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Report of Monitoring and Assessment of Desert Locust in Africa and Asia

Early April 2021

Desert Locust monitoring and loss assessment in Somalia

Overview

Integrated with multi-source Earth Observation data, e.g. meteorological data, field data, and remote sensing data (such as GF series in China, MODIS and Landsat series in US, Sentinel series in EU), and self-developed models and algorithms for Desert Locust monitoring and forecasting, the research team constructed the 'Vegetation pests and diseases monitoring and forecasting system', which could regularly release thematical maps and reports on Desert Locust.

This report focuses on the updates of Desert Locust monitoring and loss assessment in Somalia from December 2020 to March 2021. The results showed that from December 2020 to March 2021, Desert Locusts in Somalia were mainly distributed in the north and south. Compared with November 2020, the newly damaged vegetation area was 1331.3 thousand hectares, including 16.3 thousand hectares of cropland, 307.8 thousand hectares of grassland, and 1007.2 thousand hectares of

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shrub. Affected by ground control operations and poor rainfall in spring, the number of locusts in Somalia is expected to decrease significantly in April. From April to May, it is an important planting season for crops in Somalia. It is still necessary to pay constant attention to the dynamics of the Desert Locust disaster in Somalia to prevent greater losses to its agricultural and pasture production. The specific research results are as follows.

Monitoring and assessment of Desert Locust in Somalia

In early December 2020, with the heavy rainfall brought by tropical cyclone Gati, local locusts in Somalia continued to multiply and lay eggs in the northern coastal areas, resulting in increasing number of locusts; in mid-to-late

December 2020, locusts in northern Somalia continued to multiply and spread south along the Dava River on the Ethiopian border to northeastern Kenya. Locusts were distributed in northern, central, and southern Somalia. The monitoring results show that in last December, Desert Locusts in Somalia harmed about 628.4 thousand hectares of vegetation area, with an increase of 552.8 thousand hectares (including 10.9 thousand hectares of cropland, 196.3 thousand hectares of grassland, and 345.6 thousand hectares of shrub) (Figure 1). In January 2021, local locusts in Somalia continued to reproduce and lay eggs, leading to a further increase in the number of locusts. At the same time, the central locust swarms spread along the Shabelle River to northern Kenya. Subsequently, with large-scale ground control operations, the number of locusts gradually decreased. The monitoring results show that in January, Desert Locusts in Somalia harmed about 643.8 thousand hectares of vegetation area, with an increase of 327.7 thousand hectares (including 3.8 thousand hectares of cropland, 46.2 thousand hectares of grassland, and 277.7 thousand hectares of shrub) (Figure 2). In early and mid-February 2021, locusts in northeastern Somalia spread westward, and locust swarms on the northwest coast spread to eastern Ethiopia, and continued to lay eggs and reproduce. Due to ground control operations, the number of locusts decreased significantly; in late February 2021, the northern locust swarms continued to spread westward, while some locusts spread to central Somalia. The monitoring results show that in February, Desert Locusts in Somalia harmed about 547.3 thousand hectares of vegetation area, with an increase of 293.4

thousand hectares (including 1.5 thousand hectares of cropland, 31.5 thousand hectares of grassland, and 260.4 thousand hectares of shrub) (Figure 3). In March 2021, thanks to sound ground control operations, the number of locusts in central and southern Somalia further decreased. The northern locusts continued to lay eggs and reproduce and mature. At the same time, they continued to spread along the northern plateau to the eastern Somali of Ethiopia. The monitoring results show that in March, Desert Locusts in Somalia harmed about 506.0 thousand hectares of vegetation area, with an increase of 157.4 thousand hectares (including 0.1 thousand hectares of cropland, 33.8 thousand hectares of grassland, and 123.5 thousand hectares of shrub) (Figure 4).

The research result shows that, compared with November 2020, from December 2020 to March 2021, Desert Locusts in Somalia newly harmed about a total of 1331.3 thousand hectares of vegetation area, including 16.3 thousand hectares of cropland, 307.8 thousand hectares of grassland, and 1007.2 thousand hectares of shrub, accounting for 16.8%, 7.9% and 2.3% of the total cropland, grassland, and shrub in Somalia, respectively. The affected areas were mainly located in the north and south of Somalia. Among them, Gedo suffered most, with affected area of 265.4 thousand hectares, followed by Shabeellaha dhexe, 238.5 thousand hectares, Togdheer, Woqooyi galbeed in the northwest, Jubbada dhexe and Bay in the south with affected areas of 152.4, 135.5, 130.4, 109.9 thousand hectares respectively. The affected areas of Shabeellaha hoose in the south were 68.9 thousand hectares, Sool in the north were 49.2

thousand hectares, Awdal in the northwest 44.3 thousand hectares, Bakool in the south 32.1 thousand hectares, Sanaag in the north 29.5 thousand hectares, and Hiiraan in the central 21.9 thousand hectares. The affected areas in Mudug, Jubbada hoose, Galguduud, Nugaal, and Bari were 18.0, 14.7, 12.2, 4.8, 3.6 thousand hectares respectively.

