocol used.</p>	<p><i>Data sets from each cruise will be submitted to NODC POC listed in 2.23 using ftp or public dropbox link of zip files containing data sets and metadata.</i></p>
<p>2. List any relevant Interface Control Document, Memorandum of Understanding, or other technical documents outlining how data will be transferred from <i>DATA PROVIDER</i> to NODC.</p>	<p><i>This Data Submission Form shall serve as the primary Interface Control Document regarding data submissions from DATA PROVIDER to NODC.</i></p>
<p>3. Describe the submission schedule in terms of starting/ending times and submission frequency for each submission session.</p>	<p><i>Complete data set and metadata will be submitted at time of submission of this form.</i></p>
<p>4. Give the volume of each submission session and the total anticipated volume per day or month in bytes.</p>	<p><i>This submission will include a total of 7 files (including this form) and size will be approximately 33 MB. All files will be compressed into a single zip file.</i></p>
<p>5. List the steps in the transfer process from <i>DATA PROVIDER</i> to NODC.</p>	<ul style="list-style-type: none"> - <i>Package dataset into zip file with this form</i> - <i>Place in public dropbox site for Green Eyes LLC</i> - <i>Send link to NODC POC listed in section 2.23 for upload</i>
<p>6. List the <i>DATA PROVIDER'S</i> preference for basic file validation routines (e.g. checksums, CRC32, MD5 or other).</p>	<p>n/a</p>

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<p>7. Does <i>DATA PROVIDER</i> request a periodic record of receipt from NODC for purposes of tracking the submitted data?</p>	<p><i>Yes - please provide to the DATA PROVIDER POC an email confirmation of datasets received and datasets available for download via the NODC archive (with associated hyperlinks).</i></p>
<p>8. List any security requirements needed during submission from the <i>DATA PROVIDER</i> to NODC.</p>	<p>n/a</p>
<p>9. Is the content of each submission session considered by <i>DATA PROVIDER</i> to be a continuation or new version of a previous submission, or is the content of each submission session considered to be an independent or stand-alone collection of data?</p>	<p>There will only be one submission of this data set.</p>

NODC Data Submission Form

The signatures below indicate the belief that the information contained on this form is true and correct to the best understanding of *DATA PROVIDER* and NODC. These signatures also acknowledge that in the future, this information may be amended, updated, or revised as necessary.

Paty Matrai

signature

Dr. Patricia A. Matrai
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signature

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