State Disaster Coordination Centre

Annual Activity Report

1 July 2018 to 30 June 2019

Queensland Government

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Executive Summary

The State Disaster Coordination Centre (SDCC) continues to provide an operational venue for disaster related events while providing state-level support for disaster management responses. The 2018/2019 financial year provided many challenges in the disaster management sphere for Queensland. As custodians of the SDCC, Queensland Fire and Emergency Services (QFES) was and continues to be at the forefront of the State Government's response to a range of natural disasters by providing both emergency operational responses, recovery assistance, and logistical planning.

This report seeks to provide a summary of Queensland's significant severe weather and emergency events and explores the role and action the SDCC played in preparation for and response to the four tropical cyclones that impacted various parts of Queensland, major flooding around Townsville, Mount Isa, and the south west of Queensland, bushfires across the state, and other broader disaster management events. Testament to the size and diversity in the environment and weather conditions across Queensland, there were times when some areas of the state were in the grip of catastrophic fire weather danger while other parts of the state were experiencing major flooding or cyclone threat. This also presents challenges for the SDCC, having to simultaneously respond to different disaster events in areas of the state separated by great distance.

Compared to the previous reporting period of 2017/2018, notable findings of this report include:

- 150% increase in SDCC activations
- 29% increase in the total number of weather warnings sent from the SDCC Watch Desk to relevant stakeholders
- 11% increase in the total number of disaster and emergency related tasks logged in the SDCC
- The SDCC Watch Desk assisted in tasking and monitoring over 10,000 SES jobs in the report period which is an increase of 64%
- The SDCC Watch Desk disseminated 154 Emergency Alert campaigns, which is an increase of over 1,000% from the previous reporting period.

These findings suggest that the SDCC continues to plays a significant role in both preparation and response to disaster and emergency events in Queensland, and further the SDCC contributes to disaster management planning, preparation, and responses, by providing assistance to all regions across Queensland. In addition, real time sharing of damage assessment data provides a single source of related information ensuring consistency for those agencies involved in recovery. While the SDCC cannot predict what events it will be facing, the professionalism and operational readiness of all staff helps deliver a quality response from the SDCC.

Acknowledgements

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1.0 Introduction

1.1 Background

The State Disaster Coordination Centre (SDCC) Annual Activity Report provides an overview of the activities within the centre for the 2018-2019 financial year. This report outlines the role and functions of the SDCC preparing for and responding to significant disaster related events. This report provides a summary of the work units that form the SDCC, their systems and outputs, and key achievements. Further, this report will provide a summary of significant operational activities in the SDCC including providing comparative statistics.

1.2 The State Disaster Coordination Centre

The SDCC is a permanent facility located at the Emergency Services Complex at Kedron, Brisbane. The SDCC provides an operational venue for the State Disaster Coordination Group (SDCG) to deliver state-level support to disaster management operations in accordance with decisions from the Queensland Disaster Management Committee (QDMC).

Queensland Fire and Emergency Services (QFES) staff embedded in the SDCC are part of the State Operational Coordination Branch (SOCB), which in turn is within the Specialist Response and Planning Directorate of QFES.

QFES are custodians of the SDCC maintaining a state of operational readiness. During normal business hours, the centre is staffed by personnel from State and Commonwealth departments including QFES, Queensland Police Service (QPS), Public Safety Business Agency (PSBA), and the Bureau of Meteorology (BoM).

Upon activation of the SDCC, the QPS takes operational control of the centre and works with QFES to manage operations and additional staffing arrangements. Staffing numbers in the SDCC can increase by more than 100 during an activation. Staffing of the SDCC is scalable and numbers are based on the anticipated and identified need.

Figure 1: A fully staffed SDCC during an activation for a disaster related event. QFES staff working with QPS and WoG stakeholders.

When activated, Queensland Government staff who have received SDCC training, support emergency operations by filling positions across the following seven capabilities:

- **Command:** Provide overall oversight of the actions of the SDCC during a disaster event- maintaining state-wide situational awareness of the SDCC's operations to support decision making
- **Operations:** Report on current response and emerging issues to enable control and coordination of the SDCC capabilities; as well as reviewing and gathering information from relevant sources to maintain the common operating picture and report on key activities and events
- **Logistics:** Coordinate the acquisition and provision of human and physical resources, services, and materials to support incident objectives
- **Planning:** Provides situational awareness to the SDCC and complete planning related tasks
- **Intelligence:** Responsible for the collection, collation, and analysis of information and intelligence to assist with disaster response
- **Aviation:** Provides a state-wide coordination of event related air assets and supporting resources leading to the safe, efficient, and effective use of air assets during high demand periods
- **Public Information:** Responsible for the provision and delivery of Whole of Government (WoG) messaging during emergency and disaster events.

Figure 2: His Excellency the Honourable Paul de Jersey AC, Governor of Queensland (C) addresses the SDCC during the activation for Tropical Cyclone Owen. Accompanying the Governor are former QFES Commissioner Katarina Carrol (R) and former Deputy Commissioner of Police and State Disaster Coordinator Bob Gee (L). *Image: QFES*

Liaison Officers from Commonwealth government agencies and Queensland government and non-government agencies are embedded in the SDCC during activations to provide agency specific support to impacted communities.

Figure 3 : State Disaster Coordination Centre Significant Events July 2018 – June 2019

July 2018
- Tham Luang Nang Non Cave (Thailand)
- Wildfires (Greece)
- Wildfires (USA & Canada)

September
- Exercise PacWave
- Strawberry Contamination Incident
- North Goonyella (Peabody) Fire

November
- Tropical Cyclone Owen

January
- Tropical Cyclone Penny
- Victorian Bushfires
- M3.9 Earthquake offshore Airlie
- Far North Qld Active Monsoon

March
- M3.1 Earthquake Gatton
- Woodgate Bushfires
- Tropical Cyclone Trevor

May
- Palm Island Water supply issues
- Tropical Cyclone Ann
- M2.5 Earthquake Bulloo Downs

October
- Indonesia Earthquake and Tsunami
- North Coast Severe Weather
- Burst water main and contamination Karragarra Island

December
- Tropical Cyclone Owen
- Tropical Cyclone Penny

February
- Wallangarra/Eukey Bushfires
- Tropical Cyclone Oma
- M3.4 Earthquake Roma
- Maritime pollution incident MV Solomon Trader

April
- Space Junk Re-entry

June
- M3.9 Earthquake offshore Airlie

2.0 SDCC Functions

2.1 Watch Desk

The SDCC Watch Desk is the permanent operational unit of the SDCC. The SDCC Watch Desk provides a 24/7 emergency management notification, monitoring, and reporting function for Queensland disaster management stakeholders. The Watch Desk operates as the "eyes and ears" for Queensland in disaster management. The Watch Desk also provides a link to the Commonwealth Government, Local Government, and other State Departments when the SDCC is not activated.

The Watch Desk is continuously staffed by a State Duty Supervisor and two State Duty Officers who source and analyse information used to conduct threat assessments, manage forward planning and brief key decision makers. The Watch Desk supports the Queensland Disaster Management Arrangements (QDMA) by ensuring:

- Through the provision of timely and accurate warnings and reports which are disseminated to relevant local, district, regional, state and interstate stakeholders
- State Emergency Service (SES) tasking across the state is effectively coordinated
- The SDCC is maintained in a state of operational readiness.

The SDCC Watch Desk works closely with the QPS Disaster Management Unit and the BoM, monitoring disaster related intelligence and information sources.

SDCC Watch Desk staff are the only personnel trained and authorised to create and disseminate Emergency Alert (EA) campaigns within Queensland. Staff conduct multiple training tasks throughout the year to maintain EA skills and test system performance.

During SDCC activations, the Watch Desk becomes part of the Operations Capability group and assists disaster response by continuing to compile and disseminate reports to relevant stakeholders, identify significant issues, accurately record events within electronic logs and provide continued EA campaign support.

The Watch Desk works together with the BoM and continuously monitors current weather patterns and developments, making threat assessments and disseminating weather related information to stakeholders when required for warning and intelligence purposes.

Event Management System

Contact with stakeholders is managed through the Event Management System (EMS) which ensures accountability and an auditing ability. The system can be configured to meet the specific needs of users and is utilised primarily to action tasks, send and receive emails and Short Messaging Service (SMS) messages and log information. Table 1 shows the volume of communications, reporting, and tasks that were processed by Watch Desk staff during the 12-month period July 2018 to June 2019.[1]

[1] All three-year average figures are based on data available for 2015/16 – 2017/18.

Table 1: EMS usage volumes in the SDCC 2018/19

		Emails Sent	SMS Sent	Emails Received	Logged Entries	Reports Created	Tasks Actioned
2018	July	24,626	1,588	2,034	885	246	515
	August	27,173	2,030	2,768	1,796	340	581
	September	29,424	5,398	3,157	1,739	346	703
	October	57,524	27,476	3,164	1,400	589	1,107
	November	64,412	16,796	4,182	2,721	745	950
	December	157,508	42,630	4,282	2,032	1,515	1,783
2019	January	97,369	26,167	3,391	1,839	764	1,285
	February	206,579	37,785	5,214	2,206	1,592	1,819
	March	117,958	39,356	4,244	1,467	886	1,410
	April	50,793	5,658	2,888	787	464	743
	May	41,109	5,745	2,599	663	410	664
	June	26,604	1,728	2,367	601	346	529
	Total	901,079	212,357	40,290	18,136	8,243	12,089

In 2018/19, the Watch Desk received a total of 40,290 emails requiring triaging and actioning. This is a decrease of 15% when compared to 2017/18. During this same period, the Watch Desk sent 901,079 emails. This is an increase of 64% when compared to 2017/18. This is also a 74% increase on the three-year average of 518,421.

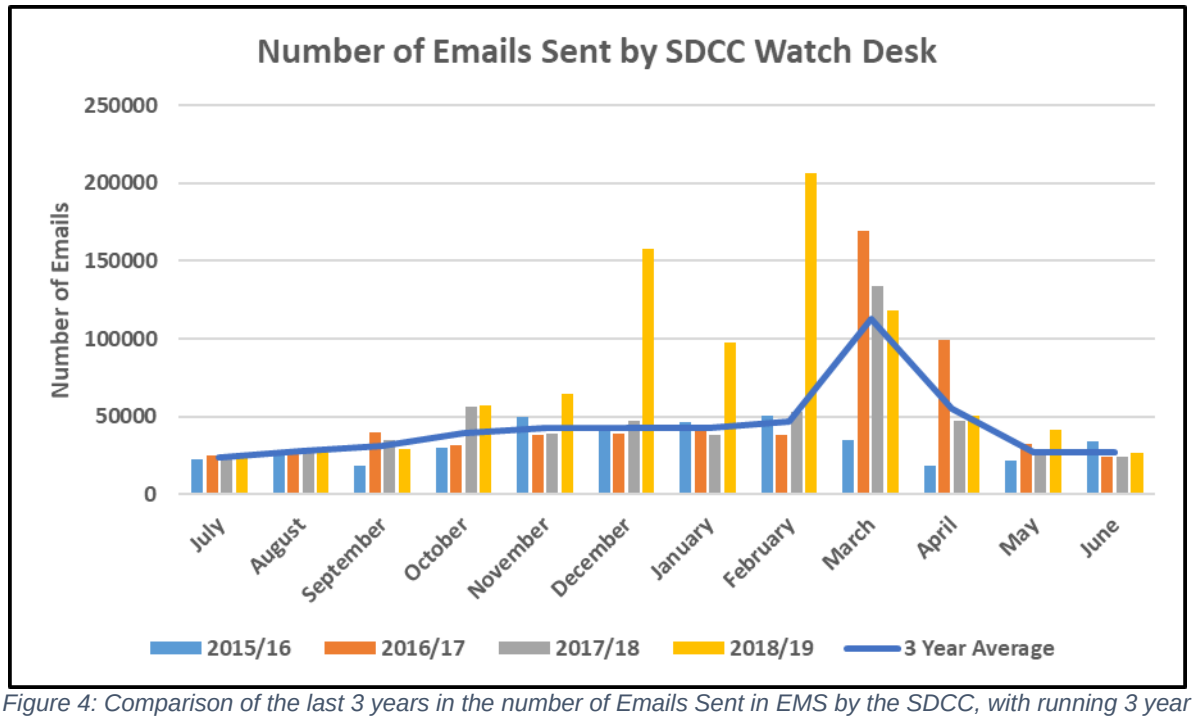

Figure 4: Comparison of the last 3 years in the number of Emails Sent in EMS by the SDCC, with running 3 year average

Embracing current technologies and understanding reliance of personal mobile devices, the Watch Desk also utilised SMS technology for communicating with SDCC stakeholders. A total number of 212,357 SMS were sent to SDCC stakeholders. This is an increase of 57% when compared to 2017/18. This is also an 84% increase on the three-year average of 115,610.33 sent SMS.

