

HY-2 satellite data application product

HY-2 satellite ground data processing system can provide level-2 and level-3 data product for users. The level-2 product data is geophysical parameters which are retrieved by Level-1 data. The level-3 product data is the product of grid enabled and statistical average which are processed by Level-2 data. For the difference sensors, level-2 and level-3 divide into altimeter product, scatterometer product and radiometer product.

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1-Introduction

HY-2 satellite ground data processing system can provide some kinds of data product for users. These data product include the level-2 and level-3 product data of altimeter, scatterometer and radiometer respectively. More details as follows.

2- Product parameters

Altimeter level-2 data product has 3 parameters, scatterometer level-2 data product has 3 parameters and radiometer level-2 data product has 4 parameters.

Altimeter Level-3 data product has 3 statistic parameters, including grid data, daily average data, weekly average data, pass cycle average data, monthly average data, quarterly average data and annual average data. Scatterometer level-3 data has 2 statistic parameters, including grid data, daily average data, weekly average data, monthly average data, quarterly average data and annual average data. Radiometer level-3 data has 2 statistic parameters, including grid data, daily average data, weekly average data, monthly average data, quarterly average data and annual average data.

3- Quick-look product

All of the level-2 and level-3 data product parameters will be processed into quick-look product, which need quality control and monitoring, and then kept in the archives.

4-Product map

All of the level-3 data product parameters will be processed into product map and then kept in the archives in order to simplify the procedure of data retrieval and to advantage for users.

➤ Product parameters

Table 1 Product parameters

Level Sensor	Level2	Level3						
		Grid	Daily Average	Weekly average	Pass cycle average	Monthly average	Quarterly Average	Annual Average
Altimeter	Significant wave height	√	√		√	√	√	√
	Sea surface wind speed	√	√		√	√	√	√

	Sea surface height	√	√		√	√	√	√
Scatterometer	Sea surface wind speed	√	√	√		√	√	√
	Sea surface wind direction	√	√	√		√	√	√
Radiometer	Sea surface temperature	√	√	√		√	√	√
	Sea surface wind speed	√	√	√		√	√	√
	Atmospheric Water Vapor	√	√	√		√	√	√
	cloud liquid water	√	√	√		√	√	√

➤ Product accuracy

Table 2 Product accuracy requirements

Sensor	Parameter	Accuracy	Range
Scatterometer	Wind speed	2m/s or 10%	2-24m/s
	Wind direction	20°	0°-360°
Altimeter	Sea surface height	5-8cm	
	Significant wave height	<10% or 0.5m	0.5-20m
	Sea surface wind speed	2m/s	2-20m/s
Radiometer	Sea surface wind speed	2m/s or 10%	7-50m/s
	Sea surface temperature	1.0K	100-300K
	Sea ice concentration	15%	
	cloud liquid water	10%	

5-Data policy

The distribution of HY-2 satellite data needs the authorization of CNSA. Then HY-2 satellite data is distributed by National Satellite Ocean application Service (NSOAS). These data after a delay of one month in global Open Ocean can provide for all users.