Yemen

March 2016 - present

Post-cyclone outbreak

Desert Locust Information Service
FAO, Rome
www.fao.org/ag/locusts

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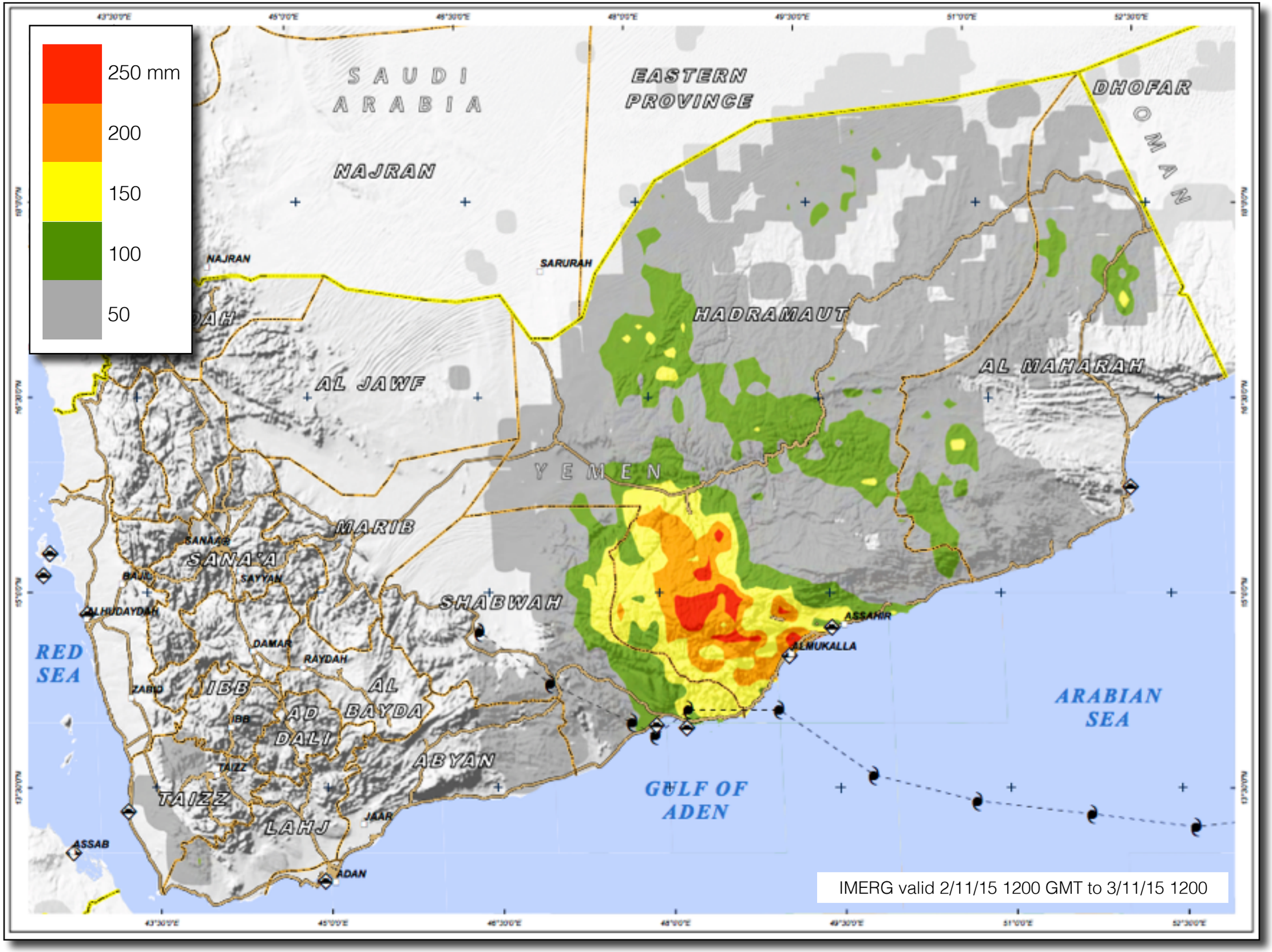
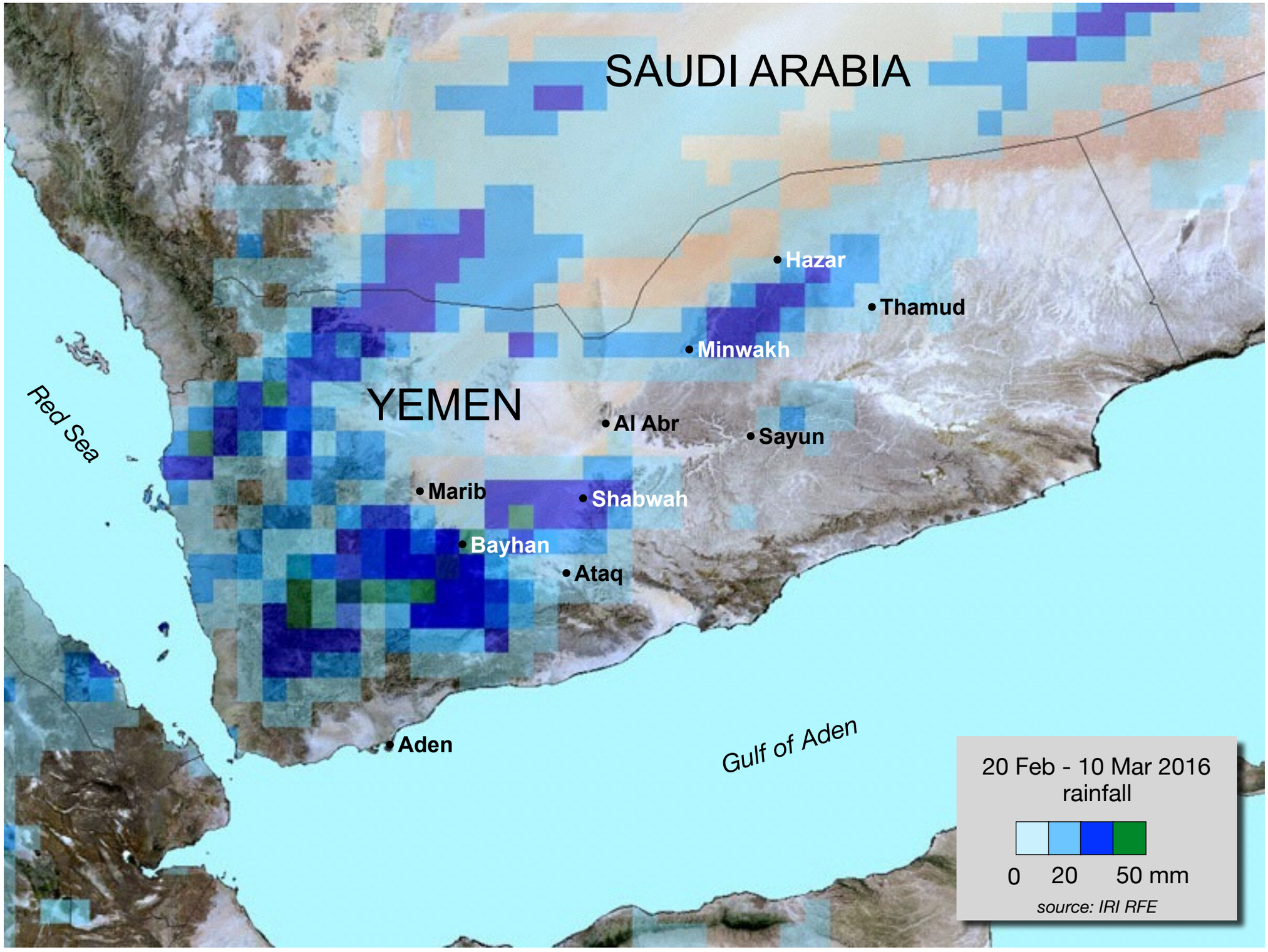
updated: 12 August 2016