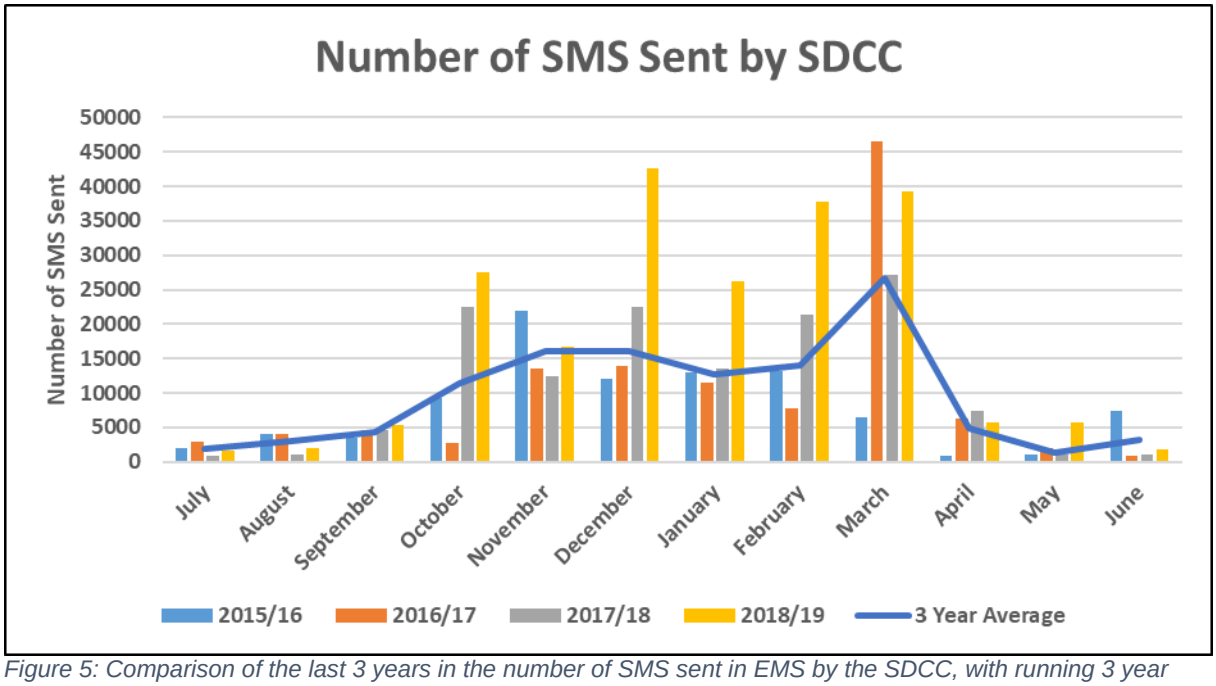

Figure 5: Comparison of the last 3 years in the number of SMS sent in EMS by the SDCC, with running 3 year average

In maintaining stakeholder information and SDCC technology, the Watch Desk undertake a series of operational tasks. These tasks can involve liaising with internal and external stakeholders and are conducted regularly to maintain the SDCC at a state of operational readiness.

In 2018/19, the Watch Desk actioned 12,089 tasks in EMS related to disaster management and other SDCC relevant issues. This is an increase of 11% when compared to 2017/18. However, this figure represents a 7% decrease on the three-year average of 13,010.67 tasks.

Watch Desk Reporting

Watch Desk staff monitor a range of systems and sources, working collaboratively with emergency management stakeholders to produce a number of reports that are disseminated on a regular or as required basis.

Queensland Emergency Management Report (QEMR) (0500hrs Daily)

The 0500hrs QEMR provides key ministerial and departmental stakeholders an early daily summary of recent and emerging, significant emergency management activities. It also briefly identifies weather and other local, national and international emergency management related risks which have the potential to impact the Queensland Government and its resources.

Ministerial Summary SMS (0700hrs Daily)

This text message is delivered to a defined group of key stakeholders and is designed to provide a summary of QFES operations for the previous 24 hours, current interstate incidents with the potential to impact Queensland and its resources, the day's weather and any significant media relating directly to QFES.

Queensland Emergency Management Report (QEMR) (1000hrs Daily)

The 1000hrs QEMR provides a general disaster and emergency management themed report distributed to a broad emergency management audience. This report summarises Queensland emergency management activity from the previous 24 hours as well as significant local, national and international, emergency events which may impact on Queensland Government resources. The report also provides an overview of Queensland weather observations and forecasts, significant QFES operational activity and the status of all Queensland Disaster Management Groups. The report is sent to around 800 disaster management stakeholders.

Weather Outlook (1000hrs Tuesday and Friday - October to April)

The Weather Outlook is compiled by the BoM Meteorologist working within the SDCC to provide additional weather intelligence to emergency management stakeholders. The Weather Outlook accompanies the 1000hrs QEMR twice per week from 01 October until 30 April. Additional outlooks can be issued outside this period for predicted, severe weather events. This report indicates the likelihood and severity of forecasted Queensland weather activity by forecast districts. The Weather Outlook is a restricted document and is not for public or media dissemination.

Incident Briefs (As required)

The primary function of an incident brief is to quickly inform relevant stakeholders of a significant event, generally in one of the following categories:

- disaster or emergency related events (natural and man-made)
- other events significantly impacting QFES operations and resources (e.g. staff/volunteer injury, deployments)

Subsequent briefs relating to the event or incident are created and disseminated as required.

QFES Daily Operational Brief / Queensland Operational Summary Report (As Required)

This report informs the QFES Executive of significant events, issues and incidents from the previous 24 hours and provides early indication of events scheduled within the next 72 hours. The report also summarises regional operational activity from all streams of QFES. This report is often distributed during SDCC activations or heightened operational awareness.

Commissioner's Snapshot (As Required)

The Commissioner's Snapshot informs the QFES Commissioner of significant QFES operations state-wide across all response types, QFES support to other agencies (e.g. Community Recovery), current and forecasted weather, and any issues and injuries to QFES personnel. This report can be issued once or twice daily depending on the nature of the situation.

Community Impact Report and State Update (As Required)

The Community Impact Statement is created and disseminated by the Watch Desk to provide stakeholders with up to date information relating to ongoing, significant events. The report can be tailored to suit the current situation and is generally disseminated twice daily. The report incorporates updates from relevant agencies, consolidated into a single report by Watch Desk staff. This report is very similar to the Queensland Operational Summary Report. These reports have since been replaced in most instances by the State Update which is issued both during activations, and in non-activation periods when required.

In 2018/19, the Watch Desk created 8,243 reports in EMS related to disaster management and other SDCC relevant issues. This is an increase of 44% when compared to 2017/18. This is also a 28% increase on the three-year average of 6,417 reports.

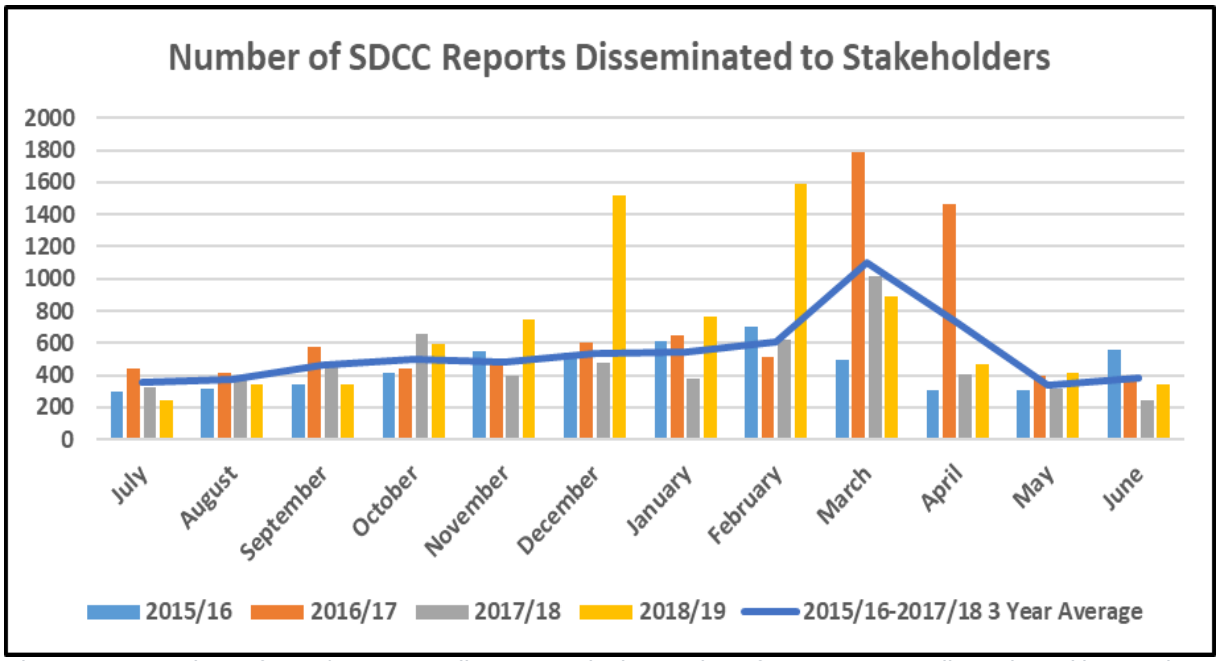

Figure 6: Comparison of 2018/19 to preceding 3 years in the number of SDCC Reports disseminated in EMS by the SDCC, with running 3 year average

Weather Warnings

The size and location of the state of Queensland contributes to significant differences in weather across the state. While part of the state can be experiencing a severe drought, other parts can have significant flooding. While bushfires are ravaging some areas, others can be experiencing severe thunderstorms. Queensland can experience a range of weather phenomena including tropical cyclones, thunderstorms and flooding, as well as disaster related issues that are impacted by weather conditions like bushfires. The BoM issues weather warnings based on the threat or threats and these warnings are further disseminated to a wide range of internal and external disaster management stakeholders by Watch Desk staff, who assess the warning and impact area to determine the distribution requirements.

During severe weather events, staff on the Watch Desk liaise with a range of stakeholders, monitor SES activity and overall QFES operational responses, infrastructure websites, along with social and print media to determine the impact of the event and monitor response activity.

Watch Desk staff ensure significant weather events are reported on efficiently and effectively, with the level of impact determining whether additional event specific Incident Briefs or State Updates are required in addition to standard daily reporting.

In 2018/19, the Watch Desk created 3,617 weather warnings that were disseminated to stakeholders. This is an increase of 29% when compared to 2017/18. This is also a 29% increase on the three-year average of 2809.67 warnings. The highest number of weather warnings processed by the Watch Desk in 2018/19 related to:

- Marine Wind Warnings - 971 (27% of all warnings processed)
- Severe Thunderstorm Warnings - 943 (26% of all warnings processed)
- Flood Warnings – 892 (25% of all warnings processed).

*Table 2: Total number of Weather Warnings by type and month issued by the SDCC to stakeholders in 2018/19**

		Fire Weather	Flood	Flood Watch Area	Hazardous Surf	High Seas / Ocean Wind	Marine Wind	Severe Thunderstorm	Severe Weather	Storm Tide	Tropical Cyclone	Tsunami**	TOTAL
2018	July							7				2	9
	August	4					61	5				10	80
	September	4					62	53			1	8	128
	October	1			11		65	241	16			8	342
	November	17					64	83				4	168
	December	3	113	3		20	139	171	43	28	70	8	598
2019	January		146	3		36	80	73	80	12	41	8	479
	February	6	370		18	7	106	67	99		9	4	686
	March	5	103	1		16	77	214	32	41	59	2	550
	April		127		9		90	25				4	255
	May		33			9	114	3	6	3	14	7	189
	June				4		113	1				15	133
	TOTAL	40	892	7	42	88	971	943	276	84	194	80	3,617

** Absence of data indicates a total of zero for the corresponding month and warning type*
*** All Tsunami warnings during 2018/19 reporting period were No Threat. This means they posed no direct threat to Queensland.*

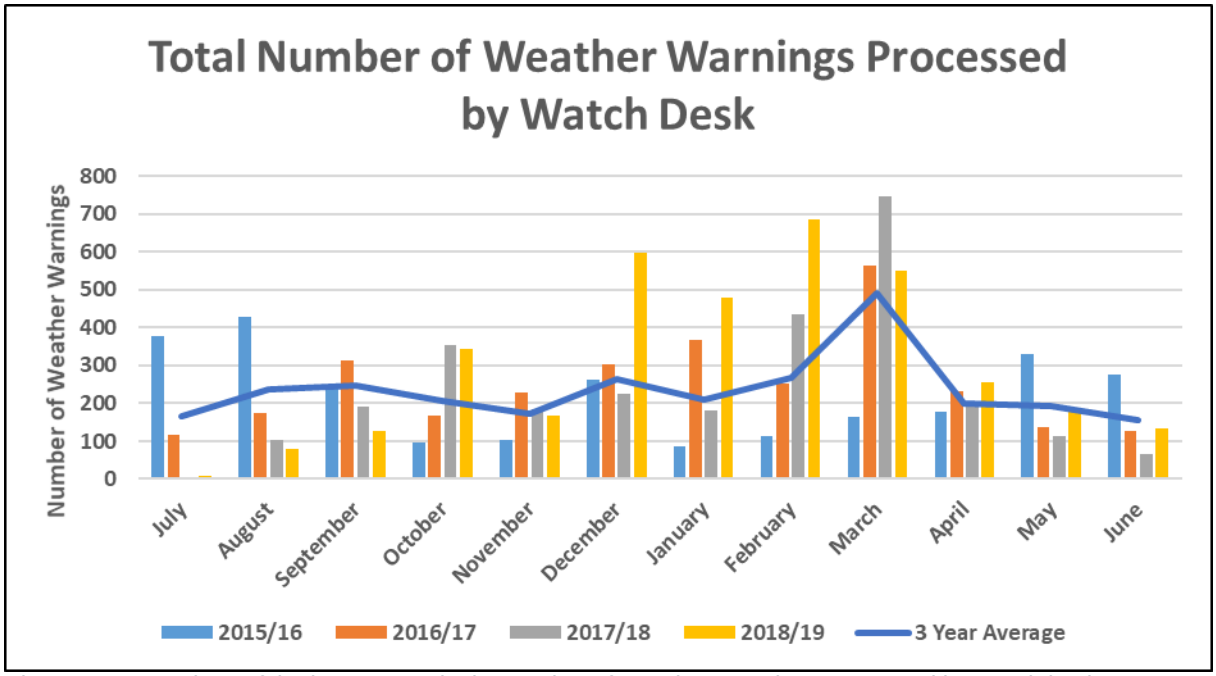

Figure 7: Comparison of the last 3 years in the number of Weather Warnings processed by month by the SDCC, with running 3 year average

Emergency Alert

Emergency Alert (EA) is a national telephone warning system. It can be used by emergency services to send voice and/or mobile text notifications conveying important information relating to a specific threat. SDCC Watch Desk staff are the only personnel in the state trained and authorised to create and disseminate EA campaigns within Queensland.

