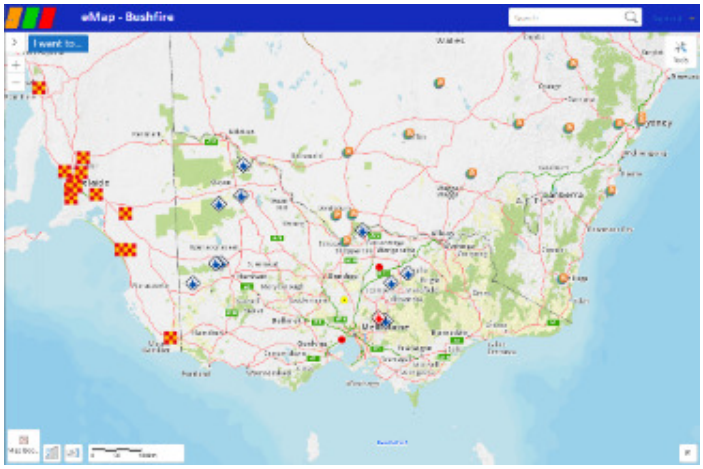
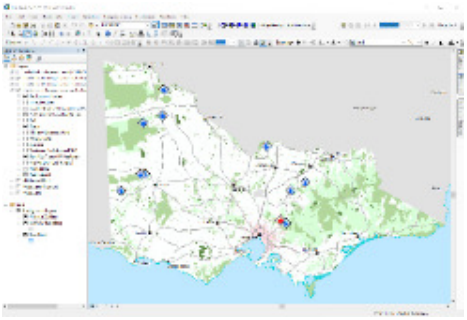
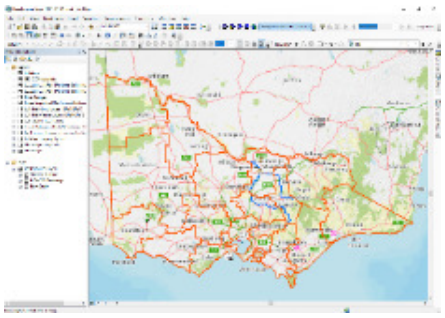
Operations Manual

Intel-Mapping Guide

EMKnowledge Filename - Intel-MappingGuide-v44.doc







Season 2020/2021

When printed, this document is uncontrolled

Document Control

Revision History

Version	Revision Date	Summary of Changes
1.1	17/09/2013	Review content of documents – Teena Speirs
1.2	25/10/2013	Comments from A. Cheeseman & updated by T.Speirs
1.3	25/06/2014	Review content for 2014/2015 Season – T.Speirs
1.4	28/7/2014	Comments from N. Withers & updated by T.Speirs
1.5	26/09/2014	Comments/Feedback from refresher training & updated T.Speirs
36	13/11/2014	Update to State Impact Map Product by T. Speirs
38	29/9/2015	Review content for 2015/2016 season – T.Speirs
39	9/12/2015	Minor update to some phone and contact details – T.Speirs
40	05/10/2016	Review Content for 2016/2017 Season – T.Speirs
40.1	11/10/2016	Comments from A. Cheesman & updated by T.Speirs
41	25/10/2017	Review Content for 2017/2018 Season – T.Speirs
42	31/10/2018	Review Content for 2018/2019 Season – T.Speirs
43	17/10/2019	Review Content for 2019/2020 Seson – A.Griffiths and H. Smiles
44	24/11/2020	Review Content for 2020/2021 Season – T.Speirs

Table of Contents

1. Roles

This section includes the Mapping Officer Role and expected map products at the SCC and an IMT.

1.1 Role Statement - SCC Mapping Officer

	**EM-COP Library > State Control (SCC) > Functions > Intelligence > Intel-Mapping**

1.	Mapping forms part of the intelligence unit.
2.	Obtain a briefing from the Intelligence Unit Leader. (where appointed), otherwise from Situation Unit Leader
3.	Ensure the mapping of fires/incidents from various sources, including eMap Field is completed and data is updated in eMap
4.	Ensure maps are completed and provided to Public Information Unit for Web publishing (as required.) This map needs to be approved by the State Controller before being published. Ensure approved Perimeter information is shared to Emergency Victoria Website
5.	Ensure maps and products are available to support all functions and units as required.
6.	Supply incident data and maps to government departments and organisations as required.
7.	Co-ordinate infra-red linescan interpretation
8.	Provide other GIS/Mapping services to other units and personnel as required.
9.	Observe EM-COP observations are being recorded in eMap as required
10.	Provide advice to state, regional and IMT personnel with regards to the use of GIS software and mapping

Mapping Products:

- Map Pack
- Individual incident maps (multiple levels).
- State View of Fires/Incidents Map
- State Impact Map;
- Public Information maps
- Resources State Summary Overview;
- Fire Spread Prediction
- Potential Fire Impact Zone
- Storm and Floods maps as required.
- Other Hazards as required

1.2 Role Statement – IMT Mapping Officer

1.	Mapping forms part of the Situation Unit.
2.	Obtain a briefing from Situation Unit Leader.
3.	Prepare maps for the incident Action Plan.
4.	Ensure maps are completed and provided to Public Information Unit for Web publishing. Maps need to be approved by the Incident Controller before being sent to the Public Information Unit for Publishing. Ensure approved Perimeter information is shared to Emergency Victoria Website
5.	Ensure maps are available for IMT briefings.
6.	Ensure fire predictive maps are available to support the Fire Behaviour Unit as required.
7.	Provide infra-red linescan interpretation.
8.	Ensure the mapping of fires/incidents from information supplied by the Situation and Operations Units is completed and data is updated in eMap.
9.	Ensure all Field Observations are updated in eMap. (eMap Field, GPS)
10.	Ensure that EM-COP “team room” observations are recorded in eMap (at the direction of the Situation Officer)
11.	Ensure maps are completed for planning purposes (as required.)
12.	Provide other GIS/Mapping services to other units and personnel as required.

Mapping Products:

- Sector/Division Map (For Incident Action Plan)
- Overview Map (For Incident Action Plan)
- Operations Map
- Public Information map
- Community Briefing Map
- Fire Spread Prediction
- Potential Fire Impact Zone
- Other maps as requested by the Situation/Intelligence Unit
- Storm and Flood Maps as required.
- Other Hazards as required

2. Agreed Principles – Mapping Team

The purpose of this is to outline the agreed principles in relation to the use of mapping applications, storage of data, products, roles and responsibilities of Mapping Team Members.

Agreed Principles

1. The Mapping Team shall operate in accordance with the Operating Manual – Intel Mapping Guide.
2. A range of mapping applications are available to work in a range of situations and incident types, in both a connected and disconnected environment. Those applications are described in the Operating Manual – Intel Mapping Guide.
3. All mapping data relating to an emergency (including fire scan products, GPS data, eMap Field data, AIG Data or other field captured information, key operational EMCOP mark-ups) are to be stored in eMap to enable access and map product creation for all .
4. All map products and associated information are to be placed on the multi-agency shared drive.

3. Contacts

Contact List

Name	Organisation	Work	Mobile
SCC Reception (all calls)	**SCC**	**9032 3600**	
SCC Mapping Desks (no external direct line)	**SCC**	**23010**	
CFA IT Help Desk (also for EM webmail)	CFA – IT	9262 8207	After Hours to get IT Duty Officer
Reception (CFA - Burwood)	SCC-R	9262 8444	
CFA – SCC Staff			
Teena Speirs	CFA – BI	9262 8263	0409 144 091
Tom Sanderson	CFA – BI	9262 8492	0409 415 051
Harry Smiles	CFA – BI	9262 8554	0411 595 605
Jacqui Kitchen	CFA - BI	9262 8582	0412 039 534
Kim Wechsler (Surge)	CFA – BI	9262 8503	
Alex Chen (Surge)	CFA - FEM	9262 8060	
Claudette Milillo	CFA - BI	9262 8419	0400 916 109
DELWP – State			
Naomi Withers	DELWP	9637 9897	0404 345 149
Pauline Kent	DELWP		0419 881 161
DELWP – Regional Staff			
Anthony Cheesman (Hume)	DELWP	02 6043 7920	0477 314 471
Jim Miller (Gippsland)	DELWP		
Scott Welch (Port Phillip)	DELWP	9450 8690	0400 825 306
Gafoor Muhammed (Barwon South West)	DELWP	5226 4668	0457 516 008
Velvet Kay (Loddon Mallee)	DELWP	5430 4564	0407 800 480

Name	Organisation	Work	Mobile
FRV – State			
Anthony Griffiths	FRV – BI		
Silvester Kim (Surge)	FRV – BI	9292 8832	0411 828 040
Samantha Rollings	FRV – BI		
SES			
Ross Butler	SES	9679 7036	0459 800 931

Support for Fireweb / eMap / Archived Data

If there any issues, contact the DELWP SDO – for them to get in touch with and to activate the relevant support arrangements for the Fireweb/eMap Support roster.

EM-COP Support

If support is required for EM-COP, please use the following details: (for 24 hour support)

cop.support@em.vic.gov.au or phone (03) 8822 8181

EM Facilities List

	**EM-COP Library > EM-Facilities**

You will find contact details for all ICC's (CFA, DELWP, SES) at this location, including phone and address details.

4. EMwebmail

	ALL agencies are to use EMwebmail during emergencies. Logins for Mapping PC's have been set up for role based access. Please ***do not*** use personal logins when mapping at an incident

As a result of executing the Introduction | Getting Started instructions, EMwebmail is already active. For further information, go to:

	EM-COP Library > ICT Systems > ICT-EMwebmail

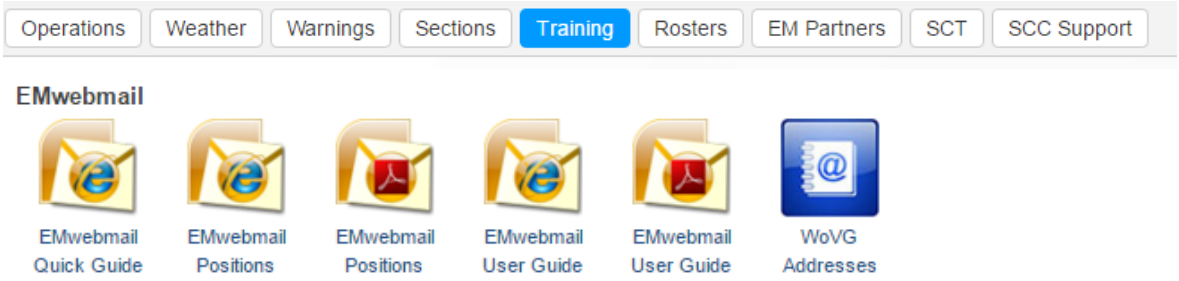
Accessing EMwebmail via EM-COP

You can access the link to EMwebmail via EM-COP Desktop tab.

cop.em.vic.gov.au

NOTE:	You will need your own individual logins. Please register through the main page if you don't have a login. Please ensure that you use your Agency email address.

In the training section in EM-COP – Desktop, there are some Reference Documents, containing the positions/email addresses that might be useful.



Distribute Maps Via E-Mail

Send an e-mail from the mapping account to the appropriate groups across the SCC/ICCs.

	Rather than attaching the map to the document, place a link to where the map is saved on the R drive, rather than attaching the document to it.

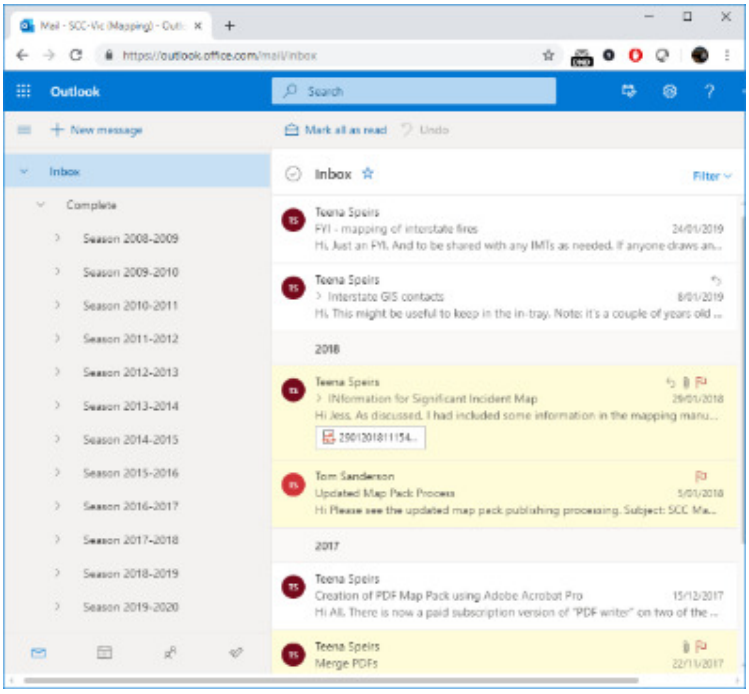
File Emails and Attachments

Summary:

1.	File (save as) email attachments in the relevant incident on EM Drive.
2.	Once all attachments are filed, and the email has been actioned (if required) the email can be moved out of the Inbox in Outlook to the relevant date's folder under: ❑ Inbox >> Complete >> Season YYYY-YYYY >> Month YR Folder.
3.	You can leave sent emails in the "sent items" folder. DO NOT DELETE SENT EMAILS.

Detailed Instructions:

1.	If necessary, save email attachments into the network out of the email system. Attachments are to be saved in the relevant incident within: **SCC:** EM-Drive\50-SCC\22-Mapping\<date>\... **ICC:** EM-Drive \30-Response\<Vic Gov Region_ICC Name>\<IncidentName-LocalReference-Incident#-YYYY-MM-DD\Planning\Mapping\...  Save shape file in the "shapes folder. Save "pdf" or other images in the "images" folder.

2.	Move email out of “Inbox” in Outlook to Inbox >>Complete >><Season>>><<Month/Year>>.  Once all the attachments have been saved to the network in Statewide Emergency Drive, and the email has been actioned (if applicable), within Webmail expand the Inbox folder by clicking on the arrow, then expand the Complete folder, then find the season and month, and move the email out of the Inbox. If structure doesn’t exist, create. This e-mail structure is in accordance with all other units.

5. Information Technology (ICT) – PC Logins

SCC PC's

When Incident Mapping at the SCC, use the Login Profile as described in the Functional Unit Pack.

