

New Airspace Warning: The Red Sea

Chris Shieff

8 November, 2023



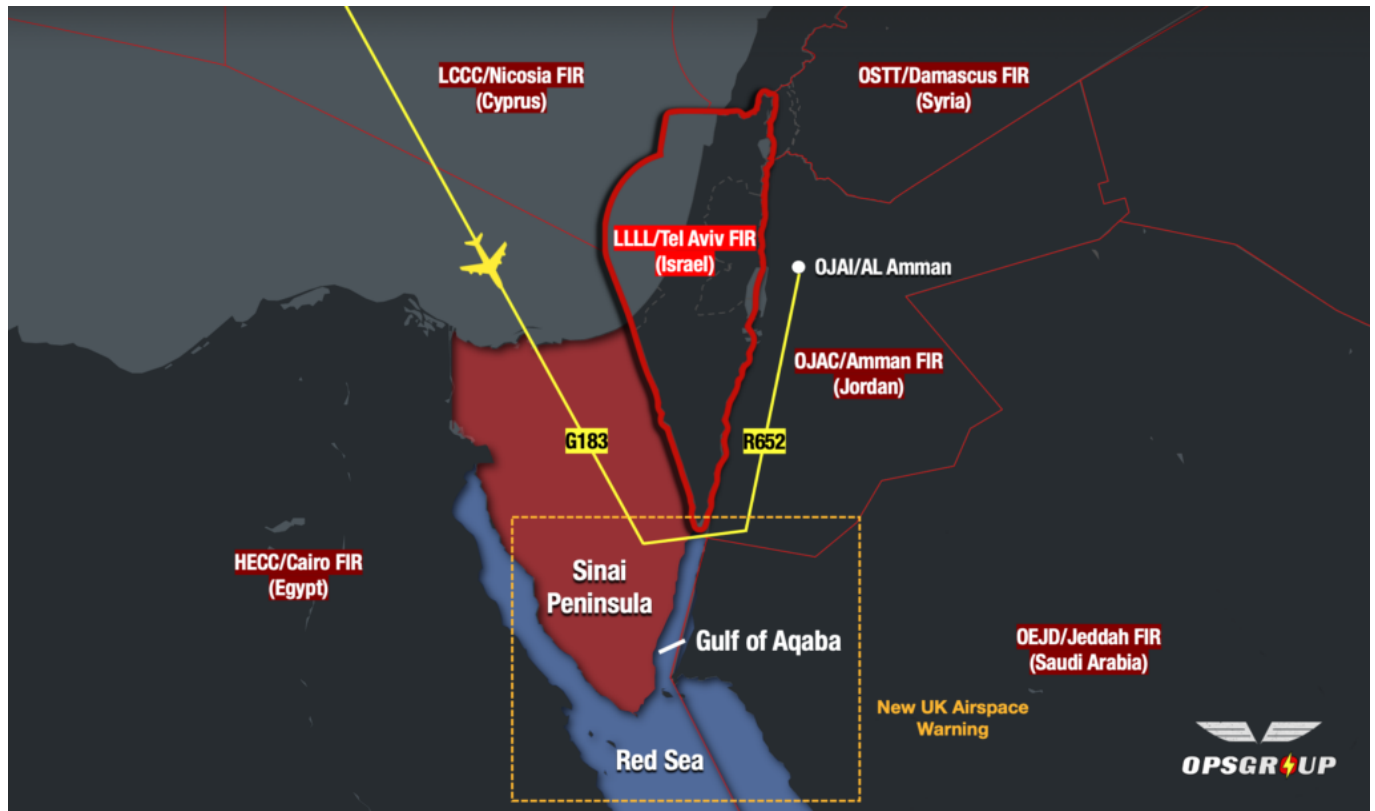
With the Israel-Gaza conflict ongoing, a lot of traffic is re-routing well clear of the LLLL/Tel Aviv FIR via parts of the **Sinai Peninsula**, the **Red Sea** and into Saudi Arabia via the **Gulf of Aqaba**. Especially those flights bound for Amman, Jordan.

The problem is that spill-over risks from the conflict are now extending beyond the boundaries of Israeli airspace and into this **busy corridor**. We've reported a number of these instances in the past few weeks.

On Nov 1, the UK CAA published a new airspace warning via Notam:

AIRSPACE SECURITY WARNING ISSUED BY THE UK DEPARTMENT FOR TRANSPORT. CIVIL AIR OPERATORS ARE ADVISED TO TAKE POTENTIAL RISK INTO ACCOUNT WHEN OPERATING OVER THE WATERS OF THE RED SEA AND THE GULF OF AQABA DUE TO POTENTIAL RISK FROM HEIGHTENED MILITARY ACTIVITY. FOR MORE INFO UK DEPARTMENT FOR TRANSPORT 0207 082 6639 OR 0207 944 3111 OUT OF HOURS. AR 2023-38309/AU4. SFC - UNL, 01 NOV 15:00 2023 UNTIL 30 JAN 23:59 2024 ESTIMATED

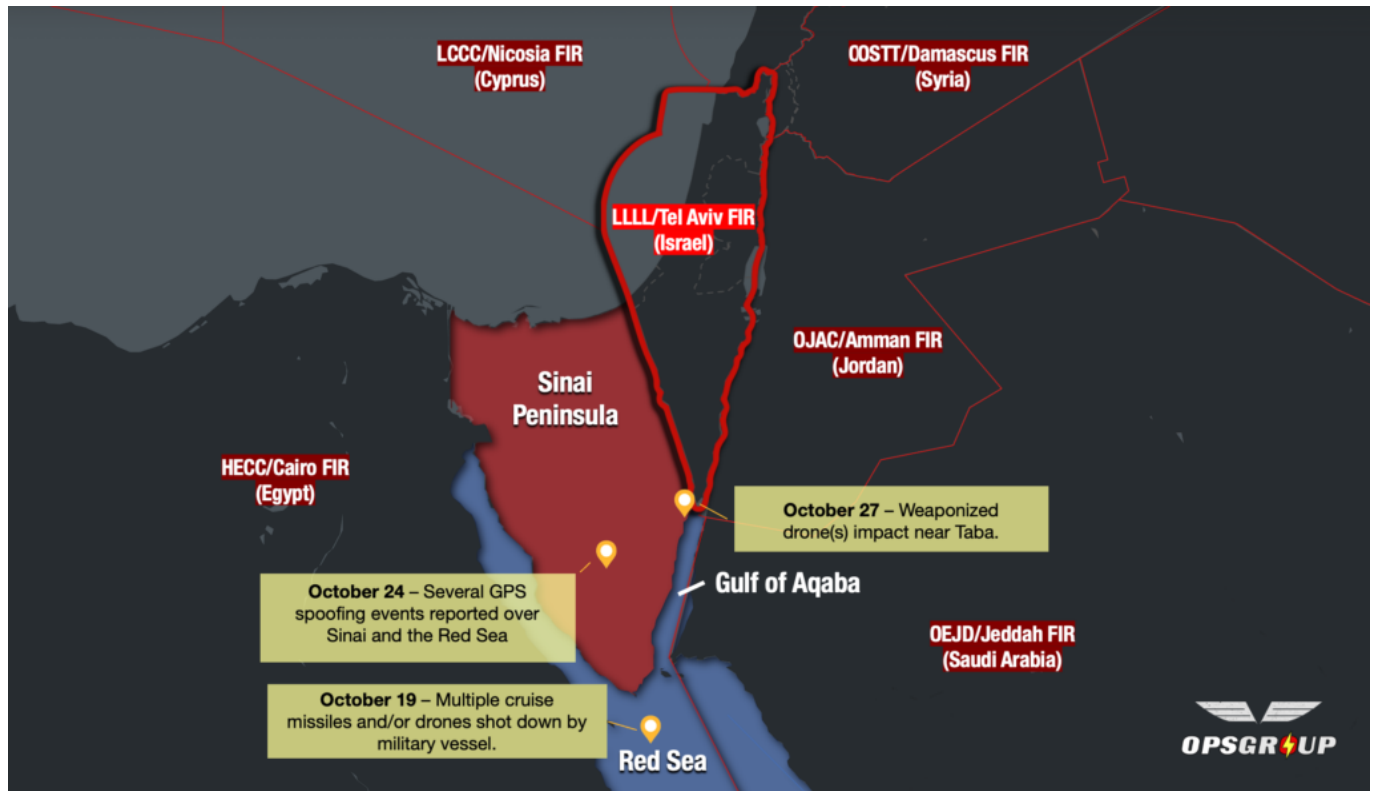
Airspace warnings aren't new for the Sinai Peninsula – but are for the Red Sea and Gulf of Aqaba. So, what has made the UK issue this one now?



The UK's new airspace warning lies within or close to busy routes being flown by major carriers.

Recent Events

- **Oct 27** - a weaponised drone struck a town near Egypt's border with Israel near Taba. This was likely launched by Yemen's Houthi group from Yemen, or the Red Sea itself.
- **Oct 24** - Several OPSGROUP members reported GPS spoofing events resulting in the aircraft showing its position over Tel Aviv, Israel. Several hotspots were identified, including over the Sinai Peninsula and Red Sea. You can read more about those [here](#).
- **Oct 19** - At least one cruise missile or drone was shot down by a US Naval vessel over the Red Sea, reportedly launched from militants in Yemen and targeting Israel.



While militant activity on the Sinai Peninsula and adjacent regions is a **known threat**, the conflict in Israel has **changed the risk picture**. These groups have suddenly become more active and their attacks more sporadic. This may not be evident in existing airspace warnings issued by Germany and the US FAA – the latter having been around for years.

Is it safe enough to overfly?

There is no definitive answer to this question – as the UK Notam above alludes to, potential risks need to be taken into account and the appetite for those will vary from operator-to-operator.

Here's what we do know though:

It is better to fly higher. All existing warnings for the Sinai Peninsula (and now adjacent regions including the Red Sea) advise operators to **stay above FL250/260**. This is likely due to the risk of militant groups with access to anti-aircraft weaponry such as man portable air defence systems (MANPADS).

The chance of misidentification by the military is low, but not zero. Military vessels active in the Red Sea are equipped with sophisticated and long-range air defence systems capable of reaching all levels. It is extremely unlikely that a civil aircraft would be misidentified – but history has shown that accidents can happen.

Know what to do if you are spoofed. As opposed to GPS jamming, spoofing is insidious and potentially confusing. Your aircraft may not even alert you that something has gone wrong. **We have a Briefing, Guide and Map on GPS spoofing which you can access here.** In the worst cases, the impact has been severe: complete loss of on-board nav requiring ATC vectors, IRS failure, and unnoticed off-track navigation towards danger areas and hostile airspace.

Think about diversions. If you need to land in a hurry (especially in Sinai), you are exposing yourself to increased risk of anti-aircraft fire, small arms fire and mortar attacks by groups with a known intent to attack civilian interests, possibly motivated by current events.

Alternative Routes?

Flight tracking shows major airlines are still overflying Southern Sinai and the Red Sea. The only option to avoid the region completely involves a long diversion south.

Unfortunately for those bound for **Jordan** and perhaps **Kuwait**, this means extended flight times. If you do decide to overfly the Sinai and Red Sea region, know that just because airways are open (and well used) doesn't mean they are completely safe.

Updates

For more info and updates, check Safeairspace.net – our Conflict Zone & Risk Database.



Philadelphia Reopens for International Bizav Flights

OPSGROUP Team
8 November, 2023



Key Points

- **Customs (CBP) is available again for international bizav flights wanting to use KPHL/Philadelphia.**
- **CBP is only available for a few hours each day.**

International bizav flights can land at Philadelphia again for the first time since Dec 2022, now that CBP has reopened its processing facility at the airport.

However, the Atlantic Aviation FBO report that **CBP is only available for a few hours each day: between 09-12 local time until Nov 15.** Then after that, who knows...

You can contact the FBO at phlfrontdesk@atlanticaviation.com, or call CBP direct at +1-215-863-4200.

Where else can you go?

If you need to get into the Philly area then here are the other options available.

KTTN/Trenton Mercer

- KTTN has 2 runways - 06/24 which is 6006' and 16/34 which is 4800'. You have an ILS 6 or various RNP options (GPS and AR).
- CBP is available.
- 2 FBO options: FlightServ fbo@flightserv.net / Signature ttn@signatureflight.com.

KPNE/Northeast Philadelphia

- KPNE also offers 2 runways - 06/24 at 7000' and 15/33 at 5000'. Runway 24 has an ILS, but otherwise you're looking at an RNAV (GPS) approach.
- They have CBP, but it is by PPR only. The airport is also closed to Part 121 and Part 135

operators. So check in advance that they can accept you seems to be the story here.

- FBO: Atlantic Aviation angie.pearce@atlanticaviation.com

KILG/Wilmington

- Runways 09/27 and 01/19 are both over 7000' and they have a shorter third runway 14/32 offering only 4602'. Runway 1 is the only runway with an ILS, the rest are RNAV only.
- FBO: Atlantic Aviation mark.anderson@atlanticaviation.com. Or try Fly Advanced at ilgfrontdesk@flyadvanced.com.
- This is another PPR for CBP airport so get in touch in advance to arrange.

KACY/Atlantic City

- If you're looking for a longer runway then KACY's 13/31 offers you 10,000' and an ILS, so a good option for the bigger aircraft.
- Signature ACY@signatureflight.com

KEWR/Newark

A bit further afield, but it's there if you need it. And we're sure you have all the info on Newark already, and the many other New York area airports that you have as options if you don't mind taking a train after.

If you know a better alternative then drop it in the comments and let everyone know!

And of course, there are a whole bunch of very decent regional airports to consider if you're local to the US.

The Annual Shanghai Airports Meltdown

David Mumford
8 November, 2023



Key Points

- **Shanghai's ZSSS/Hongqiao and ZSPD/Pudong airports are effectively off-limits to bizav flights at the start of November, unless you're heading to the China International Import Expo event.**
- **Operators will need to consider nearby airports instead: ZSWX/Wuxi, ZSHC/Hangzhou, ZSNJ/Nanjing and ZSNB/Ningbo.**

You won't find it on the Notams, but there are some restrictions coming up in November at Shanghai's ZSSS/Hongqiao and ZSPD/Pudong airports which effectively ban most business/private flights.

It's the same meltdown every year in Shanghai. It's all to do with the annual China International Import Expo event (CIIE) – which this year will be held from Nov 5-10.

Here are the restrictions at the main airports to watch out for this year:

ZSSS/Hongqiao

From Nov 2-8, no business/private flights allowed, including those flights participating in CIIE.

ZSPD/Pudong

From Nov 2-13, the airport will only accept participating CIIE business/private flights. Quick turns (if not participating in CIIE) are not allowed.

It's also worth noting these two extra restrictions at ZSPD which apply year-round:

- Take-off and landing is prohibited between 07-09 local time (23-01z).
- Business/private flights are not allowed to have two peak hour slots between 09-22 local time (01-14z). So you can land during that period, but then you have to wait until 22 local time before you can depart!

Where else to go?

For non-CIIE flights wanting to go to Shanghai during this period, the alternative options may be limited, as parking will fill-up quickly at nearby airports **ZSWX/Wuxi**, **ZSHC/Hangzhou**, **ZSNJ/Nanjing** and **ZSNB/Ningbo**.



Here's the lowdown on those four airports:

ZSWX/Wuxi

Operating hours? H24. But bizjets can only go here between 0700-2300 local time (and Customs are only open from 0830-2300). Outside those hours, you need permission from the airport authority.

Does it have an FBO? Yes, but only for domestic flights.

Driving time to Shanghai? 2hrs (130km)

Other restrictions? You need permission from the military to operate here. Overnight parking is generally not allowed (and there's no hangar for bizjets).

ZSHC/Hangzhou

Operating hours? H24.

Does it have an FBO? Yes, but only for domestic flights.

Driving time to Shanghai? 2hrs 30mins (180km)

Other restrictions? They don't issue arrival/departure slots to business/private flights between 0700-0859 local time. We also heard from one handler that there is a 72hr parking limit in place at the moment.

ZSNJ/Nanjing

Operating hours? H24.

Does it have an FBO? Yes.

Driving time to Shanghai? 3hrs 30mins (300km)

Other restrictions? They don't issue arrival/departure slots to business/private flights between 0700-0859 local time.

ZSNB/Ningbo

Operating hours? H24.

Does it have an FBO? Yes, but for domestic flights only.

Driving time to Shanghai? 3hrs (220km) – providing you take the road over the Hangzhou Bay Bridge

Know a secret airport somewhere near Shanghai where bizav flights can operate to during this period? Let us know!

Bizav Clampdown at Amsterdam

Chris Shieff

8 November, 2023



From March 2024, the number of slots available for GA/BA at EHAM/Amsterdam Schiphol will almost halve. And apparently, it's just the tip of the iceberg – the ultimate goal is for them to be banned altogether.

Just like with Portugal's new Bizav Punishment Tax, the small jets are getting the big heat – often unfairly.

Go Away, GA...

The news came out in the airport's latest capacity declaration – the maximum number of 'small business aviation' flights will be **capped** at 12,000 next year (down from 17,000).

It's all part of a master plan that Schiphol announced back in April to make the airport 'quieter, cleaner and better.'

The biggest news is that a **complete ban on business aviation** is planned from 2025. And until then, GA/BA will increasingly feel the squeeze.

So, what happens after the ban?

With no more slots available to business jets, operators will need to look elsewhere. Here are the **current closest alternatives** with customs:

- **EHRD/Rotterdam** (24nm) – For handling, contact: Jet Aviation FBO, rtnfbo@jetaviation.com
- **EHEH/Eindhoven** (56nm) – For handling, contact: Viggo Eindhoven, info@viggo.eu
- **EHGG/Groningen** (82nm) – For handling, contact: Ground Ace, info@groundace.eu

Across the border, don't forget about **EBBR/Brussels** either.

Look out for other restrictions too

- 1. Night curfew:** The same plan includes banning all aircraft movements between midnight and 6am (5am for departures). This will severely restrict available slots for late evenings and early mornings.
- 2. No new runway:** The airport has decided that the existing six runways should just about cover it. Plans have officially been scrapped for lucky number seven – a twin sister for Kaagbaan (yes, the runways have names!)
- 3. Noisy rides:** From this coming Summer, Schiphol has announced that eighty-seven aircraft types will no longer be welcome. The good news is most of them are old.
- 4. Airport fees:** The quieter and cleaner your ride, the cheaper the airport fees will be moving forward. Operators using louder and more polluting aircraft will pay up to five times as much.

I want to go to Schiphol anyway

The doors haven't quite closed on business aviation just yet. But with the new capacity restrictions, slots are going to be hard to come by – so **get in early**.

The latest guidance of how it all works, along with fees and charges can be found in Schiphol's latest charges and conditions doc.

OPSGROUP at NBAA2023 - your checklist & QRH

OPSGROUP Team
8 November, 2023



Key points

- The whole OPSGROUP team will be there. **You better come see us.**
- **Download** the OPSGROUP NBAA23 QRH
- Check off the **Checklist** items below

The show is almost here! OPSGROUP has a **special members stand** for you at NBAA 2023. There's a lot to look forward to, and as always, our focus is on our member pilots and flight dispatchers.

Also, as always, **we'll use as few words as possible to tell you what not to miss.** We warmly invite you to visit the members booth - meet the team and other members - and we *reallllly* look forward to seeing you there!

Start by **downloading** the **OPSGROUP QRH** for NBAA 2023.



Now, go through the checklist ... then you'll be up to speed on the happenings at the show.

Checklist Item #1 - Get Merch



We're paying the excess baggage and hauling suitcases full of merch to NBAA. Dodgy Flight bag stickers, unfunny T-shirts, Crew stickers, Trucker Caps (freight dog style) – all the usual junk plus some actually decent gear.

Members: Reserve some OPSGROUP gear for yourself. Lots of fun stuff that will probably go fast: if you'd like to make sure you at least get a *couple of things*, let us know you're coming and we'll put some aside for you. You can also designate someone else to come by and schlep your junk home.

#2 - Join V-FOG



Join the **Vegas WhatsApp group for Flight Ops**: Pilots and Dispatchers. Just send a **WhatsApp to +1 747 200 1993** and say "V-FOG!" and you'll be added to the group.

Welcome to V-FOG! Nobody's "running" this, it's just a super informal group for flight crews at the show, so we can tell each other where the free drinks are. No ads, no "visit our booth! ☐".

Ask a question ('how do I get to the static' will be #1), get directions, share some interesting talks coming up, or a selfie of you on a BBJ, good stuff. Might work out well, might be awful ... let's see how this goes.

#3 - Cockpit Cocktails: OPSGROUP Member Meetup



1030 every morning

Come along to the OPSGROUP Member Meetup at **10:30 am** Tues, Weds, and Thurs.

Hang out for a bit with some other members, play Nintendo, name the fish (don't win the fish), play *chart-changer*, inspect some vintage memorabilia, dress up in your favorite outfit (costume closet at the booth), add yourself to the polaroid wall.

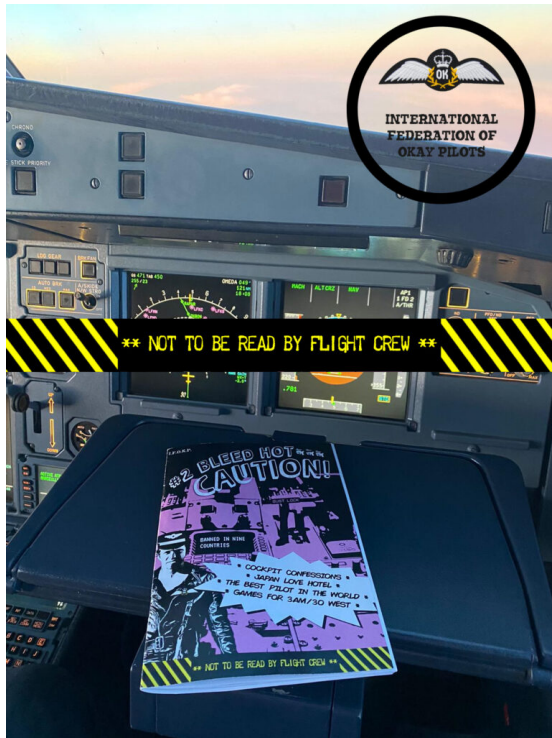
Codeword "*Ramp Check*" for a free dash of "Irish Cream" in your coffee.

#4 - Three Games (okay four)

- **Name the Fish, Win the Fish** - star of the show will be the OPSGROUP fish. It needs a name. To enter, just grab any free item of merch, and give him a name. ***There will be a winner*** - and the risk is, *it might be you*. Don't stress, we've checked with TSA and live fish are permitted on board the aircraft. We'll even give you a carry case and plastic bag.
- **Chart Changer** - Make your mark on the new OPSGROUP Pacific Plotting Chart, or the updated NAT chart.
- **SNES champ** - We have an original Nintendo in the members lounge. 2 player games: battle it out for the hotseat. Super Mario, and the original Top Gun!
- **Oh, and a fourth game: Dave's International Ops Quiz.** Every day at 11:30. There are some epic prizes here.



#5 - Join the International Federation of Okay Pilots



We'll have a representative from **I.F.O.K.P.** at the OPSGROUP

members stand.

You can join (for free) at the show, and get your **welcome pack**, sticker, and the flight crew Zine, #2 *Bleed Hot Caution*.

Since first being published, #2 *Bleed Hot Caution* has been banned in nine countries. I.F.O.K.P. have therefore affixed a warning label to this edition.

There is a limited number of zines available, so once again for **OPSGROUP members: Reserve one for yourself**. Let us know you're coming and we'll make sure to put one aside for you.

#6 - We are here. Where are you?

HIALS-II	3500'	FOY
PAPI	↑	395

NBAA Stand

Main stage

OPSGROUP Members area

Hall entry

YE OLDE NORTH HALL

WE ARE HERE

WHERE ARE YOU?

OPSGROUP
P 113.3 OPS
N52 43.3 W008 53.1

The OPSGROUP Member Stand is in the North Hall, close to the NBAA Stand and the main stage. The Stand Number is N2127. Look out for a tacky OPSGROUP sign, a **confused goldfish, or confused pilots. We'll all be there.**

We're at **N2127**. Find us in the show directory here, which will help you navigate your way to the member stand.