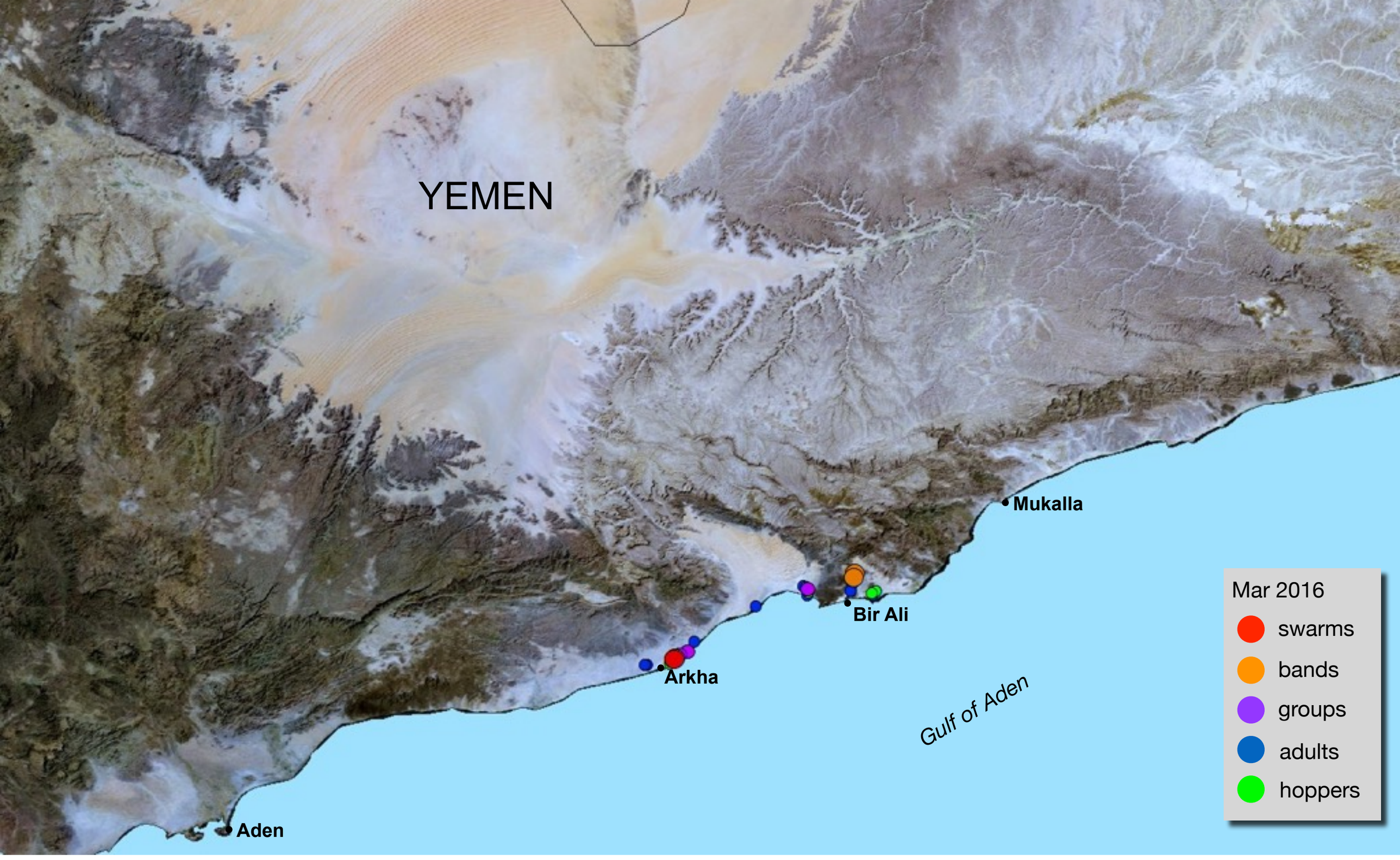
DLIS

NOV 2015 Based on rainfall estimates, several years worth of rain from Cyclone Chapala fell on 2-3 November along the southern coast of Yemen near Mukalla and in the interior governorates of Shabwah and Hadramaut. This allowed ecological conditions to be favourable for Desert Locust breeding from December 2015 to at least April or May 2016. Four months after the cyclone, an outbreak developed in March 2016.



DLIS

FEB 2016 Light to moderate rains fell in the interior between Minwakh and Thamud on the 24th and between Shabwah and Bayhan on the 25th. This was followed by moderate to heavy rains on 7-9 March in the Bayhan, Sayun and Thamud areas. These rains contributed to maintaining good breeding conditions for Desert Locust in the interior.



DLIS

MAR 2016 The first confirmation of locust activity arising from Cyclone Chapala was received from the southern coast of Yemen where low numbers of immature and mature adults were seen laying eggs on 10 March near Bir Ali. These adults probably originated from breeding that occurred shortly after the cyclone in mid-November with subsequent hatching by early December. This entire first generation was not detected by national teams as surveys could not be carried out due to insecurity. Subsequent surveys in March found numerous small hopper groups and bands of all instars from egg-laying that occurred in February along a 120 km stretch of coast between Arkha and Bir Ali. The rest of the coast remained unsurveyed. By the end of March, fledging was underway and adults were forming small groups and at least one swarm.

