Report of Monitoring, Early Warning and Assessment of Desert Locust

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Desert Locust Monitoring and Loss Assessment in Egypt, Eritrea and Yemen (August 2025)

Integrated with multi-source Earth Observation data, e.g. meteorological data, field data, and remote sensing data (such as MODIS in the US, etc), 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.

The remote sensing monitoring results showed that, in August 2025, desert locusts were primarily distributed in the central Nubian Desert and the southern Toshka irrigation area of Egypt, the western lowland corridor of Eritrea, and the western Red Sea coastal provinces of Yemen, affecting 15.7, 13.9, and 17.2 thousand hectares of vegetation, respectively. Over the next two months, most parts of Egypt are expected to remain dry with little rainfall, leading to continued population decline and southward migration toward Sudan, with only scattered activity in irrigated oases. In Eritrea, localized greening in the western lowlands will support small-scale breeding and short-distance spread; occasional small numbers of adults may enter from eastern Sudan but overall density will remain low and ease by October. In Yemen, low-level activity will persist along the Red Sea coast and adjacent inland valleys, with short-range to-and-fro coastal movements; overall risk remains low. As this period coincides with the major harvest season for food crops in Egypt and Yemen, and the main growing season for food crops in Eritrea, continued monitoring is essential to prevent recurrent losses in agricultural and pastoral production. The specific results are as follows:

■ 1. Desert Locust Monitoring and Loss Assessment in Egypt

In August 2025, most parts of Egypt received little rainfall and the continued southward movement toward Sudan's summer breeding areas resulted in a further reduction in locust numbers within Egypt. Activity was mainly confined to the central Nubian Desert and the southern Toshka irrigation area and remained scattered at low density overall. Monitoring results showed that, in August, desert locusts affected 15.7 thousand hectares of vegetation in Egypt, including 4.4 thousand hectares of cropland, 8.2 thousand hectares of grassland, and 3.1 thousand hectares of shrubland (Figure 1), accounting for 0.12%, 0.60%, and 0.38% of the country's total cropland, grassland, and shrubland areas, respectively. New Valley Governorate recorded the most extensive damage, with 9.5 thousand hectares of affected vegetation, followed by Aswan with 2.8 thousand hectares; Suhaj and Qina were also affected, with 2.2 and 1.2 thousand hectares, respectively.

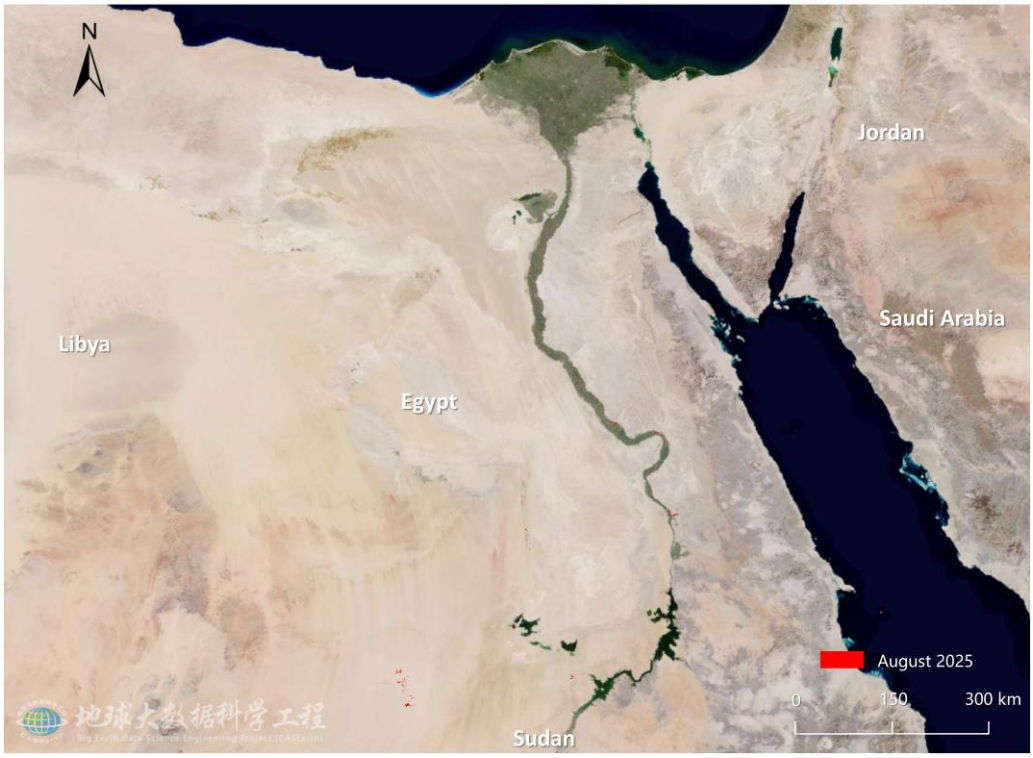

Fig. 1 Monitoring of Desert Locust damage in Egypt (August 2025)

