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

Mid May 2021

Desert Locust monitoring and loss assessment in Ethiopia

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 Ethiopia from February to April 2021. The results showed that from February to April 2021, desert locusts in Ethiopia were mainly distributed in the central and southern regions. Compared with January 2021, the newly damaged vegetation area was 1385.9 thousand hectares, including 244.4 thousand hectares of cropland, 295.3 thousand hectares of grassland, and 846.2 thousand hectares of

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shrub. From May to July, affected by rainfall, locusts in Ethiopia will continue to lay eggs, hatch and mature. The locusts in the north will spread northwestward to the coast of the Red Sea, and the locusts in the south will spread southward to northern Kenya. The number of locusts in Ethiopia is expected to increase further. The next three months are important planting seasons for crops in Ethiopia. It is still necessary to pay continuous attention to the dynamics of the desert locusts in Ethiopia to prevent repeated losses to its agricultural and pasture production. The specific research results are as follows.

Monitoring and assessment of Desert Locust in Ethiopia

In early February 2021, due to ground control actions, the number of locusts in Ethiopia decreased significantly; in mid-to-late February 2021, locust swarms in northwestern Somalia spread to Somali, eastern Ethiopia. At the same time, affected by the rainfall, locust swarms in the south continued to lay eggs, hatch and mature, further increasing the number of locusts. The monitoring results show that in February, desert locusts in Ethiopia harmed about 902.9 thousand hectares of vegetation area, with an increase of 503.3 thousand hectares (including 88.3 thousand hectares of cropland, 155.9 thousand hectares of grassland, and 259.1 thousand hectares of shrub) (Fig. 1). In March 2021, locust swarms in northwest Somalia continued to spread to eastern Ethiopia, but due to good ground control operations, the number of locusts in Ethiopia decreased significantly. The monitoring results show that in March, desert locusts in Ethiopia harmed about 744.2 thousand hectares of vegetation area, with an increase of 588.4 thousand hectares (including 99.7 thousand hectares of cropland, 132.8 thousand hectares of grassland, and 355.9 thousand hectares of shrub) (Fig. 2). In early April 2021, due to continuous ground control actions, the number of locusts in Ethiopia decreased significantly compared to the same period of last year. In mid-to-late April, affected by the rainfall, Ethiopian locusts continued to lay eggs, hatch and mature. The locust swarms were mainly located in the central and northeastern Oromiya. The monitoring results show that in April, desert locusts in Ethiopia

harmed about 547.5 thousand hectares of vegetation area, with an increase of 294.2 thousand hectares (including 56.4 thousand hectares of cropland, 6.6 thousand hectares of grassland, and 231.2 thousand hectares of shrub) (Fig. 3).

The result of research shows that, compared with January 2021, from February to April 2021, desert locusts in Ethiopia newly harmed about a total of 1385.9 thousand hectares of vegetation area, including 244.4 thousand hectares of cropland, 295.3 thousand hectares of grassland, and 846.2 thousand hectares of shrub, accounting for 1.0%, 1.7% and 1.2% of the total cropland, grassland, and shrub in Ethiopia, respectively. The affected areas were mainly located in the central and southern Ethiopia. Among them, Oromiya is worst affected with an area of 1175.7 thousand hectares, then SNNPR with an affected area of 205.1 thousand hectares, Somali with an affected area of 5.1 thousand hectares.

Comprehensive analysis shows that, from May to July 2021, affected by rainfall, Ethiopian locust swarms will continue to mature and lay eggs. At the same time, the northern locust swarms will continue to spread to the coast of the Red Sea, the southern locust swarms will spread southward to Kenya, and the locust swarms in northwestern Somalia will continue to migrate to eastern Ethiopia. The number of locust swarms in Ethiopia is expected to increase further. The next three months are important planting seasons for crops in Ethiopia. It is still necessary to pay continuous attention to the dynamics of the desert locusts and carry out timely ground investigations and control actions to prevent the desert locusts

from repeatedly causing damage to Ethiopia's agricultural production and food security.

