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

Mid September 2021

Desert Locust Monitoring and Loss Assessment in Somalia and 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 Somalia and Ethiopia from July to August 2021. The results showed that from July to August 2021, desert locusts in Somalia were mainly distributed in the northwest and northeast. Compared with June 2021, the newly damaged vegetation area was 325.8 thousand hectares, including 0.1 thousand hectares of cropland, 18.5 thousand hectares of grassland, and 307.2 thousand hectares of

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the shrub. In August 2021, desert locusts in Ethiopia were mainly distributed in the northeast. Compared with July 2021, the newly damaged vegetation area was 494.7 thousand hectares, including 53.1 thousand hectares of cropland, 49.9 thousand hectares of grassland, and 391.7 thousand hectares of the shrub. From September to October, the locusts in northeastern Ethiopia will spread westward to Tigray and Amhara regions for reproduction and spread north to northwestern Somalia. At the same time, affected by rainfall, locusts in Somalia and Ethiopia will continue to lay eggs, hatch and mature. It is expected that the number of locusts in the two countries will further increase. The next three months are

important planting seasons and harvest seasons for crops in Somalia and Ethiopia. It is still necessary to pay continuous attention to the dynamics of the desert locust disaster in Somalia and Ethiopia to prevent repeated losses to its agricultural and pasture production. The specific research results are as follows:

Desert Locust Monitoring and Loss Assessment in Somalia

In July 2021, affected by ground control operations, the number of locusts in Somalia continued to decrease. The monitoring results show that in July, desert locusts in Somalia harmed about 509.5 thousand hectares of vegetation area, with an increase of 135.9 thousand hectares (including 6.3 thousand hectares of grassland, and 129.6 thousand hectares of shrub) (Figure 1). In early August, affected by ground control operations, the number of locusts in Somalia further decreased; In mid-to-late August, the locust swarms in northwestern Somalia spread to the northeast. With the laying and reproduction of locusts, the number of locust swarms in the northeast increased. The monitoring results show that in August, desert locusts in Somalia harmed about 622.7 thousand hectares of vegetation area, with an increase of 189.9 thousand hectares (including 0.1 thousand hectares of cropland, 12.2 thousand hectares of grassland, and 177.6 thousand hectares of shrub) (Figure 2).

The research results show that, compared with June 2021, from July to August 2021, desert locusts in Somalia newly harmed about a total of 325.8 thousand hectares of

vegetation area, including 0.1 thousand hectares of cropland, 18.5 thousand hectares of grassland, and 307.2 thousand hectares of shrub, accounting for 0.1%, 0.5% and 0.7% of the total cropland, grassland, and shrub in Somalia, respectively. The affected areas were mainly located in the northwest and northeast of Somalia. Among them, Bari in the northeast was the largest affected area (with affected area of 111.7 thousand hectares), then Togdheer in the northwest (with affected area of 103.9 thousand hectares) and Sanaag in the north (with affected area of 64.6 thousand hectares). The affected areas in Sool, Woqooyi galbeed and Awdal in the northwest were 20.7, 20.1, and 4.8 thousand hectares respectively.

Comprehensive analysis shows that from September to October 2021, as ground control continues, the number of desert locust swarms in Somalia will be significantly reduced compared to the same period last year. The forecast results show that locust swarms in northeastern Ethiopia and southern Yemen will spread to northwestern Somalia. At the same time, affected by rainfall, locust swarms in northern Somalia will continue to mature and reproduce and lay eggs. The number of locusts is expected to increase further. The next two months are important planting seasons and harvest seasons for crops in Somalia. It is still necessary to continue to pay attention to the dynamics of the desert locust disaster and carry out timely ground investigations and control actions to prevent the desert locusts from repeatedly causing damage to Somalia's agricultural production and food security.