■ 2. Desert Locust Monitoring and Loss Assessment in Eritrea

In August 2025, increased rainfall and greening in the western lowland corridor created favorable conditions for oviposition and reproduction; in addition, small numbers of adults entered from the eastern fringe of Sudan, causing a slight rise in numbers. Monitoring results showed that, in August, desert locusts affected 13.9 thousand hectares of vegetation in Eritrea, including 3.8 thousand hectares of cropland, 5.5 thousand hectares of grassland, and 4.6 thousand hectares of shrubland (Figure 2), accounting for 0.87%, 0.11%, and 0.35% of the country's total cropland, grassland, and shrubland areas, respectively. Gash-Barka recorded the most extensive damage, with 7.5 thousand hectares of affected vegetation, followed by Anseba with 4.9 thousand hectares; Semien Keih Bahri was also affected, with

1.5 thousand hectares.

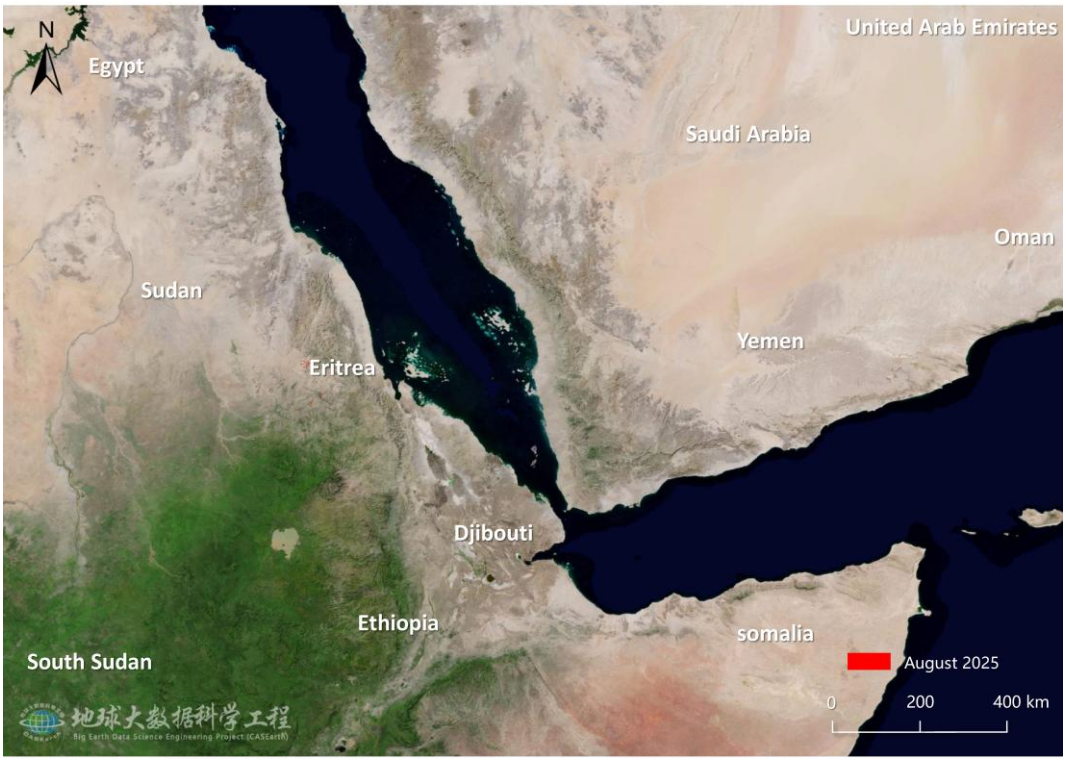

Fig. 2 Monitoring of Desert Locust damage in Eritrea (August 2025)

