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

*Mid August 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 May to July 2021. The results showed that from May to July 2021, desert locusts in Ethiopia are mainly distributed in the east and north. Compared with April, the newly damaged vegetation was 1453.1 thousand hectares, including 168.4 thousand hectares of cropland, 124.7 thousand hectares of grassland and 1160.0 thousand hectares of shrub. From August to October 2021, the

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locusts in northwestern Somalia and northeastern Ethiopia will spread westward to Alpha State for summer breeding. At the same time, affected by rainfall, the locusts in Alpha State will continue to lay eggs, hatch and mature. The number of locusts in Ethiopia is expected to increase. The next three months will be an important growing and harvesting season for Ethiopia. It is still necessary to pay close attention to the dynamics of desert locust in Ethiopia to prevent losses to agricultural and pasture production. The research results are as follows.

## Desert Locust Monitoring and Loss Assessment in Ethiopia

In May 2021, affected by the rainfall, the locust swarms in eastern Ethiopia continued to lay eggs, reproduce and mature, resulting in an increase in the number of locust swarms in the east. The monitoring results showed that in May, desert locusts in Ethiopia harmed about 641.5 thousand hectares of vegetation area, with an increase of 492.5 thousand hectares (including 43.3 thousand hectares of cropland, 43.4 thousand hectares of grassland, and 40.58 thousand hectares of shrub) (Figure 1). In early and mid-June, locust swarms in northwestern Somalia spread to eastern Ethiopia. At the same time, affected by rainfall, eastern locusts continued to lay eggs, reproduce and mature; in late June, eastern locusts spread westward to Alpha State. The monitoring results showed that in June, desert locusts in Ethiopia harmed about 793.8 thousand hectares of vegetation area, with an increase of 547.9 thousand hectares (including 57.3 thousand hectares of cropland, 45.2 thousand hectares of grassland, and 445.4 thousand hectares of shrub) (Figure 2). In early July 2020, the native locust swarms in Ethiopia continued to lay eggs, reproduce and mature, leading to a further increase in the number of locusts, and the eastern locust swarms continued to spread to Alpha State; in late July, affected by rainfall, the locust swarms in Alpha State continued to lay eggs, reproduce and mature, also leading to a further increase in the number of locusts. The monitoring results showed that in July, desert locusts in Ethiopia harmed about 850.3 thousand hectares of

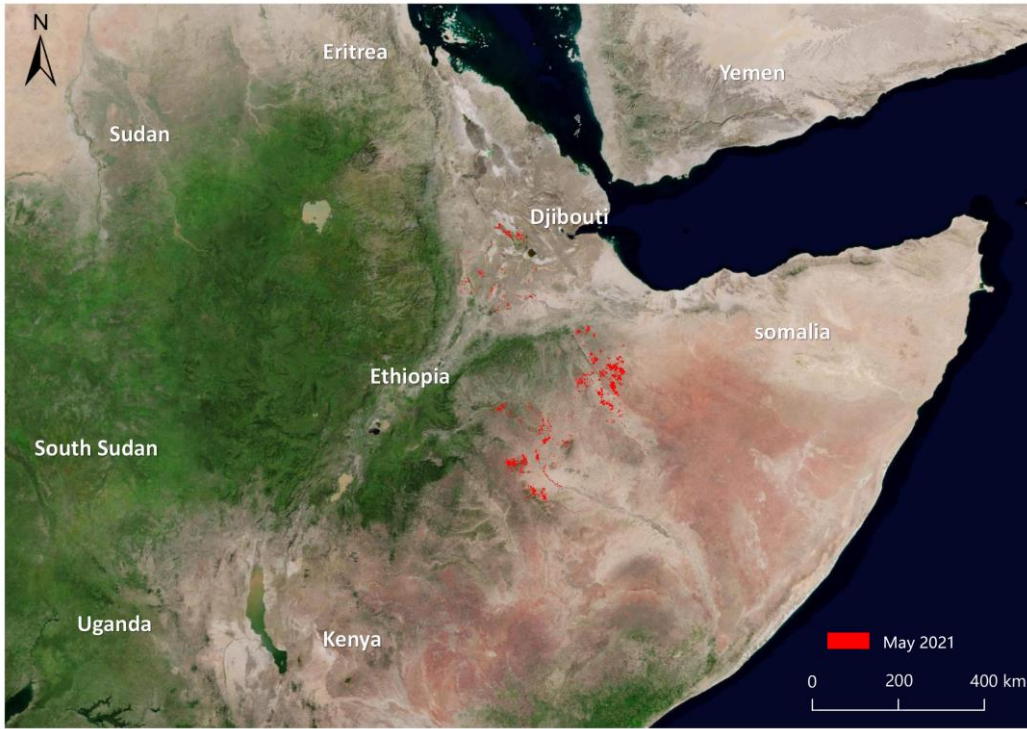
vegetation area, with an increase of 412.7 thousand hectares (including 67.8 thousand hectares of cropland, 36.1 thousand hectares of grassland, and 308.8 thousand hectares of shrub) (Figure 3).

