An update on:
Developing EK80 Best Practices

RVTEC 2023
October

UNOLS
UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

Ocean best practices

R2R
ROLLING DECK TO REPOSITORY

RCRV
Regional Class Research Vessels

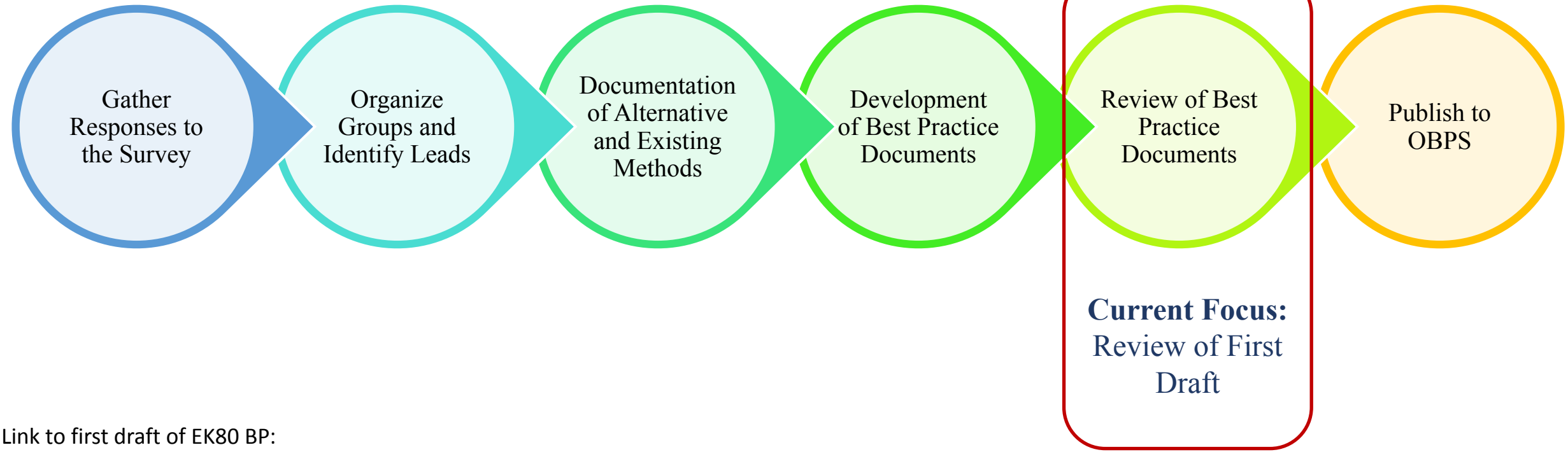
EK80 Working Leads & Working Groups Members

Rebecca Hudak
Rolling Deck to Repository
Woods Hole Oceanographic Institute

Kristin Beem
UNOLS Tech Training Committee
Oregon State University
RCRV Marine Science Technical Director

Alexa Gonzalez: NOAA
Kristin Sojka: NOAA
Lynne Butler: URI
Peter Shanks: Australian Antarctic Division
Floyd Howard: Australian Antarctic Division
Adrianne Copeland: NOAA/FFO
Mike Jech: NOAA
Jennifer Johnson: WHOI/AOPE
Shannon Hoy: NOAA/ OER
Andone Lavery: WHOI
Beth Phillips: NOAA
Liz Weidner: UNH/CCOM
Carrie Wall: NCEI
Chuck Anderson: NCEI
Val Schmidt: UNH

Our Approach



Link to first draft of EK80 BP:

https://docs.google.com/document/d/1bB9BeR6E9xqfmYinPa72l2hWkGIJ00bL/edit?usp=sharing&ouid=116174249440067794725&rtpof=true&sd=true