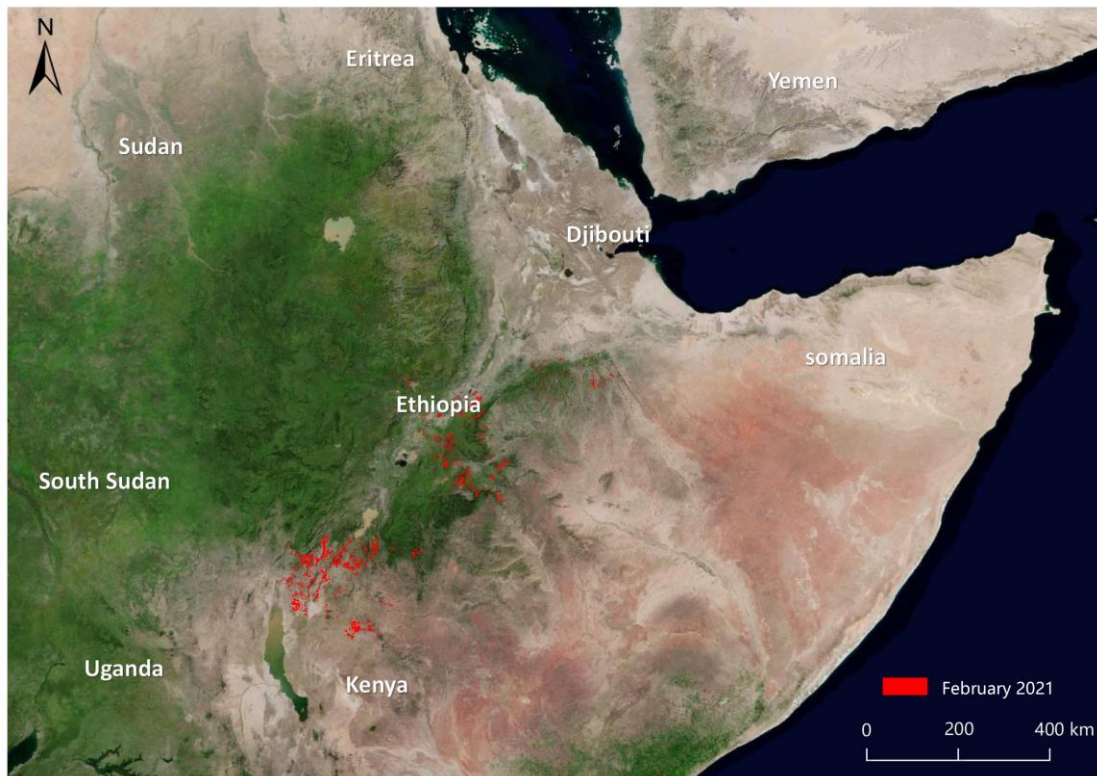


Figure 1 Monitoring of desert locust damage in Ethiopia (February 2021)