- **NBAA 2023** main show page
- Add OPSGROUP to your **show planner**
- Download the **show app** for your phone.

#7 - Volunteers please!

We have a handful of member volunteers already, but could really do with a few more! If anyone wants to help out at the members stand for an hour during the show, please let us know! This is an easy & fun hour – you'll take care of saying "hi" to members dropping in, show them around, give out some fun merch, and help coordinate some of the Quiz'zes and games at the booth. Just email **vegas@ops.group**.

See you all soon! Any questions, ping us at **vegas@ops.group**. We'll also be in the **V-FOG** group (join that here – just WhatsApp "V-FOG") .

Cheers – the OPSGROUP Team

US: New Rules For Outbound Private Flights

David Mumford
8 November, 2023



Key Points

- US CBP have made some changes to APIS procedures for private flights departing from the US.
- You now need a new APIS for any pax changes, or ETD change of more than 60mins.
- CBP will also reportedly be increasing spot checks and in-person clearances.

Departing the US

CBP are tightening up the rules private flights departing the US. In a nutshell, the new rule is this:

If you have any pax changes, tail number change, or departure time changes of more than 60 minutes, you now have to file a new APIS - and this needs to be done no later than 60 minutes prior to departure.

These changes are reflected in the new text operators receive when they file their APIS:

United States Customs and Border Protection (CBP) is in receipt of your APIS manifest transmission.

Based upon the APIS manifest information transmitted, private aircraft departure clearance is approved for:

- . the travelers identified within this manifest,
- . the conveyance details provided,
- . with a tolerance of +/- 60 minutes from the departure time manifested in your APIS transmission, but
- . not within 60 minutes of transmission.

You must present yourself for inspection before departure if contacted by CBP.

Unless otherwise exempted, this permission to depart applies only to private aircraft departures. (Permission to depart for commercial aircraft must be requested by the aircraft commander or agent to the director of the port of entry nearest the final departure airport.)

Previously secured permission to depart (clearance) applies only to the previously submitted APIS manifest details. Changes in manifested details such as tail number changes and traveler additions or substitutions require updated or amended APIS transmissions and a direct (re)confirmation of CBP approval and permission to depart.

For departure time changes greater than 60 minutes, operators must re-transmit an APIS manifest no later than 60 minutes prior to departure and call the local CBP port associated with your departure to cancel the original flight clearance request, and, in cases where time is a limiting factor, to request manual departure clearance for the amended flight.

This receipt message and approval for U.S. departure clearance is based on the manifest information submitted and does not confirm that the submitted manifest information is correct, valid, accurate, and/or complete, or that the manifest was submitted within specified timeline requirements. The submission of manifests within 60 minutes of departure or the submission of incorrect, invalid, inaccurate and/or incomplete manifest data may be subject to penalty or other appropriate enforcement action. This email was sent from a notification-only address that cannot accept incoming email.

So if you do have to file a new APIS, it must be filed **at least 60 mins prior to departure**. The new procedure says that if you're pushed for time you can request **"manual departure clearance."** This basically means a phone call to CBP at your departure airport to request permission to depart - and it's always a good idea to get the name, initials or badge number of the officer you speak to, just in case the early departure is questioned.

~~Unsolved~~ SOLVED Mysteries!

Thanks to our friends at the NBAA IOC we now have answers to some of the big questions operators had regarding these changes.

1. Just before departure, another pax gets added to the flight. What do we do?

File a new APIS with all the pax info. Remember, your ETD needs to be at least 60mins from the time you file the new APIS, as per the new rules. If you want to leave early, you need to call CBP and ask for manual departure clearance.

2. What if you're departing overnight or early in the morning when the CBP office is closed, and you have no one to call for manual clearance?

If you can't call CBP because the office is closed, you just have to wait 60mins to depart. There's no out-of-hours fall-back option here. So watch out when planning departures when CBP will be closed! And let your pax know in advance that any last-minute changes are going to cause delays!

3. If one of our pax shows up with a different passport than the one we filed on APIS, must we submit a new one?

Yes. And then, same as above, you have to wait 60mins to depart, or else try calling for manual clearance.

4. If we file with 5 pax but only 4 show up, do we have to file a new APIS?

At the moment, the simple answer is no. This may change in the future though.

5. If our flight cancels altogether, must we call CBP to tell them so?

Yes. If you can't do this because they are closed, call them in the morning.

6. Can anyone make calls to CBP? (to ask for manual clearance, etc)

Yes. PIC, SIC, handler, or trip support provider are all fine.

7. What if we push back on time but get an ATC delay or something, and have to sit around on the taxiway waiting to depart. If it looks like our departure will fall outside of the 60 minute window, must we file a new APIS and then potentially have to wait another hour?

Ooh, trickiest of trickies! This is a slightly grey area. CBP define your "departure" as being the time you are wheels-up. After you push-back, if you get delayed before you actually depart - there's no clear cut answer to when you have to depart by. You just have to be able to show that whatever you do is "reasonable and responsible". CBP will only pursue penalty action if you fail to do this. If you do end up departing after the 60 mins due to delays, make a proactive call to CBP afterwards to explain why. Give them the answer before they ask the question!

Spot checks!

CBP will be increasing random departure inspections on aircraft departing from the US. The name of the game is simple: **always update departure times with CBP!**

If they arrive and you've departed already, you could be subject to **penalty action**.

Many of the recent penalty actions are falling into the following categories

Thanks to Rick Gardner of CST Flight Services for providing this info:

- **Not obtaining Permission To Land.** When returning to the US, once you have filed APIS and received the receipt email from DHS, you need to contact CBP at the port of entry and obtain permission to land. This is spelled out in the text of the receipt email from CBP. I always urge pilots to carefully read the receipt email to make sure the airports, dates and numbers of crew and passengers match what you think you transmitted. Yes, pilots are being penalized for failing to do this.
- **Missing Manifest.** Some pilots are just failing to file APIS. CBP becomes aware through a variety of different methods so this is not a matter to take lightly.
- **Missing people.** The people who were submitted on the manifest are missing and people not on the manifest are on board.
- **Arriving or departing outside the +/- 60-minute tolerance** as specified on Airport Fact Sheets or on the Departure receipt email from DHS. In the past pilots did not pay a lot of attention to complying with the times they submitted on departure manifests. CBP has their own ways of detecting non-compliance including the fact that they do randomly conduct departure inspections. If you depart from the US outside of that tolerance, you can be subject to penalty action.

What should you do if you become subject to penalty action?

- **Don't ignore it.** If you get a notification from CBP that a penalty action has been initiated, address it quickly, it's not going to go away. Penalties can be initiated via a number of different channels within CBP, but the notification will come from CBP General Aviation Headquarters.
- **Own up.** By notifying you of a pending penalty action, CBP wants to give you the opportunity to give your side of the story. Explain what you did and why you did it. If you made a mistake, identify what caused the mistake to occur. As PIC you are solely responsible and CBP will not look favorably on attempts to shirk that responsibility by blaming others or by omitting facts. Be honest, tell them what happened, how it happened and why it happened.
- **Corrective action!** If you did something wrong, tell CBP what you are doing to ensure that this mistake does not happen again. Outline an action plan on how you are changing your procedures to ensure that you achieve compliance going forward.

Doing this does not guarantee that CBP will withhold the penalty action, CBP handles penalty actions on a case-by-case basis. However, **a very significant percentage of penalty actions are resolved** during the initial interaction with CBP headquarters. CBP's expectation of pilots is that we demonstrate that we are trying to act reasonably and responsibly. CBP is looking for compliance, not finding blame.

Professional pilots have a lot on the line because if we receive a penalty, not only can there be a sizeable fine but we also **lose our Border Overflight Exemption privileges** for any operator we are flying with. In addition, we can **lose our Global Entry** as well. If sharing this knowledge from our industry collaboration and ongoing operations keeps just one pilot from getting into trouble, then it is worth it.

More info

For more info on on private flights to the US, check this article.

Oct 2023: Airspace risk: Tel Aviv is still busy, and it shouldn't be

OPSGROUP Team
8 November, 2023



Airspace Risk: Israel Level 1 - Do Not Fly

- Key message to operators and flight crew: **LLBG/Tel Aviv is still busy - and it shouldn't be.**
- **Safe Airspace Risk - Israel Level 1 - Do Not Fly** (Full warning text)
- **Civil Shootdown risk high:** Lessons of MH17 and UIA752 need to be applied

Significant traffic levels still operating to Tel Aviv (Monday morning, 0340z)

Israel is now an active war zone, and therefore the **Safe Airspace** warning is at **Level 1 - Do Not Fly**. The Israeli cabinet officially declared war against Hamas on Sunday Oct 8th. As such, all lessons learned regarding civil operations in conflict zones over the last nine years since MH17 need to be applied. **The risk of a passenger aircraft becoming a casualty of this war is high.**



In the nine years since **MH17** was shot down, we have made many advances in recognizing **Conflict Zone risk to civil aviation**. It's time to apply that understanding, and avoid another civil aircraft catastrophe.

In January 2020, OPSGROUP became concerned at the heightened risk in the Baghdad and Tehran FIR. Despite issuing an alert the previous day, we were unable to prevent the shootdown of **Ukraine International UIA752** on January 8th, 2020. This morning, looking at the traffic levels in the Tel Aviv FIR, **we feel the same sense of unease and concern**.



It should be noted that about 30% of the traffic shown in the radar image is operated by El Al, who are running normal service in order to repatriate reservists called up for duty, and citizens wishing to leave Israel. This may give operators even a sense that ops are normal – but bear in mind that these El Al flights are to some degree troop transport movements, and in fact **may increase the appetite for making civil aircraft a target.**

The ultimate sentiment from MH17 still echoes: “**What were they doing flying over a war zone**”? We truly hope the same question doesn’t need to be asked in Tel Aviv airspace this week.

OPSGROUP recommends full avoidance of Israeli airspace

- **Avoid** all Israeli destinations (LL**), especially LLBG/Tel Aviv
- **Avoid** overflight of Tel Aviv FIR (LLLL)
- Carefully consider route choices into OJAI/Amman, Jordan and other OJ** airports

Primary Risk : Complacency

The **primary risk** is not just the threat of missiles (hundreds are being directed at LLBG as this is being written) or anti-aircraft weaponry, but also **complacency** (or a false sense of security). For decades, we have seen sporadic conflict in Israel – even in quieter periods, rocket attacks on Israel are the norm. As such, operations to LLBG/Tel Aviv continued, and operators have become used to raised threat levels in Israel.

This situation is absolutely not routine.

Further risk comes from a multitude of factors from operating in a conflict zone: misidentification, debris from air defences, GPS spoofing, false EGPWS alerts (now common in Israeli airspace), and reduced route and diversion options in the event of an aircraft emergency.

Risk Assessment, no authority guidance

Despite the elevated risk, no prohibitions or restrictions have been issued by any national aviation authority, the FAA, or EASA. One exception: the Russian FATA has restricted their operators to daylight ops only.

Israeli CAA warning: A golden rule in Conflict Zone understanding has been written on the Safe Airspace portal since it first launched in 2015: “Operators should note that in general, the Civil Aviation Authorities of the countries whose airspace is determined to be unsafe **are (very) unlikely to issue reliable guidance.**” The Israeli CAA issued NOTAM A1092/23 on Sunday, which draws attention to the security risk, but does not provide any guidance, closures, or restrictions. In fact, the omission of any restrictions present the connotation that routine operations can be expected other than “delays and fuel” issues. **This is misleading.**

An FAA FDC NOTAM (FDC 3/2050) advises operators to exercise extreme caution **when operating within the Tel Aviv FIR.** An EASA “Conflict Zone Information Bulletin” simply says to check the Israeli NOTAM, and that “The fact that Israel has issued and is maintaining NOTAMs regarding its airspace and its main airports demonstrates that the Civil Aviation Authority of the state of Israel is actively managing the risk to

civil aviation. At present, there are no indications that these mitigation measures are not efficient or inadequate.” **This is also misleading - the risk to civil aviation is not being managed.**

The standard line now is “**carry out a risk assessment**”. For many operators, risk assessment is extremely challenging to get right. Commercial and political pressures go against the normal ‘*err on the side of caution*’ principle in flight operations. Larger operators may have the ability to complete dedicated risk assessments, but **the majority of flight crew and operators need better guidance from aviation authorities.**

Consider that in the 2014 Hamas rocket attacks – a far less intense event – the FAA responded with a 2 day prohibition for LLBG and EASA advised operators to suspend flights. The current situation in Israel is only going to escalate in the coming days, as the country begins their return offensive against Palestine.

It would be helpful to many flight crew and operators if the same duty of care was extended to them again in this situation.

Resources:

- **Safe Airspace: Israel - Level 1: Do Not Fly**
- **Israel information page:** current NOTAMs, prohibitions, restrictions
- **OPSGROUP Crewroom** (Members): Latest Alerts, Discussion
- Contact **team@ops.group** for any questions

US Federal Govt Shutdown Risk - Why it Matters to Aviation

Chris Shieff
8 November, 2023



It's been a big week for US politics. On September 30, a **Federal Government shutdown** was narrowly avoided by a last-minute funding stopgap that has delayed the problem until November 17.

The situation was **front page news** across several aviation websites – but you might still be wondering, why?

As is often the case, **politics and aviation don't mix**. Until they do. And then we're forced to take notice – this one of those times. There was widespread concern for what a shutdown might mean for the US aviation sector, and some of those problems could cause a real hangover.

With the problem delayed, **but not gone**, we may find ourselves in the exact same position again come November. Here's a look at what is giving the issues wings (pun only slightly intended).

How can the Federal government just 'shut down?'

A shutdown happens when Congress **doesn't approve funding** for the Federal Government by the time the new fiscal year kicks off on October 1.

The crisis can temporarily be averted by a **short-term funding bill** which is what has just happened. But it only buys more time.

If a shut-down goes ahead, various government operations grind to a screeching halt. **The world won't end** (essential services continue) but federal agencies (including the FAA) are left scrambling without funding. They need to rely on contingency procedures including furloughing staff or relying on them to work for a period of time with no pay.

Staffing

The impact on of a shut-down would primarily impact two large groups of aviation professionals – TSA staff and Air Traffic Controllers. Then of course, there's the FAA itself...

TSA

TSA workers are **federal employees**, and work for the Department of Homeland Security. There's 47,000 of them and they're responsible for screening passengers and baggage at 450 of the nation's airports along with other essential functions such as air marshals.

During a shutdown, they won't get paid. There is fear of what the impact will be on the US NAS, if they (understandably) don't want to work.

The TSA itself has allayed some fears with a recent statement. Essentially a commitment that their staff will continue working. While admirable, **they are human** – one shutdown once lasted well over a month . If similar occurred, how long we can rely on this promise isn't known as the strain grows.

ATC

The majority of 14,000 controllers in the US work for the FAA, and so are also federal employees.

The impact of an **extended period without pay** could be significant – not to mention contributing greatly to a system known to be heavily burdened by staff shortages already.

Planes aren't about to start flying into each other. But a major consequence of a shutdown is that the FAA would send home 1,000 controllers **currently in training**.

And we need them. Right now, the US is about 3000 controllers short of the mark. And the goal of recruiting an extra 1800 in the next year and half could become extremely optimistic. This shortage has been well publicized, and a shutdown would like exacerbate the problem.

Don't forget about the FAA, either.

It never rains, but it pours.

The FAA has been dealing with a **double whammy**. Besides from the uncertainty of a Federal Government hiatus, it's five-year funding bill has also expired.

A temporary re-authorization has scared the wolf away from the door, but it cannot operate properly without **cashflow**. And various disputes over pilot retirement age and minimum experience requirements has tapped the brakes on the entire process.

It's a very complex agency and a suspension of its functions will take a long time to recover from for all of us.

Lessons Learnt

Federal Government Shutdowns have happened before – the most recent was in 2018 and lasted for 35 days.

There were several impacts on aviation that the NBAA usefully summarized in their article here. It likely serves as a **preview** of what we can expect again should a funding agreement not be reached in the new deadline in November.

FAA warning issued, further serious navigation failures reported

OPSGROUP Team
8 November, 2023



Since publishing Monday's **risk warning** on complex navigation failures following fake GPS signals, we have received further concerning reports from operators, mirroring the same events. The impact of the nav failures is becoming clearer, with one operator **almost entering Iranian airspace without clearance**, and another left **requiring ATC vectors all the way to their destination in Doha**.

In total we now have **20 reports** of almost identical situations. Full reports are in **Version 2** of our **Risk Warning** (PDF), see further down.

On Wednesday evening, the **FAA issued a warning memo** to aircraft operators as a result of the situation, warning of increased "safety of flight risk to civil aviation operations".

Embraer Legacy 650: We nearly entered Iran airspace with no clearance

One of the new reports received since Monday was from an Embraer 650 crew enroute from Europe to Dubai. They tell us, "In Baghdad airspace, we lost both GPS in the aircraft and on both iPads. Further, **the IRS didn't work anymore**. We only realized there was an issue because **the autopilot started turning to the left and right**, so it it was obvious that something was wrong. After couple of minutes we got error messages on our FMS regarding GPS, etc. So we had to request radar vectors. We were showing about 80 nm off track. **During the event, we nearly entered Iran airspace (OIIX/Tehran FIR) with no clearance.**



Challenger 604: Required vectors all the way to Doha

Another new crew report received since our first warning informs us: “Nearing north of Baghdad something happened where we must have been spoofed. We lost anything related to Nav and the IRS suggested we had drifted by 70-90 miles. We had a ground speed of zero and the aircraft calculated 250kts of wind. The FMS’s reverted to DR (Dead Reckoning) and had no idea where they were.

We initially took vectors to get around the corner at SISIN. Nav capability was never restored, so **we required vectors all the way from Iraq to Doha for an ILS**. We never got our GPS sensors back until we fired up the plane and went back to home base two days later.

Concern grows over flight risk

With these additional reports, OPSGROUP has increased concerns over the situation:

- **Security risk:** Navigation failures are occurring in close proximity to the Iranian border. One aircraft reported almost straying into Iranian airspace (Tehran FIR, OIIX) without a clearance. This area of the border is considered sensitive by Iran: there are two large missile bases just across the boundary: one at **Kermansah** (a huge facility with dedicated anti-aircraft weapons), and another at **Khorramabad**. For context, Iran shot down a passenger aircraft in 2020 in Tehran (accidentally), and has been heard in September 2023 **issuing warnings on 121.5** with threats to shoot down aircraft entering the FIR without a clearance.
- The **Navigation failures are severe**. The second report above highlights how the crew had no option but to request radar vectors – all the way to their final destination. In many other reports, most aircraft have no reliable on board navigation, for periods of 20-30 minutes and in some cases an hour or more.

- **Compounding failures.** Individually these incidents can mostly be resolved with the help of ATC. Consider however, an ATC comms failure, ATC radar failure, or an emergency situation: engine failure, decompression, or even a medical divert. The workload would quickly become extreme, and diverting at night (when most flights are transiting the area) without basic navigation capability is not a scenario we want to deal with.
- **Inadequate guidance for crews:** Current FCOM/AOM procedures available to aircrew are insufficient to capably deal with this new GPS spoofing issue. Having been shown to be possible, there is potential for it to occur elsewhere in the world.

FAA warning issued

On Wednesday evening, the FAA released a memo for aircraft operators titled **“Iraq/Azerbaijan - GPS Jamming and Spoofing Poses Safety Risk”.**

The memo advised that **“Potential spoofing activities reported by various civil air operators in Iraq and Azerbaijan pose a safety of flight risk to civil aviation operations** in the Baghdad (ORBB) and Baku (UBBA) Flight Information Regions (FIR).”

“The recent opensource reporting regarding spoofing incidents, if confirmed, would pose increased safety of flight risks, due to potential loss of aircraft situational awareness and increased pilot and regional air traffic control (ATC) workload issues, which can lead to potential accidents and/or loss of life.”

“FAA recommends that U.S. civil air operators transiting ORBB and UBBA monitor regional NOTAMs, put additional emphasis on maintaining continuous communications with appropriate air traffic control authorities while **monitoring aircraft equipment performance closely for any discrepancies or anomalies**, and to be prepared to operate without GPS navigational systems.”

Geopolitical background, analysis from experts

Earlier, Matthew Borie of **Osprey Flight Solutions** provided background context for our members: “Iran has recently deployed additional military forces to its northwest border with the Iraqi Kurdistan Region and Iraq has deployed security forces to this area as well as part of a border security pact reached between the two countries in March. Both the Iran and Iraq have Electronic Warfare equipment capable of GPS jamming and spoofing and may have these deployed to the northern border area.

The US military is present at several bases in northern Iraq (Erbil, Harir & Sulaymaniyah). Turkey has military bases on its side of the Iraq border as well as inside Iraqi territory in several areas (Amadiya, Harkuk & Bashiq). These deployments are enduring and not new – both the US and Turkey have electronic warfare (EW) equipment capable of GPS jamming and spoofing and they may have these deployed to Iraq.

Iran has also recently deployed additional military forces to its northwest borders with Armenia and Azerbaijan in wake of the Azerbaijani military operation in Nagorno-Karabakh. In addition, tensions between the Armenian military and Azerbaijani armed forces remain high on the border between the two countries at present in wake of the Azerbaijani military operation in Nagorno-Karabakh. Iran, Armenia and Azerbaijan all have EW equipment capable of GPS jamming and spoofing and may have these deployed to border areas”

An intelligence brief from **Dyami Intelligence Services** issued in response to Monday's reports, adds information about this new form of GPS spoofing affecting aircraft: "The surge in GPS jamming and spoofing incidents within the Iraqi FIR, along with their widespread occurrences, strongly indicates the involvement of an airborne platform (UAV). In the past, Iran has successfully intercepted a drone by GPS spoofing. Spoofing provides an attack vector that enables control over the target UAV (aircraft) without compromising the flight control software or the command-and-control radio link. Furthermore, a GPS spoofing attack can be carried out by an attacker who is equipped with an RF transmitter that can be ground or airborne-based."

This is not jamming: Inadequate NOTAMs

It's clear in the initial discussions of these events that because we are used to GPS jamming, crews may make the initial assessment that these are the same routine GPS jamming events. While there are NOTAMs issued for many FIR's in the region, they only warn of the routine GPS jamming that crews have experienced since 2018 in the Middle East and Mediterranean areas.

The **key difference** between the jamming events we are used to, and these **new GPS spoofing attacks** is the rapid impact on our on-board navigation. Some very alert crews have been able to quickly de-select GPS and isolate the input, but for most – and depending on aircraft and avionics types – this has not been possible. In the vast majority of the pilot reports received, crews have had to resort to radar vectoring from ATC.

OPSGROUP calls on the Iraqi CAA to issue a **new NOTAM warning crews of the specific risk of complete navigation failure**, due to spoofed GPS signals that many aircraft systems interpret as valid information.

Aircraft manufacturer and avionics responses

OPSGROUP has received confirmation from several aircraft manufacturers involved that they are taking the issue very seriously, and are working on a solution. We will keep members updated on this.

Bombardier is actively working on a new FON (Flight Operations Notification) concerning GNSS Spoofing; we will keep members updated on this once we hear more from them.

"The IRS can't be spoofed" - until it can

Quite astonishing for many of us as flight crew is the idea the IRS (Inertial Reference System) can be subject to outside interference.

Exactly where the avionics problem arises as a result of these GPS spoofing signals is something that OEM's and Avionics providers are working on. However, **many modern IRS platforms include GPS updating while enroute, to correct drift.**

Previously, jammed or degraded GPS signals were neatly ignored with no impact on the IRS. What seems to be happening in these cases, is that the spoofed GPS position is a strong signal, and the IRS doesn't know that it's incorrect. The technical details are unclear, and we await clarification from subject experts on this.

Regardless of exactly what is happening internally, the impact on navigation systems is clear.


OPSGROUP Member resources - update

Updated version of **Risk Warning: Fake GPS Signal attacks (28SEP/V2)** is now available in your Dashboard.

28 SEP 23PAGE 1FAKE GPS ATTACKS (V2)OPSGROUP RISK WARNING

**RISK WARNING**
FAKE GPS SIGNAL ATTACKS
NAVIGATION FAILURES

ISSUED BY OPSGROUP TEAM
EMAIL: TEAM@OPS.GROUP
WHATSAPP: +1 747 200 1903
28 SEP 2023 Version 2

 This information covers a developing event: further versions will likely follow. Check Dashboard / Daily Brief for updates. Please report any additional information you have to team@ops.group. Thank you!

