

JMPS User Guides

This package is a one-stop resource of JMPS information. It was written specifically for JMATS, but many of the concepts will apply operationally. It is NOT designed to be a read-through after the first couple of sections, but more of an indexed reference.

This guide was written to help you navigate through a very involved and sometimes finicky suite of applications. **JMPS is not perfect**; sometimes the answer to lingering issues is, “it can’t be done.” Please accept that and use the workarounds and instructor help provided.

Regarding YOUR role:

Put forth the effort to get proficient with JMPS mission planning. Being fed JMPS “beak-to-mouth” is going to waste a lot of time while you’re here and will limit your ability to be a useful mission planning asset at follow on assignments.



Regarding JMATS instructors’ role:

We are expected to provide mission planning instruction and assistance with the assumption that **the software is working correctly**. If it’s not, you will encounter various levels of instructor knowledge and ability to correct an issue. Please remember, our job is to teach you the C-130J, not explain an arcane workaround to get, for example, your missing route corridors back. Don’t be frustrated by a perceived lack of knowledge because sometimes the answer will simply be, “reboot/start over/I’ve never seen that before.” **It’s a software package, coded by a lot of different agencies, so get used to having issues.**

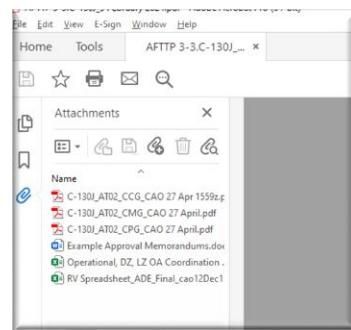
Your instructors have my contact information, and they can reach out to me with questions or issues. I also welcome your feedback, questions, or issues.

If you want to contact me directly, my office is in Room 276 in Building 1231. I’m also on the global email address list as: david.newton.6.ctr@us.af.mil.

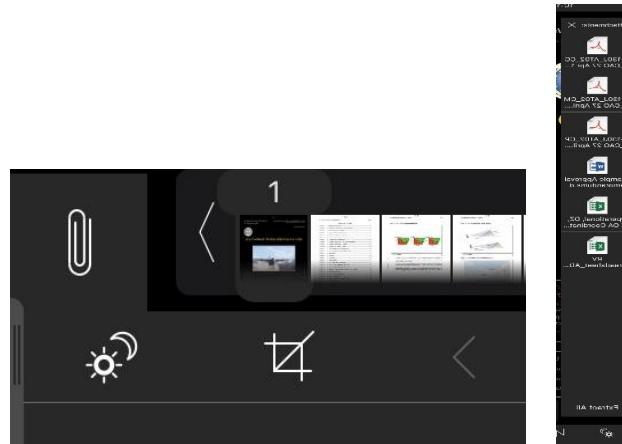
[Insert Table of Contents here]

This guide includes links to other “how-to” attachments that wouldn’t fit in a document file.

In Adobe Acrobat, select the paperclip symbol on the left side of the document window to view the available attachments.



In GoodReader reading view, a paperclip on the bottom left of the document indicates attached documents are embedded. Select the paperclip to view and open.



JMATS MISSION PLANNING SYSTEM

This section describes the mission planning network and how to update your JMPS system to ensure the most current data available for mission planning.

The Training Network

You will need to understand how the JMATS “training network” is configured and used. Unlike the milnet, the training network is standalone. Commercial internet access is available, but most .mil sites requiring PKI will not work. Here are some common addresses (folders) on the training network:

`\ltrmpsrv\Student_Share\` (mapped as drive Z:)
`\ltrmpsrv\Mission_Plan\` (mapped as drive W:)
`\ltrmpsrv\Mission_Plan\JMPS_Updates\` (mapped as drive X:)
`\ltrmpsrv\Mission_Plan\JMPS_Standard_Files_and_Prefs\` (mapped as drive Y:)

The training network is used to:

- **Store and provide access to mission planning data such as:**
 - map data files
 - FLIP
 - tactics files
 - forms
 - JMPS data (draw files, local custom waypoints, orders of battle, system data, etc.)
- **Store and provide access to JMPS update files** (DAFIF, FLIP, drop/landing zones, vertical obstruction data, etc.)
- **Store and provide access to shared student content** (Student Share folders)
 - NOTE: Student Share access is also available on the EFB in the GoodReader app.
See the [FAQ](#) for tips on accessing, syncing, and using the folder and contents.

Your laptop comes pre-configured from a master image that sets all applications, shortcuts, and network mappings you'll need at JMATS. What you'll need to do:

- **Create a personal folder in Student Share.** This is where you'll store mission planning products you and/or your flying partner create. Recommend both students create a common use folder instead of individual ones. Use a name that's easy to remember, but **please refrain** from creating a folder name designed to force Windows Explorer to assign yours to the top of the view list (e.g. - `\@@@Stud1_Stud2`), as this moves other important folders away from the top.

PRO TIP: a good way to have instant access to your shared folder is to “pin to Quick Access” in Windows Explorer. Right-click your folder name, and you should see “Pin to Quick Access” in the pop-up dialog.

- **Perform monthly JMPS updates** (go to [Monthly EASE Client Updates](#))
- **Perform any manual updates required** (go to [Manual Data Updates](#))

Updating JMPS Data

As a certified mission planning environment (MPE), JMPS must be kept current. Refer to Table 1 below to see what gets updated and when.

Understanding Data Currency

FIRST DISCLAIMER: JMATS operates in a simulated environment. While every attempt is made to keep your mission planning products and data up to date, it's simply impossible to provide that level of accuracy for 130+ student laptops and 16 classroom JMPS environments. You are allowed to use expired data for mission planning (**EXCEPTION: EFB FLIP must be current**).

Table 1. What are the currency requirements?

| Data | Currency | Required for training? |
|---|------------|---|
| FLIP | 28 days | YES. Must be current for all training. Do NOT need to keep updated in JMPS unless you intend to insert procedures into your route. The training devices (Block 8.1.x) have current navigation databases, so if your EFB is current you can use it to compare with the FMS procedures. |
| DAFIF | 28 days | DESIRED. May take several days to be available. "Expired" does not prevent mission planning or simulator missions. |
| Chart Currency | 31-92 days | DESIRED. Every attempt is made to keep up to date, but simulated events do not require charts to be the most current. |
| Vertical Obstructions | 28 days | YES. VO must be current to calculate MSA, ERAA, and factor obstacles. |
| Vector Vertical Obstruction Data (VVOD) | 28 days | NO. VVOD will be replaced by VO in July Dec 2024. |
| Obstruction Clearance File (OCF) | 28 days | NO. OCF will be replaced by VO in July 2024. |
| Drop Zone and Landing Zones | 28 days | DESIRED. There are a limited number of drop and landing zones you'll see in simulator missions. JMATS provides surveys and updates the CAT airdrop software to keep these available. |
| Local Points | Annual | You should already have the most current set of local point files. These are typically updated at the end of each calendar year. There may be cases where syllabus missions change enough to require an out-of-cycle update. You'll be told when new local point data is available. See [Manual Data Updates] for instructions. |
| Draw Files | As Needed | You should already have the most current set of draw files. There may be cases where syllabus missions change enough to require an |

| | | |
|--|--|--|
| | | update. You'll be told when new draw file data is available. See [Manual Data Updates] for instructions. |
|--|--|--|

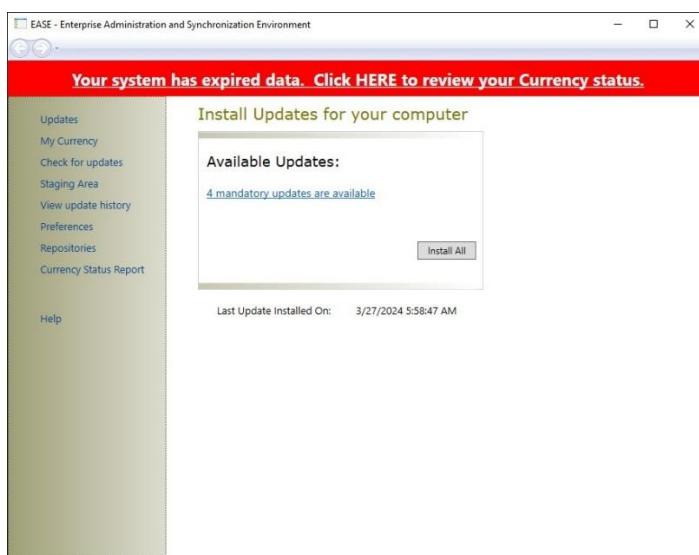
Monthly EASE Client Updates

The primary J MPS update method is the EASE Client Tool application on the desktop. You'll find it on the upper right next to the stoplight status. Open the application to view status and apply monthly updates:

- Expired currency is indicated by red Stoplight status.



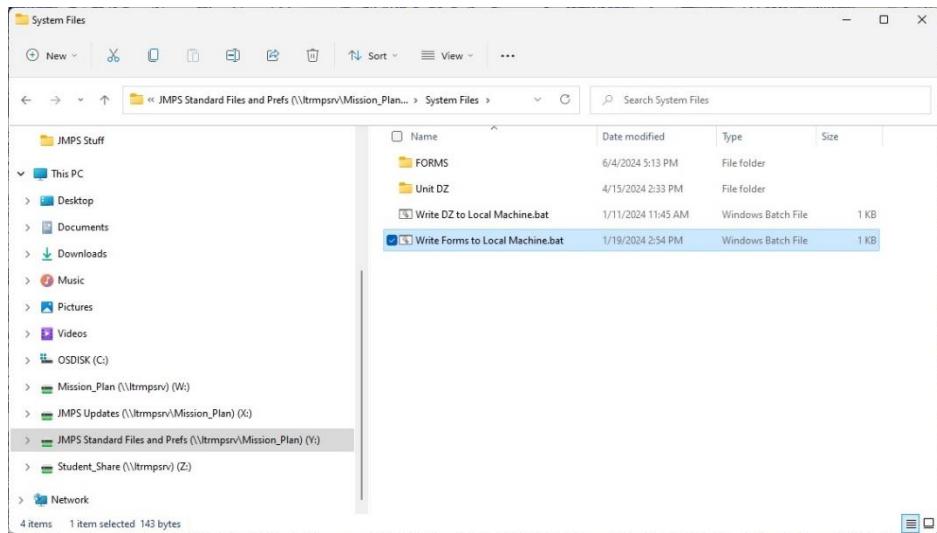
- Double-click the EASE Client Tool shortcut to launch the application. It will check currency and look for available updates.



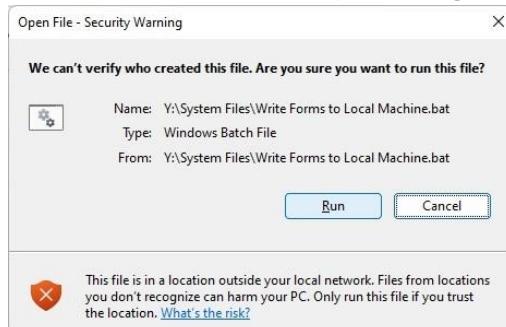
- Select Install All. Wait until the updates unpack and apply themselves.



- Double-click the “.bat” file called “Write FORMS to Local Machine.bat”.



- Select Run in the Security Warning dialog.



- A command window opens that shows what is written to your machine. Press any key to close it.

```
C:\windows\system32\cmd.exe
Y:\System Files>copy "\\\itrmprsv\Mission_Plan\JMPS Standard Files and Prefs\System Files\FORMS\*.xlsx" "C:\data\local\JMPS\data\FORMS TEMPLATES"
\\itrmprsv\Mission_Plan\JMPS Standard Files and Prefs\System Files\FORMS\C-130J CAT I Fuel - Block 6.0.xlsx
\\itrmprsv\Mission_Plan\JMPS Standard Files and Prefs\System Files\FORMS\C-130J CAT I Fuel - Block 8.1.xlsx
\\itrmprsv\Mission_Plan\JMPS Standard Files and Prefs\System Files\FORMS\C130JDropB6_CDS.xlsx
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\\itrmprsv\Mission_Plan\JMPS Standard Files and Prefs\System Files\FORMS\C130JDropB8_1_HE.xlsx
\\itrmprsv\Mission_Plan\JMPS Standard Files and Prefs\System Files\FORMS\C130JDropB8_1_Pers.xlsx
12 file(s) copied.

Y:\System Files>pause
Press any key to continue . . .
```

END OF PROCEDURE

Unit DZ

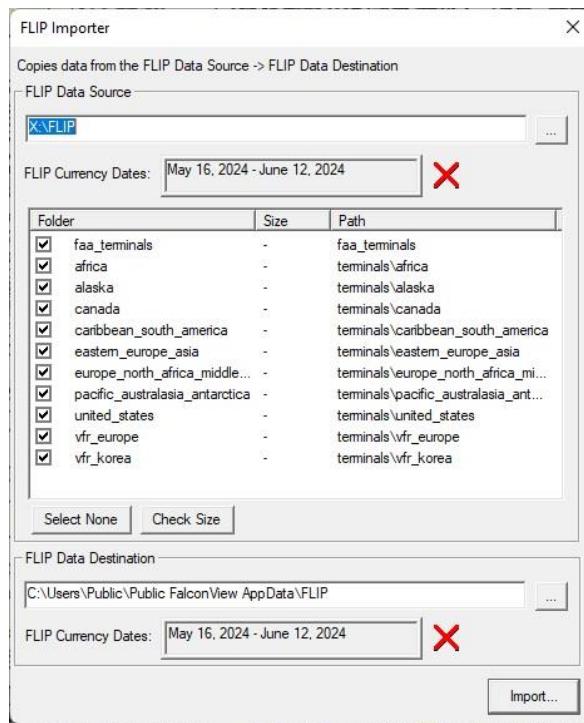
Updating the Unit DZ data may be required if JMATS creates a new “in-house” drop zone survey. Follow the same steps for [importing FORMS](#), except run the file called “Write DZ to Local Machine.bat”.

END OF PROCEDURE

FLIP

Why update FLIP? This is only necessary if you want to ensure procedures (SID, STAR, IAP, etc.) are current when inserting them into a JMPS flight plan. FLIP currency depends on updates from the SSR and Network Services, so yours may be the most current available even though it says “expired.” In simulator world, this isn’t critical, **AS LONG AS YOUR EFB FLIP IS CURRENT.**

There is a desktop application called FLIP CC that allows data updates. **Don’t.** Alternatively, and much easier, is to select the JMATS Mission Data menu, select System Health, and click in FLIP Currency. You’ll see that FLIP is connected to a network location that has our most current FLIP data. If the network location is out of date, importing it will not change any currency in JMPS. If there IS a newer FLIP cycle, press Import and prepare to wait, as each cycle is about 14Gb in size.



END OF PROCEDURE

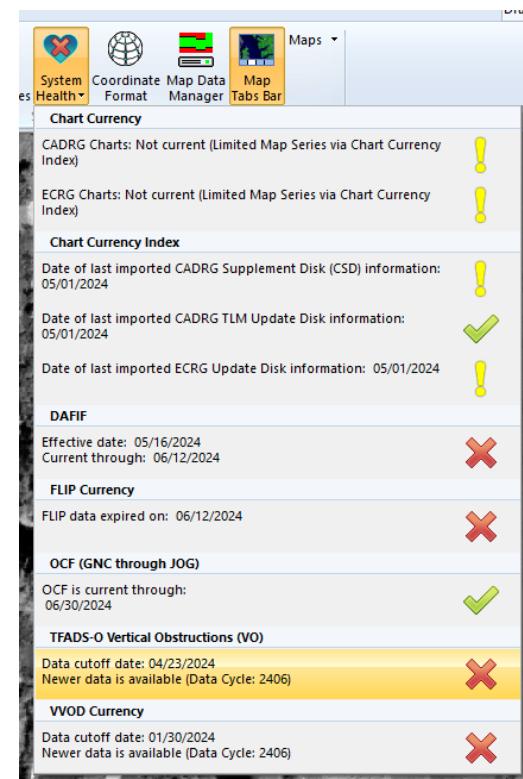
Vertical Obstructions (VO)

VO is the newest obstruction file format in JMPS. The official file name the NGA provides is called, “Table Formatted Aeronautical Data Set – Obstacles,” or simply, “TFADS-O.” We will simply call it “VO” from this point on.

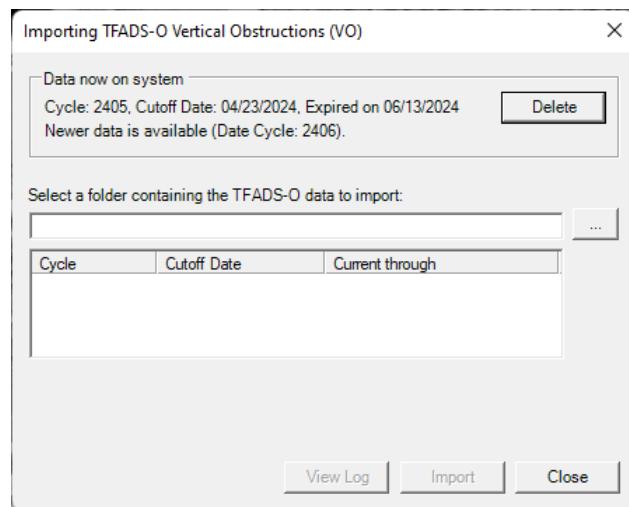
VO uses a “cutoff date” in determining currency. In other words, after the cutoff date, NGA will produce new files (7-14 day timeframe). So, passing the cutoff date does not mean loss of currency. System Health in JMPS will display an **amber question mark** after 42 days from last cutoff date (new data **should** be available) and will display a **red X** after 51 days (new data **is** available and needs to be imported).

To import new VO, follow these steps:

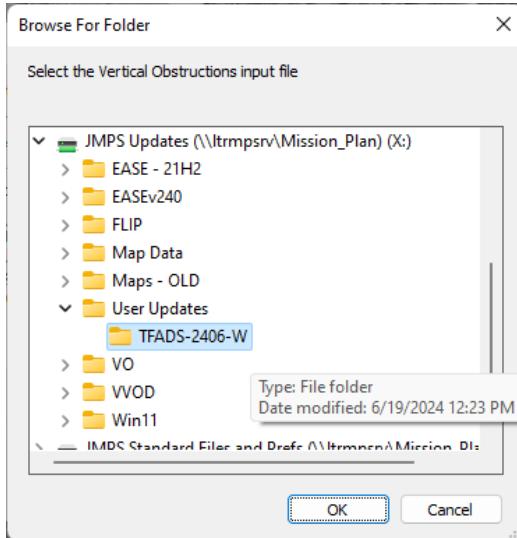
- In the JMATS Mission Data menu, select System Health. TFADS-O Vertical Obstructions (VO) section will show out of date.



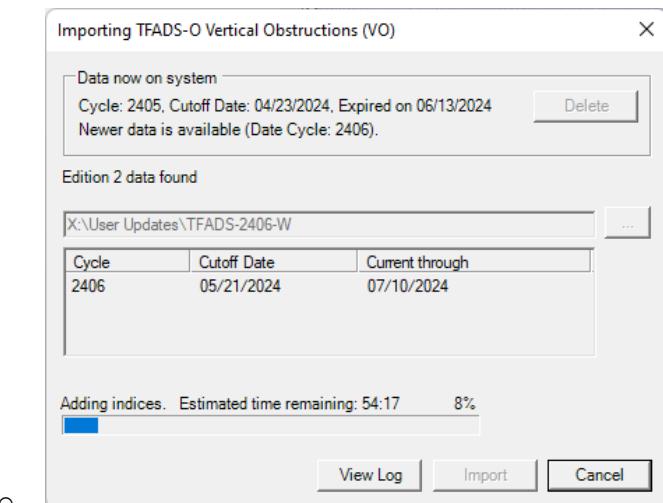
- Click on the cutoff date area, which opens the VO import dialog.



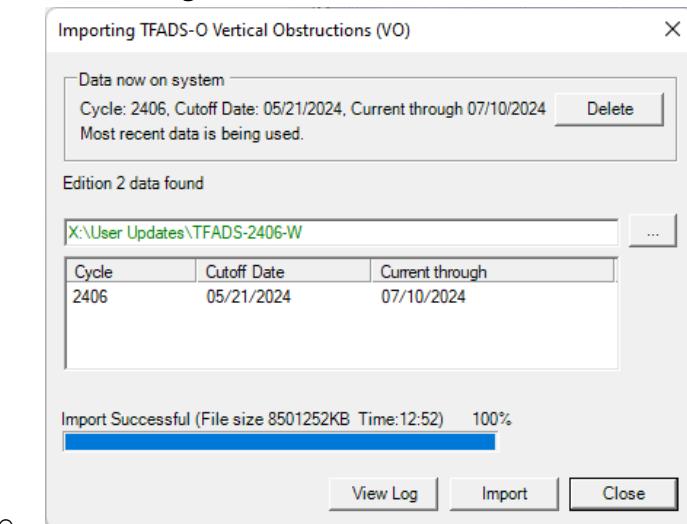
- **Select the 3 dots in the “Select a folder...” area.** Browse to “JMPS Updates” (X:\). Navigate down to the User Updates folder, then select the folder with the most current TFADS cycle (hint: they’re named YYmm, for year/month of the cycle).



- **Press OK, then in the import dialog press the Import button.** If you see a message that your current TFADS file is the same or newer than what you selected, then you have the most currently available VO data. **NOTE: it may take a while before you see progress.**



- **Wait for the import to complete.** It usually completes faster than the original estimate. Notice that the “Data now on system” area shows the new dates and a note that “Most recent data is being used.”



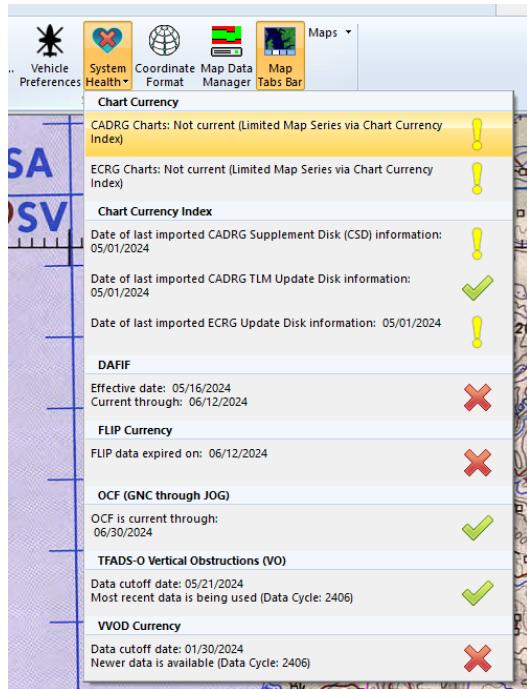
END OF PROCEDURE

Chart Currency

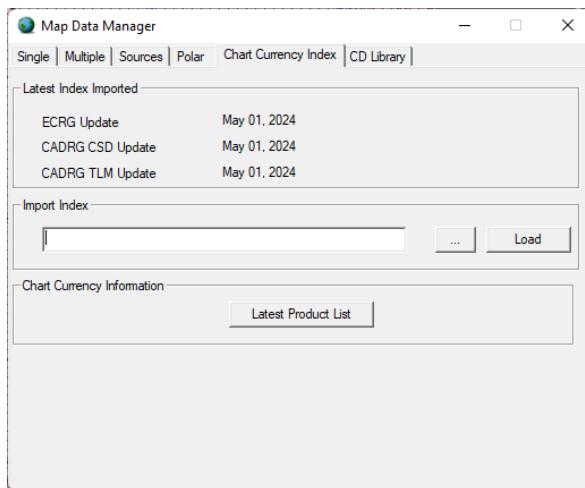
Some backstory: the National Geospatial Intelligence Agency (NGA) is transitioning to a new production system for tactical charts and is currently (mid-2024) in a production halt. JMPS System Health will report your chart currency out of date. Due to this, NGA publishes a monthly “index” file that effectively resets the currency date on your system so that System Health reports your charts as “current.”

To update your chart “currency,” follow these steps:

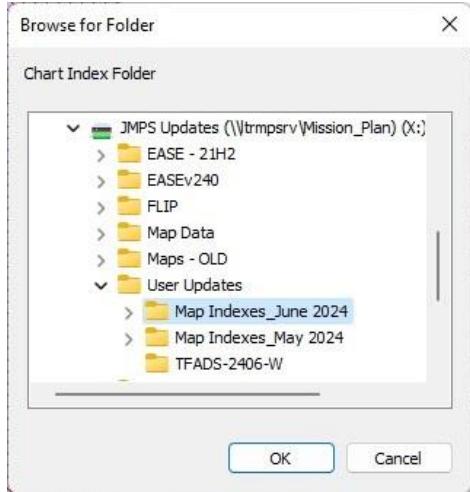
- **In the JMATS Mission Data menu, select System Health.** Chart currency section will show exclamation marks for out of date.



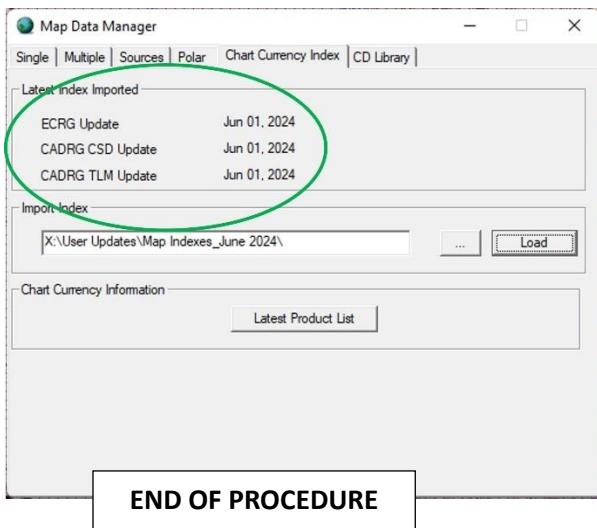
- Now open the Map Data Manager from the same ribbon. Select the Chart Currency Index tab.



- Select the 3 dots in the Import Index area. Browse to "JMPS Updates" (X:\). Navigate down to the User Updates folder, then select the folder with the most current map indexes.



- **Select OK, then press Load in the Import Index area.** After some time, you will see your “Latest Index Imported” area reflect new dates, and your charts are now “current.”

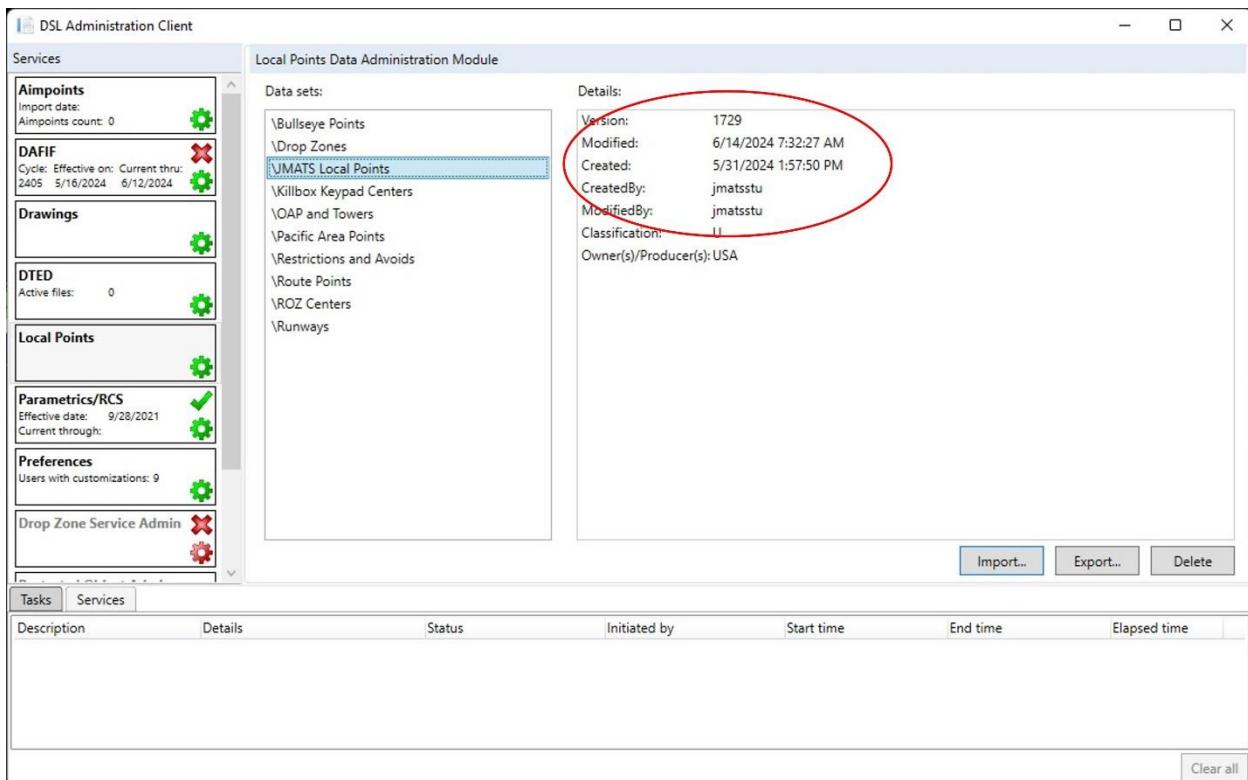


Local Points

All required JMATS local point files are pre-installed in your JMPS laptop.

Why update Local Points? Because the data manager (me) sometimes updates the JMATS local point master set. This usually happens in the December-January timeframe, but sometimes an immediate update is required due to a lesson change. Check for changes here:

Open the DSL (Data Service Layer) Administration Client on your desktop. It should be in the upper right, next to EASE Client and the stoplight. Check the dates of your local point file sets. If they are older than those stored on the JMPS Standard Files and Prefs location, you'll need to import the new ones.



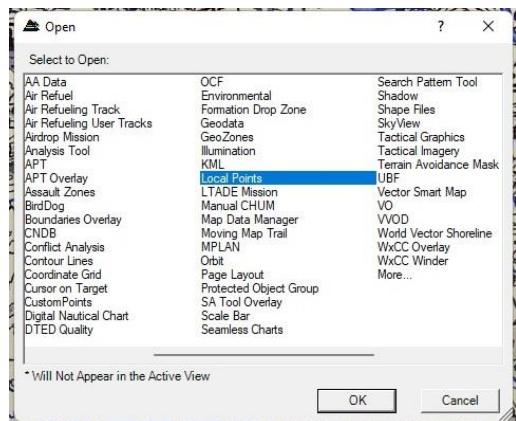
Notice that the DSL Administration Client has Import and Export buttons for the local points data sets. While these buttons do work, they create and import local points (and other data) as .XML, **which JMATS has not implemented yet due to incompatibilities between versions of JMPS.**

So, to manually import local points, you need to be working in JMPS. Follow these steps (also in **JMATS JMPS Checklist Fanfold**):

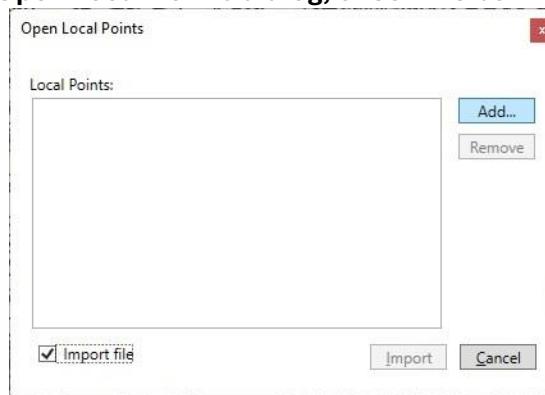
- There are two sources to import from: the Mission Plan folder (**always** current) or the Student Share folder (**should be** current).
 - Mission Plan (**network permissions do not allow direct import to your laptop**)
\\ltrmpsrv\Mission_Plan\JMPS Standard Files and Prefs\Local Points Libraries
 - Select desired file(s) and COPY. Paste onto your desktop or as desired.
 - Use the Import function described below, opening the files from your saved location.
 - Student Share (**much easier because network permissions don't interfere**)
\\ltrmpsrv\Student_Share\07 - JMPS Standard Files and Prefs\Local Point Files
 - Use the Import function described below, opening the files directly from this location.

Importing Local Points

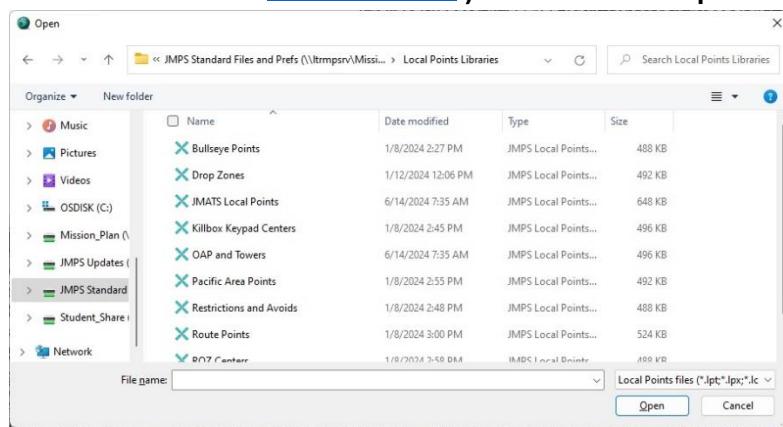
- In JMPS, select File, Open, or press the Open button .
- In the dialog that appears, select Local Points, then select OK.



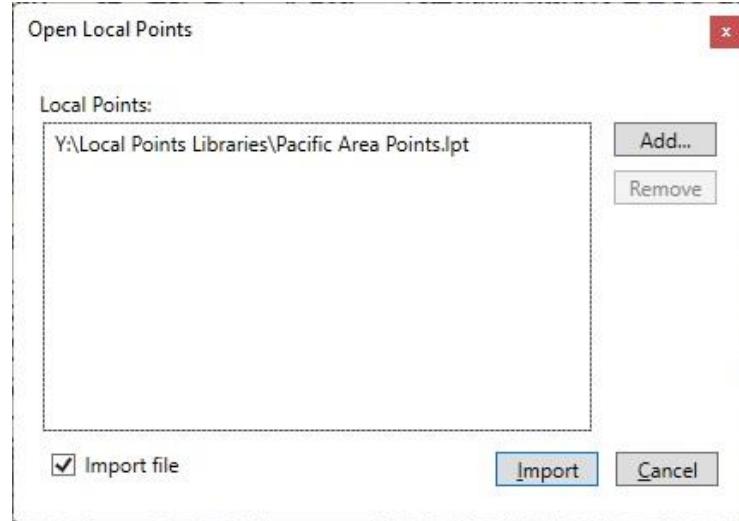
- In the Open Local Points dialog, check the box that says Import File, then select Add.



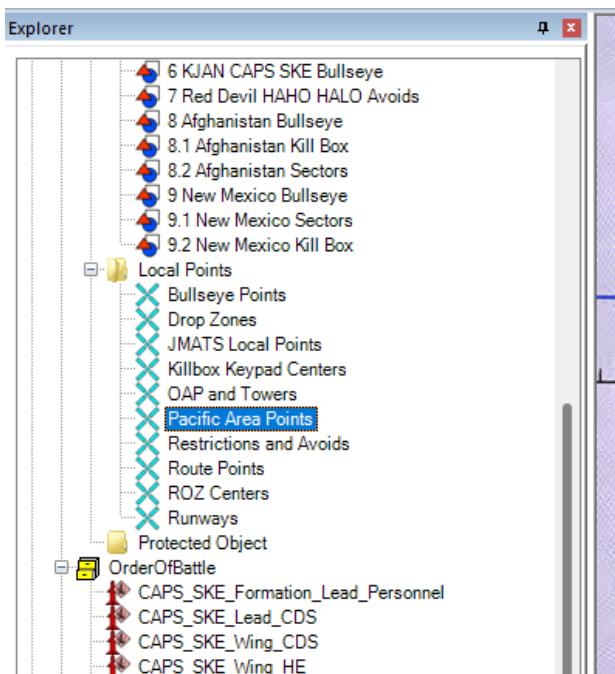
- Navigate to the stored location of the local point files you want (either your download location or the location on [Student Share](#).) Select files and press Open.



- Back in the Open Local Points dialog, press Import.



- After the files are loaded, you should see them added to the Local Points folder in the Explorer pane in FalconView.

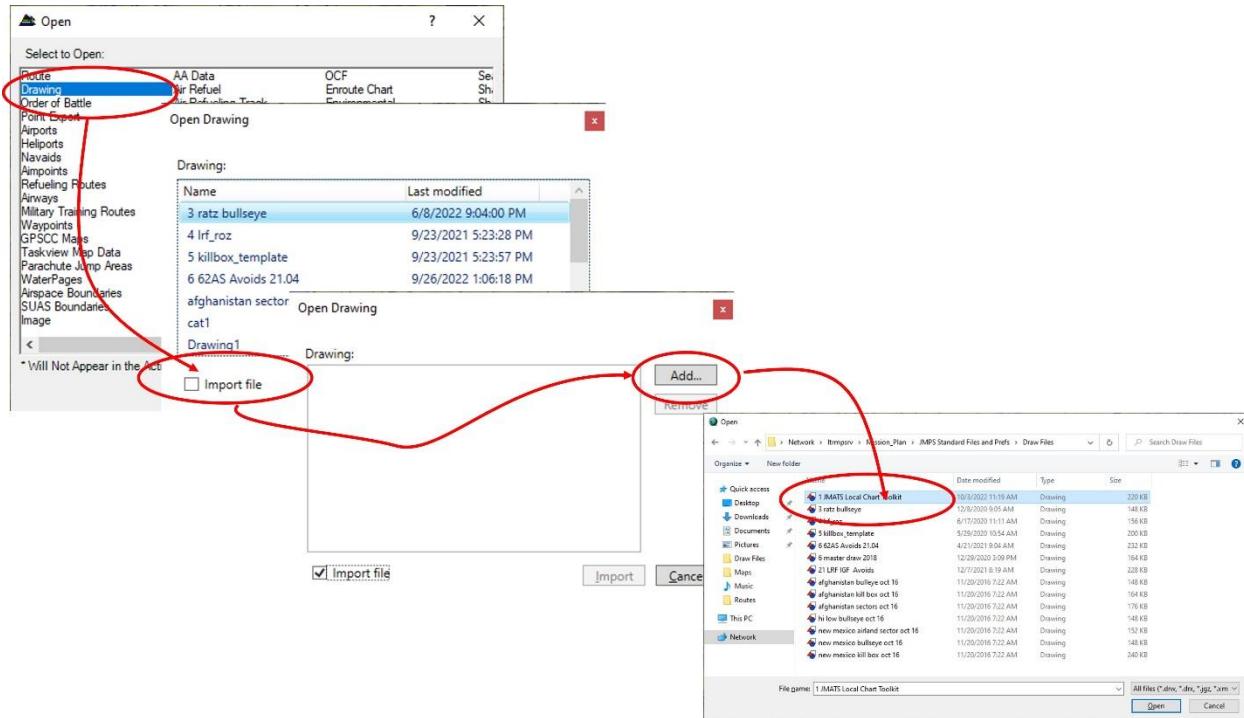


END OF PROCEDURE

Draw Files

All required JMATS local point files are pre-installed in your JMPS laptop. The only time you should have to update/import draw files is due to a lesson change that incorporates a new set of draw file overlays. For example, when we shifted training from Afghanistan to the Pacific, new draw files (bullseye, restrictions, ROZ, etc.) were created and required importing.

