A Big Earth Data Platform for Three Poles

**WATER: Dataset of forest structure parameter measurements for the fixed forest sampling plots in the Dayekou and Pailugou watershed foci experimental areas (2003-3007)**

1、Description

The fixed forest sample plot is located in the drainage ditch of Dayekou, Qilian Mountain, where the hydrological observation field of Gansu Water Conservation Forest Research Institute is located.   
From July 2003 to August 2003 and from July 2007 to August 2007, the tree survey of the sample plot was completed by technicians from Gansu Water Conservation Forest Research Institute and Institute of environment and Engineering in cold and dry areas of Chinese Academy of Sciences. A total of 17 fixed forest samples were observed, including the survey of sample plot factors and the survey of each tree. The observation factors of sample plots mainly include forest farm, longitude and latitude coordinates, slope direction, slope position, slope, soil thickness, canopy density of arbor layer, leaf area index, etc. The main instruments used in the measurement are tape, DBH, flower pole, tree measuring instrument, compass and fish eye camera. The measurement factors of each tree include DBH, height of tree, height under branch, crown width in cross slope direction, crown width along slope direction, growth status of single tree, etc.   
For details, please refer to the metadata of "Heihe River Integrated Remote Sensing joint test: fixed sample plot tree survey data set (2003)" and "Heihe River Integrated Remote Sensing joint test: fixed sample plot tree survey data set (2007)".   
The Lai in this data set is the supplementary measurement data during the joint remote sensing experiment of Heihe River in 2008. That is to say, the supplementary measurement of Lai has been done in these fixed plots. The supplementary observation time of Lai was from June 1 to 13, 2008. 15 of the 17 fixed plots were investigated. Four instruments were used to observe each plot. In addition to the commercial instruments such as hemiview fish eye camera, LAI-2000 and trac, these instruments also use the canopy analysis instrument made by Beijing Normal University. In each 20 m × 20 m plot, trac measures along two parallel routes perpendicular to the direction of sunlight incidence, which can basically represent the entire quadrat; hemiview fisheye camera and LAI-2000 measure the same points, that is, take three points on the trac line, plus the center point of the quadrat, a total of 7 measuring points.   
This set of data set can provide ground data for the study of remote sensing inversion method of forest structure parameters.

2、Keywords

Theme：Vegetation,Biomass,Forests  
Discipline：Terrestrial Surface  
Places：Heihe River Basin, Dayekou watershed foci experimental areas, Forest and Hydrology Experimental Areas,   
Time：2003-2007

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：231.1MB

4.Data format：

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.5765 | - |
| west：100.2158 | - | east：100.30698 |
| - | south：38.4382 | - |

5、Time frame:2003-07-12 00:00:00+00:00--2007-09-11 00:00:00+00:00

6、Reference method

References to data:

CHEN Erxue, ZOU Jie. WATER: Dataset of forest structure parameter measurements for the fixed forest sampling plots in the Dayekou and Pailugou watershed foci experimental areas (2003-3007). A Big Earth Data Platform for Three Poles, doi:10.3972/water973.0194.db2012

References to articles:

刘清旺. 机载激光雷达森林参数估测方法研究. 北京: 中国林业科学研究院, 2009.  
  
Fu, Z, Wang, J.D., Song, J.L., & Zhou, H.M. (2009). Comparison of three indirect field measuring methods for forest canopy leaf area index estimation. IGARSS 09.  
  
Tian, X., Li, Z.Y., van der Tol C, Su, Z., Li, X., He, Q.S., Bao, Y.F., Chen, E.X., & Li, L.H. (2011). Estimating zero-plane displacement height and aerodynamic roughness length using synthesis of LiDAR and SPOT-5 data. Remote Sensing of Environment, 115(9): 2330-2341. 10.1016/j.rse.2011.04.033.  
  
凌飞龙, 李增元, 陈尔学, 何祺胜. 青海云杉林叶面积指数半球摄影测量方法研究[J]. 地球科学进展, 2009(07): 803–809.

7、Supporting project information

The CAS (Chinese Academy of Sciences) Action Plan for West Development Project  
National Program on Key Basic Research Project (973 Program

8、Data resource provider

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