■ 3. Desert Locust Monitoring and Loss Assessment in Yemen

In August 2025, desert locusts were mainly distributed across the western Red Sea coastal provinces of Yemen, where comparatively abundant rainfall and improved vegetation supported reproduction. Monitoring results showed that, in August, desert locusts affected 17.2 thousand hectares of vegetation in Yemen, including 5.0 thousand hectares of cropland, 5.7 thousand hectares of grassland, and 6.5 thousand hectares of shrubland (Figure 3), accounting for 1.01%, 0.14%, and 0.12% of the country's total cropland, grassland, and shrubland areas, respectively. Hajjah recorded the most extensive damage, with 6.0 thousand hectares of affected vegetation, followed by Hudaydah with 5.6 thousand hectares; Ta'izz and Raimah were also affected, with 4.1 and 1.5 thousand hectares, respectively.

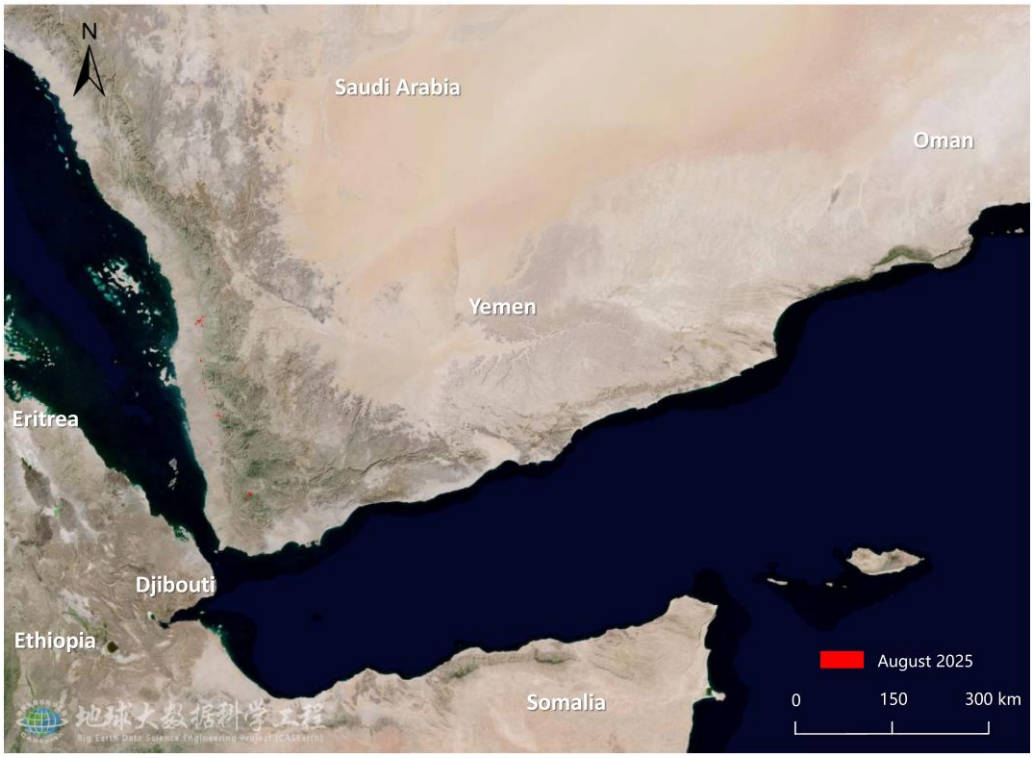

Fig. 3 Monitoring of Desert Locust damage in Yemen (August 2025)

The analysis indicates that, over the next two months, most parts of Egypt are expected to remain dry with little rainfall, leading to continued population decline and southward migration toward Sudan, with only scattered activity in irrigated oases. In Eritrea, localized greening in the western lowlands will support small-scale breeding and short-distance spread; occasional small numbers of adults may enter from eastern Sudan, with limited settling in coastal or valley locations, but overall density will remain low and ease by October. In Yemen, low-level activity will persist along the Red Sea coast and adjacent inland valleys, with short-range coastal movements; no significant development is anticipated. Continuous monitoring of desert locust dynamics in Egypt, Eritrea and Yemen is essential to prevent repeated losses in crop growth and agricultural production.

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This report was released by Professor Wenjiang Huang's and Associate Professor Yingying Dong's research team in Aerospace Information Research Institute, Chinese Academy of Sciences.

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