

# Database Description

## Description

The opening database, namely NBU\_PansharpRSDData, has 2270 pairs of HR Pan/LR MS remote sensing images. It consists of two types of data sets: (1) the data set grouped by six remote sensing satellites; and (2) the data set grouped by thematic surface features.

Details of the NBU\_PansharpRSDData are shown in the following table. For more details, you can refer to the following article:

Xiangchao Meng, Yiming Xiong, Feng Shao, Huanfeng Shen, Weiwei Sun, Gang Yang, Qiangqiang Yuan, Randi Fu, Hongyan Zhang. A Large-Scale Benchmark Data Set for Evaluating Pansharpening Performance: Overview and implementation, *IEEE Geoscience and Remote Sensing Magazine*, DOI: DOI:10.1109/MGRS.2020.2976696, accepted, 2020.

Table 1. Details of the database

Satellite sensors		Spatial dimension	Spectral dimension	Dimension size	Number of thematic scene images				
					Urban	Green vegetation	Water scenario	Unlabelled with mixed features	Data volume
IKONOS	Pan	1 m	1 band	1024×1024	60	8	6	126	200
	MS	4 m	4 bands	256×256×4					
QuickBird	Pan	0.61 m	1 band	1024×1024	150	20	42	288	500
	MS	2.44 m	4 bands	256×256×4					
Gaofen-1	Pan	2 m	1 band	1024×1024	5	90	10	305	410
	MS	8 m	4 bands	256×256×4					
WorldView-4	Pan	0.31 m	1 band	1024×1024	90	85	95	230	500
	MS	1.24 m	4 bands	256×256×4					
WorldView-2	Pan	0.5 m	1 band	1024×1024	150	35	145	170	500
	MS	2 m	8 bands	256×256×8					
WorldView-3	Pan	0.31 m	1 band	1024×1024	55	20	20	65	160
	MS	1.24 m	8 bands	256×256×8					

## Organization

1 Satellite\_Dataset (grouped by six remote sensing satellites)

- Dataset
- Dataset\_visualization

2 Thematic\_Dataset (grouped by thematic surface features)

- Dataset
- Dataset\_visualization

For both the Satellite\_Dataset and Thematic\_Dataset, the folders of Dataset and Dataset\_visualization are given. The Dataset provides the raw Pan/MS data, and the Dataset\_visualization provides the visualization (only MS images with RGB bands) of the raw data for user convenience.