TO: ALL OPSGROUP MEMBERS
ATTN: OPERATING FLIGHT CREW, FLIGHT OPS DEPARTMENTS, SAFETY DEPARTMENTS


Quick Summary - Version 2 update

- Enroute aircraft are being targeted with fake GPS signals, leading to complete navigation failure. One aircraft almost entered **Iranian airspace without clearance**.
- We now have **20 separate reports**. Types **updated** to include Embraer 190, 600, Legacy 650, Boeing 737/747/777, G650, Challenger CL604, CL650, Falcon 8X and Global Express.
- **Location:** Primary concern area is **Airway UM688**. Majority focused in northern Iraq – Baghdad FIR (ORBB), close to border with Iran.
- **This is not GPS jamming** – this is GPS spoofing, and of a type **not seen before**.



Earlier version: OPSGROUP members provided analysis of the events, and recommended guidance. This work has been collated into **Briefing: RISK WARNING 24SEP/V1**, available to all members in your Dashboard. Direct links are below.

 RISK WARNING FAKE GPS SIGNAL ATTACKS LOSS OF IRS/NAV CAPABILITY	ISSUED BY OPSGROUP TEAM EMAIL: TEAM@OPSGROUP WHATSAPP: +1 747 200 1963
	24 SEP 2023 Version 1

 This information covers a developing event: further versions will likely follow. Check Dashboard / Daily Brief for updates. Please report any additional information you have to team@ops.group. Thank you!

TO: ALL OPSGROUP MEMBERS
 ATTN: OPERATING FLIGHT CREW, FLIGHT OPS DEPARTMENTS, SAFETY DEPARTMENTS

Quick Summary

- Enroute aircraft are being targeted with fake GPS signals, leading to complete loss of navigational capability **including IRS failure**.
- So far **10 separate reports** from different ops/aircraft types/avionics suites. Types include Embraer 190, Boeing 737, 747 and 777, G650, CL650, Falcon 8X and Global Express.
- **Location:** Majority focused in northern Iraq – Baghdad FIR (ORBB), some involve eastern Turkey, Armenia, Azerbaijan and Iran.
- **This is not GPS jamming** – this is GPS spoofing, and even then, far more debilitating to aircraft systems than has been previously seen.
- **Original crew reports of these events included in appendix.**



Excerpt, full map follows in Maps section.

- **Download Briefing: RISK WARNING – Fake GPS signal attacks** (PDF, 0.7 Mb)
 - Situation report
 - **Key information for Flight Crew**
 - Analysis from OPSGROUP members
 - **Original Crew reports** of GPS spoofing/Nav & IRS failures (First 10 reports listed)
 - **Guidance and Procedures**
 - Awareness of risk locations
 - Recommended Procedure – entering risk area
 - Recommended Procedure – active GPS spoofing
- **Download : LOCATION MAP showing report locations of Fake GPS signal attacks**

Further information

- Initial report: **Flights Misled Over Position, Navigation Failure Follows** (26 SEP)
- Contact **team@ops.group** or WhatsApp **+1 747 200 1993**

Flights misled over position, navigation failure follows

Mark Zee

8 November, 2023



Update - Thursday Sep 28

Since publishing Monday's **risk warning** on complex navigation failures following fake GPS signals, we have received further concerning reports from operators, mirroring the same events. The impact of the nav failures is becoming clearer, with one operator **almost entering Iranian airspace without clearance**, and another left **requiring ATC vectors all the way to their destination in Doha**.



In total we now have **20 reports** of almost identical situations. Full reports are in **Version 2** of our **Risk Warning** (PDF).

On Wednesday evening, the **FAA issued a warning memo** to aircraft operators as a result of the situation, warning of increased “safety of flight risk to civil aviation operations”.

See new Briefing (28SEP) - “FAA Warning Issued, Further Serious Navigation Failures Reported”

Original article follows:

Key points

- **New RISK WARNING:** Enroute aircraft are being targeted with fake GPS signals, leading to complete nav failures
- **12 16 separate reports** - types include Embraer 190, 600, Boeing 737, 747 and 777, G650, CL605, CL650, Lear 45, Falcon 8X and Global Express.
- This type of GPS spoofing has not been seen before - IRS is quickly “infected” by false position
- **OPSGROUP Members:** Suggested Guidance and Procedures, and original crew reports, in Briefing PDF below



Situation

A troubling new development in enroute airspace is emerging: **aircraft are being targeted with fake GPS signals**, quickly leading to complete loss of navigational capability. **12 separate reports** have been now received by OPSGROUP, and **in most cases the IRS becomes unusable**, VOR/DME sensor inputs fail, the aircraft UTC clock fails, and the crew have been **forced to request vectors from ATC to navigate**.

Most reports have been in the last 7 days. Aircraft involved include various Boeing types (B777, B747, B737), Embraer (190, 600), Gulfstream 650, Challenger 650, Global Express, and a Falcon 8X. The location for the majority is also quite specific: Airway **UM688** in Iraq, close to the Iranian border.

This immediately sounds unthinkable. The IRS (Inertial Reference System) should be a standalone system, unable to be spoofed. The idea that we could lose all onboard nav capability, and have to ask ATC for our position and request a heading, makes little sense at first glance – especially for state of the art aircraft with the latest avionics. **However, multiple reports confirm that this has happened**. The key issue appears to be the way the IRS uses GPS updates to update its position during flight. Analysis from other OPSGROUP members is contained in the Briefing (Risk Warning) below.

In the Baghdad FIR, the crew of a 777 enroute were essentially forced to ask “**What time is it, and where are we?**”. Almost all incidents we’ve seen result in requiring ATC vectors to navigate. Clearly, in the areas that these events are occurring, this is disconcerting.

The location of reports received is mapped out below. The primary area of concern at the moment is **Airway UM688** in northern Iraq. Most crews have reported the nav failures in the vicinity of ORER/Erbil, ORSU/Sulaimaniyah, and ORBI/Baghdad.

It’s important to highlight is that this **not traditional GPS jamming** – which we all experience almost as routine in these areas. We have become very used to GPS dropping out in Turkish and Iraqi airspace. These recent reports are GPS spoofing – and even then, **not like anything we’ve seen before**.

In most reports received, the situation plays out the same. **A spoofed GPS signal is directed at the aircraft**, or at least, received by the aircraft. The GPS position shifts by 60nm. The onboard systems start to react. Some crews have been able to quickly disable GPS inputs, but for the majority, the spoofed signal quickly leads to a nav failure.

One of the crew reports for an **Embraer 190** (see below), tells us, “*I have been on the aircraft for 13 years. I tried everything I know, but nothing helped. Two IRS’s, which are updated from GPS, lost position. FMS disagree messages appeared. The main point is to disable GPS inputs at the very beginning of spoofing. If you miss a moment, you will lose navigation capability!*” This crew member is also Technical Pilot for the E190 type.

Worrying scenario

Of all locations that we fly through, the one place we don’t want to have any navigation issues would be

along UM688. This airway runs southbound through Iraq, **above an active conflict zone**, and extremely close to the border with Iran. Any inadvertent straying into Iranian airspace without a flight plan risks action by the Iranian military.

And yet it is precisely here that most of these events in the last week have been happening. As such, **the risk to routine flight operations is extremely elevated.**

OPSGROUP recommends that all operators using airway **UM688**, or entering the Iraq/Iran/Turkey region, **review this new risk as soon as possible.** Flight Crew should be made aware of the potential for fake GPS signals, the likely impact on aircraft systems, and a plan of action should this occur.


OPSGROUP Member resources

Over this past weekend (23-24 September), OPSGROUP members provided analysis of the events, and recommended guidance. This work has been collated into **Briefing: RISK WARNING 24SEP/V1**, available to all members in your Dashboard. Direct links are below.

24 SEP 23 PAGE 1


FAKE GPS ATTACKS

OPSGROUP RISK WARNING



RISK WARNING
FAKE GPS SIGNAL ATTACKS
LOSS OF IRS/NAV CAPABILITY

ISSUED BY OPSGROUP TEAM
EMAIL: TEAM@OPS.GROUP
WHATSAPP: +1 747 200 1983
24 SEP 2023 Version 1




This information covers a developing event: further versions will likely follow. Check Dashboard / Daily Brief for updates. Please report any additional information you have to team@ops.group. Thank you!

TO: ALL OPSGROUP MEMBERS
ATTN: OPERATING FLIGHT CREW, FLIGHT OPS DEPARTMENTS, SAFETY DEPARTMENTS

Quick Summary

- Enroute aircraft are being targeted with fake GPS signals, leading to complete loss of navigational capability **including IRS failures**.
- So far **10 separate reports** from different ops/aircraft types/avionics suites. Types include Embraer 190, Boeing 737, 747 and 777, G650, CL650, Falcon 8X and Global Express.
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- **Download** : LOCATION MAP showing **report locations of Fake GPS signal attacks**

IRS failures

An excerpt of analysis from the **Briefing Document** above helps us understand the issue better:

“Most avionics suites are now engineered such that the **IRS position is regularly GPS updated** to ensure the highest accuracy, if the GPS fails!

Therefore if the GPS is *jammed*, then the IRS works from its last known position. However if it receives a **spoof position**, the system still believes the GPS input received to be accurate as all sources “say” the same thing, and this spoof position is then updated to the IRS(s) to match. Most avionics system know that a shift/gross-error has happened as ground based updates do not compute the correct position, and will flag a navigation/map/position warning.

However, all primary navigation systems end up being corrupted as a result. **It has the potential to be very dangerous**, and is part of the reason why pilots should back up navigation still, with “green needles” / ground based aids wherever possible. Our dependance on GPS is not always good!

I would recommend using conventional ground based nav aids (DME/VOR/NDB) as far as practical, otherwise request assistance from ATC. Some platforms may allow IRS systems to be disconnected from GPS auto-updating, but most now do it in the background with no optional pilot interaction.

Unless the IRS systems are completely independent (the old fashioned ones that have to be initialised at startup location), GPS integration for frequent position updates, is sadly the issue due to its vulnerability to spoofing. For those that can disable the updating, they may wish to consider turning this function off, however it may impact on navigation capability, AFM requirements and operational approvals.

I would recommend that pilots and operators reach out to their OEMs for their recommendations on dealing with spoofing on their platform.”

Another member (767 operator) spoke to an IRS expert for perspective – also arguing that “**the IRS system is “stand alone” and the only mixing between GPS and Inertial is inside the FMS and thus, the IRS couldn’t be spoofed**. He assured me it could. Not enough to lose the alignment platform, but enough to confuse the present position and thus, none of the radio nav aids are where they’re supposed to be.”

Updates

This information covers a developing event: further versions will likely follow. Check your members Dashboard / Daily Brief for updates.

Much of the information is compiled from member feedback. If you have any expertise to share, or information to add – please email **team@ops.group**, or send a *WhatsApp* message to **+1 747 200 1993**.

Thank you!

Private Flights to the US

David Mumford

8 November, 2023



Update Sep 29:

- There are some changes to APIS procedures for private flights departing from the US.
- If you change any pax details or the ETD by more than 60mins, you now have to cancel the old APIS and file a new one - and the new one needs to be filed at least 60mins before departure.
- Also, CBP will reportedly be increasing spot checks and in-person clearances.

Article from March 2023:

*This article is from Rick Gardner of CST Flight Services. We asked if he could talk to us about **Private flights to the US** – not the standard stuff, but some of the real **tips and gotchas** that international pilots might want to know about.*

Private flights to the US... **you probably know the basics already:** maybe get a TSA Waiver, file your APIS, contact CBP to get your Permission to Land, and if you're coming from the south make sure you land at one of the Designated Airports (or else get a Border Overflight Exemption).

But after many years of working with US Customs and Border Protection (CBP) to collaborate on General Aviation issues – here's a bit of a deeper dive into some of **the most common topics and gotchas that private aircraft operators to the US should be aware of...**

Arriving from the South

CBP differentiates between aircraft arriving from places "south" of the US versus other countries. Basically, every country in the Western Hemisphere, with the exception of Canada and Bermuda, is considered "south"!

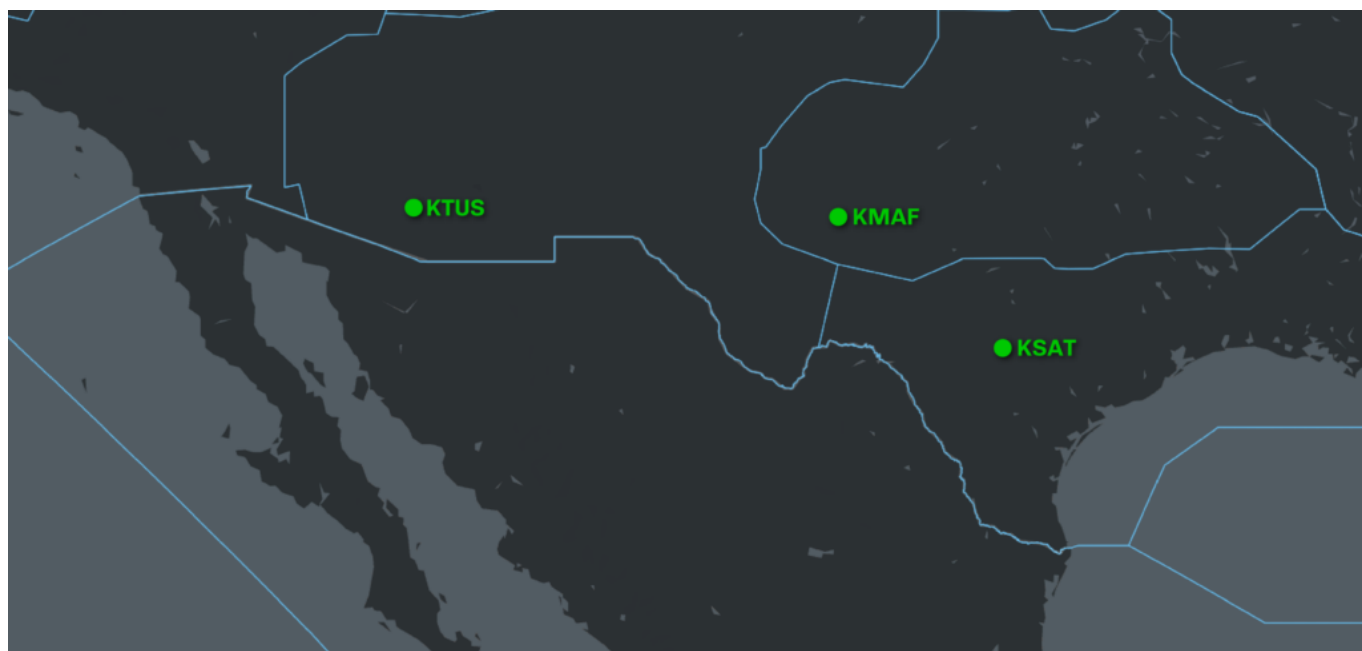
When arriving from one of these countries "south" of the US **we must make our first landing at a CBP "Designated" airport closest to our point of border or coastline crossing** – unless we have obtained a Border Overflight Exemption (BOE). (More on BOEs in a moment.)

There is a specific list of 32 "Designated" southern airports of entry in the regulations (actually, there are only 31, because KNEW/New Orleans Lakefront is not longer a Designated airport), and that not all CBP airports in Florida or along the Gulf of Mexico coastline nor the US-Mexico border are "Designated" airports. Again, we must make our first landing at the Designated Airport closest to where we cross the US-Mexico border or the US coastline.

However, there are a few exceptions:

KTUS/Tucson, KSAT/San Antonio, KMAF/Midland

While these airports are Designated Airports, you cannot get to them without overflying another Designated airport. Nonetheless, if you are granted Permission to Land, you may use these airports as your closest airport to the border.



KMTH/Marathon

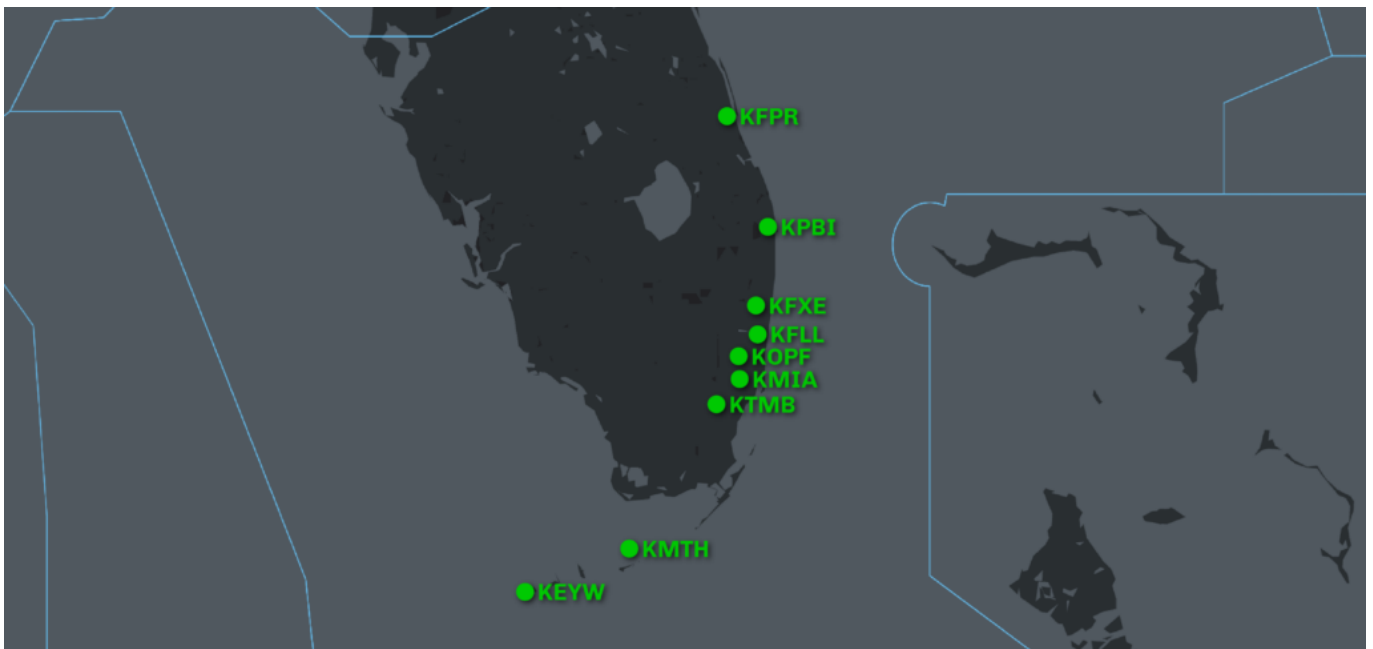
While not on the list of Designated Airports, KMTH/Marathon is a CBP port and can be used in lieu of a Designated Airport. Be sure to contact CBP at the airport to obtain Permission to Land. (More on Permission to Land in a moment.)

Miami Field Office Airports

So we're talking about 8 airports here: KEYW/Key West, KTMB/Miami Executive, KMIA/Miami International, KOPF/Opa Locka, KFXE/Fort Lauderdale Executive, KFLL/Fort Lauderdale International, KPBI/Palm Beach, KFPR/Fort Pierce.

The CBP Miami Field Office (MFO) has established that "Flights which are required to land at a nearest designated airport to the border or coastline crossing point **may proceed directly to any of the eight designated airports... without an overflight exemption**, even if the airport of intended landing is not the one closest to the US coastline crossing point."

So, if you were returning to the US from Cancun, Mexico, you could overfly Key West and continue up the east Florida coastline all the way to Fort Pierce and you would be in compliance. **What you cannot do when returning from The Bahamas is to overfly any of these MFO airports and land in KTPA/Tampa** even though Tampa is one of the 32 Designated airports!



Border Overflight Exemptions (BOE)

One way to avoid having to deal with Designated Airports is to obtain a BOE from CBP.

How it works

One of the great things that CBP Headquarters has accomplished is to get rid of the old Forms 442 and 442A and to **centralize the BOE approval process**. In addition, they have eliminated the previous requirements of having to list all aircraft, foreign ports, crew and passengers that would be authorized under the BOE. Today, all you have to do is **identify the operator to whom the BOE will be issued** and any aircraft, crew, passengers and foreign ports are all systematically vetted through APIS when the manifest is transmitted.

Per CBP regulations, BOE's can take **up to 30 days to process**, so don't waste time. For more information regarding the application process, contact GAsupport@cbp.dhs.gov.

Gotchas

A BOE holder has to ensure that the Operator specified in the APIS manifest **MUST** be the Operator to

whom the BOE was issued. In addition, to legally use a BOE, the flight must be **under IFR, fly above 12,500 feet and not make any intermediate stops.**

A BOE is obtained by demonstrating **a history of compliance.** If you are subject to an enforcement action, the pilot can lose their BOE privileges for 6 months and repeated violations can result in the Operator losing their BOE privilege also.

Advanced Passenger Information System (APIS)

Since Nov 2008, operators of private flights have been required to file a DEPARTURE APIS manifest using the Electronic Advanced Passenger Information System (eAPIS) portal when departing the US for a foreign country, and an ARRIVAL APIS manifest when returning to the US from a foreign country.

Electronic Advance Passenger Information System

CUSTOMS & BORDER PROTECTION
U.S. DEPARTMENT OF HOMELAND SECURITY



Add to Bookmarks

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Welcome

The Electronic Advance Passenger Information System, or eAPIS, allows you to enter or upload passenger and crew manifests online. Reports are also available through eAPIS for Customs and Border Protection approved individuals.

Enrolled Users

Log In

To begin using this service, please enter your sender ID and password and select **Log In**.

Sender ID:

Password

Log In >

[Need help logging in?](#)

Select the link above to access enrollment, login, and account activation help information.

[Reset your password](#)

Forgot or need to reset your password? Select the link above to create a new password and re-activate your account.

New eAPIS Users

Enroll

If you are a new user, you will need to Enroll.

Enroll >

How it works

DEPARTURE and ARRIVAL APIS manifests must be filed and authorization from the Department of Homeland Security (DHS) must be received **no later than 1 hour prior to departure** from the US or foreign country. This DHS authorization comes in the form of a receipt email which contains a summary of the date, time, departure and arrival airports.

As there is no limitation on how early an APIS manifest may be submitted, I recommend that you submit it as soon as possible once your itinerary and crew/passenger information is established. CBP always advises, "Transmitting for next week is fine if your plans have firmed up but next Christmas is too far away." Leaving things to the last minute just invites Murphy's law.

You should never be asked to provide Personally Identifiable Information (PII) such as DOB, passport number, SSN, etc. via FAX or email. If you do get such a request, ask for the supervisor, contact CBP headquarters or contact us at +1 786 206 6147.

Gotchas

Double check that the information in the DHS receipt email is accurate! **Failing to get the receipt email from DHS means you have not received authorization to depart so you definitely should not depart.** Sometimes failing to receive a DHS receipt email may be due to issues with the CBP systems or typos in your email address. Check your SPAM folder to make sure that the email was not sent there. If you share the eAPIS account you are using with someone else, check to see if they changed the email address and ask them to forward the authorization to you. **One last resort is to contact CBP** at the port and ask if they can determine if the authorization was issued, write down the officer's name or initials (they might only be willing to give you their badge number) in the event that there is ever a question about whether you received authorization.

The rules also require that if you add/remove/substitute crew and/or passengers or if you make a change to the travel calendar date in either a DEPARTURE or ARRIVAL manifest then you **must resubmit a new manifest to CBP**. Any authorizations related to the originally submitted manifest are no longer valid and you must wait for a new authorization from DHS. Changes to departure time, arrival time or arrival location may be made by phone.

Another gotcha is failing to make sure that the **passenger names on the filed APIS exactly match the names on the passports.**

Arriving in the US

In addition to submitting an ARRIVAL APIS manifest and getting the receipt email from DHS, the regulations specifically require us to also **contact CBP at the arrival airport and obtain Permission to Land** (sometimes referred to as, "Landing Rights").

Recent changes to how it works!

Historically, different CBP ports have implemented varied procedures for requesting and granting Permission to Land, however that is now becoming more standardized through the efforts of CBP headquarters.