Follow the same steps as a local point import described in the previous section, except select Draw File in the Open dialog.



END OF PROCEDURE

WORKING IN JMPS

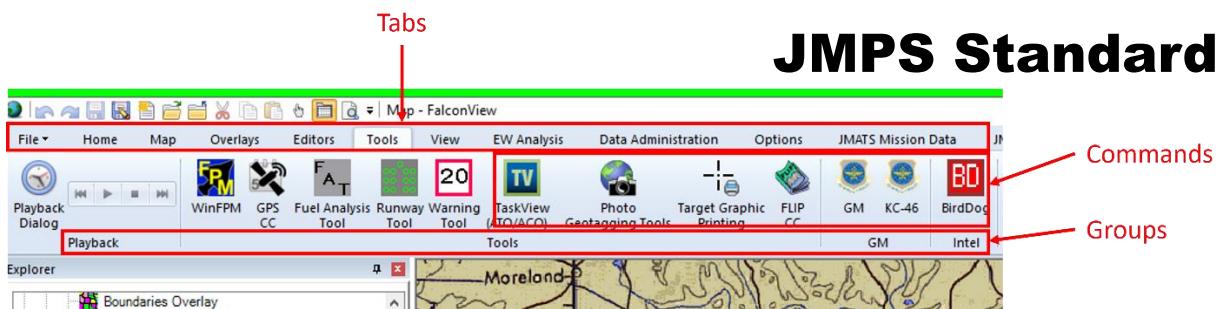
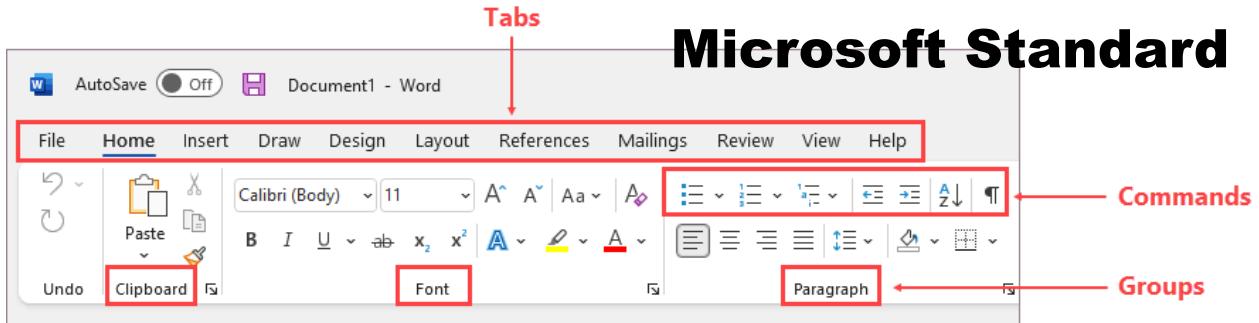
This section details how the JMPS working environment has been customized for JMATS.

Understanding the JMATS Role and Ribbons in JMPS

As a multi-platform Mission Planning Environment (MPE), the typical JMPS installation is configured to support as many options as possible. This means that menus and command ribbons will be cluttered with things you'll never use, even at your follow-on assignments. To combat this, your JMPS environment has been streamlined specifically for JMATS use, hopefully to make your mission planning sessions easier.

JMPS uses a defined working environment called a “Role”. Inside a Role, and inside menu items (tabs), are the individual “commands” on the ribbon, represented by icons. On the ribbon are

sections called Groups and within the Groups are the individual command items.

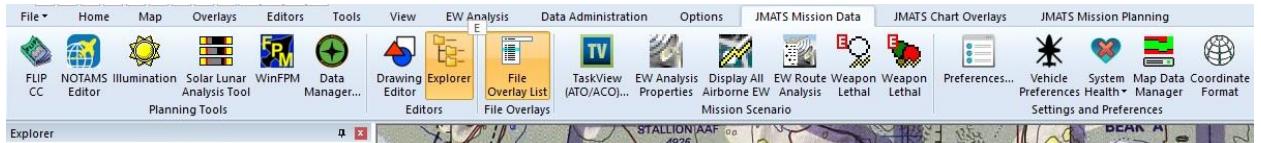


In the upper right area of the FalconView window is the JMPS Role selector. By default, your role has been customized as "JMATS." Other roles available are Strat-Transit, Tactical-Airdrop, Tanker, SBOT, etc. **Do not select those roles.** You will lose important menus associated with JMATS mission planning and you will have to find commands yourself on standard menus. **Make sure the role shows "JMATS."**

Inside the JMATS role are the common menus File, Home, and Editors. By selecting a menu, you open the ribbon with commands associated with it. So, the Editors menu would have a Route Editor, for example.

For mission planning here, the right side of the menu bar contains 3 JMATS-specific menus designed to provide one-stop access to most of the commands you'll use while mission planning. The menus and what they do are:

- **JMATS Mission Data – Background data and preferences setup**



- **JMATS Chart Overlays – add or remove overlays to the map view and chart output**



- **JMATS Mission Planning – left-to-right route planning and generate output**



Why is this format set up for you while at JMATS? These custom menus and ribbons make your mission planning workflow easier and will allow your instructor to more easily follow along or direct you to navigate to a command. It's much easier for you or an instructor to remember that Map Data Manager is in the JMATS Mission Planning ribbon than to try to find it in a default J MPS location (*hint: it's originally in the Data Administration ribbon instead of what you'd think is the more obvious choice: Map*).

Realize your flightline experience in J MPS will be different, and so will your next unit. You might consider taking these concepts with you to make your unit J MPS more efficient by creating roles or customizing the ribbon workspace.

The following sections explain how to change or reload preferences or data within J MPS.

Use Preference Sets in J MPS

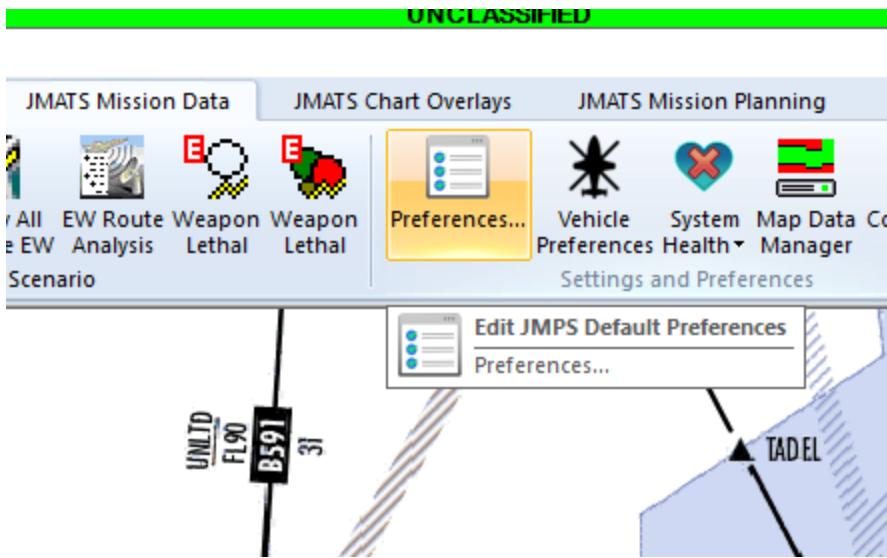
Your laptop comes pre-installed with two “preference sets” in J MPS and a separate preference set for the CAT airdrop software.

While you should never have to change the preference set in CAT, you will want to switch your J MPS preference set for different phases of training. Your laptop is provided to you with the **JMATS QUAL 240** preference set loaded, since you’re starting with basic qualification. After your initial checkride and entry into the mission phase of training, you will want to change to the **JMATS TAC 240** preference set.

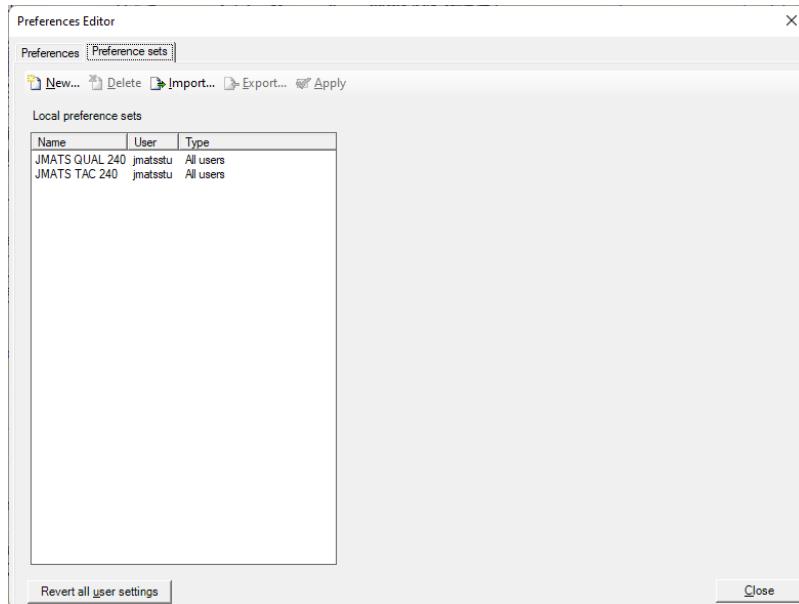
Apply or Import J MPS Preference Sets

Here’s how to change your preference set (also available in **JMATS J MPS Checklist Fanfold**):

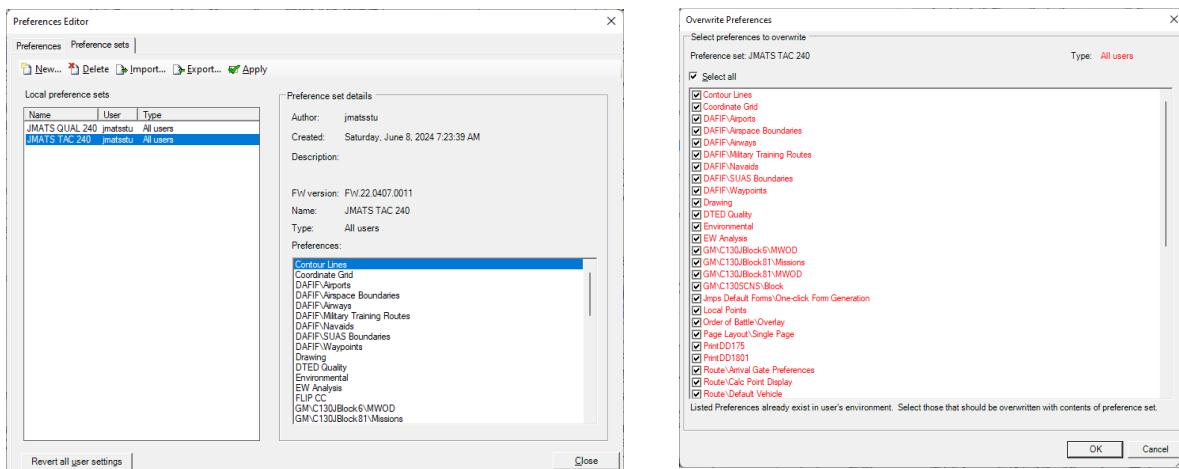
- In the J MPS FalconView screen, select the JMATS Mission Data tab, then select the “Preferences...” command.



- Now select the Preference Sets tab in the Preferences Editor dialog.



- Select JMATS TAC 240, then select Apply. An Overwrite Preferences dialog will open, showing a list of preferences that will be changed (red just indicates a change, not that it's bad).



- Select OK, and then close the Preferences Editor.

Here's how to import a JMPS preference set:

- In the same JMPS Preferences Editor, select Import...
- Go to [JMPS Standard Files and Prefs](#), open the Preference Files folder, and select the desired preference set.
- Select Open, and that preference set will install into your local preference set list.

Apply or Import CAT Preferences

Here's how to apply CAT preferences:

- Open CAT (say No to WxCC services), then select Options, Load Preference Set.
- Go to [JMPS Standard Files and Prefs](#), open the Preference Files folder, and select "JMATS CAT 6.6 Preferences.prefx".
- Select Open. A message will indicate the preferences are successfully loaded.

Working With Maps

A quick primer on tactical maps and their use. This section also compares the two graphical map types: CADRG and ECRG.

First, what's the difference between a "map" and a "chart"? For our purposes, I choose to define it this way:

- **MAPS** are geographic representations of the earth. They can encompass the whole planet or selected portions.
- **CHARTS** are geographic representations of the earth that also include overlaid information used to navigate by. They are usually "trimmed" to the size necessary for a particular mission or theater of operation.

So, you would open a specific **map** in FalconView, and generate a **chart** from that once you've added a route, obstructions, restrictions, threats, etc.

In FalconView, maps use Equal Arc projection. This means very little to you unless you were a) a Geography major; or b) paid attention in the Introduction to Mission Planning Systems class. ***What you need to know is that the digital map in the airplane uses Equal Arc, so JMPS does too.***

Map Formats

There are several map formats that may be present on your system. Currently, you'll see:

TIROS – satellite source planet imagery at different scales measured in kilometers. Useful for seeing the “big picture” or quickly moving your map focus from one area of the world to another. **Not used for navigation.**

CIB – Controlled Image Base. Think imagery, and you'll typically see 5 meter or 1 meter, depending on the area you're looking. These map file sizes, if providing worldwide coverage, are huge, so you'll only find CIB available in specific objective areas. **Not used for navigation.**

GeoTIFF – image-based map data, typically used to create maps with embedded overlays. The area selection is saved/converted to a TIF file, then run through a converter application to transform it to CADRG graphic type (see below). This type can then be read by the digital map in the airplane. [add ForeFlight also]

TLM – Topographic Line Map (also Military Installation Map). A small-scale area map that can show not only fine contour intervals, but individual buildings in populated areas. Typically used for an immediate objective area review and **not for navigation purposes.**

OSM – Open Street Map. A vector graphics formatted view of street, building and prepared surface (runways). Available by selecting Web Service in the Map selection. **Not used for navigation.**

CADRG – Compressed ARC Digitized Raster Graphic (pronounced “cad-rig”). **TL;DR – lower resolution.** **What the airplane digital map reads and projects.**

- CADRG is a 55:1 compression of the source which can be used in applications **requiring rapid display** of a map image or manipulation of the map image in raster form. CADRG is often used as the digital map background on many mission planning systems. Due to the compression ratio, CADRG provides a significant increase in geographic coverage per CD-ROM over its sunsetted predecessor ADRG, but lower image resolution. CADRG has a data density of 169 pixels/inch at 1:1 display scale.

ECRG – Enhanced Compressed Raster Graphic (pronounced “e-c-r-g”). **TL;DR – Higher resolution.** **Better print and image quality.** **Can't be read by the digital map.**

- Enhanced Compressed Raster Graphics (ECRG) is a 20:1 JPEG compression of source product which can be used in applications requiring rapid display of a map image or manipulation of that map image in raster form. ECRG is a raster format designed to be used as a higher quality digital map background on many mission planning systems.
- With a 24-bit color palette (over 16 million colors) and 254 DPI or higher resolution, images display clearer and print at a higher quality in comparison to CADRG. ECRG does not utilize color tables as its predecessor CADRG, and as a result the colors of images are much truer to the original.

BOTTOM LINE Quality Comparison

CADRG



ECRG



Map Scales

Maps are generally referred to by name as their scale ratio or as the tactical name of the scale. Scale is the ratio of the distance measured in inches on paper to the distance if measured in inches on the Earth.

Names and scales are listed below for the common raster map types.

GNC – Global Navigation Chart (1:5,000,000). Large scale for large areas.

JNC – Jet Navigation Chart (1:2,000,000). Also provided as IFR Area Chart (High) on a separate map tab.

ONC – Operational Navigation Chart (1:1,000,000). Useful especially in theater operations where you want to see the “big picture,” but also need readability. Also provided as IFR Enroute High on a separate map tab.

TPC – Tactical Pilotage Chart (1:500,000). For low level navigation. Also provided as Sectional (or LFC, Low Flying Chart) and as IFR Enroute Low on separate map tabs.

JOG – Joint Operational Graphics (1:250,000). The original tactical flying scale. The standard for low level planning.

NOTE: the aircraft digital map can read the following scales.

1:50,000 – not used, although JMATS has produced some airport diagrams that will display at this scale.

1:250,000 – airfield areas and tactical route coverage with overlays.

1:500,000 – tactical route coverage with overlays. The “Enroute” cards have this scale for IFR Enroute Low digital map coverage.

1:1,000,000 – tactical overlay of killboxes. The “Enroute” cards have this scale for IFR Enroute High digital map coverage.

1:2,000,000 – JNC and/or IFR Enroute High coverage, depending on the map card you use.

Use Map Data Manager

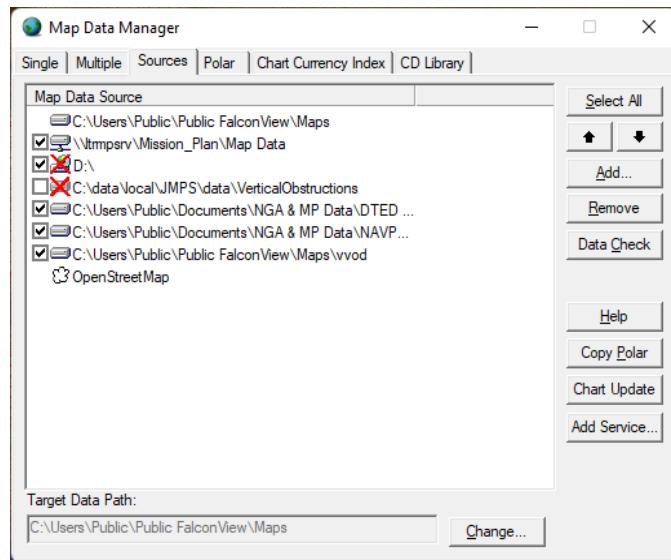
The Map Data Manager is available in the JMATS Mission Data menu. Map viewing and selecting is also available in the JMATS Mission Planning menu.

The map types you'll need for mission planning are already loaded, and you shouldn't have to use this tool to add more coverage. However, it's worth looking at how that works and how you can "refresh" coverage if your computer loses focus on the map data.



Map Sources Paths

When you open Map Data Manager, you're greeted with a dialog of 6 tabs; the two you'll work with are Single and Sources.



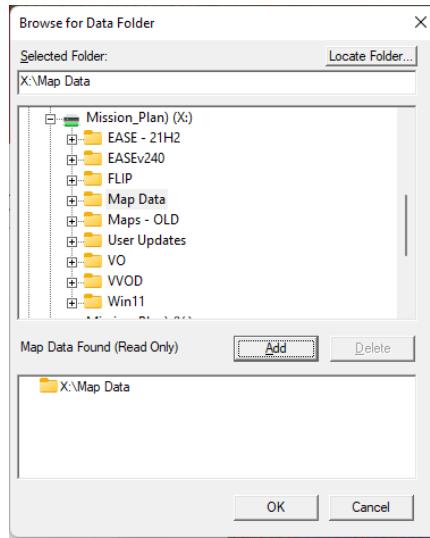
- **Select the Sources tab.**

- The Map Data Source pane shows the sources your computer is looking at to provide data. The arrows on the right show the order of search priority when looking for coverage. This doesn't really affect you here; the search priority is more important when generating GeoTIFF-to-CADRG maps that include overlays.

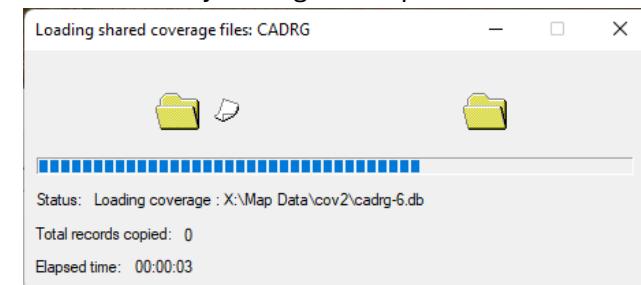
However, it's good practice to keep your most-used sources at the top, so we'll assume you want the C:\ location as #1, and the network path shown as #2.

- **Add a map source.**

- If you need to add another map data source, press Add.
- In this example, we've selected a mapped drive that has map coverage called X:\Map Data.



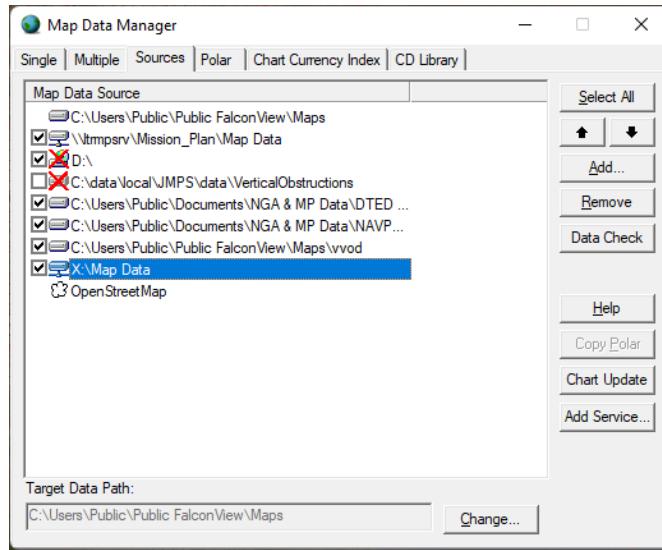
- When you click on the folder in the explorer pane, the status will show "Map Data Found (Read Only)." Press Add to put it in the "ready to load" pane.
- Press OK, and you'll see it busily adding the map data files it found.



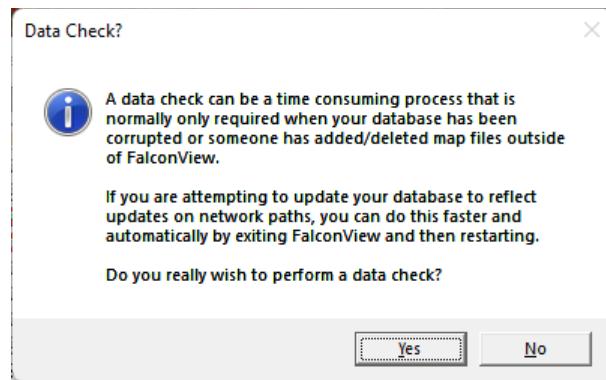
Refresh Map Data

While working in FalconView, the map data available for any geographic location can be shown by activating the "Map Tabs Bar" at the bottom of the screen. It's a command on both JMATS Mission Data and JMATS Mission Planning menus. If you suspect you're missing map data coverage in a location, try to refresh the map data. This can sometimes happen if you run JMPS offline and you had a network map path enabled. To force JMPS to look for map data again, follow these steps:

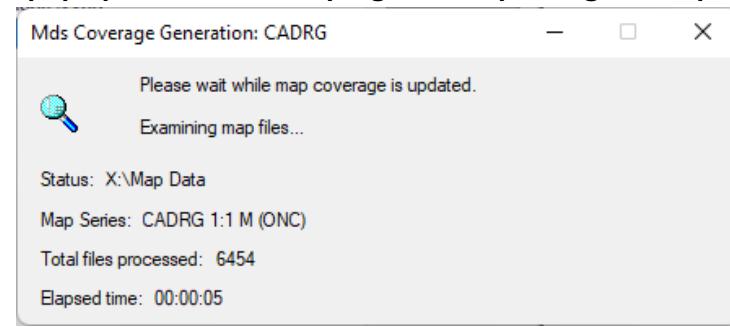
- **Open Map Data Manager, select a Map Data Source, and press Data Check.**



- A dialog opens that effectively asks, “are you sure?” because the process can take some time. Select Yes.



- You will see another pop up that shows the progress of updating the map coverage.

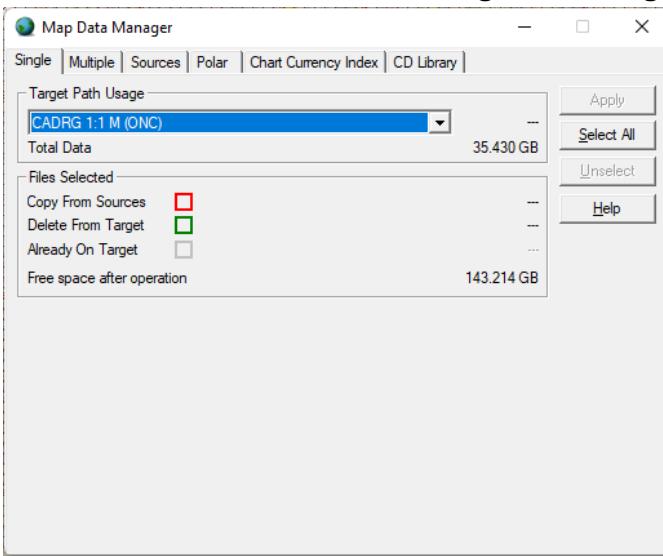


You must do this check for each map data source individually; the Data Check does not update all sources at once.

Map Coverage

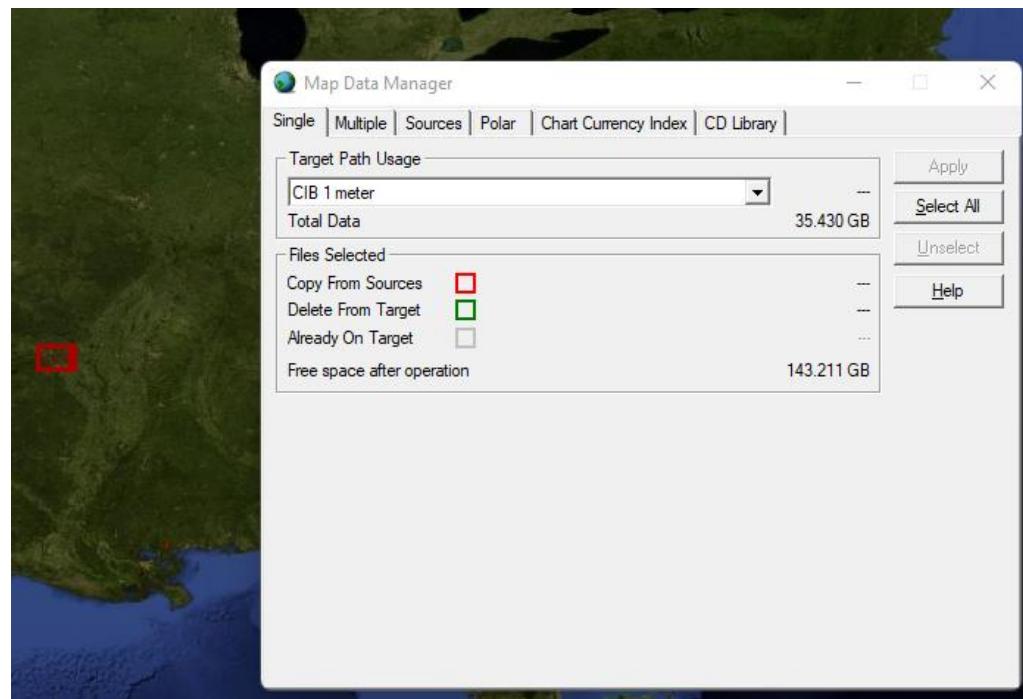
You can graphically view where map coverage exists in the world in the Map Data Manager.

- Select the Single tab, and then the desired scale in the Target Path Usage dropdown.

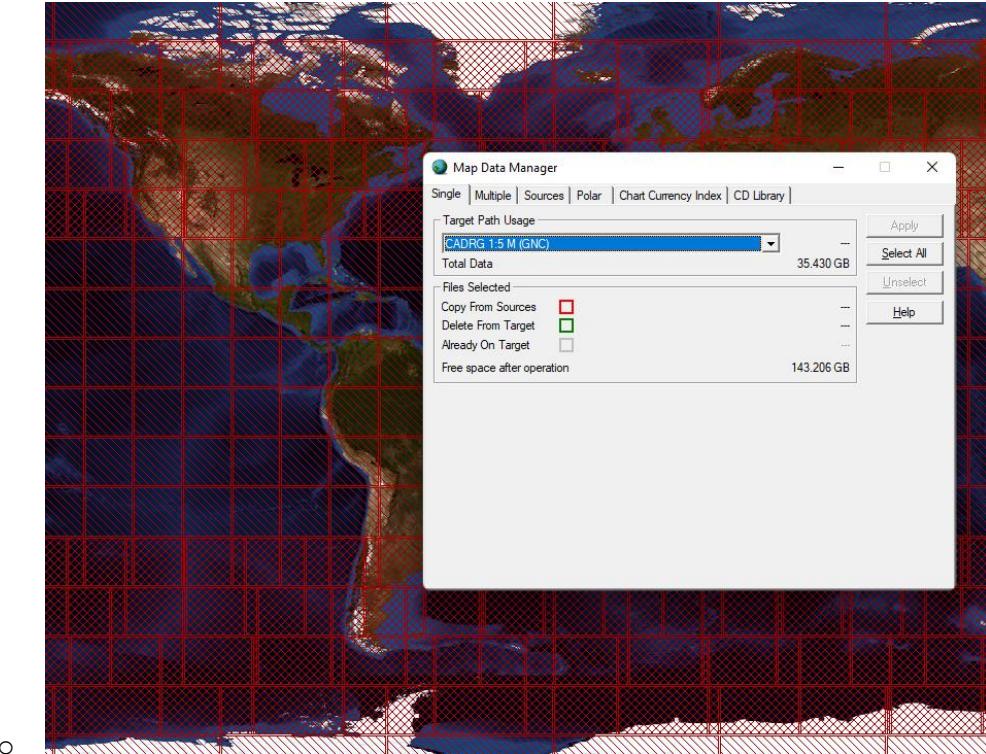


- Using a large scale like TIROS will show areas of coverage.

- Here is Controlled Image Base (CIB) 1 meter scale. Note there are just a few locations visible (in red) due to the extremely large amount of disk space required for this scale.



- This next example shows GNC availability, basically the whole usable planet.



A note about the coverage views shown. Red indicates that the area DOES have that map scale available. Other colors are used when copying map data to use for other purposes, such as building a map data card for the aircraft digital map.

Use Map Data Cards in Training Devices (DIGIMAP)

All WST and CPT devices have two map cards. These cards are labeled “Enroute” and “Tactical”.

- Enroute cards are what you’d use on an IFR mission, containing airway charts and some JOG scales around JMATS-used airports.
- Tactical cards have tactical map coverage with overlays such as ROZ, Killbox, Vertical Obstructions, route restrictions, etc. There is also IFR High coverage.
- Both card types have some airport diagrams to allow the digimap to be used as a taxi diagram at 1:50k scale.

Refer to the [Device Map Cards] document attached to this publication for expanded descriptions and coverage maps showing areas available on the types of cards.



Understanding and Using Overlays

For your purpose while mission planning, consider the word “overlays” to mean both JMPS default chart overlay types, and JMATS created overlays.

- **JMPS Default**
 - JMPS default overlays include things like vertical obstructions (VO), airways, waypoints, special use airspace (SUAS) boundaries, sensitive environmental areas, and numerous other levels of “clutter.” You can find the overlays you’ll want/need in the helpfully named “JMATS Chart Overlays” menu.
- **JMATS Created**
 - Other overlays are more specific to the mission being created. These are common JMATS overlay types:
 - Draw Files
 - Bullseye
 - Killbox
 - Restricted Operating Zone (ROZ)
 - Local flying restriction areas
 - Airfield approach sectors
 - Local points (full list or categorized)
 - Order of Battle (hostile and friendly locations and types)

Go to [Enter and Modify a Route](#) to learn about using overlays during route planning and tactical chart generation.

Understanding Local Points

Introduction

Operating an aircraft outside the bounds of civil aviation routings or operations requires the use of user-created navigation data. While this ad hoc navigation data is commonly thought of as applying to military tactical operations, it can also be used in mission planning (or in the aircraft) during civil operations as well.

A mission planner may define a runway threshold point to allow aircraft operations such as LEGS page entry, tactical plots, cursor positioning, etc.

- In the JMPS mission planning environment (graphical editor and/or tabular window) this data is referred to as “Local Points.”
- In the Unique Planning Component (UPC), also referred to as the “GM” for Global Mobility, this same data is treated as “Custom Points.”

This section will explain the use of both Local Points and Custom points for mission planning and in-flight use.

Local Points

In the JMPS mission planning environment, local points exist outside the normal DAFIF navigation dataset. These points can be created by an individual user but are usually created by a mission planning entity at the operating location. In a wing or squadron, a mission planning cell or tactics group will create a common set of points for use by all units. In an operational environment, this data may come from theater-level planning functions, or from a deployed squadron.

Generally, you will want to use already-created local point data files to save time and effort while mission planning.

Rules to Plan By

Note that while using local points for mission planning is useful in a local “canned” route or in a Minimum Risk Routing (MRR) environment, you can still create a tactical route by using Route Editor to “click in” points in the JMPS FalconView window. Here are some considerations for ad hoc created route points:

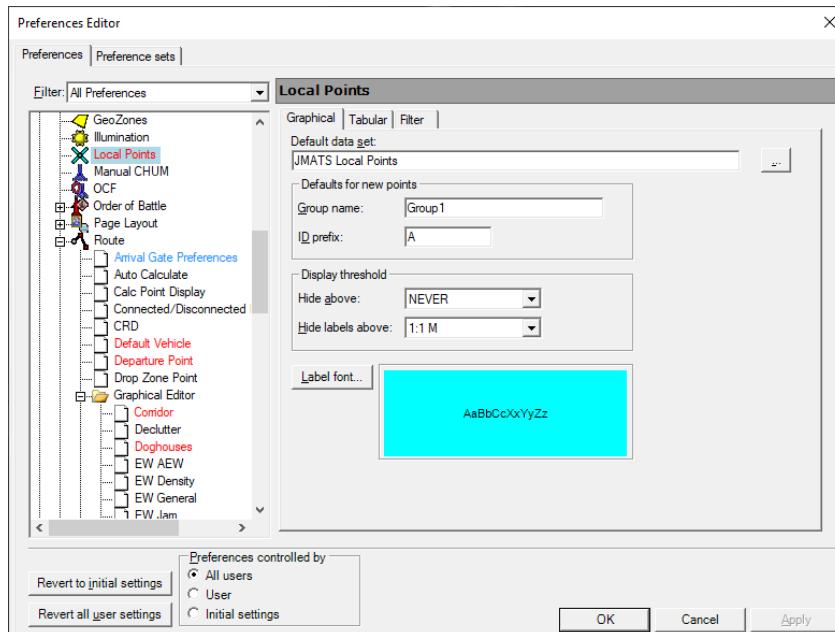
- **Manually created route points are not local points.** Even if you name them, they just exist in that route. You need to use the Local Point Editor to add them to a permanent local point file.
- **Manually created route points only display lat-long attributes in the route.** You must name the points to use them in the aircraft.
- **Naming your points should be done deliberately and as an orderly system.** For example, your route points could be named MRR1, MRR2, MRR3, and so on. They can have as few as one character or as many as five.
- **Be careful using only letter characters for created point names.** In today’s navigation database environment, the odds of picking a unique name are decreasing rapidly. Especially avoid the use of 3-letter names, since these are typically found as navaid identifiers, and DAFIF will select that over your created point name. For instance, you name a point “LBN,” but DAFIF finds a “LBN” VOR/DME in Chelyabinsk Russia. This DAFIF point will then replace your named point in the route.
- **Note that you can duplicate nav database names when creating local points.** JMPS will default to the local point when typing the name into the tabular editor, recognized by “name/L.” As an example, the world-wide navigation database contains a point named

“DAVID.” It appears in JMPS as “DAVID/W.” You also created a local point named “DAVID/L.” This works fine for mission planning, and the JMPS default search order will pick DAVID/L automatically. However, duplicates are rejected when using Global Mobility (GM) to build custom points for a mission card. For more information, see section titled “[Custom Point Renaming in GM](#).”

Local Points Libraries

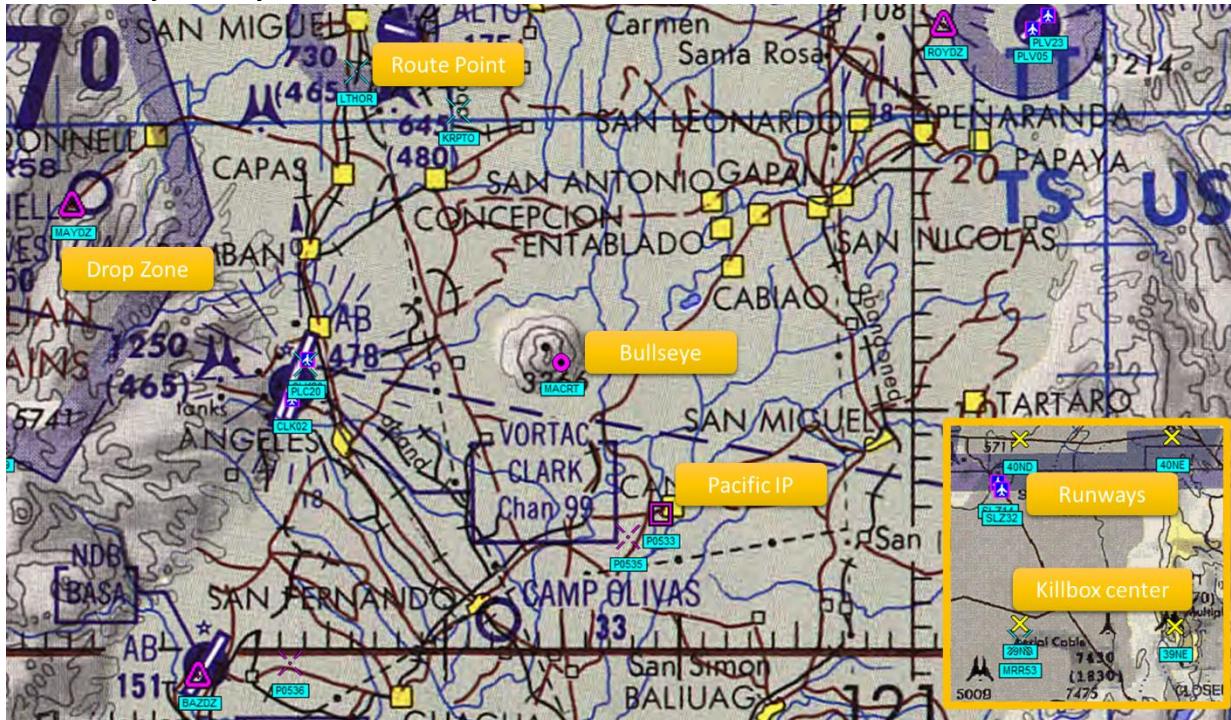
Local Points are used in JMPS to facilitate mission planning for operations not served by DAFIF data.

