

2018



CRC/SWAC INTERREGIONAL WORKSHOP FOR DESERT LOCUST INFORMATION OFFICERS

**FAO COMMISSION FOR CONTROLLING THE DESERT
LOCUST IN THE CENTRAL REGION (CRC)**

**FAO COMMISSION FOR CONTROLLING THE DESERT
LOCUST IN SOUTH-WEST ASIA (SWAC)**

No. 10

**15–19 July 2018
Cairo, Egypt**



**Food and Agriculture Organization
of the United Nations**

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Rome, 2018

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CRC/SWAC Interregional Workshop for Desert Locust Information Officers

15–19 July 2018 (Cairo, Egypt)

1. Introduction

The FAO Commissions for Controlling the Desert Locust in the Central Region (CRC) and in South-West Asia (SWAC) sponsored an interregional workshop for Desert Locust Information Officers (DLIOs) in frontline countries of both regions. The CRC secretariat organized the workshop at the Semiramis Intercontinental Hotel in Cairo, Egypt on 15–19 July 2018 due to its excellent meeting facilities, reliable internet connection and comfortable accommodation. The FAO Senior Locust Forecasting Officer, Keith Cressman, conducted the workshop assisted by the RAMSES GIS developer, Mehdi Ghaemian, from I.R. Iran. All workshop participants arrived on time while the Yemeni participants had to depart slightly early on the last day.

A total of 19 DLIOs attended the workshop from eight frontline countries in the Central Region and three in South-West Asia as well as the Desert Locust Control Organization for Eastern Africa (DLCO-EA) (Annex 1).

This year's workshop was the tenth annual DLIO workshop since 2008.

2. Programme

Based on the advice of FAO's Desert Locust Information Service (DLIS), the three Desert Locust regional commissions – the FAO Commission for Controlling the Desert Locust in the Western Region (CLCPRO), in the Central Region (CRC) and in South-West Asia (SWAC) – took the decision to standardise on the Mac platform for national Desert Locust Information Officers (DLIOs) in order to improve the global Desert Locust reporting early warning system. DLIOs will use Macs for managing eLocust3 data, operating the RAMSES (Rv4.1) geographic information system and preparing locust bulletins. Apple hardware and software offer increased stability, security, less viruses, better performance, and a more enjoyable computing experience while less support is required from DLIS and the commissions than for PCs.

The current migration from PC to Mac is nearly complete in all three regions after a successful pilot phase in 2016–2017 in Eritrea and Pakistan. Each commission has procured at least one MacBookPro laptop for DLIOs in frontline countries (Annex 2). Regional and interregional workshops to train users have been organised in SWAC (January 2018), CLCPRO (July 2018), and now in CRC – the workshop under report here. At the workshop, CRC distributed one new 2017 MacBookPro to seven countries: Djibouti, Egypt, Ethiopia, Oman, Saudi Arabia, Sudan and Yemen¹. Each laptop was pre-configured and ready to use. CRC had provided Egypt previously with one MacBookPro laptop as well as one to Eritrea as part of the pilot phase. Saudi Arabia had an additional MacBookPro, and two MacBookPROs were procured for DLCO-EA under a USAID-funded project. In 2017, SWAC provided five MacBookPros, one each to the two DLIOs in India, I.R. Iran and to the Rv4.1 developer. Pakistan already had a MacBookPro from the pilot phase and second one will be provided to them later this year.

In view of the above, it was natural that this year's workshop focus on the MacBookPro laptop and the MacOS. The programme consisted of four days of training on how to use the

¹ 13-inch 2017, 2.3 GHz i5 128/16GB. MacOS 10.13

Mac, its operating system, applications and utilities by introducing and presenting each item followed by exercises and practicals (Annex 3). This was enough time to learn and practice using each of these aspects. In addition, DLIS provided feedback on improvements to reporting, the use Rv4.1 for summarising and analysing a locust situation was reviewed, updating eLocust3 software and antennas was demonstrated, and there was a discussion on the use and future development of Rv4.1. The working hours of the five-day informal technical workshop were from 0830h to 1730h with a 30-minute coffee break in the morning and afternoon, and a 90 minute lunch break.