The research results show that, compared with April 2021, desert locusts in Ethiopia newly harmed about a total of 1453.1 thousand hectares of vegetation area from May to July, including 168.4 thousand hectares of cropland, 124.7 thousand hectares of grassland, and 1160.0 thousand hectares of shrub, accounting for 0.7%, 0.7% and 1.6% of the total cropland, grassland, and shrub in Ethiopia, respectively. The affected areas were mainly located in the north and east of Ethiopia. Among them, Somali in the northeast was the worst affected area (with an affected area of 836.7 thousand hectares), followed by Amhara in the north (with an affected area of 299.2 thousand hectares), then Oromiya in the east and Afar in the north (with the affected areas of 240.7 and 76.5 thousand hectares, respectively).

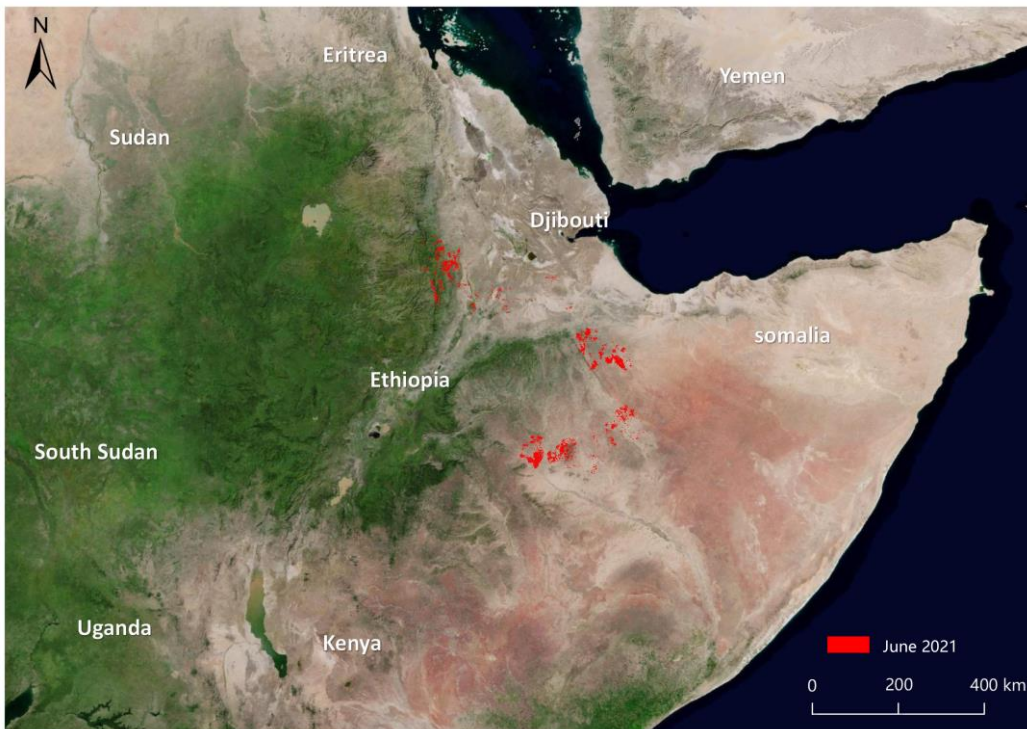
Comprehensive analysis shows that from August to October 2021, as ground control operations continue, the size and number of desert locust swarms in Ethiopia have significantly decreased compared to the same period of last year. Forecasts show that locusts in northwestern Somalia and northeastern Ethiopia will continue to spread to Alpha State. At the same time, affected by rainfall, Alpha State locust swarms will continue to mature and reproduce and lay eggs. The number of locusts is expected to increase further. The next three months will coincide with the important growing and harvesting seasons for food crops in Ethiopia and it is still necessary to pay close attention to the situation of desert