One significant change is that CBP will no longer grant Permission to Land unless you have **successfully submitted your APIS ARRIVAL manifest first**. When you are granted Permission to Land by CBP at the arrival port, you should receive an email from CBP (in addition to the one sent by DHS) confirming that Permission to Land has been granted and any specific instructions that CBP may have. If you are denied Permission to Land, you will also receive an email from the port confirming that Permission to Land was denied.

Failing to receive the email confirming Permission to Land is an indication that either the port has **not yet adopted the new procedure** or that Permission to Land was **not properly issued** by the CBP officer who responded to your request and a follow up request would be advisable. Be prepared to prove who gave you permission to land – the receipt email from DHS alone does not grant you Permission to Land.

Check those attachments!

The email granting Permission to Land will have several attachments. The first attachment is called **"CBP Private Aircraft Arrival Information"** which contains an overview of what the operator of a private aircraft is expected to do in order to comply with CBP regulations.

In addition, you may also find attached a **"General Aviation Airport Fact Sheet"** which contains detailed information on what you need to know about the CBP requirements for the specific airport you are landing at. Not only do these two documents clarify what is expected of you, they serve as proof to a CBP officer that you have followed procedures correctly.

Lastly, there is a third document called **"Tip of the month"** which is a review of important topics that pilots should be aware of and this document is updated monthly. Of the 392 airports where CBP is present,

approximately 250 have published Airport Fact Sheets.

Changes to your schedule

The Permission to Land email messages grant permission based on what you have transmitted in APIS and also include **port-specific time tolerances**; a +/- time allowance based on port operations. If you need to ARRIVE in the US at a time significantly different from that submitted in your ARRIVAL manifest, you need to contact CBP to re-secure Permission to Land for your new arrival time. Many aircraft land at Designated Airports and CBP must ensure that they have the space and manpower to receive and process inbound aircraft.

When you arrive

When arriving in the US, CBP procedures may vary slightly, depending on where you land.

CBP at many airports expect you to keep the door closed until authorized to open it by the CBP Officer. At KTEB/Teterboro, for example, if you deplane before authorized you will be subject to a hefty fine. CBP officers at some airports may not come out to meet the aircraft and may wait inside the building until the crew/PAX come inside. Other airports may have signs with instructions – follow them.

In all cases, especially where health and safety concerns present or exist, CBP always emphasizes to exercise reasonable and responsible judgement. If your aircraft Auxiliary Power Unit (APU) exhaust is 8 feet or higher above the ground, you do not have to power it down. However, CBP can require you to shut down the APU, though, in cases of enforcement actions.

Departing the US

You do not need to depart the US from an airport where CBP is present – **you can depart from any airport in the US.**

How it works

In your APIS DEPARTURE manifest you should **enter the airport code of the nearest CBP airport** to the departure site and then in the “Actual Departure Location Description” field, describe the actual place from which the aircraft will depart. This is an optional field which should be used only when the location of actual departure differs from the airport listed in the “CBP Airport” field. The “City” field should be the actual city from which the aircraft is departing.

When you submit an APIS DEPARTURE manifest to CBP and you receive DHS authorization to depart, the authorization is based on the information that you have submitted, including the departure time.

Spot checks!

On occasion, CBP conducts random departure inspections on aircraft departing from the US (it has happened to me) and officers will be dispatched to your departure airport location. If they arrive and you have departed before the time you specified or if you are nowhere to be found and then depart after the time specified, you could be subject to enforcement action. **Always update departure times with CBP!**

Canceling or postponing a flight

You are required to advise CBP if you are going to cancel your flight or postpone it to another date (which will require that you file a new manifest). This is important because CBP plans their workload and staffing based on manifests that they can see in the system.

How it works

Under CBP's updated procedures, when you cancel an APIS manifest, you will also receive an email confirming that your APIS manifest has been canceled. **If you transmitted multiple APIS manifests for the same date, the CBP port may cancel the unnecessary manifests which can trigger an email saying that the “APIS was cancelled”.** Remember that each submitted APIS manifest has a unique

eAPIS number as does the DHS receipt email and CBP cancellation email so you can match them. If you are ever in doubt, you should contact the port to confirm.

Transporting currency

Another important point is that you must always report if you are taking into, or out of, a country **more than \$10,000 USD**. It is not illegal to transport more than that amount, but failing to report it is illegal.

The nitty gritty

When you transport, attempt to transport, or cause to be transported (including by mail or other means) currency or other “monetary instruments” in an aggregate amount exceeding \$10,000 or its foreign equivalent) at one time from the US to any foreign country, or into the US from any foreign country, **you must file a report with US Customs and Border Protection**. This report is called the Report of International Transportation of Currency or Monetary Instruments, FinCEN Form 105. This form can be obtained at all U.S. ports of entry and departure or on the Web at FinCEN Form 105 (Rev. 7-2003).

Alternatively, the report can be filed electronically, an eCMIR, at this website. Travelers will be able to enter information into an eCMIR up to three days prior to travel, creating a provisional document on the CBP.gov website. Foreign countries will also have their own documents and procedures. Failing to report can result in seizure of the monetary instruments, fines, or worse.

CBP officer says it's OK

One topic that comes up repeatedly is that a CBP officer “Buddy” says its OK to land without a BOE or approves some other deviation from the rules.

Don't do it!

CBP headquarters has made it very clear that no CBP officer has the authority to override US law. Doing so could get both you and the officer into trouble. **Don't succumb to the temptation of listening to what you want to hear versus what you need to know!** Enforcement actions can cost you money, ruin your reputation with CBP and cause you to lose BOE privileges.

Visa Waiver / ESTA

Part of the joy of having a private aircraft is to share the experience with family and friends...

Visa Waiver gotcha

If any of those are citizens of Visa Waiver countries and they do not have a US Visa, then **they cannot fly into the US on a private aircraft unless you are a signatory carrier** or under some very isolated and specific circumstances. Contact CBP before you attempt to do so to avoid unpleasant surprises. If there is any chance that you may transport citizens from Visa Waiver countries, submit your request to become a signatory carrier now, while there is time.

PIC Responsibility

Yep, you know this already. **As PIC you are ultimately responsible for compliance with all the regs.** In the case of CBP, the PIC is responsible for ensuring that valid passports are brought aboard the aircraft that match the APIS manifest information submitted to CBP and that authorizations to depart are properly received.

Getting it wrong

If you ever do face an enforcement action, **best to just be honest**. CBP is not out to get us, what they want is compliance and have repeatedly demonstrated a willingness to work with General Aviation to achieve it. Work with them and they will work with you. This is not a guarantee that CBP will not take enforcement action, those determinations are made on a case-by-case basis and much depends on the

nature and circumstances of the violation as well as the way you handle it. **Violations are usually the result of either an oversight or wilful intent** – you don't want to give CBP the reason to believe that you are part of the latter if that isn't the case!

Illegal Charters

Unless you have a burning desire to find out more about both the US and foreign legal systems, **do not misrepresent yourself** as a private aircraft flight when in fact you are operating as a commercial aircraft operator!

Understanding the Regs

CBP defines a “commercial aircraft” as “any aircraft transporting passengers and/or cargo for some payment or other consideration, including money or services rendered” as per 19 CFR 122.1 (d). Note that CBP's definition of private and commercial are different from those used by the FAA.

Some US pilots believe that US regs apply to them when flying internationally, but 14 CFR 91.703 (a) (2) clearly states that they must abide by the laws of the foreign countries where they operate. Many of these countries also have much more basic definitions of commercial and non-commercial operations.

Bottom line – **don't try to walk a fine line with Part 91 definitions** as this could land you in hot water with the CBP as well as with the civil aviation authorities of foreign countries.

Puerto Rico and US Virgin Islands

Time for some bulletpoints, all *nicely* colour-coded...

- Flights between the continental **US** and **Puerto Rico** are considered domestic flights as long as the flight is conducted under IFR, the flight is above 12,500 feet and there are no intermediate stops.
- Flights from **Puerto Rico** to the **US** require a US Department of Agriculture (USDA) inspection in **Puerto Rico** prior to departure.
- Flights from the **US** and **Puerto Rico** to the **US Virgin Islands** are considered domestic flights BUT flights from the **US Virgin Islands** to the **US** and **Puerto Rico** are treated as international flights.
- When departing the **US Virgin Islands** to the **US**, always go through the pre-clearance process with CBP in the **US Virgin Islands** before departing. APIS must be transmitted as an ARRIVAL into the **US**.

Other Gotchas!

Check those pesky passports again

The PIC should verify that the doc that were used for the submission of the APIS manifest are on board the aircraft. **This can maybe be a bit awkward, but it is the PIC's reputation with CBP** and a possible enforcement action and loss of BOE privileges that are at stake. Some of the more common issues that arise are:

- Missing passport, the passenger forgot to bring it
- Bringing a different passport form the one use in the APIS manifest, passenger has 2 passports
- Bringing spouse's or child's passport by mistake

- Bringing a passport card instead of a passport, passport cards are not valid for use on an aircraft

Remember, an APIS manifest needs to contain verified and accurate information, the PIC must validate that what they have submitted is correct. CBP has told us repeatedly that **transmitting bad data is always grounds for enforcement action.**

Guns

Another common gotcha is trying to reenter the US with firearms after a hunting trip. You should present firearms to CBP along with CBP Form 4457 before leaving the US.

Diamonds are a girl's CBP officer's best friend

Same as above! Any high value item such as camera/video equipment, jewelery, etc need to be declared to CBP before leaving the US.

Q&A

1. General Aviation Airport Fact Sheets. These sound interesting! Are these fact sheets located anywhere on the CBP website? Or elsewhere on the internet?

CST Flight Services has all the CBP Fact Sheets. If you email us we can send you the latest for the airport you need: customersvc@cstflightservices.com. We plan to have a self-serve web page up and running shortly, where you can access the files 24/7.

2. Can operators start the BOE process before 45 days? Just to ensure they have this before it expires and they have to stop somewhere that's inconvenient?

You can try but it will almost certainly be rejected. CBP does not want any renewal requests that are more than 30-45 days out with 45 days being the upper limit.

3. When arriving in the US, do all your FPL alternates also need to be airports with CBP on site? What would happen if you had to divert somewhere else?

Safety of flight always comes first, however you can expect some tough questions like "why didn't you select a planned alternate where CBP is present?"

If the diversion is a true emergency (smoke in the cockpit, engine failure, medical emergency), I think CBP would work with you. An emergency due poor flight planning such pushing the aircraft's range or something similar may not go so well.

In the 20 years of working with CBP headquarters the mantra has been "reasonable and responsible." If you can demonstrate that your actions were reasonable and responsible then you should be OK, if you cannot, then it probably will not be OK!

4. The same question, but for a flight arriving from the south, without a BOE. Can they only list Designated Airports as their FPL alternates?

Same answer as above. The reality is that with the exception of KILM/Wilmington, the Designated Airports are along the US-Mexico border, Gulf of Mexico shoreline and South Florida. There are a plethora of possible alternates that are Designated Airports, so you may have a hard time explaining why you didn't choose one of those.

Anything we missed?

If you have questions about any of the above, or if you think there's something we missed, let us know!

About the author:

Rick Gardner of CST Flight Services, a company which provides a wide range of international trip support services for both owner-pilots and professional pilots. Rick is also the representative for the Aircraft Owners and Pilots Association (AOPA) in Mexico, Central America, The Bahamas and the Caribbean as well as a Bahamas Flying Ambassador, member of The Bahamas Civil Aviation Council and has participated on aviation committees of other foreign countries.

www.cstflightservices.com / customersvc@cstflightservices.com / +1 786 206 6147

Are you someone with knowledge to share?

Know something worth knowing about something? Want to write about it? Let OPSGROUP know! Maybe we can work together and write an article on it.

Niger Military Coup: Airspace Reopens

David Mumford

8 November, 2023



Update: 25 Sep 2023

Updated Notam for overflights – the airspace of Niger remains open at all levels for international flights following a coup back in July. However it now **excludes French-registered aircraft, or those chartered by French interests** due to a political dispute. DRRR Notam A1168/23 refers.

Update: 4 Sep 2023

Niger's airspace officially **reopened** for the first time since early August, following a military coup in July. The **Niamey FIR is now available at all levels** – as long as your transponder stays on. Security on the ground is still a problem. The US continues to advise against all travel there.

Major airlines flying between Europe and West Africa have resumed overflying the DRRR/Niamey FIR.

Timeline of closures:

- 4 Sep: **Airspace reopens**
- 7 Aug - 4 Sep: **Airspace closed.**
- 31 July - 7 Aug: **Airspace reopened.**
- 26 July - 31 July: **Airspace closed.**

Background

Niger's airspace and airports were closed to all flights on July 26, following a **military coup**.

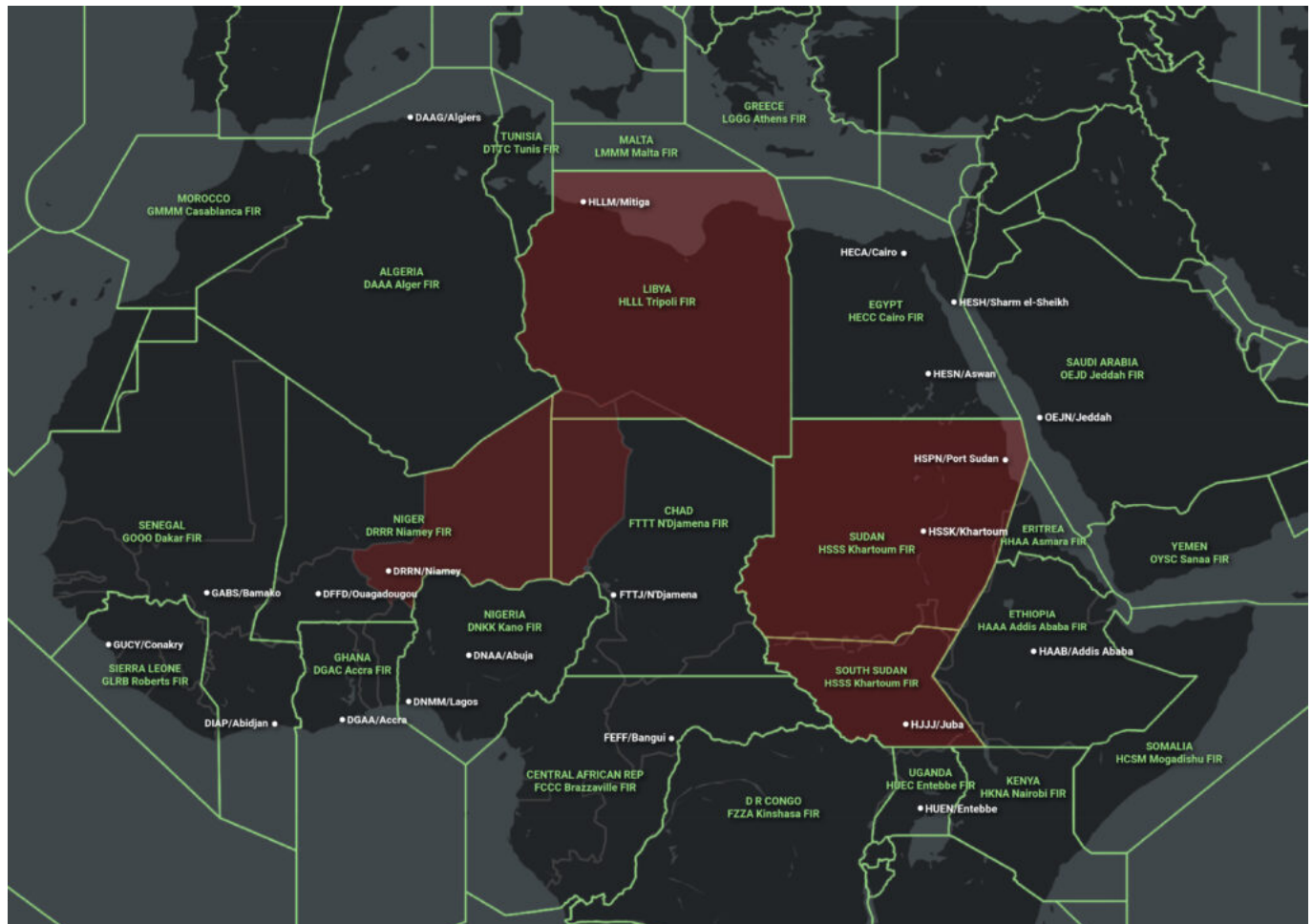
Troops announced a coup on national TV after **detaining the president**. They said they had dissolved the constitution, suspended all institutions and **closed the nation's land and air borders**. Soon after the announcement, the several Notams appeared advising that the airspace over Niger was closed, along with all airports in the country.

Niger straddles two FIRs - DRRR/Niamey (controlled by Niger) and FTTJ/N'Djamena (controlled by Chad). **But it was just the territory of Niger itself that was closed, not the whole DRRR/Niamey FIR:**

This closure made African routings quite challenging - a region already plagued with various airspace closures and risk warnings:

- **Sudan:** Airspace remains closed to all civilian flights following a military coup in April 2023. More info.
- **South Sudan:** Air navigation services remain suspended above FL245 following the coup in Sudan. More info.
- **Libya:** Flight ban for US and UK operators (several other countries have warnings in place) due to risks associated with the civil war that has been ongoing since 2014. More info.

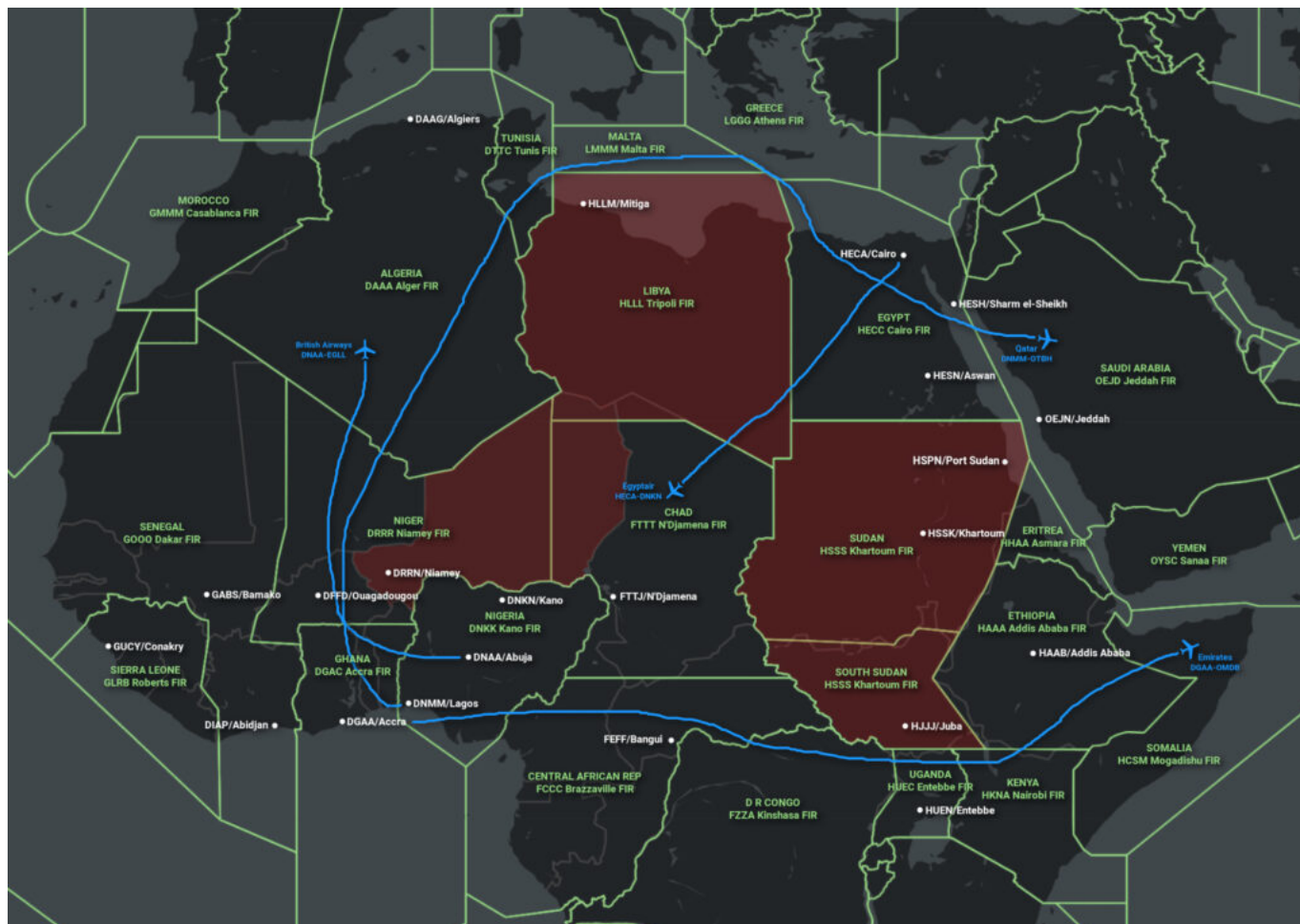
The map below shows the issue:



Flights from Europe to West Africa and beyond had to route around Niger, via Mali and Burkina Faso in the western part of the DRRR/Niamey FIR, or via the GOOO/Dakar FIR (*British Airways DNAA-EGLL in the map below*).

Flights between West Africa and the Middle East also had this extra dogleg around Niger if electing to fly the northerly route across Africa (*Qatar DNMM-OTBH*) or else chose the southerly route avoiding Sudan and Yemen (*Emirates DGAA-OMDB*).

And yep, there were still the likes of Egyptair **overflying Libyan airspace** on some flights!



We will update this article with further info as we get it. If you have anything to share, please let us know.

Armenia-Azerbaijan Airspace Update

David Mumford
8 November, 2023



Key Points

- **Renewed conflict** between Armenia and Azerbaijan on Sep 19, with military operations and exchange of fire in the Nagorno-Karabakh border region. **Ceasefire agreed on Sep 20**, coordinated by Russia.
- Azerbaijan published new Notams saying that cross-border waypoints were closed. These Notams were cancelled on Sep 20, but most operators are still **actively avoiding the region**, and routing north **via Georgian airspace (UGGG/Tbilisi FIR)** instead.
- There have been **no changes to state-issued warnings**.

Update: 20 Sep 2023

Azerbaijan has cancelled its Notams which closed its airspace on the border with Armenia. But most operators are still actively avoiding the border region, and routing north via Georgian airspace (UGGG/Tbilisi FIR) instead.

A ceasefire has been agreed on Sep 20, coordinated by Russia, with further talks set for Sep 21.

Several sources report that on Sep 19 Azerbaijan targeted Armenian forces using drones, artillery, and surface-to-air-missiles. This followed a statement from the Ministry of Defense of Azerbaijan accusing Armenia of shelling the positions of the Azerbaijani Army in the Nagorno-Karabakh region.

There has been no update yet to EASA's Conflict Zone Information Bulletin.

No new foreign airspace warnings for Armenia or Azerbaijan have been issued yet either. Several of these were withdrawn at the end of the war in 2020. Following brief clashes in Sep 2022, only Canada issued a new airspace warning (for both countries) advising caution due to potential risk from anti-aviation weaponry and military ops.