Thamud
Al Abr
W. Hadhramaut
Marib
Bayhan
Mukalla
Bir Ali
Arkha
Aden
Gulf of Aden

April 2016 rainfall

0 20 50 mm

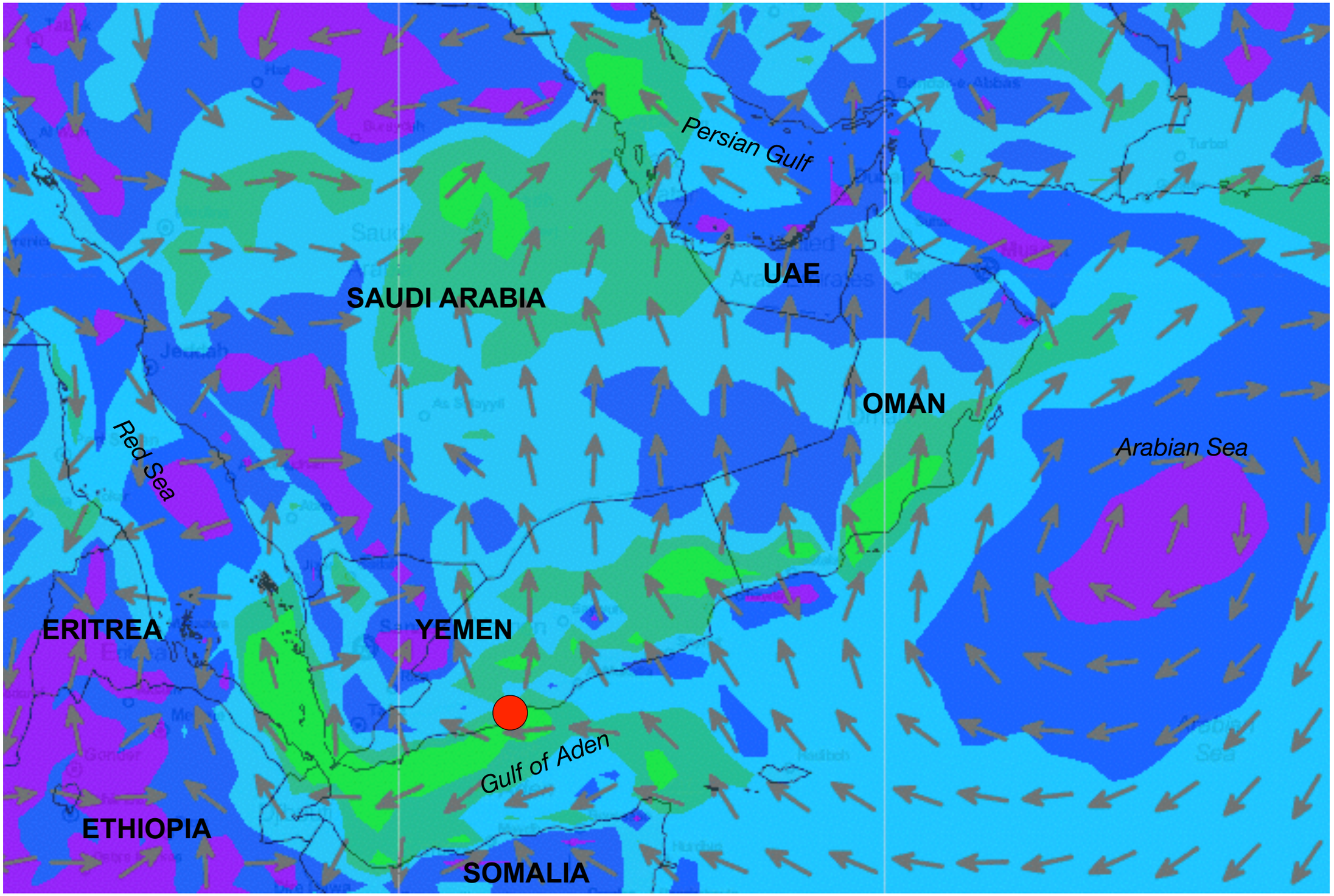
source: IRI RFE

Apr 2016

- swarms
- bands
- groups
- adults
- hoppers

DLIS

APR 2016 Groups of late instar hoppers continued to form on the coast between Arkha and Bir Ali. An increasing number of adults, groups and at least one swarm moved into the interior and dispersed over a wide area between Marib, Al Abr, W. Hadhramaut and Thamud, including the numerous small wadis in the plateau north of W. Hadhramuat. Widespread rains ensured that breeding conditions remained favourable. Egg-laying started at mid-month and hatching commenced by the end of the month, causing hopper groups and small bands to form. The full extent of the egg-laying and hatching could not be determined as most areas could not be surveyed due to insecurity and remoteness.