	Hint: sccvic.map P a s s w o r d: Same as Username

E-mail: **sccvic.map@scc.vic.gov.au**

ICC PC's - CFA

When Incident Mapping at the ICCs, use the login profile for the role/function you are performing.

	Hint: iccxxx.map Pa s s w o r d: Same as Username

E-mail: **iccxxx.map@icc.vic.gov.au**

(where xxx = ICC location short name)

ICC PC's - DELWP

When Incident Mapping at the DELWP ICCs, use the login details below

	Login: GN-ICC-[full ICC Name] eg. GN-ICC-Alexandra Password: vicg[full ICC Name] eg. vicgalexandra

E-mail: **iccxxx.map@icc.vic.gov.au**

(where xxx = location short name)

EM-DRIVE

For access you are required to have a Fireweb login, nd can use any internet browser (anywhere) to access.

https://emdrive.ffm.vic.gov.au and when prompted use your Fireweb details to login.

Navigate through the Shared With Me folder > EM Drive to view the agreed EM folder structure

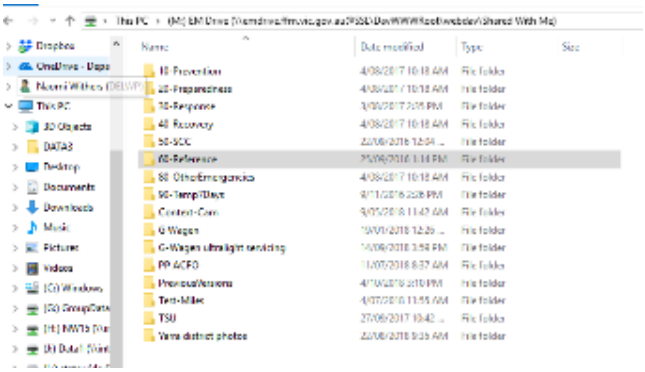
As Mapping Officers, it's important to note that the only information we can edit directly on EM-Drive is word documents/excel. All ArcGIS and mapping data needs to be downloaded to a local drive, edited, worked on and then copy back the saved results back to EM-Drive to the relevant locations.

NOTE: This year with COVID-19, and potentially activated remotely, it is crucial all information is shared back to EM-Drive, saved to the correct version for the next person to use.

Webdav

Another way to connect to EM-Drive is WebDav. Note this only works for file paths shorter than 255 characters.
You need to map this drive, and it's important to note, sometimes it doesn't work, so do check the data and projects is copying back.
https://emdrive.ffm.vic.gov.au/webdav

This way you can interact with EM-Drive like a normal drive path.



Printers

State Control Centre

All required printers (including CutePDF Writer) should be installed when logging into sccvic.map profile.

For latest printer information, refer to:

	EM-COP Library > State Control (SCC) > SCC-ICT Equipment

HINT	For SCC Plotter, select CAD profile under printing shortcuts. (quicker than using the GIS profile & print output qualities look the same)

Install Printer (DELWP)

To install any printers on the DELWP network uses a Windows 10 Desktop Widget. It resides in the top RH corner of the Next One Desktop install.

Install Printer (CFA)

To install any printers on the CFA network follow the procedure below (for Windows 7).

1.	Choose start and Devices and Printers
2.	Click Add a Printer
3.	Add a network, wireless or Bluetooth Printer
4.	Depending on where you are, it will print up a list of immediate printers. If the one you want isn't there, click "The printer I want isn't listed"

5.	Choose the option “Find a printer in the directory, based on location or feature” click Next
6.	Change the location to something like SCC and hit Find Now, A list of available printers will be returned, select the one you want by double clicking on it. It will then install and be available.

SCC Stock Replenishment (Printer Consumables | Stationery)

1.	For Paper and inks for one of the two plotters – see the one of the SCC Support staff or the SCC Duty Manager for replacements. Plotters: HP T1120ps Plotter – Called on CFA – SCC-Mapping02 (CFAPRNT02) Called on DELWP – 8NS04ABPS (P02307) HP T2300 Plotter – Called on CFA – SCC-Mapping01 (CFAPRNT02) Called on DELWP – \\p02303\8NS04ABPS

ICC Stock Replenishment (Printer Consumables | Stationery)

1.	For Paper and Inks place a resource request with Logistics. Ensure you have 7 days of stock, or perhaps 2 full sets of cartridges/printer heads & ensure you have paper.

For all, if you are coming to a number of public holidays ie. Christmas/New Year, think ahead as numerous supply places may close over this time.

Speak to staff in other regions/locations to see if they have excess stock already.

6. File Naming | Directory Structure

Use of State Emergency Management Drive

SCC Directory Structure

All agencies are to save ALL information to EM-Drive for any incident mapping work (in the SCC). You will need an equivalent working drive on the hard drive in order to create and save all maps being completed.

The base directory Folder structure of this is the directory is as follows

SCC

EM-Drive\50_SCC\22-Mapping\<YYYYMMDD>\

C:\EMDrive_download\YYYYMMDD

Data folder

Shapefiles\eMap Field \GDB\GPS\GPX Files

- EM-Drive\50_SCC\22-Mapping\YYYMMDD>\data
- C:\EMDrive_download\YYYYMMDD\data

Maps folder

PDF's\Images

- EM-Drive\50_SCC\22-Mapping\<YYYYMMDD>\maps\drafts
- EM-Drive\50_SCC\22-Mapping\<YYYYMMDD>\maps\published

- C:\EMDrive_download\<YYYYMMDD>\maps\drafts
- C:\EMDrive_download \<YYYYMMDD>\maps\published

Mxds folder

- EM-Drive\50_SCC\22-Mapping\<YYYYMMDD>\projects
- C:\ EMDrive_download \<YYYYMMDD>\projects

Docs folder

Handover Notes\Consequence Reports

- EM-Drive\50_SCC\22-Mapping\<YYYYMMDD>\docs
- C:\EMDrive_download\<YYYYMMDD>\docs

NOTE: There is a template folder structure here, where you can copy the folder and rename to the current date. For any location, you can use this template and apply into your appropriate folder.

EM-drive\50-SCC\22-\Mapping\2019XXXX

C:\EMDrive_download\2019XXXX

ICCs

EM-Drive\30_Response\<Vic Gov Region_ICC Name>\<IncidentName_Incident #>\Planning\Mapping\<YYYYMMDD>\

Data folder

Shapefiles\eMap Field \GDB\GPS\GPX files

- EM-Drive\30_Response\<Vic Gov Region_ICC Name>\<IncidentName_Incident #>\Planning\Mapping\<YYYYMMDD >\data

Maps folder

PDF's\Images

- EM-Drive \30_Response\<Vic Gov Region_ICC Name>\ <IncidentName_Incident #>\Planning\Mapping\<YYYYMMDD >\maps\drafts
- EM-Drive \30_Response\<Vic Gov Region_ICC Name>\ <IncidentName_Incident #>\Planning\Mapping\<YYYYMMDD >\maps\published

Mxds folder

- EM-Drive \30_Response\<Vic Gov Region_ICC Name>\ <IncidentName_Incident #>\Planning\Mapping\<YYYYMMDD >\projects

Docs folder

Handover Notes\Consequence Reports

- EM-Drive\50_SCC\05_StatePlanningSection\Mapping\<YYYYMMDD>\docs

** Then for each ICC set up your local working area

Standard Filenaming Conventions

YYYYMMDD_HHMM_<Name of Incident>_<additional info>

(Use observed date/time wherever possible)

Additional info is not required but if used can comprise of:

- File names need to contain
- Date and Time of observation or map production
- Incident Name
- Further information as the file source or map product
- Should also contain
- Size of Map (A4 thru A0)
- Orientation (Landscape or Portrait)
- Scale (25K 50K etc)
- Purpose or Type of Map (Overview, Linescan, Sector, Division, Public Info)

Examples of Above File Naming:

- 20150223_1000_CatherineStation_PlantMap_A3P_100k.pdf

- 20160223_1000_Wye_River_FLIR_ActiveEdgeNORTH.shp
- 20150219_2200_HarrietvilleAlpineNth_BucklandSthSector_A3P_50k.pdf
- 20160217_1840_HarrietvilleAlpineNth_Linescan_A1P_60k.pdf

Guidelines for Naming for Data and Mxds:

When naming shapefiles and mxds, a general rule of thumb should be the following.

- For a shapefile/GDB, the name should reflect the observed time of the data.
- For an MXD, the name should reflect the currency of the information in the map. Eg. what's reflected in the map title, the MXD should be the same.

If you have no information on the observation times, that's when you can default to current time.

For maps of individual fires:

<Date>_<Time>_<Fire_Name>_<Map_Title>_<Page_Size><Orientation>_<Map_scale>.pdf

Eg.

- 20170118_1500_Hermit_Mt_Overview_Map_A3L_100K.pdf

For IAP Maps:

<Date>_<Time>_<Fire_Name>_<Map_Title>_<Page_Size><Orientation>_<Map_scale>.pdf

Eg.

- 20160118_1500_Hermit_Mt_IAP_Map_A3L_25K.pdf

For maps of Multiple fires:

<Date>_<Time>_ <Area_Name>_<Map_Title>_<Page_Size><Orientation>.pdf

Eg.

- 20180118_1500_East_Vict_Media_Map_A3L.pdf

For Inset Maps of Individual Fires:

<Date>_<Time>_<Fire_Name>_<Inset_Title>_<Page_Size>.pdf

Eg.

- 20180118_1500_OV50_GreatDivideComplexNorth_Buller_Inset_Map_A3.pdf

For data of individual fires:

<Date>_<Time>_<Fire_Name>_<Data_Description>.shp

Eg.

- 20170118_1500_Hermit_Mt_Air_Obs.shp
- 20170115_0630_Tatong_Fire_Area.shp

For data of Multiple fires:

<Date>_<Time>_<Area_Name>_<Data_Description>.shp

Eg.

- 20170118_1445_East_Vict_Control_Lines.shp
- 20170118_0800_East_Vict_Fire_Area.shp

For Consequence Reports:

<Date>_<Time>_<Incident Name>_Consequence_Report.pdf

Eg.

- 20161213_1445_Mickleham_Rd_Consequence_Report.pdf

Map Titles

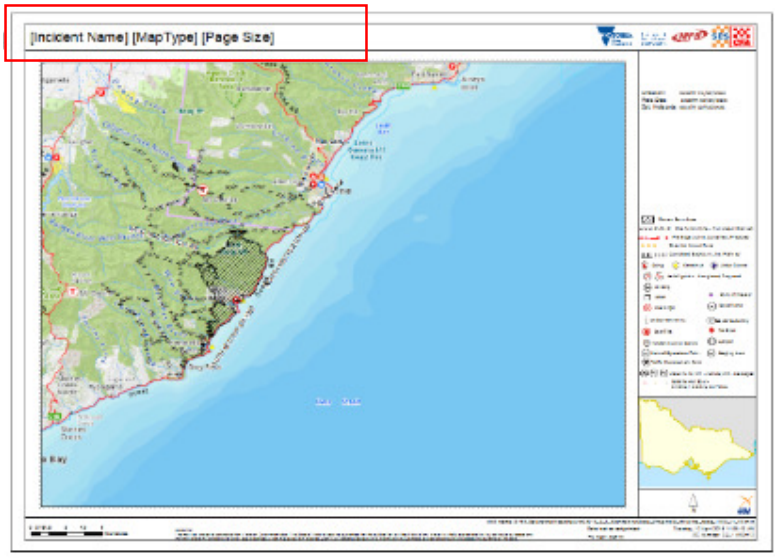
When placing a map title on your map, the name should be clear, logical and accurate. It **will not** be the same as the naming format of the PDF file output.

[Incident Name][Map Type][Page Size][Date]

Example: Wye River – Overview Map – A3L – 1st January, 2016

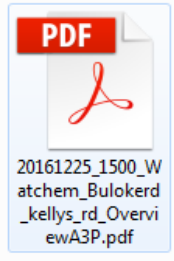
Map Titles/PDF Name output

Map Title = Wye River – Overview Map – A3L – 1st Jan, 2016 – this information goes in the red box in your map layout.



PDF Name - 20161225_1500_Watchem_BulokeRd_Kellys_Rd_Overview_A3P.pdf

This is the file output saved on the network and is exported from eMap or ArcGIS.



7. Handover Notes | Documentation | Metadata

Why:

Hand over notes will assist in the sharing of information between in-coming and outgoing shifts. It is a way we can track the issues/problems we might be encountering and things that might be important for the next shift/s to be aware of.

There will only be **one set** of handover notes created by the Mapping Leader for the shift.

If you are the Mapping Leader (or even the only Mapping Officer) for your shift, set up the document you can use and update during the shift. Recommend doing this, rather than at the end of the shift when you are trying to potentially complete a handover as well.

You will find the template in the

EM-Drive\50-SCC\22-Mapping\2020xxxx\docs

Or if we have already had incidents, copy the PREVIOUS days notes so we don't lose history on any issues and the likes.

NOTE: This file can be edited in EM-Drive directly.

Main Topics include:

1.	Completed tasks – list of standard/special maps that have been completed; maps copied to relevant drives.
2.	Outstanding Tasks – Include any uncompleted tasks with the relevant deadlines; map distribution that might need to still happen; information that might be needed for briefings etc.
3.	Issues – these might be either long or short term issues. If you think the next shift will be impacted by an item (no matter how big or small), include the information. It's better to have too much information than not enough.
4.	** Remove the issue once it's resolved. No need to keep it in the notes, it's recorded anyway, it just confuses those on shift the next time – think the issue is still there.
5.	Other – Any general reminders, generic on going notes for future shifts, roster updates.

Log Books:

Each Mapping Officer should be responsible for keeping a log book. As a general rule of thumb.

You should maintain a log of significant events , such as:

- Requests that been asked of you
- When the Linescan perimeter reached you
- When the mapping personnel changed shift
- When data was archived
- When information was requested of you
- When you send information out.
- Phone/face to face conversations

Keep a log of events such as:

- The arrival of the incident data
- Transition of personnel
- Archiving of data.

Print Maps

Print and file each map produced per operational period. This provides a record of significant changes to the incident data and the products produced. Again there will be one folder for all agencies to store this information.

NOTE:	Ensure to keep a copy of maps produced, either in printed form or PDF versions easily accessible when needed.

Whenever sending incident data, always state the projection, and provide as much detail about the process used to create the data within an accompanying file.