- These points are packaged into dataset files often called “libraries.” These must reside on the JMPS computer to be used.
- JMPS can access multiple local point datasets but will also load a single default library at startup. Generally, this is the master file for your location that should include every point you need for your operations.
- Local point libraries can be imported into JMPS in various ways, but the most common for users is by selecting Open, then Local Points, then by selecting Import. The user can then browse for a **.lpt** file and import it to the local machine.
- **JMATS uses a master local point library containing more than 600 points.** The points do not appear in FalconView by default and don’t need to be visible to mission plan unless you need to see them on the map.
- **The master local point file that JMPS uses is called “JMATS Local Points.”** It is installed and selected in Preferences to be the default source for waypoints that have the /L suffix in the tabular window.

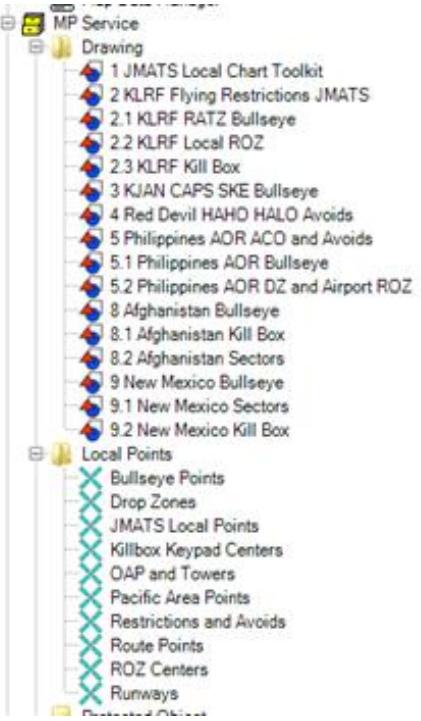


- To make it easier to find individual points while in JMPS or when building a mission card in the GM application, points are categorized by type:
 - **Bullseye Points** – all bullseyes including new refresher lesson points.
 - **Drop Zones** – all JMATS lesson drop zones, either center point (circular or JPADS) or the most common payload PI. Also includes named IP local points.

- **Killbox Keypad Centers** – named points for the centers of individual keypads. For Little Rock and New Mexico areas only.
- **OAP and Towers** – anything specifically designed as a cursor target.
- **Pacific Area Points** – extra “P” points available for crew-determined routes such as “P0535” in the Philippines.
- **Restrictions and Averts** – any identified no-fly, sensitive areas, and non-towered airports affecting routes.
- **Route Points** – waypoints created as route points not in WWNDB.
- **ROZ Centers** – geographic middle of ROZ. Points are named after the ROZ name (e.g. – TIGERS ROZ is “AUTIG”)
- **Runways** – the runway threshold points for all the runways we fly to.
 - Runway names will be as close to the name as possible, so Red Devil LZ will have RD17 and RD35 runway points.
 - Some names won’t be intuitive, such as “OS17L” for Colorado Springs runway 17 Left.
- In FalconView, you can quickly identify local points by type. Each type of point above has a unique icon, so you’ll be able to pick out DZs, runways, killbox centers, etc. very easily. Examples:



- In the JMPS Explorer pane, you can see 10 local point files. The categorized points each have their own separate local point file. There are two reasons for this:
 - to view only the points of interest in FalconView (you only want to see drop zone points, for example).
 - selecting points to write to a mission data card is much easier when choosing by category.



- These extra files are used when building a mission data card and creating custom data to be inserted in the airplane. The mission card software (called UPC or GM, interchangeably) **has a bug** that will only display the first 200 points of a local point file when a user tries to select points to be written to the card as custom. By breaking the master file into smaller files, the user can see all the points available to select from. This issue occurs with both Blocks of the airplane in the software.

Understanding Custom Points

Custom points differ from local points in that they are primarily used by the GM to process points for mission cards. In other words, local points are “converted” to custom points that GM can generate as a format the airplane mission database can recognize.

Custom points have a unique attribute: they can be further defined as Navaid, Waypoint, or Airport. This is helpful in the Block 8.x.x aircraft as the mission database can categorize transferred data in these same categories.

This is most useful when defining custom points as Airports. Since a custom point airport has coordinates, elevations, and runways, it can be used in both Route and TOLD functions in the CNI-MU and treated as an ICAO airport.

You can create or generate custom points in the GM as the [last step in the mission planning process](#). These can be written to a mission data card and taken to a device for data transfer for your specific mission.

If the card fails to work, or you simply run out of time, each training device (WST or CPT) has a MASTER card that contains enough points to cover all JMATS missions (Block 6.0 devices have two cards: CONUS and O-CONUS).



DZ and LZ Survey Information

Conduct all airdrop, air land, and FARP operations at zones with a valid (approved and current) survey or other MAJCOM approved source document unless specifically documented in a later chapter of this manual or within AFI 11-235. DAFMAN 13-217, paragraph 2.1

This section explains use of approved surveys for drop and landing zone operations. The intent is to understand why we use these and to point out some survey data to pay particular attention to when doing an accuracy review. **Do not assume perfection from a survey.** These were created by your peers and approved by busy O-6's at a higher headquarters level. **Typical errors are elevations, inverted axis headings, and incorrect or vague slopes on LZ's.**

Drop Zones

Drop zone surveys provide detailed information about the point of impact location, dimensions, elevations, and types of airdrop loads that are approved for use.

Survey Requirements

USAF personnel must require a USAF approved DZ survey for all training airdrop missions. DAFMAN 13-217, paragraph 3.16.1

Unless a tactical DZ is approved or in an operational environment where an ad hoc, on call, or tactical DZ is necessary, **all drop zone operations must be planned with a valid DZ survey.** The two authorized sources of DZ surveys are Talon Point (AFSOC) and the Zone Availability Report

(ZAR) (AMC). The airdrop software CAT may be used to select installed drop zones (valid or unit) for airdrop calculation planning.

JMATS provides current and/or unit surveys on the training network at:

\\ltrmpsrv\Mission_Plan\Tactics Information\DJ and LZ Surveys

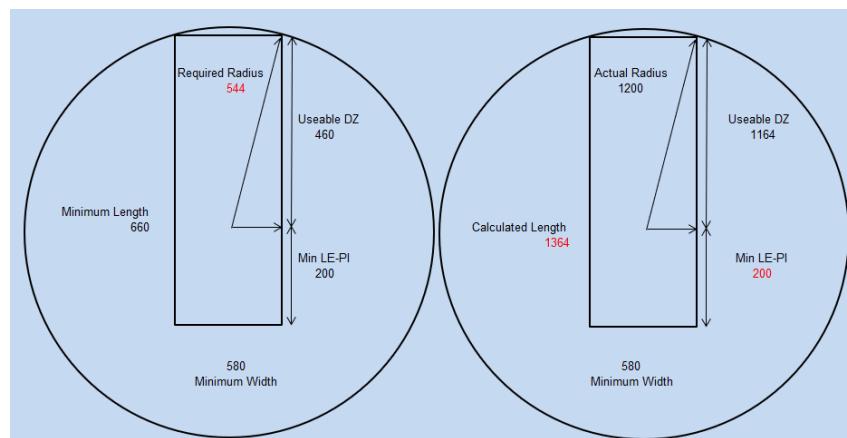
These are authorized to be used for simulator training missions.

Surveys expire 5 years from the date surveyed. Requirements for use of surveys are found in DAFMAN 13-217, Chapter 3 and include:

- Minimum size
- Marking requirements
- Wind and weather limits
- Communication requirements
- Drop Scoring methods

Survey Types

- **Rectangular DZ** surveys have a primary Point of Impact (PI). *This is not identified on surveys* but can be viewed in the JMPS Data Manager application in Block 9 of the fillable DZ survey form. JMATS custom point rectangular drop zones are based on the coordinates of this PI. Some of our surveys also include custom points for other PIs, such as “BJDZP” for the personnel PI.
- **Rectangular DZ** surveys have a defined DZ axis, which for our purposes is the magnetic run-in course the aircraft will fly from the Initial Point (IP) to the drop zone PI.
- **Circular DZ** surveys are based on the center of the circle. JMATS custom point circular drop zones are based on the coordinates of this center point. The basic DZ size is a circle of X yards radius. Our planning requirements (training environment) require us to calculate the maximum rectangle that can fit inside the circle using the radius and $\frac{1}{2}$ the required width to solve for the usable DZ length (*see DAFMAN 13-217, Chapter 3 for details*).



Reviewing DZ Surveys

- Verify the name and date surveyed. The survey expires 5 years from the date surveyed.

| AIRBORNE UNIT ASSUMES RESPONSIBILITY FOR | | |
|--|---|-----------------------|
| DROP ZONE SURVEY | 1A. DZ NAME ALL AMERICAN EAST DZ | |
| | 3. MAP SERIES/ V784S | SHEET NUM Camp Rol |
| 4. | SURVEY APPROVAL | |
| 4A1. DATE SURVEYED 20240307 | 4A2. TYPED NAME AND GRADE David Newton, CTR, Nova Technologies | |
| 4B. DROP ZONE | | |

- Review the airdrop load types to determine those that are Approved (A) or Disapproved (D) for day and/or night drops.

| David Newton, CTR, Nova Technologies | | (501) 457-5261 | | | JMATS | | | |
|--------------------------------------|-------------|----------------|----|-----|-------|------|---------|-------|
| FOR | CDS/CRL/CRS | PER | HE | MFF | SATB | CRRC | HSLLADS | HVCDS |
| DAY | A | A | A | A | A | D | A | A |
| NIGHT | A | A | A | A | A | D | A | A |

- Note the dimensions in length and width (radius for a circular DZ). Also note the PI distance from the leading edge. These values are used for drop zone size suitability, and also for drop calculations in the software and CNI-MU.

| 6. DZ DIMENSIONS (YDS/MTRS) (FOR CIRCULAR DZ, ENTER RADIUS ONLY) | | | | | | | | |
|--|--|--|-----------------------|--|--|--|--|--|
| A. LENGTH 1900.0 yd | | | B. WIDTH 1200.0 yd | | | C. RADIUS N/A | | |
| POINT OF IMPACT DISTANCES FROM DZ LEADING EDGE | | | D. CDS PI 950.0 yd | | | E. PE PI 868.7 m 350.0 yd 320.0 m | | |

- Confirm DZ axis data, including Mag/True axis, PI elevation, and highest point elevation. These are also used in drop calculations.

| 7. DZ AXIS DATA (OPTIONAL FOR CIRCULAR DZ) | | | | |
|--|-------------------------|----------------------|--|------------------------|
| A. MAGNETIC 080.4 | B. GRID (MGRS) 080.6 | C. TRUE 080.2 | D. SOURCE/DATE OF VARIATION DATA 20240314 | |
| 8. GROUND POINT ELEVATION | A. CDS PI 354.0 ft | B. HE PI 354.0 ft | C. PE PI 370.0 ft | D. HIGHEST 475.0 ft |

- Review the coordinates of the desired drop PI and confirm that the coordinate reference is DD MM.MMM.

| YES | <input checked="" type="checkbox"/> | NO | <input type="checkbox"/> | 15S WU 63910 63893 | Center of Pea Gravel Pit on DZ, 193 yds @ 241.9°N | |
|----------------|-------------------------------------|----|--------------------------|--------------------|---|-------------|
| H. POINT | MGRS COORDINATES | | WGS84 LATITUDE | (DD MM.MMM) | WGS84 LONGITUDE | (DD MM.MMM) |
| DZ CENTERPOINT | 15S WU 63760 63809 | | N 34 54.884 | | W 092 18.120 | |
| CDS PI | 15S WU 63760 63810 | | N 34 54.884 | | W 092 18.120 | |
| PE PI | 15S WU 63220 63712 | | N 34 54.834 | | W 092 18.475 | |
| HE PI | 15S WU 63760 63809 | | N 34 54.884 | | W 092 18.120 | |

WARNING:

DD MM.SSS is not a valid coordinate format for the CNI-MU. If these type coordinates are entered in the CNI-MU, it will convert to DD MM.MMM and ALL airdrop calculations will be in error, possibly resulting in an off-DZ drop.

- Carefully review the remarks section and any accompanying imagery or graphics for restrictions or other information the surveyor thought noteworthy. Examples include specific communication procedures/frequencies, obstructions, airspace, graphical depictions of boundaries and PI locations, etc.



NOTE

Drop zone markings are usually not provided on the survey forms. The agency controlling the airdrop operation must be contacted to coordinate markings and drop/no-drop clearance procedures.

Landing Zones

*A LZ is any planned landing surface and movement area that has not been evaluated or does not meet defined airfield criteria. [...] LZ operations governed under this DAFMAN must be conducted using a valid LZ survey unless on a valid airfield in accordance with paragraph 4.2.5. **DAFMAN 13-217, paragraph 4.1***

- LZ surveys often do not identify a primary runway by name. You can determine the primary runway by its axis headings.
- LZ slope is often hard to determine because the block often mis-identifies up (+) or down (-) slope. You will see a variety of symbols next to the calculated percentage such as +, -, +- or even no symbol.
- Use the approach end and departure end elevations to determine whether the published runway gradient is an upslope or downslope.
- **EXAMPLE:**
 - Note that the axis is 171.6° magnetic, indicating that runway 17 is the determining runway. The approach end elevation is higher than the departure end.

| LZ AXIS DATA | | |
|---|--------------------------------|---------------------------------|
| A. MAGNETIC 171.6 / 351.6 | B. GRID (UTM) 179.3 / 359.3 | C. TRUE 179.3 / 359.3 |
| 8. GROUND POINT ELEVATION FOR RUNWAY | A. APPROACH END 6043 ft MSL | B. DEPARTURE END 5958 ft MSL |

- Now note that the gradient (slope) is erroneously listed as 1.94% (positive, or up slope). Use a negative slope for TOLD computations.

LZ LONGITUDINAL PROFILE

| | |
|--|--|
| | B. LONGITUDINAL RUNWAY GRADIENT 1.94% |
|--|--|

Valid vs Unit Zones

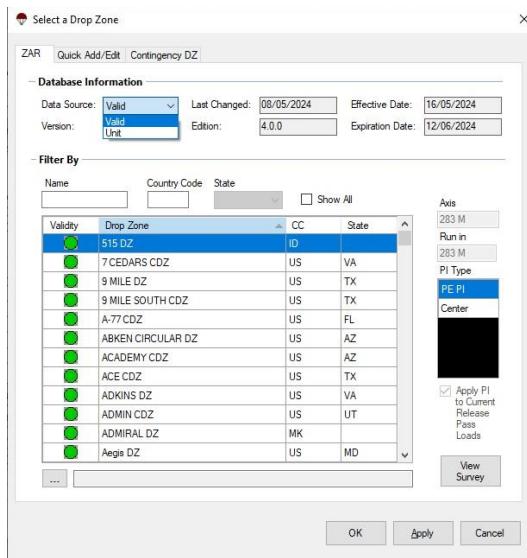
As stated earlier, the only two authorized sources for valid survey databases are the AMC ZAR and Talon Point. Surveys published on these online databases are considered “Valid” and approved for all users.

A “Unit” survey is as it sounds: only authorized for use by the unit(s) subordinate to the signing OG/CC.

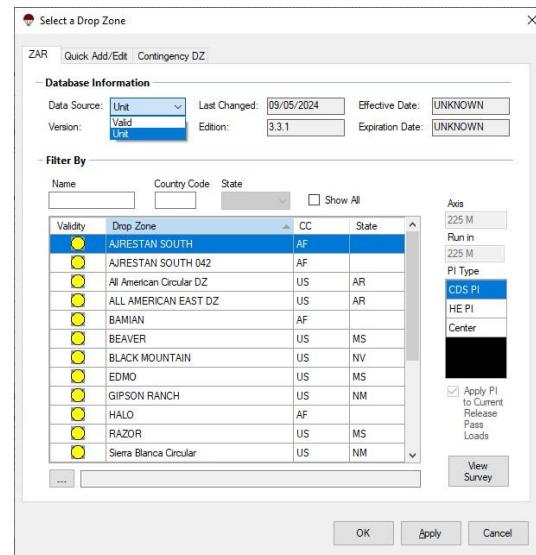
JMATS uses a mix of valid and unit surveys for training. You can assume that all surveys used at JMATS are approved for use. Survey files provided on the mission planning server or in your EFB do not distinguish between valid or unit; the only way to know for sure is to look at the names of the surveyors and reviewers. *HINT: it doesn't really matter.*

Where the distinction becomes important is when using the CAT software to build airdrop profiles. When selecting a drop zone in CAT, you are provided with a dialog that defaults to “Valid” surveys. You must select “Unit” in the drop-down to find JMATS-created zones.

Valid DZ List



Unit DZ List



What about expired surveys? This sometimes happens: a survey expires and is removed from the Valid databases. If this occurs to a courseware-required survey, JMATS will re-publish it as a Unit survey to ensure continued access to the survey data. In the Unit image above, you can see that ALL AMERICAN EAST DZ expired in real life and was converted to a Unit survey for JMATS missions.

What about stop light colors? **Green** is Valid and current. **Yellow** is a current Unit survey (unit surveys can never be green). **Red** is expired. If the drop zone you are scheduled for in a lesson guide is expired, bring it up with your instructor, but expect to use it in the simulator.

Survey Repositories

You don't have to use the online survey databases while at JMATS; all required surveys have been provided in pdf format. However, if you're interested in seeing them, links and comments are provided below.

Zone Availability Report

The AMC ZAR is the “OG” survey database. The site address as of 2024 is:

<https://usaf.dps.mil/sites/amczar/SitePages/Home.aspx>

The ZAR is only accessible with CAC PKI. It does not work on your JMATS laptop, even though you have a CAC reader. The site navigation is not very user-friendly, but it does contain some useful resources that Talon Point doesn’t provide, such as packaged database files to update JMPS and CAT. The survey downloads are pdfs, **but act like image scans**, so you can’t highlight sections easily.

Talon Point

Talon Point is managed by AFSOC. Navigation is very easy: simply type the survey name in the search box or just press the search button to open a map of the world. You can then zoom and scroll to find surveys in the area of interest.

There is an unclassified site and one located on SIPRnet. The unclassified address is:

<https://talonpoint.josce.net>

You must be granted access. This is a complex process and is not necessary for JMATS use, although you may want to establish access for operational use.

- All Unclassified Talon Point users are now required to have a Joint Operations Support Cloud Environment Unclassified (JOSCE(U)) account access to unclassified Talon Point.
- JOSCE(U) provides CAC/PKI login access to Talon Point landing page
- JOSCE(U) allows non-CAC use via a 2-Factor Authentication (2FA) setup, so they can reach Talon Point without a CAC. 2FA uses a compatible Authenticator application (e.g., Google Authenticator or Free OTP), to get a “one-time” password code.
- Use attached "[JOSCE \(U\) Onboard, 2-Factor Authentication DoD Certs Instructions](#)" to complete JOSCE onboard.

Survey downloads **are clean pdfs** and allow highlighting important areas for quick reference.

The screenshot shows the Talon Point survey management interface. On the left, there is a sidebar with various filters: FIND SURVEYS BY KEYWORD (e.g. MAJCOM, Country), TYPE (DZ, FARP, HLZ, LZ OPERATIONAL, LZ CONSTRUCTION), MAJCOM, COCOM, RTO, SURVEY STATE (PUBLISHED, IN PROGRESS), and CATEGORY. The main area is a SPLIT VIEW showing a MAP and a LIST. The MAP view displays a world map with numerous survey locations marked by blue pins, each labeled with a number. The LIST view on the right shows detailed information for three surveys:

- 1 Flyte CDZ: DNK + Nordyile Radius: 450 yds. EXPIRE: 26 OCT 2025. PDF. Go To.
- 17 Loop HLZ: USA + Mississippi L x W: 400 x 200 ft. EXPIRED: 15 SEP 2015. PDF. Go To.
- 2 Mile HLZ: USA + Mississippi L x W: 400 x 200 ft. EXPIRED: 10 APR 2020. PDF. Go To.

At the bottom left, there is a note: "150mm 150mm".

CAUTION

Both the ZAR and Talon Point label survey files as “CONTROLLED UNCLASSIFIED INFORMATION (CUI)”.

Mission Planning in JMPS

This section walks you through a typical mission planning session at JMATS.

In real life, your planning workflow will be different due to extra coordination and data-gathering involved. Since we operate in a somewhat canned environment at JMATS, this process is pretty consistent across all our tactical missions.

Use the attached guide, C-130J Mission Planning “Checklist” for your planning workflow. It takes you through the entire mission planning process, from gathering data to generating a tactical chart and mission data card.

In big picture terms, JMATS mission planning uses the sequence of CARP->ROUTE->CHART->CARD.

The following sections expand on that “checklist” ...

Gather Mission Data

Your student lesson guide will contain mission details such as: planned flight profile (low-level, high-low, NVG, formation, etc.), objective area, objective type (airdrop/airland), load information, wind and weather information, pre-mission threat picture, and the route of flight.

Once you know the “plan,” you can collect other mission planning products you’ll need such as, drop zone surveys, stick diagrams, offset aimpoint (OAP) or cursor target sheets, and form 280.

JMATS-Available Mission Data

DAFIF and Local Point Libraries

DAFIF is installed and updated through the EASE client tool on a monthly cycle. Local points have been created and installed on your JMPS environment (see [Local Points Libraries](#) for a review).

DZ and LZ Surveys

All lesson guide objective area surveys can be found in the mission planning folders on your EFB or training network. These are kept up to date and are approved for your training missions. Additionally, the CAT airdrop software contains both Valid and Unit surveys (see [Valid vs Unit Zones](#) for a review).

Offset Aim Point (OAP) Sets

Offset Aim Points are used to verify the accuracy of the navigation system prior to an airdrop or self-contained instrument approach. In rare cases, they can be used to update the navigation system. These are precisely measured coordinate sets with a “target description” of the radar image expected. In our training environment, they are based on 1 meter imagery of the target.



All JMATS created OAP are also named as local points. These can be copied to a mission data card and used in the devices as cursor targets to verify navigation accuracy or to enable aligning the cursor position with the radar image to refine/update a navigation solution (apply a bias).

Order of Battle Files

Your lesson guide contains an intelligence summary of ground and air order of battle scenario for a particular mission. In addition, there are “preflight threats” listed at a general (town) or specific (coordinates) location.

This intelligence information for each lesson has been created as an Order of Battle (OB) file in your JMPS environment.

Icons represent blue force (good guys) and red force (bad guys) locations and type of system. Specific weapon platforms will have associated maximum engagement range. See the section, “[Use Order of Battle Files](#)” to incorporate this threat picture into your mission planning and route creation.

Draw Files

Draw files (more accurately called “drawings”) are like shapes in a Microsoft Office application. They’re created by opening the Drawing Editor found in the JMATS Mission Planning tab. You can then select the desired shape or mission type (bullseye, corridor, etc.) and using left mouse click, create the shape on the map.

- Draw files are overlays; they can be turned on or off.
- Draw files are georeferenced; their end points or origins are defined by coordinates.
- Draw files can be packaged together in one dataset. For example, a dataset named “ROZ” would contain several Restricted Operating Zones in a geographic area.

- Draw files can be edited in the Tabular Editor and can have attributes such as type (“no-fly”, “must-fly”), altitude ranges, effective times, color and fill, and labeling.

JMATS provided draw files are viewed in the Explorer pane. There are many datasets named for specific mission types, geographic regions, or tactical operations. [picture]

You shouldn’t need to create your own draw files while mission planning here. If you do, realize that *as soon as you open the Drawing Editor, you have created a new file that shows up in the Explorer pane.* It will be named Drawing1, or whatever number is next if you’ve already done this before.

If you do this deliberately, then you can right mouse click the “DrawingN” name and select “rename” to better describe your shape(s).

Stick Diagrams

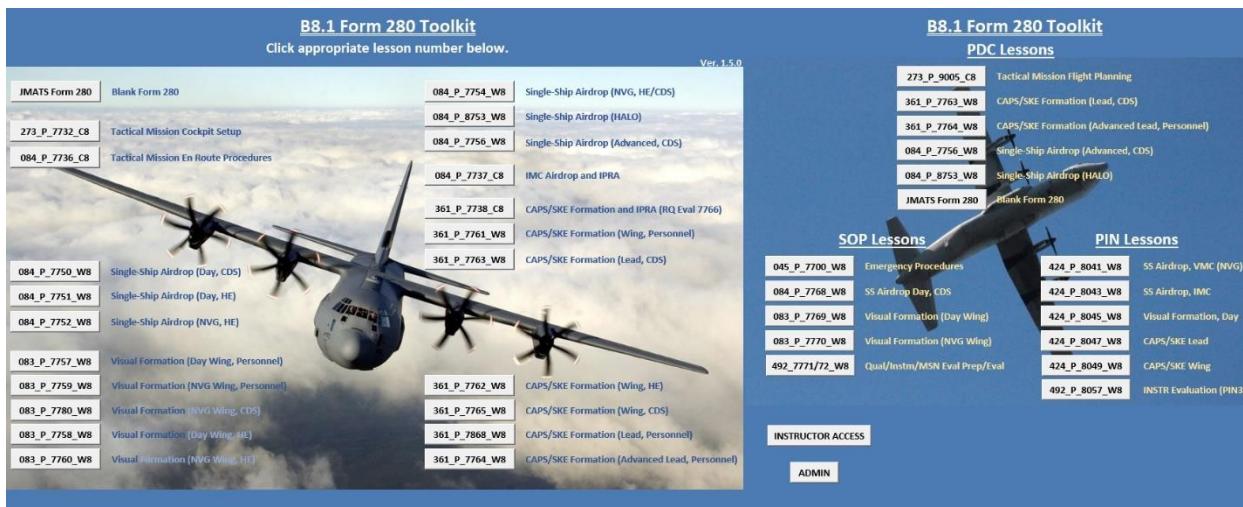
JMATS uses (and provides) Stick Diagrams for most tactical missions. This concept has been in use for many years and provides a kneeboard sized version of a route and other pertinent data.

Find stick diagrams on the mission planning server in the folder called “EFB Sticks”.

Form 280

The “Form 280” is a general lineup and mission details form designed to provide quick access to formation and route details, communications, code words, IFF settings, and other data contributing to mission preparation and execution.

JMATS created versions of the form 280 are located in the mission planning folder in a subfolder named “JMATS 280 toolkit”. There is a “toolkit” for each Block, saved as an Excel spreadsheet. Opening the spreadsheet generates a menu of pre-built forms, or a button option to create your own 280 from scratch.



The blank form builder is macro-enabled, allowing you to select and click many options to fill out common areas automatically.

JMATS B8.1 Form 280 (Blank)

Notes: Use quick fill buttons located at right to assist in completing standard information.

To enter a second line in a text cell, press the "Alt" + "Enter" keys.

To enter dashes in a cell, place an apostrophe before the dashes ('---').

Enter all times using 24-hour format in the form of: hh:mm.

| | | | | | | | | | | | | | | | | | | | | |
|-----------------|-----------------------------|------------|-----------------|------------|------------------|-------------|------|------|------|--------------|-----------------------------------|---------|------------|-----------------------------------|--------------------|-----------------------------------|---|------------|------|--------------------|
| LESSON: | | yr1 | | CALL SIGN: | | MC: | | DMC: | | UNCLASSIFIED | | | | UNCLASSIFIED | | | | | | |
| | | | | | | | | | | ROUTE 1 | | ROUTE 2 | | ROUTE 3 | | | | | | |
| LINE | C/S | AC | | MSN NUMBER | CARGO | TAIL # | FUEL | PARK | SLOT | AVAT | CNL/MISSION | H | PLAN/INRAX | TAXI | TAKEOFF / LOW APPR | CNL/MISSION | H | PLAN/INRAX | TAXI | TAKEOFF / LOW APPR |
| 1 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | STATIC/FEED/ON | | | TAXI | TAKEOFF / LOW APPR | STATIC/FEED/ON | | | | |
| 3 | | | | | | | | | | | ASSEMBLY: CAS / FPA (or VV) / ALT | | | ASSEMBLY: CAS / FPA (or VV) / ALT | | ASSEMBLY: CAS / FPA (or VV) / ALT | | | | |
| 4 | | | | | | | | | | | ERAAS CEP / CAP ORBIT PT | | | ERAAS CEP / CAP ORBIT PT | | ERAAS CEP / CAP ORBIT PT | | | | |
| SITE REC'D | MSTR: | DEF REC'D: | | BINGO ADR: | | GROUND OPS: | | | | | | | | | | | | | | |
| BRIEF: | COMM/CHECK: | | TAXI INTERVAL: | | | | | | | | | | | | | | | | | |
| LOAD: | HAVE/QUICK: | | T/O INTXN: | | | | | | | | | | | | | | | | | |
| BUS: | NET CH 28/200 xxxx | | DAY | | | | | | | | | | | | | | | | | |
| SERIAL: | A00.425 300.050 | | | | | | | | | | | | | | | | | | | |
| CHECK-IN: | UHF1: A00.425 VHF1: 140.275 | | | | | | | | | | | | | | | | | | | |
| STATIONS: | UHF2: VHF2: | | | | | | | | | | | | | | | | | | | |
| START: | BULLSEYE(S): | | CURSOR/TGTELEV: | | TAC PLOT/RADIUS: | | | | | | | | | | | | | | | |
| LAND: | 1. / | | 1. / | | 1. / | | | | | | | | | | | | | | | |
| DEBRIEF: | 2. / | | 2. / | | 2. / | | | | | | | | | | | | | | | |
| PERF INIT CLIMB | 3. / | | 3. / | | 3. / | | | | | | | | | | | | | | | |
| SCD SPD 1: | 4. / | | 4. / | | 4. / | | | | | | | | | | | | | | | |
| SCD SPD 2: | IDENT: / | | TOT: / | | 5. / | | 5. / | | | | | | | | | | | | | |
| SCD SPD 3: | CRZ/ALT: / | | LAT/LONG: / | | 6. / | | 6. / | | | | | | | | | | | | | |
| PERF INIT CRZ | THR ID: / | | CRS: / | | 7. / | | 7. / | | | | | | | | | | | | | |
| CRZ/ALT: | 8. / | | 8. / | | 9. / | | 9. / | | | | | | | | | | | | | |
| CRZ/WIND: | 10. / | | 10. / | | | | | | | | | | | | | | | | | |
| CRZ SPEED: | | | | | | | | | | | | | | | | | | | | |
| PERF INIT DES | TYPE ID: / | | GS: / | | | | | | | | | | | | | | | | | |

This format of the Form 280 was created by JMATS based on a lot of coordination and our years of experience. The term "Form 280" simply means the form you use at your squadron; there is no standard. You will use a different form when you fly with the 62d Airlift Squadron. You'll then use a different form when you fly with your assigned unit. And when you inter-fly with another unit. And so on...

We hear this critique all the time: "JMATS needs to use the 62d's form 280, because I had to learn a new form when I started flying." **STOP COMPLAINING. You can't appreciate how easy mission planning is now, so get used to the fact that everywhere you fly will require you to get used to that unit/environment form.**

Create an Airdrop Profile in CAT

The primary method of planning a CARP is through MAJCOM-approved mission planning software (MPS). Aircrew will use approved MPS to calculate CARPs. AFMAN 11-231, paragraph 4.1

The Consolidated Airdrop Tool (CAT) is used to create a release point for:

- Computed Air Release Point (CARP) for a variety of equipment or personnel types
- High Altitude Release Point (HARP) for personnel
- Joint Precision Airdrop System (JPADS) for a variety of equipment types
- Improved Containerized Delivery System (ICDS) for drops above 3000' AGL

Launching CAT

CAT can be started two ways: opening the CAT software from the desktop or taskbar, or by double-clicking on a CARP file with a file extension of “*.cap”.

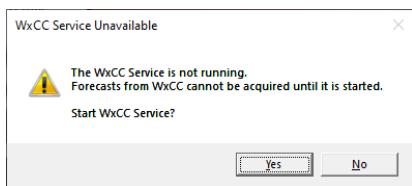
Network Files vs Local Storage

It's acceptable to save your CARP files on your student share folder. Realize of course that you can't access this folder outside the building Wi-Fi coverage, so consider keeping a local copy if you plan to work on a CARP outside of work.

Can you launch CAT directly (double-click) from a “.cap” file? Generally, yes. Launching a file this way from a different (older) version of CAT may not work, and sometimes the network file will refuse to launch CAT, even though it's a current version. **You're never wrong opening CAT first, then opening a CARP file.**

About Weather CC (Common Component)

When CAT first starts to launch, a dialog will appear requesting to also start the WxCCC service.



JMATS does not use actual weather data for tactical mission planning, so select No. If you accidentally press Yes, WxCCC will launch, you will get a Windows Firewall message, and other unhelpful messages while creating your CARP. It resides in the running tasks area of the taskbar and selecting Exit does not close it. **Just say NO to WxCCC.**

Startup Aircraft and Gross Weight

Your CAT preferences are configured for a C-130J-30. If you see “C-130E/H” when you start a new airdrop mission, you don't have the CAT preference set loaded. Stop here and go to [Apply or Import CAT Preferences](#).

The new mission dialog defaults to a gross weight of 164,000 pounds. Change this to an approximate weight for the release pass. This only really matters when selecting a CDS airdrop load, as the drop airspeed will change from 130 KCAS to 140 KCAS when the weight is over 120,000 pounds (**AFMAN 11-231, Table 9.1**). How do you know the release pass weight when you haven't planned the route? **Use an educated guess** (confirm this when you've finished your route build, as Jmps will show the gross weight at the release point):

$$88000 \text{ (airplane)} + 30000 \text{ (fuel)} + 6700 \text{ (CDS and buffer stop assembly)} = 124700.$$

Subtract 1 hour flight time (approximately 5000 pounds) and 1000 pounds

Start/Taxi/Takeoff (STTO) to get **118700** drop weight. CAT drop speed will default to **130** KCAS.

Create the Airdrop Mission (CAT Mission Editor)

When you create a new mission, the Mission Editor  dialog opens allowing you to select basic details of the mission: load type and number, parachutes, and drop zone.

- Select Payload Type
- Select Available Chute
- Select number of loads to add (pallets, bundles, etc.)
- Select Drop Zone (see discussion below)
- For CDS, select Buffer Stop Assembly (BSA) and Centerline Vertical Restraint (CVR)

Select Load and Parachute Type

For **CDS airdrops**, your lesson guide will specify the number of bundles, their weight, the chute type, and the aircraft load station OF THE RELEASE GATE (nylon strap). This will be important when entering CARP information at the aircraft; the load station **MUST** be the gate location, **NOT** the CG of the bundles. (See the [CDS Airdrop](#) section for details of how to make this work in CAT, since the software doesn't provide a gate location option.)

| Container Delivery System | | | | | |
|---------------------------|-------------------|---------------|--------------|----------|---------|
| CHUTE | NUMBER OF BUNDLES | BUNDLE WEIGHT | TOTAL WEIGHT | # STICKS | ACFT LS |
| G-12E | 4 | 1,500 lbs | 6,000 lbs | Single | 817 |

For **Heavy Equipment airdrops**, your lesson guide will specify the release mechanism (tow plate versus extraction), the main chute, the extraction chute(s), the aircraft load station (CG of the airdrop platform), and two different weights: **suspended** and **rigged**. **Use the Rigged Weight for your CAT and CARP INIT entries.**

LOAD INFORMATION

| Heavy Equipment (Tow Plate) | | | | |
|-----------------------------|---------------------|------------------|---------------|---------|
| Main Chute | Extraction Chute(s) | Suspended Weight | Rigged Weight | ACFT LS |
| G-11B | 1 x 15' | 4,750 lbs | 5,000 lbs | 800 |

If you must know, the Suspended Weight is a useless number. CAT and airdrop ballistics use the Rigged/Load Weight, which is the sum of the suspended weight + parachute weight.

For **Personnel airdrops**, your lesson guide will specify the type of chute, number of jumpers, their weight, how many “sticks” (one or both sides of the airplane), and which doors. JMATS static line personnel will always exit the troop doors, while in real life you may drop static line jumpers from the

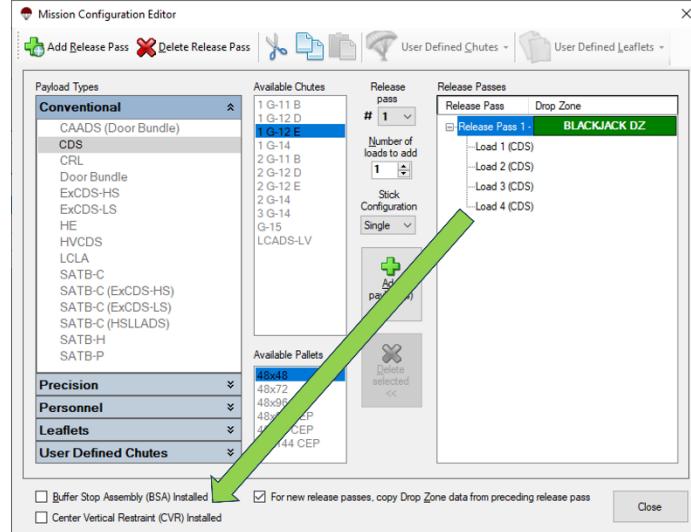
ramp (See AFTTP 3-3.C-130J and AFMAN 11-240 for units approved for “tailgate” jumps. In all cases, a maximum of 20 static line jumpers is allowed per “pass” over the drop zone.)

| Personnel (Static Line) | | | | | |
|-------------------------|-------------------|----------|--------------|----------|----------------|
| Chute | Number of Jumpers | Weight | Total Weight | # Sticks | Exit |
| T-11 | 64 | 400 lbs. | 25,600 lbs. | Double | Paratroop Door |

Select Number of Loads to Add

Select the arrows to change how many loads to add to the cargo compartment for the release pass. Typically, we drop heavy equipment as a single load, although there is an option for “sequential HE,” where the first load exit acts as the release mechanism for the second by pulling it out. CDS is often multiple bundles, so select the appropriate number from the lesson guide.