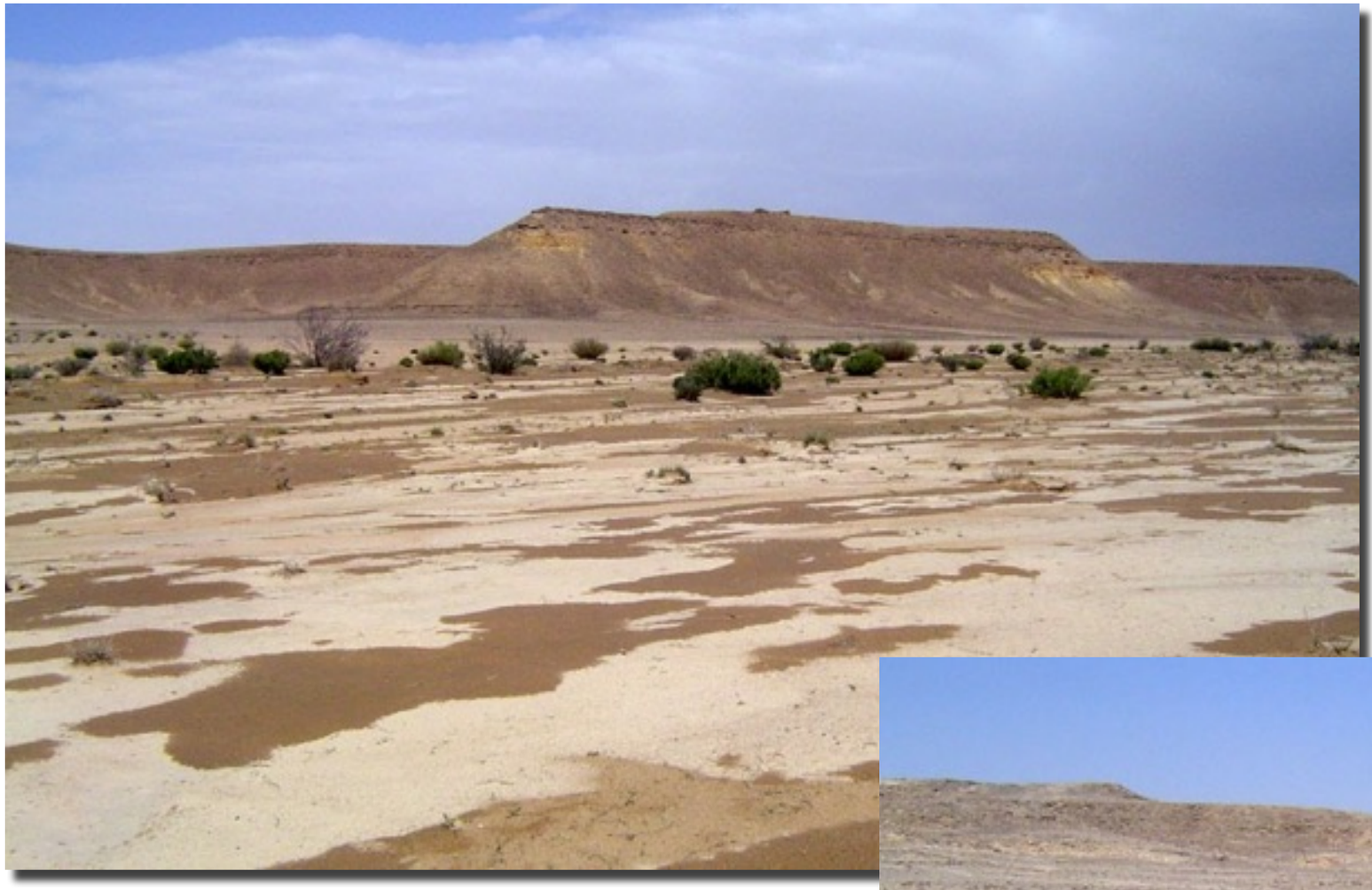


DLIS

APR 2016 Strong southerly winds over Yemen during the first ten days of April carried Desert Locust adult groups and swarms that formed on the southern coast (red dot) into interior areas that had received rainfall recently. As ecological conditions were already favourable in many of these areas from the heavy rains associated with Cyclone Chapala in November 2015, the locusts did not continue further north into adjacent areas of southern Saudi Arabia. Instead, the groups and swarms dispersed throughout a large area of the interior extending from the eastern side of the Highlands from Bayhan to Marib and throughout Shabwah to Wadi Hahdramaut and the rugged and remote plateau and wadis to the north on the southern edge of the Empty Quarter (Rub' al Khali).

DLIS

APR 2016 Results of a trajectory model suggest that any swarms leaving the southern coast of Yemen during the second week of April would fly northwards to the governorate of Marib in the interior of Yemen and continue to Sharawrah, Saudi Arabia before re-entering Yemen in the plateau area north of Wadi Hadhramaut. The migration parameters consisted of an estimated flying height of 250m above the ground, flying every day between 08 and 18h, and departing the Arkha coast on 6 April 2016.

