

# 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\_PreCaSSH

Revision A

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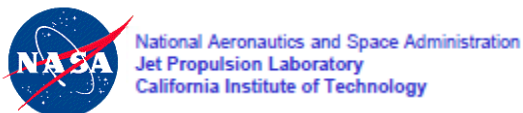
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See Sect 1.2 for how to cite this document.

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## 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)

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# 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.