2.1 MacBookPro

The participants were introduced to the MacBookPro laptop and taught how to use it through a progressive, step-by-step, systematic approach in order to maximise learning and retention. Each feature was presented and demonstrated, and then the participants practiced with hands on experience and by completing several exercises and practicals.

The workshop commenced with an official Apple video about the laptop. Participants familiarised themselves with the various hardware components, followed by an exploration of customising the MacOS look and feel by using the system and other preferences, how to easily change the language, efficiently manage files with the Finder, and how to use keyboard shortcuts and the versatile TrackPad.

During the next four days, participants learned the primary Mac applications (Pages, Numbers, Keynote, Safari, Preview, Photos, Mail, FaceTime) and utilities (Calendar, Contacts, Reminders, Notes, Search, Siri, App Store, Dictionary, disk format, screenshots) as well as additional applications (Slack, LastPass, Rv4.1). In all, nearly two dozen applications and utilities were presented.

The DLIOs learned quickly each application because of similarities in menus and function between the applications. It became evident that work productive applications such as Pages, Numbers and Keynote were far more powerful and easier to use than the Microsoft equivalents of Word, Excel and PowerPoint. Nevertheless, the Mac apps are fully compatible with their PC Microsoft counterparts because they can open and save those file formats. Furthermore, participants found that it was easier to customise and configure the laptop due to the intuitive approach utilised by Apple.

In addition to the afore-mentioned, the primary differences in using the Mac are the reliance on the TrackPad and its many gestures, the ability to have multiple desktops, the drag'n'drop approach of the MacOS, the use of the Command key rather than the Control key for keyboard shortcuts, the ease in changing languages and updating, and the lack of freezes and other problems due to improved memory management and hardware/software compatibility.

2.2 Reporting

It was noted that all countries continue to maintain a high standard of reporting that is the basis for the global Desert Locust early warning system. Nevertheless, there is always room for improvement to ensure high quality and timely information on a regular basis. Rather than presenting the status of reporting by locust-affected countries through the traditional evaluation of quality, timeliness and frequency of reports, the Senior Locust Forecasting Officer provided an overview of specific items that would improve reporting (Annex 4).

The main area for improvement in all countries is the inclusion of captions for maps that indicate the title and a brief explanation or interpretation of the map. While DLIOs are likely

to understand the map, most readers may not be able to do so easily or sensibly. Hence, a well-written concise caption describing the map would help to provide more understanding. It is also extremely important to include satellite-derived rainfall maps with survey results of soil moisture, greenness maps with survey results of vegetation, and locust situation maps. It is not necessary to include such maps in the absence of rainfall, green vegetation or locust surveys. Djibouti, Ethiopia and Sudan were reminded to report at least once every month even if surveys are not conducted or locusts are absent. In this case, it should be clearly written that surveys were not conducted and no locusts were reported. A brief summary of the Rv4.1 data should be included when sending the data file to DLIS. The data and the contents of reports and bulletins should always match.

2.3 RAMSESV4 (Rv4.1)

Rv4.1 is currently used in 18 frontline countries where survey and control operations are carried out in which data are collected that need to be managed and analysed². The Desert Locust Control Organization for Eastern Africa (DLCO-EA) is not using Rv4.1 to manage and analyze data in its member countries (Djibouti, Eritrea, Ethiopia, Somalia and Sudan). The application may eventually be established in other countries such as Senegal, Somalia and Tunisia, depending on needs and capacities. RAMSESV4, became operational on 1 January 2015, having been extensively redesigned as open-source software and containing a single unified database. It was updated Rv4.1 in May 2016.

Refresher training was provided to the workshop participants on how to summarise and analyse a locust situation using Rv4.1. Summarising a locust situation describes what the situation consists of (e.g. ecological conditions and locusts) and where this situation is occurring while analysis looks into why and how a specific situation has developed. Rv4.1 can be used for both summary and analysis although its functionality remains limited and rudimentary. This is an area that requires further development, including training material and exercises.

Rv4.1 has evolved into a mature custom application that is now very stable with few bugs. DLIOs continue to use it well to manage remote sensing imagery, survey data and control results. Ideally Rv4.1 should be used more for data summary and analysing, but this is not entirely possible at present because the required functionality is incomplete in the current version. Nevertheless, nearly all of the DLIOs are using most of the functionality offered by this present version of Rv4.1.

