Report of Monitoring, Early Warning and Assessment of Desert Locust

[2025] NO.12 Total 75
December 2025

Aerospace Information Research Institute, Chinese Academy of Sciences
State Key Laboratory of Remote Sensing and Digital Earth
The International Research Center of Big Data for Sustainable Development Goals (CBAS)
Key Laboratory of National Forestry and Grassland Administration on Forest and Grassland Pest Monitoring and Warning
National Engineering Research Center for Agro-Ecological Big Data Analysis & Application
China Biodiversity Conservation and Green Development Foundation
Sino-UK Crop Pest and Disease Forecasting & Management Joint Laboratory
Key Lab of Aviation Plant Protection, Ministry of Agriculture and Rural Affairs, P.R. China

Desert Locust Monitoring and Loss Assessment in Somalia, Saudi Arabia and Yemen (November 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 November 2025, desert locusts were primarily distributed in northwestern Somalia, the southwestern Red Sea coastal zone and neighbouring mountains of Saudi Arabia, and the western Red Sea coast–southern Gulf of Aden coast in Yemen, affecting 15.2, 19.1, and 21.1 thousand hectares of vegetation, respectively. Over the next two months, desert locust activity across the region is expected to remain at generally low levels. In northwestern Somalia, the lack of effective rainfall replenishment will not support sustained breeding, making a substantial upsurge unlikely. In southwestern Saudi Arabia, localized rainfall along the Red Sea coast and adjacent mountain foothills may allow small-scale breeding, but overall population levels will remain low due to the limited baseline. In Yemen, episodic rainfall and persistent green vegetation along the western Red Sea and southern Gulf of Aden coasts may continue to support small numbers of adults and hoppers. As vegetation in the interior continues to dry, locust activity is expected to be largely confined to short-distance movements within the coastal belts, and large-scale migration is unlikely. As this period coincides with the main growing and harvest seasons for food crops in Somalia and Saudi Arabia, and the major harvest season in Yemen, continued monitoring of desert locust dynamics is essential to prevent recurrent losses to crop growth

and agropastoral production. The specific results are as follows:

■ 1. Desert Locust Monitoring and Loss Assessment in Somalia

In November 2025, northwestern Somalia remained the main area of desert locust activity. Due to insufficient rainfall replenishment and the overall drying of vegetation, locusts were mainly dispersed and unlikely to expand over large areas; however, localized damage patches were still observed along the coastal–highland transition zone. Monitoring results showed that desert locusts affected 15.2 thousand hectares of vegetation in Somalia in November, including 5.9 thousand hectares of grassland and 9.3 thousand hectares of shrubland (Figure 1), accounting for 0.02% and 0.05% of the country's total grassland and shrubland areas, respectively. Awdal recorded the most extensive damage, with 7.1 thousand hectares of affected vegetation, followed by Sanaag with 3.5 thousand hectares; Togdheer and North-West were also affected, with 2.9 and 1.7 thousand hectares, respectively.

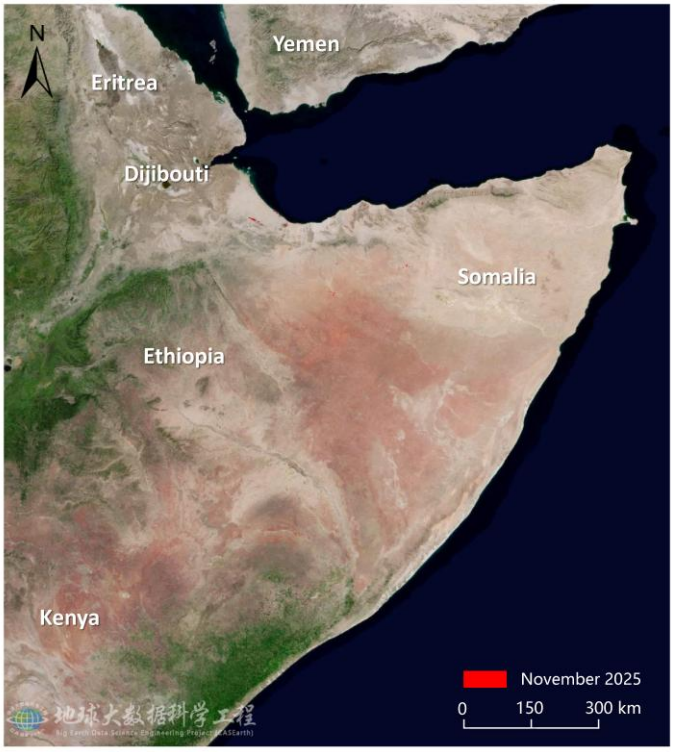

Fig. 1 Monitoring of Desert Locust damage in Somalia (November 2025)