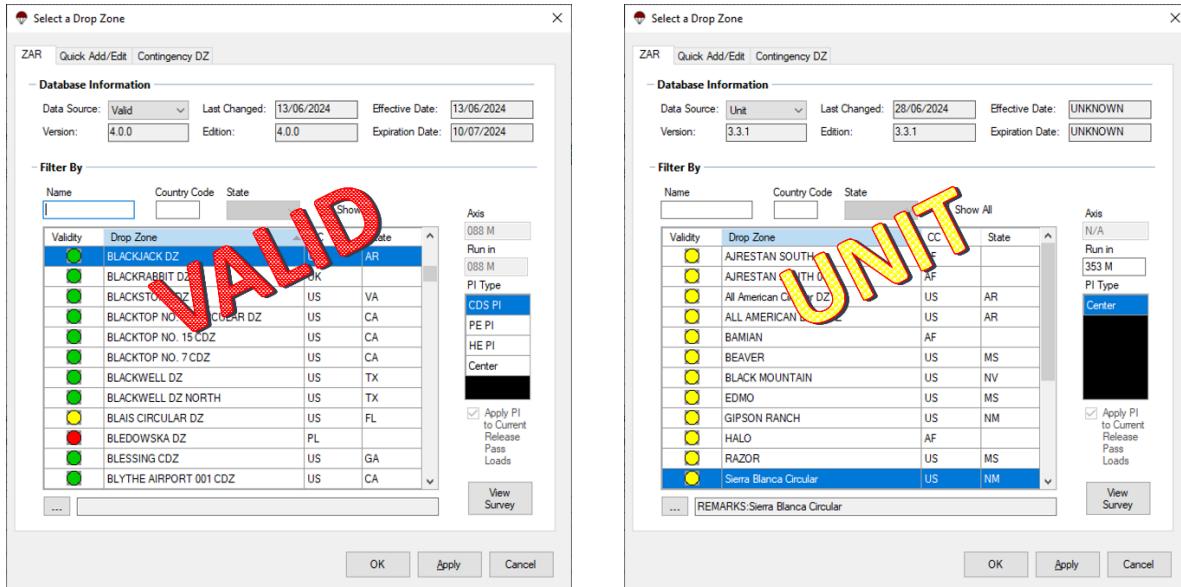
Once you’ve established how many, press the Add payload(s) button. For CDS, this enables the two checkboxes for BSA and CVR. For JMATS missions, assume that the CVR is always installed, so select it (affects ballistics). Only select BSA if the CDS total load weight exceeds 5000 pounds.



Why 5000 pounds? Up to that weight, a “chain gate” connected to rings in the sidewalls can provide forward restraint to the bundles (CDS bundles can’t be locked in the dual rails). Since the sidewall rings are rated to 5000 pounds, any CDS weight above that requires a different type of forward restraint. The BSA is a “baby pallet” with a vertical wedge that uses two dual rail locks to provide a stronger forward barrier.

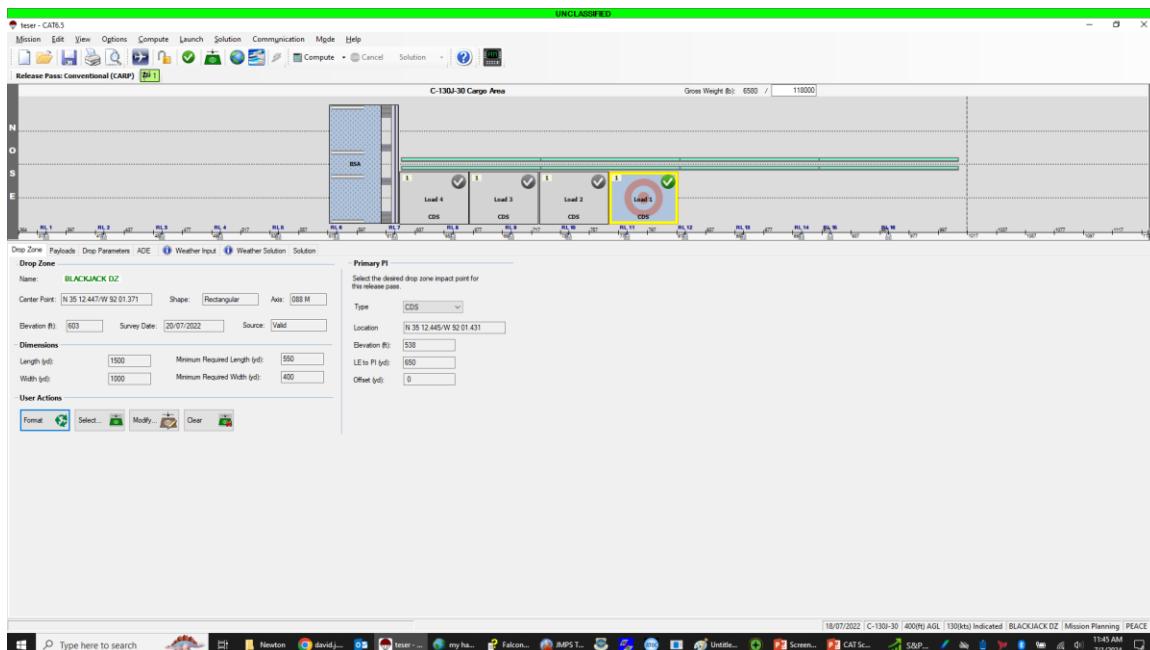
Select Drop Zone

In the mission editor Release Pass pane, select the button that says, “click to select drop zone.” The dialog that opens lets you pick from Valid (default) or Unit (selected) Data Sources. Pick your drop zone from the list and make sure you select the correct PI Type.



Close the Mission Editor

When you've selected/added your load and drop zone, press Close and the mission editor is replaced with your CAT working area, represented by the virtual cargo compartment on top and the mission details tabs below.



Edit the Airdrop Mission

This is where you get into the fine details of entering required data for CAT to compute a release point. These discussions should help explain not only what to do in CAT, but the why behind certain steps as well.

Below the cargo compartment representation are 7 tabs to work through. Start on the left side and work to the right:

Drop Zone Tab

This tab automatically populates the fields with the DZ information you selected from the mission editor. The only thing you can change here is the Primary PI location. The buttons at the bottom are used only if you need to select a new DZ or modify the current DZ parameters (only if needed and approved). If you modify the DZ, you will have to save it with a new name.

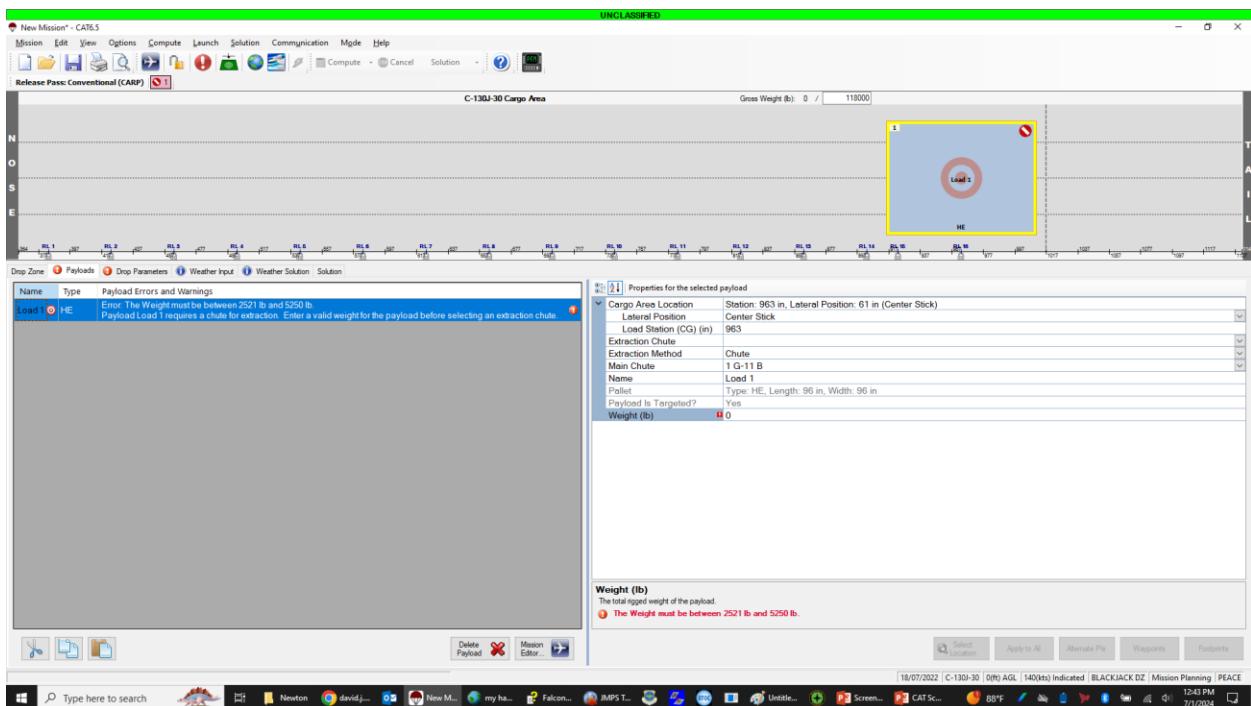
The Format button is used to cycle between coordinate formats. Selection is not used for Compute operations, as the default output has been set to DDMM.MMM by JMATS.

Payloads Tab

Specific information for Heavy Equipment (HE), Container Delivery System (CDS), and Personnel is discussed in the following sections.

Heavy Equipment Airdrop

Your HE platform is initially placed at the back end of the cargo compartment.



Recommend entering the load weight first, then work on the other selections. This is because you won't be able to select an extraction chute until CAT knows the load weight.

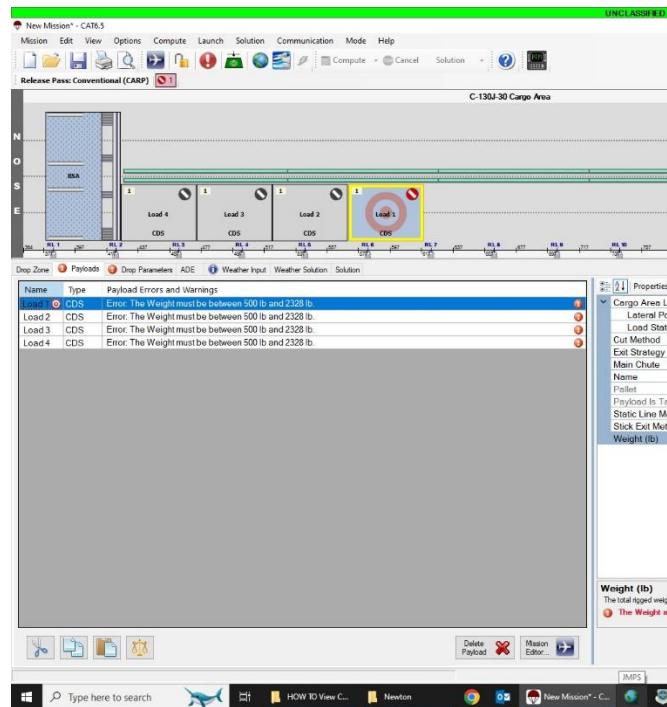
We've entered a weight of 5000 pounds, selected Load Station 803, and a main chute of 1 G-11B.

We also select a Towplate extraction method, and a 15' Ring Slot extraction chute.

CDS Airdrop

The CDS load(s) will initially be positioned either in the front of the cargo compartment against the buffer stop, or in the rear if there is no buffer stop. As you edit the Payloads tab, the bundles will move to the appropriate position to accurately calculate exit time.

Initial position with buffer stop:



In the Payload tab again, enter the load station 817.

Select Cut Method "Static Line Retriever." This will match the simulator release method.

Cut Method “Manual” could be selected for a release where a loadmaster uses a J-Hook knife to cut the gate strap.

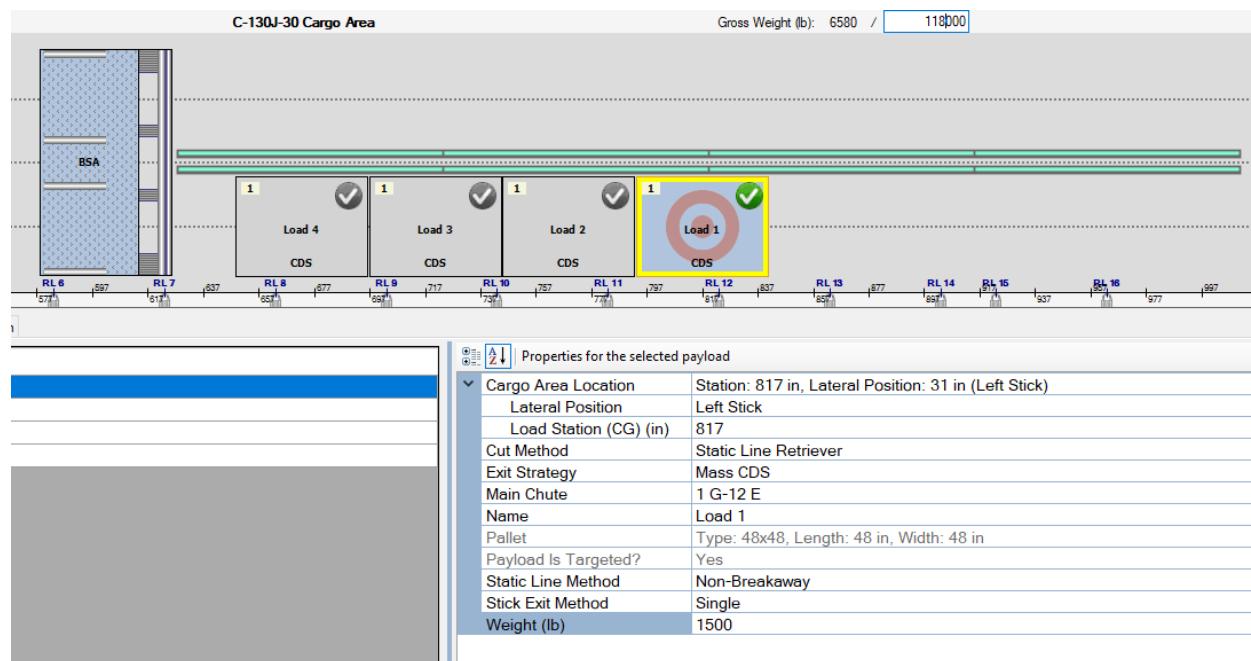
Select Exit Strategy Mass CDS. This will make the exit time appropriate for a run-in at a 7 degree pitch attitude. **This selection also automatically subtracts 50 yards per “row” from the trailing edge of the drop zone, IAW AFMAN 11-231 requirements for mass CDS.**

Ensure Static Line Method is “Non-Breakaway.” This will match the simulator static lines.

Stick Exit Method should be “Single,” since we didn’t select “Double” Stick Configuration in the Mission Editor.

Enter the weight of the individual bundle. Again, like heavy equipment, we enter the total rigged weight. Make sure to select the “Apply to All” button.

Here we have entered all the Payload data and applied the load weight to all bundles.



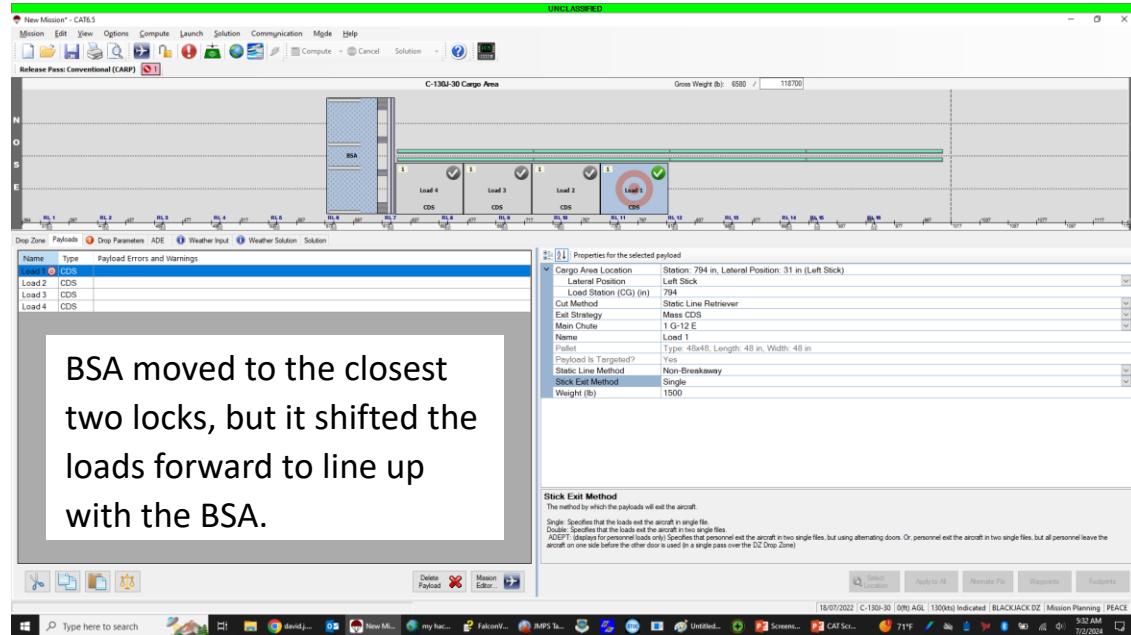
Notice a couple of things about this view...

First, the BSA is no longer up against the forward bundle. This is because it snaps to the nearest two dual rail lock positions, which don’t line up with where we put our aft bundle at LS 817.

Second, that aft bundle is at LS 817, but it’s the **center** of the bundle, not the back end of it, which is where the release gate strap would be. *I’m going to explain what’s going on and a way to make it “look right,” but in conclusion you’ll realize it doesn’t really matter.*

A typical CDS plywood skidboard is 48" x 48". Looking at the cargo area image in CAT, it’s apparent that LS 817 is almost halfway on the skidboard graphic. I say “almost,” because it is 1" off. Proof...

Click on and slide the BSA back until it “snaps” to lock positions near the bundles. You’ll see them shift forward to line up with the BSA.



After shifting forward, that last bundle is now centered over LS 794. Knowing that a skidboard is 48" long means that if we add 24" (half) to LS 794 we will get LS 818, 1" off from the lesson guide location. ***The simulator actually loads this CDS scenario at LS 818 for the gate, so there you are.***

Now, does this 24" difference matter? ***Not really. You're going to enter 818 in the CARP INIT pages in the CNI-MU and the difference in calculation in CAT is negligible.*** For comparison...

LS 818: 728.63 yards short, exit time 5.4 seconds.

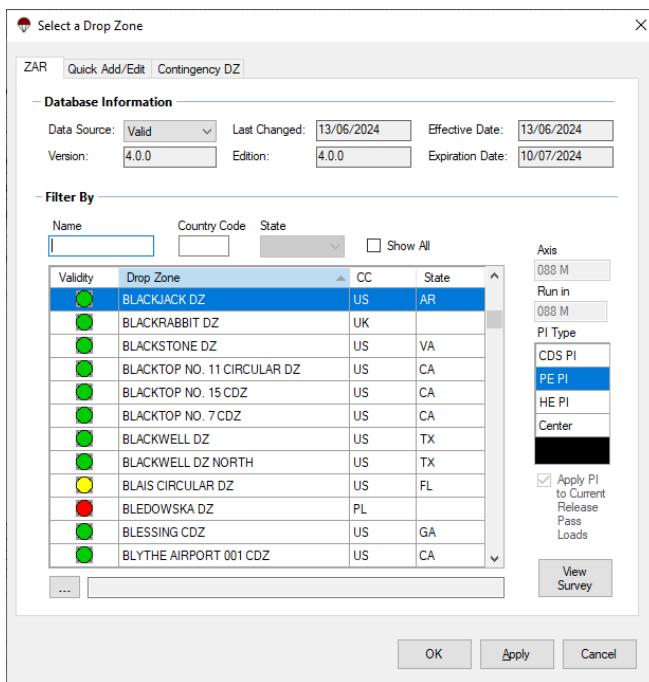
LS 794: 736.29 yards short, exit time 5.5 seconds.

THE POINT OF THE DISCUSSION:

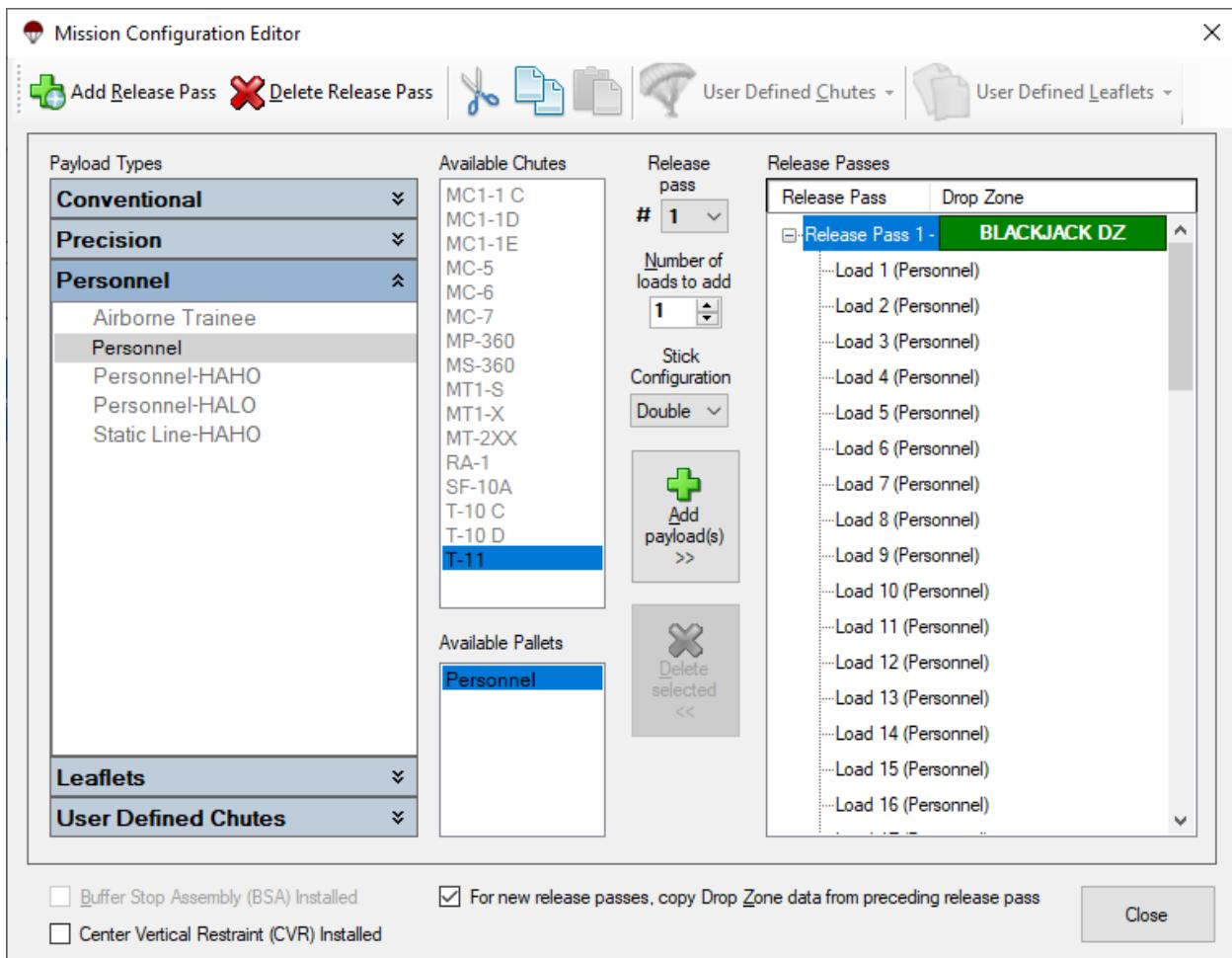
This was all just to show how CAT thinks. For your CAT CARP inputs, use the Lesson Guide CDS gate Load Station.

Personnel Airdrop

The personnel PI is usually in a different location on a DZ survey, so be sure to select “PE PI” in the Mission Editor.

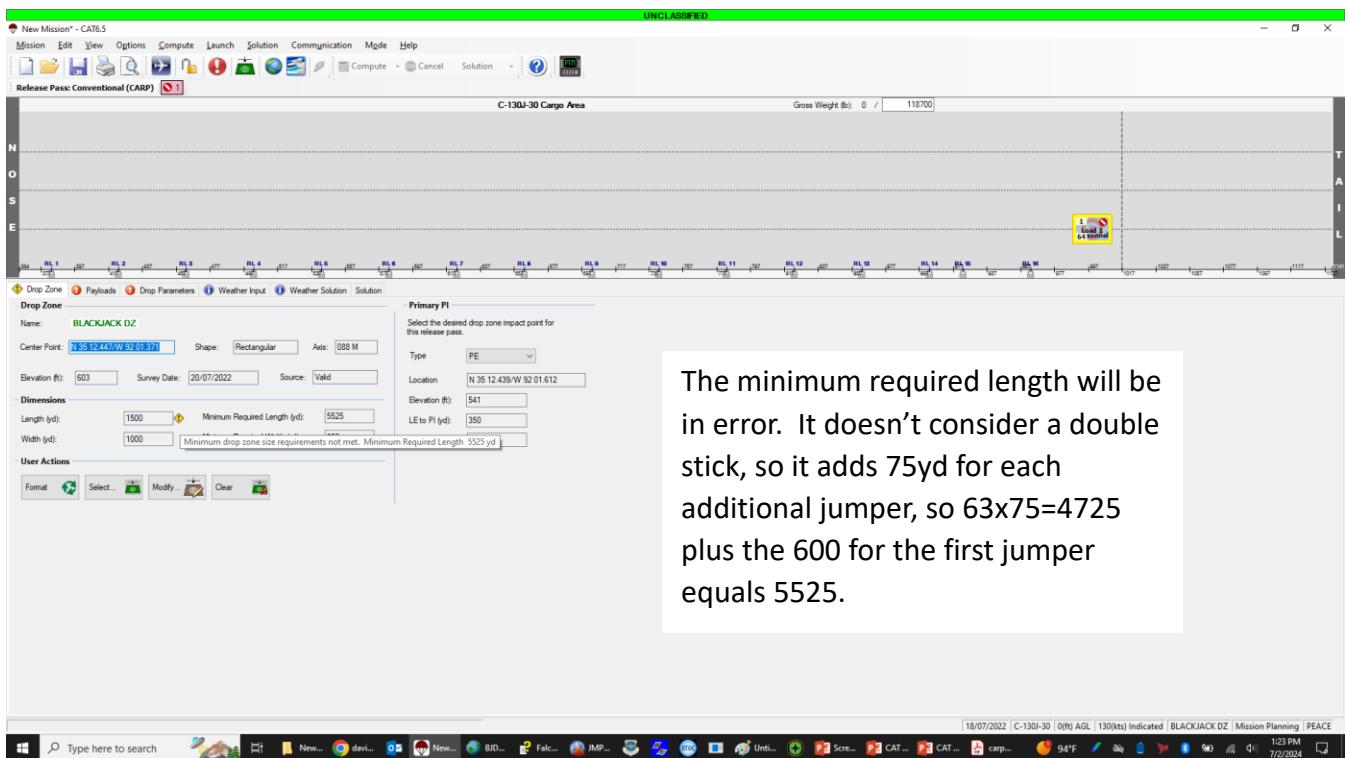


In this example, we've selected 64 jumpers with T-11 parachutes.



The cargo compartment graphic will show a single icon with all 64 jumpers crowded together where the paratroop doors are located, since a troop door exit location is used for CARP calculations.

It's also worth noting that the Drop Zone tab may generate an error message for minimum size not being met. This is because double stick has no effect on DZ length requirements computed in CAT. The below image shows this message because it added 75 yards for 63 additional jumpers, instead of the 31 that we would actually use to compute double stick length.



The minimum required length will be in error. It doesn't consider a double stick, so it adds 75yd for each additional jumper, so $63 \times 75 = 4725$ plus the 600 for the first jumper equals 5525.

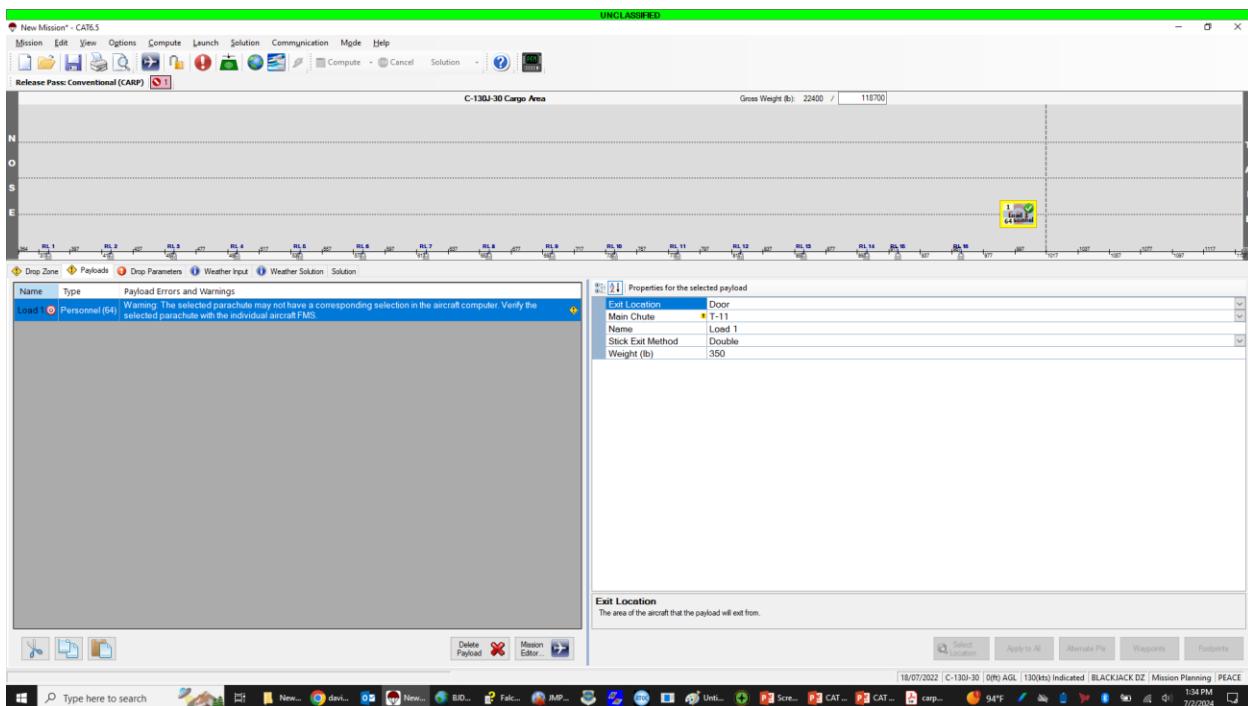
Moving back to the Payloads tab, you'll find that Personnel details are much simpler.

Select Exit Location as "Door."

Select the chute as T-11 for static line jumpers. Note that you get a message informing you that the aircraft FMS may not have the corresponding selection available. This isn't a big issue because current guidance still requires us to overwrite chute ballistics for personnel.

Select "Double" as the Stick Exit Method. Even though the DZ size calculation doesn't work, you should probably select the stick type to match reality.

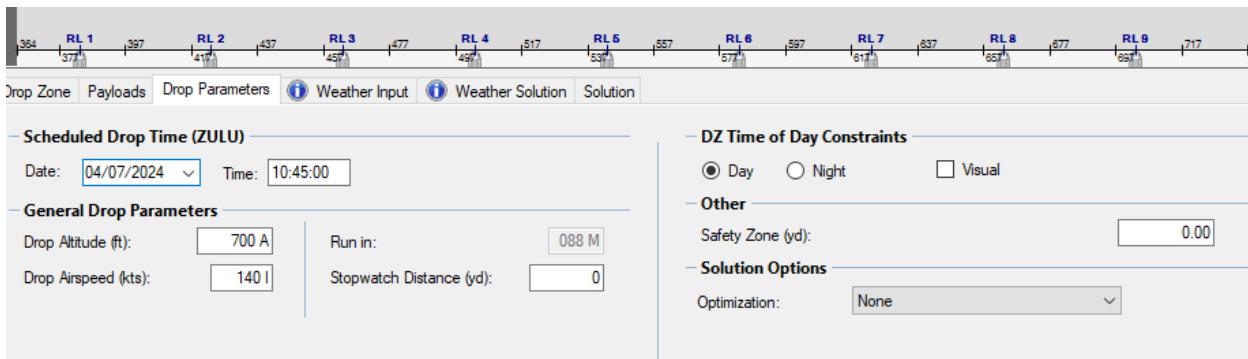
Enter the average weight of the jumpers.



Drop Parameters Tab

The Drop Parameters tab is configured the same for all 3 types of conventional drops **except for personnel**, which uses a defined Safety Zone.

Enter the Date and Time of the drop. Use the lesson guide TOT for the time.



Enter the drop altitude in AGL. For a conventional low altitude drop, you cannot put an MSL altitude. ***It's possible to force CAT to tell you the minimum altitude for the drop by entering something obviously incorrect.*** In the picture below, I've entered a drop altitude of 400' AGL for a heavy equipment drop, and CAT scolded me.

Don't rely on this. While it's likely correct, you should enter the minimum drop altitude from the airdrop ballistics file.

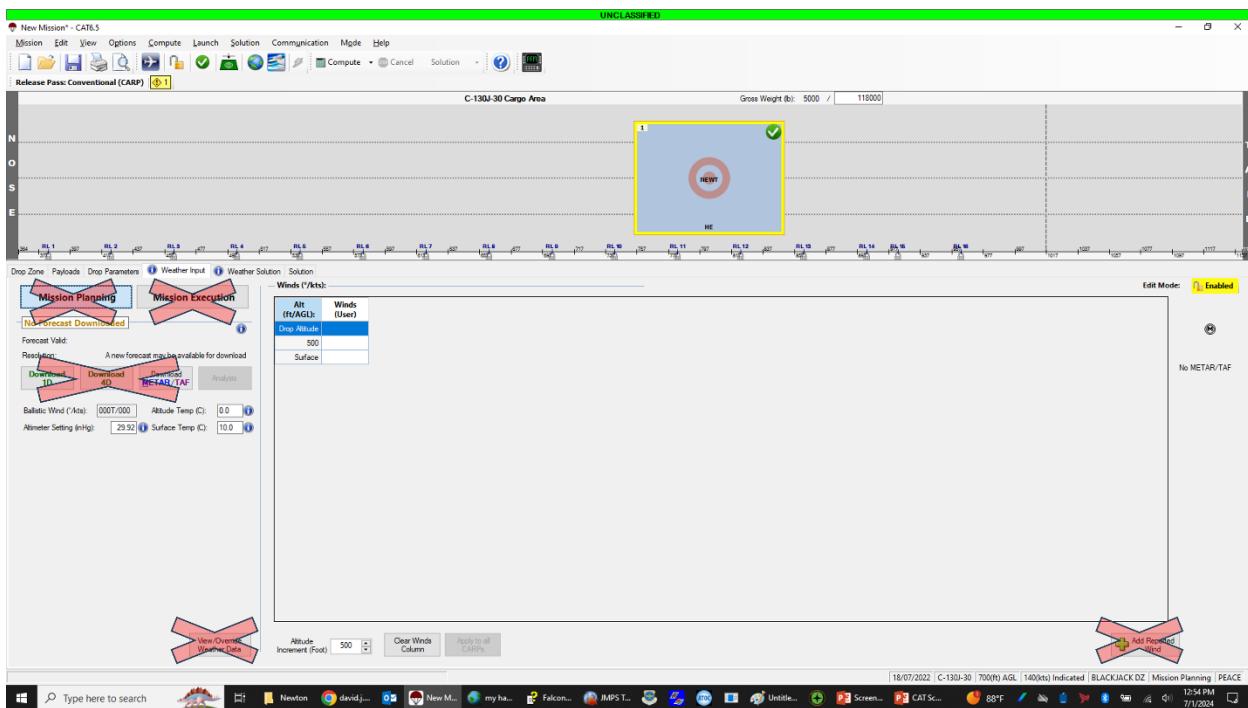
Don't enter anything for:

- Stopwatch Distance
- DZ Time of Day Constraints
- Solution Options, Optimization

Enter Safety Zone (200 yards) only for personnel drops. (Remember, CAT automatically applies a safety buffer for CDS if you selected "Mass CDS" exit strategy.)

Weather Input Tab (Manual)

The weather input tab allows you to **acquire** winds/weather or **enter** them. In JMATS, you'll enter them for an obvious reason: **real-world weather won't match your simulator mission profile**. Here is the initial view of the weather input tab:



To help you know how to use this tab, don't touch anything with a red X over it. The only inputs you'll need to do are altimeter setting, surface temperature, altitude temperature, and winds. Use the lesson guide drop zone forecast for this data.

Altimeter and temperatures should be obvious: minimum altimeter setting and a drop altitude temperature (interpolated if necessary) that matches the closest MSL altitude on the forecast.