Comprehensive analysis shows that in early April 2021, with continuous ground control operations, the scale and number of Desert Locust swarms in Somalia have been significantly reduced compared to the same

period last year. Forecasts show that the spring rainfall in Somalia will decrease in April, the environment will be drier, the reproduction of locusts will be further restricted, and the number of locusts will continue to decrease. From April to May, it is the important planting season of food crops in Somalia. It is still necessary to pay constant attention to the dynamics of the Desert Locust disasters and carry out timely ground investigations and control actions to prevent the Desert Locusts from causing damage to agricultural production and food security in Somalia repeatedly.

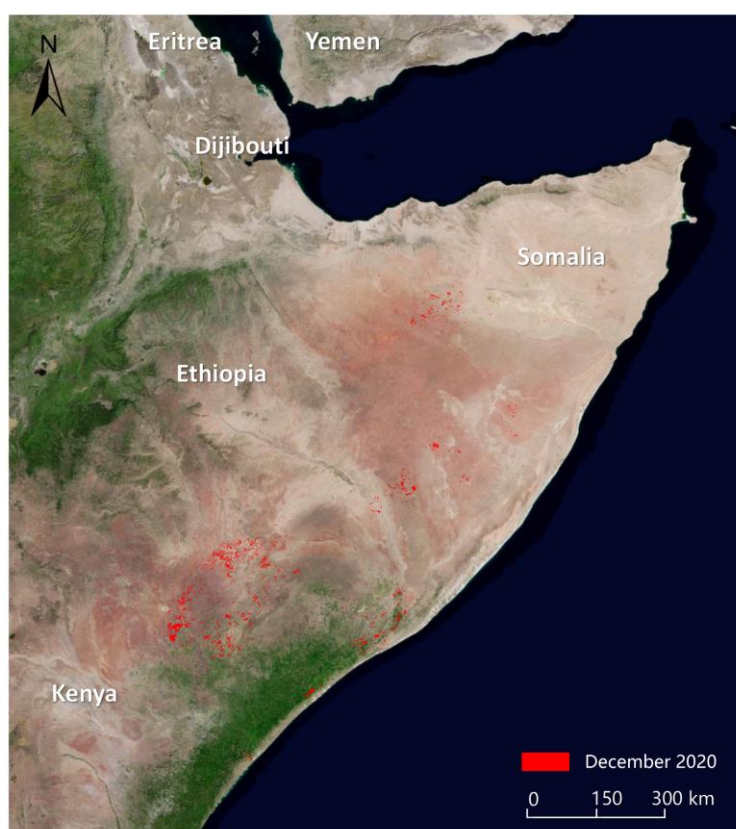


Figure 1 Monitoring of Desert Locust damage in Somalia (December 2020)

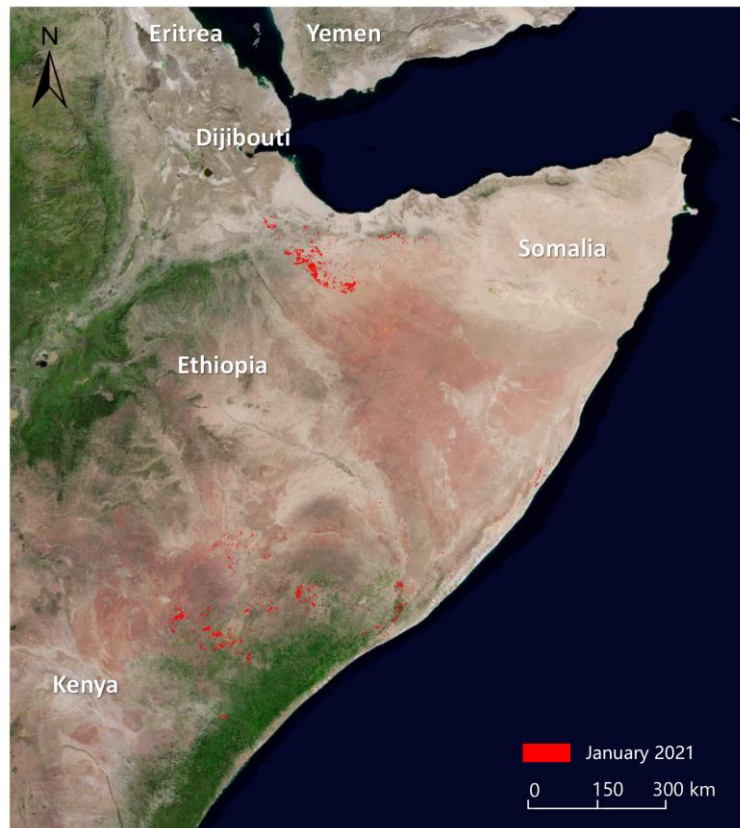


Figure 2 Monitoring of Desert Locust damage in Somalia (January 2021)