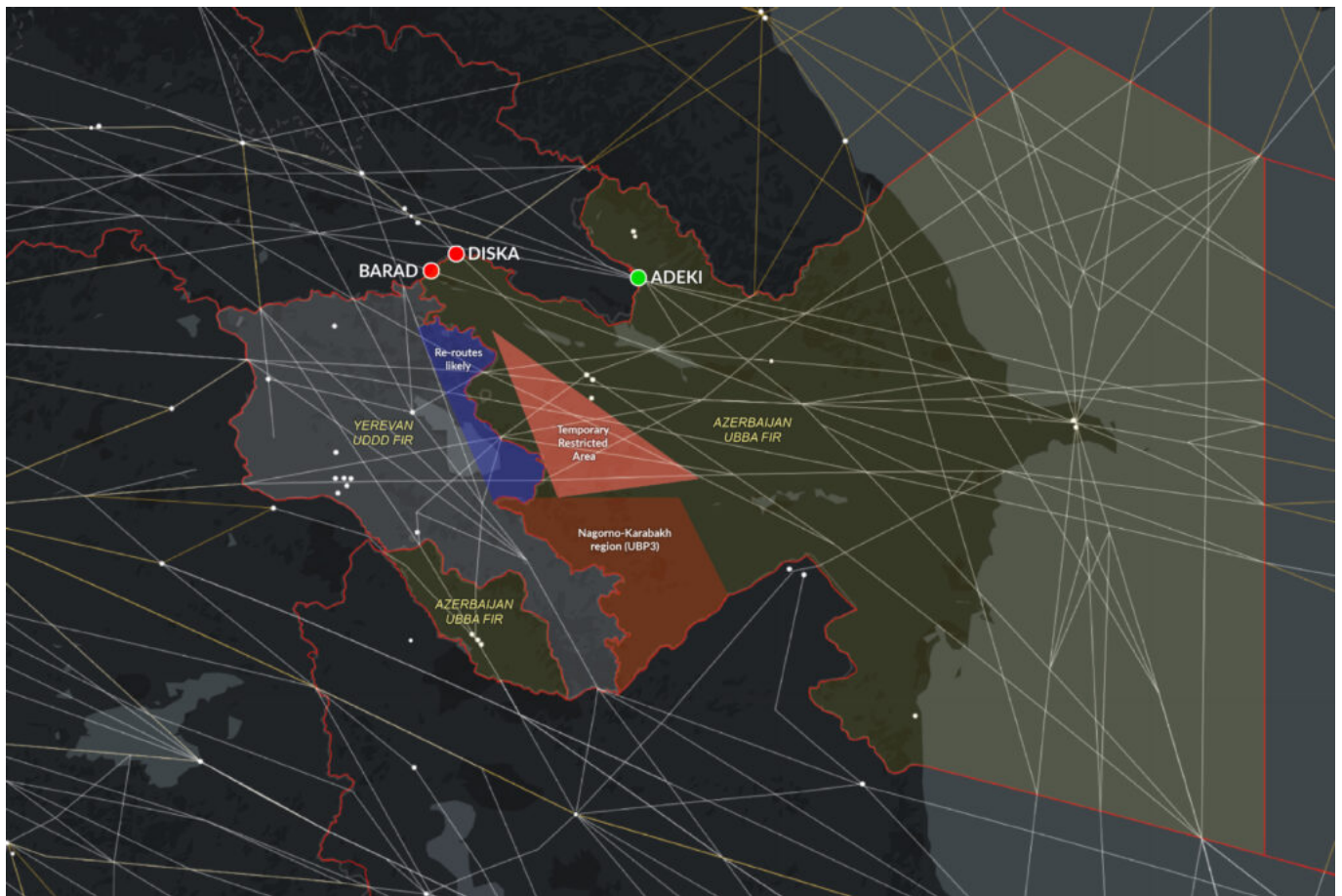
But with the latest escalation in hostilities, we currently assess both Armenia and Azerbaijan on SafeAirspace.net as **Risk Level 2: Danger Exists** – any further large-scale ceasefire violations involving missiles or anti-aircraft weaponry present a risk to overflights in the border region.

Update: Sep 2022

- In September 2022 there were renewed border clashes between Azerbaijan and Armenia – the worst flare-up in hostilities since the war ended in 2020.
- The waypoints along the border between the two countries (VETEN, PEMAN, ELSIV, MATAL) were temporarily closed on Sep 13, but reopened the next day, after Russia brokered a ceasefire to end the fighting.

Update: Oct 2020

At the peak of the conflict in late October 2020, the airspace picture looked like this:



Here's what happened at that time:

Azerbaijan

- Azerbaijan established a Temporary Restricted Area along the border with Armenia, which meant that all East-West airways between the two countries were effectively closed.
- They also issued a Notam advising caution across the UBBA/Baku FIR due to the spillover of the conflict, with the specific warning of the threat posed by long-range missiles which they claimed Armenia had been using to target locations throughout Azerbaijan.

Armenia

- Armenia never closed any parts of its airspace. Instead, they issued a Notam advising

operators to expect tactical rerouting and short notice closures in the airspace along the border, and recommended they carry additional fuel.

Germany

- Germany issued airspace warnings for both Armenia and Azerbaijan. It did not advise that overflights be restricted to a certain altitude, but instead warned of a “potential risk to aviation... from military operation including anti aviation weaponry.”

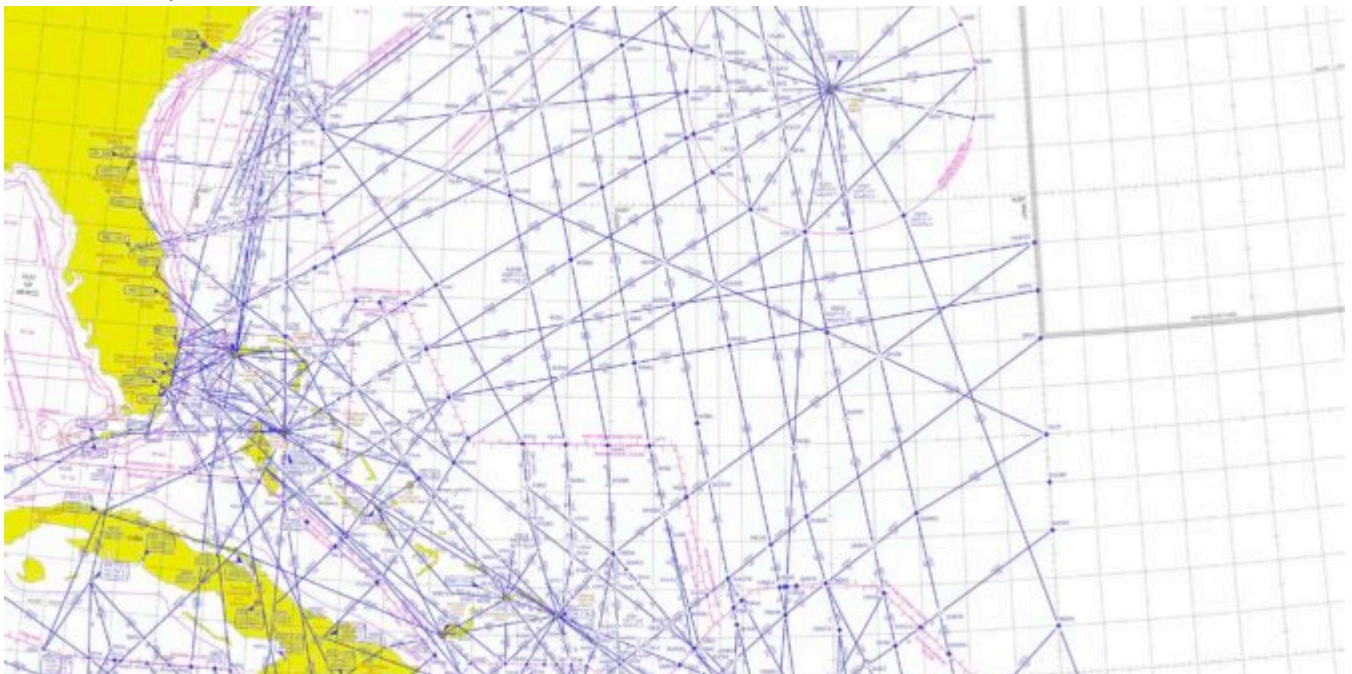
France

- The airspace warnings issued by France were a bit different. Essentially, they said that operators should not overfly the border region except on certain airways in the far north of the UBBA/Baku FIR at FL340 or above.

North Atlantic Update: WAT Happened To WATRS?

Chris Shieff

8 November, 2023



Key Points

- The US FAA has officially renamed **WATRS** airspace in the West Atlantic, to simply **WAT**.
- Part 91K, 121, 125 and 135 operators will all be affected by the change. **Existing B050**

authorizations will be re-issued within 24 months.

If you're not familiar with WATRS, it is a large chunk of airspace off the US East Coast comprised of fixed routes that provide huge volumes of oceanic traffic to and from the NAT HLA with lateral separation. From 7 Sep 2023, it's been renamed **WAT**.

What was wrong with the old name?

The FAA dig into this in their recent notice. Essentially back in 2020, New York ATC asked users to stop using the term 'WATRS airspace' because it was causing some **confusion**.

Apparently, some users were associating it simply with the **New York West Oceanic CTA**. When, in reality it also spans the **San Juan CTA** and the Atlantic portion of the **Miami Oceanic CTA** too.

It is purely an issue of semantics. Now we need to call it WAT instead so that it better aligns with ICAO regions.



Has the physical boundary changed?

Nope. It is a **name change only**, and the existing set up remains the same.

Then why do we need to know?

If you traverse the NAT a lot, no doubt you are quite familiar with the term WATRS. But you are unlikely to hear it anymore.

It will be **progressively replaced** with the unfamiliar term WAT in charts, reference material and approvals. And so, a little background helps.

A number of important FAA documents will need to be updated. The most significant is **LOA B050** which will be re-issued to all operators over the next 24 months.

LOA B045 (Extended Overwater Operations Using a Single Long-Range Communication System) will also be revised when some extra paper-pushing gets done behind the scenes.

Your company's internal manuals and guidance will also need to be changed to avoid 'reverse training' the older, obsolete name.

WAT about other NAT changes?

While we have you, there's been another **small change** to NAT ops to report.

On September 18, ICAO revised the '**Oceanic Errors' NAT Ops Bulletin** – the doc which has all the advice for operators on how to avoid the most common mistakes when flying the North Atlantic.

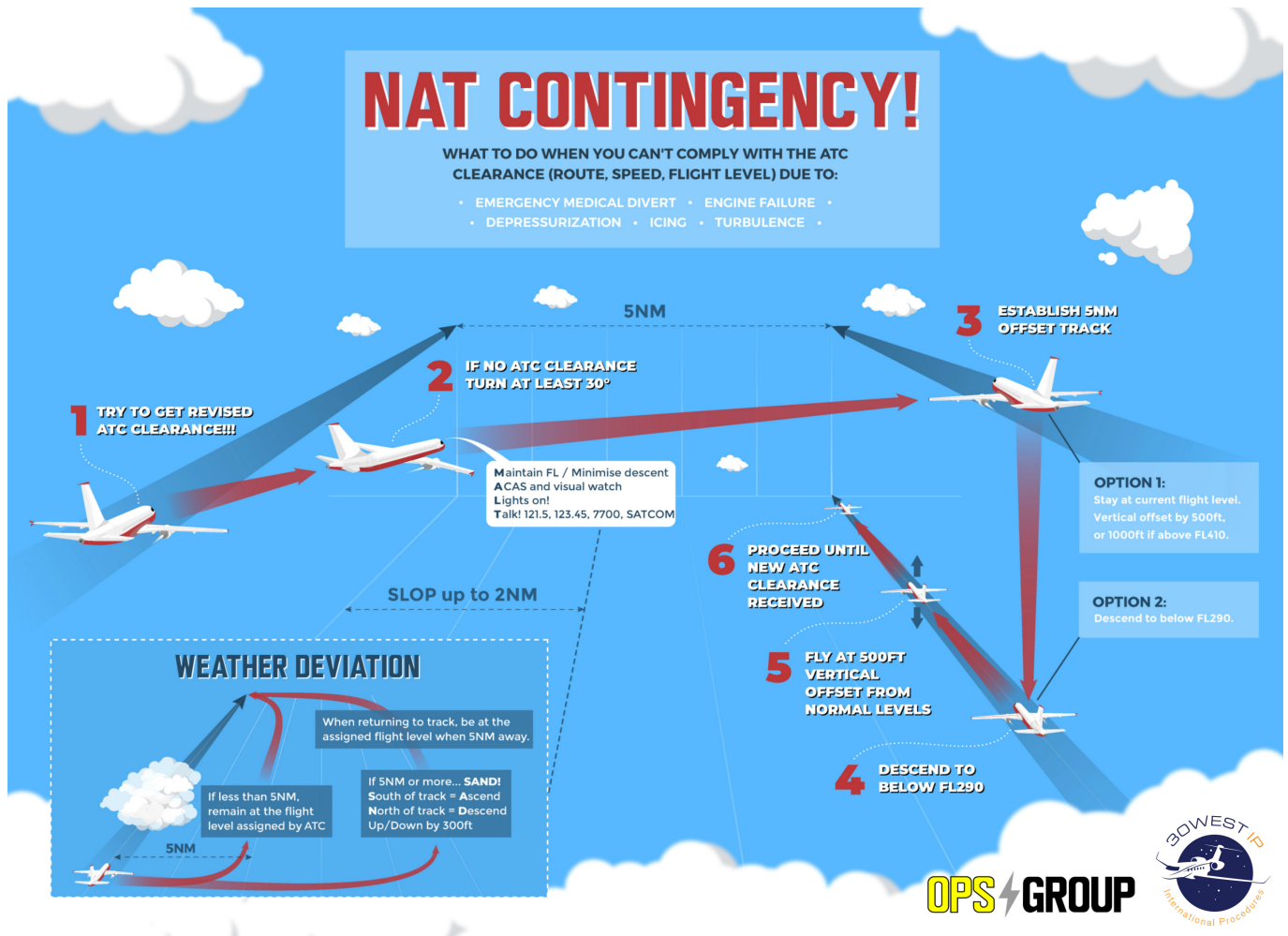
These include: Gross Nav Errors, Large Height Deviations, and Longitudinal Separation busts. There's also some advice on Flight Planning, SLOP, and some CPDLC things to watch out for.

You can download it [here](#).

Looks like there are **no significant changes** in terms of content for this updated version when compared with the old one – they've just tidied it up a bit.

But if you operate over the North Atlantic it's still worth a read, as there's lots of top tips on how to avoid the most common "gotchas"!

Contingency and Weather Deviation Procedures were updated back in 19', and rolled out to all oceanic airspace worldwide in November 2020. We produced this chart at the time:



Do You Have a NAT Conundrum?



Ah, NAT conundrums! We love them so much, we've published three entire Volumes already!

Volume I covered the following three conundrums:

1. To SLOP, or not to SLOP?
2. What's the difference between the NAT Region and the NAT HLA?
3. Can I fly across the North Atlantic without Datalink?

Volume II covered these additional three:

4. Do you need to plot on Blue Spruce Routes?
5. Do we still fly Weather Contingency Procedures on Blue Spruce routes?
6. When can we disregard an ATC clearance and follow the contingency procedure instead?

Volume III was solely dedicated to:

7. GOTA airspace datalink and ADS-B requirements.

We're always on the lookout for more conundrums, so please **get in touch with the**

team on team@ops.group with any NAT related questions or queries. We'll do our best to answer them, or put you in touch with someone who can.

Flight Ops at NBAA23

OPSGROUP Team
8 November, 2023



Hi everyone!

The latest QRH and Checklist for Vegas is now here.

**DOWNLOAD THE
FLIGHT OPS
QRH
AND
CHECKLIST
FOR
NBAA 2023**

**NBAA 2023
FLIGHT OPS QRH**

Welcome to Las Vegas! Use this handy OPSGROUP Members Quick Reference Handsheet to navigate all the joy and horrors of NBAA 2023. The theme this year: **good old-fashioned FUN!**

CREW SKED
TUESDAY OCT 17
1000 OPSGROUP Member Stand OPENS!
1030 Cockpit Cocktails - OG Member Meetup
1130 Dave's Ops Quiz (with surprise-ingly good prizes)
WEDS OCT 18
1030 Cockpit Cocktails - OG Member Meetup
1130 Dave's Ops Quiz
1315 Airplane Static Display

MEMBERS STAND
A dedicated OPSGROUP Members Stand will run for all three days at NBAA. Hang out here as long as you like! We'll have **daily member meetups**, Nintendo contests, Dave's Famous International Ops Quiz, a lot of free pilot gear, games, dress-ups, a polaroid wall, vintage charts, a fish, and some weird stuff. **Drop by!**

MEET THE TEAM!
The OPSGROUP Team will be at the stand. Dave will answer them all! (We have a lot of Dave's.)

GET YOUR MERCH
Show this Checklist to pick up your OPSGROUP member merch for free! Flight bag stickers, cheap t-shirts, hats, the usual junk ...

THREE GAMES
#1 NAME THE FISH WIN THE FISH
The big contest of NBAA2023: The OPSGROUP Goldfish is nameless. **Gander Gobbler! Frank the Fed!** You pick - best name wins the fish! No stress, TSA Approved for travel and a plastic bag and carry case is ready.
#2 CHART CHANGER
Make your mark on the new OPSGROUP Pacific Plotting Chart, or the updated NAT chart.
#3 NINTENDO NINJA
Battle it out with other members to become the 2023 Super Mario Champ on the original SNES.

DAILY
There will be an OPSGROUP Stand at the stand. Dave will answer them all! (We have a lot of Dave's.)

NBAA Stand
Main stage
OPSGROUP Members area
The OPSGROUP Member Stand is in the North Hall, close to the NBAA Stand and the main stage. The Stand Number is **N2127**. Look out for a tacky OPSGROUP sign, a confused goldfish, or confused pilots. We'll all be there.

YE OLDE NORTH HALL
Hall entry

**WE ARE HERE
WHERE ARE YOU?**

EU Temporary Admission of Aircraft - busting myths

Mark Zee

8 November, 2023



Our friends at **OPMAS** put together this useful Myth-Busting lowdown on the process for “Temporary Admission” of aircraft within the EU. We saw it, we liked it, and so here it is for our OPSGROUP members!

There are still several myths concerning the usage of the Temporary Admission (TA) procedure when flying within the EU. Common to all these myths is the idea that TA limits operators when flying on internal EU trips with great consequences if not followed, but this is often incorrect, outdated or misunderstood.

What’s Temporary Admission?

Temporary Admission (hereafter TA) is meant to allow EU outsiders to be able to roam freely within the EU for a certain period. “Outsiders” means that the aircraft is owned, registered, operated and based outside the EU (all criteria must be fulfilled). Read the short story on Temporary Admission.

Myth #1: Temporary Admission cannot be used when carrying EU passport holders as passengers

This myth is busted because:

- The EU Commission has – numerous times – stated that these restrictions are not meant to restrict having EU residents onboard as passengers. The restrictions are meant for the pilots who are, in customs terms, seen as the real user of the aircraft, meaning that there are **NO**

RESTRICTIONS for carrying EU passengers. Thus, there is no need to appoint a main passenger or have a so-called authorization letter onboard.

- The idea of a main passenger, authorization letter, and other strange demands when using TA has no foundation in the Union Customs Code. It is based on a wrong interpretation or outdated information.

Myth #2: Temporary Admission cannot be used for commercial flights, such as Part 135

This myth is busted because:

- The EU Commission approved Part 135 traffic as correct use of TA in 2014.
- Internal traffic was also removed as a restriction for TA in 2016 with the introduction of the Union Customs Code (UCC). The paragraph was originally intended to limit commercial traffic but has been removed for many years now.
- The requirement for *Traffic rights* (also called charter permits) is often mentioned as another obstacle when using TA, yet *traffic rights* have absolutely nothing to do with the process of obtaining TA or full importation. It is strictly an aviation regulator issue.
- US aircraft flying Part 135 may need to obtain *traffic rights* on some internal EU legs, but this is independent of the TA or full importation status. Any fully EU-imported US Part 135 aircraft will also need to obtain the exact same *traffic rights*. Having a fully EU-imported aircraft instead of a TA aircraft will not improve the situation. Full importation does not grant an aircraft “better” traffic rights than aircraft flying under TA or EU-registered aircraft.

Myth #3: The owner must be onboard or be present within the EU

The myth is busted because:

- It has earlier been clarified that the owner is not needed to be present onboard or within the EU in the typical Part 91/135 scenario when flying within the EU. This paragraph in the Union Customs Code is meant to regulate a completely different scenario.
- This issue can however be a bit tricky as aviation structures are complicated and not always easily or correctly understood by customs on the ramp, so operators should always ask a competent customs agency to approve the structure in advance and outline the correct understanding in the specific case.

Myth #4: Aircraft flying under Temporary Admission will most likely have problems when flying to Cannes, Nice, or Paris-Le Bourget

The myth is busted because:

- Numerous aircraft are flying to these airports and other “dangerous” airports every day using TA and are ramp checked without having any problems because the crew onboard are well-

prepared and able to explain and document why the aircraft is eligible to use the TA procedure. We have supported many of these operations, so we know how it works and what it takes.

- Some aircraft encounter problems at these airports, but all known cases are based on operators either not being TA compliant or simply not prepared to prove compliance. These aircraft can remain on the ramp for hours or weeks and sometimes result in a full VAT payment.

There is a lot of noise when TA is discussed

It seems like some presenters have forgotten to read or understand the changes made to the Union Customs Code for the last many years as we see a tendency to, deliberately or not, denigrate the use of TA in favor of full importation using arguments that it is impossible or dangerous. In fact, the opposite is true.

The TA procedure has become a very well-defined customs procedure

Please note that *TA can be used to fly privately, corporately, and commercially within the EU without any problems and with EU-resident persons onboard, if applied correctly.* Moreover, since 2014 the TA procedure has become a very well-defined customs procedure, especially for corporate and commercial aviation. This is thanks to the huge effort from, e.g., the EU Commission and NBAA.

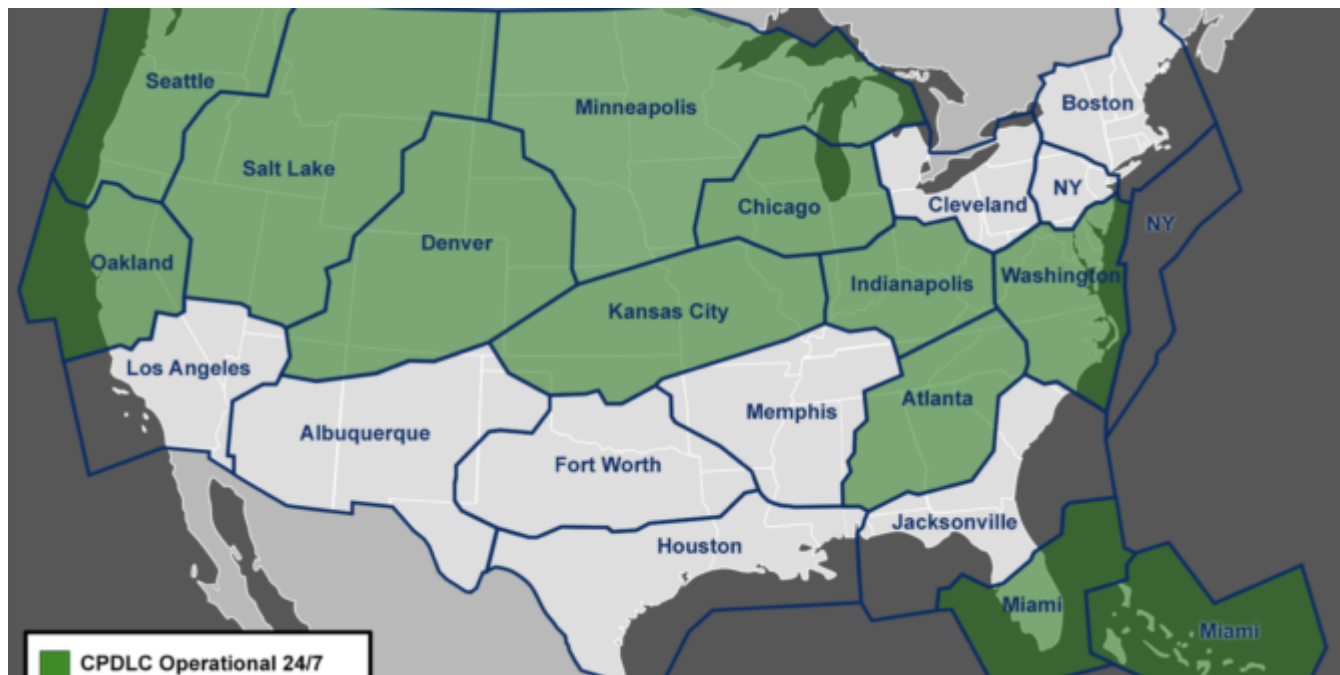
More advantageous for many North American operators

The option of using TA is sometimes presented as second to full importation, with the latter presented as the only “*safe and possible*” option for North American operators. This is clearly **NOT** supported by the EU Commission. On the contrary, the use of full importation will be an extra burden and place risks on the owner and user of a corporate aircraft, also when flying outside the EU. This can be eliminated by using TA. In fact, the TA procedure is often more advantageous for many North American operators compared to full importation due to the limited scope of liability and the wide scope of use.