■ 2. Desert Locust Monitoring and Loss Assessment in Saudi Arabia

In November 2025, desert locust activity in Saudi Arabia continued to be concentrated along the southwestern Red Sea coast and neighbouring mountains. Driven by episodic coastal rainfall, vegetation locally greened up and maintained suitable habitat conditions, and locust activity remained at generally low intensity, characterized by localized clustered damage. Monitoring results showed that desert locusts affected 19.1 thousand hectares of vegetation in Saudi Arabia in November, including 2.8 thousand hectares of cropland, 6.9 thousand hectares of grassland, and 9.4 thousand hectares of shrubland (Figure 2), accounting for 1.28%, 0.35%, and 0.23% of the country's total cropland, grassland, and

shrubland areas, respectively. Al-Baha recorded the most extensive damage, with 8.3 thousand hectares of affected vegetation, followed by Jizan with 6.9 thousand hectares; Makkah was also affected, with 3.9 thousand hectares.

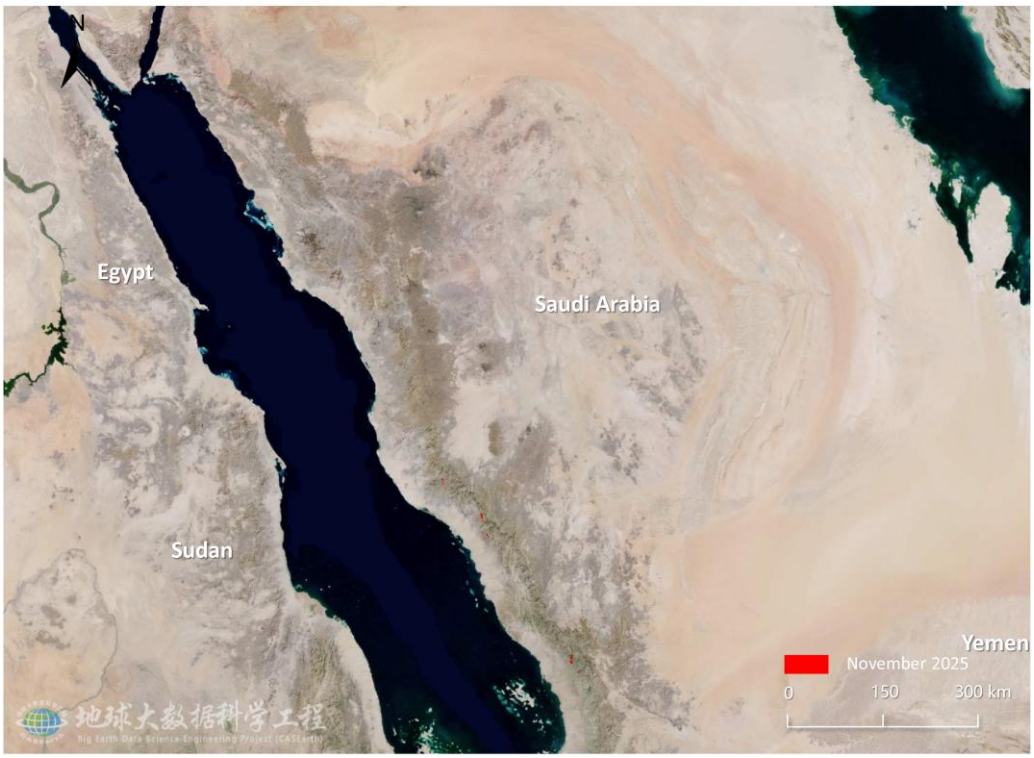

Fig. 2 Monitoring of Desert Locust damage in Saudi Arabia (November 2025)