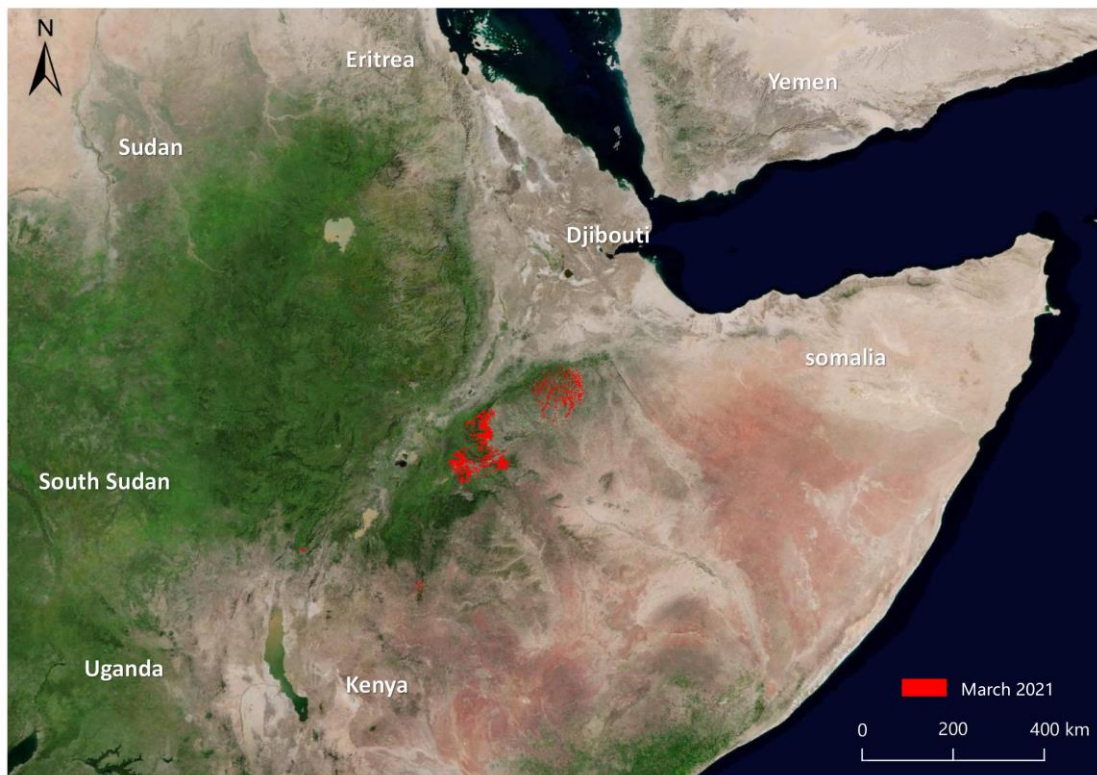


Figure 2 Monitoring of desert locust damage in Ethiopia (March 2021)

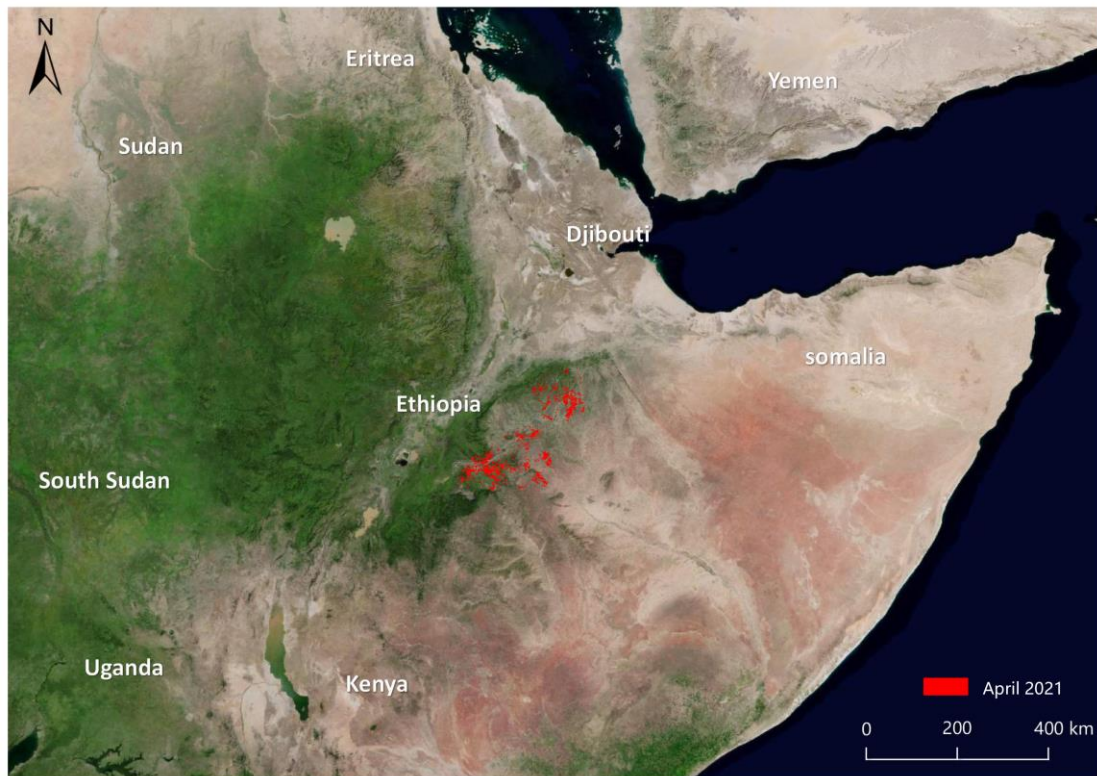


Figure 3 Monitoring of desert locust damage in Ethiopia (April 2021)

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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.

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