Thanks to OPMAS for this article! They provide importation services in relation to the EU; Temporary Admission, full importation for corporate owners and full importation for AOC holders and charter/commercial operators. That’s all they do! They do not charge for an evaluation of the particular set up you have – contact them here.

US expands CPDLC coast-to-coast

OPSGROUP Team
8 November, 2023



Update 4 Sep 2023:

- The FAA had planned to allow GA/BA aircraft to use enroute CPDLC from Aug 31, but this is being delayed to sometime towards the end of Sep.
- So until then, the status quo continues – you can only use enroute CPDLC if you’re already registered as part of the trial, as per KFDC Notam A0171/22.
- When it gets rolled out to everyone in Sep, there will be green/yellow/red lists drawn up for aircraft depending on their avionics – but only “red” category aircraft (those with serious avionics issues) will be unable to use CPDLC.
- More info available from our friends at NBAA [here](#).

Original story from 28 Mar 2023:

The US has recently implemented en-route CPDLC in more centers across the country. **So now, for the first time ever, you can fly coast-to-coast using CPDLC.**

And what’s more – KUSA is the one and only code you need.

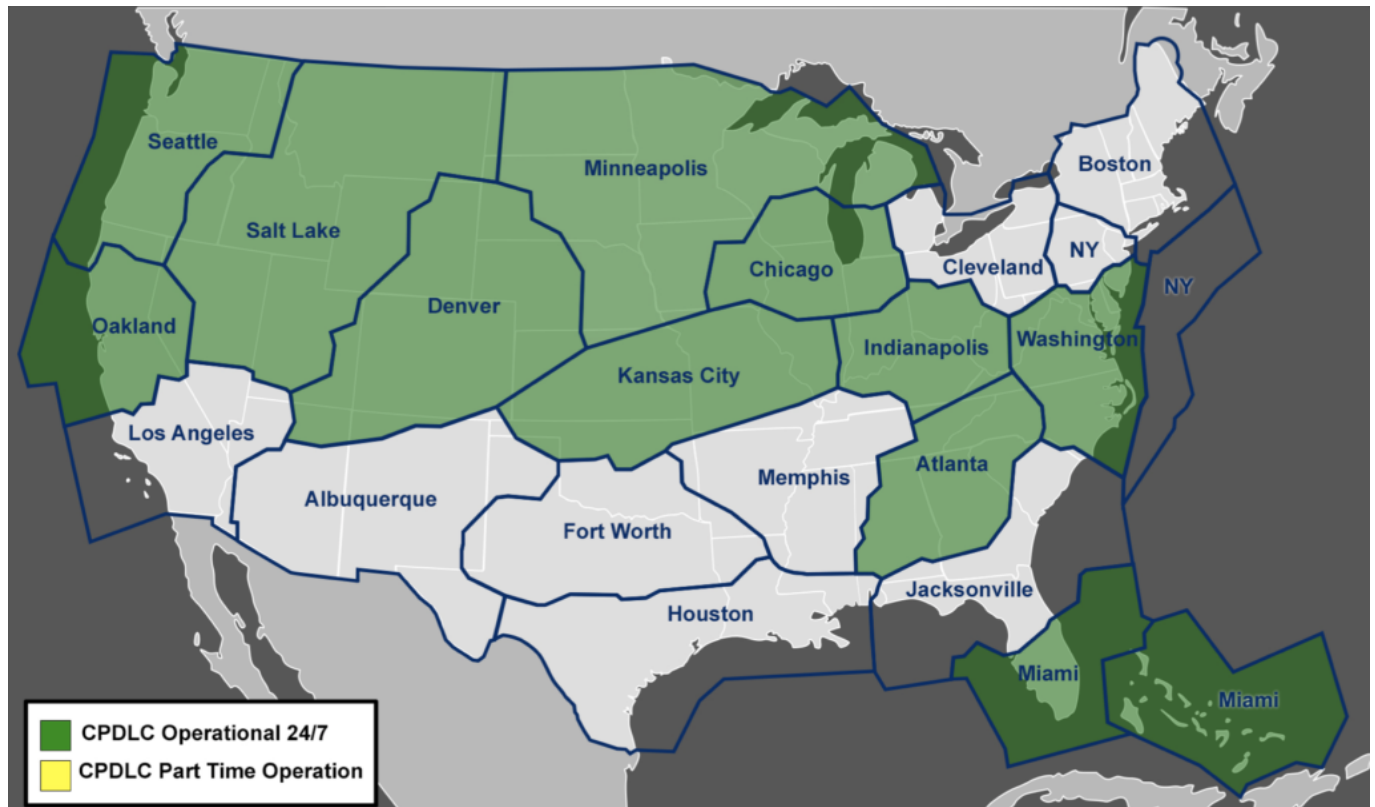
Who is KUSA?

For those of you who aren’t so familiar with the US, **KUSA is the CPDLC logon code.**

You might know KUSA from getting your clearances. The US actually gives two types of departure clearance via KUSA – a DCL or a PDC. **DCL** is the one where you don’t have to read it back. **PDC** technically requires a voice read back (but in the US they don’t seem to).

If you are flying across the NAT then **this clearance usually includes your entry clearance too** – so you get this when you get your departure clearance.

KUSA is the one and only logon code you need, all the way across.



So do I need CPDLC now?

US domestic datalink is not mandated. In fact, they are not currently allowing any GA aircraft to use enroute CPDLC unless they are a part of the “US Domestic En Route CPDLC Avionics Trial”. And currently, they are also **not allowing any new operators to join this trial!**

You can check all that out here on the L3 Harris site. They have a whole load of information on there about DCL stuff too so definitely worth a look.

What if I’m flying into the US internationally?

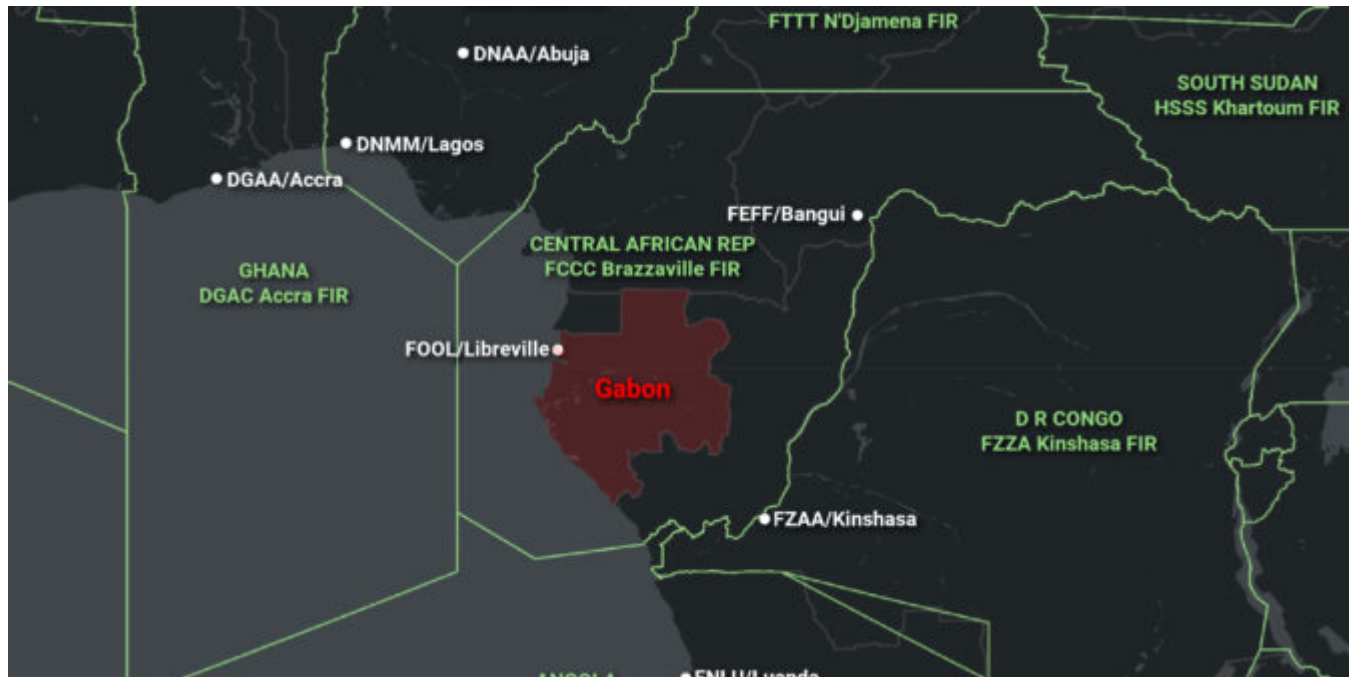
To make us of US domestic enroute CPDLC, foreign operators must have **FAA approval (J4 on their A003)**. L3Harris also need to have confirmed that your **aircraft avionics configurations meet the compatibility requirements** per the Recommended and Required Avionics Version List (RAV-E). If in doubt about any of this, contact them at DCIT@L3Harris.com for any eligibility questions.

For eligible aircraft inbound to the US, there are some differences in logon guidance depending on **whether a CPDLC connection is already established** from the previous data authority, and whether the aircraft is entering via **active or non-active** US domestic enroute airspace.

Ultimately, all the answers can be found here. This doc lists all the inbound/outbound scenarios, and how CPDLC will work in each situation.

Gabon Military Coup: Airspace Reopens

David Mumford
8 November, 2023



Update: 4 Sep 2023

Air borders in Gabon have reportedly been reopened following last week's coup. The UK FCO have posted an update here. From a security standpoint, not much has changed though – the situation is still volatile, and scheduled carriers continue to avoid landing at FOOL/Libreville. Military action by neighbouring countries is still a possibility at short notice.

Original Story: 31 Aug 2023

- There was a military coup in Gabon on Aug 30. The military group dissolved institutions, cancelled the Aug 26 election results, and closed the country's borders until further notice.
- Heavy gunfire was heard in the capital, Libreville, during the coup attempt, but the situation was calm in the capital and across the country as of Aug 31.
- Notams were vague, but several sources reported that Gabon's airspace was closed, along with all airports in the country.

Airport and Airspace Info

Notams were published for Gabon under the FCCC/Brazzaville FIR code, advising that the country's air, sea and land **borders are closed**:

```
FCCCNYX
(A0913/23 NOTAMR A0907/23
Q)FCCC/QXXXX/IV/NB0/E/000/999/0043N01655E 999
A)FCCC B)2023-08-30 16:10:00 C)2023-09-02 23:59:00 EST
E)FOLLOWING THE CURRENT EVENTS IN THE REPUBLIC OF GABON, THE AIR, LAND
AND SEA BORDERS ARE CLOSED FROM THIS DAY ON THROUGHOUT THE NATIONAL
TERRITORY)
```

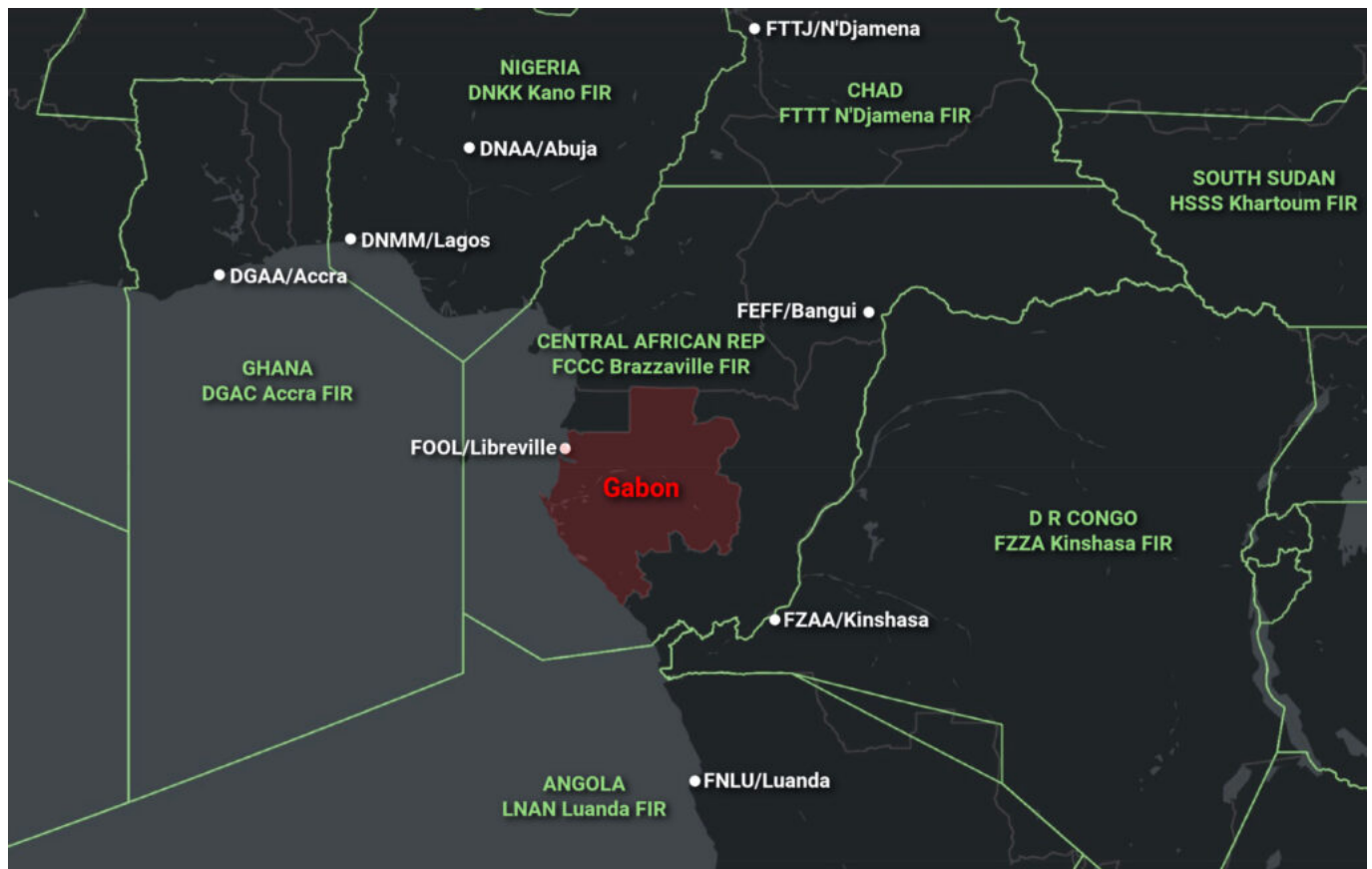
These Notams might not show up on conventional Notam search engines (the FAA one, for example, does not show them), so you have to use the ASECNA Notam search instead:

<https://ais.asecna.aero/fr/ntm/notam.php>

It wasn't 100% clear from the Notam if the airspace was closed for overflights, but several sources including Royal Air Maroc and the Netherlands Government said that the **airspace was closed**.

Where are we talking about?

Gabon sits in the middle of the FCCC/Brazzaville FIR:



Overflights of the FCCC/Brazzaville FIR outside of Gabon were not affected.

For overflights of Gabon itself, **most operators avoided the airspace**. In the ASECNA AIP, there is a Contingency Plan for routes through the Libreville UTA, although this didn't seem to be activated at any stage.

Here's what that looks like:

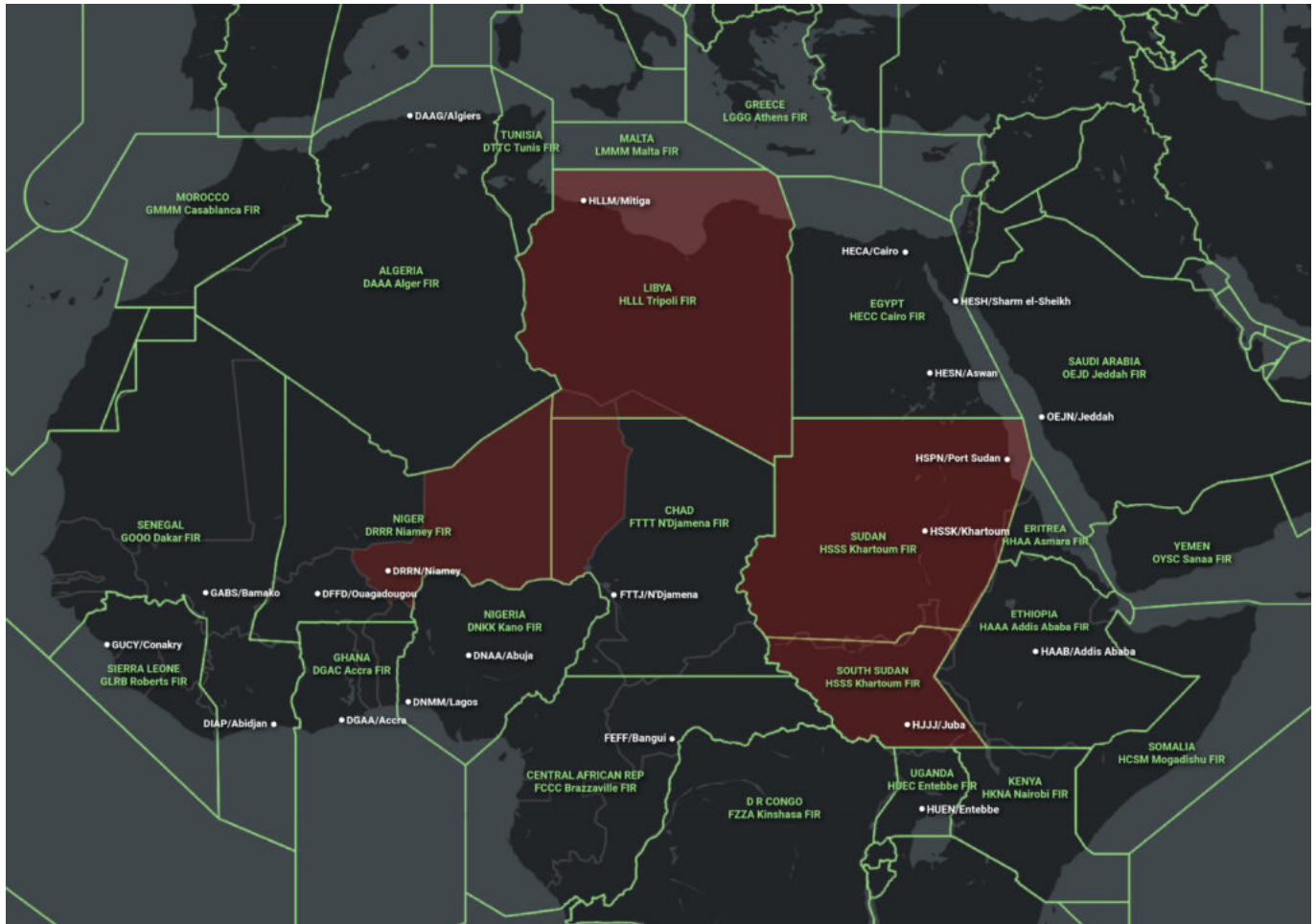
- (UG856) BIPIV/MOVOD FL290, FL390 SOUTH-EAST BOUND
- (UG856) BIPIV/MOVID FL300, FL400 NORTH-WEST BOUND
- (UG861) MOVOD / ARASI FL340, FL360 NORTH-WEST BOUND
- (UG861) MOVOD / ARASI FL330, FL350, FL370 SOUTH-EAST BOUND
- (UB737) IPOVO / USMOL FL280, FL320 SOUTH-WEST BOUND
- (UB737) IPOVO / USMOL FL270, FL310 NORTH-EAST BOUND

Note that with the ongoing closure of airspace in Niger and Sudan, plus the airspace risk in Libya, this has already created challenges for traffic routing through Central Africa:

- **Niger:** Airspace remains closed to all civilian flights following a military coup in Aug 2023.

More info.

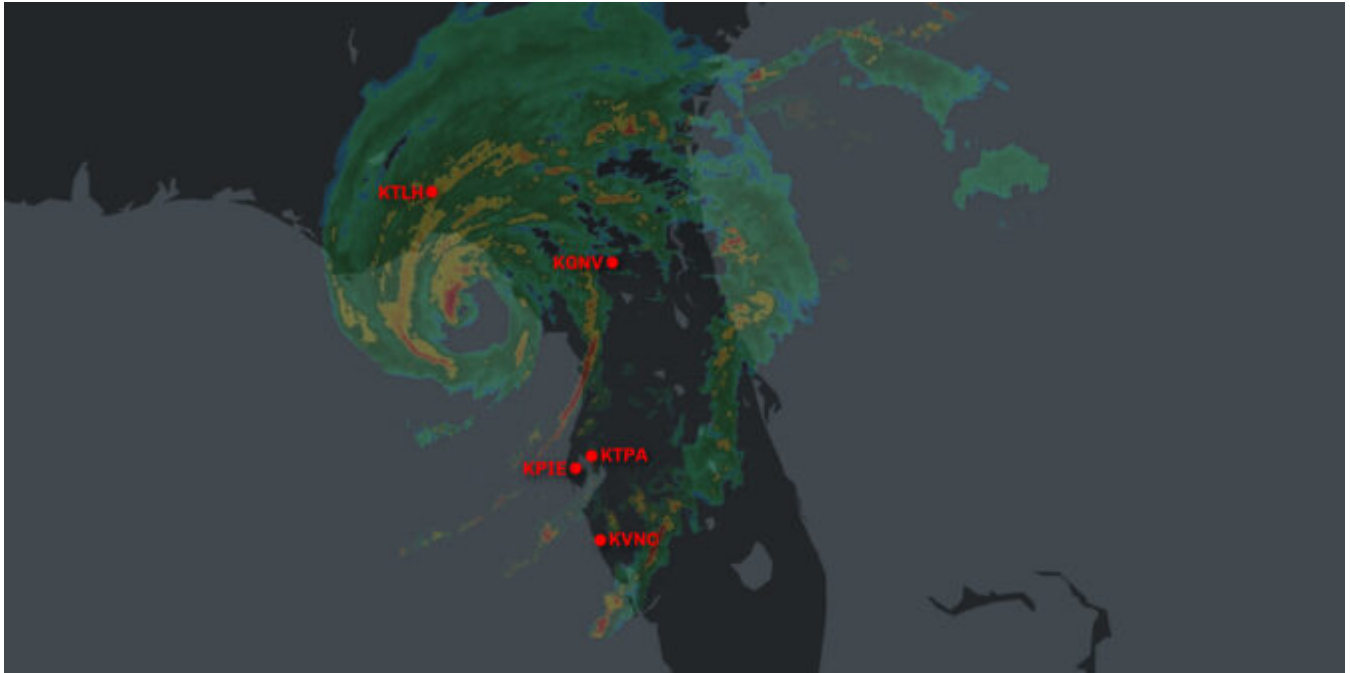
- **Sudan:** Airspace remains closed to all civilian flights following a military coup in April 2023. More info.
- **South Sudan:** Air navigation services remain suspended above FL245 following the coup in Sudan. More info.
- **Libya:** Flight ban for US and UK operators (several other countries have warnings in place) due to risks associated with the civil war that has been ongoing since 2014. More info.



We're continuing to monitor the situation closely. If you have any updates to share, please contact us at news@ops.group.