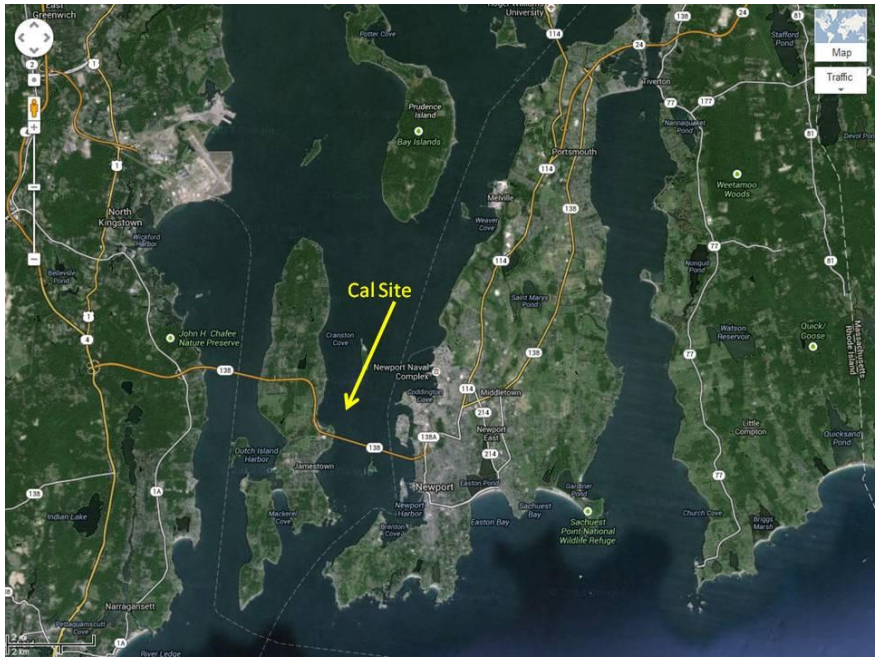
EK80 Fisheries Sonar Suite- 2023 Update

- Monthly Meetings
- Ocean Best Practice Document - Strong focus on calibrating an EK80 as well as what features should be running to get the best data
  - Calibration Sites
  - Calibration Checklist
  - Calibration Report
  - FM/CW mode
  - File Management

R/V Sikuilaq Displays during EK80 Calibration

Calibration Sites

- What makes a good calibration site?
  - Water depth of at least 50 m
  - At or near slack tide to minimize the impact of tidal current flows
  - Relatively homogeneous oceanographic conditions
  - Ideally, should be conducted in waters with similar temperature profiles as where the survey and acoustic data will be collected
  - Under 0.5 knots of current and the wind speed should be under 10 knots
  - During daylight hours
  - 1-2 days should be set aside for a full calibration
  - List of suggested calibration sites



Example Calibration Site:

Data Management

- When run unchecked in FM mode, the EK80 can acquire terabytes of data over only a few days.
- Run in CW mode unless otherwise requested
- Set max file size: 100/200mb
- **[Cruise id]_[ddmmyy][hhmmss]_001.raw**
- Important metadata to include:
  - Calibration documents, data sets (and whether or not the calibration offsets were used), basics on the survey (who, what, when, where), CTD casts (or SSV source)

The set of acceptable characters for filenames.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n o p q r s t u v w x y z

0 1 2 3 4 5 6 7 8 9 . _ -

The last three characters are the <period>, <underscore>, and <hyphen-minus> characters, respectively. There should also be no spaces in filenames.

Appendix Documents


- Calibration Equipment Checklist
- Step-by-Step Calibration and Data Collection
  - Based off NOAA fisheries numbers
  - Sample Operation parameters from *HB Bigelow*
- Printable Calibration Report Template
  - Recommend that the calibration report travels with the data /metadata doc

EK80 Fisheries Sonar Suite- Discussion Topics

- Anything missing from the draft that you would like to see included?
- Any topics that are confusing or misleading?
- What calibration sites have you used in the past? (Looking for examples in Southwest/West/Southeast of N America or elsewhere)

Questions/Interested?

Get involved!

- Reach out to the leads if you are interested in joining
  EK80: Rebecca Hudak rhudak@whoi.edu, Kristin Beem: kristin.beem@oregonstate.edu

- Oceans Best Practices Website (where final BP document will live):
  https://www.oceanbestpractices.org/
- Ocean Mapping Wiki- Great Resource- collaborative website includes EK80 Information! Shannon Hoy- one of the wiki leads
  https://github.com/oceanmapping/community/wiki