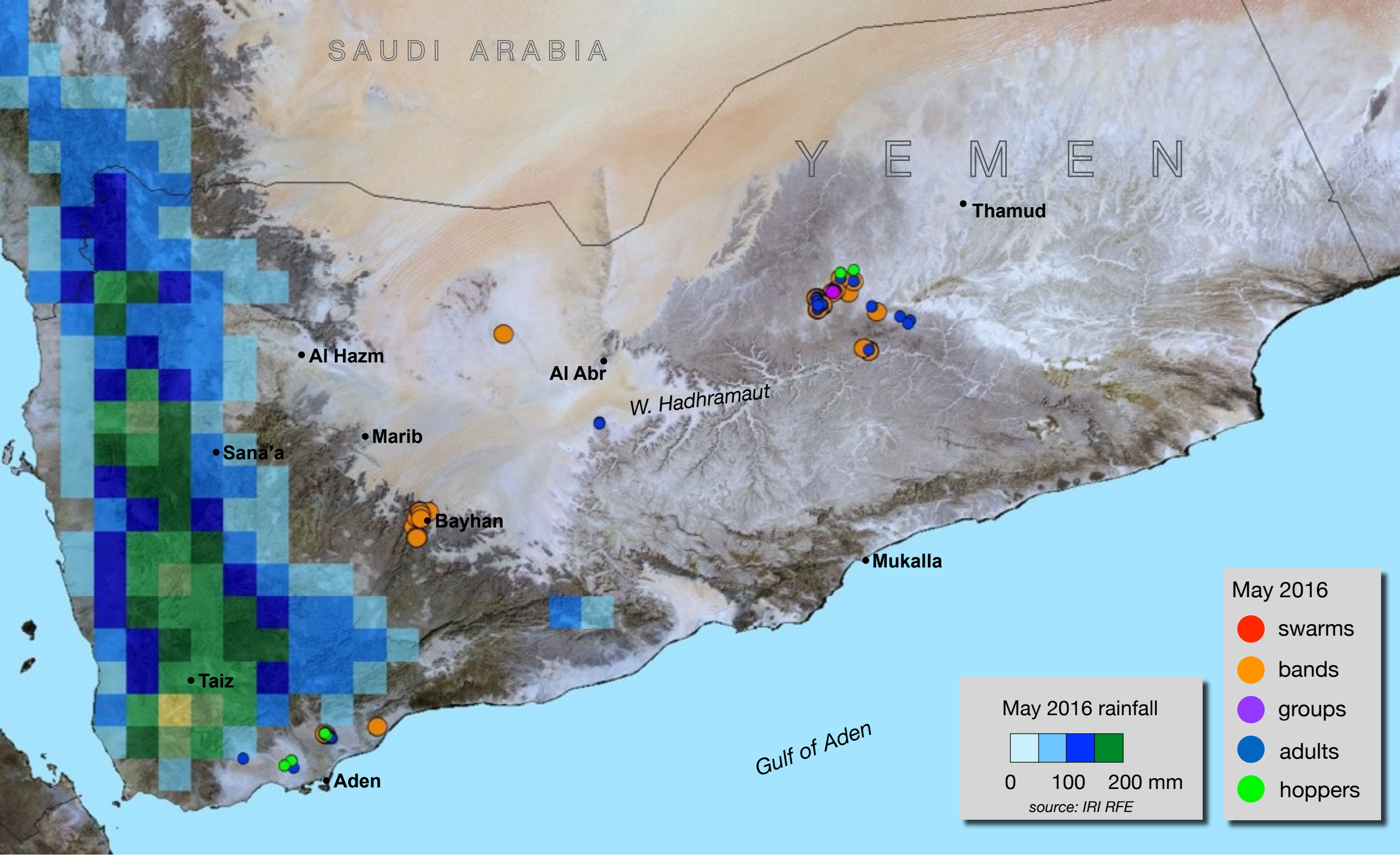


Wet soil from recent rains in one of many wadis on the plateau to the west of Thamud (26 Apr 2016)

Standing water in Wadi Khean (1643N/4932E) from recent rains on the plateau to the west of Thamud (28 Apr 2016)

A settled mature Desert Locust swarm in cropping areas of the interior of Yemen (April 2016)

Mature swarm roosting on a bush in the interior of Yemen (April 2016)



DLIS

MAY 2016 The situation deteriorated further as ecological conditions remained extremely favourable for breeding, causing more hopper groups and bands to form in the interior as well as on the Aden coast. Egg-laying continued to about mid-May. Survey and control operations were severely hampered by insecurity, beekeepers and remoteness. Consequently, the full extent of the infestations was not well known but it appears that widespread breeding occurred within a large portion of the interior between Marib and Thamud as well as on the Aden coastal plains. Only limited control operations could be carried out near Bayhan (120 ha) and on the plateau west of Thamud (39ha), supplemented by burning hopper bands in some places.