NOTE:	Any maps with hand drawn writing or drawings will need to be kept/archived by SCC/ICC support staff. They will need to be stamped as an original document and handed to the support staff at the end of the shift.

Template Use

If creating the first set of handover notes:

1.	Copy and paste the template from the following location EM-Drive\60_Reference\Mapping_Templates\Document\ Mapping Team Handover Notes Template_v2.doc to the following location: EM-Drive\50_SCC\22-Mapping\yyyymmdd\docs
2.	Rename file to: Mapping_Unit_Handover_Notes_YYYYMMDD_TTTT.doc {Insert date/time your shift finishes}
3.	Fill in the information that is relevant for your shift and the information that is important for the next shift to know.

If updating a previous set of handover notes:

1.	Copy and paste the template from the previous days/shift: Eg. At SCC: Em-Drive\50_SCC\22-Mapping\yyyymmdd\docs
2.	Rename file to current date/time. Mapping_Unit_Handover_Notes_YYYYMMDD_TTTT.doc {Insert date/time your shift finishes}
3.	Fill in the information that is relevant for your shift and the information that is important for the next shift to know. DO NOT REMOVE KEY INFORMATION – if this document becomes long, it doesn't matter.

Print and place in folder:

When your notes are up to date, print a copy of your handover notes and place it into the folder to ensure we have a printed history. Place the most recent version on top.

8. Map Symbology

CFA and DELWP use the EMSINA All Hazard Symbology. The symbology is used in all the applications including eMap, eMap Field and eMap Analyst.

If the styles and symbols aren't already installed on your machine, this is where you can access them and install them yourself.

EM-Drive\60-Reference\Mapping\ArcGIS<version_number>_Standalone\Fonts\

Copy the AAHS_symbols.style to the C:\Program Files\ArcGIS\Desktop <version_number>\Styles directory.

Ensure the fonts from the EM-Drive\60-Reference\Mapping\ArcGIS<version_no>Standalone\Fonts\ are installed to the C:\Windows\Fonts directory.

You will find a full copy of the report and all the supported symbology in the following location: Page 11 onwards is the symbology that is used in the mapping applications.

EM-Drive\60-Reference\Mapping\Docs\ EMSINA – AAHS Report 2018 Final.pdf

	You will know whether once you open the base MXDs whether the symbology there is correct. Turn on the AAHS _symbols Style Reference. An obvious hint might be, if you see sunglasses or scissors or weird symbols in your map templates, close the MXD, re-install the fonts and re-open your map. Or use the feed which has "using images"

9. For ArcGIS - eMap Feeds & Interstate base data & Feeds

Feeds from eMap (WFS/WMS)

There are a number of feeds already in the ArcGIS – eMap Analyst base projects for the various hazards.

In ArcCatalog, add a connection to the **http://emap2.ffm.vic.gov.au/arcgis/services**, and select what you want to add – that might not already be in the base project.

For example: Aerial imagery - **http://emap2.ffm.vic.gov.au/arcgis/services/VicMapImageryHybrid**

In this years version of eMap Analyst, there are a number of these services saved as layer files to drag and drop into your project.

\\ArcGIS10_7_1_Standalone\Extra Layers

Interstate Incident Feeds

Sometimes there is a need to create maps with interstate data to create maps (usually at State level) for deployments or bordering data.

Some states have made their base data as available as feeds for consumption.

A list of publically available Incident feeds is available from EM-Link. You can register should you choose with your

http://emlink.net.au

By default NWS and South Australian Incidents will be displaying in eMap and can be easily accessed.

There is a layer of National Bushfire Boundaries that can be added to maps.

Here's some URLS that might be of interest - if it's not already available through eMap.

National Operational Bushfire Boundary (15min refresh)

https://bushfire-status-board.s3-ap-southeast-2.amazonaws.com/OperationalBoundaries.kml

https://bushfire-status-board.s3-ap-southeast-2.amazonaws.com/OperationalBoundaries.json

National Operational Bushfire Boundary (3 hour time series)

https://bushfire-status-board.s3-ap-southeast-2.amazonaws.com/OperationalBoundaries_3hourly.json

https://bushfire-status-board.s3-ap-southeast-2.amazonaws.com/OperationalBoundaries_3hourly.kml

10. "How To" Documents

10.1 Fire Scan Data Download

EM-Drive

Line scan data can be found in EM-Drive which a user can more easily download images, FLIR data and images and georeferenced photos.

NOTE: as at 16/11/2018 the spatial folder isn't there, and has been accidently moved to last years archive. This should get moved back.

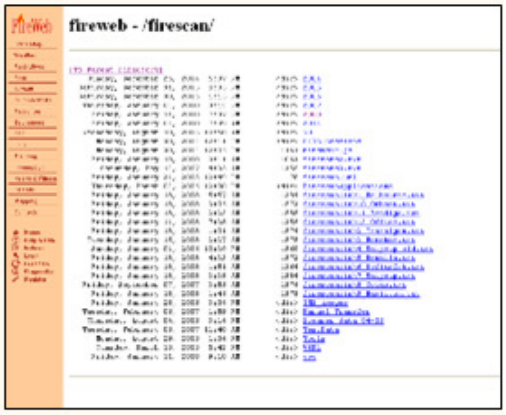
\\EMDrive\50-SCC\22-Mapping\Spatial\firescan

\\EMDrive\50-SCC\22-Mapping\Spatial\FLIR

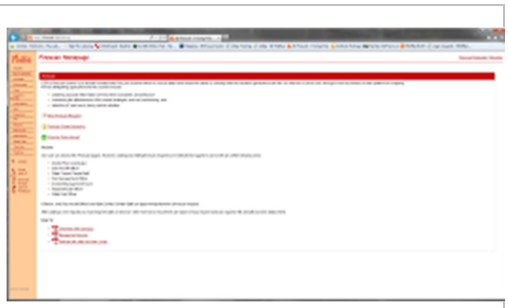
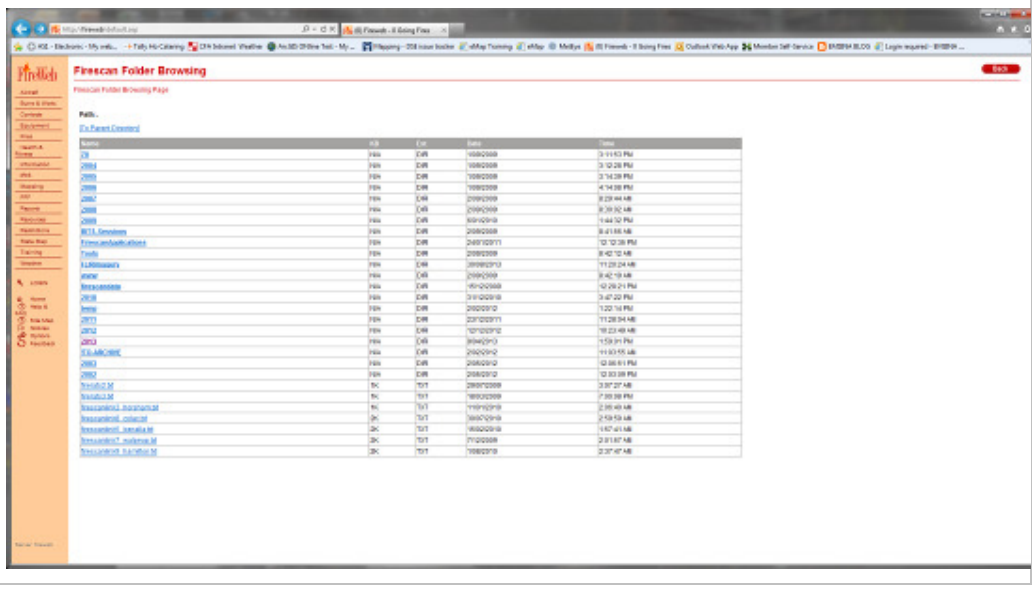
\\EMDrive\50-SCC\22-Mapping\Spatial\PFIT

Fireweb: There are 2 different areas in FireWeb where you can download the Firescan data.	

1.	**Fireweb – Mapping Area** Linescan data found in the Mapping area of Fireweb Open FireWeb in browser. Select "**Mapping**" from the FireWeb Home Page) menu.	
2.	Select "**Data**" tab in the Mapping area.	
3.	Select the "here" link from the Data" tab.	

4.	The list of directories might look slightly different to this one. Generally clicking on the year of the Firescan you are after will start you down the correct path to finding it.	
5.	Continue navigating to find the Firescan you are after. Each fire is different so you will need to work this out yourself. When you come to finding it you should see a list of files like the ones shown. HINT: In the “geocorrected” folder. You will need to save three files so that it displays correctly in ArcMap. (.jpg, .jgw, prj) Either click on each file and select “Save”, or right click on each file and “Save Target as”. Save to the images directory in your mapping area.	
6.	Now you can add the image you’ve saved into ArcMap ready for digitising. (Add data button)	

1.	**Fireweb – Aircraft Area** Linescan data found in the Aircraft area of Fireweb Open FireWeb in browser. Select “**Aircraft**” from the FireWeb Home Page) menu.	
2.	Select the “**Firescan**” button In the Aircraft area.	

3.	This takes to you the Firescan Homepage.	
4.	Click on the Firescan Folder Browsing and navigate through the appropriate year/month/day/fire/geocorrected. Save the relevant files, with the .jpg, .jpw, .prj files. 	

5. Now you can add the image you've saved into ArcMap ready for digitising. (Add data button)

Time of Line Scan

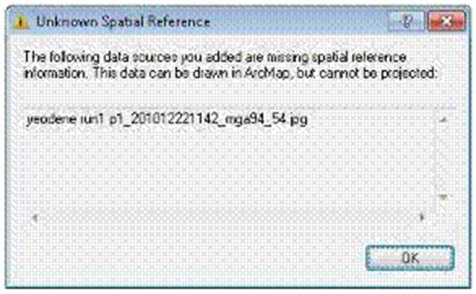
To find the time of the line scan, you need to go to the Quickprint area of the Firescan data, and find the latest Quickprint time. That is the time you use as the "Observation Date/Time" of the fire.

For a range of linescans over an area, use the **latest time of the first quick print**.

6. **Digitising A Line Scan In Arcgis**

Unknown Spatial Reference

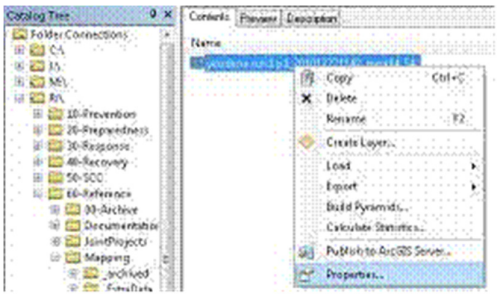
If you are digitising a line scan in ArcGIS and you get a message like shown, you will need to perform the following steps. Do this first.

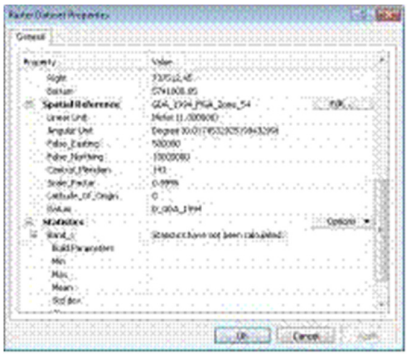


7. Open ArcCatalog.

Navigate to where the image is saved and right click.

Go to Properties.



8.	Scroll down to Spatial Reference and click Edit. Select the correct Spatial Reference for the image. Click OK. Click OK again. Then re-add your image.	
9.	**Georeferencing a Linescan** There might be times when a linescan hasn't georeferenced correctly, or at all. To assist with this, turn on and use the Georeferencing toolbar. ESRI help is quite useful in this instance too. Search for Georeferencing. 	Add the image to your ArcMap session. Zoom to the approximate area of where the image is or should be. . Add some vector data to assist with helping locate the image. From the Georeferencing toolbar, click the layer down arrow and select the image and choose Fit to Display. Find some known references. Click "Add Control Points" tool to add some control points. Click on the image, and then find the associated location in the vector data. Add enough points to ensure the image is aligning. Once happy, click the Georeferencing menu and choose either Update Georeference or Rectify.
10.	**How to check if linescan data might be coming?**	In eMap, there is a visual way to check that the Firescan has gone through.Use RATS tracking and look for the Firescan aircraft on the move. Also through Fireweb, can check Mission Details on the Aircraft Page.
11.	**Spatial References**	How to determine coordinate systems? Geographic Coordinate: Latitude/Longitude – Displayed in Degrees or decimal degrees eg Projected Coordinate: Coordinate with 6 & 7 figures.(MGA94) West of Ballarat/Bendigo – Zone 54, East of Ballarat/Bendigo Zone 55. VicGrid94 - Coordinate with both 7 digits

Google KML | Burnt Areas | Rats Data | Lightning

This file should on open any DELWP or CFA networked location (as well as externally – can supply the kml file).

This can be accessed through Fireweb:

- Click the Mapping tab
- Click on the link "here" under eMap for Google Earth. (**http://fireweb.ffm.vic.gov.au/kml/emap.kml**)

This KML file will automatically update itself. You don't have to continue to re-add or re-open, the information is always current.

The only requirement is that Google Earth must have been installed on the PC.

It will add as eMap Layers in the Temporary Places, under the Victorian Incident Data which will need to be turned on.

10.3 eMap Water

A site has been developed to assist with the mapping of the floods, storms, blue green algae and marine emergencies. Along with eMap Analyst – Flood Storm.mxd, this can be used to map Flood Extents and other flood, storm or water related observations that maybe required.

To login, users will use their existing eMap Bushfire logins.

10.4 eMap Hazmat

A site has been developed to assist with mapping hazmat or plume events. At this stage it is very basic, however down the track will have live plume predictions being visible. Along with eMap Analyst – CBNRe.mxd, this can be used to map these type of events.

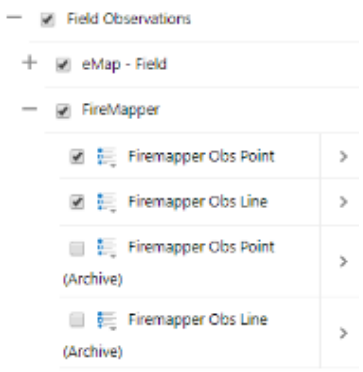
10.5 Field Observations

As a mapping officer the main point you need to understand that a range of data is being captured at incident level, and you know where to look for it, and where it will be coming into the main systems. Then that information needs to be placed into eMap – in the main observation layer. To do this use the Copy tool under the Observations tab. With all the field observation data, the information stays for 24 hours, then moves into the archive folders.