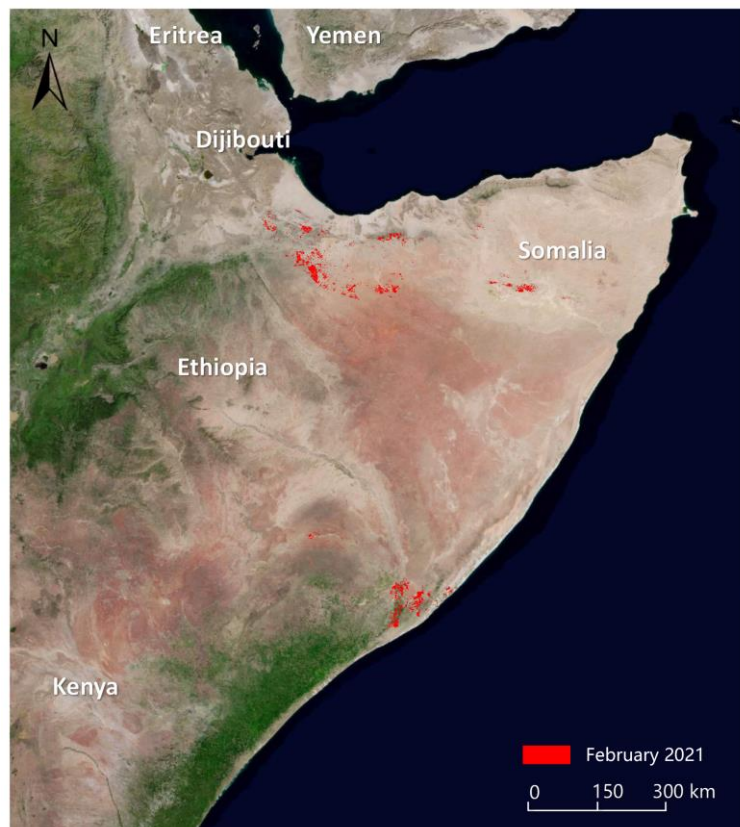


Figure 3 Monitoring of Desert Locust damage in Somalia (February 2021)

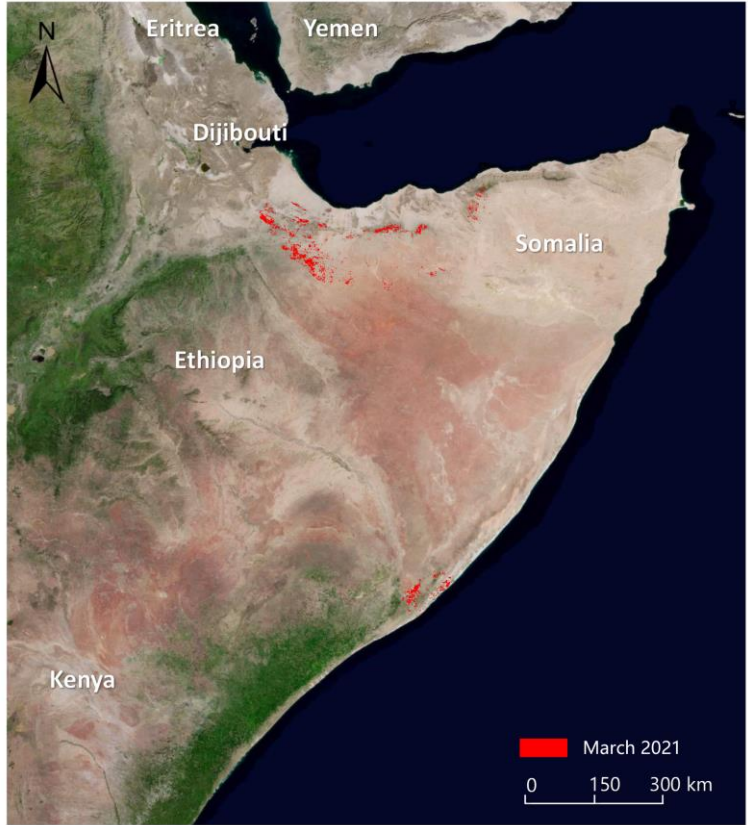


Figure 4 Monitoring of Desert Locust damage in Somalia (March 2021)

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The Vegetation Pests and Diseases Monitoring and
Forecasting system are available under:

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Mission statements: As the science and knowledge service, the Sino-UK Crop Pest and Disease Forecasting & Management Joint Laboratory is to support independent evidence for crop monitoring.

Supported by the Strategic Priority Research Program of the Chinese Academy of Sciences (XDA19080304), National Key R&D Program of China (2017YFE0122400, 2016YFB0501501), National Natural Science Foundation of China (61661136004, 41801338, 41801352, 41871339), Beijing Nova Program of Science and Technology

(Z191100001119089), National special support program for high-level personnel recruitment (Wenjiang Huang), and Youth Innovation Promotion Association CAS (2017085).

Citation

Report of Monitoring and Assessment of Desert Locust in Africa and Asia, (2021). Desert Locust monitoring and loss assessment in Somalia. Desert Locust monitoring and loss assessment in Kenya. Beijing, China: RSCROP. DOI: 10.12237/casearth.60a39832819aec05c2d3ec48.

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