In 2018/19, the SDCC Watch Desk disseminated 154 EA campaigns which resulted in over 400,000 calls being made and over 2,500,000 SMS being sent to people of Queensland. In comparing to 2017/18, this is an increase of over 1,000% in the number of campaigns being created. This is primarily due to the higher number of tropical cyclones that affected Queensland in 2018/19, in addition to large bushfires near populated areas.

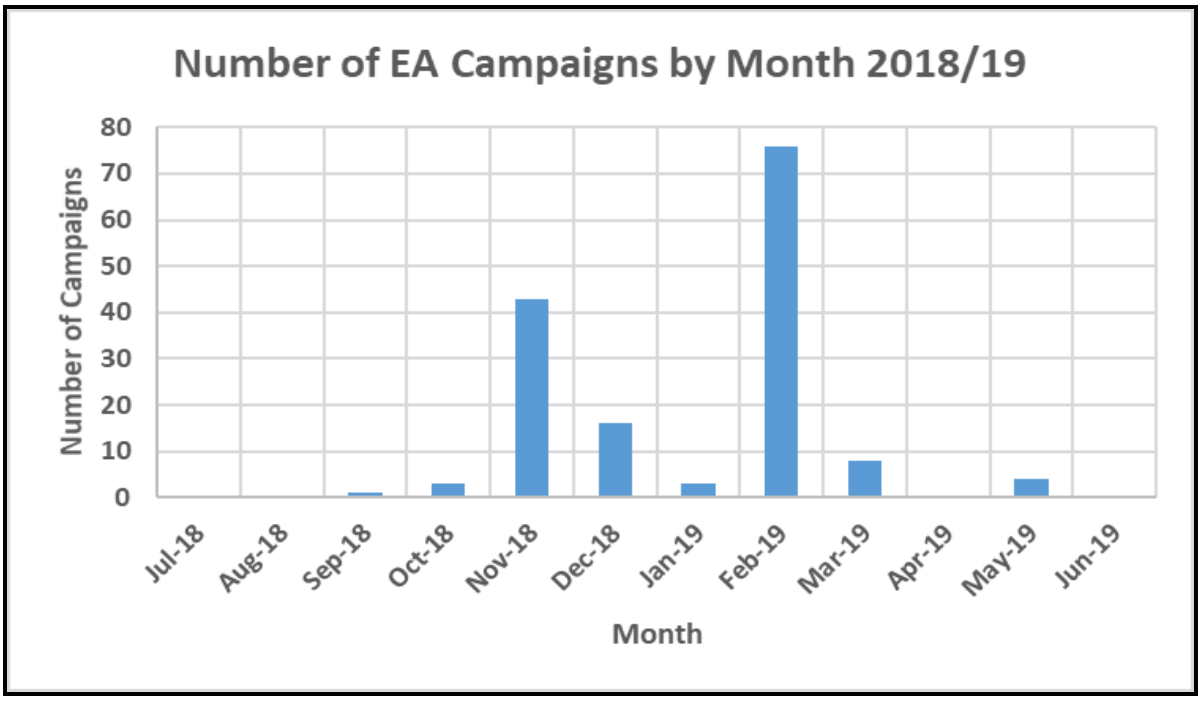

Figure 8: Displays the number of EA Campaign created by the SDCC Watch Desk by month for 2018/19. Note the spikes in created campaign align with significant weather events.

The EA campaigns disseminated included warnings to evacuate or seek shelter from approaching bushfires or cyclones, providing safety notifications regarding infrastructure, and advice on river/water levels during flood events.

The first EA campaign disseminated in 2018/19 was to warn residents in the Walsh River area of an approaching bushfire in September 2018. This warning was the first bushfire related EA warning ever issued in Queensland. Figure 9 (next page) displays the threat type of the 154 EA campaigns created in 2018/19.

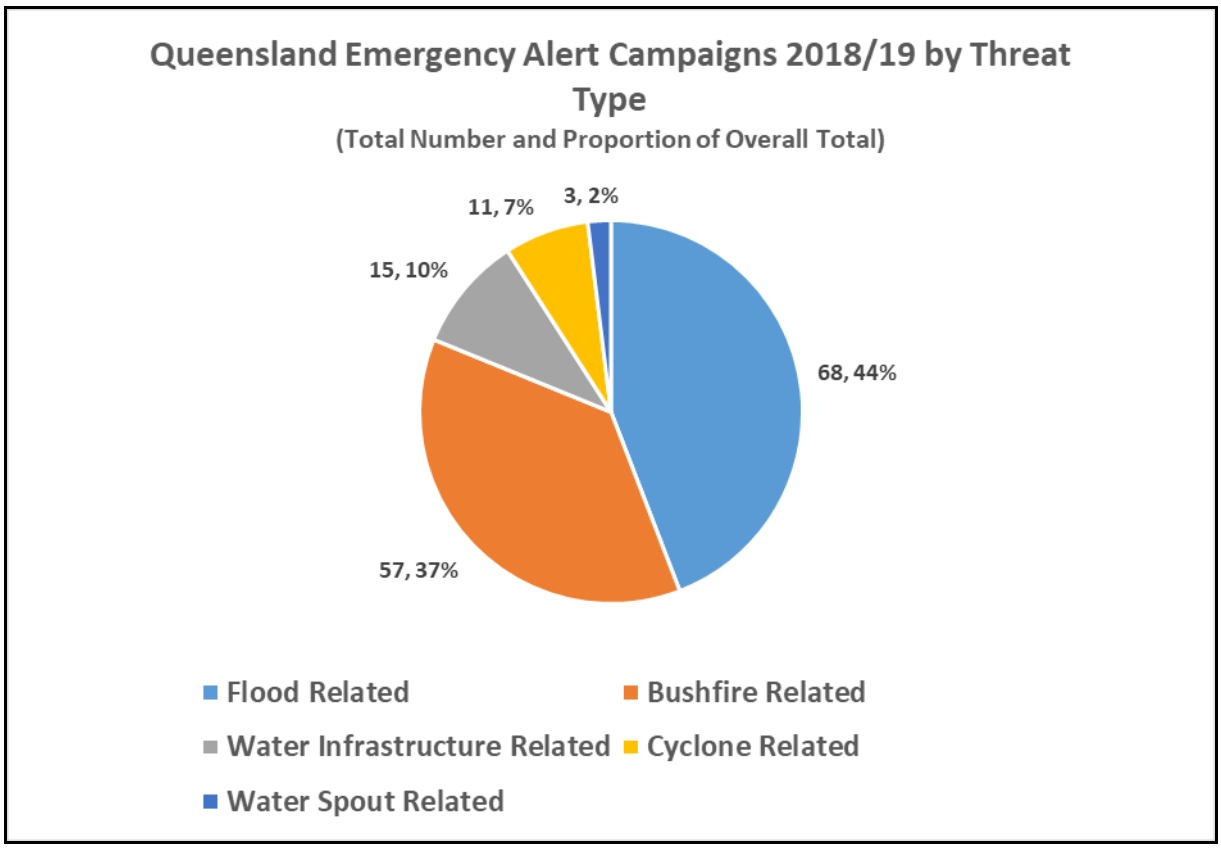

Figure 9: The total number of Emergency Alert campaigns created in Queensland during the 2018/19 reporting period. The data displayed includes the total number by threat type and overall proportion.

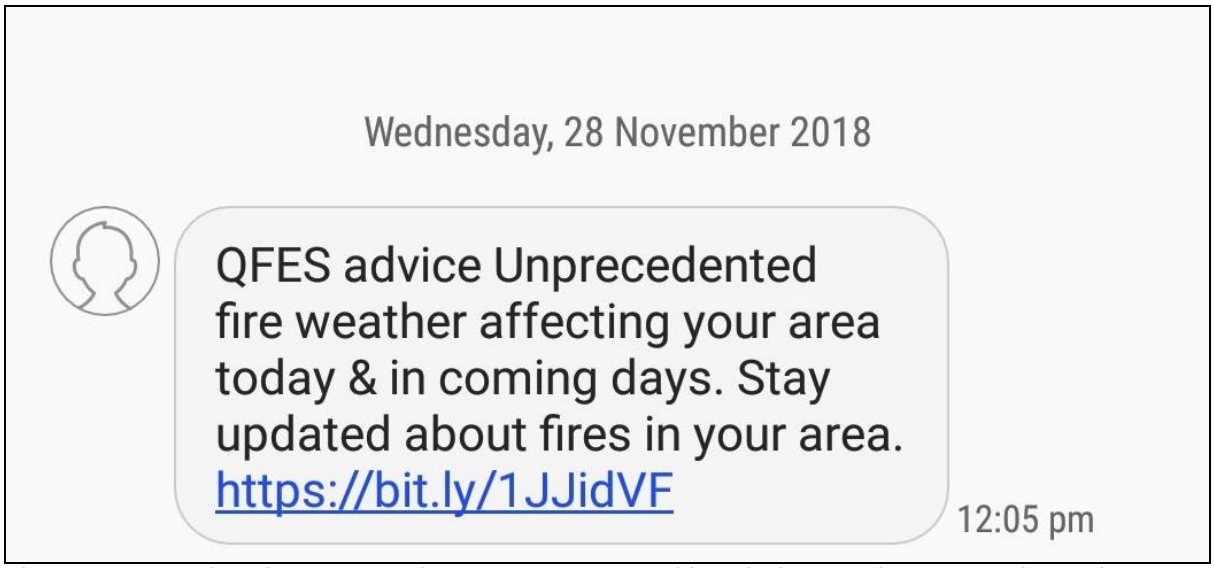

Figure 10: Screenshot of Emergency Alert message sent to residents in the areas between Mackay and Rockhampton warning of bushfire threats. Image: QFES

SES Tasking

Between 1 July 2018 and 30 June 2019, the Watch Desk oversaw 10,650 requests for SES assistance via the SES Tasking and Management System (TAMS). This has increased by 64% from the 20-17/18 reporting period. The SDCC Watch Desk provides coordination of SES activations, providing additional resource sourcing when requested. The image below shows the distribution of requests for SES assistance across Queensland in this reporting period. The Watch Desks maintains communication with SES groups across Queensland.

Requests for SES assistance from the public are generally received as a result of cyclone, flood and storm emergencies, with residents requesting assistance with leaking roofs, downed trees and water inundation.

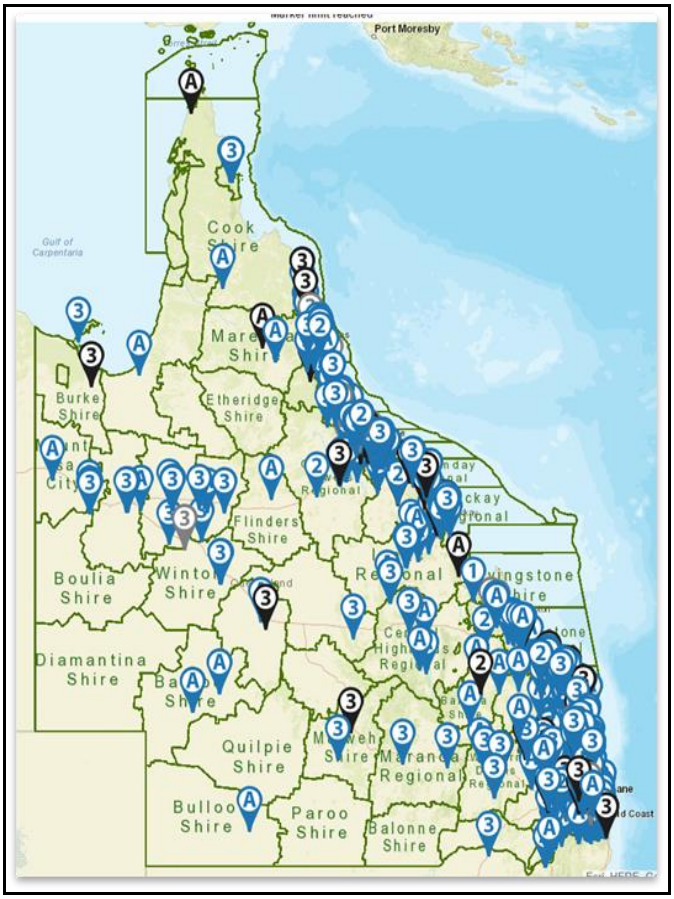

Figure 11: Map depicting location and priority status of SES jobs during the 2018/19 reporting period. Map sourced from TAMS

Other emergency services agencies can also request assistance from the SES to support operations. This support can take the form of assisting in a vertical rescue, re-supply operations, searching for missing persons (including air observations), traffic control near crash scenes, or other actions. TAMS classifies these requests as Agency Support Requests (ASR). ASRs are often time critical, time intensive and are actioned as a priority by Watch Desk staff. The Watch Desk is contacted directly by the requesting agency and Watch Desk personnel ask a series of questions to help determine the urgency of the request and what resources may be required.

Table 3 displays the number of requests for assistance SES received which were actioned and monitored by the Watch Desk in TAMS during the report period.

Table 3: Number of SES jobs received and actioned in TAMS by the SDCC Watch Desk during 2018/19

		Storm & Flood	Agency Support	Total
2018	July	12	79	91
	August	34	77	111
	September	93	104	197
	October	1,126	101	1,227
	November	259	168	427
	December	1,555	152	1,707
2019	January	532	88	620
	February	4,761	107	4,868
	March	966	76	1,042
	April	76	58	134
	May	45	63	108
	June	61	57	118
	Total	9,520	1,130	10,650

2.2 SDCC Training and Exercises

SDCC staff maintain currency in disaster management capability by committing to ongoing study, attending relevant professional development courses and attending and conducting training and exercises.

The SOCB Exercise Coordination Team along with QPS and Watch Desk staff conducted in-house training for EA, QDMA, Train the Trainer and System Administration to ensure the SDCC workforce remains current and competent for centre activations.