Gregarious adults copulating and laying eggs in Wadi Qirad (1650N/4918E) on the plateau west of Thamud in the interior of Yemen (April 2016)

Hatching in progress in Wadi Nakhr Tebuet (1643N/4900E) on the plateau west of Thamud in the interior of Yemen (May 2016)

Green vegetation in Wadi Al Khon (1608N/4912E) from recent rains on the plateau west of Thamud in the interior of Yemen (May 2016)

Local training in the interior of Yemen on Desert Locust control (May 2016)

Hopper band on bushes in the interior of Yemen (May 2016)

Hopper band on the ground in the interior of Yemen (May 2016)

Burning hopper bands as a means of mechanical control in the interior of Yemen (May 2016)

Chemical control of a hopper band in crops in the interior of Yemen (May 2016)

Chemical control operations cannot be carried out in many areas due to the presence of beehives

SAUDI ARABIA

YEMEN

Thamud

Al Hazm

Al Abr

W. Hadhramaut

Marib

Sana'a

Bayhan

Mukalla

Taiz

Aden

Gulf of Aden

June 2016 rainfall

0 100 200 mm

source: IRI RFE

June 2016

swarms

bands

groups

adults

hoppers

DLIS

JUNE 2016 The situation remained extremely serious as hopper bands were present in the interior and new swarms started to form during the second week in Wadi Hadhramaut, on the plateau to the north, in Shabwah and near Bayhan. During the last week, some immature swarms moved west into the highlands and were also seen near Al Hazm. Crop damage was reported in Hadhramaut, Al Jawf and Marib. Only limited control operations (365 ha) could be carried out due to prevailing insecurity, beekeeping and logistical issues. Scattered hoppers and immature solitarious adults were present along the southern coastal plains between Aden and Mukalla.

Swarm in crops of the interior of Yemen (June 2016)

Immature swarm in the interior of Yemen (June 2016)

Swarm in crops of the interior of Yemen (June 2016)

SAUDI ARABIA

YEMEN

Thamud

Al Hazm

Al Abr

W. Hadhramaut

Marib

Sana'a

Bayhan

Mukalla

Taiz

Aden

Gulf of Aden

July 2016 rainfall

0 100 200 mm

source: IRI RFE

July 2016

swarms

bands

groups

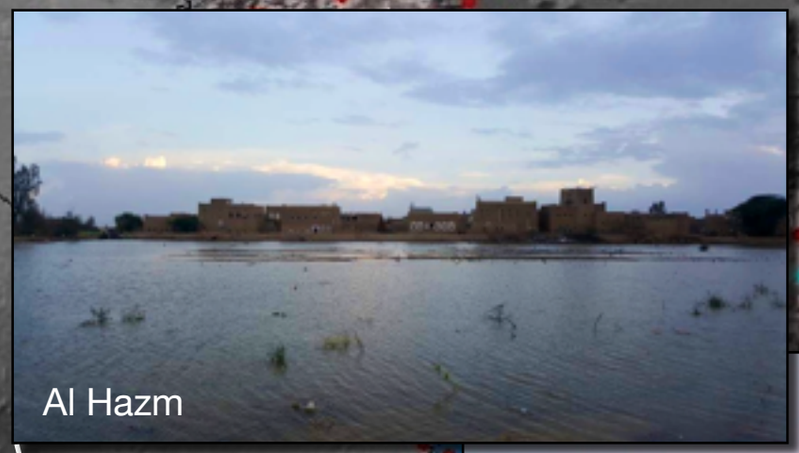
adults

hoppers

DLIS

JULY 2016 The situation remained a cause for major concern. An unknown number of swarms continued to form in the interior and there was a general movement to the west and south. At least one swarm appeared in the highlands near Taiz on 1-2 July and a large swarm was seen on the 28th, groups of adults appeared on the southern coast near Mukalla early in the month, and adults reached the northern Tihama coast of the Red Sea in late July. Survey and control operations could not be carried out; hence, the full extent of the infestations remained unknown. At the end of the month, heavy rains caused flooding throughout the country.