10.5.1 Fire Mapper

Fire Mapper is a data capture tool for primarily air observers (ground observers will most likely use it for the 19/20 season as well) to collect incident information to share to eMap in the ICC/RCC/SCC. It can work in a connected/disconnected environment.

1.	Data is captured at an incident via FireMapper by an air or ground observer.
2.	Once data is captured, and if the user is in a connected state, then can choose to share any number of observations back to the main central systems.

3.		If the data has been shared, it appears under Field Observation Layer in eMap (web). Expand the menu and turn on the relevant layers.
4.	Once the data is there, is a straight forward copy of the observation that has been captured at incident level and transfer it to eMap's Observation layers. Use the copy function. Particular pay attention to burnt area extent, and identified losses, and any other relevant information.	
5.	Another method of getting the field observations to the IMT/SCC is for an email to arrive with a KML/KMZ file attached.	
6.	As a mapping officer – you can convert the KML file to a spatial format eMap can read – like a shapefile. HINT: Use ArcGIS toolbox – KML to layer tool.	
7.	Comprehensive help document & cheat sheets can be found within the application	

10.5.2 Aerial Information Gathering (AIG)

This information is captured from the AIG helicopter and shared back to a central location for viewing.

As per other field data, mapping officers should view and copy the relevant information into eMap Main Observation Layers.

Over time, there may be other field data capture options coming online.

10.6 eMap Analyst – ArGIS – Standalone

ArcGIS Standalone is an ArcGIS application which can be used as a redundancy for eMap (Web version), for specialised mapping purposes, or for other hazard types such as flood and storm.

ArcGIS ArcView level license is sufficient for all mapping functions.

This season 2020/2021, this setup will be for version **ArcGIS 10.7.1**

The ArcGIS10x – Standalone application contains the following;

- Base data within a compressed File Geodatabase
- An number of ArcGIS base projects for ICC and SCC work. There is the fire_base_1071.mxd for all fire based incidents. There is fire_base_1071_no_feeds,mxd for those on a slow network connection with simply vector data and the incident feed. Also a Flood_storm_base_1071.mxd for that emergency type, and most recently a HAZMAT base project.
- Map templates – Landscape/Portrait – set to a variety of in sizes (A3, A1, A0). Also some "other templates" including a Media Map template for "redundancy", and for a range of different hazards.
- ArcGIS Add In interface for a user to add extra data that is not immediately available in the base project.

NOTE:	There are multiple base projects. One that contains all the live feeds and one that doesn't. The mxds are named accordingly. That way if there are network or server connection issues, you can use ArcGIS standalone without any reliance on the network.

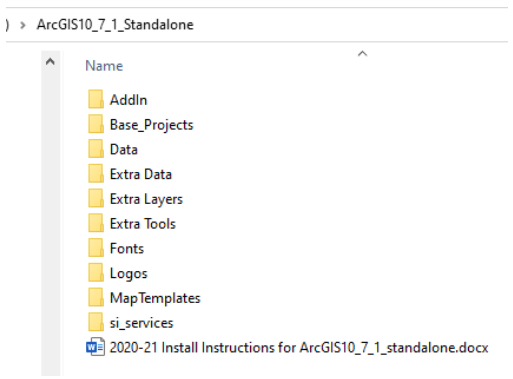
NOTE:	The ArcGIS base project is set up as a projected view in MGA Zone 55 map projection. If working in the West (east of Ballarat) the change map projection to MGA Zone 54.

NOTE:	Remember to copy all data that is created and saved locally back to the EM-Drive location. This is especially important post season – when doing post fire investigation or inquiry work.

NOTE:	On EM-Drive\60-Reference\Mapping\ArcGIS10_7_1_Standalone\Base_Projects, there are a number of projects and folders setup for the different agency requirements. Have a read of the readme.txt which will explain which projects (MXDS) should be opened & copied, depending on where you are working from.

	Extra data that isn't readily available such as special and cultural data or large datasets can be found on **EM-Drive\60-Reference\Mapping_ExtraData\ArcGISStandaloneAdditions\data.gdb**

Access ArcGIS 10.7.1

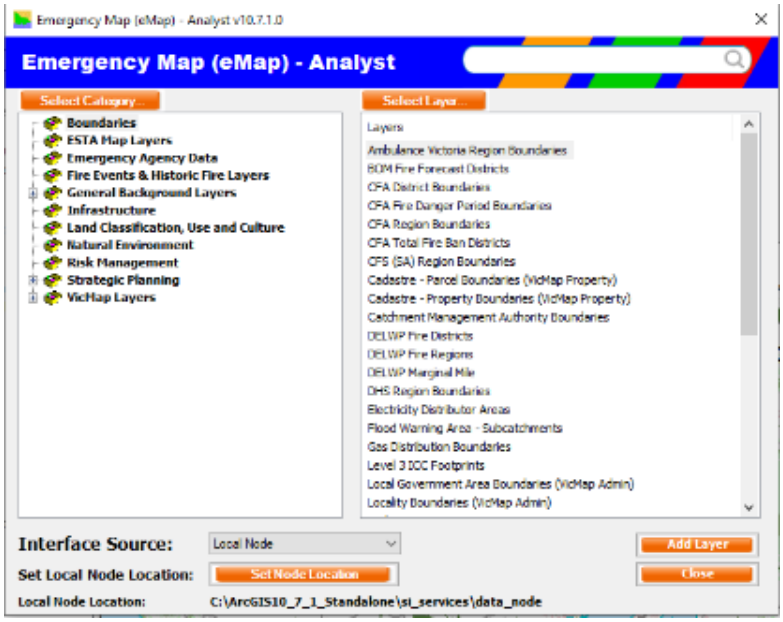
	Standalone (base data, base projects, symbology, map templates + more) EM-Drive\60-Reference\Mapping\ArcGIS10_7_1_Standalone	

	All Mapping Teams should copy the 'ArcGIS Standalone folder to their local drive" (if not already there), whether they are working at the SCC or an IMT. ❑ c:\data (DELWP) ❑ C (CFA)). This is due to potential performance network issues from regional locations.

Installation Instructions:

1.	Installation instructions can be found: EM-Drive\60-Reference\Mapping\ArcGIS10_7_1_Standalone\2020-21 Install Instructions for ArcGIS10_7_1_standalone.doc.
2.	These instructions are for setup, so the user can access the interface to add extra data to the map that might not be in the base mxds.
3.	There is also a troubleshooting document if errors occur in the document above. In Particular – broken links in the MXD.

	Broken links in an MXD – use "Repair data source". It will fix all broken links from the same file GDB in one go.



Extra Folders:

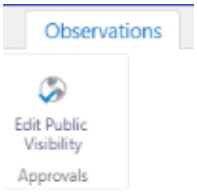
1.	In 20/21, there has been a couple of extra projects in the eMap Analyst node. They are: **Extra layers** – eMap layer files for adding into your projects **Extra Tools** – The intent of this tool is to allow users to easily download a copy of the latest incident observations from authoritative eMap services. This service is provided as a redundancy where performance of map services from the eMap servers is performing slowly due to heavy load. While not yet tested under heavy load conditions, anecdotally we are aware that ArcMap will perform more efficiently when accessing local datasets rather than web services.

10.7 Burnt Areas for Public Display

For the 2019-2020 season all burnt areas for going fires will appear on the public site. Once a fire's status goes to Safe the burnt area will be removed.

There is a process that allows you to either remove the burnt area for a going fire from the public view, or to show the burnt area for safe fire. For either a mapping officer first needs to create a Public Information Map and have it approved (for the release or removal) by the Incident or State Controller

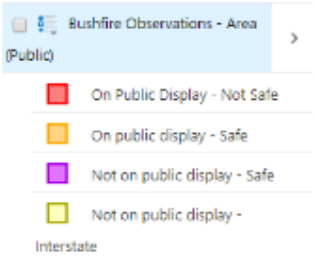
Once this paper product is signed and have the agreement, the mapping officer will follow a very simple wizard based process from within eMap Bushfire, using the "Edit Public Visibility" tool on the observation tab.



There are many visual checks along the way to ensure the correct burnt area is going through to the public website. Notify the public information unit once the process has gone through and that there is a new (or modified) burnt area visible on the public website.

The process (for complex fires) might take some time to go through. (5 minutes) Be patient.

There is a layer in eMap Bushfire that show the status of the burnt area. This can be found the incidents group.



10.8 DNR GPS - Download Waypoints

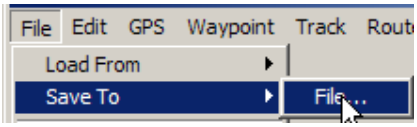
(formerly DNR Garmin)

DNR GPS

From a GPS, collected data (including WayPoints, Tracklogs and Routes) can be downloaded and saved to shapefile.

	Garmin series 62 and 78 GPS is not compatible with DNR Garmin software.

1.	Connect the GPS to the PC via the Serial port.	
2.	Double click	

3.	From the GPS menu, choose Set Port, It will be USB or Port 1.
4.	From the Track menu, click Download.
5.	From the File menu, click Save to | file. 
6.	Save as type ArcView Shapefile (Unprojected). 
7.	The latest DNR GPS install can be found on the R:statewidefire drive at: R:\60_Reference\Mapping\Software

There are a range of GPS devices of which the newer devices can be plugged in and browse the device as a USB device. Those devices newer that the Garmin 62 series should be able to plug in via usb.

On Fireweb – under Mapping – GPS tab, there is a range of information and various devices explained.

MODIS Imagery

The MODIS Land Rapid Response system has been developed to provide rapid access to MODIS data globally.

http://rapidfire.sci.gsfc.nasa.gov/

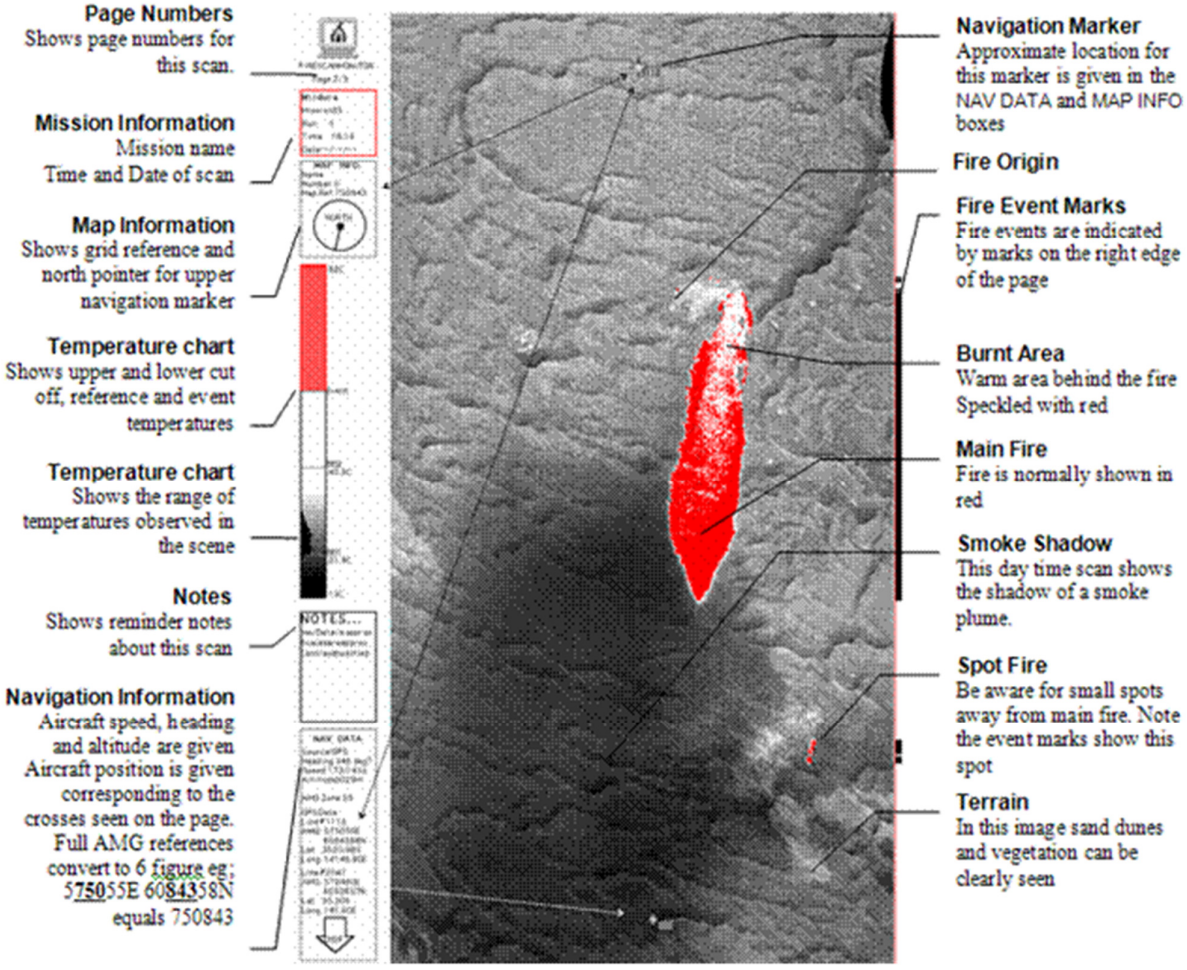
10.9 Firescan Image Interpretation

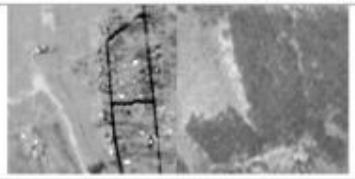
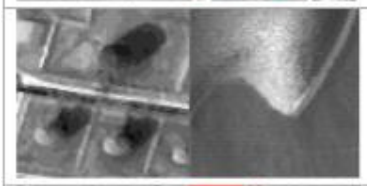
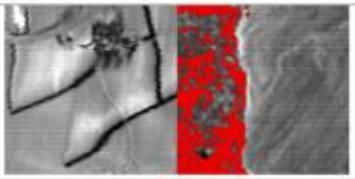
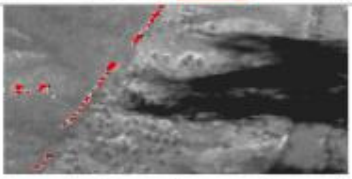
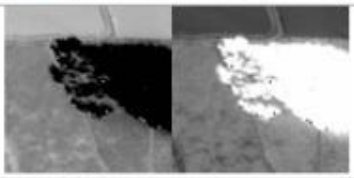
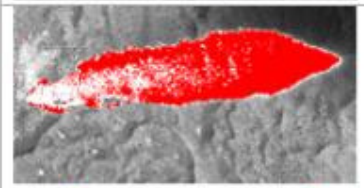
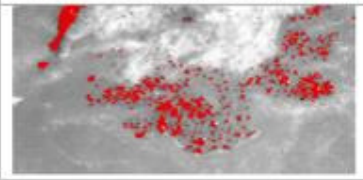
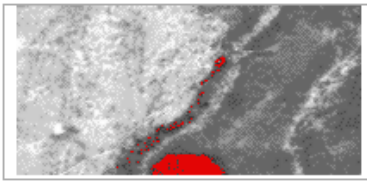
STATE AIRCRAFT UNIT VICTORIA	Firescan imagery shows a view of the ground from a scanning aircraft as it flies over a target area. In fire mapping operations infra-red detectors are used by the scanner when forming this image, which shows the apparent temperature of areas on the ground.

