A Big Earth Data Platform for Three Poles

**Framework of mechanistic model for predicting vulnerability of reptile (ectotherm) under climate change**

1、Description

This framework aims to explore the impact of climate change on the fitness of ectotherms. We obtain the morphology, physiology, behavior and life history parameters of the animals by consulting literature and experimental research; then use the microclimate model and global warming data to obtain microclimate data at the current and the end of the century; and then use the biophysical model to calculate adult body temperature and embryonic developmental temperature. We construct a life history mechanism model to calculate the energy budget of the reproductive female and the total energy of the surviving offspring, and assess the vulnerability of ectotherms in each region. The main point of this study is to construct a segmental life history mechanism model for species of two reproductive modes, so that the start time and duration of each life history can be dynamically calculated, and the energy of each life history stage can be calculated by combining energy metabolic and embryonic development models.

2、Keywords

Theme：Biological Resources,Reptiles  
Discipline：Human-nature Relationship  
Places：Southeast Tibet, Tibetan Plateau  
Time：2018

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：0.51MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：73.0 | - | east：105.0 |
| - | south：26.0 | - |

5、Time frame:2018-09-05 16:00:00+00:00--2019-07-07 16:00:00+00:00

6、Reference method

References to data:

ZENG Zhigao. Framework of mechanistic model for predicting vulnerability of reptile (ectotherm) under climate change. A Big Earth Data Platform for Three Poles, doi:10.11888/Ecolo.tpdc.2702702019

References to articles:

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

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