

Surface Water and Ocean Topography (SWOT) Project

SWOT Product Description

Long Name:

Level 2 KaRIn Low Rate Sea Surface Height
Pre Crossover Product

Short Name: L2_LR_PreCalSSH

Revision A

Document Custodians:

<i>Electronic signature on file</i>	12/9/25	E-SIGNED by Pierre Dubois on 2025-12-10 08:02:38 GMT
Albert Chen JPL Algorithm Engineer	Date	Pierre Dubois CNES Algorithm Engineer

Approved by:

<i>Electronic signature on file</i>	12/9/25	E-SIGNED by Alejandro Bohé on 2025-12-10 09:24:38 GMT
Curtis Chen JPL Algorithm System Engineer	Date	Alejandro Bohé CNES Algorithm System Engineer

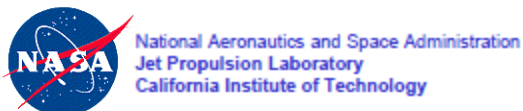
Concurred by:

<i>Electronic signature on file</i>	12/9/25	E-SIGNED by Cyril Germaineaud on 2025-12-10 08:59:06 GMT
Stirling Algermissen JPL SDS Manager	Date	Cyril Germaineaud CNES AVISO Distribution Center Manager




Paper copies of this document may not be current and should not be relied on for official purposes. The current version is in the JPL Engineering Product Data Management system (EPDM: <https://epdm.jpl.nasa.gov>) and the CNES Products Data Management System

See Sect 1.2 for how to cite this document.

December 5, 2025
JPL D-56406



EPDM ELECTRONIC SIGNATURES

Performer 	Status 	End Date 
Algermissen, Stirling S (alge...	Approve	09-Dec-2025
Chen, Albert C (alchen)	Approve	09-Dec-2025
Chen, Curtis W (curtis)	Approve	09-Dec-2025

CHANGE LOG

VERSION	DATE	SECTIONS CHANGED	REASON FOR CHANGE
Initial Release	2019-09-23	ALL	Initial release Approved for export (LRR-044958)
Revision A	2025-12-05	ALL	Revision A for public release of product. (URS336685/CL#25-4798)

Table of Contents

- CHANGE LOG 2
- TABLE OF CONTENTS 3
- 1 INTRODUCTION..... 4
 - 1.1 PURPOSE 4
 - 1.2 CITING THIS DOCUMENT..... 4
 - 1.3 FILE NAMING CONVENTION 5
- 2 REFERENCES..... 5

1 Introduction

1.1 Purpose

The purpose of this Product Description Document is to describe the Level 2 Ka-band Radar Interferometer (KaRIn) low rate (LR) sea surface height (SSH) pre crossover data product from the Surface Water and Ocean Topography (SWOT) mission. This data product is also referenced by the short name L2_LR_PreCalSSH.

The L2_LR_PreCalSSH data product has identical file organization, format, and content definition to the Level 2 Ka-band Radar Interferometer (KaRIn) low rate (LR) sea surface height (SSH) data product (L2_LR_SSH). A detailed description of the file organization, format, and content of the L2_LR_SSH product, and therefore the L2_LR_PreCalSSH product, is provided in [1] and is therefore not repeated here.

Data values from the L2_LR_SSH and corresponding L2_LR_PreCalSSH products are identical except for the three differences noted below. These differences originate from the fact that the crossover calibration correction (see Section 4.1.8 of [1]) is not reported in the L2_LR_PreCalSSH product (because it is computed from the L2_LR_PreCalSSH product), while it is reported in the L2_LR_SSH product. The three differences in values are as follows:

1. The global attribute *xref_input_int_lr_xover_cal_files* is empty in the L2_LR_PreCalSSH product, as it is generated without input files that contain the crossover calibration correction information.
2. The variable *height_cor_xover* is always null-filled (i.e., set to `_FillValue`) in the L2_LR_PreCalSSH product.
3. The corresponding quality flag *height_cor_xover_qual* is always null-filled (i.e., set to `_FillValue`) in the L2_LR_PreCalSSH product.

The L2_LR_PreCalSSH product is only available in forward processing to facilitate availability of the KaRIn measurements with shorter latency than the L2_LR_SSH product. The L2_LR_PreCalSSH product is not available from reprocessing.

1.2 Citing This Document

Please cite this document as follows:

JPL D-56406, Revision A, “SWOT Product Description Document: Level 2 KaRIn Low Rate Sea Surface Height Pre Crossover (L2_LR_PreCalSSH) Data Product,” Jet Propulsion Laboratory Internal Document, 2025.

1.3 File Naming Convention

The files that comprise the L2_LR_PreCalSSH products adopt the same file naming convention as the L2_LR_SSH product, except that the L2_LR_PreCalSSH short name is used instead of L2_LR_SSH.

SWOT_L2_LR_PreCalSSH_<FileIdentifier>_<CycleID>_<PassID>_<RangeBeginningDateTime>_<RangeEndingDateTime>_<CRID>_<ProductCounter>.nc

where *<FileIdentifier>* is one of the following: “Basic”; “WindWave”; “Expert”; or “Unsmoothed”. The *<CycleID>* and *<PassID>* identify the repeat cycle and pass of the data. The *<RangeBeginningDateTime>* and *<RangeEndingDateTime>* provide the UTC time range of data used to derive the data product. The *<CRID>* above contains the composite release identifier. It contains the version code of the data product, which changes if the processing software and/or auxiliary inputs are updated. The *<ProductCounter>* identifies the version of product that may have been generated multiple times with the same version of processing software.

An example filename for each file is below:

SWOT_L2_LR_PreCalSSH_Basic_001_005_20210612T072101_20210612T090353_PGA2_03.nc

SWOT_L2_LR_PreCalSSH_WindWave_001_005_20210612T072101_20210612T090353_PGA2_03.nc

SWOT_L2_LR_PreCalSSH_Expert_001_005_20210612T072101_20210612T090353_PGA2_03.nc

SWOT_L2_LR_PreCalSSH_Unsmoothed_001_005_20210612T072101_20210612T090351_PGA2_03.nc

2 References

- [1] JPL D-56407, "SWOT Product Description Document: Level 2 KaRIn Low Rate Sea Surface Height (L2_LR_SSH) Data Product," Jet Propulsion Laboratory Internal Document, 2025.