At times the imagery can resemble a black and white aerial photograph. At other times depending on conditions the imagery can be stretched, distorted, murky, washed out, or otherwise poor in appearance and consequently difficult to interpret.

Any fire in the image will raise the temperature of that part of the image. Day time images are normally shown as hot-white and night time images as hot-black to get the best image quality.

Areas of active fire will normally be shown in red. Navigation information supplied on the image gives the location of the aircraft when the scene was imaged.

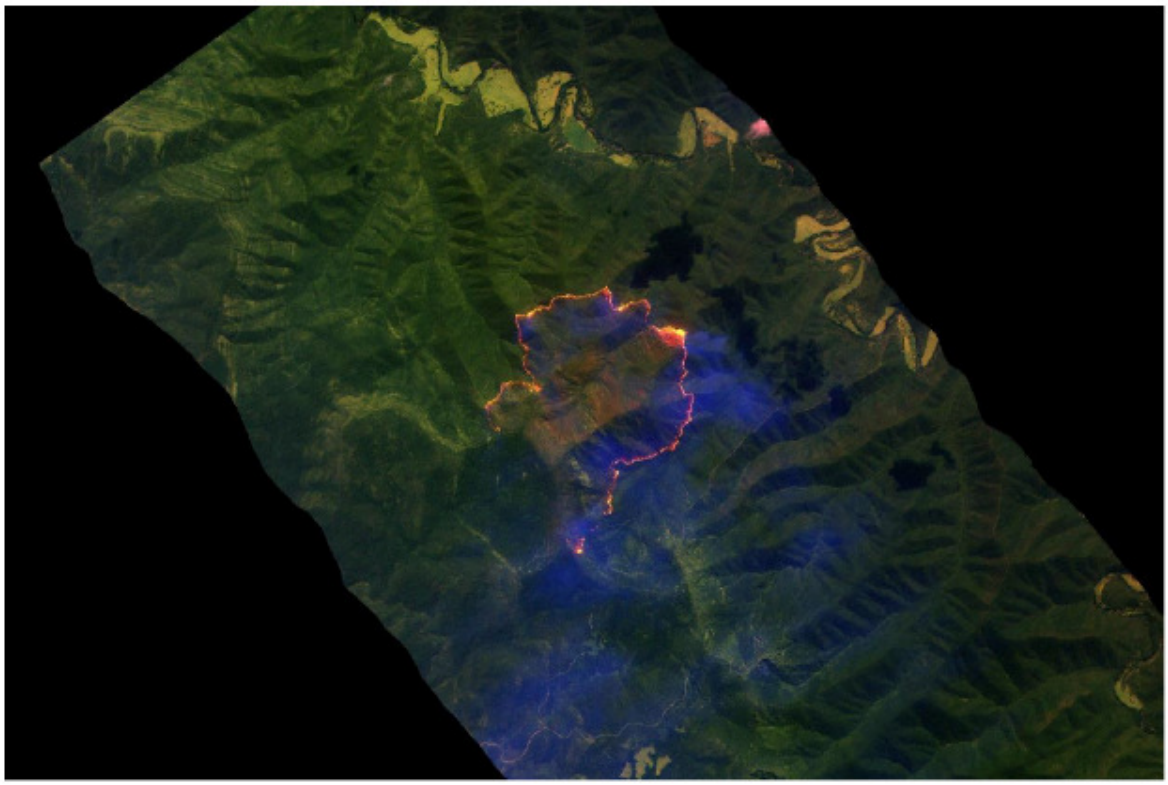


	**Roads, streams, trees and pasture** Streams and roads can be identified in Firescan images as linear features of a different temperature to the surrounding terrain. In general during the day roads will appear hotter than their surrounds. This contrast may last for much of the night as the road gives off its heat gained during the day. In general flowing streams will be cooler than their surrounds during the day and warmer at night. Standing water may be warm or cool.
	**Solar Heating** Areas of open ground and road surfaces will rise in temperature during the day, sometimes to temperatures well in excess of the daily maximum temperature. These solar heated areas can become so warm they may lead to false events and false fire indications. In the image shown fire is visible in lower right corner. A solar heated field can be seen just above fire towards centre of image.
	**Sun shadows & Reflected radiation** The more sun light incident on an object the hotter it will appear. Objects which are in shadow will therefore appear cooler. During the day tall objects on the target surface will cast thermal shadows. Heavy smoke will also cast shadows in strong sunlight. Water and metal structures may reflect sunlight. This can be the cause of false events, and so false fire indications. Reflected solar illumination is worst around midday.
	**Wind streaks & smear** Wind Streaks occur down wind from obstructions on flat terrain and typically occur as warm patterns on an image. Wind velocity is lower down wind from obstructions which reduces the cooling effect of the wind. Surface wind may produce parallel curved lines of alternating lighter and darker intensity that may extend over large portions of an image. This is called wind smear.
	**Cloud** Infra-red radiation is absorbed by water molecules. Any cloud or fog between the scanning aircraft and the ground will attenuate the infra-red radiation passing up from the ground. Heavy cloud may block out all such radiation. Clouds are usually seen in the imagery as areas of very low apparent temperature.
	**Polarity** Firescan images can be printed as either black-hot or white-hot polarity. Generally day time images will be printed white-hot as they then resemble aerial photos. Night time images on the other hand are generally printed black-hot as this suits the night infra-red conditions best. On Firescan prints the polarity is shown to the left of the image in the temperature chart.
	**Active Fire** Any flame in the field of view of the scanner will raise the apparent temperature of the portion of the image in which they fall. If flame covers an entire pixel then the apparent temperature of the pixel will be that of the flame. Small fires can be over looked as they may not raise the pixels apparent temperature by much. Active fire will tend to 'saturate' the infra-red detector. This will mean that the fire will be seen as a blob of one colour.
	**Burnt Area** Once the fire front has past, the area burnt through will still contain a number of burning areas, stumps, tree boles, fence posts, etc. Heavily timbered dry fuel will continue to smoulder for weeks while a grass or heath land may burn out in minutes. These remaining fires appear as speckles on a background that often appears washed out and low contrast. Fire burn patterns are sometimes visible in these areas.
	**Fire Cooled Area** Once an area is burnt considerable ash and charcoal may be left behind, the more severe the fire the less vegetation will be left. This blackened vegetation and ground is much closer to being to being an ideal black body emitter of infra-red radiation than the unburnt forest and so overnight will cool and during the day will heat up at a quicker rate than the surrounding forest. This can lead to burnt areas appearing cooler than the surrounding terrain.

10.9.1 Colour Scans

This year there will be Colour images available for linescan interpretation as well.

This colour scan options is available for day time operations only. The colour bands are combined in a specific manner to highlight active fire, but also allowing a post burn terrain detection capability. It is important to note that while the image may appear to be a logical representation of colour, with terrain = green and fire red through yellow, this not the true visible colour. Blue may represent a subtle indication of smoke that is generated from the fire, which might help with the indication of wind direction at the time the image has been captured.



Vicmap Topographic Map Series

The Vicmap topographic map series are available in 1:25,000 double format and 1:50,000 map scales, A0 page size.

These maps can be accessed as PDF format direct from Fireweb within the Mapping | Maps (Fireweb login required) section or from the CFA Intranet – Maps on Line (Note: CFA Intranet login is required)

10.10 Personal Equipment Checklist

This is relevant for IMT deployments. Remember you maybe at the incident for 7 days

Clothing	Toiletries And Personal Items
Clothing for 1 weeks change at a minimum	Shampoo/Conditioner
Under garments	Soap
Socks	Toothpaste/Toothbrush
Pants/Skirt (and belt if required)	Hair brush/comb
Shirts/t-shirts	Deodorant
Fleece/Jumper	Corrective lenses and associated solutions (if required)
Coat	Feminine/masculine items
Sleep wear	Sun screen
Shoes	Medicines/Vitamins (if required)
Other Items	
Money	
Phone charger	
Torch	
Sense of humour	

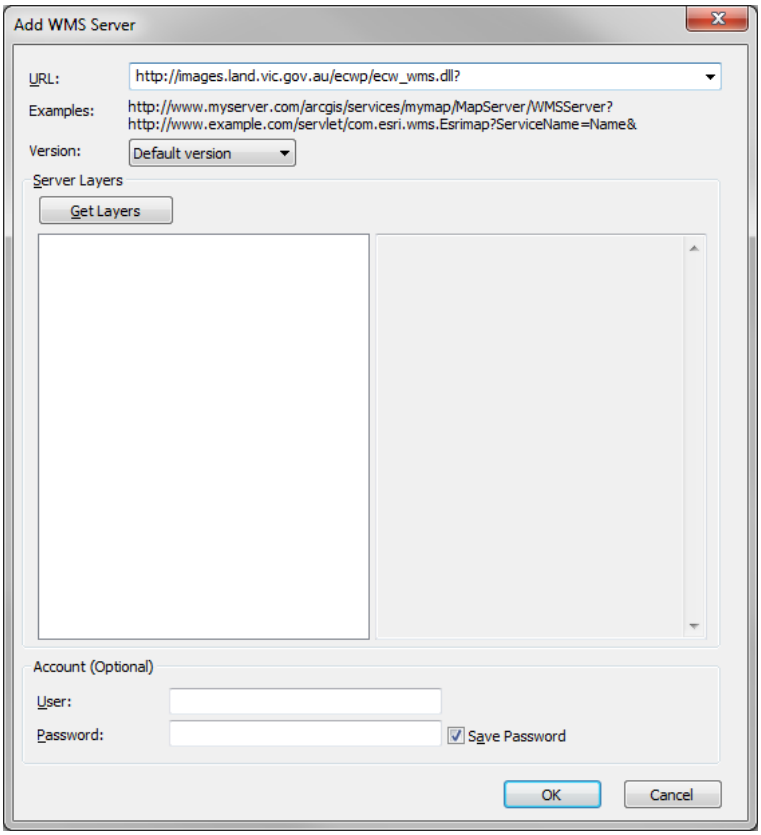
10.11 Image Web Server Access

Introduction

If it is determined that you need more image or better detail you can access Image webserver aerial images (with a username and password) through a connection in ArcCatalog.

Open ArcCatalog – GIS Servers – Add WMS Server and enter the URL

http://images.land.vic.gov.au/ecwp/ecw_wms.dll?



Click Get Layers.

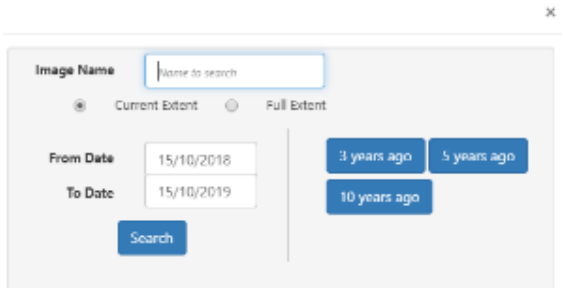
If you have a user name and password, enter it in. You will get images that your agency account has access to.

NOTE: may be differences.

New for the 2019-2020 season you can new access the IWS library in eMap.

You can find this under the “Maps & Data Sources”

The date range is when the imagery was captured. If you’re not sure what the most recent imagery is, it is best to use the 10 years ago default.



10.12 Map Products

This is a list of the many types of maps the Mapping Team may need to create.

10.13 Operational Maps

Operational maps are prepared at an IMT and are used directly for incident response.

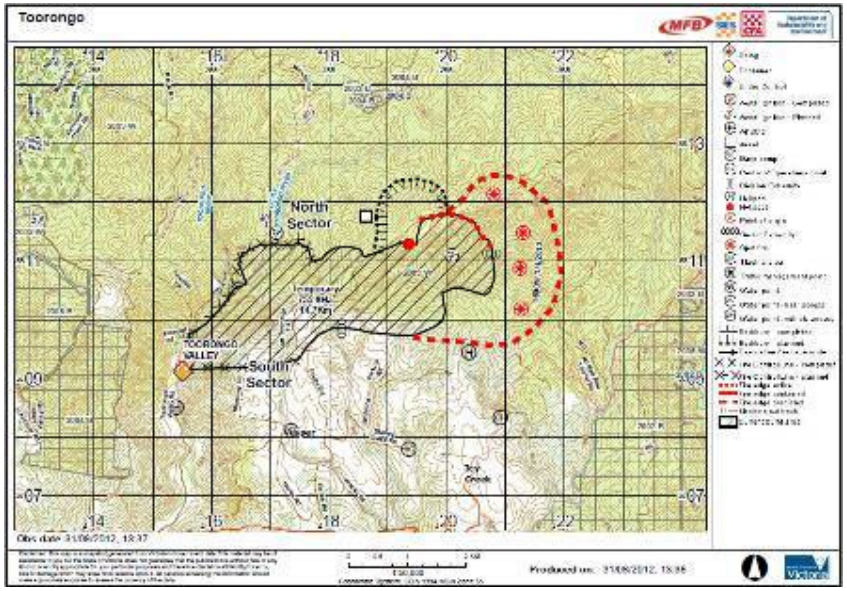
These map types include sector, overview and operations maps. These maps are prepared from the Bushfire Site or ArcGIS – eMap Analyst.

