A Big Earth Data Platform for Three Poles

**The Daily kernel-driven BRDF model coefficients retrieved from 5-days-composited multi-sensory data coupling topograpic effects over the Tibet Plateau (2016)**

1、Description

This daily land surface kernel-driven BRDF model's coeciffients proudct is with a spatl resolution of 0.02 ° x 0.02 ° over the Tibet Plateau in 2016. Multi-sensory data is used to retrieve the the kernel-driven BRDF model and coupled with topographic effects, and prior knowledge is introduced for quality control inversion. The high-precision BRDF of good spatial-temporal continiuty is retrieved by combining MODIS reflectance data (a polar orbiting satellite) and himawari-8 AHI land surface reflectance (a geostationary satellite ). MODIS lans surface reflectance data and AHI TOA reflectance data are downloaded from the official websites. After registration, atmospheric correction and other processing, the daily resolution BRDF is synthesized with a period of 5 days. Compared with similar products, it has more advantages in capturing rapidly changing surface features, and has better temporal and spatial continuity with the shortest composition period. It can effectively support angular effects correction and the BRDF-releated parameters' retrieval.

2、Keywords

Theme：BRDF parameters,Terrestrial Surface Remote Sensing  
Discipline：Terrestrial Surface  
Places：Tibet Plateau  
Time：DailyDaily,

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：78.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：80.0 | - | east：105.0 |
| - | south：25.0 | - |

5、Time frame:2015-12-31 16:00:00+00:00--2016-12-31 03:59:59+00:00

6、Reference method

References to data:

YOU Dongqin, YOU Dongqin, WEN Jianguang , TANG Yong, TANG Yong. The Daily kernel-driven BRDF model coefficients retrieved from 5-days-composited multi-sensory data coupling topograpic effects over the Tibet Plateau (2016). A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2711962021

References to articles:

Wen, J.G., Liu, Q., Xiao, Q., Liu, Q.H., You, D.Q., Hao, D.L., Wu, S.B., Lin, X.W. (2018). Characterizing Land Surface Anisotropic Reflectance over Rugged Terrain: A Review of Concepts and Recent Developments. Remote Sens.10, no.3. DOI: 10.3390/rs10030370.  
  
Wen, J.G., Dou, B.C., You, D.Q., Tang, Y., Xiao, Q., Liu, Q.H. (2017). Forward a Small-Time Scale BRDF/albedo by Multi-sensors Combined BRDF inversion (MCBI) model. IEEE Transaction of GeoScience and Remote Sensing, 22(5), 683-697.  
  
Wu, S.B., Wen\*, J.G., Gastellu-Etchegorry, J.P., Liu, Q.H., You, D.Q., Xiao, Q., Hao, D.L., Lin, X.W., Yin, T.G. (2019). The definition of remotely sensed reflectance quantities suitable for rugged terrain. Remote Sensing of Environment, 225, 403–415.

7、Supporting project information

2nd survey of Tibet plateau  
Development of Tibetan BRDF/Albedo retriveal algorithm coupling topographic effects and combining multi-sensory data in snow or snow-free cases repectively

8、Data resource provider

name: YOU Dongqin  
unit:   
email: youdq@aircas.ac.cn  
  
name: TANG Yong  
unit:   
email: tangyong@aircas.ac.cn  
  
name: WEN Jianguang   
unit: Aerospace Information Research Institute  
email: wenjg@aircas.ac.cn  
  
name: YOU Dongqin  
unit: Aerospace Information Research Institute, Chinese Academic of Sciences and University of Chinese Academic of Sciences  
email: youdq@aircas.ac.cn  
  
name: TANG Yong  
unit: Aerospace Information Research Institute, Chinese Academic of Sciences and University of Chinese Academic of Sciences  
email: tangyong@aircas.ac.cn  
  
name: TANG Yong  
unit: Aerospace Information Research Institute, Chinese Academic of Sciences and University of Chinese Academic of Sciences  
email: tangyong@aircas.ac.cn