Drop Zone Payloads Drop Parameters Weather Input Weather Solution

Mission Planning

No Forecast Downloaded i

Forecast Valid:

Resolution: A new forecast may be available for download

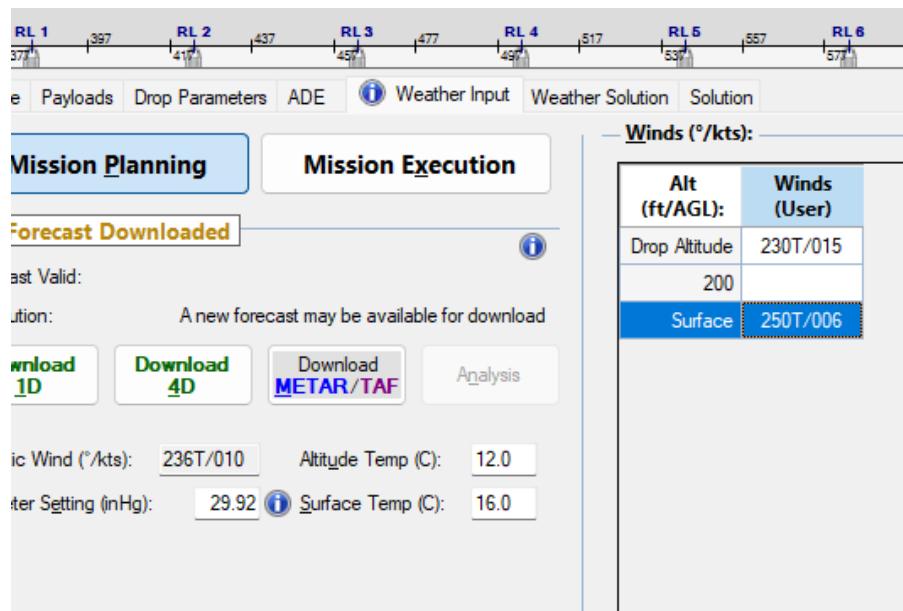
Download 1D Download 4D Download METAR/TAF Analysis

Ballistic Wind (°/kts): 000T/000 Altitude Temp (C): 14.0

Altimeter Setting (inHg): 30.14 Surface Temp (C): 16.0

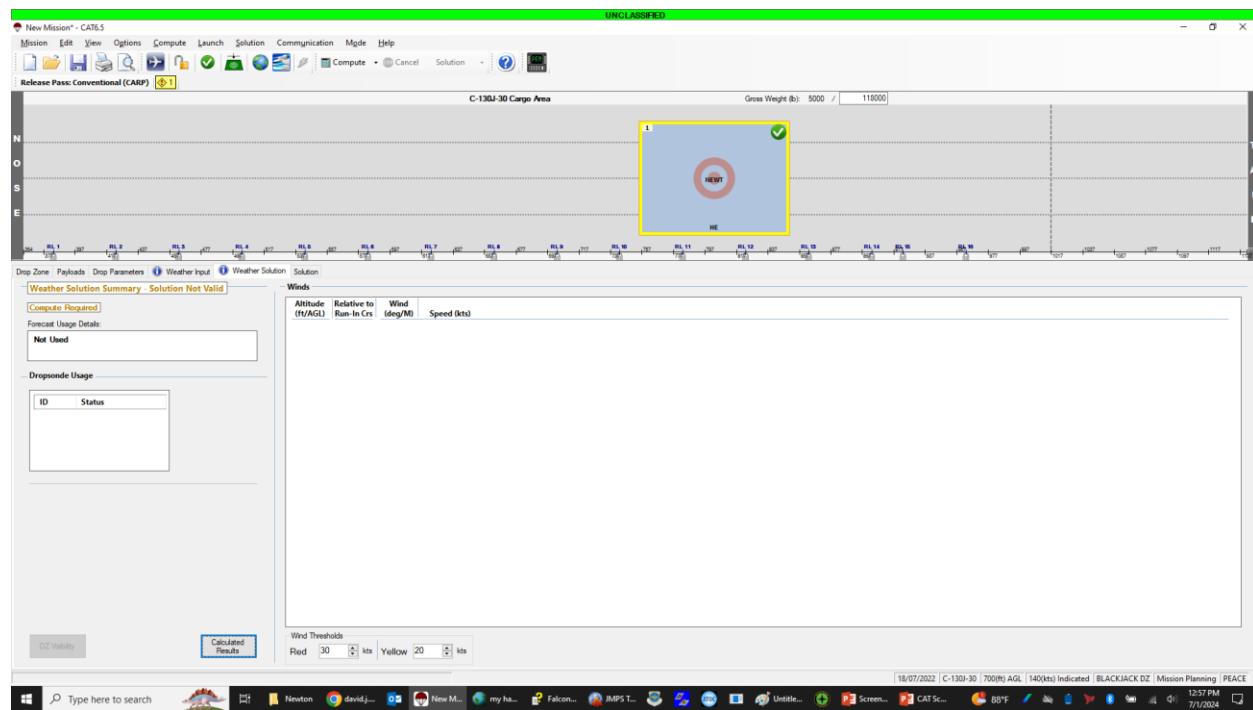
Mission Execution

Winds require a minimum of two entries: a drop altitude and a surface wind. CAT will use the two (or more) entries to compute a ballistic wind. For low altitude drops, a ballistic wind computed from surface and drop altitude should be accurate enough. Here's an example of wind entries and the resulting ballistic wind:

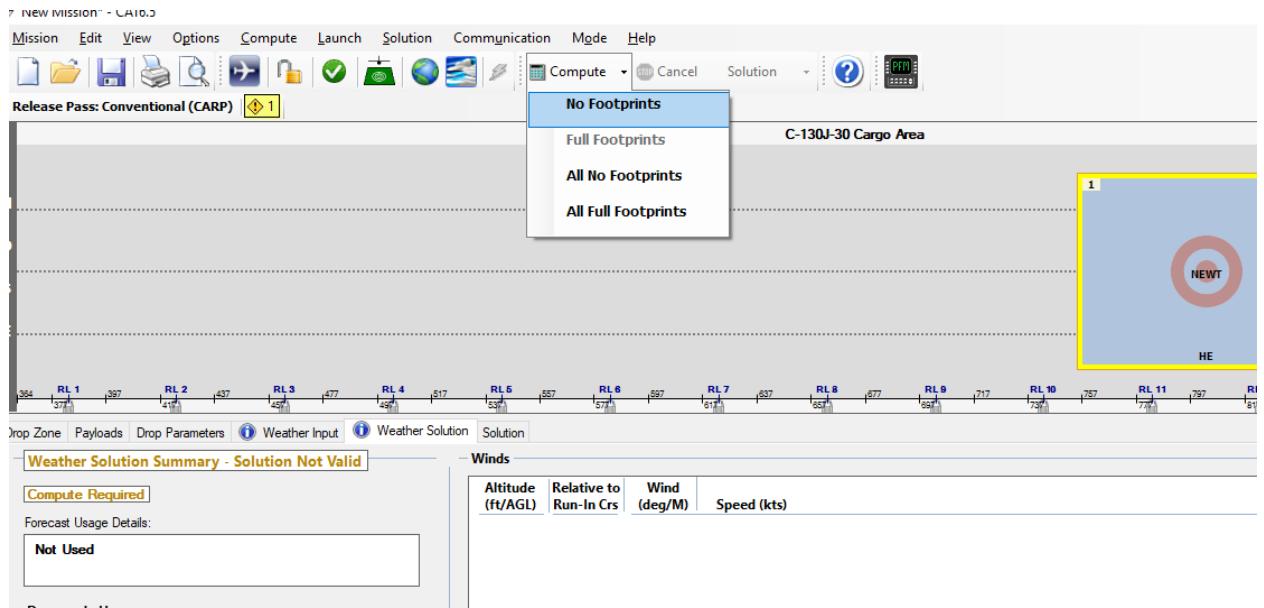


Computing the CARP

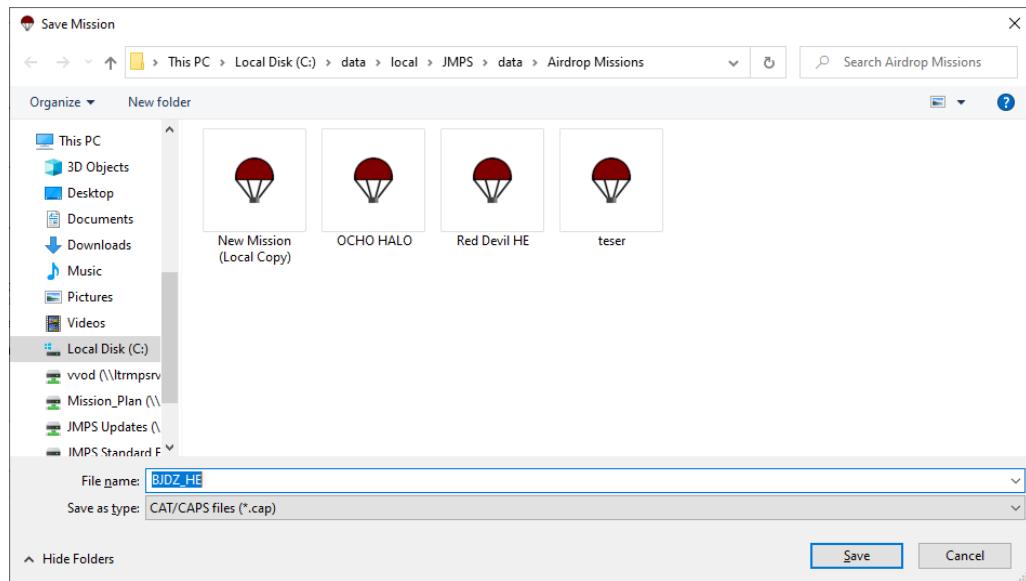
At this point, the CARP is still not solved. As shown below, a message on the weather solution tab says “compute required.” Notice that the “Release Pass Conventional (CARP) title also shows a caution symbol next to the release pass number.



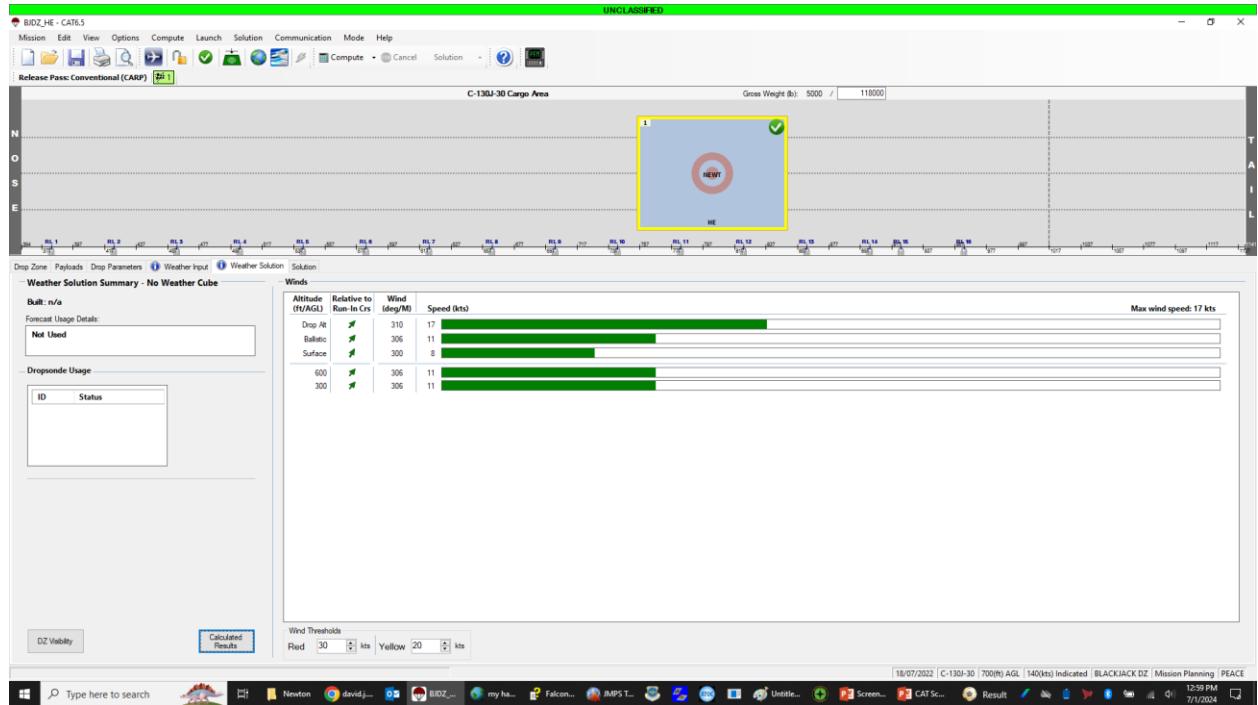
- On the CAT ribbon, select the Compute button. Since we’re not doing Airdrop Damage Estimation (ADE), select “No Footprints.” In this drop-down list, the word “All” refers to all release passes currently open. You generally only work on one at a time, so the first selection is appropriate.



- If you haven't saved this file yet, a save dialog will pop up. Name it something easy to remember.

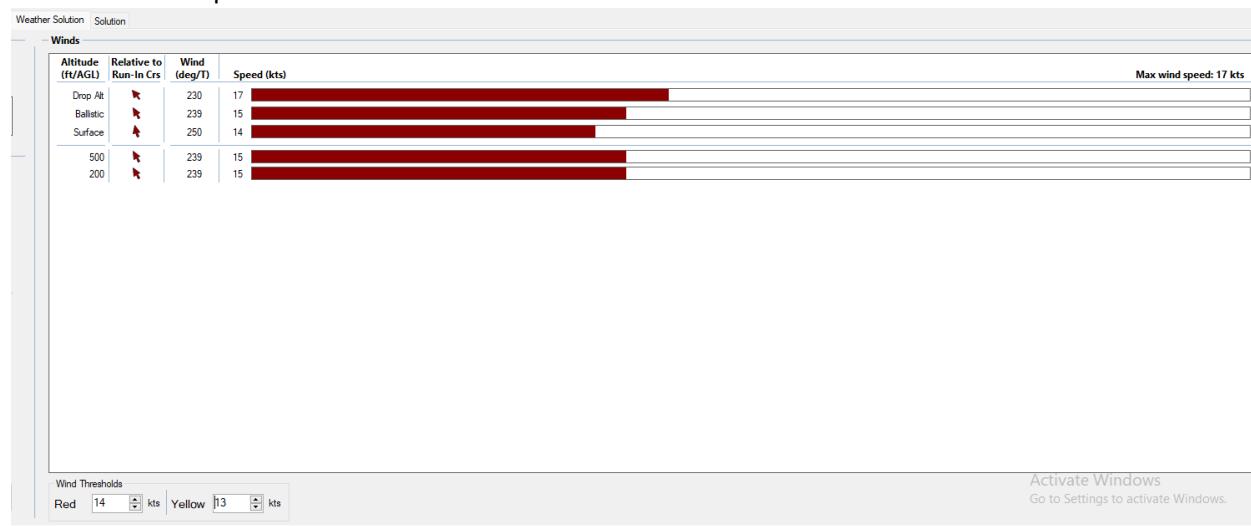


- The Weather Solution tab should now show wind bands, and you'll see a green checkered flag on your release pass icon.



Weather Solution Tab

The weather solution tab simply shows a graphical depiction of wind speed. You can set color codes for maximum wind speed as shown below.

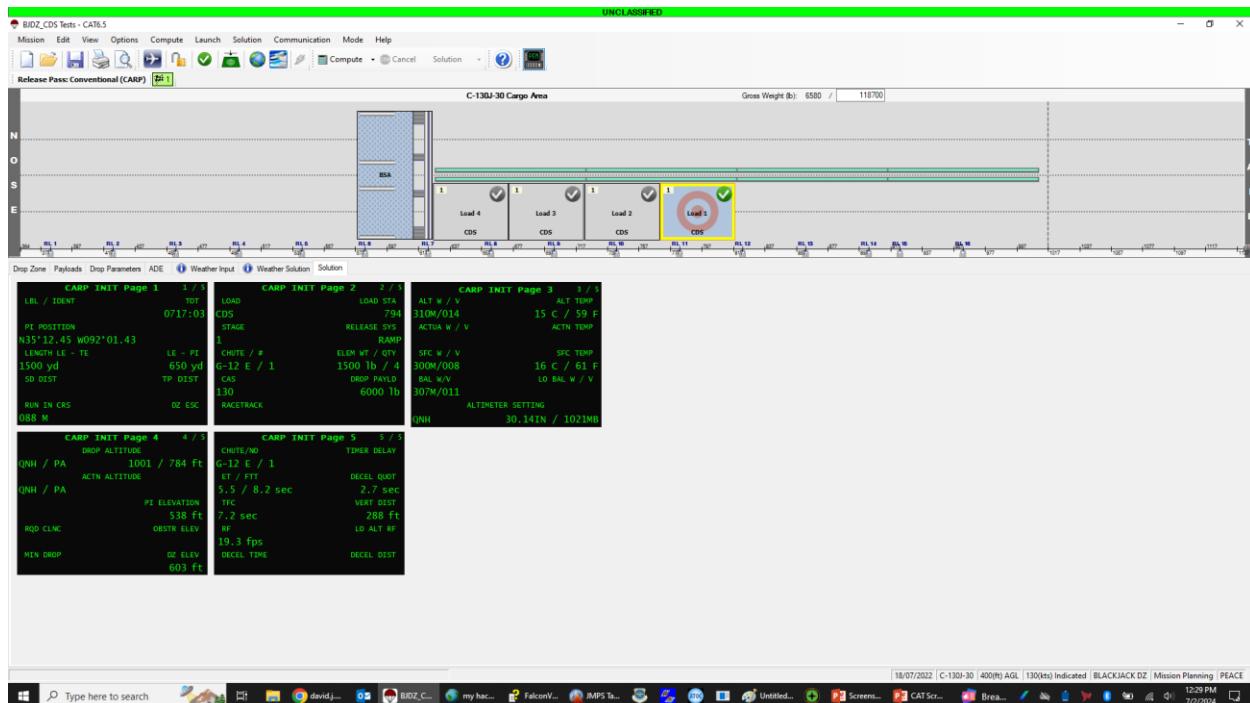


Solution Tab

The solution tab shows a table of calculated release data. Use it to verify the drop information is correct and note the calculated release point: long/short, left/right. You will generate a CARP summary form, so this tab is just for review.

This is a good point to address the CNI-MU icon on the ribbon. Pressing this will turn your Solution Data into a representation of the CNI-MU CARP INIT pages.

DO NOT USE THIS. It is a Block 6.0 CARP INIT summary. Even if you're a Block 6.0 pilot, it is still not recommended, as these "pages" do not account for DZ length adjustment for mass CDS.



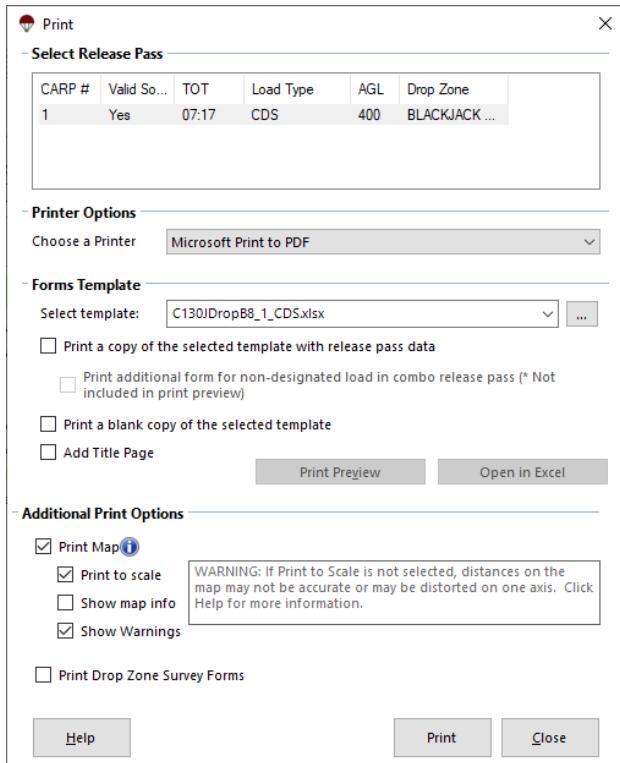
Generate/Print CARP Forms

So, your CARP is done. It only takes a few minutes to build once you become comfortable with the process. You now need to produce a product to take to the device or aircraft.

Press the button that looks like a globe called, “Launch/center mapping tool.” FalconView should center on the drop zone at 1 meter scale imagery with CARP information overlaid on the run-in heading. If it’s not at 1m scale, select it. (See [DZ Mosaic](#) below for a more detailed description.)

Press the Print Preview button to see a preview of the AF Form 4018, *Computed Air Release Point Computations*. If you like that form, go ahead.

An easier to read alternative is a form that accurately replicates the CNI-MU CARP INIT pages. Pressing the Print button (or selecting Mission, Print from the menu bar) will open the print dialog shown below.



- Choose a printer. Adobe PDF is available and recommended for digital forms, or select the appropriate networked printer.
- Select the form (3 dots button.) CAT has some default CARP forms, but JMATS has produced our own versions that accurately copy and present information. The forms are named for the aircraft Block and type of drop.
 - Example – A Block 8.1.x CDS drop form is named “**C130JDropB8_1_CDS.xlsx**.”
- Check the box, “Print a copy of the selected template with release pass data.”
- Select Print Preview or Open in Excel as desired.
- In Additional Print Options, Select Print Map, Print to Scale. Select Show map info if you want to display drop calculations on the map form.
- Select Show Warnings as desired.
- Select Print. For a traditional printer, the CNI-MU form (also referred to as “5-box” or “6-box”) and the “DZ Mosaic” forms will print. For PDF output, two separate file save dialogs will open in sequence, allowing you to name each form individually as PDF documents.

- Here is the CARP drop form. The DZ Mosaic form is discussed in the next section.

| ***** CAT 6.5.000.2189 | COMPUTER-GENERATED CARP for the C-130J-30 | Block 8.1 | ***** | | | | | |
|------------------------|---|--------------|---------|----------|------------|-------|----------------------|-----------------|
| TOT | TYPE | DROP ZONE | SPEED | ALTITUDE | MAG COURSE | DRIFT | CARP | USEABLE DZ TIME |
| 07:17:03 | CDS | BLACKJACK DZ | 130 CAS | 1001 Ft | 088 ° | 004 R | 736 Short 63 Left | 8.8 Sec |

| CARP INIT 1/5 | | CARP INIT 2/5 | |
|------------------------------------|--|----------------------|---------------------------|
| IDENT/DZ NAME CARPXX/----- | TOT 07:17:03 Z | LOAD CDS | LOAD STN 794 |
| PI - BLACKJACK DZ SEE DZ SURVEY | | STAGES 1/2 | EXIT STN DOOR/RAMP |
| LENGTH LE-TE 1350 YDS 1234M | TP DIST <input type="text"/> . <input type="text"/> NM | CHUTE/# 1 G-12 E | ELEM WT / QTY 1500 / 4 |
| LE-PI 650 YDS 594 M | SD / STAB DIST <input type="text"/> / <input type="text"/> NM | CAS ENT 130 | DROP PAYLD 6000 LB |
| RUN IN CRS 088.1 °M / 087.6 °T | DZ ESC <input type="text"/> NM | RACETRACK ESC/L/R | |

| CARP INIT 3/5 | | CARP INIT 4/5 | |
|----------------------|-----------------------------------|---|--|
| ALT WIND 310M/014 | ALT TEMP 59 °F / 15 °C | DROP ALT QNH / PA | ENT 1001 FT |
| SFC WIND 300M/008 | SFC TEMP 61 °F / 16 °C | RQD CLNC <input type="text"/> <input type="text"/> | OBSTR ELEV <input type="text"/> <input type="text"/> |
| BAL WIND 307M/011 | | MIN DROP HT <input type="text"/> <input type="text"/> | DZ ELEV 603 FT |
| ALT REF QNH/QFE | ALTIMETER SET 30.14 IN/1021 MB | ISA MIN ALT 1003 FT -2 FT TEC | PI ELEV 538 FT |

| CARP INIT 5/5 | | CARPxx VNAV (i.e. VNAV DROP) | |
|------------------------|----------------------------|--|--|
| ROF 19.3 FT/SEC | VD/TFC 288 FT / 7.2 SEC | DZ ENT/FORM <input type="text"/> / <input type="text"/> | DZ EXT/CRS <input type="text"/> / <input type="text"/> |
| ET/DQ 5.5 / 2.7 SEC | FTT 8.2 SEC | ENT SPD/VIS <input type="text"/> / <input type="text"/> | EXT SPD/VIS <input type="text"/> / <input type="text"/> |
| | | ENT ALT <input type="text"/> | EXT ALT <input type="text"/> |

BJDZ_CDS Tests.cap 07/02/2024 19:38 Ver 1.4

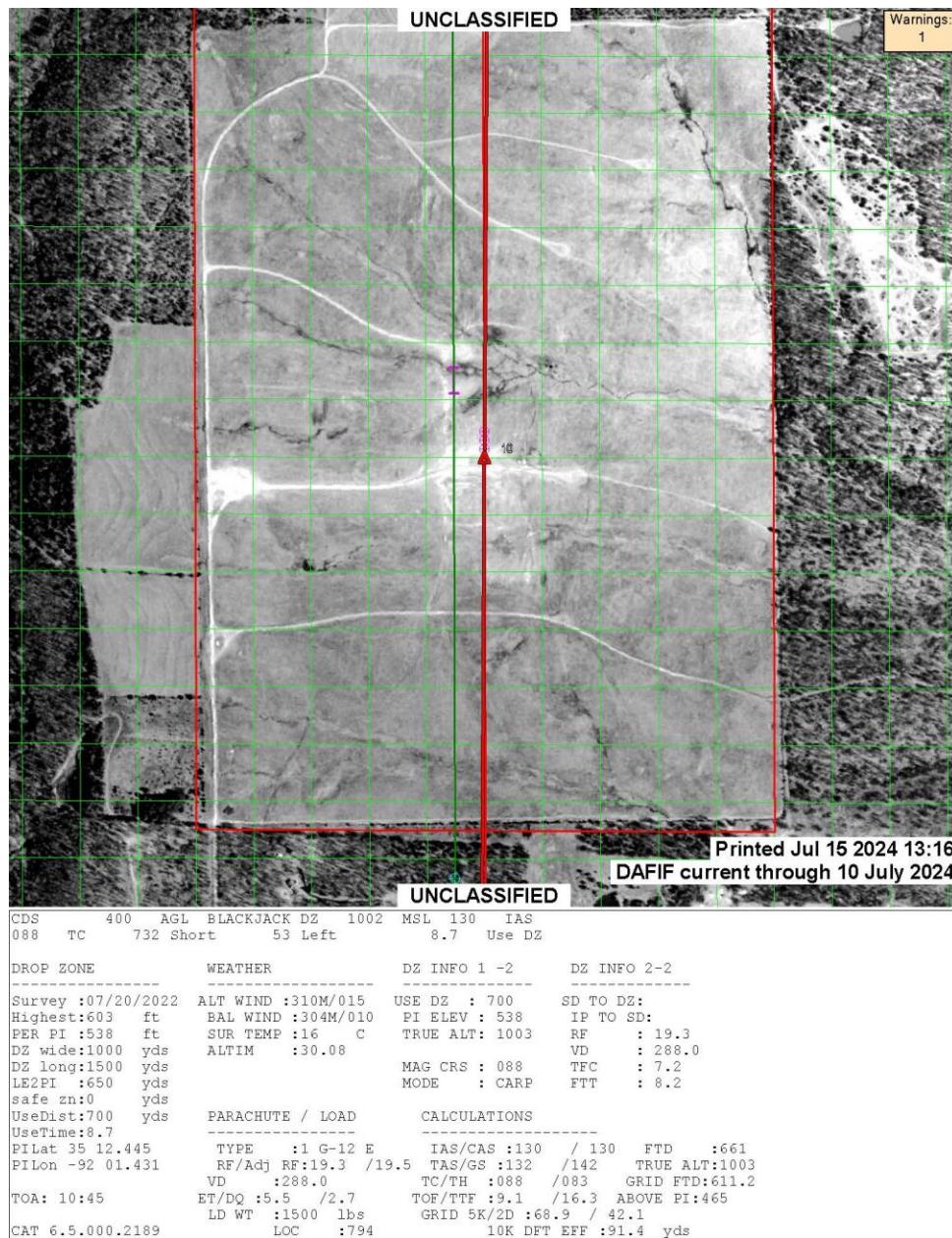
Create CARP Image Files: DZ Mosaic, Google Earth KML

DZ Mosaic

“DZ Mosaic” is a fancy way of saying, “top-down view of 1 meter drop zone imagery with the PI and release point overlaid on it.” CAT will generate a mosaic using FalconView imagery and will place overlays from CAT preferences and Airdrop Mission graphical preferences.

Once you’ve opened a CARP in FalconView, selecting Print in CAT will give you the option of “Print Map,” which is the mosaic imagery. Here’s how:

- Make sure you Compute the release pass.
- On the CAT Ribbon, press the globe icon (pop-up text: Launch/Center Mapping Tool).
- Wait for JMPS to launch or wait for an already-open JMPS session to center on the drop zone.
- CAT tries to load CIB 1m imagery first, but if it fails, then zoom in to that scale in FalconView.
- In CAT, select File, Print.
 - If you want to print the CARP form also, select it.
 - Under Additional Print Options, select Print Map.
 - If you hover over the Info button, it alerts you to the fact that the map will only print to the default Windows printer, no matter what printer is selected above in Printer Options.
 - If you want a basic CARP summary, select Show map info.
 - Do **NOT** select Print Drop Zone Survey Forms.
- In my example, my default printer is PDF. Here is what the output looks like:



Google Earth KML

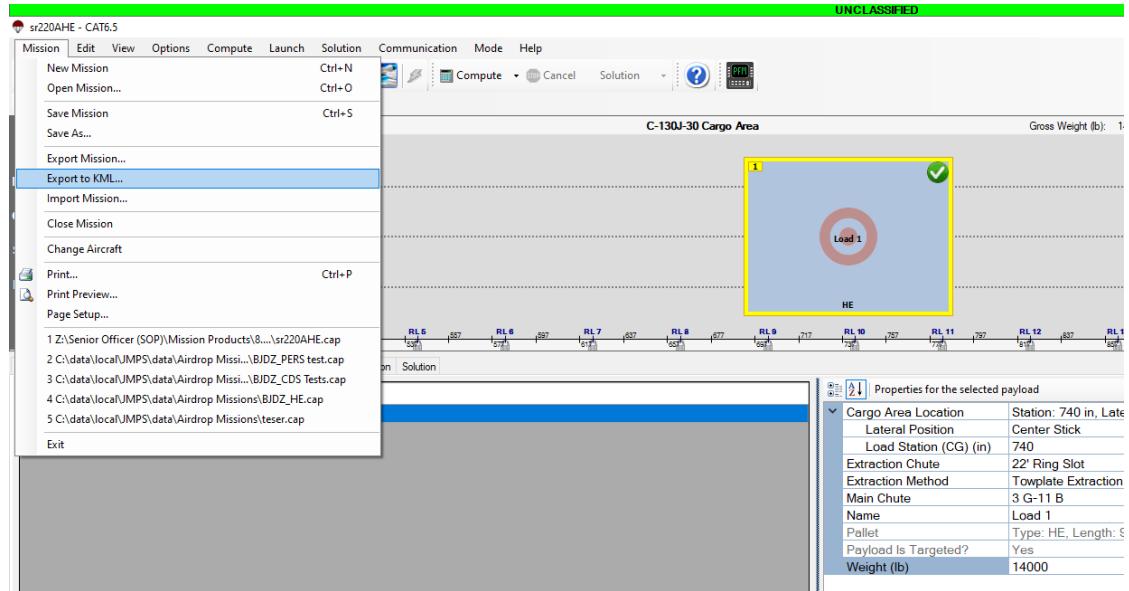
If you want a more modern view and analysis of your release point, use Google Earth. This is not cheating, and it's not a violation of AF policy or regulation. Google Earth Pro desktop app is authorized on J MPS platforms. It's a much more realistic analysis of the run in and release point than you will get from a top-down imagery tile in FalconView.

Here is the same release point as shown in the DZ Mosaic section, but as a snapshot from Google Earth with the KML file overlay:

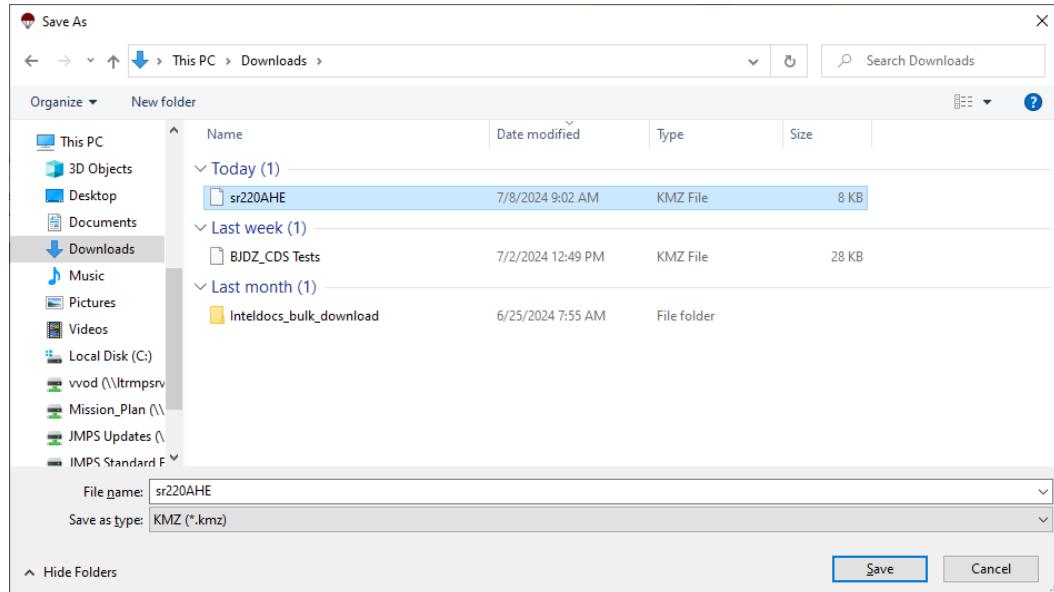


Steps to generate a KML

- Ensure your CARP is computed in CAT.
- Select Mission, Export to KML...



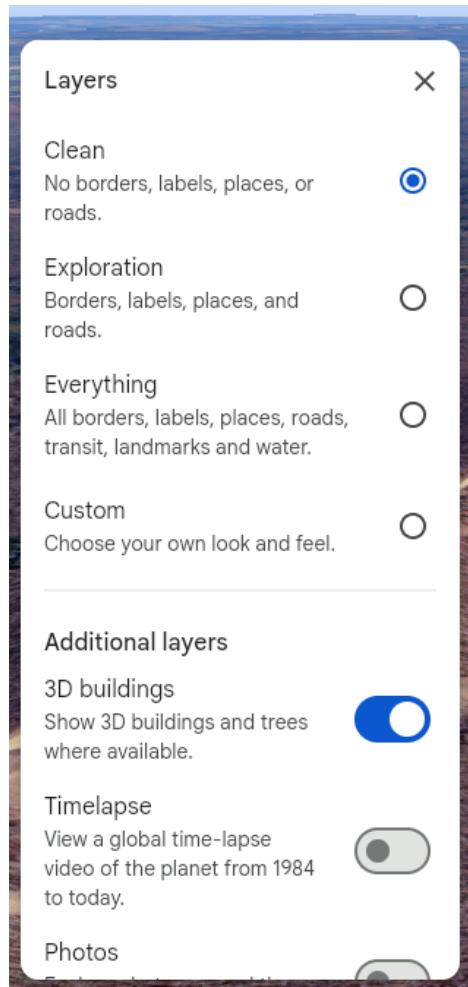
- Browse to desired save location, name it, and press Save.



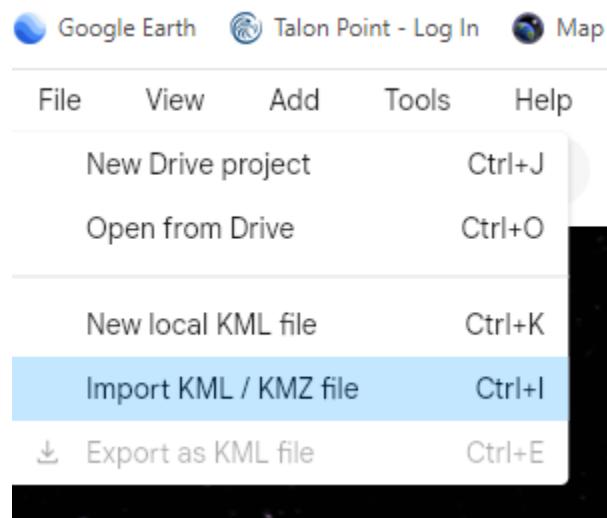
- - Open the Google Earth Pro application or navigate to Google Earth in Chrome browser (this example uses the browser version).



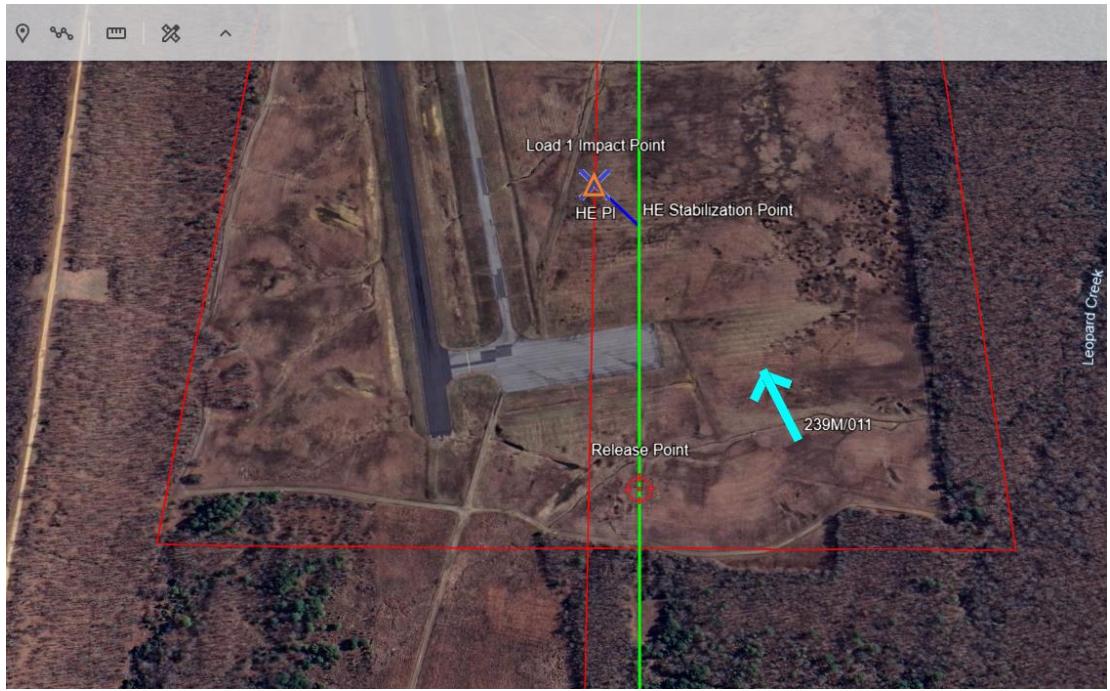
- - Select the Layers button (bottom left) and make it like this:



- In the Google Earth menu, select File, Import KML/KMZ file. Select your saved KMZ.



- Google Earth will animate its way to an overhead view of your release point.