Note: For the 2020/21 season there are two new map templates in the eMap Bushfire "Standard Map" tool, Tree Risk Hazard and Statewide Incident Map.

The Tree Risk Hazard are used in IMTs to determine where it is or isn't safe to send ground fire fighters.

The Statewide Incident Map shows all the current incidents and no other layers. This could be used for the SCC Map Pack overview map in some occasions.

10.13.1 Overview Map (IMT) (Bushfire Site)



Product Overview Map (IMT) **Prod No** Prod-***

Section Intelligence/Planning **Unit** Mapping

Purpose

The overview map is prepared for the Incident Action Plan (IAP). Used to provide situational awareness to field crews. Provides a broad scale picture of the incident. Produced twice daily for the IAP (Generally)

If divisions are in place this map may be an overview of a division.

This map can be prepared using eMap – Bushfire site.

Must have 1km grid & contours.

Can be supplemented with an aerial imagery map.

Scale could go to 1:100K if supported with good detailed sector Maps.

Preferred Scale:	1: 25,000 –1:50,000	**Preferred page Size:**	A4-A3 (could also be A1 or A0 for Sector and Divisional Commanders

Printing and reporting-> Standard Map -> Overview / Situation

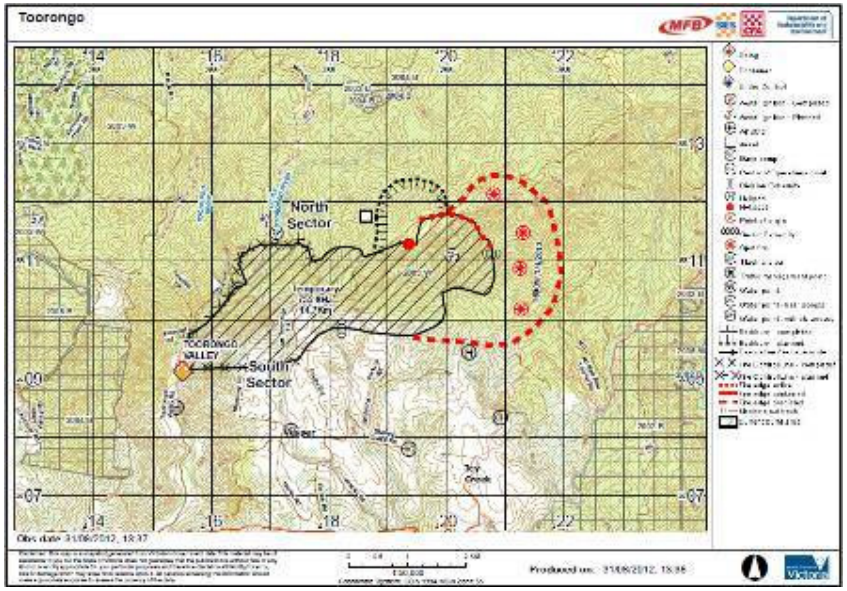
Security Class For Official Use Only

Procedure

Location Produced at IMT

File Name

10.13.2 Sector Map (IMT) (Bushfire Site)



Product Sector Map (IMT) **Prod No** Prod-***

Section Intelligence/Planning **Unit** Mapping

Purpose

Used as a detailed map for field crews to plain their tasking. Provides a detailed view of their area of interest. Produced for the Incident Action Plan (Twice Daily)

This map can be prepared using eMap – Bushfire site.

Must have 1km grid & contours, all tactical features.

Can also include features such as escape routes etc. Work with Situation Unit to develop the maps that will meet the requirements.

IMPORTANT – Map must be legible at scale.ie. be able to read road names etc.

Preferred Scale:	1: 25,000 –1:50,000	**Preferred page Size:**	A4-A3 (could also be A1 or A0 for Sector and Divisional Commanders

Printing and reporting-> Standard Map -> Overview / Situation

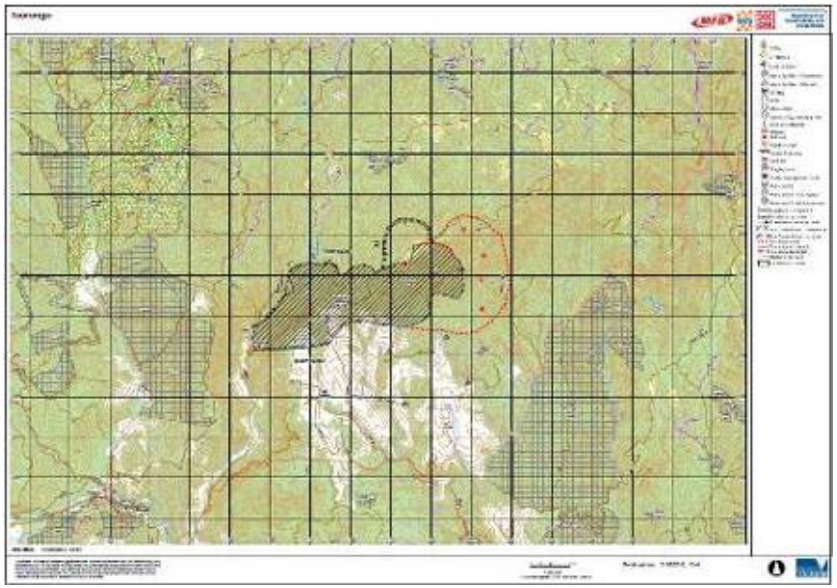
Security Class For Official Use Only

Procedure

Location Produced at IMT

File Name

10.13.3 Operational Map (IMT) (Bushfire Site)



Product Operational Map (IMT) Large Format Overview

Prod No Prod-***

Section Intelligence/Planning

Unit Mapping

Purpose

The operational map is prepared for operations and planning units. Generally supplied to IC, Operations, Planning and Air Operations.

Fire situation updates are generally hand drawn onto these maps.

The Mapping Officer should endeavour to transfer these updates into eMap.

Must have 1km grid, Contours, Fire History.

Extent should include the fire area and any relevant tactical features such as planned & constructed control lines.

Preferred Scale:	1: 25 000 – 1:50000	**Preferred page Size:**	A1-A0

Printing and reporting-> Standard Map -> Overview / Situation

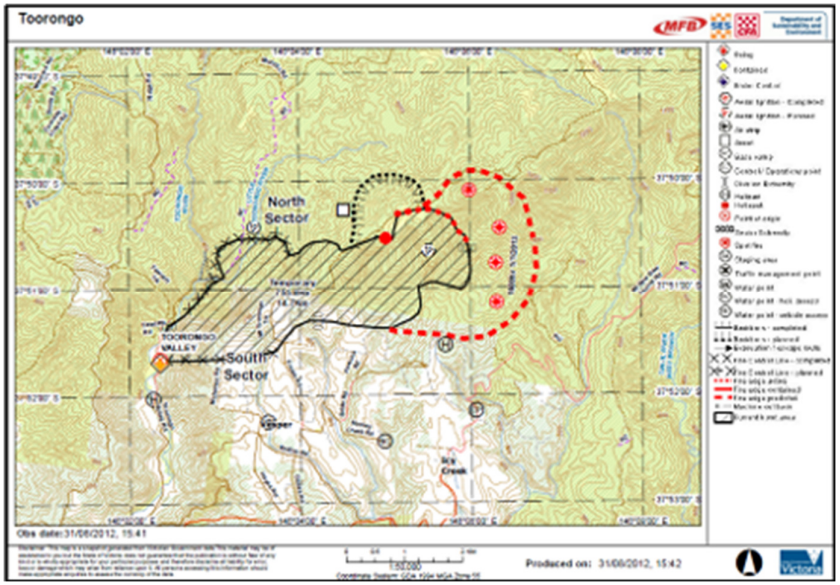
Security Class For Official Use Only

Procedure

Location Produced at IMT

File Name

10.13.4 Air Operations Map (IMT) (Bushfire Site)



Product Air Operations Map (IMT) **Prod No** Prod-***

Section Intelligence/Planning **Unit** Mapping

Purpose

The operational map is prepared for operations and planning units. Generally supplied to IC, Operations, Planning and Air Operations.

Fire situation updates are generally hand drawn onto these maps.

The Mapping Officer should endeavour to transfer these updates into eMap.

Must have Geographic Graticule..

Preferred Scale:	1: 25 000 – 1:50000	**Preferred page Size:**	A3

Printing and reporting-> Standard Map -> Overview / Situation

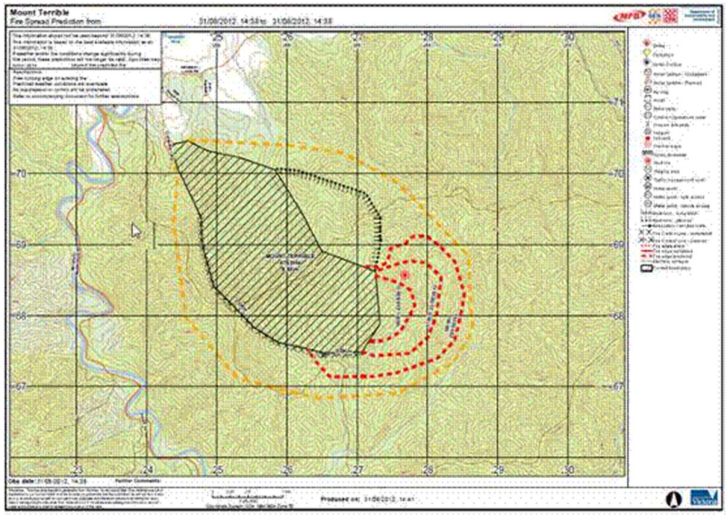
Security Class For Official Use Only

Procedure

Location Produced at IMT

File Name

10.14 Fire Spread Prediction Map (Bushfire Site)



Product Fire Spread Prediction Map **Prod No** Prod-***

Section Intelligence **Unit** Mapping

Purpose

The fire spread prediction map is prepared for the Fire Behaviour Analyst / Situation Officer to show hourly fire spread and or fire impact zone.

Must haves: 1km Grid, contours, fire history, logging history (If applicable).

Can also provide an aerial image background as a supplementary map.

This map can be prepared using eMap – Bushfire site.

Preferred Scale: 1: 25 000 **Preferred page Size:** A1-A0

Printing and reporting-> Standard Map -> Fire Spread Prediction

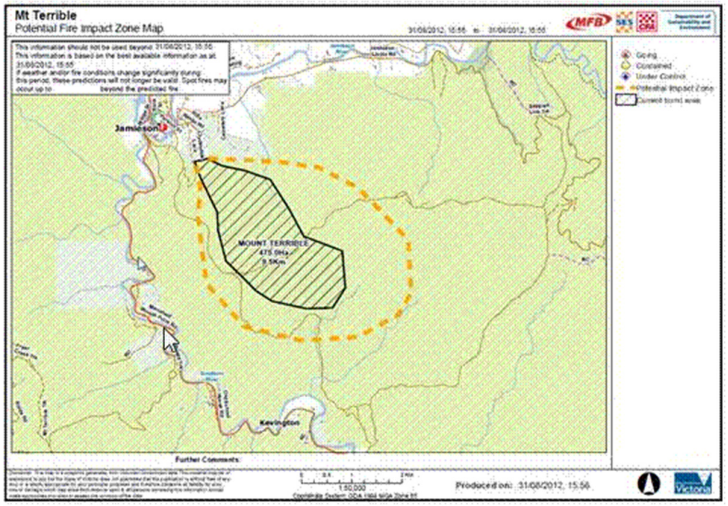
Security Class For Official Use Only

Procedure

Location Produced at IMT/SCC

File Name

10.15 Potential Impact Zone (Bushfire Site)



Product Potential Impact Zone **Prod No** Prod-***

Section Intelligence **Unit** Mapping

Purpose

The map is prepared for the Public Information Unit and contains:

- A fire impact zone digitised by the Mapping Officer … or
- Automated output from the Phoenix model.

This map needs to be approved by an Incident Controller / State Controller before public release.

IMPORTANT: There is to be no operational information to be placed on these maps. Eg. Active Fire Edge, Sectors, Ops Points etc).

This product is to be produced on the approved template and style.

Preferred Scale: 25k – 250k **Preferred page Size:** A4-A3

Printing and reporting-> Standard Map -> Public Information – Potential Fire Impact Zone

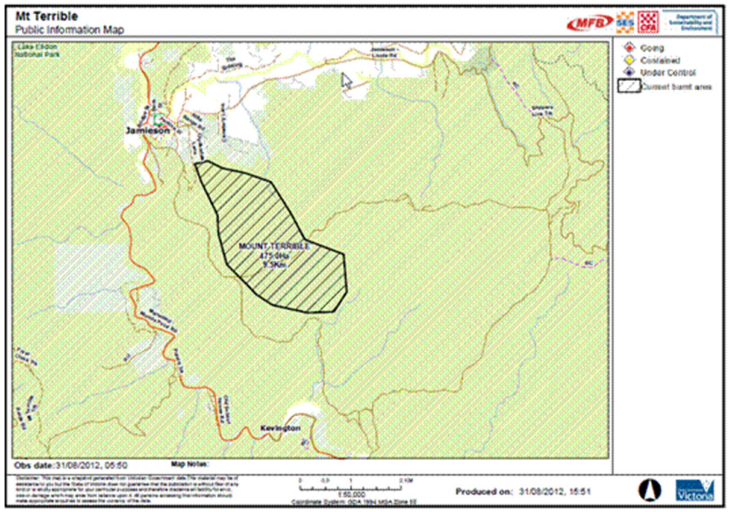
Security Class For Official Use Only

Procedure

Location Produced at IMT/SCC

File Name

10.16 Public Information Map (Bushfire Site)



Product Public Information Map **Prod No** Prod-***

Section Intelligence **Unit** Mapping

Purpose

The map is prepared for the Public Information Unit and contains a current burnt area digitised by the Mapping Officer.

This map needs to be approved by either the Incident Controller / State Controller before being released onto the public website.

There is a process now to release the burnt area to the Vic Emergency website, and this map is the first step in that process. See Section 10.5 for information/instructions.
IMPORTANT: There is to be no operational information to be placed on these maps. Eg. Active Fire Edge, Sectors, Ops Points etc)

.** You can also create this map from ArcGIS - for redundancy if needed. Templates are available so as the maps look the same.