Hurricane Idalia: Florida Airport Closures - 1200z Aug 30

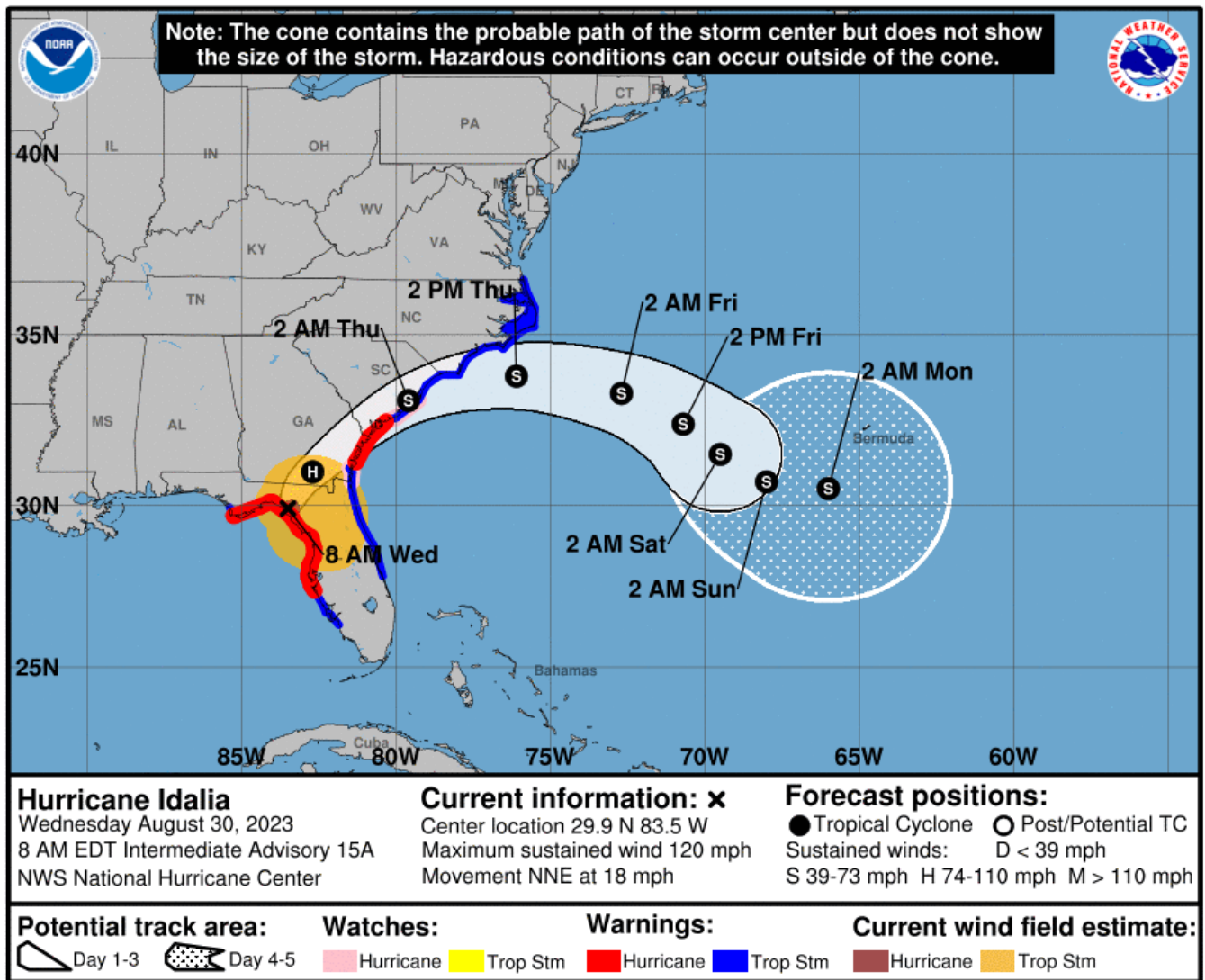
David Mumford
8 November, 2023



Key Points

- The forecast for Hurricane Idalia has been upgraded. It is now expected to be a Category 4 hurricane when it makes **landfall over Florida's northern panhandle on Wednesday morning.**
- **Several airports are closed:** KTPA/Tampa, KPIE/St Pete-Clearwater, KVNC/Venice, KTLH/Tallahassee, and KGNV/Gainesville. Expect closures to be announced at other airports in the region too.
- Hurricane warnings have been issued for the majority of the state's Gulf Coast.

National Hurricane Center's Advisory, issued 1200z Aug 30:



At 800 AM EDT (1200 UTC), the eye of Hurricane Idalia was located by Tallahassee radar near latitude 29.9 North, longitude 83.5 West. Idalia is moving toward the north-northeast near 18 mph (30 km/h). A north-northeastward motion is expected through the morning, with Idalia's center forecast to move into southern Georgia later today. Idalia is forecast to turn toward the northeast and east-northeast, moving near or along the coasts of Georgia, South Carolina, and North Carolina late today and Thursday.

Maximum sustained winds are estimated near 120 mph (195 km/h) with higher gusts. Idalia is a category 3 hurricane on the Saffir-Simpson Hurricane Wind Scale. Although Idalia will weaken further now that the center is inland, it is likely to still be a hurricane while moving across southern Georgia, and near the coast of Georgia or southern South Carolina late today. Idalia is forecast to be a tropical storm while moving near the coasts of northeastern South Carolina and North Carolina tonight and on Thursday.

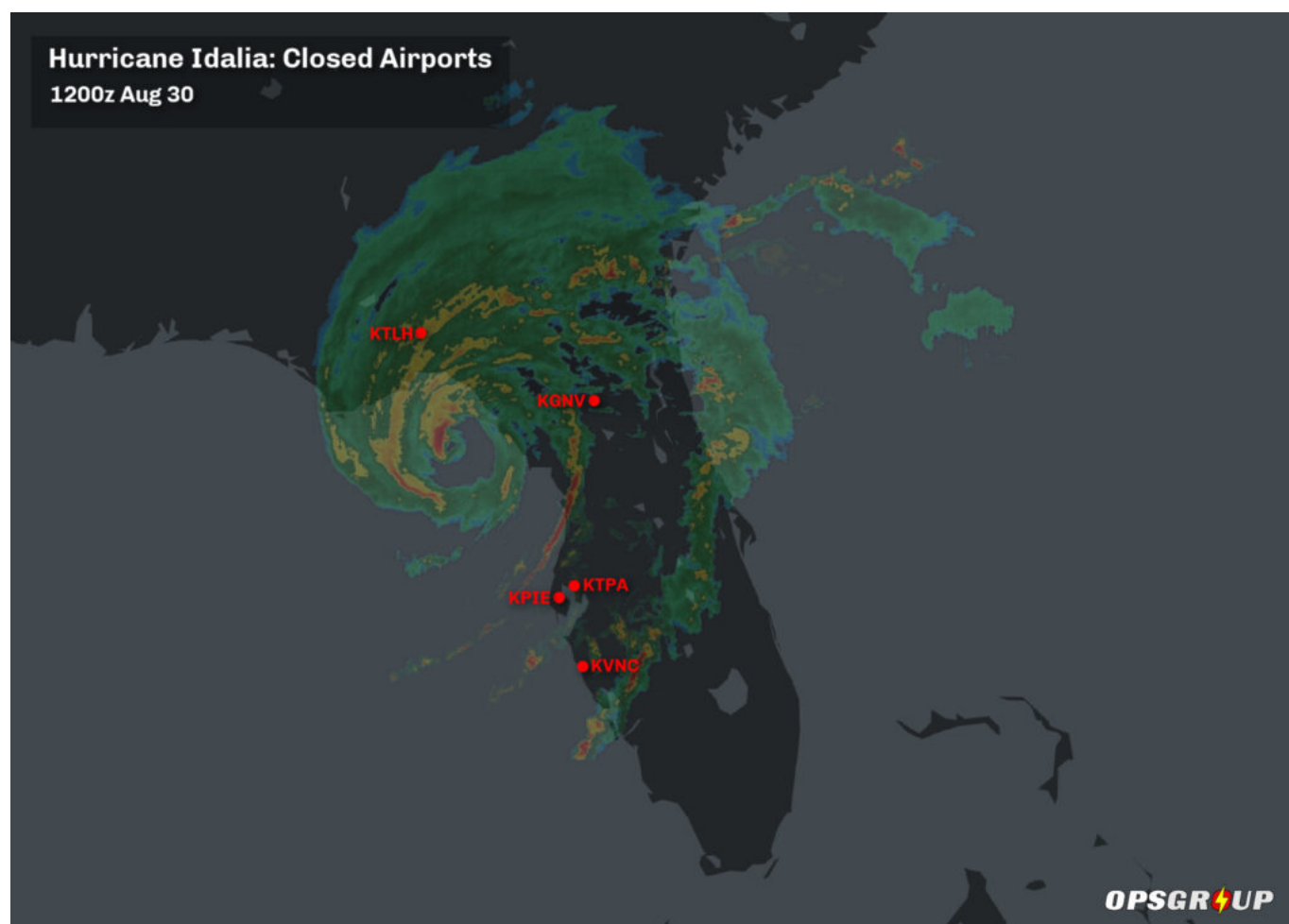
Hurricane-force winds extend outward up to 25 miles (35 km) from the center and tropical-storm-force winds extend outward up to 175 miles (280 km).

The minimum central pressure is 950 mb (28.05 inches) based on aircraft data.

Water levels along the coast of the Florida Big Bend continue to rise rapidly. A NOAA National Ocean Service tide gauge at Cedar Key, Florida, recently reported a water level of 6.2 feet above mean higher high water, which is an approximation of inundation in that area.

Airport Closures

Several airports across the region will close for the passage of the storm. Here are the ones we know about as of 1200z on Aug 30:



And here are the Notams that carry the announcements of the closures:

KTPA/Tampa

08/255 - AD AP CLSD EXC EMERG ACFT AND MIL OPS AND LIFE FLT. 30 AUG 12:10 2023 UNTIL 30 AUG 21:00 2023. CREATED: 30 AUG 12:10 2023

KPIE/St Pete-Clearwater

(A0740/23) - AD AP CLSD. 29 AUG 19:00 2023 UNTIL 30 AUG 19:00 2023. CREATED: 28 AUG 17:27 2023

KVNC/Venice

08/354 - AD AP CLSD. 30 AUG 11:57 2023 UNTIL 30 AUG 18:00 2023. CREATED: 30 AUG 11:57 2023

KGNV/Gainesville

(A0547/23) - AD AP CLSD EXC EMERG ACFT AND LIFE FLT AND MIL OPS AND SKED ACFT 1HR PPR 352-262-6691. 30 AUG 10:45 2023 UNTIL 31 AUG 02:30 2023. CREATED: 29 AUG 21:03 2023

KTLH/Tallahassee

(A0665/23) - AD AP CLSD EXC EMERG ACFT AND SAR AND MIL OPS AND LAW ENFORCEMENT AND CARGO 1HR PPR 850-891-7830. 30 AUG 03:00 2023 UNTIL 31 AUG 08:00 2023. CREATED: 29 AUG 16:24 2023

More info

- **Cyclocane** have a tracker page for the hurricane here, which includes tracking map and source info from the National Hurricane Center.
- **The FAA** have a page on airport closures here. They have activated telcons for Idalia at 1230Z and 2200z each day - you can find dial in deets on the NASS website.
- **The NBAA** have a page on the hurricane here, which includes airport closures, equipment shutdowns, and route info.

If you have any additional info to add, please email us at news@ops.group

CPDLC Gotcha: Clearance Busts

Chris Shieff

8 November, 2023



Key Points

- The FAA has published a new Safety Alert for CPDLC and partial route re-clearances.
- Make sure you load your full SID manually into the FMS after you receive a partial reroute message (UM79).

- Also, don't mistake these partial reroute messages as being cleared to fly directly to the waypoint (a direct clearance would be a UM74 message).

Lessons from Teterboro

In 2022, the FAA recorded **20 aircraft deviations** at KTEB/Teterboro Airport due to **issues with CPDLC and partial reroute messages**.

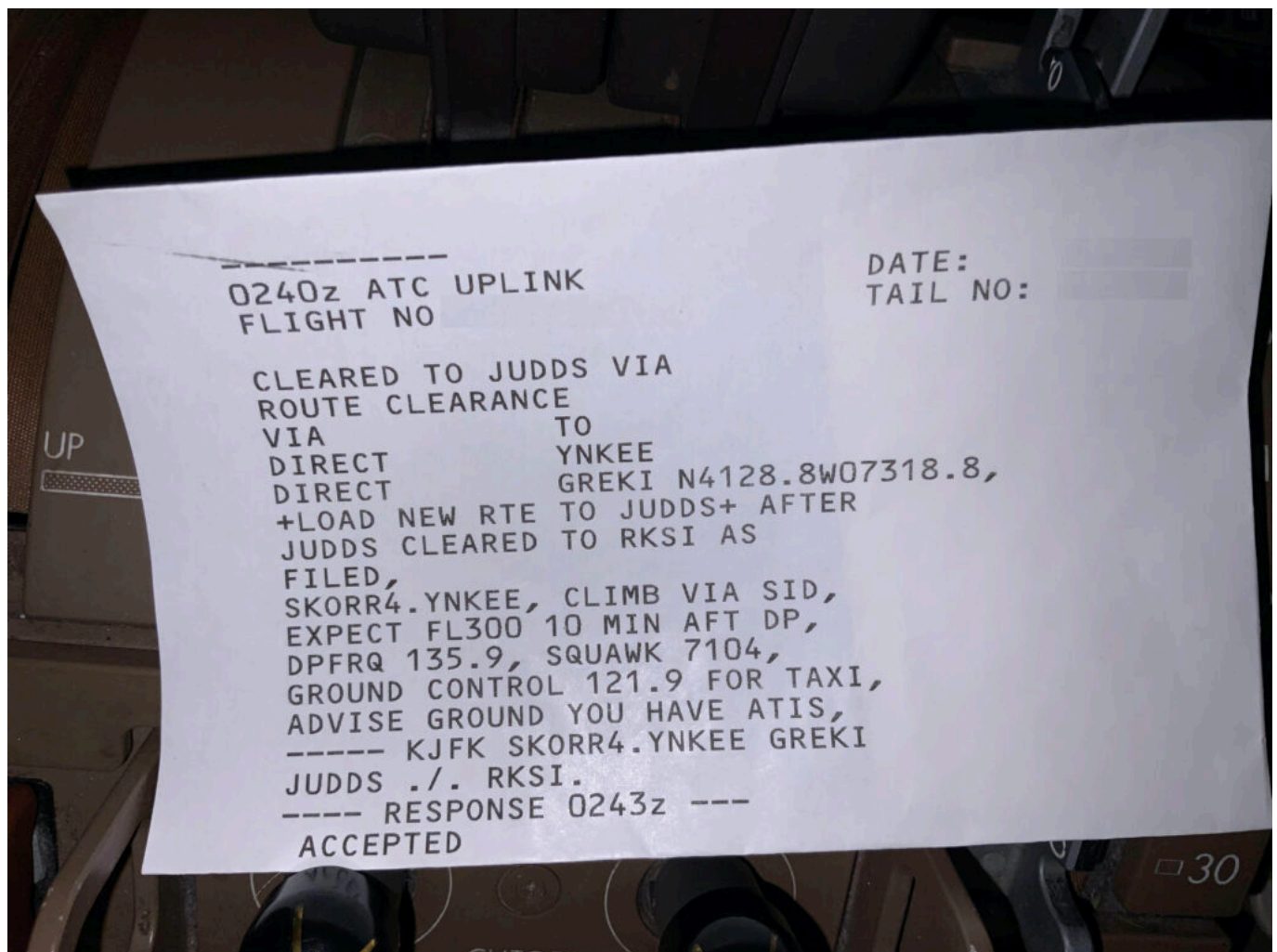
These incidents resulted from failure to reload SIDs after receiving a partial reroute UM79 message (where you are cleared to a particular waypoint via other waypoints en-route), requiring swift coordination with ATC to avoid traffic.

But the issue isn't limited just to Teterboro - it could happen at any US airport, to any aircraft type receiving a clearance in this way.

Another thing to watch out for

Due to limitations in the formatting of CPDLC DCLs, they can be easy to misread or misunderstand. Take the following for example, courtesy of an OPSGROUP member.

A change to a clearance was received by a B777 at **KJFK/New York** during taxi and under considerable pressure to get *underway or out of the way*:



Unfortunately, in this instance the crew **mis-interpreted their clearance as direct to the waypoint YNKEE**. This was further compounded by the issue above - when the new route was loaded, **their SID was dropped from the flight plan**.

When they got airborne, ATC immediately began asking why they weren't following the assigned SID – the result was a **clearance bust**. To their surprise, further down the clearance was indeed an assigned SID – the SKORR4. It was an understandable and easy miss.

The question remained though: *what then is the intention of the top part of this clearance if not to clear the aircraft direct to YNKEE?* We put this to the group, and received some useful feedback.

It maybe comes down to a machine readability issue. The section above the plus signs is required because of the way the clearance is written, and is related to the same issues as above. **It will not contain a SID when you insert it.**

In fact, some newer CPDLC systems don't even show that section to the crew – only the information below the plus signs which contains the assigned SID. The full version is a **confusing**, and seemingly **contradictory** set up.

What about PDCs?

It's probably worth a mention that these issues **don't affect PDC clearances**. PDCs are different and are sent by a service provider via VHF datalink. No log on is needed, and only one can be issued for a flight number at specific airport over a 24 hour period. They also have to be read back via voice. PDC's cannot be used to notify pilots of a change to the filed route. So it's smooth sailing in that regard.

Further reading.

You can read the FAA's new **Safety Alert for CPDLC and partial route re-clearances** [here](#).

The FAA also has a handy guide on **how to use CPDLC in US airspace**. It covers the basics, along with departure clearances (DCLs), en route ops, speed/time restrictions, emergency use and free text.

Eastern Pacific: Navigating NO FIR Airspace

Chris Shieff

8 November, 2023



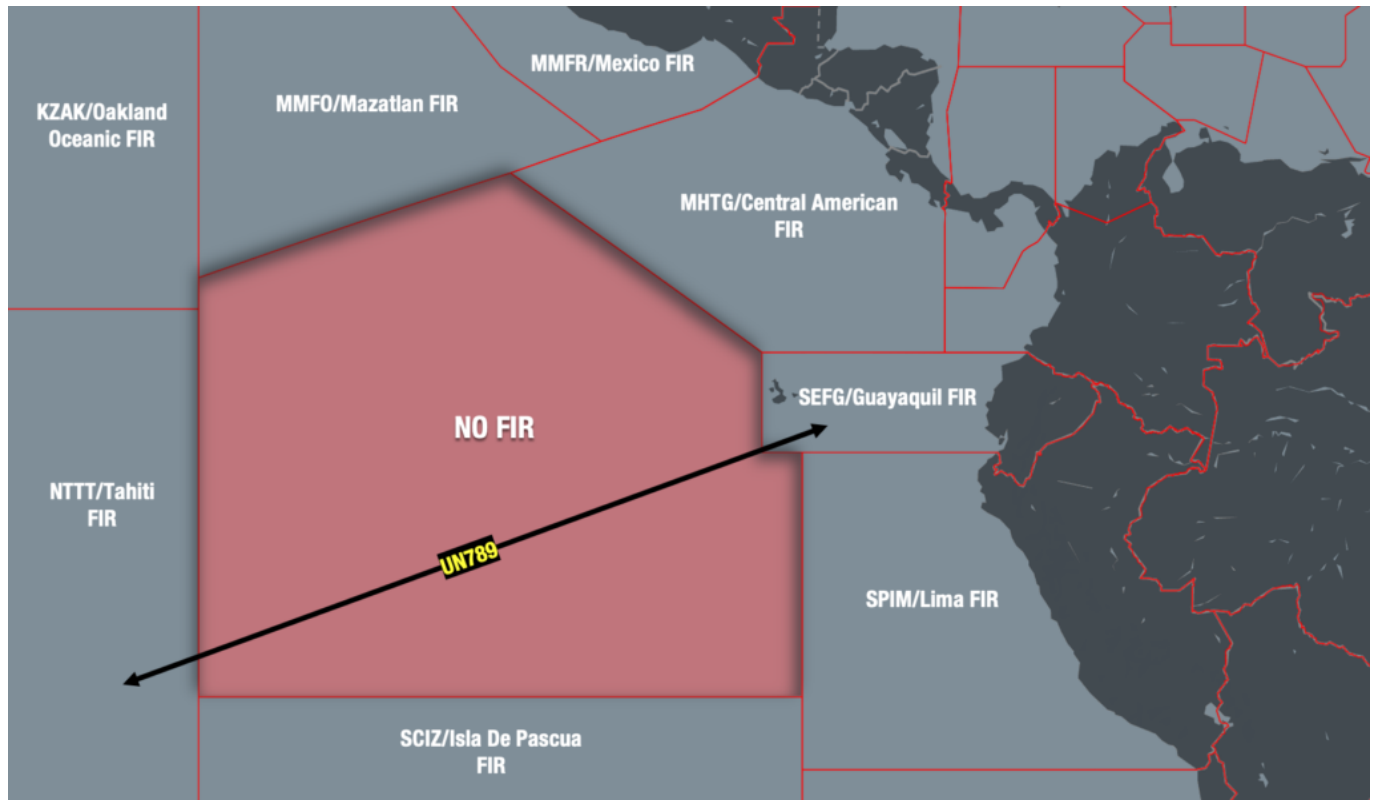
Key Points

- 'NO FIR' is a section of uncontrolled oceanic airspace in the eastern Pacific.
- Class G rules apply - no services are provided here (Traffic Separation, SAR, Weather Reporting, Notams).
- There are some ICAO Recommended Procedures: Contact ATC, use TIBA Procedures, turn on all lights, keep squawking, SLOP, and fly standard levels.
- Download the OPSICLE below for a summary of the procedures.

'NO FIR' at the edge of the world

Well off the coast of Peru in the Eastern Pacific sits a large chunk of oceanic airspace known simply as '**NO FIR.**' As the name suggests - it is completely unassigned. **No ATC agency is responsible for it.**

You may not have heard of it, because in almost all cases operators simply avoid it. There are just **no procedures** out there. And when attempting to find some, more questions are raised than answered.



The problem is that avoidance is beginning to cost time and money. With the establishment of ultra-long-haul routes, and aircraft capable of flying them, fuel is becoming increasingly critical. Especially when you consider that in some case ETOPS certification has now reached a whopping 370 minutes – that’s six hours.

And so OPSGROUP is often asked – *how exactly can we operate directly across it?* We didn’t know either, so we reached out to ICAO for some answers.

Where can I find the procedures?

This may come as a surprise, but **there are none**. Because no state is responsible for the NO FIR airspace (yet), there is **no AIP to reference**.

Until ICAO can successfully delegate this laborious task to adjacent countries, the standard ‘rules of the road’ apply – and none of them are specific to this particular piece of the high seas.

There is some provisional guidance out there, but it is just that – **provisional**. It is based on a 2019 project to subdivide the NO FIR airspace into pieces managed by Peru, Ecuador, Tahiti and the COCESNA states. This has yet to happen, and was stalled by Covid. ICAO advise the project has been revised but will take more time to implement. Until then, **no one is home**.

Best practice

So, how do we cross the NO FIR airspace without procedures? We need to rely on **best practices** instead. Here is what ICAO suggested to OPSGROUP, and it begins with a **caution**:

No one is responsible for it. It is important to understand the impact of this. **There will be no traffic separation, SAR services, weather forecasting or even Notams**. You will also need to make sure your insurer is happy for you to traverse this kind of airspace.

Having made the decision to enter however, **ICAO recommends the following**:

- **Use the information available to you.** Before you enter the NO FIR airspace, ask controlling ATC the following question (keeping in mind that English may not be their first language)...
“Is there any known, or observed traffic?”
 It is possible they’re aware of preceding traffic ahead, or are expecting some to exit. Even partial info, is better than none at all.
- **Use TIBA procedures.** Yes, they’re technically for ‘contingencies,’ but the principle remains the same – hear and be heard. You can find those procedures in ICAO Annex 11. What frequency? There isn’t one published for the NO FIR airspace and so ICAO suggests using chat (123.45) or guard (121.5).
- **Be Seen.** Turn on all anti-collision and navigation lights, just in case.
- **Keep Squawking.** Use your transponder and TCAS TA/RA function at all times.
- **SLOP.** Follow Strategic Lateral Offset Procedures to further separate you from oncoming traffic. In other words, intentionally deviate up to 2nm right of your airway. You can find those procedures in ICAO PANS ATM, or ICAO Circular 354.
- **Fly Standard Levels.** Stick to even levels heading west, and odd levels heading east. Also avoid changing levels inside the uncontrolled airspace unless it is dangerous not to do so.
- **Call Ahead.** At least ten minutes before exiting the NO FIR airspace, call ahead and give the next ATC sector a head’s up you’re coming.

What not to do

Rely on adjacent agencies to take care of you anyway.

The most common misconception out there seems to be that the **KZAK/Oakland Oceanic FIR** will provide some emergency assistance via CPDLC.

When we reached out to them directly they advised this may be the case for some aircraft transiting the adjacent **MMFO/Mazatlan FIR**, but this is not the case for the NO FIR airspace – as far as they are concerned, there is no log-on available or any other services available.