It was noted that a number of additional functions and improvements continue to be required in Rv4.1 to provide a more complete assessment of locust situations and to facilitate analysis (Annex 5). For example, it is not possible to summarise the types of locust populations that are treated and by what means over time. It is not possible to spatially select data in specific areas of a country for summary and analysis purposes. It is not possible to analyse changes in locust densities, sizes of infested areas and number of locations infested. Lastly, it remains difficult and tedious to load a large number of data and remote sensing layers and manage them.

There was thorough discussion during the workshop amongst the participants, the CRC Executive Secretary and the Senior Locust Forecasting Officer concerning the idea to postpone Rv4.1 development for one year while DLIOs improved their knowledge and use of Rv4.1 functions. However, the majority of DLIOs in both CRC and SWAC felt that

² Algeria, Chad, Djibouti, Egypt, Eritrea, Ethiopia, India, Iran, Libya, Mali, Mauritania, Morocco, Niger, Oman, Pakistan, Saudi Arabia, Sudan, Yemen, and DLCO-EA

development is a dynamic process and it should not be postponed; instead, it should continue but priorities should be established, for example to develop the much required summary and analysis functionality based on feedback and suggestions from users.

2.5 eLocust3

Countries were reminded that every survey and control team should use eLocust3 to record their observations in the field and transmit them in real-time via satellite to their National Locust Centre. During survey and control operations, DLIOs should use GeoFlex to monitor field activities on a daily basis³.

Under contract to FAO, Novacom recently updated eLocust3 software to v2.6 and provided custom cables for upgrading the firmware of the IDP680 antenna used for eLocust. The software update improves data quality by requiring latitude and longitude coordinates before an eLocust3 report can be transmitted. It also allows the entry of treated areas of less than one hectare and pesticide concentrations of less than one litre. DLIS dispatched one cable directly to each of the summer breeding countries while cables for the remaining countries were sent to CRC and CLCPRO. DLIS also prepared a video showing how to update the tablet and the antenna, including the use of the custom cable, which was shown in the workshop. It is the responsibility of the DLIOs to update every tablet and antenna in their country, and to inform DLIS accordingly so that Novacom can make the necessary configuration changes on the platform to allow data transmission. So far, some countries have updated their tablets while others remain outstanding (Annex 6).

3. Conclusion

A post-evaluation indicated that participants were generally pleased with this year's workshop (Annex 7). They were most satisfied with the expertise of the teacher and least satisfied with the organization of tables and chairs. The participants indicated that they learned a lot, even those who were already familiar with the Mac. They appreciated the teaching style with loud, clear voice that facilitated learning. The participants felt that the workshop remains a very valuable opportunity to come together to learn and to show problems in front of the teacher to they can be resolved.

This workshop represented an important milestone in the migration from PC to Mac as a significant means of improving the global Desert Locust early warning system. The workshop can be considered successful because it achieved the goal of providing sufficient knowledge and practice in using the MacBookPro and the MacOS so that DLIOs can use the Mac in their daily work for locust reporting. It is expected that from now onwards the DLIOs will no longer rely on the PC and, instead, use the Mac for Rv4.1, email and to prepare reports and bulletins.

In general, the annual workshops continue to contribute directly to the strengthening of the global Desert Locust early warning system, which is the basis for preventive control in order to reduce the frequency, duration and intensity of Desert Locust plagues. The participants reaffirmed the importance of and the need to continue these workshops on an annual basis. The workshop is the only opportunity for DLIOs from locust-affected countries within the two regions to get together to exchange experiences and share knowledge face-to-face, and to receive important training and feedback from DLIS. Therefore, it is critical that all frontline countries allow their nationally designated DLIO to take part in this activity, and that CRC continues to organize this activity every year with DLIS participation.

³ <https://web-humanav.novacom-services.com/novacom-gwt-generic/index.jsp>

Ideally, Desert Locust Heads should be invited every few years to participate in the workshop with their DLIO so they can observe first hand the tools that had been developed by DLIS and how DLIOs use them in reporting and early warning. This would also help to strengthen the important collaborative link between locust directors and locust information officers.

