

MODIS SEA ICE DATA PRODUCTS COLLECTION 4 AND COLLECTION 3 VALIDATION STATUS
12 February, 2003

All the MODIS Collection 3 and Collection 4 sea ice products are considered to be Validated, Stage 1. Collection 4 is given the same validation status as Collection 3 because analysis of data from the four science test runs made for Collection 4 processing revealed that the revised versions of the algorithms gave results consistent with or better than Collection 3 performance (Table 1). A notable improvement in the quality of the daily sea ice product, MOD29P1D, has been observed due to inclusion of a new scoring algorithm that results in coherent mapping of sea ice. During the course of Collection 3 processing, changes were made in the L2G mapping algorithm and product and in the sea ice algorithm that resulted in a loss of coherence in the sea ice products for long time periods in Collection 3. A caveat to validation of Collection 4 is, the period from first day of data acquisition (24 February 2000) to the start of Collection 3 (Table 2) is first time public release of the sea ice data products and only limited investigation of product quality for that time period has been accomplished. Although the MODIS Level 1B data is declared validated, it may have characteristics prior to November 2000 that affect the quality of the sea ice data products.

Analysis of the quality of the sea ice data products is an ongoing activity. Specific information on the science quality of the sea ice data products is reported in the "ScienceQualityFlagExplanation". The URL for the quality assessment site is given in the product metadata and is linked to from the EOS Data Gateway (EDG) when ordering data. The "ScienceQualityFlagExplanation" is changed in response to analysis and should be checked for updated information. In the MOD29 and MOD29P1D data products there are two instances of the "ScienceQualityFlagExplanation", one for sea ice determined by reflectance data and one for IST written in the metadata. Information on both is posted at that URL.

Data dates of Collection 3 and Collection 4 and validation status are presented in Table 1. The forward and reprocessing data production streams of Collection 4 are shown separately to show the time periods in each. Collection 4 begins on 24 February 2000 and continues to the present. Collection 3 begins on different dates for the sea ice data products. In each product, the differences between those start dates are periods for which the data will be publicly available for the first time (Table 2).

Table 1. MODIS validation status for Collection 3 and Collection 4.

Earth Science Data Type (ESDT)	Collection	Begin Date (Julian Day)	End Date (Julian Day)	Validation Status
MOD29	Collection 3	2000 Oct 31 (305)	2002 Dec 31 (365)	Validated Stage 1
	Collection 4	2000 Feb 24 (055) (reprocessing)	ρ2002 Dec 31 (365)	Validated Stage 1
		2003 Jan 1 (001) (forward processing)	ρρ	Validated Stage 1
MOD29P1D	Collection 3	2000 Oct 31 (305)	2002 Dec 31 (365)	Validated Stage 1
	Collection 4	2000 Feb 24 (055) (reprocessing)	ρ2002 Dec 31 (365)	Validated Stage 1
		2003 Jan 1 (001) (forward processing)	ρρ	Validated Stage 1

MOD29P1N	Collection 3	2000 Oct 31 (305)	2002 Dec 31 (365)	Provisional
	Collection 4	2000 Feb 24 (055) (reprocessing)	ρ2002 Dec 31 (365)	Provisional
		2003 Jan 1 (001) (forward processing)	ρρ	Provisional

ρ In progress with an estimated completion in September 2003.

ρρ In progress with an end date TBD

Ice Surface Temperature (IST)

The IST data array in the MOD29 and MOD29P1D sea ice products is considered to be validated at "Validated, Stage 1" status. The IST data array in the MOD29P1N sea ice product is considered to be validated at "Provisional" status. Check the "ScienceQualityFlagExplanation" for further information on status of the IST.

Table 2. First time periods of public release of data products in Collection 4 as compared to Collection 3.

ESDT	Collection 3 Start Date – End Date	Collection 4 Start Date		Collection 4 First Public Release Periods
		Reproce sing	Forward Processin g	
MOD29	2000 305 – 2002 365 2000 Oct 31 – 2002 Dec 31	2000 055 2000 Feb 24	2003 001 2003 Jan 1	2000 055 – 305 2000 Feb 24 – Oct 31 (240 days)
MOD29P1D or MOD29P1N	2000 257 – 2002 365 2000 Oct 31 – 2002 Dec 31	2000 055 2000 Feb 24	2003 001 2003 Jan 1	2000 055 – 305 2000 Feb 24 – Oct 31 (240 days)