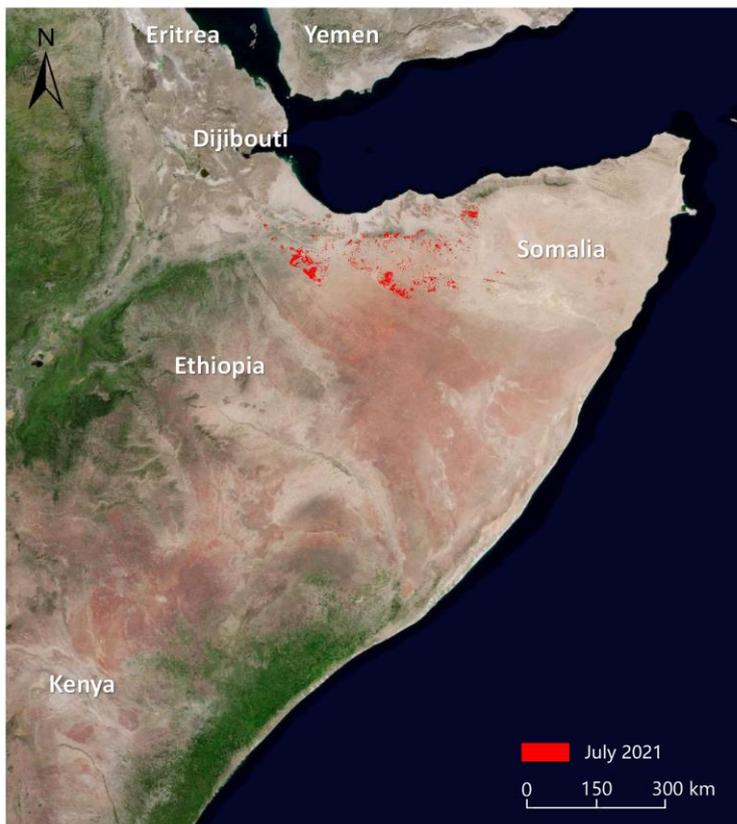


Figure 1 Monitoring of desert locust damage in Somalia (July 2021)

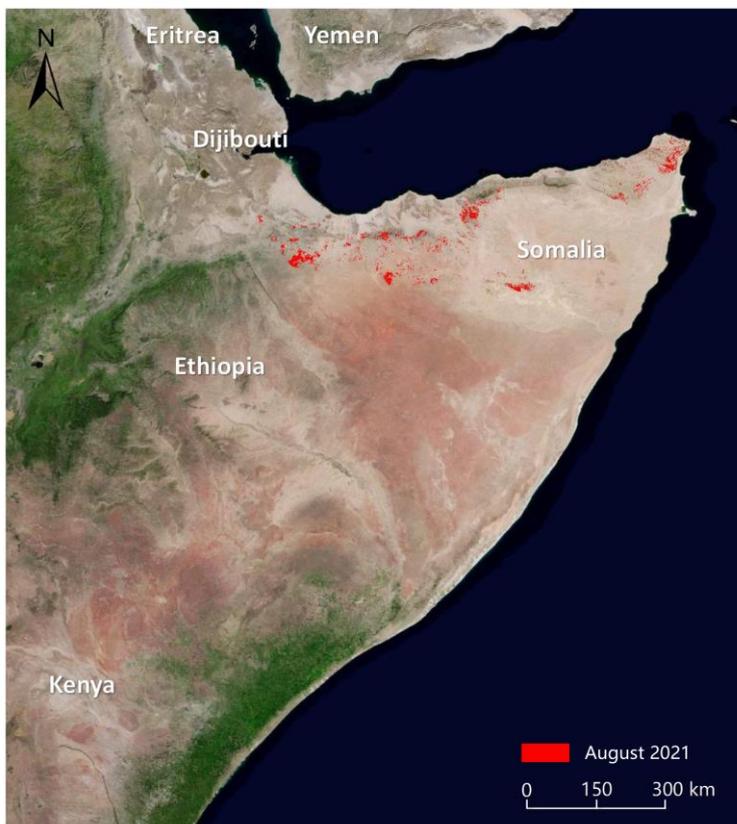


Figure 2 Monitoring of desert locust damage in Somalia (August 2021)

Desert Locust Monitoring and Loss Assessment in Ethiopia

In August 2021, affected by rainfall, locusts in northern Ethiopia continued to lay eggs, reproduce, and mature, resulting in an increase in the number of locust swarms. The monitoring results show that in August, desert locust in Ethiopia harmed about 960.9 thousand hectares of vegetation area (Figure 3).