This product is to be produced on the approved template and style	25k – 250k	**Preferred page Size:**	A4-A3

Preferred Scale:

Printing and reporting-> Standard Map -> Public Information

Security Class For Official Use Only

Procedure

Location Produced at IMT/SCC

File Name

10.17 IMT/SCC Custom Maps – Linescan quickprint

Product	Linescan Quickprint	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping

Purpose

This map can be produced to show the latest linescan information before the linescan interpretation is done.

Transparency applied to Linescan layer

Could show current fire extent to provide context to active/running edge. (from the image)

Preferred Scale: Best Fit **Preferred page Size:** A1-A0

Printing and reporting-> Print or I want to... →Print

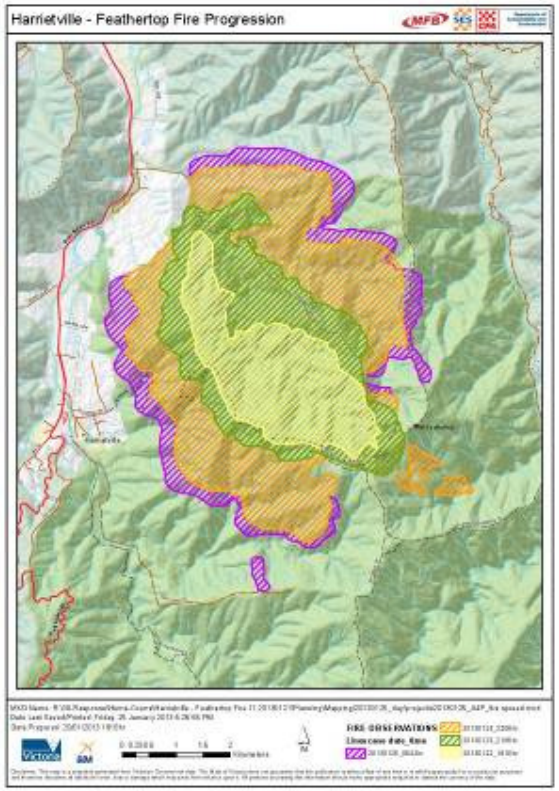
Security Class For Official Use Only

Procedure

Location Produced at IMT/SCC

File Name

10.18 IMT/SCC Custom Maps – Fire Progression



Product Fire Progression **Prod No** Prod-***

Section Intelligence **Unit** Mapping

Purpose

This map can be produced to using eMap Analyst. Fire extent at different observation times shown. Depending on length of campaign, could be 4-6 hourly, or daily.

Useful for providing situational awareness and context for incoming IMT personnel and crews, as well as up to ministers and officials.

Preferred Scale: Best Fit **Preferred page Size:** A3-A0

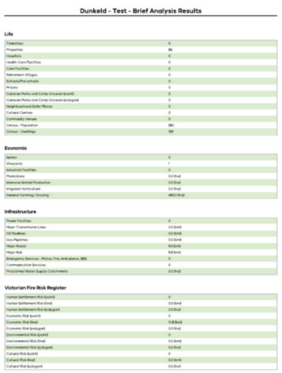
Security Class For Official Use Only

Procedure

Location Produced at IMT/SCC

File Name

10.19 Impacts Mapping



Potential Impact Report | AIG Report | AIG To GPX | Impact Assessment | Water Replacement Report

Product	Potential Impact Map & Report	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping

Purpose

This map and associated report is to show communities and assets that might be potentially impacted by the Fires Potential Impact area, or a hand drawn area of the users choice. There are a range of reports available through here now that meet a range of purposes.

Preferred Scale:	Best Fit.	**Preferred page Size:**	A3/A4

Security Class

For Official Use Only

Procedure

For eMap

Click the Printing & Reporting Tab – Click Potential Impact Report

Select the type of report you wish to run. Choice is either IMT/SCC (Life and Property Impacts) or RRAT report (Public Land Impacts)

Select the layer you wish to base the report on either Current Burnt Area (black lines), Potential Impact Zone – Phoenix Rapidfire (organise dashes) or Sketch an Area.

Enter the Report Title (For Sketch an area & PIZ). Click Next.

Draw the shape, click OK.

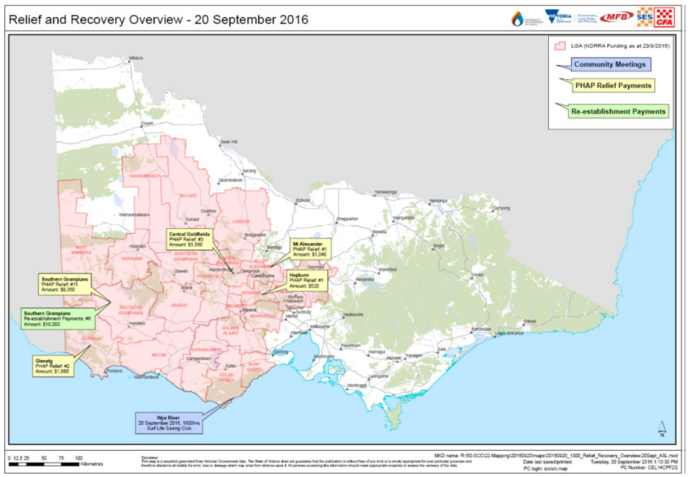
The result is a summary view & more detailed information of what is at potential risk.

A HTML file is created, which can then be saved as PDF file (print)

Location

IMT/SCC

10.20 Relief and Recovery Map



Product	Relief and Recovery Map	**Prod No**	Prod-***
Section	Relief & Recovery	**Unit**	Mapping

Purpose

This map shows where grants have been supplied and how much, as well as Community meetings (if any) for each day.

Preferred Scale:	Best Fit.	**Preferred page Size:**	A3/A4

Security Class For Official Use Only

Procedure

This map will be produced when Relief and Recovery are in the SCC & activated. A range of funding may have been distributed as well as the community meetings for a particular day are included.

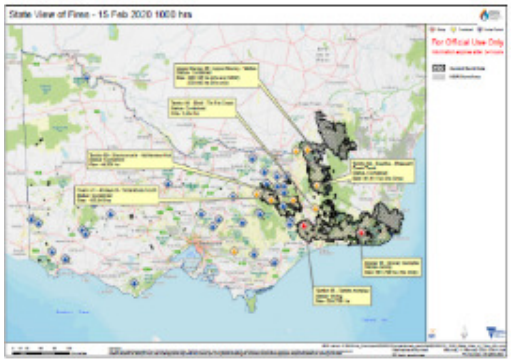
Information sources for the funding grants are from Relief & Recovery (through to DHHS), community meetings could be from the Intell summary – (or Relief and Recovery personnel)

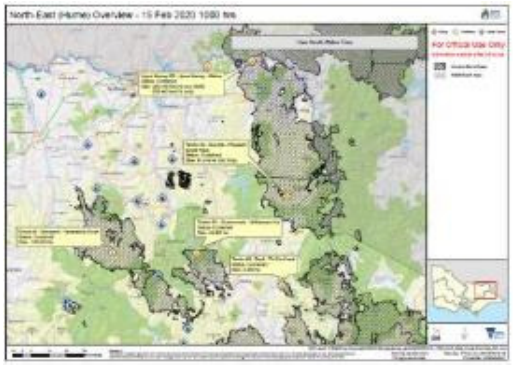
** This map will be included in the map pack **

Location IMT/SCC

File Name

10.21 Map Pack (SCC)





Product Map Pack **Prod No** Prod**

Section Intelligence **Unit** Mapping

This product contains a number of maps. It might include a range of different types of maps from a State Area of Interest Overview Map showing those incidents of interest for the now, and then Individual Maps per incident. There may also be some recovery maps. The pages are combined together into a multi-paged PDF and posted onto EM-Portal. In campaign events, maps are updated twice daily (AM/PM) unless otherwise specifically advised.

Preferred Scale: Best Fit. **Preferred page Size:** A3

Create Map Pack Folders

Copy Base Projects

Copy blank or previously made templates/incident status shape file.

Choose one of the two options below (either a or b) depending on whether you are creating a fresh Map Pack or if you are updating a previously created Map Pack.

a) If creating a fresh Map Pack

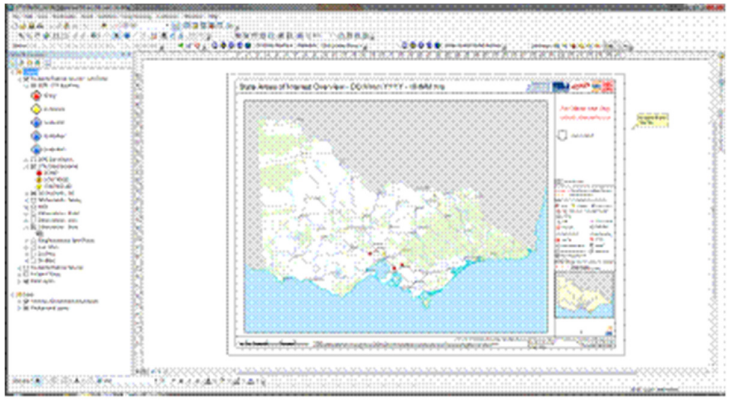
1.	Copy the required base projects located in… EM-Drive\60-Reference\Mapping_Templates\map_products\map_pack\projects\
2.	Select the StateViewofFires and either or both of either the portrait or landscape ICC incident managed maps and paste the mxds in… C:\ EMDrive_download\<YYYYMMDD>\ map_pack\<AM or PM>\projects\
3.	Rename the MXD names accordingly.

b) If updating a previously created State Overview Map

1.	Copy folders and MXDS from the previous day and/or time period. C:\ EMDrive_download \<YYYYMMDD>\projects\Map_pack\<AM or PM>
2.	Rename the MXD names accordingly

Create State Areas of Interest Overview

Open MXD

1.	Open the required StateViewofFires mxd.
2.	Should open to layout view. 

Create the Definition Query

1.	From the Incidents (Feature Service) create a definition query on the incident/s you want to appear on the state map.
2.	Export the data that is appearing on the map as shapefile (for backup if we need to re-create the map) The reason for this is if we want to re-print a map (not from the PDF), 6 months down the track, the data feed would not be truly reflective. Right click on the incident feed → Data → Export Data to shapefile.

Create Callout Boxes

1.	Copy and paste the call out to the appropriate locations
2.	Update Incident name and size (in Ha)
3.	This information will be provided from the Intelligence Unit.

	If map doesn't display edits, hit Refresh View button. 

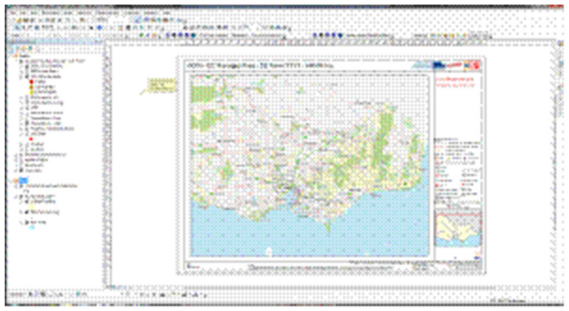
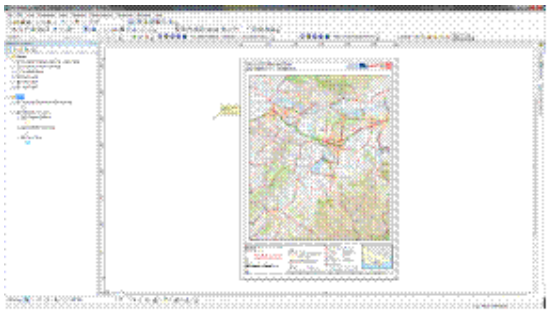
Update Title Information

1.	Update date and time at the title of the map. (Map Title date/time)
2.	Example: Top (Map Title): DD Mmm YYYY - HHMM hrs = 22 Jan 2020 – 0900 hrs
3.	The Date printed will automatically update to now - which will basically be the time you printed the map.

HINT	The top time reflects the currency of the information in the map: ❑ I.E. The Required Map Title – Date/Time. . The bottom time is the approximate time the map was printed.

Create Incident Maps

Open MXD

1.	Open the required incident mxd. (either landscape or portrait) for best fit.
2.	Should open to layout view.  
3.	Zoom to the extent of the incident

Create Callout Boxes

4.	Copy and paste the call out to the appropriate locations
5.	Update Incident name, size (in Ha) and Incident Statue (ie. Going, Contained, Controlled) Note: Once an incident is declared as safe, it can be removed from the map.
6.	This information will be provided from the Intelligence Unit.

	If map doesn't display edits, hit Refresh View button. 

Update Title Information

4.	Update date and time at the title of the map. (Map Title date/time)
5.	Example: Top (Map Title): DD Mmm YYYY - HHMM hrs = 22 Jan 2020 – 0900 hrs
6.	The Date printed will automatically update to now - which will basically be the time you printed the map.

Print and Export

1. Export to PDF settings.

Resolution:	150dpi
Ratio:	1:1
Filename:	Same as mxd
Filesize:	1.5MB (w mapscape; vector only smaller)

Make sure “Embed All Document Fonts” is ticked.

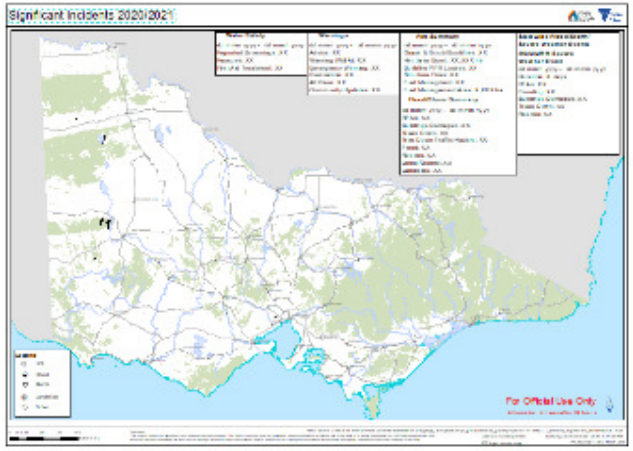
2. Save all map images in the following location…

c:\ EMDrive_download\22-Mapping\<YYYYMMDD>\Map_pack\<AM or PM>\maps

Then upload them to the equivalent location on EM-Drive in EM-Drive\50-SCC\22-Mapping\<YYYYMMDD>\Map_pack\<AM or PM>\maps

3. Print copies for the centre table & the State Control Team Incident Wall. (A3)

10.22 Significant Incident Map (SCC)



This map wasn't required in 2019/2020 season. It started to get created however, it wasn't maintained, so am quite unsure it will be needed moving forward. However the base is updated if it's needing to be made.

