EGU2020-7305, updated on 30 Oct 2020
https://doi.org/10.5194/egusphere-egu2020-7305
EGU General Assembly 2020

Drought Events and Causes in North China in 2018

Jianying Feng, Yu Zhang, and Suping Wang
Institute of Arid Meteorologyl,CMA,Lanzhou, China (jianyingfeng@163.com)

In 2018, severe meteorological drought occurred in the southwest of Northeast China, the east-central of Inner Mongolia and the east of North China. Drought shows obvious regional and stage nature .In early March, mild to moderate drought appeared in North China, followed by severe drought in parts of northern and eastern of Hebe province. After the middle of April, the drought was alleviated obviously, and the drought in the southwest of Northeast China began to show signs. In early May, there was mild to moderate drought in the central and eastern part of Inner Mongolia, and the drought in Northeast China developed. From June to early August, severe drought and above occurred in parts of Liaoning province , Inner Mongolia and North China. In mid-August, in addition to Liaoning province and North China, there were scattered light to moderate drought, drought relief in the northern China. In early September, the drought in North China increased and the range spread northward, and there were droughts of different degrees in the whole North China.In winter, there is only mild drought in North China.

The drought in this region has affected the agricultural production in different degrees. Spring sowing is blocked in the east of Inner Mongolia and the west of Northeast China, and high temperature in summer leads to the development of drought, corn and rice and other crops are adversely affected.

From spring to autumn, the precipitation in most parts of the drought disaster area is less than 10-40%, and the temperature is higher than 1-2 □. The lack of precipitation and abnormal high temperature accelerated the loss of surface water, which resulted in the occurrence of drought in this area.

In spring of 2018, the middle and high latitudes are generally controlled by flat air flow, which is not conducive to the establishment of trough ridge, making the northern dry area lack of favorable precipitation conditions; in summer and autumn, the existence of Baikal Lake high-pressure ridge, resulting in circulation patterns that are not conducive to the precipitation conditions in the northern dry area. Among them, the obvious flat air flow in spring and the obvious high pressure ridge in summer are the main reasons for the outstanding drought in spring and summer in the northern arid area.