

TITLE:

**SKQ2020309T\_Chlorophyll\_Pigments\_README.pdf**

AUTHORS:

Clare B. Gaffey<sup>1</sup>

<sup>1</sup>College of Earth, Ocean, and Atmospheric Sciences, Oregon State University, Corvallis, OR 97331; email: [clare.gaffey@oregonstate.edu](mailto:clare.gaffey@oregonstate.edu)

FUNDING SOURCE/GRANT NUMBER: National Science Foundation (NSF) award #2303606.

ORIGINAL AWARD TITLE: Building Arctic seagoing research capacity: Arctic Chief Scientist Training cruise

DATA ARCHIVE: NSF Arctic Data Center link: <https://arcticdata.io/>

#### DATASET OVERVIEW:

This dataset includes measurements of water samples collected at hydrographic stations from the R/V *Sikuliaq* during the University National Oceanographic Laboratory System (UNOLS) Arctic Chief Scientist Training cruise June 6–12, 2023. Data includes by column the cruise, date (AK), sample #, station, latitude, longitude, sample depth (m), average chlorophyll-*a* (CHL) concentration (µg/L), and average pheophytin (pheo) concentration (µg/L).

#### DATA COLLECTION AND PROCESSING

Water samples were collected from rosette bottles attached to a CTD at target depth increments from 1 m to the near-bottom dependent on the station depth. In addition to target depths, the chlorophyll-*a* maximum was sampled opportunistically. Bottled 200 mL seawater samples were filtered onto 25 mm Whatman GF/F filters in the dark immediately following collection from the rosette. Unless indicated otherwise, the filters were frozen shipboard in -40°C and analyzed following the cruise at the Clark University Polar Science Research Laboratory. Chlorophyll-*a* was extracted from filters using 90% acetone and stored in a freezer for 48 hours wrapped in foil prior to measurement on a calibrated Trilogy Fluorometer (Turner Designs, San Jose, California). Pheophytin was determined following acidification of the samples using 10% hydrochloric acid.

#### Data File Structure:

File Names (Formats)\*: **SKQ2020309T\_Chlorophyll.csv**

Files Data Parameters by Column:

1. A Cruise – Cruise identifier (nominal)
2. B Date – Date of data collection (MM/DD/YYYY)

3. C Sample – Unique number designating data collection sample (nominal)
4. D Station – Name of station (string)
5. E Latitude – Coordinate of sample location (float)
6. F Longitude – Coordinate of sample location (float)
7. G Depth\_(m) – Sample depth in meters (float)
8. H Average\_CHL\_( $\mu\text{g/L}$ ) – Chlorophyll-*a* concentration averaged over two sample runs on a Trilogy fluorometer (float)
9. I Average\_pheo\_( $\mu\text{g/L}$ ) – Pheophytin concentration estimated from the measured chlorophyll-*a* concentrations averaged over two sample runs on a Trilogy fluorometer (float)
10. J Notes – Any notes relevant to quality control (string)