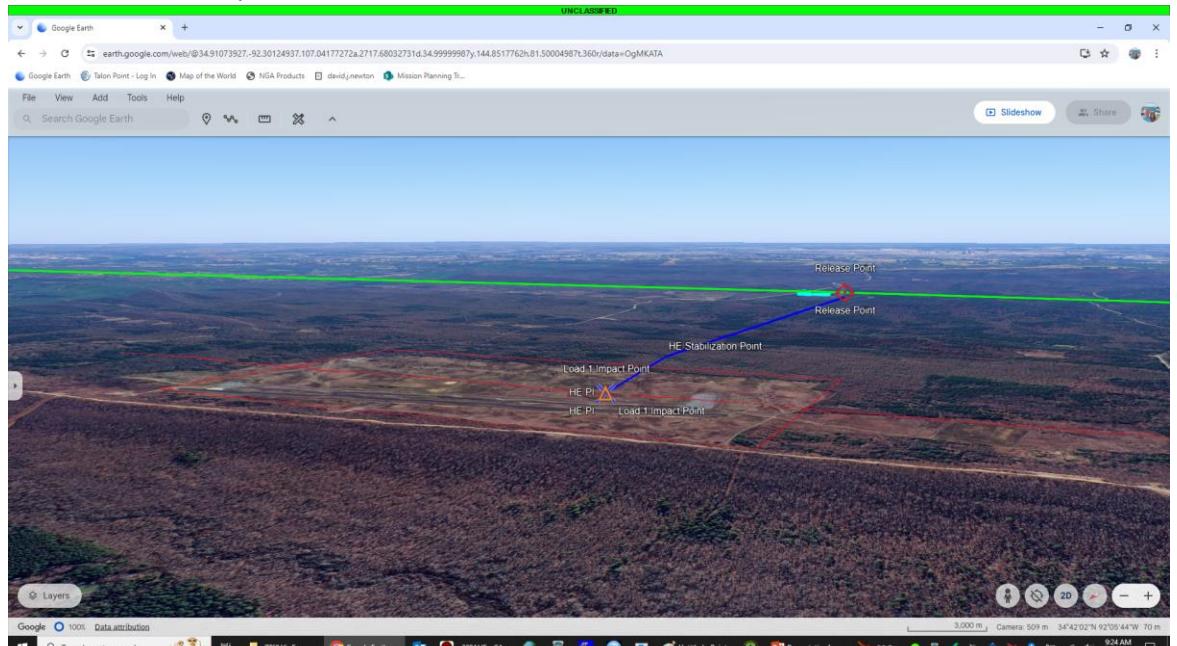
- Select the compass needle (bottom right) and use the Tilt and Heading controls to change your view to replicate the run-in perspective.



- Notice that the drift effect is visible after the Stabilization Point.



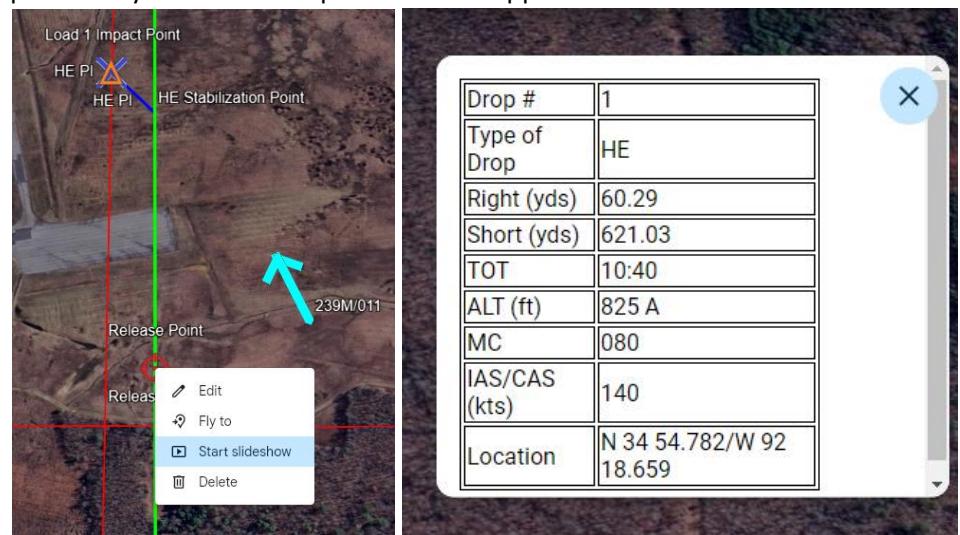
- - Highly useful for route study...



- - PRO TIPS.
 - Right click the release point and select Fly To.
 - The view centers top down over the release point.



- Right click the release point and select Start slideshow.
- A pop-up summary of the release point solution appears.



The associated video, “CARP in Google Earth,” shows this entire process.

Enter and Modify a Route

This section does not teach you how to enter a route but DOES discuss unique JMAPS features that happen “behind the scenes” during route planning.

Route Creation

New route dialog and create versus apply also discuss create with prefs

About Map Scales for Route Planning

The following section discusses recommended scale and map types for specific tactical mission profiles. These aren't driven by rules, but by experience. No matter what scale you use for your final mission

output, you will want to plan the mission on the lowest reasonable scale to provide the most accurate terrain and obstruction analysis.

Scale for the Mission Type

For a day visual low level, at a minimum plan on a JOG scale. The flying environment will dictate what scale you use in-flight. In the Little Rock area, JOG works well. In west Texas, you may find TPC scale is good enough due to lack of terrain features.

For night NVG missions, the above scales are also typical. Since we don't fly modified contour with respect to terrain at night, TPC is often an acceptable scale in most environments.

For higher altitude and IFR missions, the need for a tactical chart diminishes. For example, if you're leading a CAPS formation from Dyess to Travis, a tactical chart is not required if you are simply flying to an approach and landing (use an enroute IFR chart). If you're descending to a run-in and airdrop, then create the chart for the drop corridor portion of the flight.

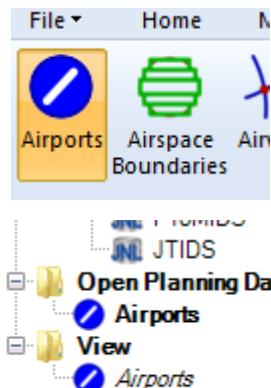
CADRG or ECRG?

The graphical type doesn't matter when you plan. Typically, ECRG will provide a cleaner image on your screen and printed/digital output. Currently, the MAF 240 version of JMPS does not let ECRG print chart series and date when using it for creating a chart per Vol 3 since it's a seamless chart, oh well...

Open Chart Overlays

Use the JMATS Chart Overlays tab to access available overlays. NOTE: there are more overlays that JMPS provides, but some were removed from your ribbon to declutter (you don't need A/R tracks, for example).

When you click on an overlay in this ribbon, it will be "highlighted" to better view which overlays are active.



It will also show up in the Open Planning Data folder in the Explorer pane.

Required Overlays

When building a mission in JMPS, you are not required to have overlays selected ON in FalconView. Even vertical obstruction data visibility is not necessary for the Route Editor to successfully calculate MSA or NVG altitudes. However, it makes sense to overlay at a minimum the items you intend to generate on a tactical chart. Other than route points and lines, AFMAN 11-2C-130J Volume 3 only requires vertical obstructions to be visible on a chart. **We'll start the discussion there but continue with highly recommended (some would say mandatory) other overlays.**

You currently have a choice of 3 vertical obstruction overlays: Obstruction Clearance File (OCF), Vector Vertical Obstruction Data (VVOD), or Vertical Obstructions (VO).



OCF will no longer be supported or provided after 31 December 2024.



Vertical
Obstruction Data

VVOD will no longer be supported or provided after 31 December 2024.



Vertical
Obstructions

VO is currently supported and is the recommended NGA provided vertical overlay.

We will now digress into a discussion about optional version highly recommended. Here's what the Vol 3 says about chart "annotations":

Chart annotations will have as a minimum: turn points, initial point, DZ, course line, course data, VO and date, ERAA and chart series/date. AFMAN 11-2C-130J, paragraph 13.8.1

This means that Bullseye, ROZ, Killbox, route restrictions, nuclear plants, sensitive environmental areas, non-towered airports, and even route corridors...are OPTIONAL overlays while building a route and generating a chart. Does that mean you don't need to use overlays? No, there's optional, and then there's what makes sense. So, what do we recommend as overlays?

Bullseyes – not necessary. They typically add too much clutter to a navigation chart. If you build an area chart, it may make sense to include bullseyes to provide a big picture.

ROZ – Potentially necessary. While currently not a JMATS training requirement other than discussion, some instructors like to use them during WST missions ("Lions ROZ active, surface to 5000") to force you to modify the route, and to prepare for flight line training, which does utilize activating ROZ as part of aircraft training scenarios.

Killbox – Potentially necessary. Your lesson guide should make a point to mention killbox procedures if they apply to a particular mission, so for those, plan to include the killbox on your chart, use the stick diagram's killbox, or create a separate chart with just the killbox.

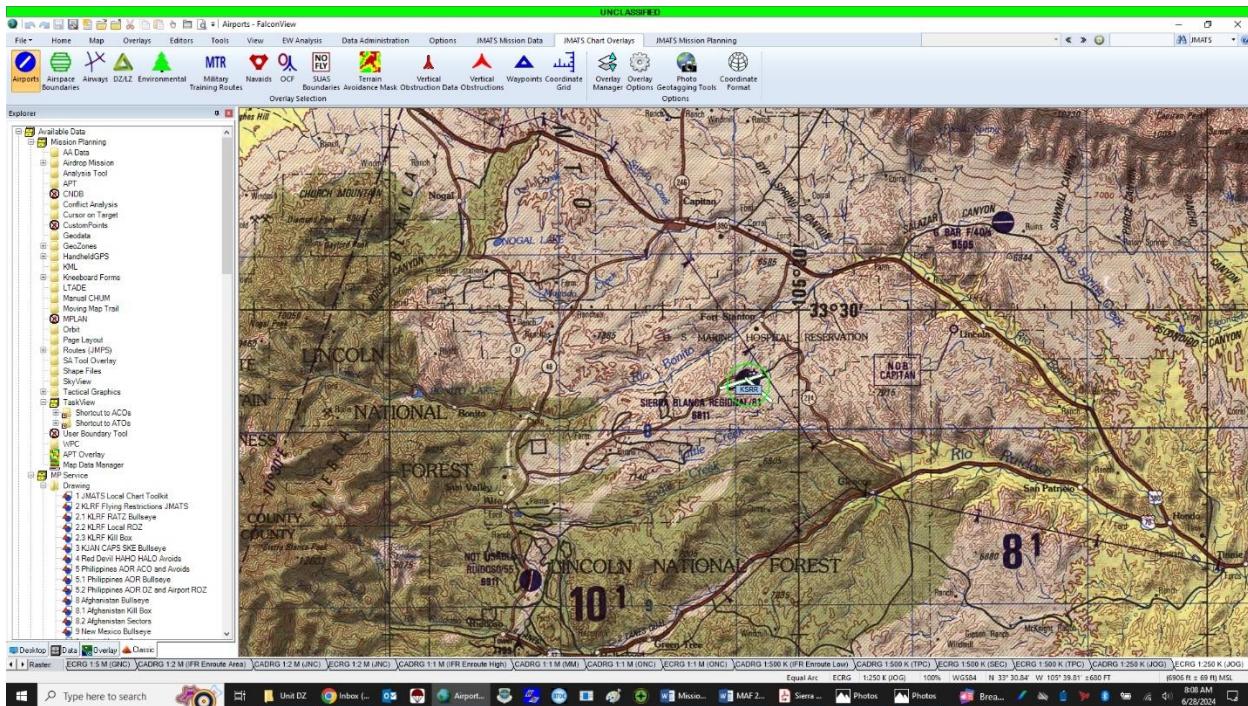
Route restrictions – necessary. It makes sense to overlay any route restrictions. You will not be making your own low-level route in JMATS; all lesson guides provide routing, either SR- or MRR- routes. The reason to overlay restrictions is to have visibility on them when you generate the chart to bring to the WST. **The route restrictions overlay provided in JMPS at JMATS includes local restrictions, nuclear plants, environmental areas, and non-towered airports all in one file.**

Corridors – necessary. While you don't need to have an NVG corridor overlaid on a day low-level chart (it can be turned off in Rout Properties), you really should have at least the tactical corridor visible.

Viewing Overlays

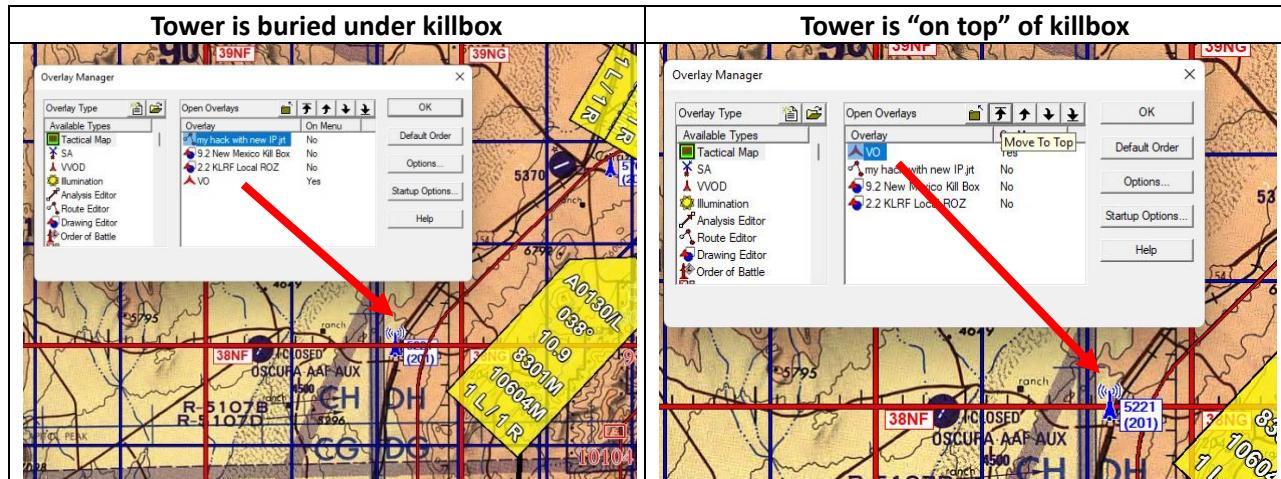
In the JMATS Role there is a menu called “JMATS Chart Overlays.” This is a curated list of JMPS overlays that will apply to your mission planning. **It's highly unlikely that you'll need to display any other overlays, but if so, select a different Role such as Tactical-Airdrop to view the Overlays menu.**

Selecting an overlay will highlight it on the ribbon, allowing you to quickly see which are displayed. This ribbon also includes an Options section for tweaking options for overlays or for using the Overlay Manager to sort them by display priority.



Overlay Manager

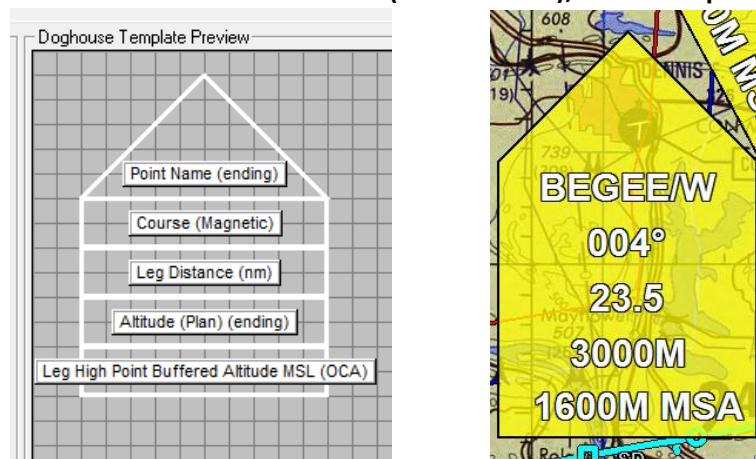
Use the Overlay Manager to manage/improve visibility of overlays when generating a chart. All open planning data (overlays, draw files, routes, etc.) can be managed from the Overlay Manager. You will find this useful when generating a chart so that the more important information is front and center. In the examples below, the Vertical Obstruction tower is blocked by the killbox overlay. By moving VO to the top of the open overlays list, it is “brought to front” for improved visibility.



Working With Doghouses

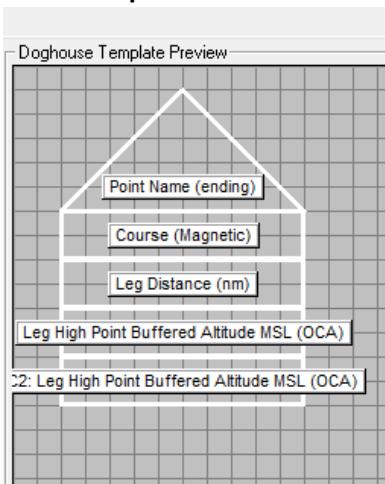
While JMPS comes pre-installed with a number of doghouse templates, you will only see two available templates in JMATS mission planning. This was done to standardize chart making and to honestly make life easier for instructors. Modifying the default doghouse templates is at your discretion, as long as you maintain the required data and explain your differences.

**JMATS DAY – Uses leg altitude from tabular window and reports MSA from the vertical profile
Obstruction Clearance altitude (5nm corridor), rounded up to the nearest 100'.**

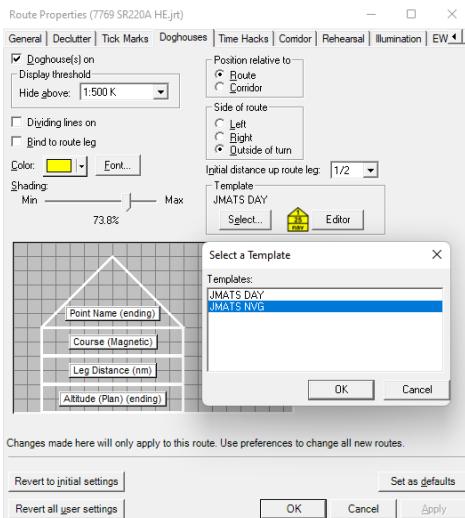


JMATS NVG – Uses leg altitude derived from the NVG corridor (3nm, terrain only) vertical profile OCA, rounded up to the nearest 100', and labeled “NVG.” The MSA is calculated using the 5nm corridor and

rounded up to the nearest 100'.



Change doghouses by selecting Route Properties in the Route Editor, then select the Doghouses tab. In the Template area, you will find a Select button that opens a dialog to change the doghouse.

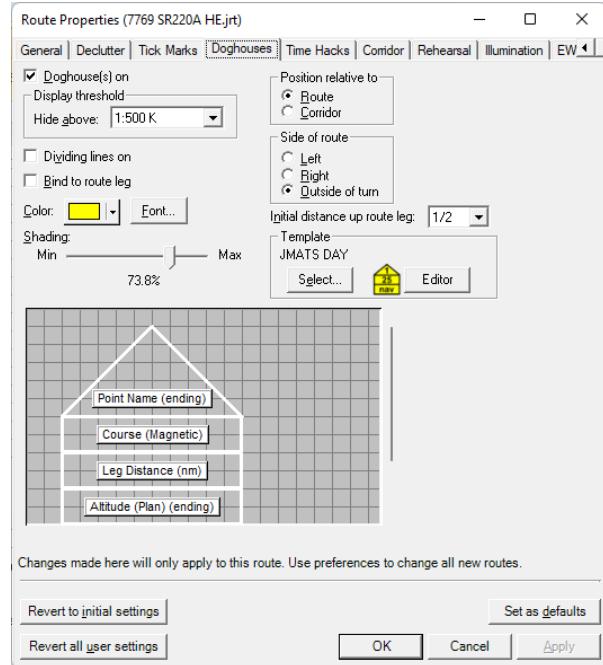


You may consider modifying the template to provide extra information, such as non-standard corridor widths (see [Working With Corridors](#) for standard widths). Here's an example from a mountainous NVG route where an asymmetric corridor was used on a leg to prevent unreasonably high leg altitudes. The actual corridor width used is added to the doghouse (IAW Vol 3 requirement.)



You can move, resize, and hide doghouses.

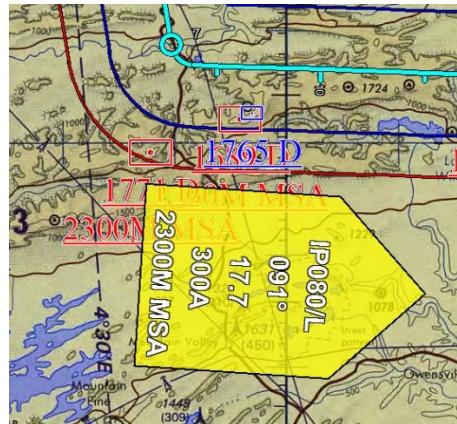
Move – You can automatically position doghouses relative to the route leg, corridor, or by manually moving them.



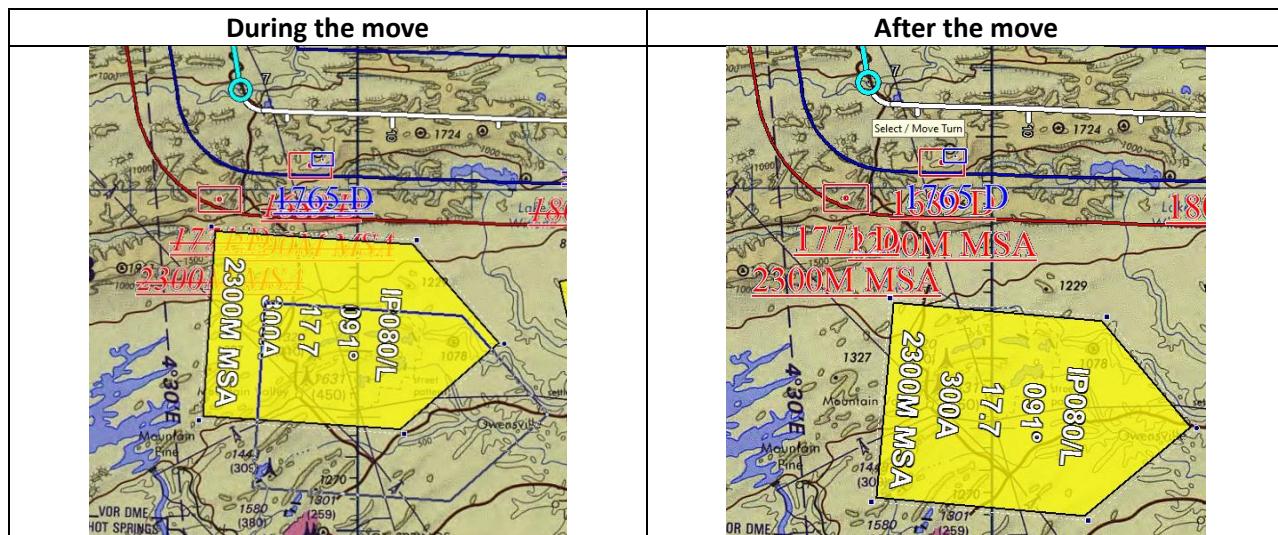
The Doghouses tab lets you automatically position them relative to the route or to the corridor.

Additionally, you can pick the side of the route you want and the distance up the route leg for automatic positioning. Realize these options are universal to all doghouses in the route; you must manually reposition those that aren't in a desired location after the automatic positioning is applied. See below.

Manually positioning doghouses may be necessary even after an automatic move has taken place. In the example below, the doghouse is outside the corridor but is covering up vital chart information.



Click and drag the doghouse to tweak its positioning.

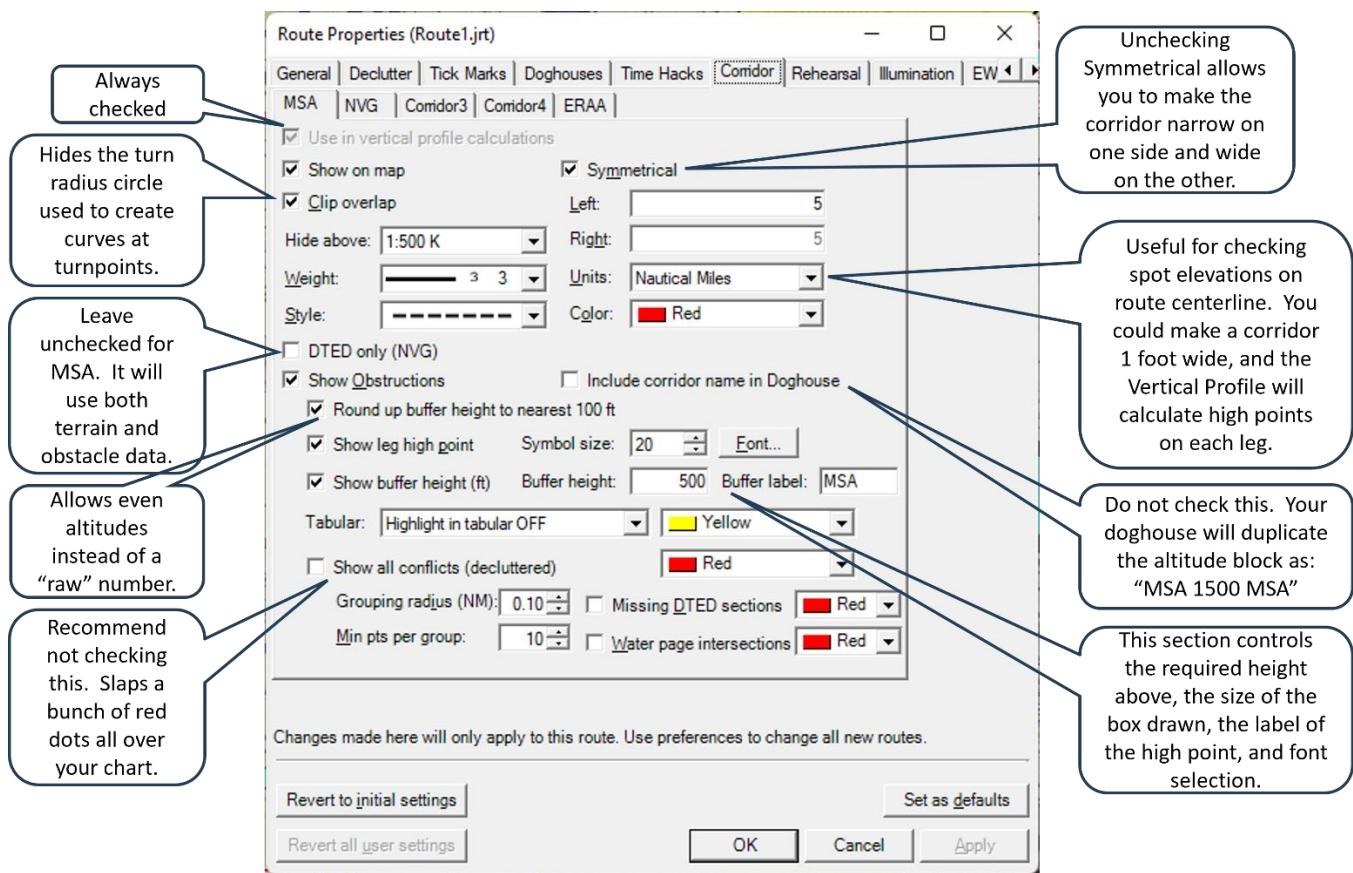


Working With Corridors

Your JPMS preferences are set to automatically display both NVG (3nm symmetrical) and MSA (5nm symmetrical) corridors. The corridors tab is found in Route Properties. Note there are 5 corridors available; we only use the first two, and the (fifth) ERAA corridor is set up but not activated. The pictures below describe the items in each corridor's dialog page.

Each corridor shown includes explanatory text beyond the obvious functions.

MSA Corridor Properties

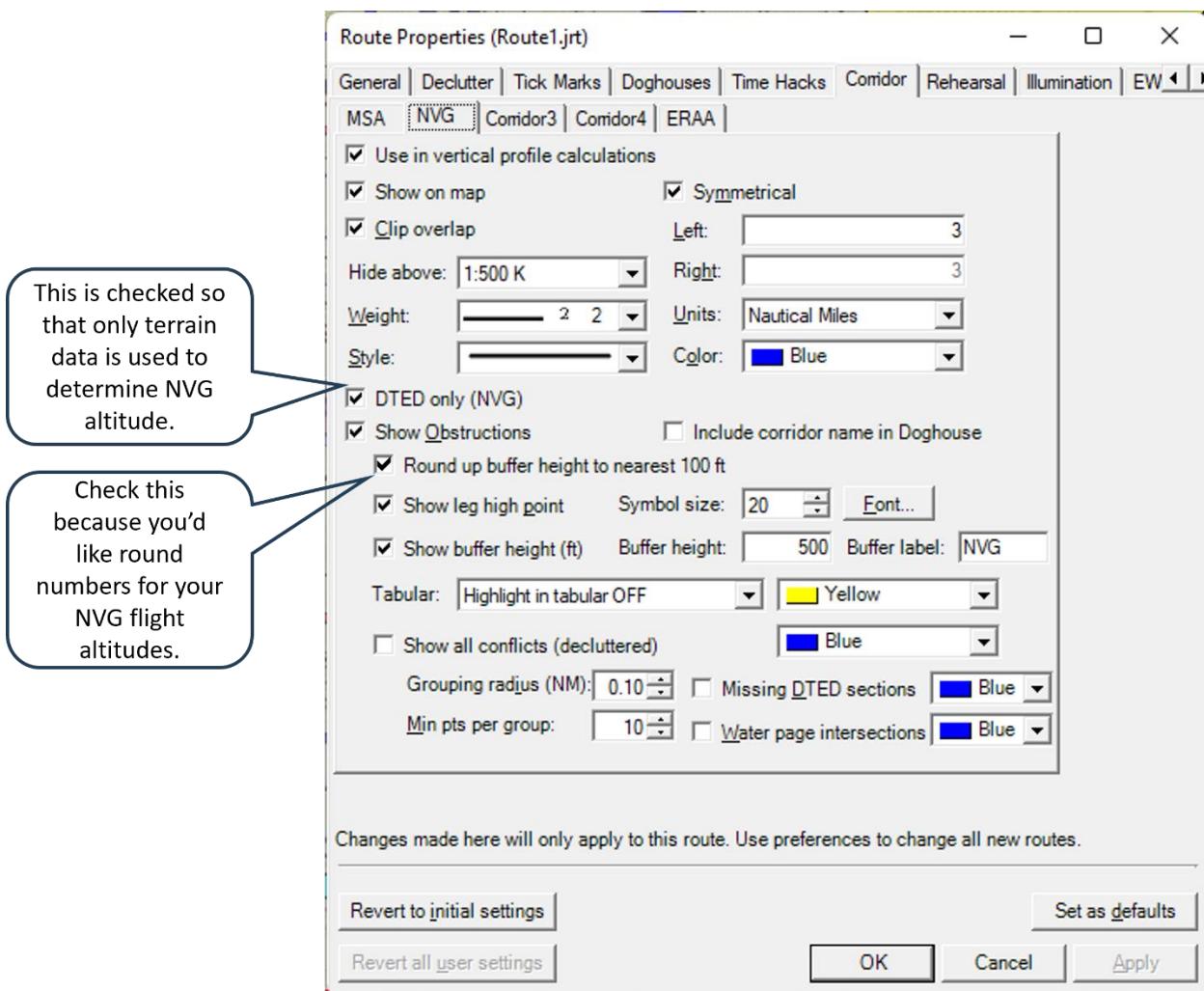


Use the MSA corridor for all visual low-level routes. This calculated clearance altitude is also valid as the minimum enroute altitude for IMC routes **if using a published MTR (unless AP/1B requires a higher altitude, of course).**

Additionally, it is the correct altitude for an unaided night low-level (not on NVGs).

If not on an MTR, the minimum IMC enroute altitude is 1000 feet (2000 mountainous terrain) within 5nm of centerline. Therefore, use this corridor with a 1000 foot buffer height to determine an IMC route minimum altitude.

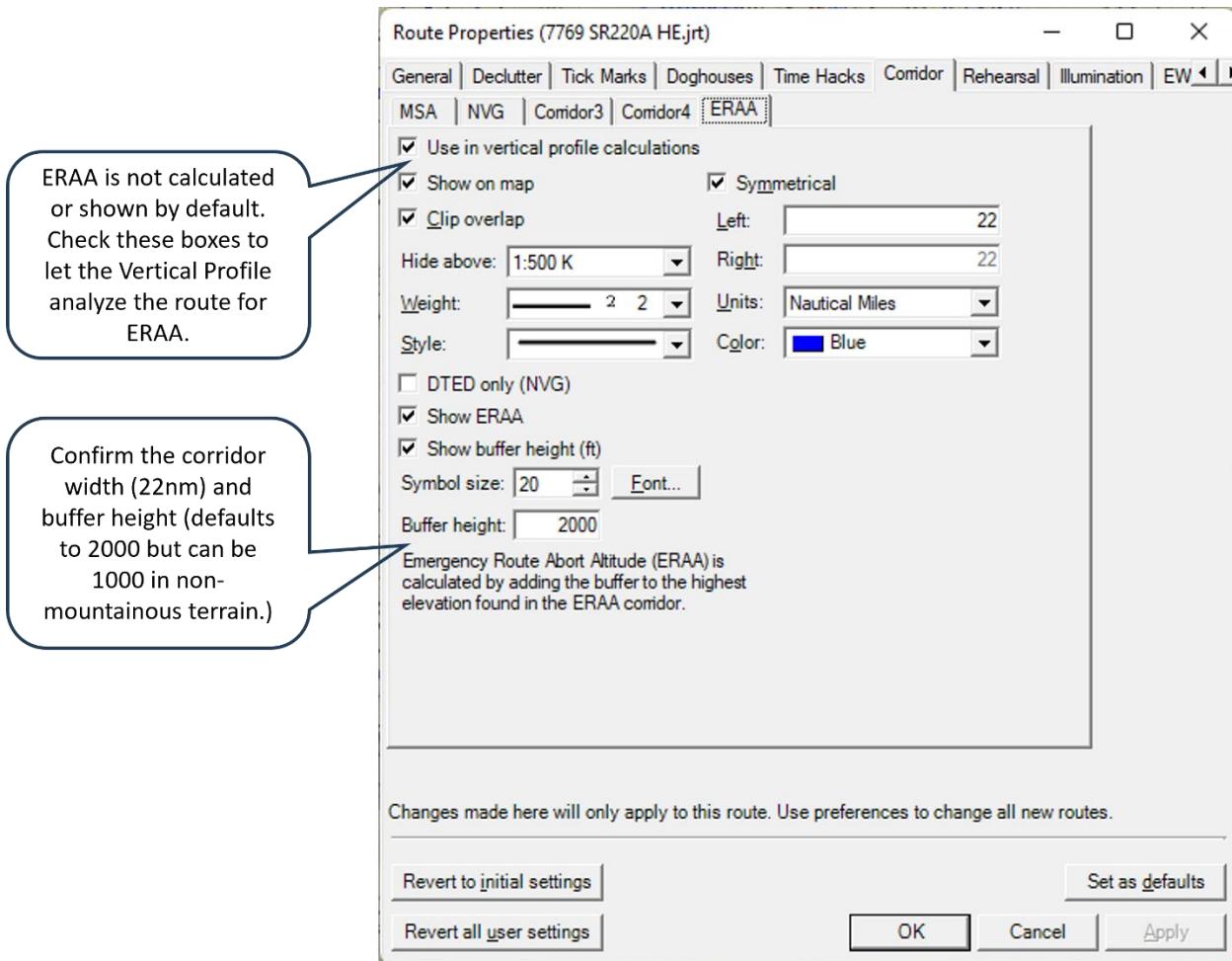
NVG Corridor Properties



Use the NVG corridor for night visual low-level operations conducted using vision enhancing devices (NVG/NVD). This corridor can be turned off for day operations to declutter the chart.

This corridor can also be used to determine the minimum IFR run-in altitude. To do so, uncheck the “DTED only” box and run the Vertical Profile.

ERAA Corridor Properties



Use the ERAA corridor to determine the minimum route abort altitude. This must use a minimum 22nm corridor.

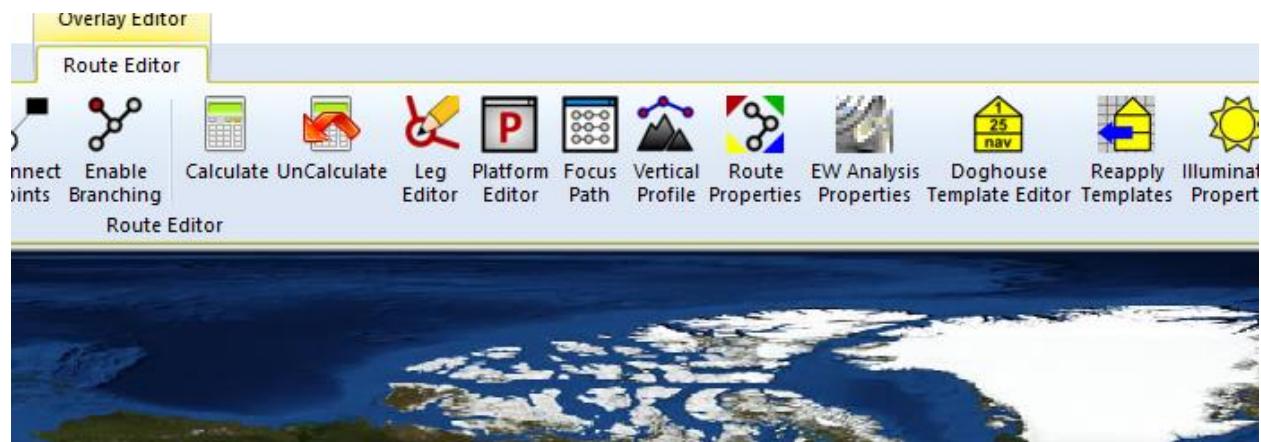
What do the Corridors Do?

JMPS uses your defined corridor width, buffer altitude, and terrain/obstacle requirements to analyze a Vertical Profile of your route legs. For each leg, JMPS will identify a “controlling” obstacle or terrain spot, will inform you if the height is based on DTED or Vertical Obstruction, and drop a calculated Minimum Safe Altitude (MSA) in the leg doghouse.