locust in Ethiopia. If not properly controlled, locusts will bring a major threat to agricultural and pasture production. Ground surveys and

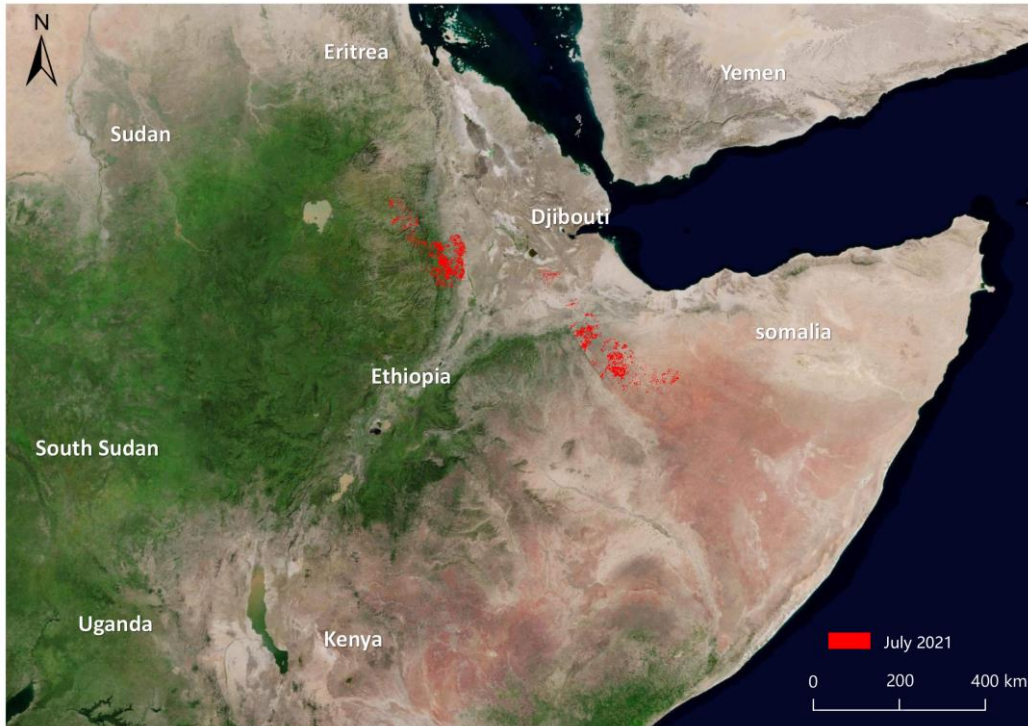
control actions are required to safeguard the agricultural and pasture production.



*Figure 1 Monitoring of Desert Locust damage in Ethiopia (May 2021)*



*Figure 2 Monitoring of Desert Locust damage in Ethiopia (June 2021)*



**Figure3** Monitoring of Desert Locust damage in Ethiopia (July 2021)

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The Vegetation Pests and Diseases Monitoring and  
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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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