Ongoing external EA training is also being conducted to ensure staff from local government, QFES and other relevant agencies throughout the State have sufficient skills and knowledge to identify the need for an EA campaign, and the correct process for creating, requesting and approving the requests.

Capability Training

During the 12-month period from 1 July 2018 to 30 June 2019, capability training was delivered to 297 staff, in preparation for the severe weather season. The training is aimed at staff who have no previous SDCC experience, as well as refresher seminars designed to inform former participants of any updates and ensure competency is maintained. The training covers processes for working within the SDCC during activation, general human resource, rostering and safety aspects for all participants, who then receive targeted capability training for one or more of the Command, Operations, Planning, Logistics, Intelligence, Public Information or Aviation Cells.

The Emergency Management Exercise Coordination Unit is currently developing online training modules to cover the generic functions of the EMS, such as the various logs and reports that are used by all Capabilities. These modules are aimed at staff who have already completed the initial face to face training.

Exercises

Exercise PacWave 18 and Exercise Unimast were tsunami related exercises that were conducted in late 2018 and were based on the same scenario of a major underwater earthquake near the Solomon Islands generating a powerful tsunami. PacWave was a national activity that exercised the communication process between the Joint Australian Tsunami Warning Centre, the BoM and the relevant jurisdictions. Whilst Unimast was a SDCG endorsed discussion exercise that involved all tiers of the QDMA, a panel of experts were on hand to provide detailed information when required. From the two exercises, 18 findings were identified but as all findings were tsunami related, a combined action plan has been developed.

2.3 Emergency Management Planning Unit

The Emergency Management Planning Unit (EMPU) provides high level planning support to QFES and all levels within the QDMA. This is achieved through the development, implementation and maintenance of situational awareness products, tools and projects. For example, the QDMA Data Sharing Group is a group that has been created within ArcGIS Online that allows data relevant to disaster management activities (across the four phases of Prevention, Preparedness, Response and Recovery) to be shared. Items in this group include data layers published by QFES and other stakeholders within the QDMA. At present there are over 200 members made up of representatives from local, district, state and federal departments/agencies, and over 340 items being shared. Using the Survey 123 application, damage assessment information collected can be provided and shared in real time. The data is made available as either a data layer or as part of the QFES damage assessment dashboard. The real time sharing of this data provides a single point of truth to damage assessment data ensuring consistency for those agencies involved in recovery.

Additional web maps and dashboards have been created to support disaster management activities, including the SDCC Situational Awareness Platform (SAP). The SDCC SAP contains a series of web apps that contain layers and tools that help provide situational awareness in the lead up to and during an event. It was used extensively across all levels of the QDMA throughout the 2018/19 disaster seasons.

The EMPU is also responsible for the SDCC Planning Capability during the activation of the centre. The role of the SDCC Planning Capability is to conduct directed and proactive planning in addition to enhancing situational awareness. This is achieved through the timely provision of hard copy and digital graphical information not only to the SDCC and State Operations Centre, but also to the SDCG and QDMC.

2.4 QFES Meteorologist

The SDCC onsite QFES Meteorologist supports strategic and tactical decisions that need to be made by SDMG. The role ensures the effective use of meteorological information within the SDMG and is responsible for providing relevant training to QFES staff during non-operational periods. The QFES Meteorologist is an employee of the BoM and embedded in the SDCC, but during the fire season will be expected to provide briefs or even operate in the State Operations Centre at Kedron.

The QFES Meteorologist offers decision support and briefing services to a range of State, District, and Local Government stakeholders, as required. Any requests for weather or flood related decision support from State and Local Government are usually received through the QFES SDCC Watch Desk which operates 24 hours a day, 7 days a week. The QFES Meteorologist also provides direct weather related operational support to the Watch Desk by offering additional weather related guidance when required to allow accurate information to be forwarded to stakeholders.

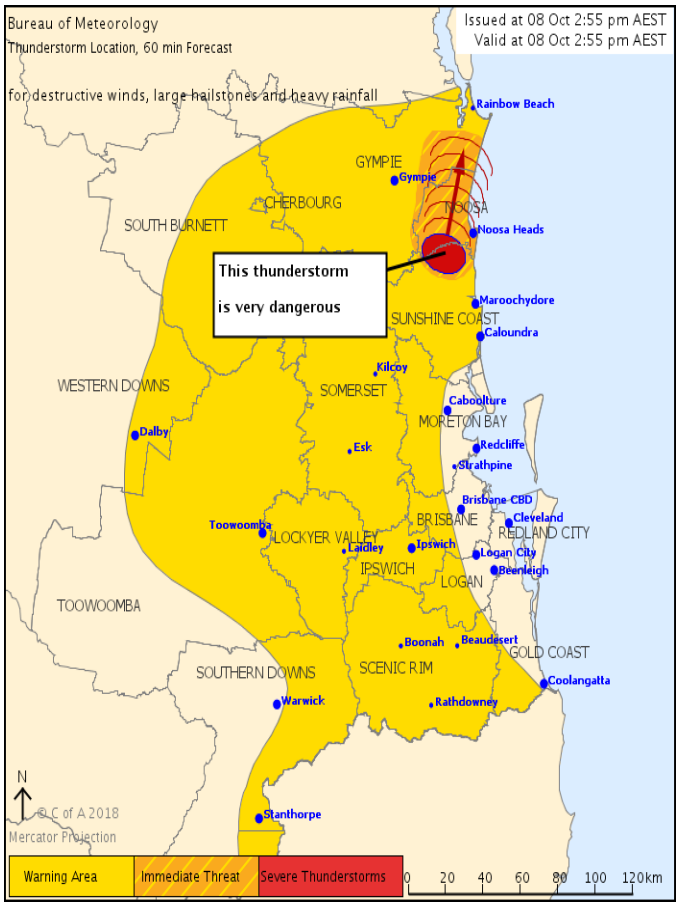

Figure 12: Image from a BoM Severe Thunderstorm Warning issued on 8 October 2018. Severe thunderstorms affected the South East of the State for several hours. The image depicts a very dangerous storm cell. Image: BoM

The position operates during business hours, but extended hours of coverage (including weekends and public holidays) are typically requested by QFES during severe weather events. Outside these times, the Watch Desk has direct access to Senior Meteorologists at the BoM's office in Brisbane City who can assist with weather related queries and intelligence.

3.0 SDCC Tours and Visits

The importance of the SDCC's role in Queensland disaster management has seen many groups and individuals provided a tour of the facility to better present and explain the role of the SDCC.

SDCC staff hosted official tours of the SDCC and gave presentations to around 500 official visitors. Visitors included senior government dignitaries and officials, international disaster agency representatives from the United States, India, and Indonesia, QFES staff and volunteers from around the state, Australian Defence Force (ADF) personnel, and disaster management representatives from Queensland local governments, and students from universities, high schools, and primary schools.

Tours present visitors with a walk through the facility and an overview of the SDCC operations and QDMA, a summary of previous emergencies along with lessons identified, and technology and processes within the SDCC.

Figure 13: A delegation from the Indonesian Agency of Meteorology, Climatology and Geophysics (BMKG) during their SDCC tour in October 2018.

4.0 SDCC Activations July 2018 – June 2019

The SDCC is always operating. Tasks continuously exist for the centre and these are managed by a core group of QFES employees supported by relevant stakeholders with internal and external to the State Government. However, during emergent or significant weather and disaster related circumstances, the SDCC changes operational readiness, which in turn triggers a change in operational actions and responses. These changes in operational readiness are defined by the SDCC activation levels.

The SDCC operates activation levels stated within the QDMA. These levels change based on the needs of relevant Local Disaster Management Groups (LDMG), District Disaster Management Groups (DDMG), and state-level resources. Where possible, changes to the SDCC activation levels are made in advance of a disaster to ensure appropriate planning and support is available. QFES and QPS management collaborate on the activation level movements of the SDCC.

Between July 2018 and June 2019, the SDCC was activated to respond to three tropical cyclones, a monsoonal low pressure system and associated flooding, and significant bushfire activity during periods of dangerous fire weather conditions. The SDCC was activated for a total of 42 days, with 4,459 EMS users contributing to the SDCC response.

SDCC Activation Levels

Business as usual (BAU): During this time, the Watch Desk monitor for potential emergency situations. Once an event is identified, the Watch Desk liaise with disaster management stakeholders gaining greater situational awareness and brief QPS and QFES management. These briefings lead to the decision to activate the SDCC. Rosters for the SDCC are formed with capability leads notified.

Alert: When at *Alert*, QPS are present in the SDCC liaising with LDMGs and DDMGs. The SDCC Commander is briefed on the situation. The Planning Unit develops further plans for Disaster Management Groups (DMG) as well as inclusion into briefings within the centre. Initial staffing of the Intelligence capability may also occur. Further rostering and logistics tasks can be carried out to ensure resources in the centre and on the ground is sufficient. The relevant situation continues to be monitored by the Watch Desk as well as any other threats.

Lean Forward: A greater presence in the centre from QFES and QPS is expected at this level. SDCG members and proxies begin to attend the centre. All capabilities will now have some level of staffing present within the SDCC. Requests For Assistance (RFAs) from DMGs may be received and actioned at this stage. The Public Information capability may disseminate initial key messaging for the event.

Stand Up: The SDCC runs at required capacity in all capabilities at this level and may occur as the first movement after BAU for an incident that has little or no lead time. The SDCC Commander ensures the SDCC is operating effectively to support the needs of local operations. Event specific reporting commences ensuring stakeholders are aware of operations. This is the highest level of SDCC activation.

Stand Down: As support to the DMGs decreases, activation movement of the SDCC back to Stand Down occurs. When at this level, the SDCC is replenished for future activations. Debriefs, reports and queries on the operation can occur. The Watch Desk continues to monitor the event and supports any RFA's including resupply that may requested by the DMGs. The SDCC returns to BAU status.

During the 2018/19 reporting period, the SDCC was at an increased activation level for a total of 42 days. During this time, 132 EA campaigns were created, 5,739 SES tasks actioned, 283,946 emails sent by the SDCC, and 3,295 reports disseminated to disaster management stakeholders. When compared to the previous reporting period of 2017/18, the most significant increases were in the number of EA campaigns and SMS sent (both over 1,000% increase), SES tasks actioned (over 850% increase), and the total number of reports sent by the SDCC via EMS (over 500% increase). Table 4 displays combined statistics for all activation periods during 2018/19 with the data compared to the previous reporting period of 2017/18.

Table 4: Combined 2018/19 Statistics for SDCC Activations showing comparison to the 2017/18 reporting period.

Combined Statistics for SDCC Activations	2018/19	2017/18	% Change
SDCC total days at increased activation levels	42	17	147.06%
Number of Emails Received via EMS	9,339	4,447	110.01%
Number of Emails Sent via EMS	283,946	92,594	206.66%
Number of SMS Sent via EMS	233,596	18,987	1130.29%
Number of System Logs in EMS	4,665	1,794	160.03%
Number of Tasks Completed in EMS	3,476	901	285.79%
Number of Reports Disseminated by EMS	3,295	547	502.38%
Number of Emergency Alerts Issued	132	9	1366.67%
Number of Weather Warnings Issued	1,202	403	198.26%
Number of SES tasks actioned during activation period	5,739	600	856.50%

4.1 Deepwater Bushfires & Severe Weather Conditions November/December 2018

A prolonged heatwave in late November to early December 2018 saw recorded temperatures over much of Queensland reach 40+°C. Between 26 and 28 November 2018, 14 Queensland locations broke November daily maximum temperature records, and seven locations recorded their highest ever November mean maximum temperatures. Many other locations observed record runs of consecutive hot days during this period of intense heat. (Nov 18 Bureau of Meteorology, 2018)

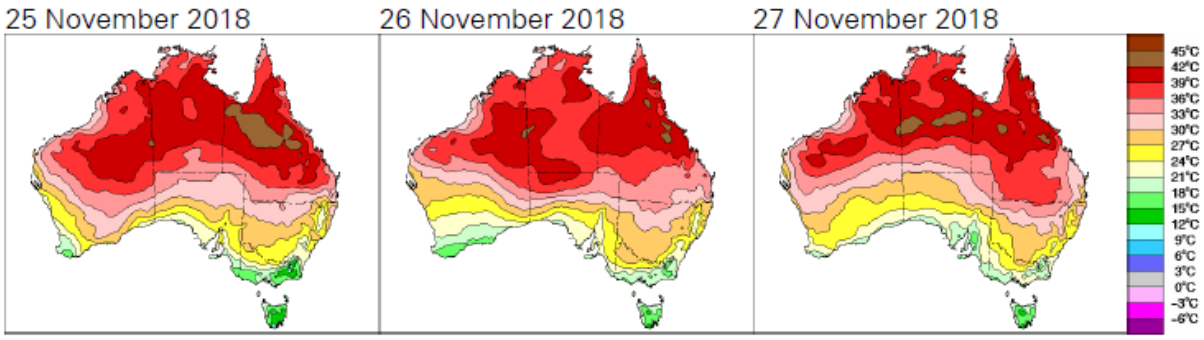

Figure 14: Maximum daily recorded temperatures 25-27 November 2019. Very high temperatures coincided with extended dry periods. (Nov 18 Bureau of Meteorology, 2018, pg 12)

Elevated fire danger across much of Queensland resulted from below average rainfall experienced across eastern Queensland, high temperatures, low humidity and strong westerly winds. The forest fire danger index (FFDI) was extreme (over 75) across large parts of the State, and reached "catastrophic" levels (100 or above) at some locations; for example, Rockhampton Airport reached a peak FFDI over 130.

