Author's response to reviews

Title: Mapping risk of plague in Qinghai-Tibetan Plateau, China

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Author's response to reviews: see over
Dear Editor,

We have revised our manuscript (MS: 4974195581263096), details as follows:

Referee 1:

Major compulsory revisions:
1. “Percent contribution” and “Permutation importance” of each variable were added in Table 1 and line 122.
2. For Qinghai-Tibetan Plateau of China, the MODIS product would be better presentation of the real land surface temperature than interpolated meteorological observation stations, see refer(WANG Zhixia, NAN Zhuotong, ZHAO Lin. The Applicability of MODIS Land Surface Temperature Products to Simulating the Permafrost Distribution over the Tibetan Plateau. Journal of Glaciology and Geocryology, 2011, 33(1)). Thus, we chose MODIS LST products 242 (MOD11A2) from 2004-2009 for prediction.
3. The environmental variable response was mainly related to the host habit, which described the ecological niche. The elevation range of host marmots are various, consistent with Qinghai-Tibetan Plateau. The risk increases up to an elevation of 3177 m and then declines as elevation increase, because in the lower height, forest and thickly grass would be harmful for marmot making doggishness, while in the higher height, there would be lack of food. The elevation range of host marmots are various, consistent with Qinghai-Tibetan Plateau. The marmot preferred temperature between 5°C and 20°C in the daylight. The extremely low temperature below -8.38°C would limit their activities.

Minor Essential Revisions
1. Figure 2 has been updated scale bar, compass and legend.
2. The reviewer questioned Line 205: “Maxent was suitable for this 1km resolution modeling which outputs the distribution probability of the host marmots”. We cannot tell whether the Maxent suitable for other resolution modeling or not without data test, so we already collected multi-source remote sensing data. We would test the model in finer resolution in the following study, which would be beneficial for monitoring.

Discretionary Revisions
1. We would test the maximum temperature in warmest month and the minimum temperature coldest month variables in the following study.
2. Fractional Vegetation Cover would be more representative than NDVI for describe the environment of grass and plants in the study area, but lack of the retrieval FVC data and reliable validation in such a large area.

Referee 2:

PD value of the environmental variables were tested in geographical detector, we intended to apply the model globally without spatially stratified.
Please don't hesitate to contact me if you have any problems or questions regarding my manuscript.
Thank very much.

With best wishes,
Jian ZHAO