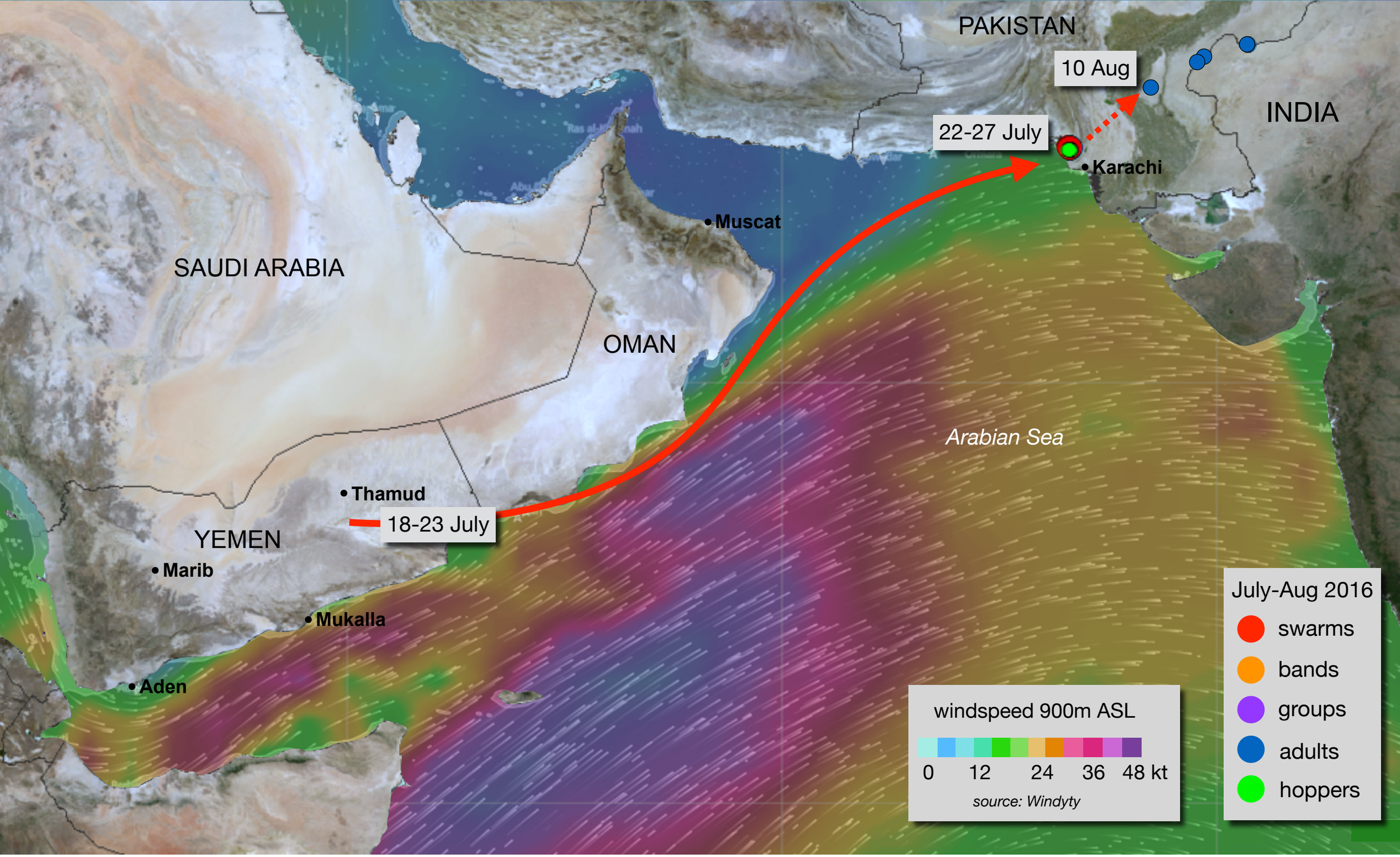
Sultanate of Oman
Directorate General of Meteorology
Rainfall (12-hours Accumulation)
01.08.2016 00:00 UTC
© PACA 2015


Al Hazm


Al Jobah, Marib


Bayt Al Faqih

YEMEN RAINS Heavy rains fell over the Red Sea and Gulf of Aden coastal plains, the central highlands and the interior from 27 July to 4 August, causing flooding throughout the country. This is likely to allow conditions to remain favourable for breeding for several months.



DLIS

JULY-AUG 2016 A small mature swarm was reported on 3 August on the coast of Pakistan in the Uthal area west of Karachi where local breeding was in progress since mid-July. Ground control teams were immediately mobilized and 220 ha were treated by 9 August. Based on interviews with locals who saw a mature swarm on 27 July and the presence of first and second instar gregarious hoppers on 11 August, at least one swarm probably departed from eastern Yemen on about 18-23 July and migrated for four days on strong southwesterly monsoon winds over the Arabian Sea to Pakistan. Upon arrival, the swarm dispersed, mixed with local solitarious hoppers and adults, copulated and laid eggs that hatched from 3 August onwards. Some adults from the swarm continued northeast to the Indus Valley where they were seen near Sukkur on 10 August.

Pakistan. Ground control operations were immediately mounted in the Uthal coastal area (west of Karachi) against a swarm that arrived from Yemen on 3 August

Pakistan. The swarm, mixed with local populations of solitarious hoppers and adults, was promptly treated (4 August)

Pakistan. The females matured quickly are were laying eggs shortly after arrival (4 August)