The participants expressed their desire that Rv4.1 continues to be updated so that it can provide the necessary functionality for summarising and analysing data, and to simplify tasks. However, DLIOs should improve their knowledge and use the full functions of Rv4.1. DLIS and the Commissions should continue to be responsible for providing the necessary training to DLIOs on Rv4.1 functionality and new technologies while users should make full use of the custom application for data management and analysis.

4. Acknowledgements

The participants expressed their appreciation to the CRC for the good arrangements and coordination of the workshop's logistics that contributed greatly to its success and smooth running. They extended special thanks to the Commission Secretariat and the Locust Group at FAO Headquarters for their enormous efforts and hard work in arranging CRC and SWAC participants' travel, respectively. The warm welcome of the Host Government and the support that was provided was much appreciated. Lastly, the participants were grateful for the tireless efforts of the Senior Locust Forecasting Officer in introducing and teaching the MacOS and its functionality in a systematic manner that was easily grasped and understood.

This report was prepared entirely on a Mac using Pages.

Annexes

Annex 1. Workshop participants

	CRC participants
Djibouti	Haissama Ali Ahmed
Egypt	Khaled Ibrahim Kelany
	Osama Rabie
	Rania Huessein Mostafa
Eritrea	Feven Tekle
Ethiopia	Gashawtena Agengehu
Oman	Adel Al-Shihi
Saudi Arabia	Saeed Turkistani
	Marzouq Albarakati
Sudan	Mohamed Ali Talal
Yemen	Saeed Al-Mamaary
	Ahmed Al-Eryani
DLCO-EA	Felege Elias

	SWAC participants
India	Pramod Gour
	Chandra Shakher Sharma
I.R. Iran	Mahmoud Chalaki
	Ali Babali Fashki
Pakistan	Shahbaz
	Jawed Iqbal Khan

	Trainer and resource person
FAO	Keith Cressman
I.R. Iran	Mehdi Ghaemian

Annex 2. MacBookPros in CRC and SWAC

User	Model	Tech Specs	SN	User	Gmail	iCloud
DLIOCRC	MBP 2011	2.8GHz i7 500/8GB	C02H30G0DV17	Osama	dliocrc01	dliocrc01@gmail.com
DLIODJI	MBP 2017	2.3GHz i5 128/16GB	FVFWV10JHV2G	Haissama	dliodji01	dliodji01@gmail.com
DLIODLCETH	MBP 2017	2.3GHz i5 128/16GB	C02W510PHV2F	Felege	dliodlceth	dliodlceth@icloud.com
DLIODLCKEN	MBP 2017	2.3GHz i5 128/16GB	C02W510NHV2F	Mehari	dliodlcken	dliodlcken@icloud.com
DLIOEGY	MBP 2017	2.3GHz i5 128/16GB	C02WK07QHV2G	Khaled/Ronia	dlioegy01	dlioegy01@gmail.com
DLIOERI *	MBP 2015	2.7 GHz i5 250/16GB	C02S419XFVH6	Feven	dlioeri elocusteri	elocusteri@icloud.com
DLIOETH	MBP 2017	2.3GHz i5 128/16GB	C02WK07VHV2G	Gashaw	dlioeth01 gashawt139	dlioeth01@gmail.com
DLIOINDAA	MBP 2017	2.3GHz i5 128/16GB	C02VJ18ZHV2F	Pramod	dlioindaa	dlioindaa@icloud.com
DLIOINDBB	MBP 2017	2.3GHz i5 128/16GB	C02VP0TUHV2F	Sharma	dlioindbb	dlioindbb@icloud.com
DLIOIRN	MBP 2017	2.3GHz i5 128/16GB	C02VP0TVHV2F	Babali	dlioirn	dlioirn@icloud.com
DLIOIRN2	MBP 2017	2.3GHz i5 128/16GB	C02WD17NHV2F	Chalaki	dlioirn2	dlioirn2@icloud.com
DLIOOMN	MBP 2017	2.3GHz i5 128/16GB	C02WK07SHV2G	Adel	dlioomn01	dlioomn01@gmail.com
DLIOPAK *	MBP 2012	2.9GHz i7 500/8GB	C02JM16CDR56	Shahbaz	elocustpak	elocustpak@gmail.com
DLIOPAK2 **	MBP 2017	2.3GHz i5 128/16GB	C02WD17PHV2F	Jawed	dliopak02	dliopak02@icloud.com
DLIOSAU	MBP 2017	2.3GHz i5 128/16GB	C02WK07THV2G	Saeed	dliosau01	dliosau01@gmail.com
DLIOSUD	MBP 2017	2.3GHz i5 128/16GB	C02WK07UHV2G	Hussien/ Talal	dliosud01	dliosud00@icloud.com
DLIOYEM	MBP 2017	2.3GHz i5 128/16GB	C02WK07RHV2G	Saeed	dlioyem01	dlioyem01@gmail.com