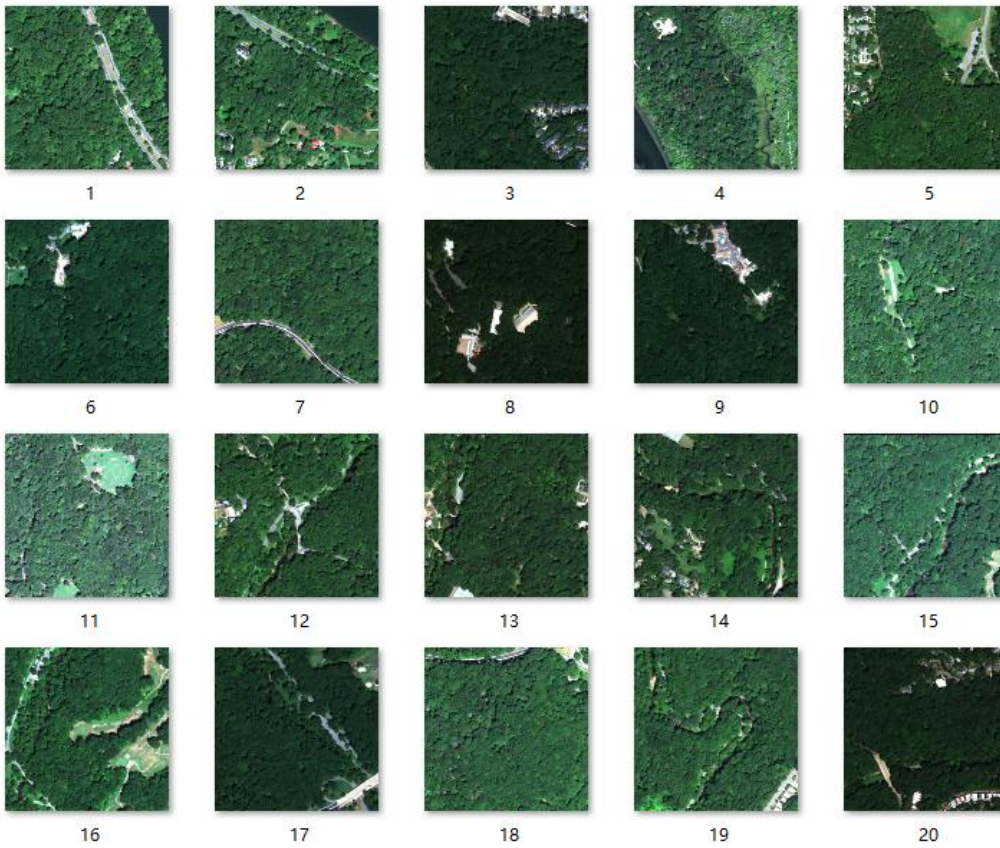
## Samples

Some samples of the WorldView-2 thematic images are shown as follows

### 1) Urban

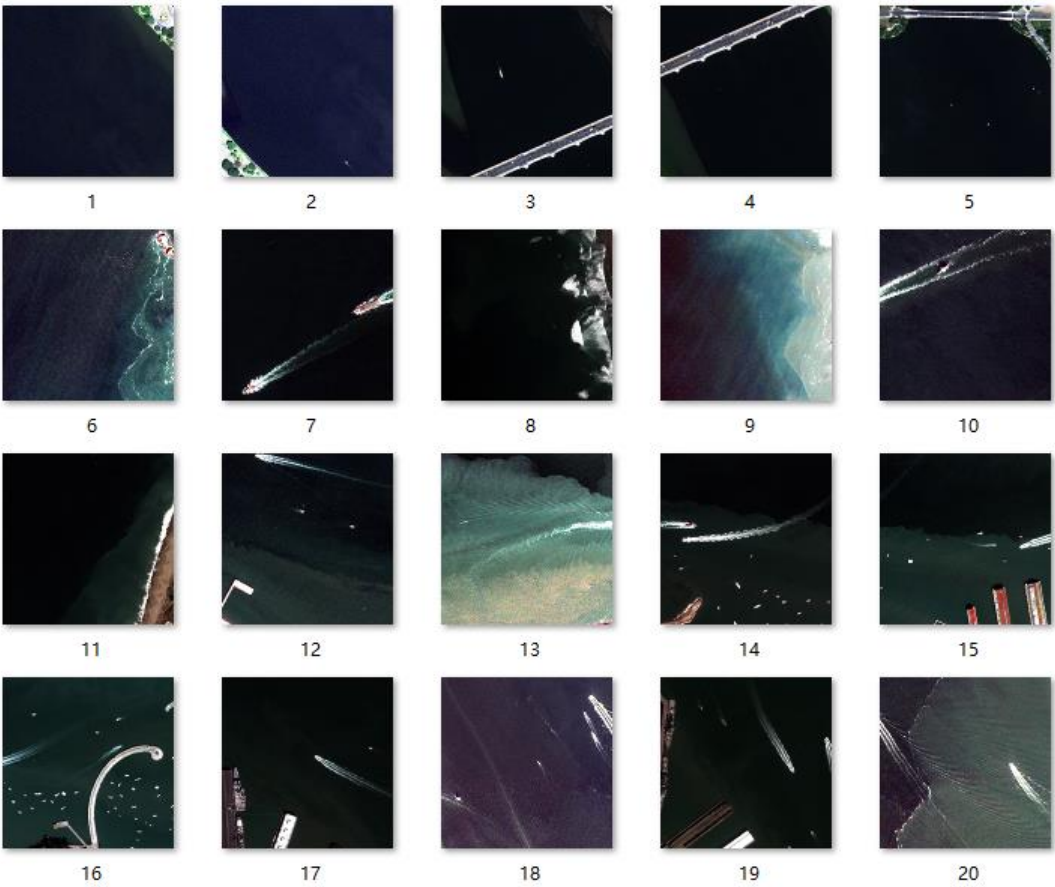


### 2) Green Vegetation





3) Water Scenario



4) Unlabelled