By 28 November, QFES were responding to about 130 bushfires. Over 716,000 hectares burnt between 26 and 30 November. On the 30 November there remained 105 fires burning, and by 6 December over one million hectares had been burnt. Fires occurred across the length of the east coast, from just south of Cairns to the Gold Coast. (Nov 18 Bureau of Meteorology, 2018)

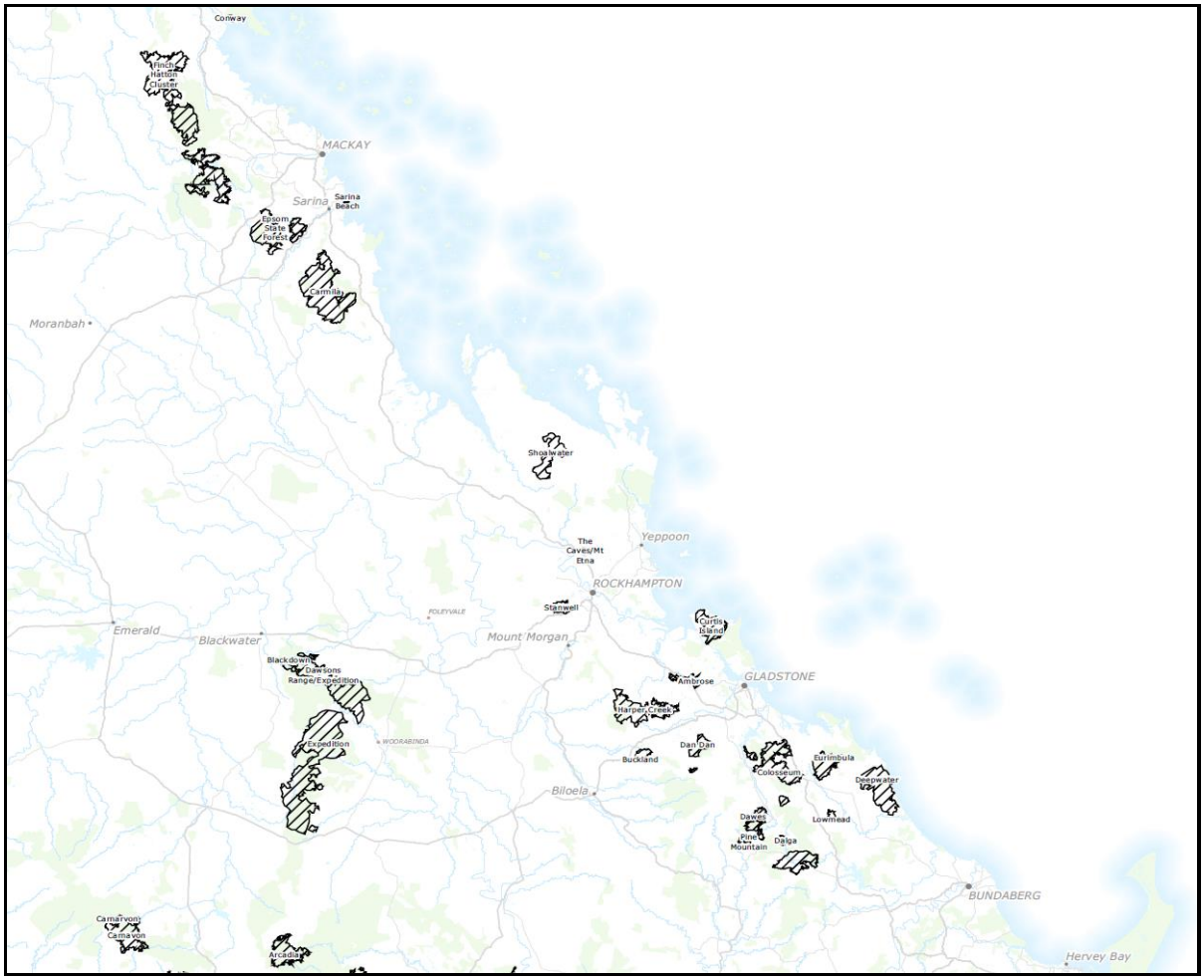

Figure 15: Mapped bushfires between Bundaberg and Mackay in November 2018. Shaded area indicates areas directly affected by fire. Image supplied by PSBA

Up to 800 residents of Deepwater were urged to evacuate on 26 November, and on the 28th around 4000 residents of Gracemere were evacuated. Nine dwellings were identified as destroyed and an additional eight damaged, along with dozens of sheds and other structures. Various degrees of damage to crops, horticulture, and livestock were also recorded.

Figure 16: Aerial view of the Deepwater Bushfire, 100km NW of Bundaberg taken on 28 November 2018. Image: QFES

Table 5: SDCC Activation Statistics for Deepwater Bushfire/State wide Fire Danger November 2018. Data sourced from EMS.

Activation Statistics: Deepwater Bushfires & Severe Weather Conditions November/December 2018	
SDCC total days at increased activation levels (26 Nov-7 Dec)	12
Total number logged in to EMS during activation	1,702
Number of Emails Received	2,738
Number of Emails Sent	79,761
Number of SMS Sent	15,723
Number of System Logs	2,066
Number of Tasks Completed	795
Number of Reports Disseminated	1,067
Number of Emergency Alerts Issued	48
Number of Weather Warnings Issued	122
Number of SES tasks actioned during activation period	411

4.2 Severe Tropical Cyclone Owen - December 2018

A tropical low was detected in the Solomon Sea on 30 November 2018. The system moved into the Coral Sea and formed into a tropical cyclone (TC) on 2 December. The system was named TC Owen and continued to move into the south east of the Coral Sea before weakening into a tropical low.

The system then headed toward Queensland, making landfall near Port Douglas on 10 December. The system still had power and 100km/h wind gusts were recorded off the coast. Cairns Airport recorded gusts of 87km/h and as a result the area saw many uprooted trees.

Figure 17: The flooded Herbert River on 16 December 2018, Halifax, Qld. Increased rainfall and flooding was due to STC Owen. Image: QFES

Heavy rain also accompanied the system. In the 24 hrs to 0900hrs 10 December:

- Kirrama Range Alert (west of Cardwell) recorded 349 mm
- Flaggy Creek Alert (between Cairns and Port Douglas) recorded 286 mm (including 200 mm in 6 hours)
- Cardwell Tide Alert recorded 278 mm.

Ex TC Owen crossed Cape York Peninsula and re-intensified in the gulf reaching category 3 intensity. The now Severe Tropical Cyclone (STC) system crossed back toward Queensland

and made landfall near the Gilbert River on the south west corner of Cape York Peninsula early on 15 December bringing wind gusts up to 91km/h. The system then tracked back toward the east coast. (TC Owen Bureau of Meteorology, 2018)

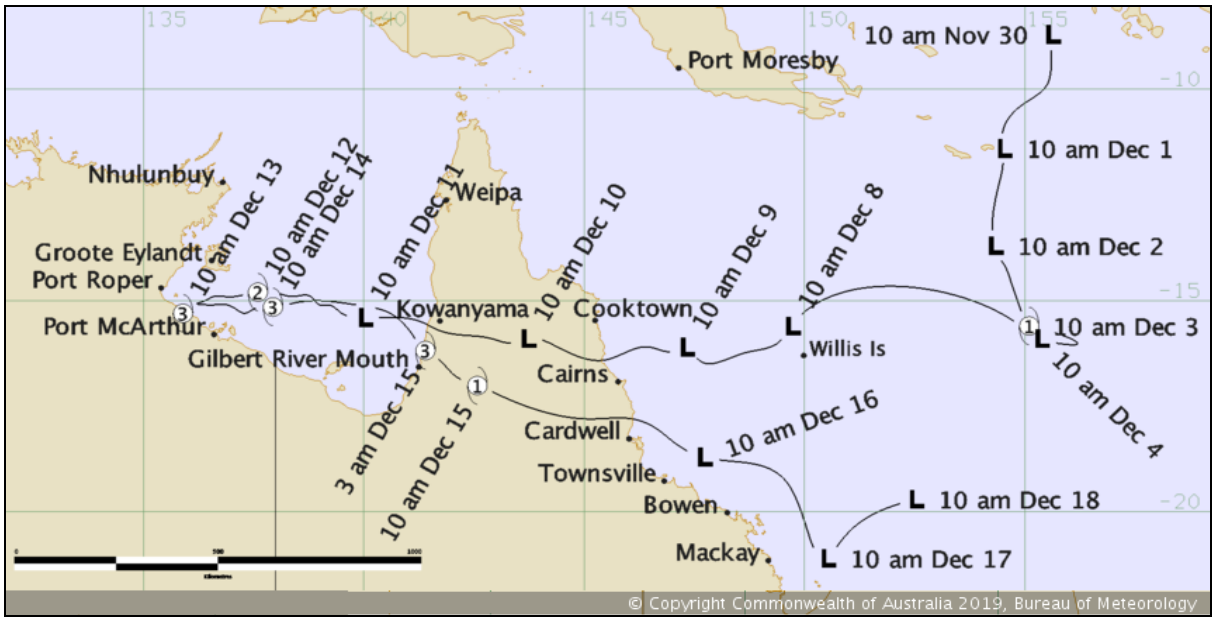

Figure 18: TC Owen Track map showing the change in intensity and path across northern Queensland. Image: BoM

Very heavy rainfall accompanied the system with Halifax (west of Ingham) receiving 681mm of rain in 24hrs to 0900hrs 16 December (an Australian record for December). The Bruce Highway was cut north of Ingham. Two flood water rescues occurred, including a mother and daughter rescued from their vehicle in crocodile-infested floodwaters. Sugarcane crops were impacted, and hundreds of chickens were lost to flooding.

After moving back into the Coral Sea, the remains of Owen persisted as a tropical low for several days but did not reform into a tropical cyclone. (TC Owen Bureau of Meteorology, 2018)

Table 6: SDCC Activation Statistics - STC Owen December 2018. Data sourced from EMS

Activation Statistics: Severe Tropical Cyclone Owen - December 2018	
SDCC total days at increased activation levels (12-16 Dec)	5
Total number logged in to EMS during activation	507
Number of Emails Received	1,106
Number of Emails Sent	73,515
Number of SMS Sent	25,628
Number of System Logs	441
Number of Tasks Completed	571
Number of Reports Disseminated	387
Number of Emergency Alerts Issued	0
Number of Weather Warnings Issued	215
Number of SES tasks actioned during activation period	597

4.3 Active Monsoon- Far Northern Region: Townsville and North Western Queensland Floods – January/February 2019

On 23 January, a monsoon low was identified east of Mapoon. The system moved into the Gulf of Carpentaria and deepened, however the system moved back over land on 26 January before it could form into a tropical cyclone.

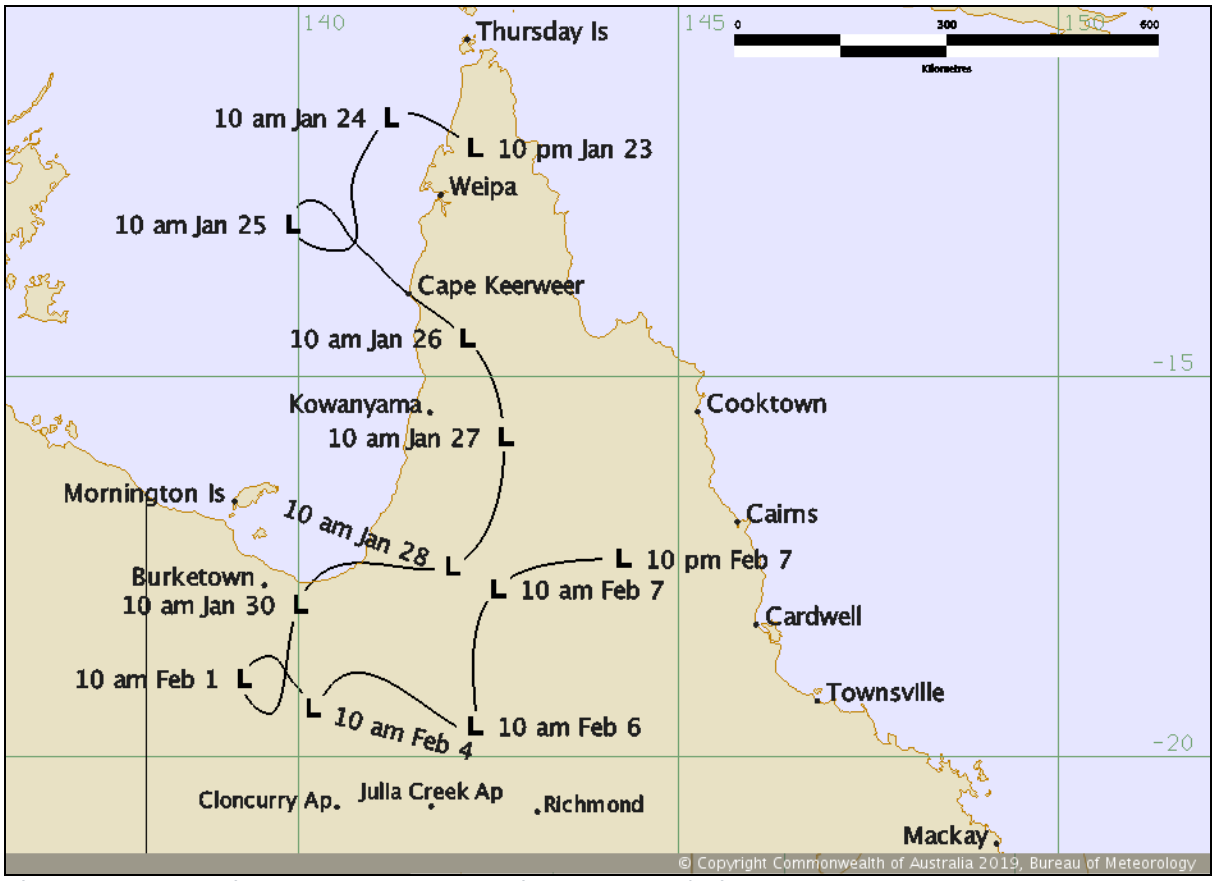

Figure 19: Monsoonal Low Pressure system track map, January/February 2019. Image: BoM

Late on 26 January, thunderstorms and torrential rainfall occurred about the Mossman and Daintree areas. Mossman Central Mill recorded 562mm in the 24 hours to 9am on January 27th, while China Camp recorded 426mm, and Daintree Village 425mm. Rapid onset record level major flooding occurred in the Daintree river as a result.

