



Satellite Dataset for land data assimilation (ALOS > PALSAR)

1. IDENTIFICATION INFORMATION

Name	Satellite Dataset for land data assimilation (ALOS > PALSAR)
Metadata Identifier	ALOS_PALSAR_ORTHO_Rivers20230727092607-en

2. CONTACT

2.1 CONTACT on DATASET

Name	JAXA DIAS representative
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2.2 CONTACT on PROJECT

3. DOCUMENT AUTHOR

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4. DATASET CREATOR

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5. DATE OF THIS DOCUMENT

2023-07-27

6. DATE OF DATASET

creation : 1997-03-31

7. DATASET OVERVIEW

7.1 Abstract

This data set is time series of radar images of major river basin in South East Asia, which are produced for land data assimilation. They were observed by PALSAR mounted on ALOS that was developed by JAXA. The data consists of orthorectified gamma-naught images with and without slope-correction and local incidence angle (θ local) images processed by Sigma-SAR.

The digital number (DN) of the image can be converted to the Normalized Radar Cross Section (gamma-naught, sigma-naught) using the following equation,

$$\text{Gamma-naught (dB)} = 10 \cdot \log_{10}(\text{DN}^2) - 83,$$

$$\text{Sigma-naught} = \text{Gamma-naught} \cdot \cos(\theta \text{ local}).$$

7.2 Topic Category(ISO19139)

inlandWaters

geoscientificInformation

7.3 Temporal Extent

Begin Date	2010-01-01
End Date	2011-05-12

7.4 Geographic Bounding Box

North latitude bound	34.5
West longitude bound	69
Eastbound longitude	121.5
South latitude bound	-8.4

7.5 Grid

7.6 Geographic Description

7.7 Keywords

7.7.1 Keywords on Dataset

Keyword Type	Keyword	Keyword thesaurus Name
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theme	Earth Observation Satellites > ALOS	GCMD_platform
theme	Disasters, Water	GEOSS

7.7.2 Keywords on Project

7.8 Online Resource

: <http://www.eorc.jaxa.jp/ALOS/en/about/palsar.htm>

7.9 Data Environmental Information

[Data format]: Geotiff [Filename rules]: Orthorectified image: yyyyymmdd_AAAA_BBDDDD_E_FFFFFFFF_GG.tif
 Orthorectified and slope-corrected image: yyyyymmdd_AAAA_BBDDDD_E_FFFFFFFF_sl_GG.tif Local incidence
 angle image: yyyyymmdd_AAAA_BBDDDD_E_FFFFFFFF_linci.tif yyyyymmdd: Observation date AAAA: Satellite
 name 'ALOS1':ALOS-1 'ALOS2':ALOS-2 BBB: Beam Mode 'FBD': Fine Beam Dual (ALOS-1) 'WBI': ScanSAR
 nominal mode (ALOS-1) 'WBD': Wide Beam Dual (ALOS-2) DDD: Off-nadir angle E : Ascending/Descending
 'A':Ascending orbit 'D':Descending orbit FFFFFFFF: RSP path number [Radiometric conversion]:
 Digital Number (DN) is converted to gamma-naught by the following equation. Gamma-naught (dB) =
 $10 \cdot \log_{10}(\text{DN}^2) - 83$.

7.10 Distribution Information

name	version	specification
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8. DATA PROCESSING

9. DATA REMARKS

10. DATA POLICY

10.1 Data Policy by the Data Provider

10.2 Data Policy by the Project

11. LICENSE

12. DATA SOURCE ACKNOWLEDGEMENT

12.1 Acknowledge the Data Provider

12.2 Acknowledge the Project

13. REFERENCES

M. Shimada, Ortho-Rectification and Slope Correction of SAR Data Using DEM and Its Accuracy Evaluation. IEEE J. Sel. Top. Appl. Earth Obs. Remote Sens. 3, 657-671 (2010).