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

Early June 2021

Desert Locust Monitoring in Africa and Asia in 2021

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 thematic maps and reports on Desert Locust.

This report focuses on the analysis of the breeding areas of desert locusts in Asia and Africa and prediction of their potential migration route (Figure 1). The research results are as follows.

Desert Locust Monitoring in Africa and Asia in 2021

At the end of 2020, desert locusts in East Africa and southwest Asia were mainly distributed along the coast of the Red Sea (east coast of Sudan and Eritrea, west coast of Saudi Arabia and Yemen), the central Arabian

Content

Overview	1
Desert Locust Monitoring in Africa and Asia in 2021	1
Contact us	5

Peninsula, and the Horn of Africa (eastern Ethiopia, northern Somalia, and northern Kenya). In addition, deserts locusts were scattered in western Yemen, southwestern Iran, southeastern Kenya and southeastern coast of Kenya.

In January 2021, affected by the cyclone GATI, desert locusts in northern Somalia continued to lay eggs and mature, and desert locust swarms in eastern Ethiopia and northern Somalia invaded into southern Ethiopia, southern Somalia, central and eastern and northern Kenya. At the same time, swarms in southern Kenya moved southwards and invaded the northeast of Tanzania. In late January, swarms from northwestern Somalia and central Ethiopia moved northward into Djibouti and Eritrea, and swarms from western Yemen spread northward along the coast of

Red Sea to the southwestern coast of Saudi Arabia. In early and middle February, locust swarms from northwestern Somalia continued to invade Djibouti and Eritrea, swarms of central Ethiopia, southern Somalia and eastern Kenya moved westward to the Lake Turkana in northwest Kenya, and swarms from the coast of Red Sea in western Saudi Arabia moved eastward to the central desert area. In late February, swarms from southern Kenya moved southward into northern Tanzania, while swarms from western and central Saudi Arabia continued eastward to the border with Kuwait. In March, impacted by ground control actions and less rainfall, the numbers of desert locusts in Ethiopia and Somalia decreased gradually. Swarms in Eritrea moved northward along the Red Sea to the east coast of Sudan; swarms in central Saudi Arabia with strong east wind invaded Kuwait and moved across the Persian Gulf to the southwestern Iran. In April, as ground control operations continued, desert locust populations continued to decline in the Horn of Africa. In middle April, locusts from the central and western coasts of Saudi Arabia spread to Jordan and Syria with southerly winds, invaded southern and eastern Jordan on the April 15, and reached the Euphrates River valley near the Iraq and Syria border on the April 17. In late April, locusts in Jordan spread further to the western and central regions with the south winds and moved northward into western Syria. On April 22, some locust swarms crossed the Anti-Lebanon Mountains and entered Lebanon. By the end of the month, some locusts spread to the banks of the Euphrates River valley in western Iraq. The locust swarms in all three countries were small because of control operations. In May, desert

locusts from the Horn of Africa kept laying eggs, hatching, and forming hopper bands. In the spring breeding area of central Saudi Arabia, locusts formed immature adults and migrated to southern Yemen. At the same time, low numbers of solitary adults persist along the Red Sea coastal plains in Yemen.

At present, most of the desert locusts in Africa and Asia are conducting spring breeding. Due to the ground control operations, the number and size of desert locust swarms have decreased significantly compared with the same period of last year. As the locusts in Iran spawn, breed, and mature, it is expected that the locusts may spread eastward to Pakistan in June and July. Affected by the monsoon in July, the locusts in Pakistan would continue to spread eastward to the Indo-Pakistan border, if not effectively controlled. If the monsoon is strong enough, the locusts may invade central India. With the ongoing control operations and dry weather conditions, the hopper bands in the northern interior of Saudi Arabia are expected to gradually decrease, and some locusts are expected to migrate southward to Yemen in June and July for summer breeding. At the same time, due to the impact of rainfall in the Horn of Africa, locusts in eastern Ethiopia and northern Somalia will continue to spawn and mature. It is expected that locusts will spread to northeast Ethiopia in August and September for summer breeding. In the next four months (June to September 2020), countries will usher in the important growing season or harvest season of food crops. If desert locusts continue to wreak havoc, agricultural and animal husbandry production and national livelihood of Asian and African countries will be seriously threatened.

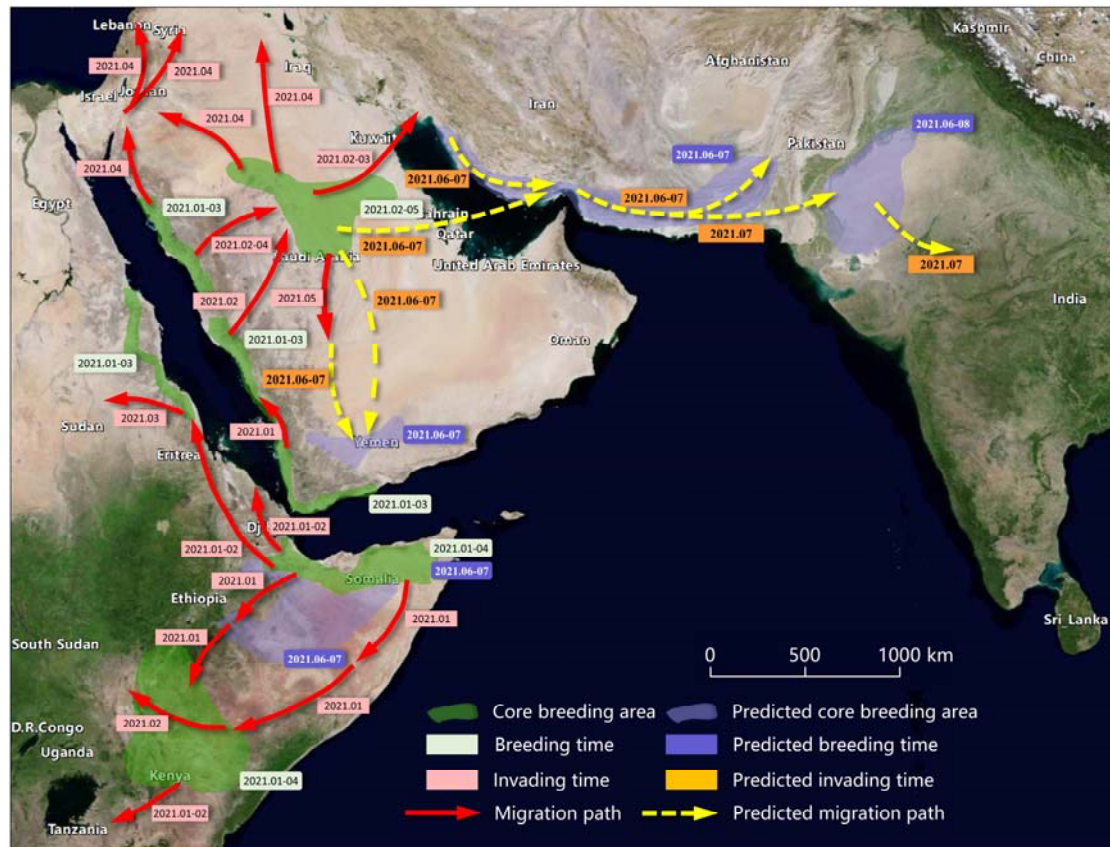


Figure 1 Current situation and prediction of desert locust breeding areas and main migration paths in Asia and Africa in 2021 (June to September)

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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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