■ 3. Desert Locust Monitoring and Loss Assessment in Yemen

In November 2025, desert locusts in Yemen were mainly distributed along the western Red Sea coast and the southern Gulf of Aden coast. Coastal vegetation conditions were relatively better than in the interior, creating a continuous belt of suitable habitat that supported locust persistence and breeding, whereas activity in the interior was constrained by vegetation drying. Monitoring results showed that desert locusts affected 21.1 thousand hectares of vegetation in Yemen in November, including 6.1 thousand hectares of cropland, 4.4 thousand hectares of grassland, and 10.6 thousand hectares of shrubland (Figure 3), accounting for 1.24%, 0.11%, and 0.20% of the country's total cropland, grassland, and shrubland areas, respectively. Abyan recorded the most extensive damage, with 8.7 thousand hectares of affected vegetation, followed by Al-Hudaydah with 5.6 thousand hectares; Lahij, Ta'izz and Hadramawt were also affected, with 3.3, 2.1 and 1.4 thousand hectares, respectively.

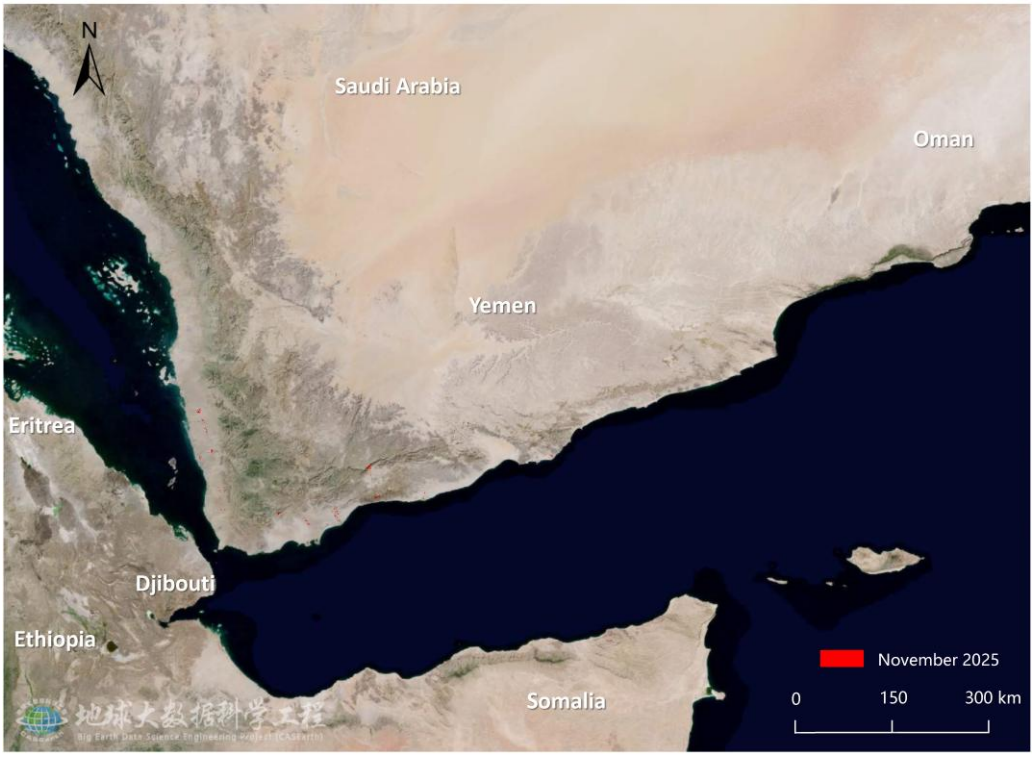

Fig. 3 Monitoring of Desert Locust damage in Yemen (November 2025)

The analysis indicates that, over the next two months, desert locust activity in Somalia, Saudi Arabia and Yemen will remain at generally low levels. In northwestern Somalia, the lack of effective rainfall replenishment will not support sustained breeding, and a major upsurge is unlikely. In southwestern Saudi Arabia, localized rainfall along the Red Sea coast and adjacent mountain foothills may support small-scale breeding, but the overall population baseline will remain low. In Yemen, episodic rainfall and green vegetation along the western Red Sea and southern Gulf of Aden coasts may support small numbers of adults and hoppers. As vegetation in the interior continues to dry, locust activity will be largely confined to short-distance movements within the coastal belts, and no large-scale migration is anticipated. Continuous monitoring of desert locust dynamics in Somalia, Saudi Arabia and Yemen is recommended to prevent repeated impacts on food crop growth and agropastoral production.