The tropical low moved slowly south west and stalled and remained almost stationary near Cardwell. Torrential rain occurred for around 7 days over north west Queensland, most notably around the Townsville area. (Tropical Low Bureau of Meteorology, 2019)

On 1 February, a major flood warning was current for the Ross River. A controlled release of water from the Ross River Dam was underway to in an attempt to mitigate impacts expected rainfall.

Over the northwest, the areas around Cloncurry, Julia Creek, and Richmond received the heaviest falls. Numerous long-standing rainfall records were broken, both daily and weekly. Many locations received well over their average annual rainfall in under a week. Record rainfalls included:

- Land's End Station (east of Cloncurry) 637mm in 7 days including 285mm on 4 February
- Gregory Springs Station 580mm in 7 days
- Richmond Post Office 498mm in 7 days
- Bunda Bunda (northeast of Julia Creek) 452mm in 7 days including 177mm on February 6
- Julia Creek 233mm on 5 February.

Record flooding occurred over a wide area, with major floods in the Flinders, Cloncurry, Albert, and Leichhardt Rivers. The Flinders River at Richmond broke the long-standing 1974 flood level. Over 300,000 cattle perished in floodwaters at a cost of over $300 million. (Tropical Low Bureau of Meteorology, 2019)

Figure 20: Image showing the Ross River Dam floodgates fully opened on 4 February 2019. Image: QFES

On the east coast, the Townsville, Bluewater, and Paluma areas received the heaviest falls. Townsville received more than their annual rainfall in a week. Significant rainfall levels include:

- Woolshed 368.8mm on 2 February
- Townsville Aero 1052.8mm in 7 days
- Rollingstone 1099mm in 7 days
- Upper Bluewater 2223mm in 10 days
- Paluma Alert 2212mm in 10 days.

Major flooding occurred in the Ross, Haughton, Herbert, Burdekin, Ross, Bohle, Black, and Murray rivers. On 3 February, further torrential thunderstorms developed over the Ross River catchment and dropped 300mm of rain in a few hours. The Ross River Dam reached nearly 250% capacity and its floodgates opened automatically to avert dam failure, exacerbating the pre-existing flooding of the Ross River in Townsville. Over 2000 properties in Townsville were flooded, and 3 deaths occurred as a result of floodwaters. (Tropical Low Bureau of Meteorology, 2019). 25 EA campaigns were completed to warn residents of the dangers of the dam releases and associated riverine flooding.

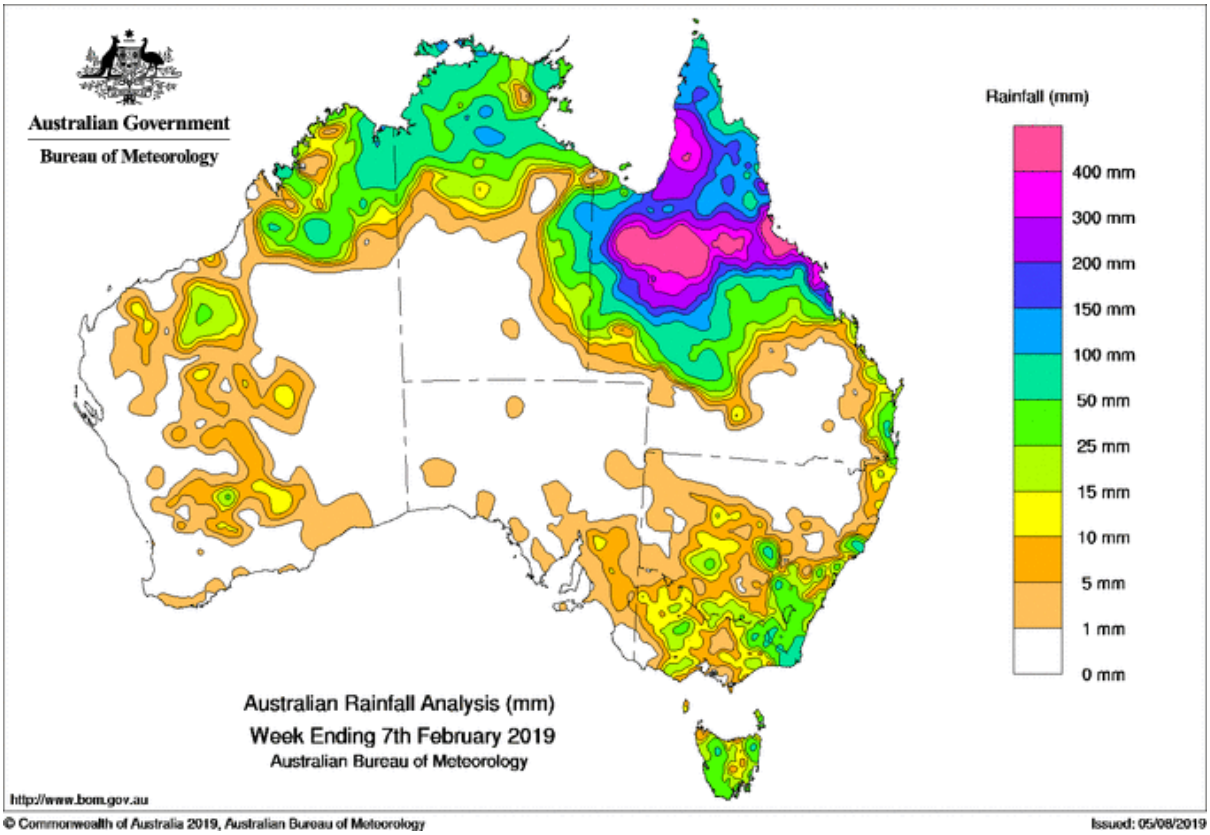

Figure 21: 7 day rainfall map of Australia 1-7 February 2019 showing high levels of rainfall in northern and far northern Queensland.

Table 7: SDCC Activation Statistics – Active Monsoon – Far Northern Region & Townsville and North Western Queensland Floods, January/ February 2019. Data sourced from EMS

Activation Statistics: Active Monsoon- Far Northern Region: Townsville and North Western Queensland Floods – January/February 2019	
SDCC total days at increased activation levels (1-13 Feb)	13
Total number logged in to EMS during activation	1,732
Number of Emails Received	3,131
Number of Emails Sent	26,330
Number of SMS Sent	160,251
Number of System Logs	1,404
Number of Tasks Completed	1,231
Number of Reports Disseminated	1,187
Number of Emergency Alerts Issued	78
Number of Weather Warnings Issued	500
Number of SES tasks actioned during activation period	4,194

4.4 Severe Tropical Cyclone Oma - February 2019

On 11 February, a tropical low formed in the Coral Sea west of Vanuatu. The system formed into a cyclone and was named TC Oma on 12 February. By 18 February the slow moving system had intensified to a category 3 STC. As Oma started to move into the southern Coral Sea on 22 February it began to lose some of its tropical characteristics and by 23 February the system was transitioning into a subtropical cyclone, around 400km northeast of Lord Howe Island.

TC Oma remained well offshore and lost some of its intensity but still caused damaging and destructive winds on the south east Queensland coast.

During TC Oma's movements, it was feared the system would track close to the south east Queensland coast and in the ensuing TC Watch issued by the BoM, the City of Brisbane was included in a TC Watch area for the first time in 20 years. (Bureau of Meteorology, 2019)

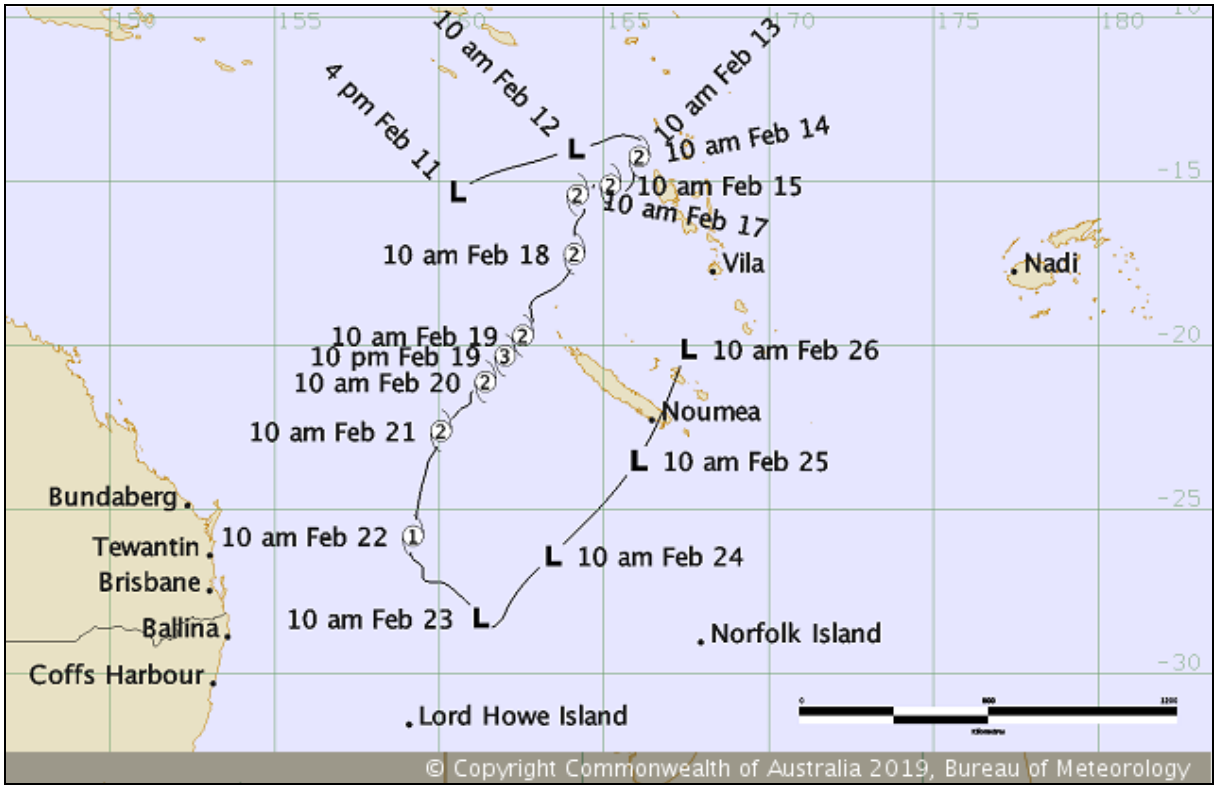

Figure 22: STC Oma track map: Image: BoM

TC Oma produced wind gusts of 113km/h at Cape Moreton, 109km/h at Double Island Point, and 89km/h at the Gold Coast seaway. Mooloolaba on the Sunshine Coast and Point Lookout (North Stradbroke Island) recorded maximum wave heights of 13m. (Bureau of Meteorology, 2019)

Table 8: SDCC Activation statistics - STC Oma February 2019. Data sourced from EMS

Activation Statistics: Severe Tropical Cyclone Oma - February 2019	
SDCC total days at increased activation levels (20-25 Feb)	6
Total number logged in to EMS during activation	213
Number of Emails Received	947
Number of Emails Sent	36,426
Number of SMS Sent	10,269
Number of System Logs	336
Number of Tasks Completed	340
Number of Reports Disseminated	297
Number of Emergency Alerts Issued	0
Number of Weather Warnings Issued	129
Number of SES tasks actioned during activation period	316

4.5 Severe Tropical Cyclone Trevor March 2019

On 11 March a tropical low formed in the Solomon Sea east of Papua New Guinea before moving into the northern Coral Sea on 16 March. At 0400hrs 17 March TC Trevor formed. TC Trevor rapidly intensified and crossed the Queensland coast just south of Lockhart River around 1900hrs 19 March as a severe category 3 system. (Bureau of Meteorology, 2019)

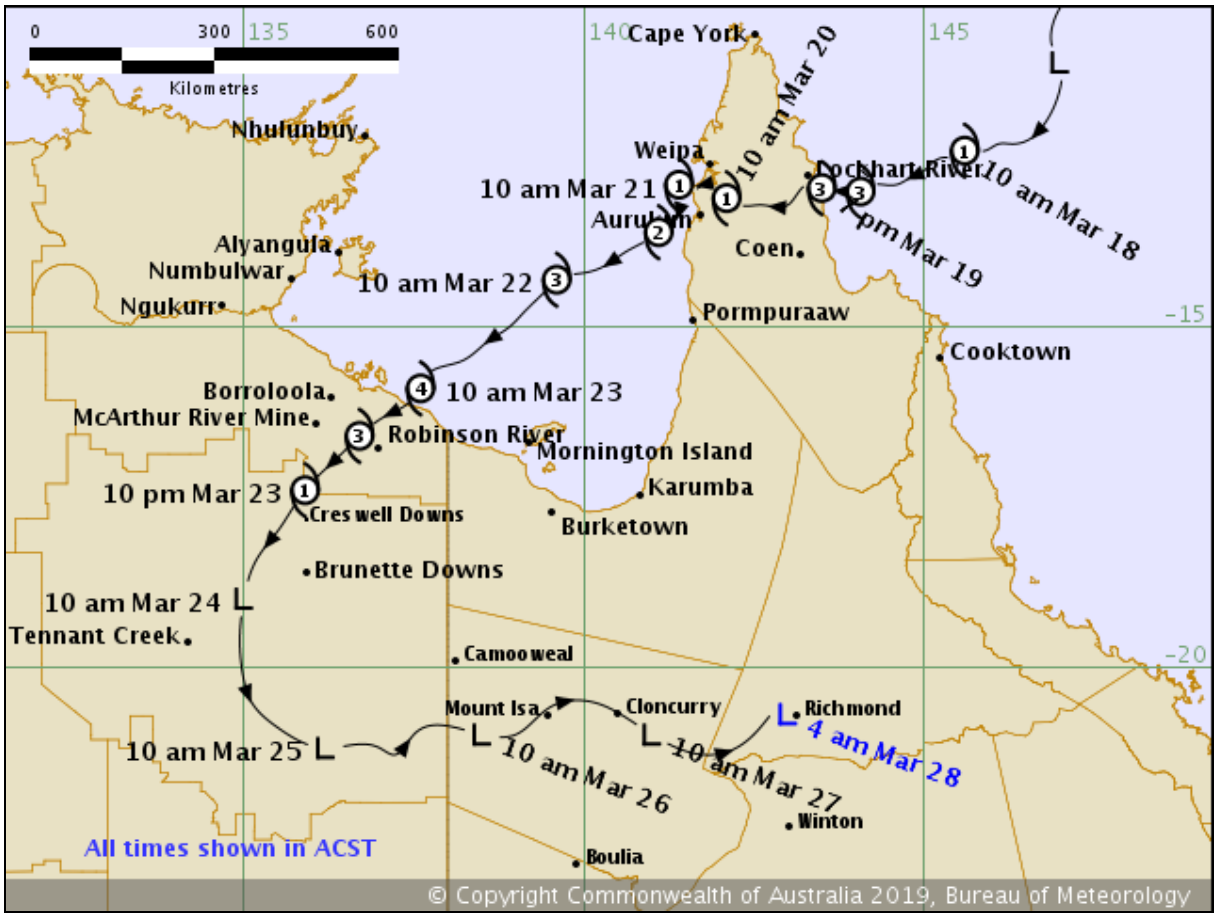

Figure 23: STC Trevor track map, March 2019. Image: BoM

The cyclone slowed down during crossing and the community of Lockhart River was subject to destructive winds for four hours with peak gusts recorded up to 137 km/h (74 knots). The cyclone weakened to category 1 intensity as it traversed Cape York Peninsula, emerging into the Gulf of Carpentaria south of Weipa early on 21st March. (Bureau of Meteorology, 2019)