* user = Plague

** to be deployed in September 2018

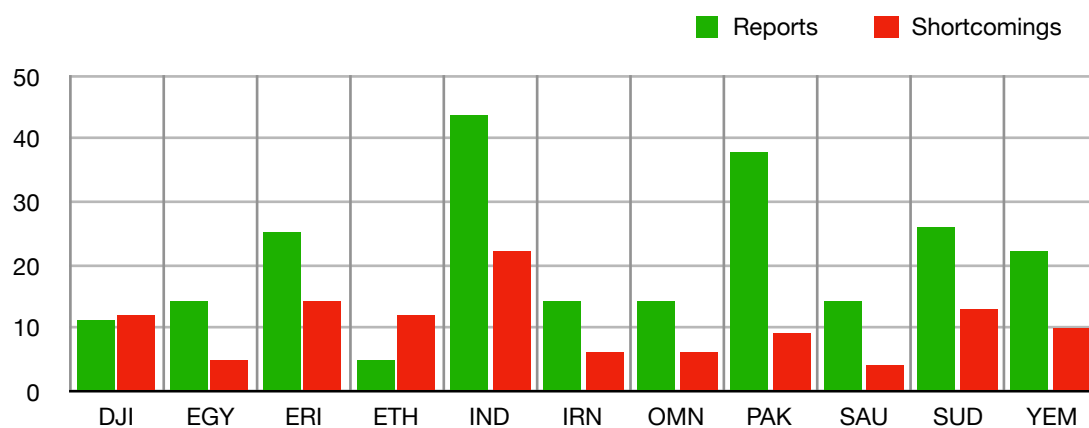
Annex 3. Workshop programme

SUN 15 JULY	8:30	Opening; MacBookPro laptop & pre-installed apps
	10:30	Break
	11:00	Introduction: Finder, Preferences, File management
	12:30	Lunch
	14:00	Introduction: Notes, Preview
	15:30	Break
	16:00	Introduction: Reminders
	17:00	End of day
MON 16 JULY	8:30	Introduction: Pages
	10:30	Break
	11:00	Exercise: Pages
	12:30	Lunch
	14:00	Introduction: Numbers
	15:30	Break
	16:00	Exercise 1: Numbers
	17:30	End of day
TUE 17 JULY	8:30	Exercise 2: Numbers; Introduction: Keynote
	10:30	Break
	11:00	Exercise: Keynote
	12:30	Lunch
	14:00	Introduction: Dictionary, Mail, Contacts
	15:30	Break
	16:00	Exercise: Dictionary, Mail, Contacts
	17:30	End of day
WED 18 JULY	8:30	Introduction: Calendar, Safari, iCloud
	10:30	Break
	11:00	Introduction: Slack, Photos
	12:30	Lunch
	14:00	Review and exercises: Rv4.1 data summary & analysis
	15:30	Break
	16:00	(cont.)
	17:30	End of day
THR 19 JULY	8:30	Introduction: LastPass, Search, GeoFlex; Bulletin improvements
	10:30	Break
	11:00	Rv4.1 backups; eLocust3 updating; Rv4.1 analysis review
	12:30	Lunch
	14:00	Introduction: Format, map-making, FaceTime, Siri
	15:30	Break
	16:00	Rv4.1 improvements; workshop evaluation; closing
	17:00	End of day

Annex 4. Improvements to Desert Locust reporting

Two DLIS officers evaluated each report (bulletin, Rv4.1 data, reports) received from countries between June 2017 and June 2018. The results indicate that improvements are required in one primary area, that is, to make sure every map has a title and a brief sentence explaining the map in the its caption. There were other less-frequent shortcomings in four other areas. In some cases, shortcomings may exceed the number of reports as the latter may have more than one shortcoming. It was noted that DLCO-EA is not incorporating data from its member countries (Djibouti, Eritrea, Ethiopia, Somalia and Sudan) into the DLCO-EA Rv4.1 database.