·NO. 20250312075

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.

Chinese Contributors

Wenjiang Huang, Yingying Dong, Biyao Zhang, Linyi Liu, Kun Wang, Quanjun Jiao, Xiangmei Qin, Gang Sun, Yanli Zhang, Jingcheng Zhang, Yantao Zhou, Linsheng Huang, Longlong Zhao, Anting Guo, Xueling Li, Yanru Huang, Hansu Zhang, Binxiang Qian, Zhuoqing Hao, Jing Guo, Rui Hou, Mingxian Zhao, Kehui Ren, Xiangzhe Cheng, Bohai Hu, Minghao Wang, Yan Zhang, Xuanli He, Chao Ruan, Huiqin Ma, Yue Shi, Naichen Xing, Qiong Zheng, Xiaoping Du, Huichun Ye, Bei Cui, Huifang Wang, Yu Ren, Chao Ding, Ruiqi Sun, Yingxin Xiao, Weiping Kong, Juhua Luo, Jinling Zhao, Dongyan Zhang, Xiaodong Yang, Yanhua Meng, Yue Liu, Wei Feng, Xianfeng Zhou

Foreign Contributors

Belinda Luke, Bethan Perkins, Qiaoyun Xie, Yue Shi, Bryony Taylor, Hongmei Li, Wenhua Chen, Pablo Gonzalez Moreno, Sarah Thomas, Timothy Holmes, Stefano Pignatti, Giovanni Laneve, Raffaele Casa, Simone Pascucci, Martin Wooster, Jason Chapman.

Advisory Experts

Bing Zhang, Gensuo Jia, Jihua Wang, Qiming Qin, Puyun Yang, Guofei Fang, Shouquan Chai, Yuying Jiang, Jingquan Zhu, Jinfeng Zhou, Dongmei Yan, Xiangtao Fan, Jianhui Li, Tianhua Hong,Yubin Lan, Jingfeng Huang, Huo Wang, Anhong Guo, Zhanhong Ma, Yilin Zhou, Xiongbing Tu, Wenbin Wu, Feng Zhang, Zhiguo Wang, Lifang Wu, Dong Liang, Stefano Pignatti , Giovanni Laneve , Liangxiu Han, Yanbo Huang, Chenghai Yang, Jiali Shang, Jadu Dash, Hugh Mortimer、Jon Styles、Andy Shaw.

Funding Information

National Key Research and Development Program of China (2023YFB3906203 and 2021YFE0194800), National Natural Science Foundation of China (42071320, 42071423 and 32271986), Alliance of International Science Organizations (ANSO-CR-KP-2021-06), GEO Community Activities "Global Crop Pest and Disease Habitat Monitoring and Risk Forecasting", etc.

Citation

Report of Monitoring, Early Warning and Assessment of Desert Locust, (2025). *Desert Locust Monitoring and Loss Assessment in Somalia, Saudi Arabia and Yemen.* Beijing, China: RSCROP.

Disclaimer

This report is a product of the Vegetation Remote Sensing & Pest and Disease Application Research Team of the Aerospace Information Research Institute, Chinese Academy of Sciences. The analyses and conclusions in the report do not represent the views of the Chinese Academy of Sciences or the Aerospace Information Research Institute. Users can legally quote the data in this report and indicate the source. However, any judgments, inferences or opinions made based on the report do not represent the views of the Team. The data published in this report are for reference only. The Team does not bear any legal responsibility arising from the use of the report. Official Chinese boundaries are used in the report.

Contact Us

Tel: +86-010-82178178 Fax: 010-82178177 Email: rscrop@aircas.ac.cn
Address: No.9 Dengzhuang South Road, Haidian District, Beijing 100094, China
Websites: http://www.rscrop.com / http://desertlocust.rscrop.com Post Code: 100094