Figure 24: Aerial image of the Lockhart River township after passage of STC Trevor through the area. Image: QFES

TC Trevor re-intensified over the gulf to a STC category 4 system and crossed into the Northern Territory with recorded wind gusts over land of 139km/h. The system moved inland, weakening to a tropical low on 24 March and moved into Queensland on 26 March near Mount Isa. The system then continued moving across north central Queensland districts for several days.

While Queensland was spared the worst of the wind intensity, STC Trevor still caused significant impacts in north Queensland, with trees defoliated and felled, damage to buildings at Lockhart River, and roads cut due to flooding in Cook Shire. Lockhart River received over 300mm of rain within 24 hours during TC Trevor's passage. A storm surge affected the southern coast of the Gulf of Carpentaria but caused little damage in a mostly unpopulated area. The tide gauge at Burketown, 300km east of landfall, recorded a surge of 1.8m, while Mornington Island recorded a 1.7m surge (160km east of the cyclone track). (Bureau of Meteorology, 2019)

Some parts of central-west and south-west Queensland received their first substantial rain in more than a year, with the remnant tropical system delivering between 100 and 200 millimetres in the 24 hours to 0900hrs on 27 March. Heavy 6-hour rainfall totals included 95mm to 0510hrs at Mt Harden (southwest of Blackall) and 82mm to 0740hrs at Bogewong (southwest of Longreach). (Bureau of Meteorology, 2019)

Figure 25: The Bulloo River breaks it's banks near Quilpie after ex-TC Trevor. Image taken on 29 March 2019. Image: QFES

Table 9: SDCC Activation statistics - STC Trevor March 2019. Data sourced from EMS

Activation Statistics: Severe Tropical Cyclone Trevor March 2019	
SDCC total days at increased activation levels (18-23 Mar)	6
Total number logged in to EMS during activation	305
Number of Emails Received	1,417
Number of Emails Sent	67,914
Number of SMS Sent	21,725
Number of System Logs	418
Number of Tasks Completed	539
Number of Reports Disseminated	357
Number of Emergency Alerts Issued	6
Number of Weather Warnings Issued	236
Number of SES tasks actioned during activation period	221

5.0 Events of Significance 2018/19

Due to its size and location, Queensland experiences significant climate variations and is impacted by a range of weather phenomena including tropical cyclones, thunderstorms and flooding. The BoM issues weather warnings based on the threat or threats and these warnings are further disseminated to a wide range of internal and external disaster management stakeholders by Watch Desk staff, who assess the warning and impact area to determine the distribution requirements. Other geological and infrastructure events also occur that result in the SDCC assessing possible impact to Queensland communities.

Events of significance for the 12-month period July 2018 to June 2019 are listed on the following pages. These events of significance saw the SDCC provide increase response without a formal activation. The increased response can include but is not limited to:

- Increased reporting on event
- Increased monitoring of resources
- Maintaining situational awareness

Strawberry Contamination, 9 September 2018

On 9 September 2018, needles in a strawberry punnet from a supermarket at Strathpine were found by a shopper. Further contaminated punnets of various brands were discovered across Queensland, New South Wales, Victoria and Tasmania. Additional cases of copy-cat contamination also occurred. Queensland Health activated the State Health Emergency Coordination Centre (SHECC). The SDCC offered support to the SHECC and conveyed their messaging through SDCC reports but did not move activation levels. The SHECC moved to *Stand Down* on 3 October 2018. An arrest was made by QPS in relation to the contamination on 11 November 2018.

North Goonyella Fire, 27 September 2018

On 27 September 2018 a fire was reported at the Peabody North Goonyella Mine. Peabody established a 250-metre exclusion zone with a Queensland Mines Rescue crew dispatched from Dysart. A QFES Emergency Management Coordinator liaised with Isaac Regional Council, following the Isaac LDMG moving to *Alert* status on 27 September 2018. The SDCC BoM Meteorologist provided localised weather information for planning purposes. QFES offered Peabody equipment, however, this offered was declined. The fire was controlled with Isaac LDMG moving to *Stand Down* on 2 October 2018.

Indonesia Tsunami and Earthquake, 28 September 2018

On 28 September 2018 a magnitude 7.5 earthquake occurred near Sulawesi, Indonesia. The earthquake initiated a localised tsunami impacting Palu however, a tsunami no threat bulletin was issued for Australia. 4,340 Indonesians were reported dead with over 70,800 evacuated. Offers of assistance were provided to the Indonesian Government by the federal government, however, these were declined. The SDCC conveyed updated information of local operations inside daily reports.

Severe Thunderstorms – South East Queensland, 8-9 October 2018

Damaging winds, heavy rainfall, and large hail were forecast to possibly occur during severe thunderstorms in south east Queensland. 56mm of rain fell in 15 minutes in Coolum West, and 2cm hail was recorded in Nambour. 113 SES tasks were actioned with Sunshine Coast Local Government Area (LGA) receiving 56 and Noosa LGA 30.

Severe Thunderstorms – Central and South East Queensland, 11-12 October 2018

Due to an extensive trough moving across central Queensland, BoM issued severe thunderstorm warnings in the afternoon. BoM activated the Standard Emergency Warning Signal (SEWS) after two tornados were observed at Coolabunia (SE of Kingaroy) and Tansey, near Murgon in the afternoon. An EA was requested by Fraser Coast Regional Council and issued for the areas of Hervey Bay, Maryborough and Tiaro due to the potential for further tornados. Giant hail was observed in the Wide Bay and Burnet district up to 7cm in diameter, and wind gusts up to 144km/h were recorded near Blackwater. SES received more than 330 requests for assistance with Fire & Rescue Service (FRS) and Rural Fire Service (RFS) supporting operations as well as deployment of SES from Brisbane Region. One public school was closed due to damage received from the storms, and thousands of homes and businesses suffered lengthy power outages following damage to power infrastructure. Due to the extensive damage in some communities, Maryborough DDMG moved to *Alert*, South Burnett LDMG moving to *Stand Up*, Gympie LDMG moving to *Lean Forward* and Fraser Coast LDMG moving to *Alert*.

On 12 October, further widespread thunderstorms impacted most of eastern Queensland. Large hail was observed in the Townsville area. The North Coast Region in particular suffered significant impacts to residential areas with SES receiving 203 tasks. Bundaberg LGA received 49 tasks, Fraser Coast LGA 38, Gympie LGA 74 and South Burnett LGA 28 tasks. DMGs in the areas remained activated until 15 October to assist in response operations. Thousands of homes and businesses remained without power for some time.

Severe Thunderstorms – South East Queensland, 21 October 2018

Severe thunderstorms with damaging winds, heavy rainfall, and large hailstones impacted South East Queensland. Wind gusts of 106km/h were recorded at Toowoomba, golf ball size hail recorded at Aspley, and 56mm of rain recorded at Bundamba in a 30-minute period. 93 tasks were received by SES for storm related assistance.

Burst Water Main, Karragarra Island, 23 October 2018

On 23 October 2018 a water main burst impacting the Moreton Bay Islands of Karragarra, Macleay and Lamb. A boil water notice was issued by Redland City Council and SEQ Water. An EA message was requested by Redland City LDMG to be disseminated to the impacted islands while repair work was underway. The EA campaign was prepared by the SDCC Watch Desk and distributed. Volunteers from the RFS and SES assisted with distribution of water to residents. Queensland Health advised water quality following repairs met guidelines with the boil water notice lifted on 24 October 2018.

Severe Thunderstorms – South east Queensland, 17 November 2018

Severe thunderstorms with damaging winds, heavy rainfall and large hailstones impacted areas across the southeast with widespread power outages and damage. A school on the Gold Coast had classrooms impacted by flash flooding. Gold Coast LGA received 36 SES tasks and Gympie LGA 14.

Severe Thunderstorms – Southeast Queensland, 27-28 November 2018

Severe thunderstorms impacted south eastern Queensland causing damaging winds, heavy rainfall, and large hailstones were forecast in thunderstorms that occurred in the south east. The effects of the storm led to 88 requests for assistance from SES. Brisbane City LGA received 23 SES tasks, Gold Coast LGA 14, Ipswich LGA 10, Scenic Rim LGA 13 and Logan LGA 10.

Severe Thunderstorms – Central and South Eastern Queensland, 21–23 December 2018

Severe thunderstorms impacted South Eastern Queensland over three consecutive nights. Gold Coast LGA was impacted the most severely receiving 470 of the 635 SES tasks actioned. FRS and RFS assisted with the clean-up. At the peak more than 42,000 energy customers were without power as well as delays on the road network. Gold Coast LDMG moved to *Alert* in response to the thunderstorms. 78% of requests for assistance were for clearing fallen trees or structural issues with buildings.

Tropical Cyclone Penny, 31 December 2018 – 9 January 2019

On 28 December, a tropical low formed in the north west Coral Sea. The system crossed Cape York Peninsula as a low pressure system, intensifying to a TC once it reached the Gulf of Carpentaria early on 1 January around 100km west of Weipa and was named TC Penny.

Tropical Cyclone Penny made landfall along the west coast of Cape York Peninsula, near Weipa, late on New Year's Day 2019, as a category 1 system. A 0.8m storm surge was recorded by the Weipa storm tide gauge on 1 January, which lead to a marginal exceedance of the Highest Astronomical Tide level. Large waves were also observed for a brief period at the Weipa wave monitoring gauge. (TC Penny BoM, 2019)

On 2 January, the system reached the Coral Sea and reformed into a TC maintaining an easterly course. The system intensified to a category 2 TC on 4 January, and by the end of 5 January, the system had weakened into a tropical low.

The remnants of Penny tracked back towards the Queensland east coast over the next few days and the system again made landfall near Bowen on 9 January. Heavy rainfall occurred near the system including at Strathbogie (south of Ayr and west of Bowen) which received 432mm in the 24 hours to 9am on 10 January.

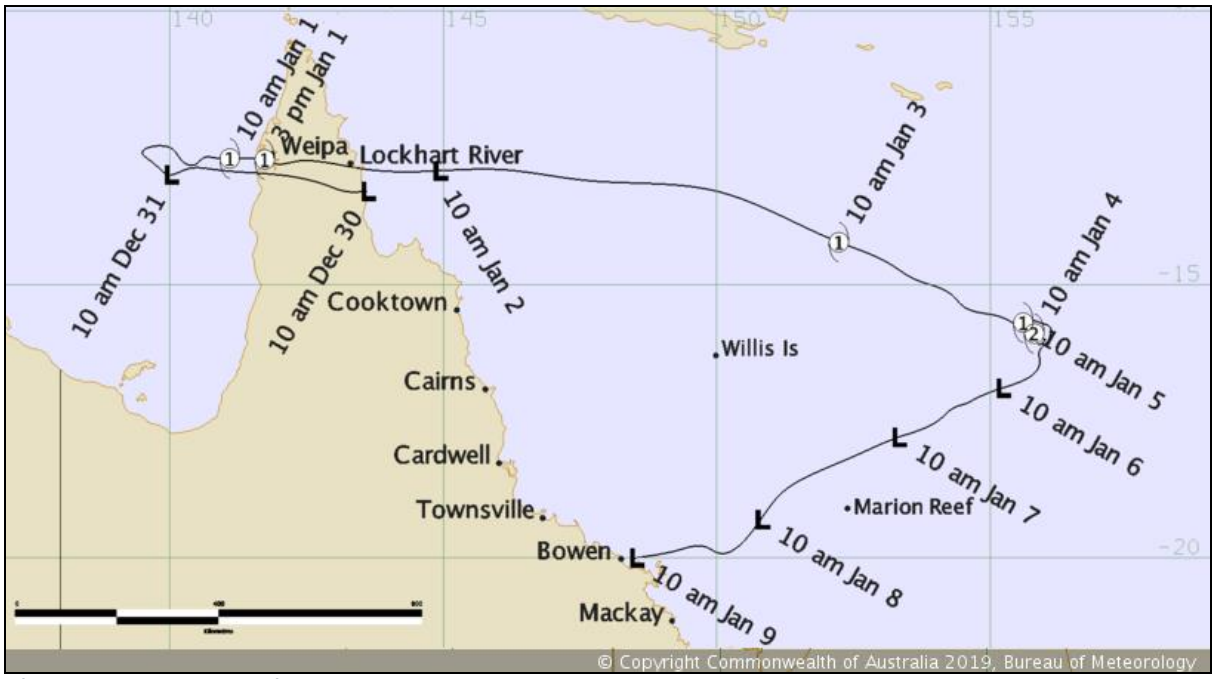

Figure 26: TC Penny track map. Image: BoM

While the system had minimal interaction as a cyclone over Queensland, the residual low pressure system still contributed to 40 SES jobs in relation to flooding and storm damage.