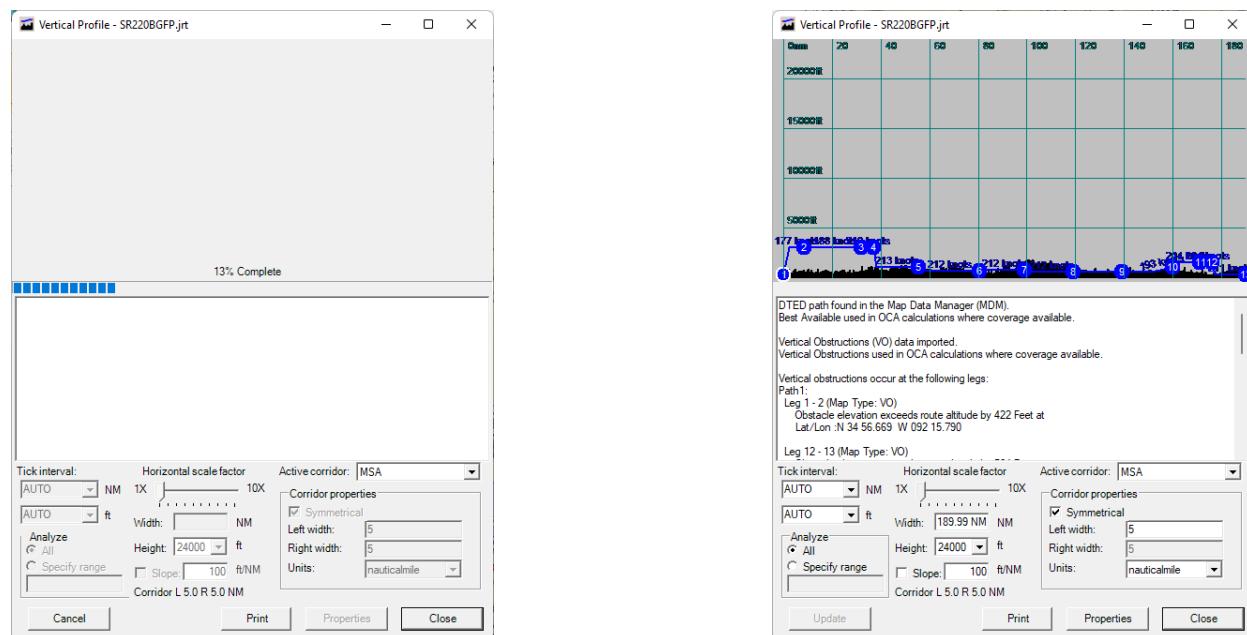
If you also have an NVG corridor selected, change your doghouse to “JMATS NVG” to provide an extra block for the NVG flight altitude for each leg.

Let's look at the Vertical Profile function.

Open the Route Editor to access Vertical Profile.



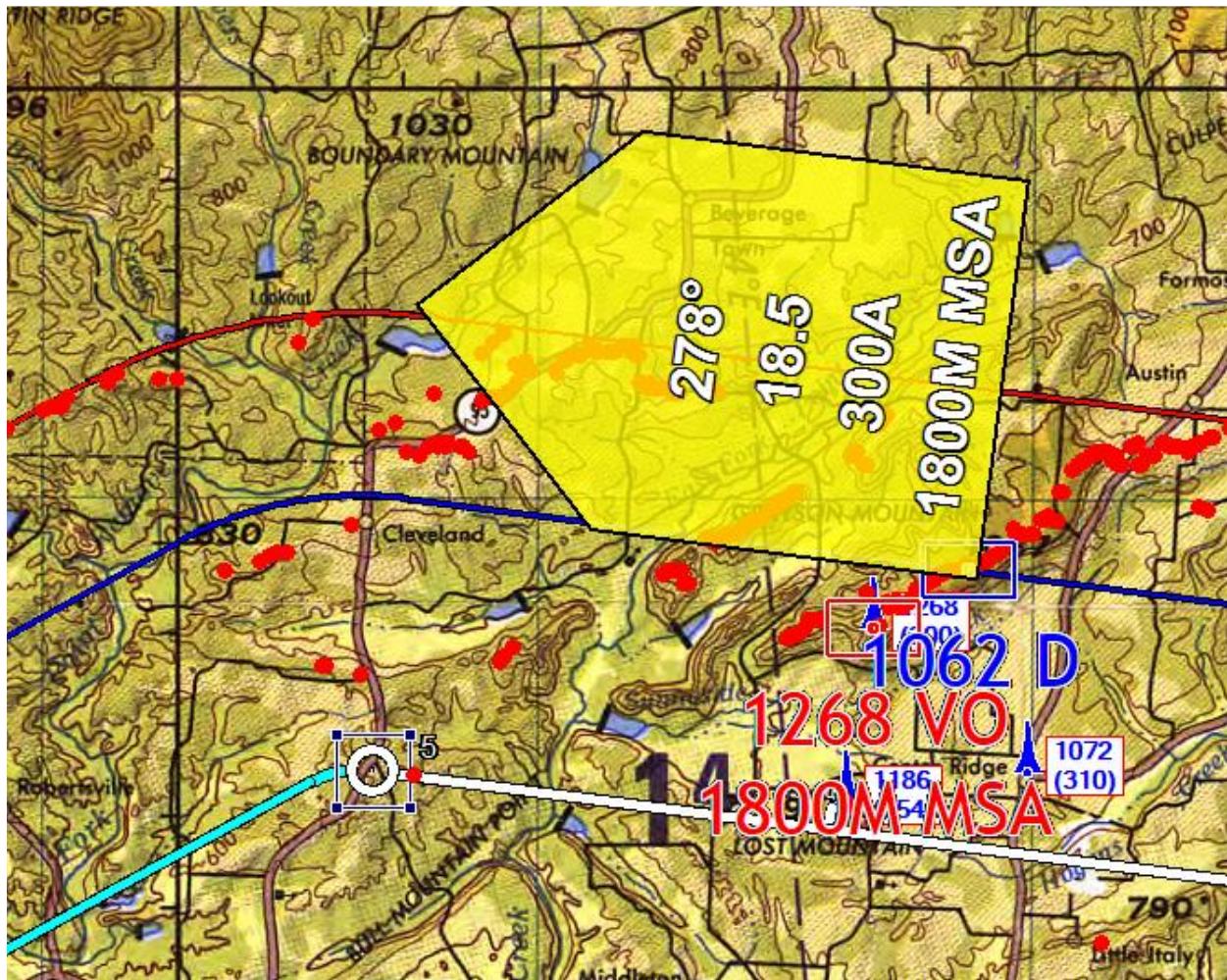
Pressing the Vertical Profile button begins the analysis.



When the analysis is complete, you can close the pop up. Your chart and doghouses are now updated with the results of the analysis. The high point on the leg was the 1268' towers and the resulting 1768 buffer altitude was rounded to 1800' MSL.

The high points for both MSA and NVG are annotated with a box and elevation, including the elevation source ("VO" for vertical obstructions, and "D" for DTED).

Notice also that this MSA corridor included the "show all conflicts" option, which littered the chart with a bunch of small circles. While this can be useful for terrain analysis, your chart readability suffers.



Graphics Properties

JMPS preference sets control how your objects are displayed:

- line thickness and color,
- line type (dashed, straight, etc.),
- vertical obstruction size and color,
- vertical obstruction labeling options (transparent or solid box)
- doghouse color and font
- Vertical Profile box size and font

Readability is somewhat subjective. Change display options as desired. You may need to change more than once depending on where you plan to use the product.

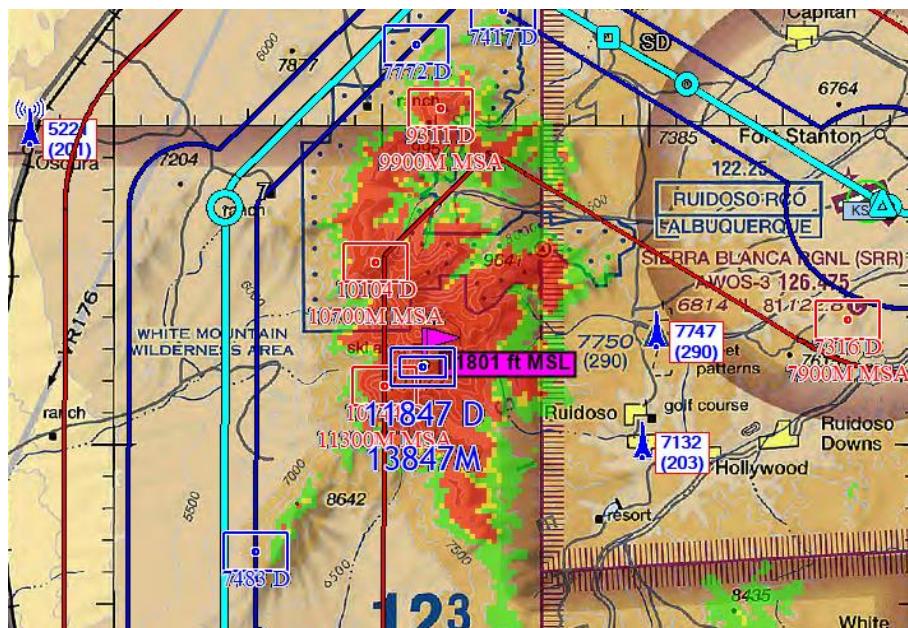
For example, a paper chart may “read” a lot differently with a particular font than a digital version. Also, some applications like GoodReader or ForeFlight may display the same chart differently.

Some chart options are kind of standard at JMATS and will benefit you and instructors if you leave them as is. These include:

- Corridor colors (red is for MSA and blue is for NVG corridors)
- Vertical obstruction colors (red is default, but blue seems to show up better on digital products)
- Doghouses are yellow and mostly opaque

Beyond that, the point is that if you have the required information on a produced chart, the format and style is up to you.

One quick way to “clean up” the visuals is by changing font types. The default Times New Roman is sometimes difficult to read, especially in areas where there are several groups of text. The example below shows the ERAA changed to Trebuchet MS font, which appears much cleaner.



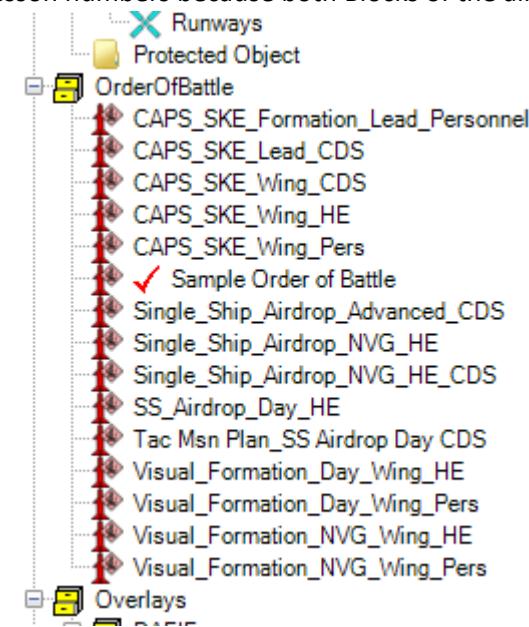
Using the Vertical Profile

Use Order of Battle Files

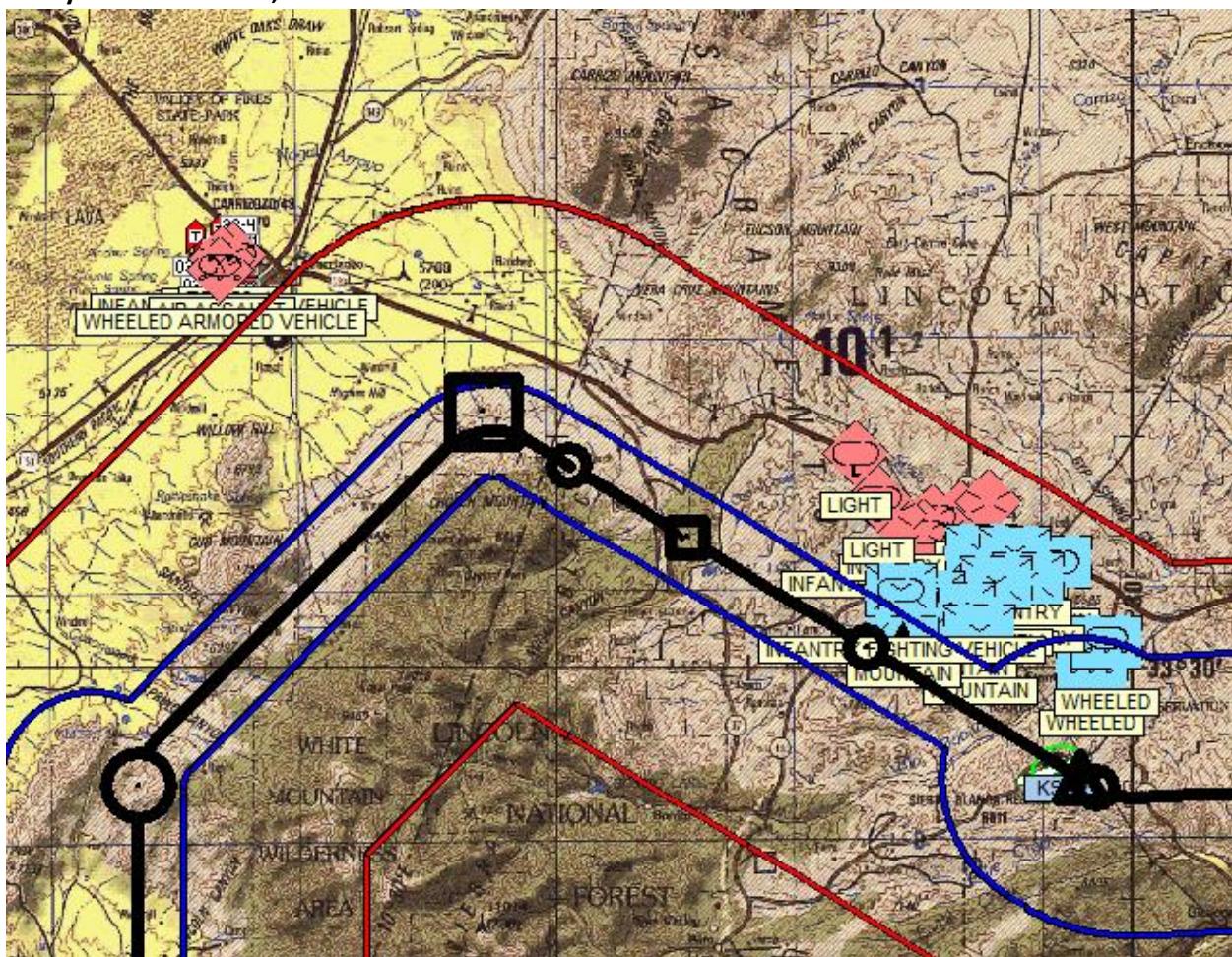
Open Order of Battle for Specific Lessons

When you look at the Explorer pane, you should see a “cabinet” containing a list of OB files by lesson name. (We decided not to use lesson numbers because both Blocks of the aircraft have different lesson

numbers for the same mission.)



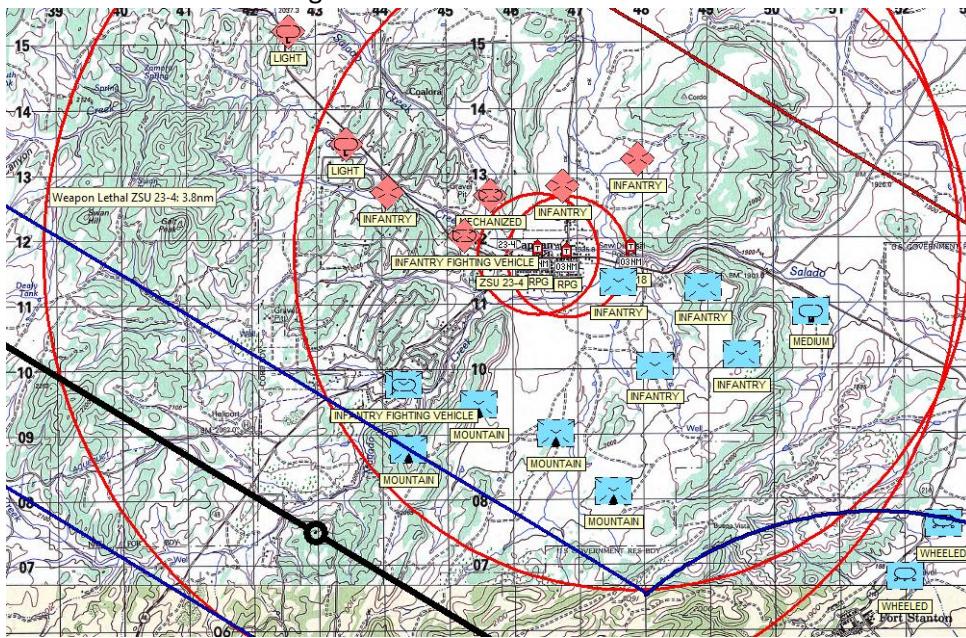
Find your mission title, and double-click the OB.



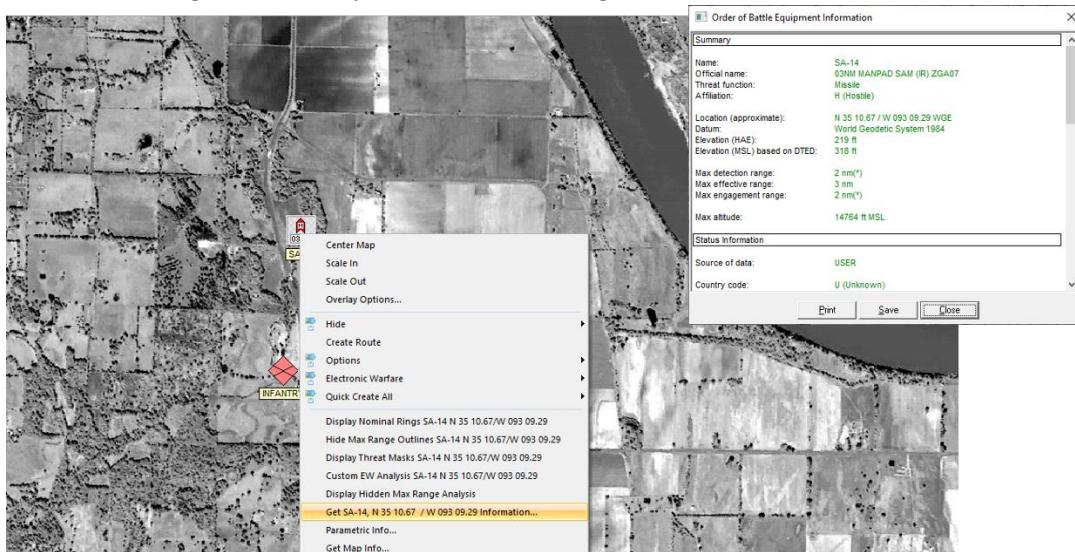
Icons represent blue force (good guys) and red force (bad guys) locations and type of system. Specific weapon platforms will have associated maximum engagement range.

Using Range Rings

To view the maximum range circles:



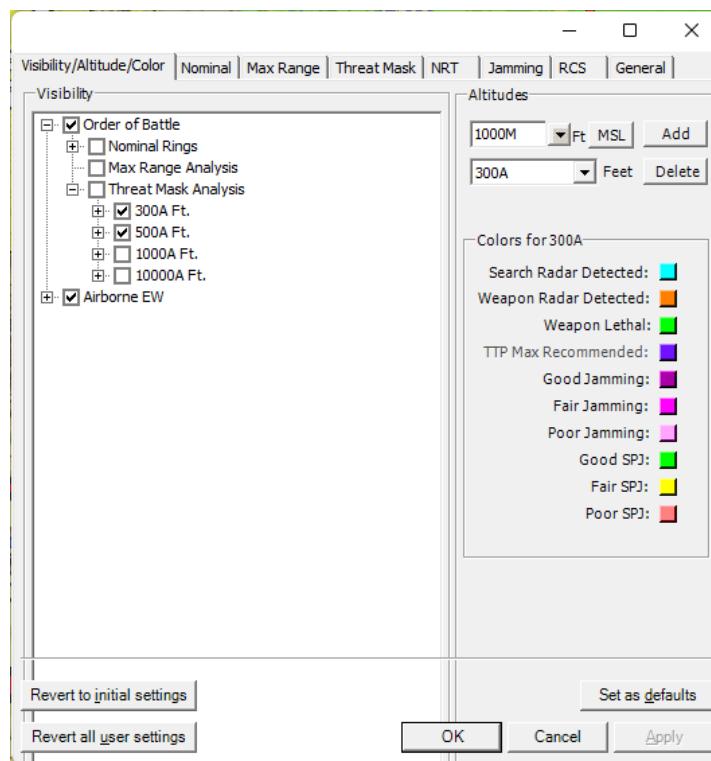
- Go to the JMATS Mission Data tab.
- In the Mission Scenario group, select “Weapon Lethal” icon with an open circle and view the (UNCLASSIFIED) threat rings.
- The size of the threat ring is based solely on the maximum effective range programmed into the Order of Battle by JMATS. It’s not altitude or terrain dependent.
- The maximum effective range comes from open-source publications and/or the Internet and is unclassified. Right-click the system to view its range information.



Using Threat Masks

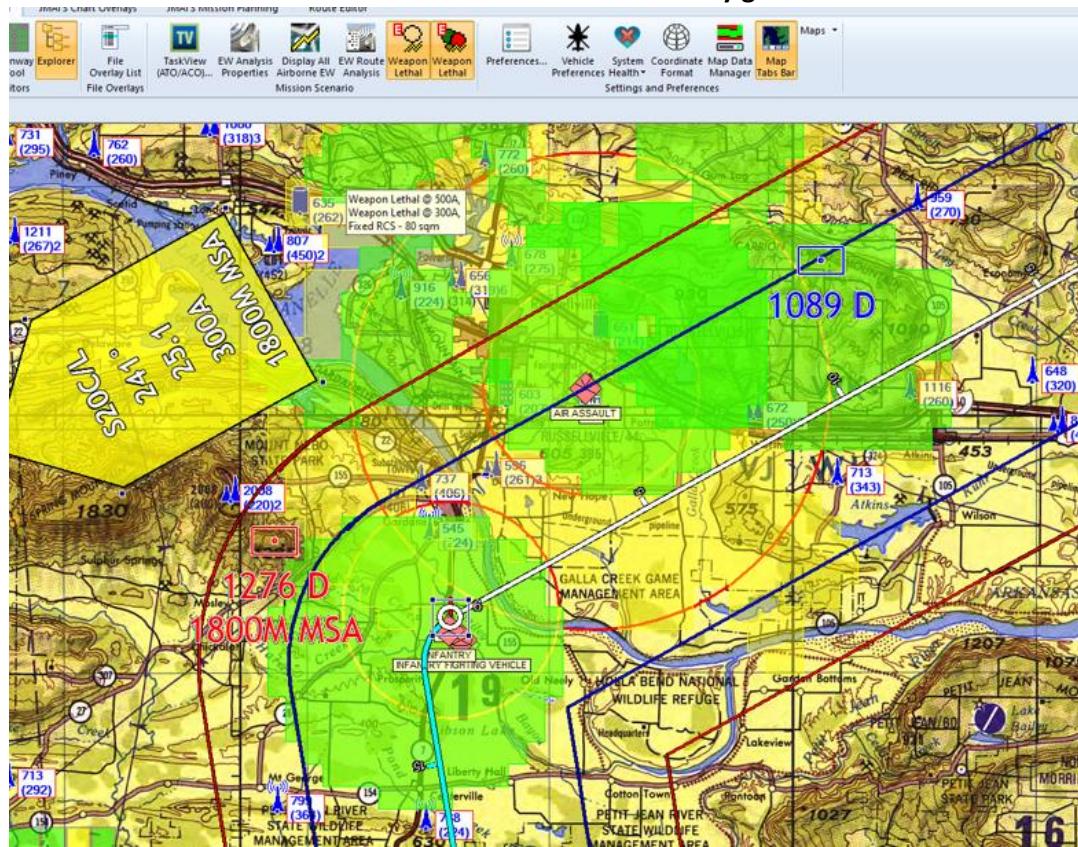
To view the maximum range “masked” by terrain:

- Select “Weapon Lethal” icon with shaded circles and view the (UNCLASSIFIED) threat masking. The mask will vary based on terrain and the assumed aircraft altitude transiting the area. The masks are color coded based on the selected AGL altitude of the transiting aircraft.
- By default, your JMPS preference set automatically loads the 300' and 500' AGL analysis. Selecting EW Analysis Properties lets you change these altitudes or add different ones. The pre-built choices are 300-, 500-, 1000-, and 10,000-foot increments. The selection window allows you to uncheck, check, or manually enter different increments.

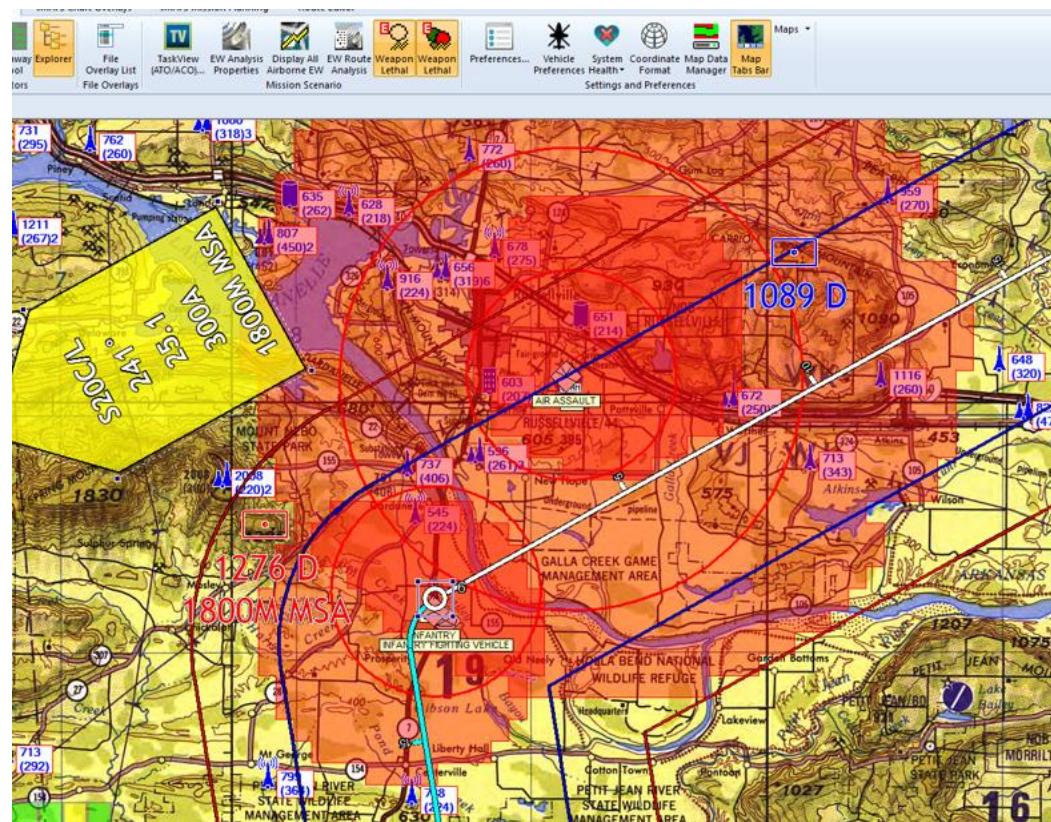


- The pre-built altitudes are color coded:
 - **300' AGL**
 - **500' AGL**
 - **1000' AGL**
 - **10000' AGL**

Default threat mask with 300' and 500' masks automatically generated.



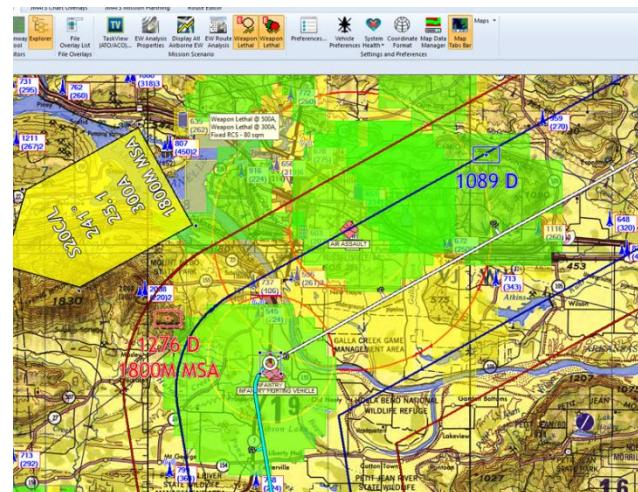
User has turned on the 1000' mask for an NVG flight. More opaque areas indicate multiple threats are displaying masks.



Modify Route with Divert Path Using Branching

Going back to the default mask analysis of this route, the planned leg and altitude is expected to encounter one or more threats. To mitigate this possibility, build a divert path from the original route.

The following series of images shows the workflow to generate a divert path...



Big Picture Analysis

This and following slides show the 300A mask in red.

The planner has selected only the 300A mask. The nominal rings and threat masks now display the impact at 300' AGL.

The current threat picture will require a divert around the affected legs and turn point...

The map shows a terrain-based route with several red arcs indicating threat masking. A yellow callout highlights a specific segment labeled "300A 24.1 25.1".

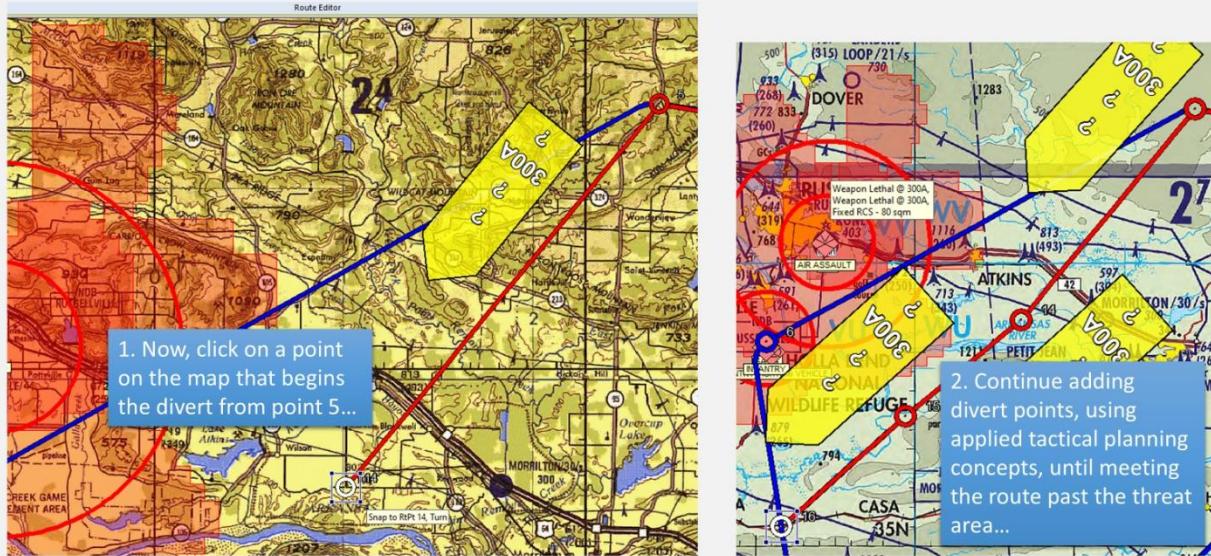
Create a branched segment away from threat

1. In Route Editor, select Turn Point, then select desired turn point (in this example, point 5)...

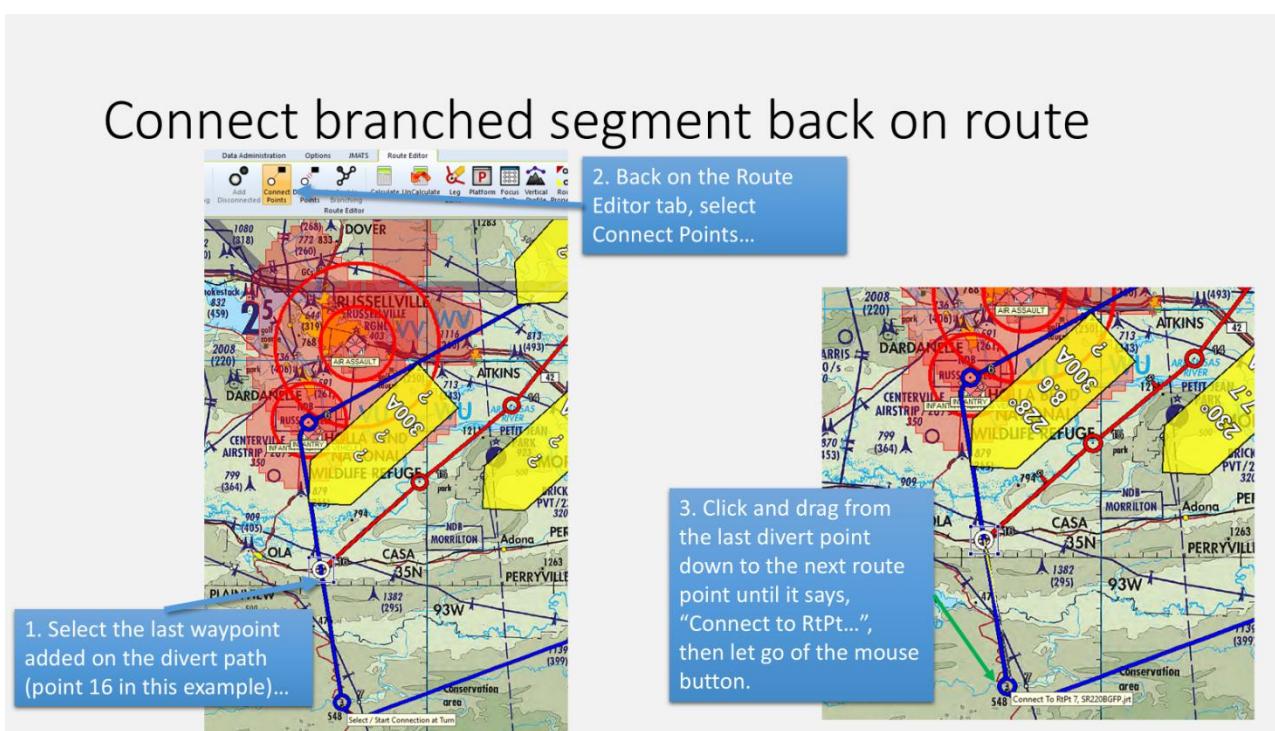
2. Select Enable Branching, and verify that Insert End is highlighted...

The Route Editor toolbar is visible at the top, with the "Enable Branching" button highlighted. The map shows a branched route with a red arc and a yellow callout labeled "300A 24.1 25.1".

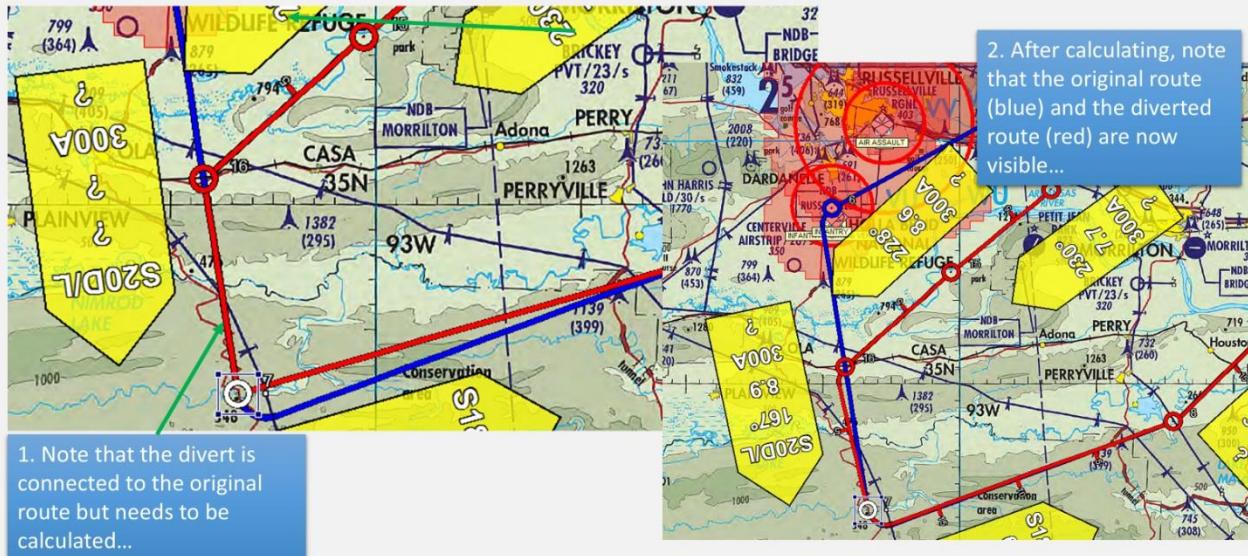
Create a branched segment away from threat



Connect branched segment back on route



Connect branched segment back on route



Connect branched segment back on route

1. Finally, name the divert points in the tabular window.

| Spec | Turn | Type | Fix/Point | Latitude | Elev | Aspid | Altitude | Temp | MH | TH | Leg Tim |
|------|---------------------|-----------------|-------------------|-----------|------|-------|----------|------|-----|-----|---------|
| Com | DTD | Desc | | Longitude | MV | Bank | Wind | FF | MC | TC | Clock 1 |
| 1 | ST | KLRF/A | N 34 55.05 | 312 FT | | | 312M | +16C | | | 09 |
| | ST | LITTLE ROCK AFB | W 092 08.70 | 0.2W | | | | | 071 | 071 | 09 |
| | stto | | N 34 55.05 | 312 FT | N/A | | 362M | +16C | 071 | 071 | 09 |
| | W | | W 092 08.70 | 0.4W | | | | | | | |
| | LO | Level off | N 34 54.23 | 256 FT | N/A | | 3000M | +9C | 251 | 251 | 00+C |
| | | | W 092 11.54 | 0.4W | | | | 8973 | 251 | 251 | 09 |
| 2 | JWOOD/L | | N 34 52.21 | 377 FT | 180C | | 3000M | +9C | 251 | 251 | 00+C |
| | LRF SID POINT RD... | | W 092 18.54 | 0.2W | 30 | | | 3894 | 251 | 251 | 10 |
| 3 | BEGEE/W | | N 35 14.84 | 367 FT | 180C | | 3000M | +9C | 004 | 004 | 10 |
| | BEGEE | | W 092 18.23 | 0.1W | 30 | | | 5890 | 004 | 004 | |
| 4 | BENIT/W | | N 35 19.55 | 676 FT | 210C | | 3000M | +9C | 339 | 339 | 00+C |
| | BENIT | | W 092 20.33 | 0.1W | 30 | | | 4416 | 339 | 339 | 10 |
| 5 | \$20B/L | | N 35 22.50 | 738 FT | 210C | | 300A | +13C | 278 | 278 | 00+C |
| | RD Y (LRF 315/39) | | W 092 42.40 | 0.0E | 30 | | | 4532 | 278 | 278 | 10 |
| 14 | | | N 35 11.64 | 302 FT | 210C | | 300A | +14C | 217 | 217 | 00+C |
| | | | W 092 53.33 | 0.1E | 30 | | | 4553 | 217 | 217 | 10 |
| 15 | | | N 35 06.69 | 325 FT | 210C | | 300A | +14C | 230 | 231 | 00+C |
| | | | W 093 00.58 | 0.1E | 30 | | | 4551 | 230 | 231 | 10 |
| 16 | | | N 35 00.98 | 349 FT | 210C | | 300A | +14C | 228 | 228 | 00+C |
| | | | W 093 08.35 | 0.2E | 30 | | | 4549 | 228 | 228 | 10 |
| 7 | \$20D/L | | N 34 52.40 | 476 FT | 210C | | 300A | +13C | 167 | 167 | 00+C |
| | RD BR (LRF 266/47) | | W 093 06.70 | 0.3E | 30 | | | 4541 | 167 | 167 | 10 |
| 8 | \$18H/L | | N 34 57.70 | 308 FT | 210C | | 300A | +14C | 070 | 070 | 00+C |
| | PR 11NF/RD INT II | | W 092 44.4n | n 1F | 30 | | | 4548 | 071 | 071 | 11 |

2. NOTE: the divert path is a planning tool. Coordinate with your instructor to either use this path from the start, or to bring the divert plan to the WST and stand by for update from C2.