The research results show that, compared with July 2021, desert locust in Ethiopia newly harmed about a total of 494.7 thousand hectares of vegetation area in August 2021, including 53.1 thousand hectares of cropland, 49.9 thousand hectares of grassland, and 391.7 thousand hectares of shrub, accounting for 0.2%, 0.3% and 0.5% of the total cropland, grassland, and shrub in Ethiopia, respectively. The affected areas were mainly located in the northern part of Ethiopia. Among them, Oromiya in the northeast was the largest affected area (with affected area of 340.3 thousand hectares), then Somali in the north

(with affected area of 130.0 thousand hectares) and Afar in the northwest (with affected area of 24.4 thousand hectares).

Comprehensive analysis shows that from September to October 2021, as ground control continues, the number of desert locust swarms in Ethiopia will be significantly reduced compared to the same period last year. The forecast results show that the locusts in the Alpha region of Ethiopia will continue to lay eggs, reproduce, and mature. It is expected that the number of locusts will further increase, while spreading eastward to northwestern Somalia, and westward from Tigray and Amhara states to Eritrea for winter breeding. The next three months are important planting seasons and harvest seasons for crops in Ethiopia. It is still necessary to continue to pay attention to the dynamics of the desert locust disaster 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.

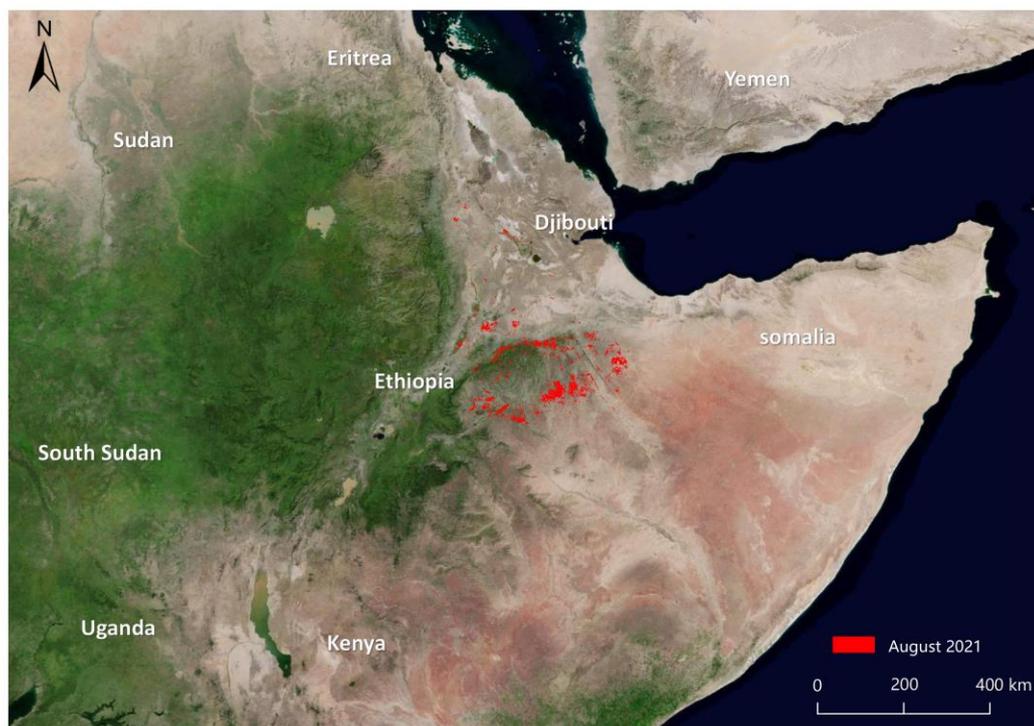


Figure 3 Monitoring of desert locust damage in Ethiopia (August 2021)

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The [Vegetation Pests and Diseases Monitoring and Forecasting system](#) are available under:
<http://www.rscropmap.com/>

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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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