M3.9 Earthquake Off coastal Airlie, 19 January 2019

A magnitude 3.9 earthquake occurred off the coast of Airlie early on 19 January. The earthquake occurred at a depth of 10km and around 60km east northeast of Bowen. A No Threat Tsunami warning was issued by the BoM for the Australian mainland, islands, and territories. The SDCC Watch Desk monitored the situation, briefing effected regional emergency communications centres and disaster management staff.

MV Solomon Trader- Maritime pollution incident, 4-27 February 2019

Rough seas from Tropical Cyclone Oma pushed the 740ft bulk carrier MV Solomon Trader aground at Rennell Island, Solomon Islands late on 4 February causing oil to spill in surrounding waters. The spill was not contained and requests were received by the Australian Government for possible assistance in containment and clean-up of the oil. The SDCC monitored the situation while the potential for Queensland resources and personnel to assist in the response remained. The SDCC provided briefs to senior SDMG management and monitored further developments.

Wallangarra/Eukey Bushfire, 12-22 February 2019

Several large bushfires were burning in northern NSW in early February. The Wallangarra/Eukey bushfire on the NSW border around Girraween National Park required a multiagency response with interstate and ADF support. A large contingent of QFES fire crews with Queensland Parks and Wildlife Service fire crews supported by local government, combined to control the fire in the area near Girraween National Park. The fire was of major concern for more than 11 days eventually burning more than 45,000 hectares. Australian Army Engineering crews from Enoggera in Brisbane deployed to provide specific protection to both military and civil assets in the cross border area.

During this event, the SDCC Watch Desk coordinated requests for logistical support from local SES groups, disseminated reports to disaster management stakeholders, and issued a warning message using the EA system to people in the affected areas.

Figure 27: Aerial image of the Wallangarra bushfire near the Qld/NSW border February 2019. Image: QFES

M3.4 Earthquake Southwest of Roma, 25 February 2019

A magnitude 3.4 earthquake occurred 180km southwest of Roma early on 25 February. The earthquake occurred at a depth of 5km. There were no reports of injuries or structural damage. BoM issued a No Threat Tsunami warning for the Australian mainland, islands, and territories. The SDCC Watch Desk monitored the situation, briefing effected regional disaster management staff.

Woodgate Bushfire, 9-13 March 2019

A large bushfire started burning around Goodwood (south of Bundaberg). Fire conditions allowed the fire to spread easily and it took several days for firefighters to get the fire contained, aided by QFES personnel on the ground, water bombing from the air, and rain. The SDCC Watch Desk provided regular briefings to disaster management stakeholders and issued an EA to notify residents in the Woodgate and Goodwood areas of the fire.

Severe Thunderstorms – Central Queensland, 12 March 2019

BoM issued severe thunderstorm warnings with SEWS for damaging winds and heavy rainfall near Gladstone and Rockhampton. Wind gusts of 109km/h were detected at Cloncurry and 69mm of rainfall was recorded in Gladstone in a 30-minute period. The SDCC Watch Desk distributed the BoM warnings to disaster management stakeholders, and monitored the situation for significant impacts to the population.

Severe Thunderstorms – Central and Southeast Queensland, 15 – 18 March 2019

On 15 March, BoM indicated the potential for isolated, very dangerous thunderstorms with locally destructive winds with intense rainfall around southeast and central Queensland. These storms materialised later that afternoon and evening in the south east area of Queensland. Further severe thunderstorms materialised on 17 and 18 March in central and south east Queensland. The severe thunderstorms over three days across South East Queensland led to 781 tasks received by the SES from members of the public. Brisbane City LGA received 143 SES tasks, Gold Coast LGA 241, Logan LGA 60, Moreton Bay LGA 129 and Sunshine Coast LGA 81 with most tasks for leaking roofs and flooding. RFS supported SES operations. At the peak, more than 23,000 energy customers were without power.

Space Debris Re-Entry, 15 April 2019

The SDCC was advised that a Falcon 9 two-stage rocket was expected to re-enter the Earth's atmosphere some time on 15 April. The predicted location of the re-entry was from the central Pacific Ocean region across central Queensland, Northern Territory, and north west Western Australia, out to the north east Indian Ocean. Although expected paths across Queensland were mostly minimally populated, the SDCC monitored events, maintaining situational awareness and providing briefings to senior disaster management stakeholders. A number of trajectory recalculations occurred before this event finished. There was no impact to any part of the Australian mainland.

Palm Island Water Supply, May 2-11 2019

Due to issues with water supply infrastructure on Palm Island, residents were advised not to drink, cook with, or consume any tap water. The SDCC Watch Desk issued five EA warnings to residents, advising them to consume bottled water only. The SDCC continued to monitor the situation and updated stakeholders daily.

6.0 Into the future

The 2018/19 report period proved that no two seasons are ever the same in Queensland. The catastrophic wildfires across Queensland, multiple cyclone crossings, widespread flooding, infrastructure damage and contaminations, ensured all emergency management agencies and the communities remained vigilant.

Event reviews and debriefs have assisted agencies to identify learnings from the season gone to ensure Queensland is more prepared and resilient moving into the 2019/20 season and beyond.

The release of the Queensland State Heatwave Risk Assessment earlier this year enables DMGs, business' and the community to have the foundation to plan for the effects of climate change. Further training for SDCC staff and liaison officers during activations is underway with courses already planned.

The role of the Watch Desk continues to evolve each year with improved technology, evolving business practices, and unpredictable climatic conditions. Regardless of change, the Watch Desk will continue to strive toward providing emergency management stakeholders reliable updates on threats and a holistic view on associated risks.

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Appendicies

Acronyms

ADF: Australian Defence Force

ASR: Agency Support Request

BoM: Bureau of Meteorology

DDMG: District Disaster Management Group

EA: Emergency Alert

EMPU: Emergency Management Planning Unit

EMS: Event Management System

FFDI: Forest Fire Danger Index

LDMG: Local Disaster Management Group

LGA: Local Government Area

PSBA: Public Safety Business Agency

QDMA: Queensland Disaster Management Arrangements

QDMC: Queensland Disaster Management Committee

QEMR: Queensland Emergency Management Report

QFES: Queensland Fire and Emergency Service

QPS: Queensland Police Service

SAP: Situational Awareness Platform

SDCC: State Disaster Coordination Centre

SDCG: State Disaster Coordination Group

SES: State Emergency Service

SEWS: Standard Emergency Warning Signal

SHECC: State Health Emergency Coordination Centre

SMS: Short Messaging Service

SOCB: State Operational Coordination Branch

STC: Severe Tropical Cyclone

TAMS: Task and Management System

TC: Tropical Cyclone

WoG: Whole of Government

Glossary

Activation: A state of operational change due to a significant weather or other disaster related event. Additional staff and resources become available to deal with the event.

Bureau of Meteorology: An agency of the Australian Federal Government responsible for providing weather services to Australia and surrounding areas.

Damaging Winds: Sustained winds of gale force (63 km/h) or more or wind gusts of 90 km/h or more.

Destructive Winds: Where winds are gusting to greater than or equal to 125km/h.

Dwellings: A house, flat, or other inhabited place.

Emergency Alert Campaign: Where Emergency Alert messages are sent to fixed line and mobile telephones within a defined polygon in response to an identified incident.

Event Management System: A cloud based software system used by SDCC staff and stakeholders.

Forest Fire Danger Index: A measuring index based on dryness of the land and air, temperature, humidity, and wind speed and direction.

Hectares: A unit of measurement equal to 10,000m^2.

Major Flood Warning: Extensive rural areas and/or urban areas are inundated. Many buildings may be affected above the floor level. Properties and towns are likely to be isolated and major rail and traffic routes closed. Evacuation of flood affected areas may be required. Utility services may be impacted. (Bureau of Meteorology, 2019)

Monsoon Low: A seasonal low pressure system that has similar characteristics to a tropical cyclone but did not develop. Generally, the monsoon low forms in northern Australia during the monsoon season. (YANAI, 2004)

Monsoon Trough: A lineated area of low pressure at the southern end of the monsoon, that affects northern Australia during the monsoon season. (Sugata Narsey, 2016)

Operational Tasks: Tasks performed by staff in the SDCC directly related to disaster and emergency management roles.

Public Safety Business Agency: Queensland State Government agency responsible for providing information and communications technology, financial, procurement, asset management and human resources services to QFES and other state government agencies.

Queensland Disaster Management Arrangements: Comprise a four tiered system: three levels of government – local, state and federal – and an additional state government tier between local and state levels known as disaster districts. These disaster districts enable a more efficient and effective operational service delivery in support of local communities and address the size, complexity and diversity of Queensland. (Qld Government, 2018)

Queensland Disaster Management Committee: The Queensland Disaster Management Committee (QDMC) provides strategic direction and State-level decision making for disaster management within the State and ensures PPRR activities are coordinated from a whole-of-government perspective and based on an all hazards approach. (QFES, 2018)

Severe Tropical Cyclone: A tropical cyclone that has attained maximum mean winds above 117 km/h (63 knots). Severe Tropical Cyclones are at Category 3 or above. (Weatherzone, 2019)

Severe Weather Events: In the context of this report, an event that causes a warning to be issued to the public or likely to cause disruption to general services in the community.

Standard Emergency Warning Signal: A warning signal that is broadcast immediately prior to major emergency announcements on television, radio, and other communication systems.

State Health Emergency Coordination Centre: The State Health Emergency Coordination Centre (SHECC) is the peak emergency coordination centre for state health response to an emergency incident, disaster or public health incident of state significance.

State Operational Coordination Branch: The State Operational Coordination Branch ensures that QFES maintains a state of operational readiness to fulfil its responsibilities. The Branch is responsible for state-wide monitoring and reporting on all disaster and emergency related issues impacting, or potentially impacting, Queensland within QFES and to all disaster managements stakeholders.

Task and Management System: A software program customised for use in the organising and coordinating SES response to requests for assistance.

Tropical Cyclone: A tropical depression of sufficient intensity to produce sustained gale force winds (sustained winds of 63 km/h or greater with gusts in excess of 90 km/h). (Weatherzone, 2019)

Tropical Low: An area of low pressure that generally precedes the formation of a tropical cyclone. (Weatherzone, 2019)

Tsunami: Tsunami are waves caused by sudden movement of the ocean surface due to earthquakes, landslides on the sea floor, land slumping into the ocean, large volcanic eruptions or meteorite impact in the ocean.

Activation Statistics

Deepwater Bushfires & Severe Weather Conditions November/December 2018*

Activation Statistics: Deepwater Bushfires & Severe Weather Conditions November/December 2018*	
SDCC total days at increased activation levels (26 Nov-7 Dec)	12
Total number logged in to EMS during activation	1,702
Number of Emails Received	2,738
Number of Emails Sent	79,761
Number of SMS Sent	15,723
Number of System Logs	2,066
Number of Tasks Completed	795
Number of Reports Disseminated	1,067
Number of Emergency Alerts Issued	48
Number of Weather Warnings Issued	122
Number of SES tasks actioned during activation period	411

Severe Tropical Cyclone Owen - December 2018

Activation Statistics: Severe Tropical Cyclone Owen - December 2018	
SDCC total days at increased activation levels (12-16 Dec)	5
Total number logged in to EMS during activation	507
Number of Emails Received	1,106
Number of Emails Sent	73,515
Number of SMS Sent	25,628
Number of System Logs	441
Number of Tasks Completed	571
Number of Reports Disseminated	387
Number of Emergency Alerts Issued	0
Number of Weather Warnings Issued	215
Number of SES tasks actioned during activation period	597

Active Monsoon- Far Northern Region: Townsville and North Western Queensland Floods – January/February 2019

Activation Statistics: Active Monsoon- Far Northern Region: Townsville and North Western Queensland Floods – January/February 2019	
SDCC total days at increased activation levels (1-13 Feb)	13
Total number logged in to EMS during activation	1,732
Number of Emails Received	3,131
Number of Emails Sent	26,330
Number of SMS Sent	160,251
Number of System Logs	1,404
Number of Tasks Completed	1,231
Number of Reports Disseminated	1,187
Number of Emergency Alerts Issued	78
Number of Weather Warnings Issued	500
Number of SES tasks actioned during activation period	4,194

Severe Tropical Cyclone Oma - February 2019

Activation Statistics: Severe Tropical Cyclone Oma - February 2019	
SDCC total days at increased activation levels (20-25 Feb)	6
Total number logged in to EMS during activation	213
Number of Emails Received	947
Number of Emails Sent	36,426
Number of SMS Sent	10,269
Number of System Logs	336
Number of Tasks Completed	340
Number of Reports Disseminated	297
Number of Emergency Alerts Issued	0
Number of Weather Warnings Issued	129
Number of SES tasks actioned during activation period	316

Severe Tropical Cyclone Trevor March 2019

Activation Statistics: Severe Tropical Cyclone Trevor March 2019	
SDCC total days at increased activation levels (18-23 Mar)	6
Total number logged in to EMS during activation	305
Number of Emails Received	1,417
Number of Emails Sent	67,914
Number of SMS Sent	21,725
Number of System Logs	418
Number of Tasks Completed	539
Number of Reports Disseminated	357
Number of Emergency Alerts Issued	6
Number of Weather Warnings Issued	236
Number of SES tasks actioned during activation period	221