Preferred Scale: Statewide **Preferred page Size:** A3

The Significant Incident map is made up of two components. A map with the incident locations, and an associated spread sheet with the details of losses & impacts. It is a product that will be maintained for the entire financial year, with counts being included for that time period.

The reason for the word document being separate from the map – is to keep the map clean, and the textual and detailed information in the word document.

Process

1.	If creating the map for the first time, copy the YYYYMMDD_HHMM_StateImpactOverviewMap_A3L,mxd from EM-Drive\60-Reference\Mapping_Templates\map_products\map_pack\projects to your C:\EMDrive_download\YYYYMMDD\projects.
2.	Rename the MXD to the appropriate name. (date/time)
3.	Open MXD. It will open to the layout view.
4.	Ensure you have a shapefile for the day to add any "New" incidents to. Add the appropriate type of event that has been declared to be significant.

5.	Copy and paste the text boxes into the map and populate with the incident name. Ensure all the counts and areas are updated in the map.(see information sources) **2020-21 Fire & Flood/Storm Summary** • Grass & Bushfires: Count Source from Intelligence • Hectares Burnt: Count from eMap Mapped burnt areas (add areas). Make sure it's only the Burnt area attributes included. • Losses: Summary of total; Source from intelligence • RFAs: Source from Intelligence/SES • Building Damage: Source from Intelligence/SES • Tree Down: Source from Intelligence/SES • Flooding: Source from Intelligence/SES • Rescue: Source from Intelligence/SES **Statewide Flood/Storm Severe Weather Summary** • Event Name & Dates event occurred: Source from Intelligence/SES **Water Safety** • From Intelligence: As reported in Life Saving Victoria (LSV) IMS **Heatwave**

	• From Intelligence: requested through DHHS Emergency Management Branch and/or throughout the season in State Incident Report
6.	Export Map to PDF R:\50-SCC\22-Mapping\yyyymmdd\maps Save as: **YYYYMMDD_HHMM_Significant_incidents_YYYY_YYYY.pdf**  Make sure “Embed All Document Fonts” is ticked.
7.	The word document contains more detail about the losses and impacts.b
8.	This map and word document will then get included with the map pack.

Map Pack Creation (SCC-Map-Pack.pdf)

1.	Once all maps have been created, select all the maps and Right click and create a document. (you need to have PDF writer on your PC) Order the maps as needed with perhaps the state overview and all other maps needed.
2.	Save the new multi-paged document as **SCC-Map-Pack.pdf** (NOTE: the file MUST be called that name)

Upload Map Pack to EM-COP - Desktop

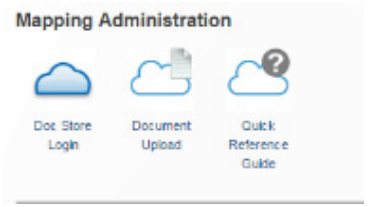
Once you are logged into EM-COP go to desktop; click sections, scroll down to find Mapping, and SCC Mapping Docs Upload.

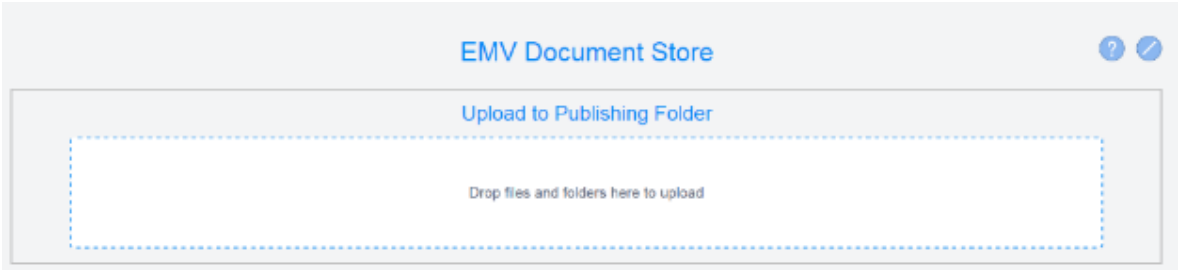
Click on the link;

Password is <<MAPS>>

Under Mapping Administration there is the Document Upload button. Click that.

Then drag and drop the SCC-Map-Pack.PDF into the Drop files and folders here to upload part.





The map will update immediately in the SCC Map Pack – on the Desktop Tab.

Notify via email to Situation and Intelligence that the map pack has been updated.

10.23 SES Flood/Storm Map Templates

Over past few years SES have produced a number of static products and have created a number of products that can be found in the following location on the R drive.

EM-Drive\50-SCC\18-Flood-Analysts\Reference\Flood_Mapping

There is a range of products available here and would more than likely be the starting point for any map requests that are needed. In fact these might be used instead of requiring a custom type product.

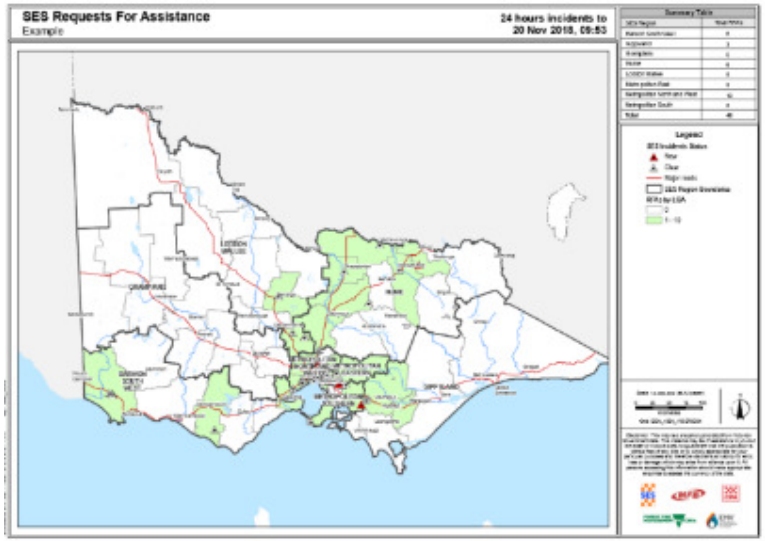
If there was a requirement to do some “custom” mapping by the mapping team, then perhaps these below might be a good starting point (Based on previous experience of Flood mapping for the SES in the SCC.)

The maps would be produced with the ArcGIS Standalone base project - flood_storm_base_1071.mxd.

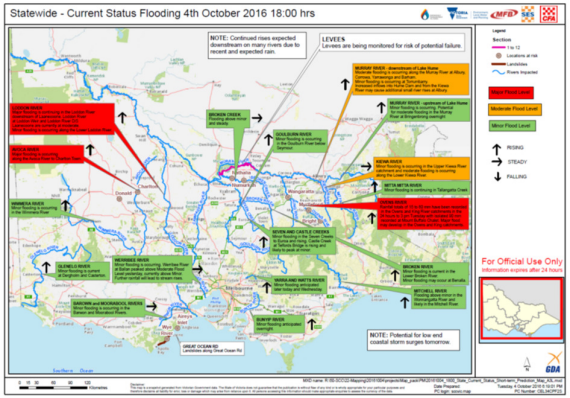
The maps that might be produced include:

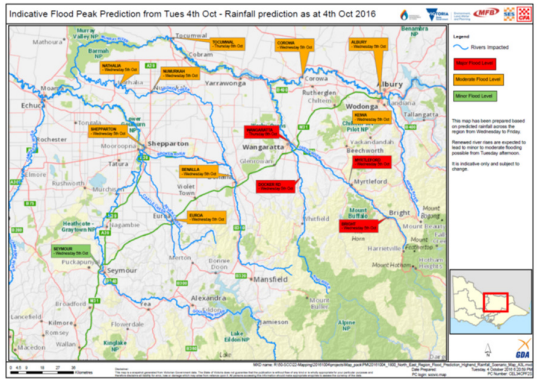
10.23.1 Request for Assistance (RFA) – either by SES Response Zone or LGA

This product can now be produced via eMap Water, and would be a better starting point. There will be more flexibility in the tools down the track to specify a particular time period.



Product	Request for Assistance (RFA) – Recent View	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping
Purpose	Currently shows requests for assistance for the past 24 hours. Created from a standard template. More time periods will be developed. An old MXD could be used as a redundancy or if something isn't quite right with time frames at this point in time.		
Security Class	For Official Use Only		
Procedure	See detailed instructions: EM-Drive\60-Reference\Mapping_Templates\map_products\SES_RFA_Maps\ SES RFAs map instructions.docx (Redundancy)		
Location	Em-Drive\60-Reference\Mapping_Templates\map_products\SES_RFA_Maps		
File Name			

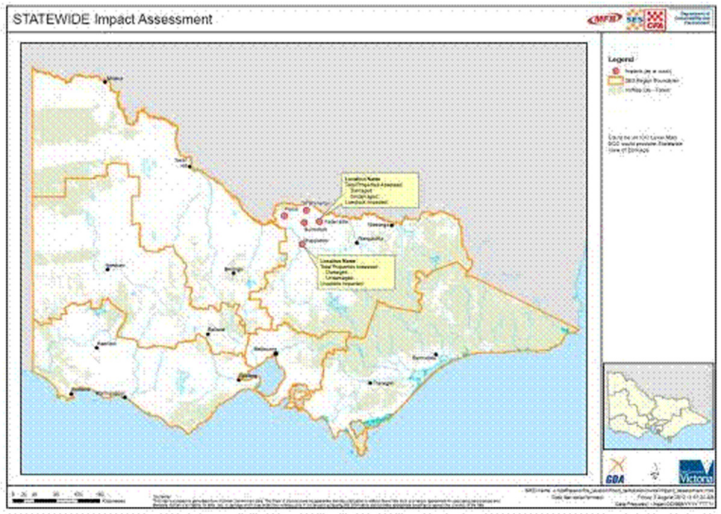




10.23.2 Locations affected or at risk of flooding (Current & Predicted)

Product	Towns affected of at risk of flooding	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping
Purpose	State/Regional/Incident Level Towns affected or at risk of flooding		
Security Class	For Official Use Only		
Procedure	Information is sourced from Water Specialists and marked on maps. Current views and comments are added. These maps, when produced are included in the map pack.		
Location			
File Name			

10.23.3 Flood Impacts / Damages



Product	Flood Impacts / Damages	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping
Purpose	State/Regional/ Shows towns impacted, and damage/loss noted. NOTE: The statewide view could be the Significant Incident Map.		
Security Class	For Official Use Only		
Procedure			
Location			
File Name			

10.23.4 Flood Extent Map - Predicted

Product	Flood Extent - Predicted	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping
Purpose	Region/Incident Level. Present the estimated/likely flood extent based on BOM predictions. Appropriate design or historic flood extents used to estimate potential impacts and inform operational considerations. Note that the availability of this map is dependent on pre-existing flood information. Layers to be turned on – with advice perhaps from the flood specialists.		
Security Class	For Official Use Only		
Procedure			
Location			
File Name			

10.23.5 Flood Travel Time

Product	Flood Travel Time	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping
Purpose	Region/Incident Level. Summarises the timing of expected flood peaks for at risk locations and where information is available summarises the timing of onset flooding (ie. Minor flooding or above expected)		
Security Class	For Official Use Only		
Procedure			
Location			
File Name			

10.23.6 Flood Consequence Map

Product	Flood Consequence Map	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping
Purpose	State/Region/Incident Level. Shows potential range of consequences based on BOM prediction. Summarises the key flood consequences for likely, possible and worst case scenarios and for flood consequences that have already occurred. May include detail of the predicted/actual timing of flood consequence if known.		
Security Class	For Official Use Only		
Procedure			
Location			
File Name			

10.23.7 Flood Extent - Actual

Product	Flood Extent Actual	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping
Purpose	State/Region/Incident Level. Shows the actual flood extent at a fixed point in time. (when the data was captured) Could be linescan interpretation.		
Security Class	For Official Use Only		
Procedure			
Location			
File Name			

10.23.8 Flood Warning Predictive Map

Product	Flood Warning Predictive Map	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping
Purpose	State/Region/Incident Level. Displays the current predicted flood warnings for river gauges in Victoria. It would only show the gauge point,		
Security Class	For Official Use Only		
Procedure			
Location			
File Name			

10.23.9 Strategic Flood Risk Map

Product	Flood Warning Predictive Map	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping
Purpose	State/Region Level. Provide an overview of the impacts to critical infrastructure. Align to critical infrastructure as defined on Fire Hazard Maps.		
Security Class	For Official Use Only		
Procedure			
Location			
File Name			

10.24 Hazmat (CBNRe) & PM2.5 Templates

There a couple of map templates available for use if required. A base project is setup and ready for use if maps are ever needed to be created on behalf of a scientific officer. There could be a range of different “types” of products; however you will be advised on titles and text requirements from the scientific officer. However for now the base template requirement will be the same. This is the beginning and will be future development to come.

Product	Hazmat (CBNRe) & PM2.5 Template	**Prod No**	Prod-***
Section	Intelligence	**Unit**	Mapping
Purpose	State Level (at this point)		
Security Class	For Official Use Only		
Procedure	Use the CBNRe.mxd template, and apply the template. There is a database by which extra observations can be drawn as required. Apply template, (either Landscape or portrait) and alter text information as required and advised. There is also a PM2.5 template as well for mapping the air quality.		
Location			
File Name			

10.25 Marine Pollution

- Pre-made PDFs are available through EM-COP library. (under Hazard – Marine Pollution)
- Link is **http://cop.em.vic.gov.au/sadisplay/nicsUI.seam?ws=1&v=c77ab847#library** and scroll down to find information Oil Spill Response Atlas (OSRA) Maps

10.26 Other Standard Maps

There are many other less commonly requested standard maps. And are more than likely a number not listed.

There are no templates available for the maps listed below. And the expectation should be managed that such map requests may take longer to produce.

To produce these maps use the ArcGIS standalone and eMap Analyst Add In.

- Image Map
- Facilities
- Rehabilitation and Recovery
- Air Operations
- Communications