

## Video Data Guidance

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### Background

#### *Remotely Operated Vehicle (ROV) and Similar Video Data*

- ROVs record video during ascent and descent.
- ROVs record video of experimental set up (e.g., lander positioning).
- ROV video data may be used to develop datasets such as bottom type, species occurrence and other environmental characteristics. These interpreted data are small and can easily be submitted to GRIIDC.

#### *In-situ Ichthyoplankton Imaging System (ISIS) Data*

- ISIS generates tens of terabytes of raw video data files.
- These raw videos are segmented into individual images of plankton identified.
- The segmented image data may be larger or smaller than the original data file, depending on the number of plankton recorded in the raw video file.
- Segmented data are used to identify species, measure species abundance, determine species distribution, and may be processed to generate other data parameters. These interpreted data can easily be submitted to GRIIDC.

#### *Video Data Generated from Lab Experiments*

- Investigators record videos in the lab to observe and measure specific phenomena.
- Investigators may not use all video recorded, sometimes due to poor quality, but also because the phenomenon of interest was not observed.
- GRIIDC has advised investigators to submit all video that has passed laboratory quality assurance/quality control procedures and records the phenomenon of interest.
- Interpreted data generated from videos such as seep rates, flow, viscosity, and other measurements can easily be submitted to GRIIDC.

### Data Sharing Requirements for Video Data

Data sharing requirements are framed according to the level of processing. Acquisition data includes the information describing the deployment of video recording devices, such as times and locations, platforms, equipment, experiment details, and methods and should be provided for all submissions. Level 0 data is raw full-resolution video as recorded in the original format. Level 1 data is Level 0 data transformed into a nonproprietary format and segmented to include only portions used for data extraction.

Level 2 data are observations made from the video such as bottom type or species abundance or a variety of lab experiment observations. These observation data files should include all the pertinent

parameters for the phenomenon and ancillary data as appropriate. Level 3 data are derived or interpreted from observations made from the video data, such as population characteristics or other information used in a journal article.

#### *Remotely Operated Vehicle (ROV) and Similar Video Data*

- Level 0 data are to be stored at the researcher's institutions and made available upon request. GRIIDC is exploring other possibilities for bringing these data into a common repository.
- Level 1 data, portions or segments of video used as a data source, should be submitted to GRIIDC. Segments of ascent or descent, unless they are used as a data source, need not be submitted to GRIIDC.
- Acquisition information and Level 2 and 3 data, which are the observations and interpreted data (e.g. fish densities, coral health, rate of methane bubble rise from seeps) should be submitted to GRIIDC. They may be submitted as one dataset or multiple datasets depending on the progress of the research and timing of publications. The level 0 or level 1 data to which they pertain should be referenced in the metadata.

#### *In-situ Ichthyoplankton Imaging System (ISIS) Data*

- Level 0 data are to be stored at the researcher's institutions and made available upon request. GRIIDC is exploring other possibilities for bringing these data into a common repository.
- Segmented ISIS data, Level 1 data, should be submitted to GRIIDC.
- Acquisition information and level 2 and 3 data, which include interpreted ISIS data of species identification, species abundance, species distribution, and other parameters, should be submitted to GRIIDC. They may be submitted as one dataset or multiple datasets depending on the progress of the research and timing of publications. The level 0 or level 1 data to which they pertain should be referenced in the metadata.

#### *Video Data Generated from Lab Experiments*

- Level 0 data is considered all video that has passed QA/QC procedures and is potentially useful. These data should be stored at the researcher's institution and made available upon request.
- Video segments from which data are extracted, Level 1 data, should be submitted to GRIIDC.
- Acquisition information and Level 2 and 3 data, which includes observations and interpretations made from the Level 1 video data, should be submitted to GRIIDC. They may be submitted as one dataset or multiple datasets depending on the progress of the research and timing of publications. The level 0 or level 1 data to which they pertain should be referenced in the metadata.

Following is a summary of the levels of processing of video data and guidelines for data submission.

	Acquisition information	Level 0	Level 1	Level 2	Level 3
Data processing level	Locations, times, equipment, methods, purpose of acquisition	Unprocessed video files at full resolution in original format	Segments of video in nonproprietary format used as source for data extraction	Data files of observations from video	Derived data such as population characteristics and other high-level data products
Submission guidance	Submitted to GRIIDC	Stored with researchers	Submitted to GRIIDC	Submitted to GRIIDC	Submitted to GRIIDC