	DJI	EGY	ERI	ETH	IND	IRN	OMN	PAK	SAU	SUD	YEM	TOTAL
No explanation for map / no caption	2	2	7	5	18	3	5	6	2	7	9	66
No maps from Rv4.1 or IRI	8	3	5		1	1	1	3	1	2		25
No reports or bulletins in a month	2			7						2		11
No summary					2	1			1	2	1	7
Different data and summary			2		1	1						4
TOTAL SHORTCOMINGS	12	5	14	12	22	6	6	9	4	13	10	113



Annex 5. RAMSES (Rv4.1) improvements

Reported by CLCPRO DLIO workshop (March 2017)

- turn off mandatory data field in the Scientific Editor (to allow unconfirmed secondary information to be entered into the database)
- tools to compare current situation with analogous historical situation(s)
- select plotted points on a map to run Min/Max (when there are locusts in more than one seasonal breeding area or in different biotopes within a country)
- add MeasureToolbox_11 distance plugin to the next Rv4.1 update and installer
- eL3 photo management (query database, plot, click on point to show photo)
- add query that does all (behaviour, presence, veg, soil) at the same time but keep their categories
- query & display changes over time (as a table and/or graph) for:
 - density, area infested (infestation size), no. locations infested
 - no. locations with adults, hoppers, bands, swarms that were treated

Reported by CRC/SWAC DLIO workshop (May 2017)

- Batch query of monthly data from/to to include data type (behaviour, soil, vegetation) and display by month or type
- Control methods – omit when values=0, daily as stacked bars not lines; decadal totals not displaying correctly (e.g. Sudan: Oct–Dec 2016)
- Locust activities – select type of comparison (years, months) (similar to Control Methods interface)
- Breeding calendar – Rv4.1 to generate from data



Reported by CLCPRO DLIO workshop (July 2018)

- General improvements to facilitate data summary and analysis, including those mentioned above for 2017
- Inclusion of sensitive areas
- Updating of national and subnational boundaries (Ivory Coast, Sudan, Oman)

Annex 6. Current status of eLocust3 updating

The updating of eLocust software and antennas to v 2.6 is in progress in some countries but many still have to complete this exercise as soon as possible, and inform DLIS.

eLocust3	cable sent	v2.5	v2.6	To update
DJI		2	0	2
DLC		2	0	2
EGY		25	5	20
ERI		10	0	10
ETH		6	0	6
IND		35	7	28
IRN		11	0	11
OMN		11	0	11
PAK		30	0	30
SAU		20	18	0 *
SOM		5	0	5
SUD		25	10	15
YEM		20	5	15

 Sent to countries on 14/5/2018
 Sent to CRC on 13/6/2018

* 2 antennas under repair

Annex 7. Workshop evaluation

	% satisfaction
Workshop programme	
Number of days	88.9
Interesting & usefulness of topics	96.7
Quality of presentations & introductions	97.8
Usefulness of exercises	90.0
Expertise of teacher	98.9
Teaching style of teacher	97.8
Helpfulness of teacher	97.8
Workshop room	
Lighting	85.6
Projection screen	93.3
Organization of tables and chairs	81.1
Comfort	84.4
Workshop breaks	
Morning/afternoon breaks - food quality	91.1
Morning/afternoon breaks - length (30 minutes)	91.1
Lunch - food quality	95.6
Lunch - length (90 minutes)	90.0
Accommodation (for foreign participants)	
Room quality	86.3
Hotel quality	90.0
Restaurant quality	92.2
Transport (for foreign participants)	
Airport pickup	87.5

General comments:

- ◆ Workshops need to continue in order to keep improving
- ◆ Very useful and learned much
- ◆ Learned new things even though was already trained
- ◆ Useful chance to show problems in front of the teacher so they can be solved
- ◆ Very experienced and expert teacher
- ◆ Good teaching style with clear and loud voice
- ◆ More practice is required

Specific improvements:

- ◆ More exercises
- ◆ More time for data analysis and forecasting
- ◆ The days were slightly squeezed
- ◆ Needed practical on updating eL3 software