A Big Earth Data Platform for Three Poles

**Test and demonstration data set of automatic recording meter for tree diameter at breast height at field stations (2019-2020)**

1、Description

We develop a DBH recording meter that can automatically record DBH at high frequencies and high precision in the field by designing a high-precision displacement sensor and temperature compensation algorithm. With the developed software, tree growth dynamics can be evaluated online in real time through remote computers or smartphones。The data set is collected through field test and demonstration at Qilian mountain station in Gansu Province and Beijing forest station by using the DBH recording meter. The data table includes the control values measured manually and the measured values of VI (displacement), RI (tree perimeter) and CI (tree diameter) collected by different tree species at different stations. The development of this automatic DBH recording meter promote the automation, intelligent level and independent innovation of vegetation ecological monitoring in China. The dynamic changes of DBH of trees serve the national ecosystem monitoring network, the construction of national "two screens and three belts" ecological security barrier and the demand for large-scale, all-weather and three-dimensional monitoring of vulnerable ecological areas. It plays an important supporting role in promoting the construction of ecological civilization in China.

2、Keywords

Theme：Forest ecosystem,Vegetation,Net primary productivity,Forest,Vegetation investigation,Forest structure,Carbon budget,Vegetation structure
Discipline：Terrestrial Surface
Places：Qilian Mountain, Beijing
Time：2020, 2019

3、Data details

1.Scale：1

2.Projection：

3.Filesize：5.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：38.57 | - |
| west：100.29 | - | east：100.29 |
| - | south：38.57 | - |

5、Time frame:2019-08-14 16:00:00+00:00--2020-09-08 16:00:00+00:00

6、Reference method

References to data:

GAO Liyao, WU Dongxiu, ZHANG Lin. Test and demonstration data set of automatic recording meter for tree diameter at breast height at field stations (2019-2020). A Big Earth Data Platform for Three Poles, doi:10.11888/Ecolo.tpdc.2717782021

References to articles:

7、Supporting project information

The development of the devices for vegetation structure and plant growth monitoring

8、Data resource provider

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