Coordinate Divert or Plan for In-Mission Update

Create A Tactical Chart

Generate A PDF Chart

OPTION 1: Use Page Layout Tool

Pros

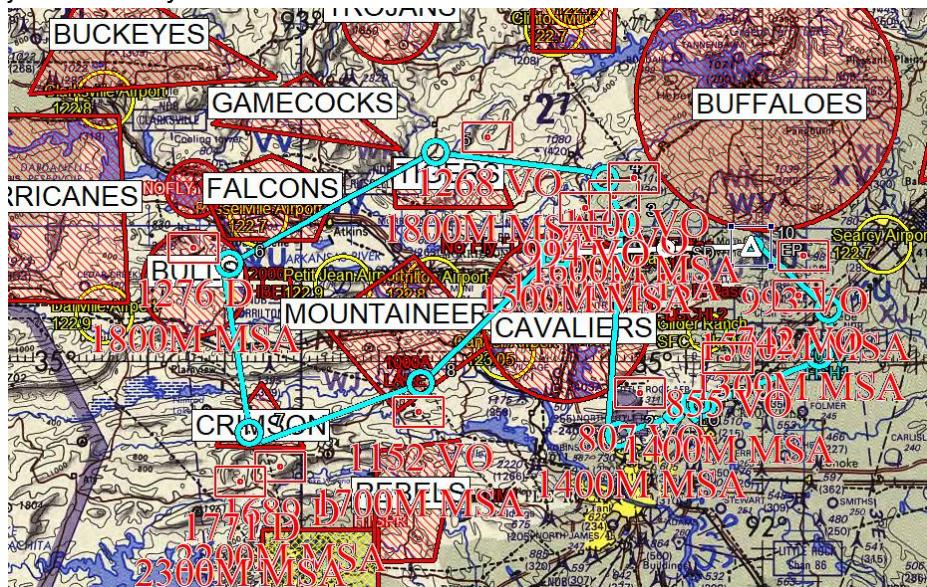
- Generates a PDF chart without size limitations.
- PDF charts are much clearer; no jaggies.
- PDF can be “written” on in GoodReader.
- Supports required Vol 3 annotations of chart series, date, VO currency, etc.

Cons

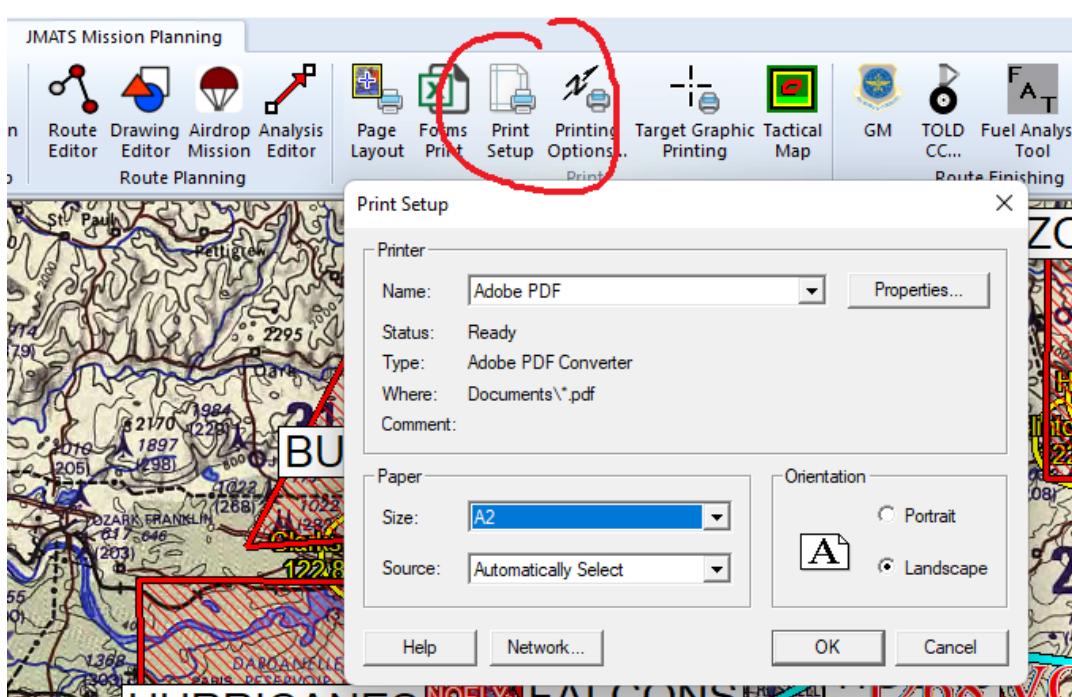
- Not georectified.
- Won’t overlay correctly in ForeFlight; it will import as a “Document,” which is okay if you don’t need to use it as a moving map.
- Requires more clicking in JMAPS to set the size, orientation, and other options before generating.

Create the PDF

- 1. Ensure the route is complete, calculated, and required/desired overlays are enabled.**
- 2. Select a chart scale that allows you to see the whole route or zoom out on the current scale.** In this example, I used ONC scale with VO and doghouses not shown above 1:500K just for clarity.



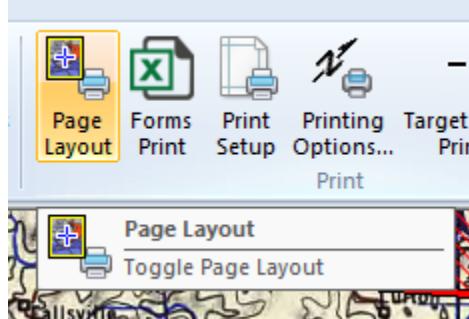
- 3. Select Print Setup and make it like this (see size list below for some recommendations):**



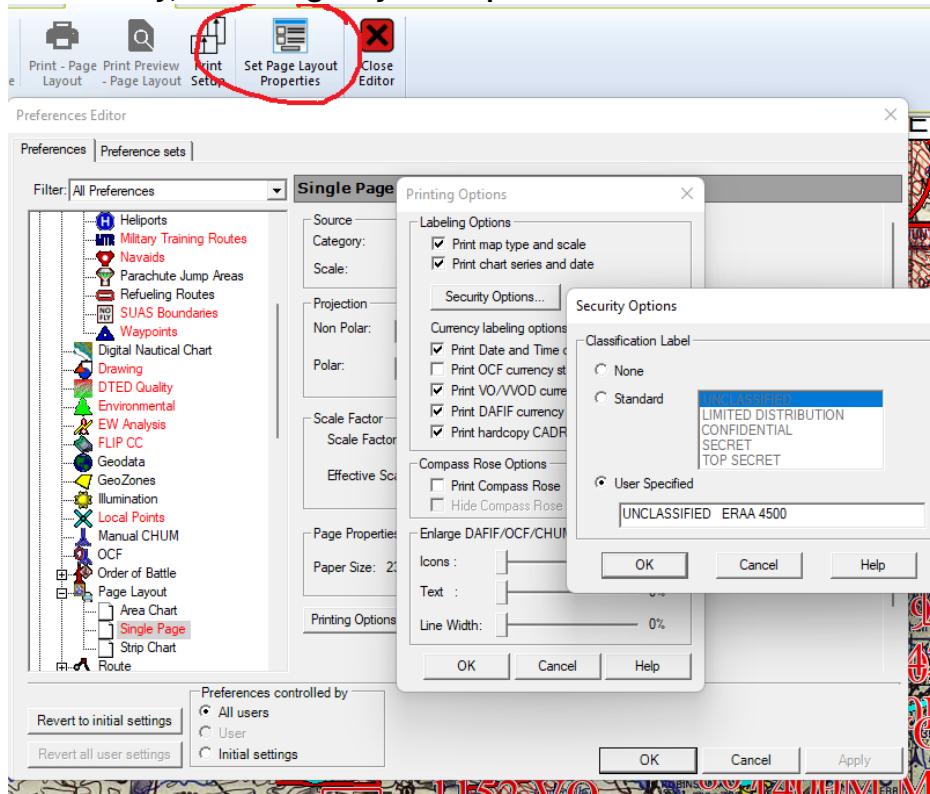
Select Paper Size as A0, A1, A2, or as desired. The size chart below assumes landscape.

- A0 = 46.81" x 33.11"
- A1 = 33.11" x 23.39"
- A2 = 23.39" x 16.54" (fits SR220A/B with ~10nm space from centerline)

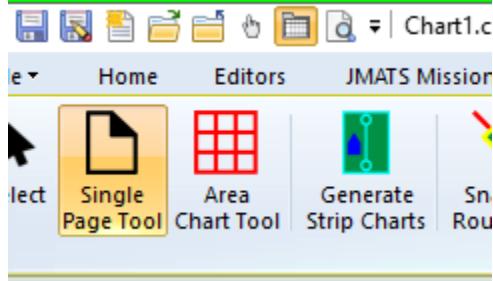
4. Select Page Layout.



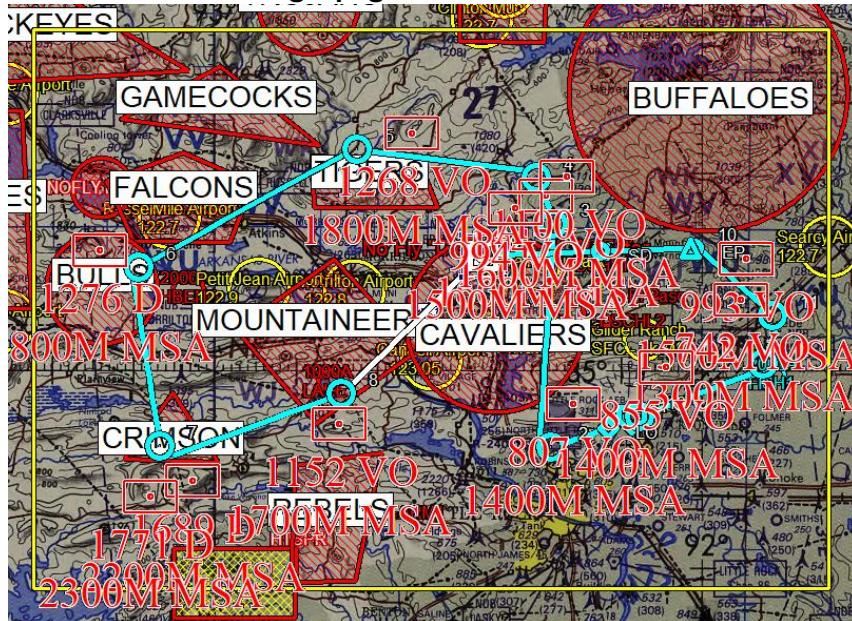
5. If necessary, select Page Layout Properties and edit.



6. Select Single Page Tool.



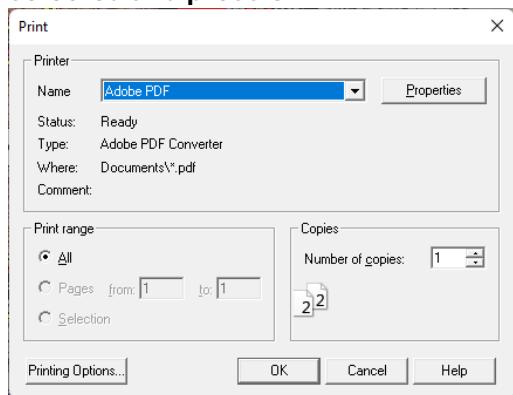
7. Click to insert the single page in a central area of the route.



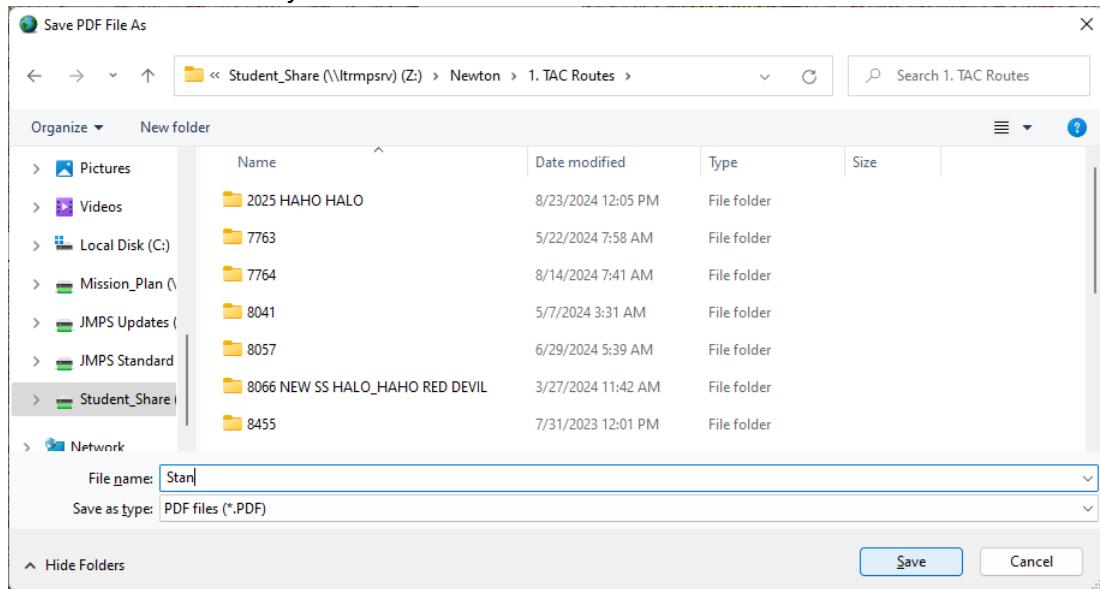
8. Adjust the location of the single page if necessary to ensure required 10nm coverage from centerline.



9. Select Print Preview to ensure it looks right, then press Print. Ensure Adobe PDF is still selected and press OK.



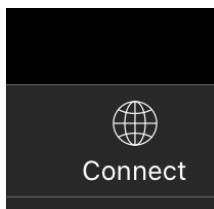
- 10. Name the chart and save it to the desired location, something you can find later in GoodReader. I use my Student Share folder.**



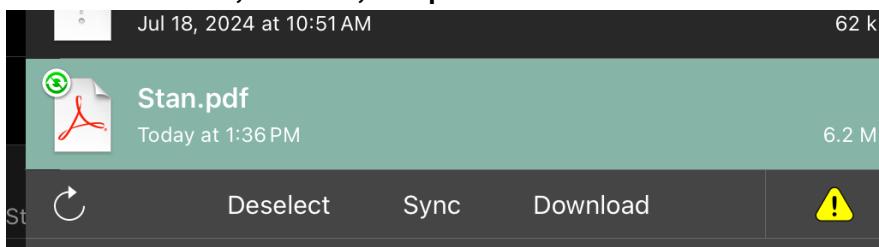
Send to ForeFlight

Now that you have a chart saved, switch to the EFB and GoodReader.

- 1. Press the Connect globe in the main menu and open either Student Share or Instructor Share location that you saved your chart to.**

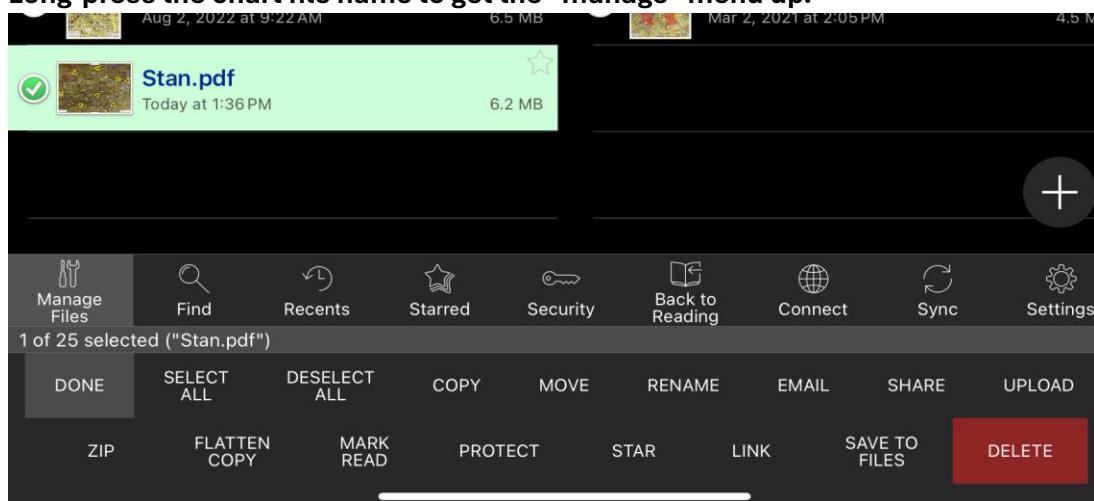


- 2. Browse to the file, select it, and press Download.**

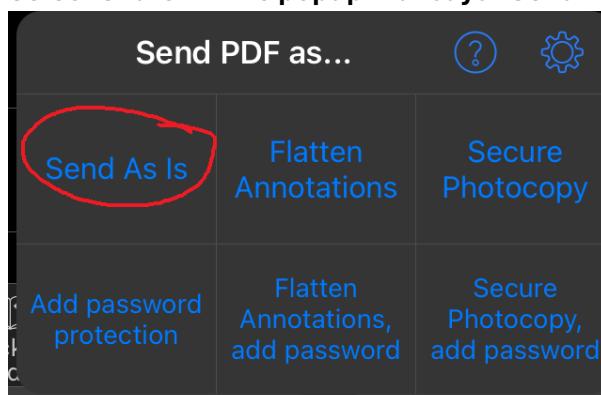


- 3. Select a location in GoodReader (Downloads, Home, etc.) and press Download Here.**
- 4. Go to that location in GoodReader.**

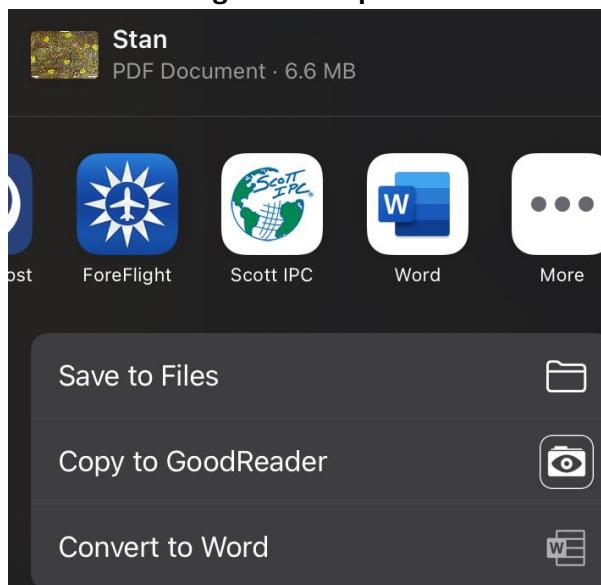
5. Long-press the chart file name to get the “manage” menu up.



6. Select Share. In the popup that says “Send PDF as...” select “Send As Is.”

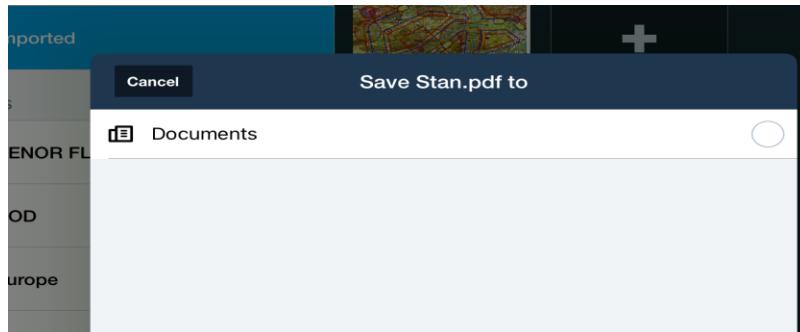


7. Find the ForeFlight icon or press the 3 dots to add it to the share list.

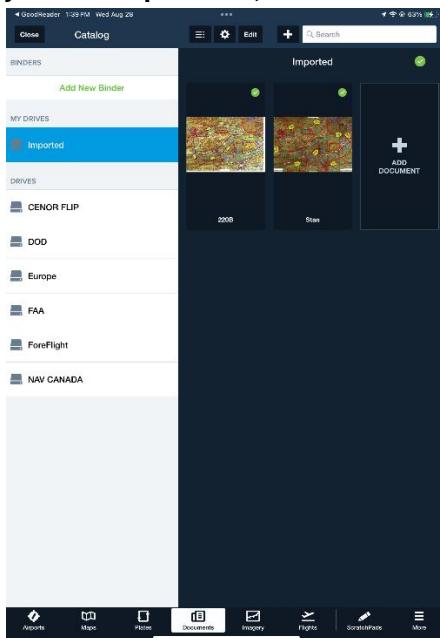


8. Select the ForeFlight icon and it will switch to ForeFlight.

9. Your option is “Documents,” so select the radio button next to that and it will immediately import your chart.



Tap the Documents tab in ForeFlight to see the list of imported PDFs. Realize that these are just static pictures, not on the maps.



Generate A Target Graphic Printing Chart

Pros

- Generates a PDF chart without size limitations.
- PDF charts are much clearer; no jaggies.
- PDF can be “written” on in GoodReader.
- Supports required Vol 3 annotations of chart series, date, VO currency, etc.

Cons

- Not georectified.
- Won’t overlay correctly in ForeFlight; it will import as a “Document,” which is okay if you don’t need to use it as a moving map.
- Requires more clicking in JMAPS to set the size, orientation, and other options before generating.

Generate MB Tiles for ForeFlight™

Use SkyView and Route Rehearsal

[Activate SkyView](#)

[Basic Maneuvers](#)

[Route Fly-Through](#)

[Integrate Terrain Avoidance Mask in Fly-Through](#)

Create A Mission Data Card

[Mission Specific Mission Card](#)

[Master Mission Card](#)

[Block 6.0](#)

[Block 8.1.x](#)

Custom Point Renaming in GM

Conflicts With DAFIF Navigation Data

Duplicates aren't allowed when using Global Mobility (GM) to build custom points for a mission card. Unfortunately, the GM will recognize that a local point has the same name as a nav database point, and will silently change the local point name by appending an 'X' to the end of the name according to the following logic:

- Duplicate rules apply for waypoints, navaids, airfields, and airways.
- If the local point name is 5 characters, then the last character is dropped and replaced with an 'X.' Example—‘BRAKE’ becomes ‘BRAKX’.
- If the local point name is 4 characters, then an ‘X’ is appended to the end of the name to expand it to 5 characters. Example—‘OAI’ becomes ‘OAIXX’.
- If the local point name is 3 or fewer characters, a single ‘X’ is appended to the end of the name. Example—the cursor target point ‘B5’ is recognized as an airway and becomes ‘B5X’.

Dealing With Custom Point Renaming

Good naming practices can prevent most issues with name duplication and subsequent renaming. However, worldwide DAFIF or aircraft nav databases are continually evolving, so even the best efforts at unique point names may end up as duplicates. Use the following general techniques for naming:

- End a name with a number. NOTE: airways often end with a number, so consider adding multiple numbers or letters to prevent this while still maintaining close to the desired name. From the example above, ‘B5’ was discovered to be an airway in Norway, so the original local point name was changed to ‘B5B5’ to avoid the conflict. Note that even this name may not be unique forever.
- Replace certain letters with a number that closely resembles that letter. (SABER -> SAB3R)

- Avoid 2 letters followed by 3 numbers, such as 'DF911.' These are often named points in terminal procedures.
-

Using 5 characters for local point names mixing alpha and numeric is the simplest method of ensuring duplicates aren't renamed.

What if I load my custom points and a named point is not recognized by the airplane? If you're certain your point was on a mission card, then it's likely been renamed by GM due to DAFIF conflicts. Entering the name again with an 'X' at the end will likely work: if you type 'HOLLA' and the waypoint is not found, then try 'HOLLX' because a 5-character name will always replace the last character with the 'X'.

Other Editors and Common Components

Analysis Editor

Fuel Analysis Tool

TOLD CC

FLIP CC

Drawing Editor

Creating Draw Files

How to draw a circle

How to draw a rectangle

How to copy and paste them

Loading Pre-Made Draw Files

File open or open button

Double click in the explorer pane

DD1801 Flight Plan Tool

FAQ

Should I save my route chart as an image or pdf file?

- PDF Advantages:
 - for GoodReader use, a pdf is much clearer when you zoom in closely.

- **Also, you can use an Apple Pencil™ to write or draw on the pdf chart which is not supported for image files in GoodReader.**
- PDF allows you (in Set Page Layout Properties) to select 202V3 and C-130J Vol 3 required annotations such as chart series, date, VO currency, etc.
- PDF Disadvantages:
 - A disadvantage of pdf is the potential limit on “paper” size: when creating a chart using the Page Layout Tool in JMPS, the Microsoft Print to PDF “printer” will limit paper size to a maximum of Ledger/A3, which is 11x17”. This paper size requires you to shrink the effective scale of the output. This is fine, except now your overlays such as doghouses, VO, etc. will be at a reduced scale as well.

PRO TIP: starting in JMPS 240, select Page Layout in the JMATS Mission Planning ribbon. In print setup options, the Adobe PDF printer is available for a multitude of print sizes.

- **Must use Adobe PDF as the printer.** This will provide expanded list of paper size options. **Microsoft Print to PDF is limited by paper size options, so don't select it for output.**
- In Print Setup, make sure Adobe PDF is the printer, then select Portrait or Landscape as desired.
- Select Paper Size as A0, A1, A2, or as desired. Size chart below assumes landscape.
 - A0 = 46.81" x 33.11"
 - A1 = 33.11" x 23.39"
 - A2 = 23.39" x 16.54" (fits SR220A/B with ~10nm space from centerline)
- **You must use Adobe PDF as the selected Windows printer to access the larger size “paper” choices for your chart output.**
- Image Advantages:
 - an image file can be created (at 100% scale) for any coverage area by using the [Target Graphic Printing] editor in JMPS.
 - Can create a GeoTIFF image that will open in ForeFlight at the correct location.
- Image disadvantages:
 - Does not overlay Vol 3 required details such as chart series and date.
 - Cannot use a stylus to annotate on the chart in GoodReader.

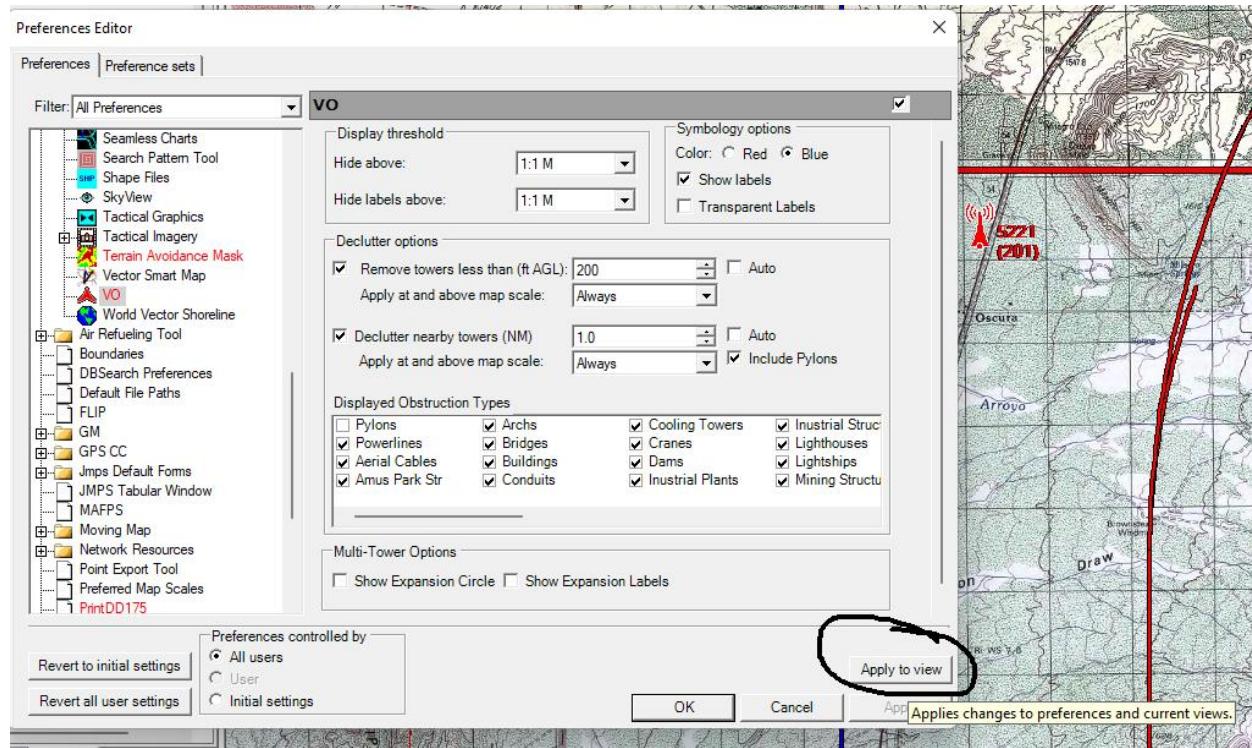
How do I access my student share folder in GoodReader?

How should I view products in GoodReader while flying a mission?

I changed my vertical obstruction preferences to show blue towers instead of red, but they're still blue! What's wrong???

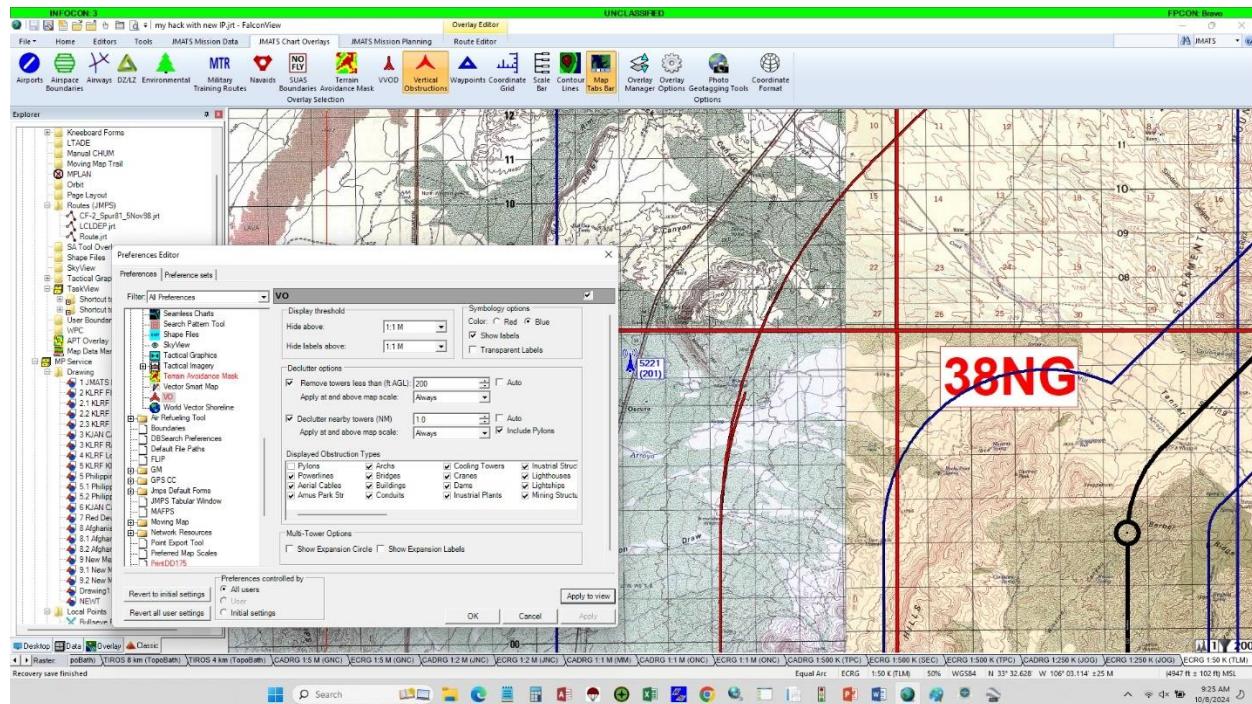
In the overlay options dialog, selecting Apply doesn't always change your current workspace. In the screenshot below, VO is selected as Blue, and transparent labels are turned off, yet the chart still shows red and transparent.

Before...



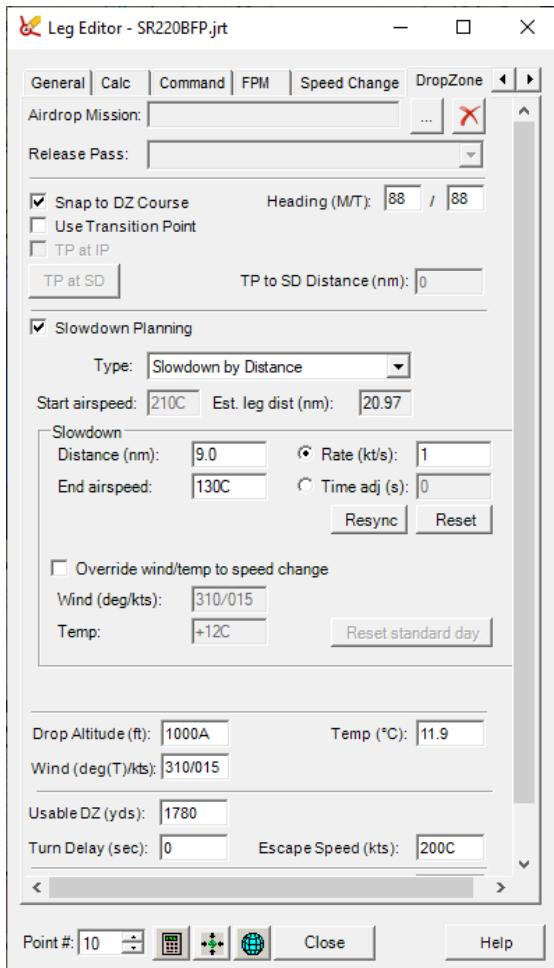
Press the “Apply to view” button. This will update your current session. Notice the tower is now blue with a box around the elevation.

After...

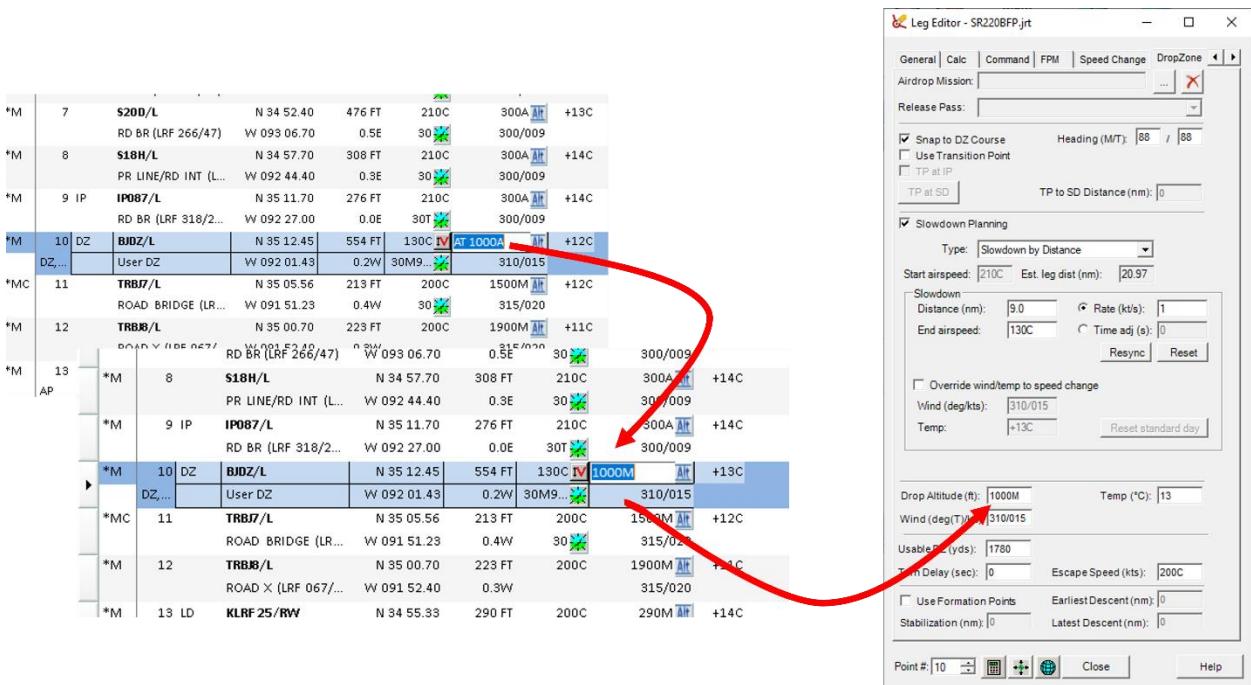


My drop altitude is stuck on AGL! Every time I type “1000M” it changes it to “1000A”. How do I get it back to MSL???

In the picture below, your drop altitude will change back to “A” no matter what you tell it.



Look closely at the drop zone point in the tabular window. It says “AT xxxxA,” which means it’s stuck on AGL. Simply type “xxxxM” in the point’s altitude block, then open the Drop Zone tab in the Leg Editor again. You will see it changed back to MSL.



JMPS Bugs and Known Issues

Things to Look Out For

Fixes and Workarounds

280 toolkit