Operator reports

So that’s what written on the back of the packet, but what about intel from pilots who have recently flown through it? OPSGROUP reached out to members, and received these reports on what to expect:

OPSGROUP Member: *...we were advised to contact the next ATC sector via CPDLC at a specific lat/long before entering the NO FIR. We transmitted position reports in the blind on 123.45. Mazatlan was very difficult to raise on HF, however the aircraft SAT phone continued to work well. Alternate planning was critical. We flew through in day visual conditions, and so weather was easy to see and avoid...*

OPSGROUP Member: *...when we entered, we were simply told ‘frequency change approved,’ with no further instructions. We tried to raise a bunch of frequencies and eventually got in touch with NY Oceanic (randomly). We just informed them of our intentions along with position reports every 30 minutes until we entered the Guayaquil FIR. I’ve never been able to find further instructions on how to operate in this airspace...*

There is no magic bullet

The Pacific’s NO FIR airspace *is* useable but with careful consideration. The challenges of crossing it can be

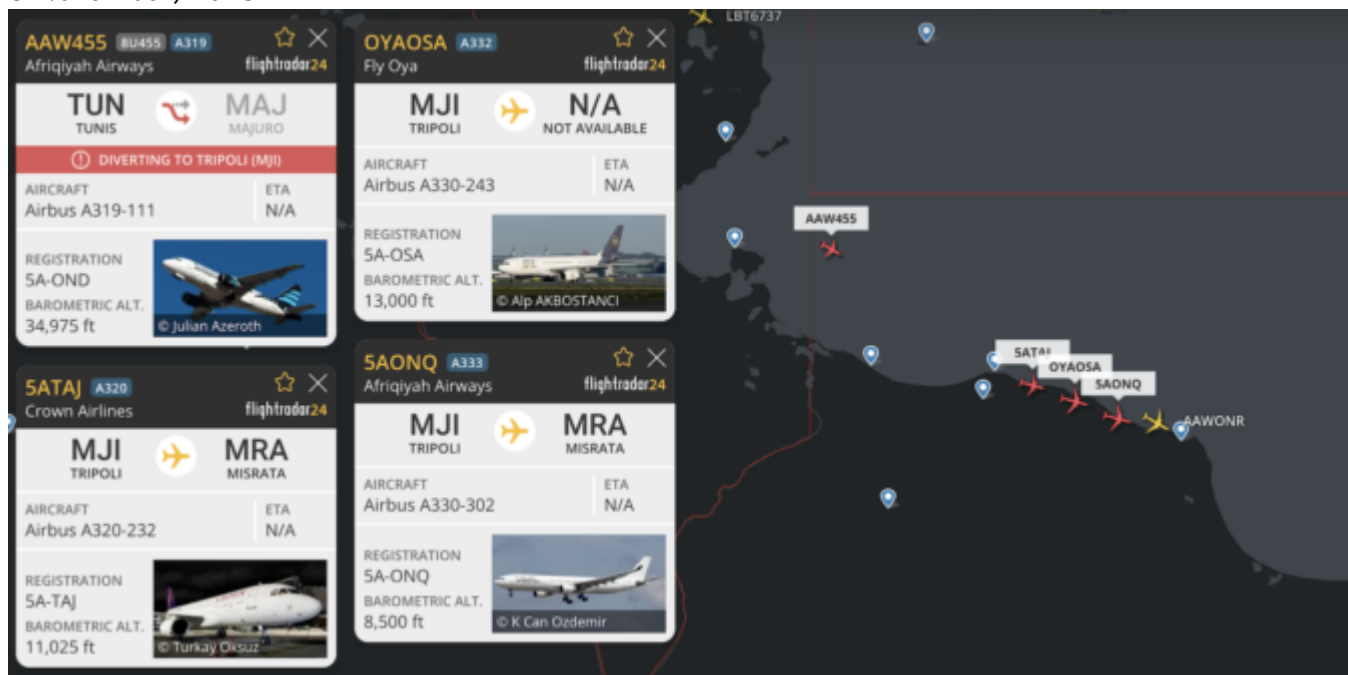
mitigated, but only with **solid contingencies** in place.

ICAO's guidance above is a solid starting point, however it is up to individual operators to decide whether the commercial reward outweighs the potential risks.

Mass evacuation of aircraft - Libya

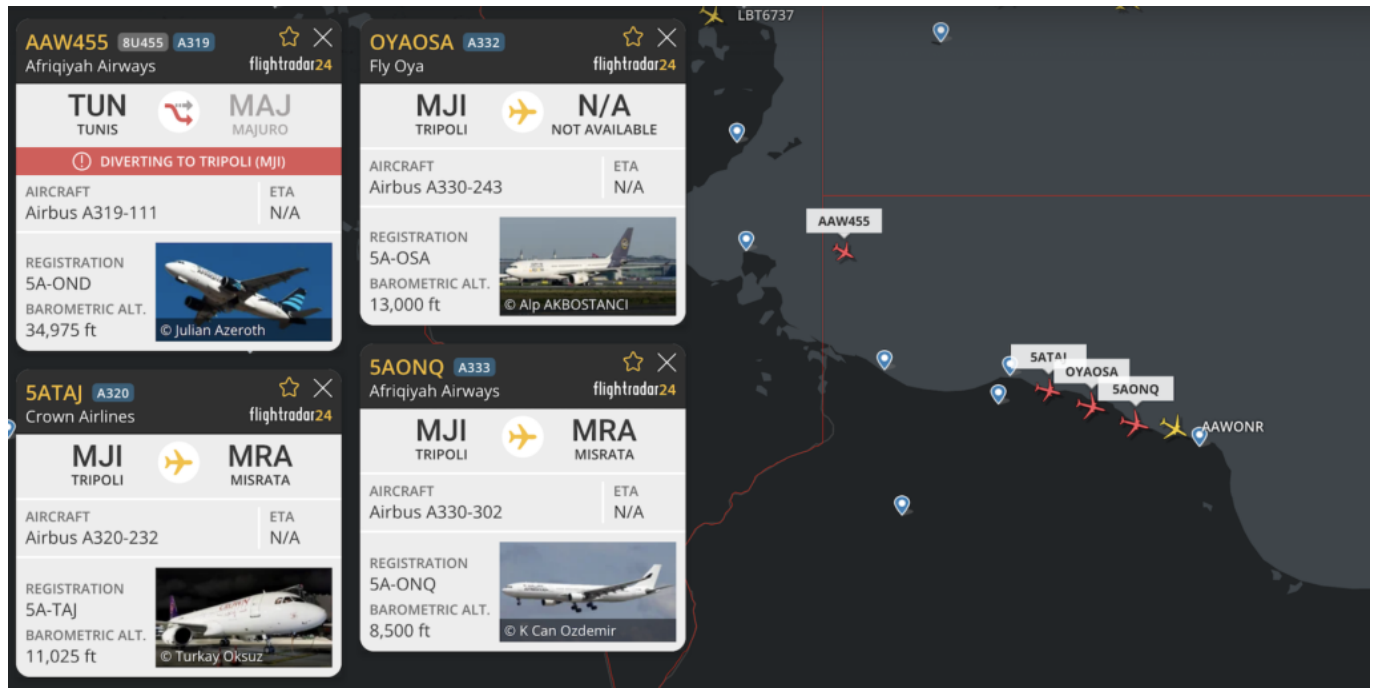
OPSGROUP Team

8 November, 2023



Ops Alert - August 14, 2300Z

- **A mass evacuation of aircraft is taking place at the moment from Tripoli**, including a number of A330 and A320 aircraft from both the largest carrier (Afriqiyah) and smaller operators. Inbound flights are also diverting, and the Libyan government aircraft, a King Air 350, is also being taken out of Tripoli. Almost all aircraft are being repositioned to Misrata (HLMS) - with approximately 25 aircraft being moved.
- The reason for the evacuation is **violent clashes involving gunfire taking place at Tripoli Mitiga airport (HLLM)**, as well as on road leading into Tripoli itself. Earlier on Monday night the head of '444 brigade' that controls much of Tripoli, was detained at Mitiga airport by the Special Deterrence Force. The resulting risk to aircraft operations was deemed sufficiently high to begin the removal of aircraft to a safer location.
- This situation highlights the instability of the security situation in Libya. With the **airspace closure in Niger last week, routes over Africa have become very limited**, and Libya/the Tripoli FIR may seem a tempting alternative.
- **Operators considering a Libya overflight should consider routings very carefully.** This is the most significant aviation security event in Libya in the last few years, and highlights the ongoing risk to operations.



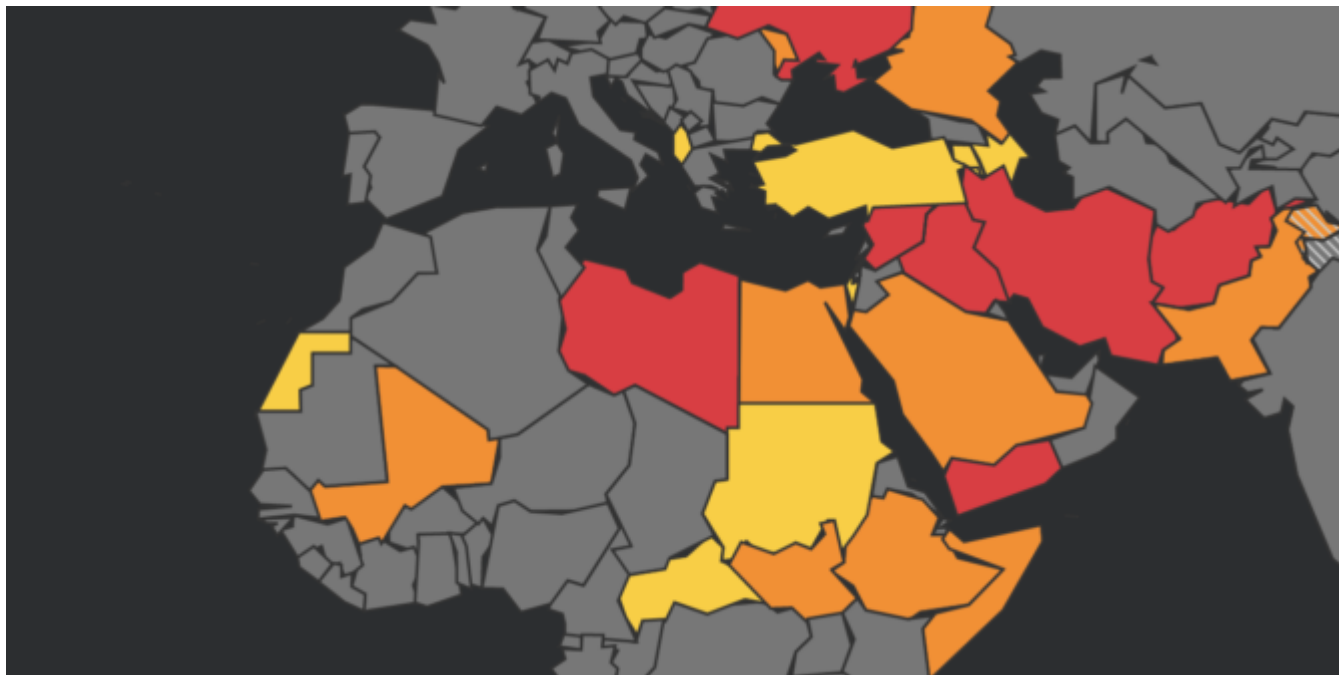
Refer to safeairspace.net/libya for the background, and ops.group/blog/2023-is-libya-safe-to-overfly-yet for more information.

A timely summary of the risk to civilian operators in the Tripoli FIR, from earlier in 2023, gathered by OPSGROUP from neighboring ATC units:

- The ATM/CNS situation in the HLLL FIR is very basic and from our experience there are **issues with communications and surveillance** (or the lack of it).
- There is a lot of **military activity** which is not always known to Tripoli and Benghazi ACCs also due to these communication and coverage issues.
- There are still issues regarding **coordination between the Tripoli and Benghazi ACCs**. One seems to have certain rules which the other ignores. It is very frequent for example that either one or both reject overflights resulting in significant re-routings which we have to sort out (normally military flights) but not excluding civilian flights – sometimes even Libyan flights.
- We see a lot of **remotely piloted aircraft** operating in the airspace which as far as we know are not operating in segregated airspace nor are they being controlled by the ATC units.
- Only recently Libyan controllers went on a flash strike informing us that they **cannot continue to handle the traffic with no radar equipment**.
- **The AIS services are not functioning properly** and the status of the airports is unknown.

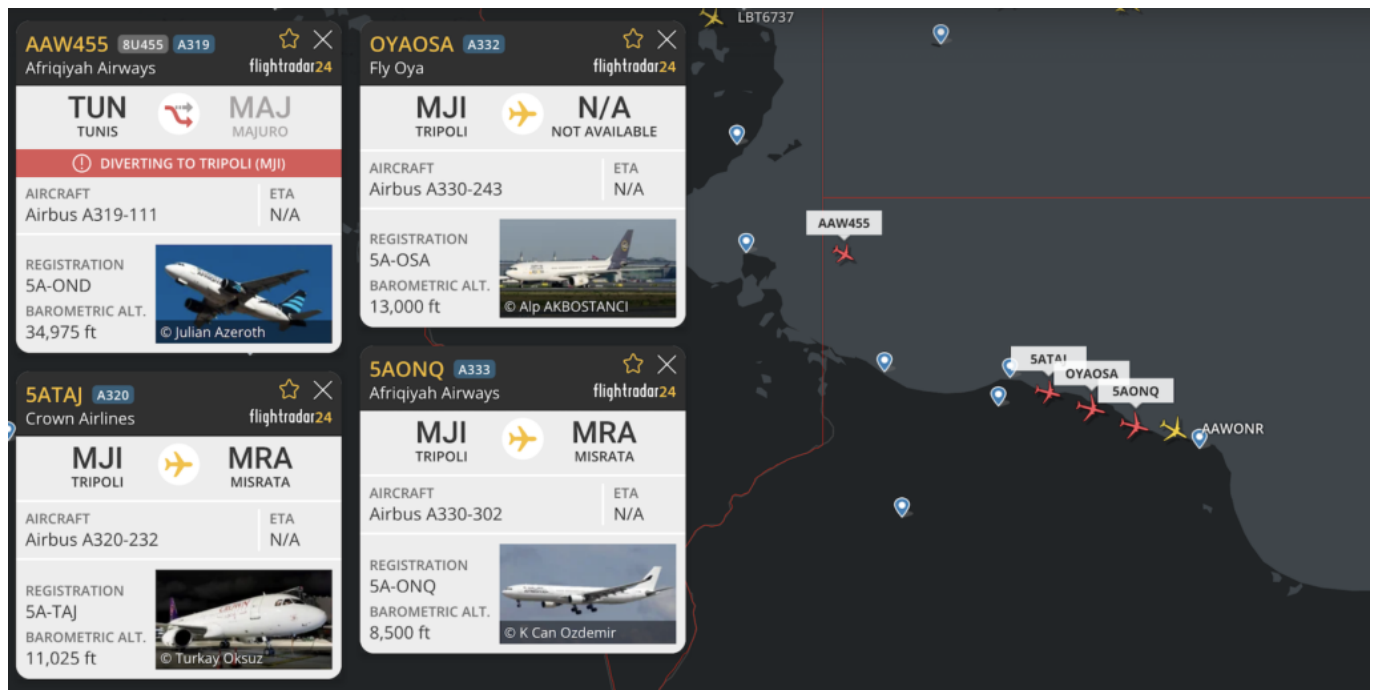
Libya Airspace Update Aug 2023

OPSGROUP Team
8 November, 2023



Update: Mass Evacuation of aircraft from Tripoli, August 14

- **A mass evacuation of aircraft is taking place at the moment from Tripoli**, including a number of A330 and A320 aircraft from both the largest carrier (Afriqiyah) and smaller operators. Inbound flights are also diverting, and the Libyan government aircraft, a King Air 350, is also being taken out of Tripoli. Almost all aircraft are being repositioned to Misrata (HLMS) - with approximately 25 aircraft being moved.
- The reason for the evacuation is **violent clashes involving gunfire taking place at Tripoli Mitiga airport (HLLM)**, as well as on road leading into Tripoli itself. Earlier on Monday night the head of '444 brigade' that controls much of Tripoli, was detained at Mitiga airport by the Special Deterrence Force. The resulting risk to aircraft operations was deemed sufficiently high to begin the removal of aircraft to a safer location.
- This situation highlights the instability of the security situation in Libya. With the **airspace closure in Niger last week, routes over Africa have become very limited**, and Libya/the Tripoli FIR may seem a tempting alternative.
- **Operators considering a Libya overflight should consider routings very carefully.** This is the most significant aviation security event in Libya in the last few years, and highlights the ongoing risk to operations. Refer to [**safeairspace.net/libya**](https://safeairspace.net/libya) for the background.



A timely summary of the risk to civilian operators in the Tripoli FIR

From March 2023, gathered by OPSGROUP from neighboring ATC units:

- The ATM/CNS situation in the HLLL FIR is very basic and from our experience there are **issues with communications and surveillance** (or the lack of it).
- There is a lot of **military activity** which is not always known to Tripoli and Benghazi ACCs also due to these communication and coverage issues.
- There are still issues regarding **coordination between the Tripoli and Benghazi ACCs**. One seems to have certain rules which the other ignores. It is very frequent for example that either one or both reject overflights resulting in significant re-routings which we have to sort out (normally military flights) but not excluding civilian flights – sometimes even Libyan flights.
- We see a lot of **remotely piloted aircraft** operating in the airspace which as far as we know are not operating in segregated airspace nor are they being controlled by the ATC units.
- Only recently Libyan controllers went on a flash strike informing us that they **cannot continue to handle the traffic with no radar equipment**.
- **The AIS services are not functioning properly** and the status of the airports is unknown.

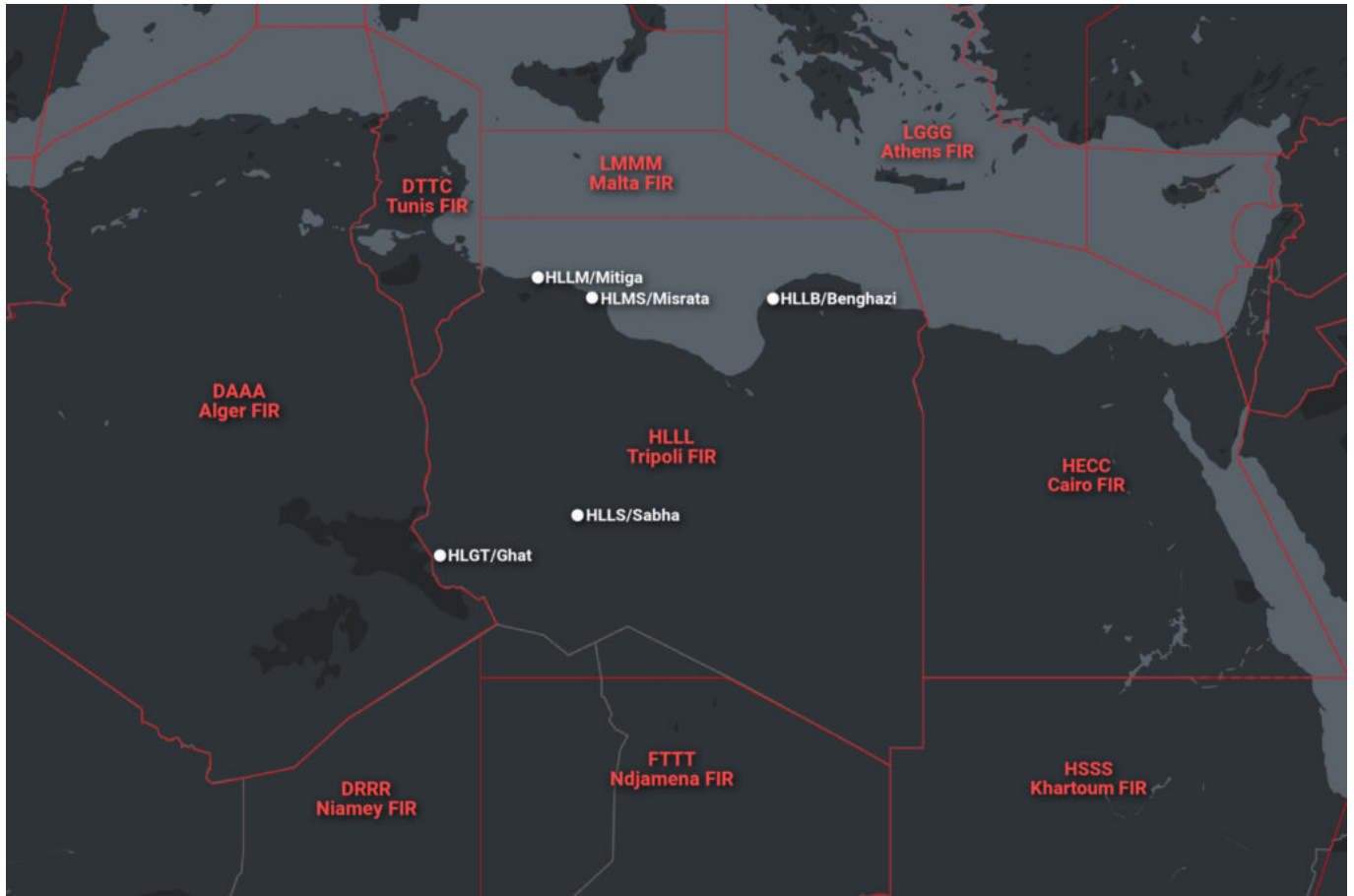
Is Libya safe to overfly?

With the vastly reduced number of routing options available to operators as of August 2023 (closures of Niger and Sudanese airspace), this question will come up quickly for operators crossing North Africa. We asked this question back in 2022, and decided that **no, it probably wasn't**.

Now, the FAA have added some areas of the HLLL FIR that they determine to be “OK”.

Where are we talking about?

Libya's airspace is the HLLL/Tripoli FIR:



What's the deal?

The US FAA says this:

The FAA assesses the risk to U.S. civil aviation operations in the portions of the Tripoli FIR (HLLL) outside the territory and airspace of Libya at altitudes below FL300 has diminished and the situation has stabilized sufficiently to permit U.S. civil aviation operations to resume in that airspace. Since the October 2020 ceasefire agreement, foreign actors have significantly reduced weapons shipments and military activities off the coast of Libya. Previously, these activities included targeting suspected weapons shipments destined for the opposing side or their foreign sponsors. As a result, the risk of either side or their foreign sponsors misidentifying civil aircraft operations in the overwater portion of the Tripoli FIR as carrying weapons shipments destined for the other side or their foreign sponsors and mistakenly targeting them has diminished. The reduction of widespread conflict has also reduced the risk to U.S. civil aviation operations in the small portion of the Tripoli FIR (HLLL) that extends into Chad's territorial airspace. Therefore, due to the diminished risks to the safety of U.S. civil aviation operations and stabilized situation in

those portions of the Tripoli FIR (HLLL) outside the territory and airspace of Libya, the FAA amends SFAR No. 112, 14 CFR 91.1603, to remove the prohibition on U.S. civil aviation operations in those areas.

Which is basically a whole lot of text to really say:

We reckon the bit over the water is ok now (and the bit extending into Chad).

So the map of where the US FAA says you can and can't fly now looks like this:

Here is our summary of it

Feel free to fly over the water, but you won't, because there's no reason to.

What do we mean by that?

Well, most of the airways in this bit of water are North-South, connecting airports on the Libyan coastline to the Malta FIR. **You can't use them, because you can't fly to Libya.**

There are some East-West airways, and some of these might be useful for flights from the likes of Tunisia to Egypt, for example. But none of these airways stay overwater the whole way – they all hit the Libyan landmass at some point. **So you can't use these either.**

So in practical terms, we suspect that the FAA lifting the prohibition of flights over the water north of Libya doesn't mean very much, because **no-one's going to fly there.**

Oh, and the thing about Chad

Yes! There is a little patch of nothing in northern Chad (the tiny bit which is technically underneath Libya's HLLL/Tripoli FIR) where you're now allowed to fly too. Yay!

So, what does this really mean for ops?

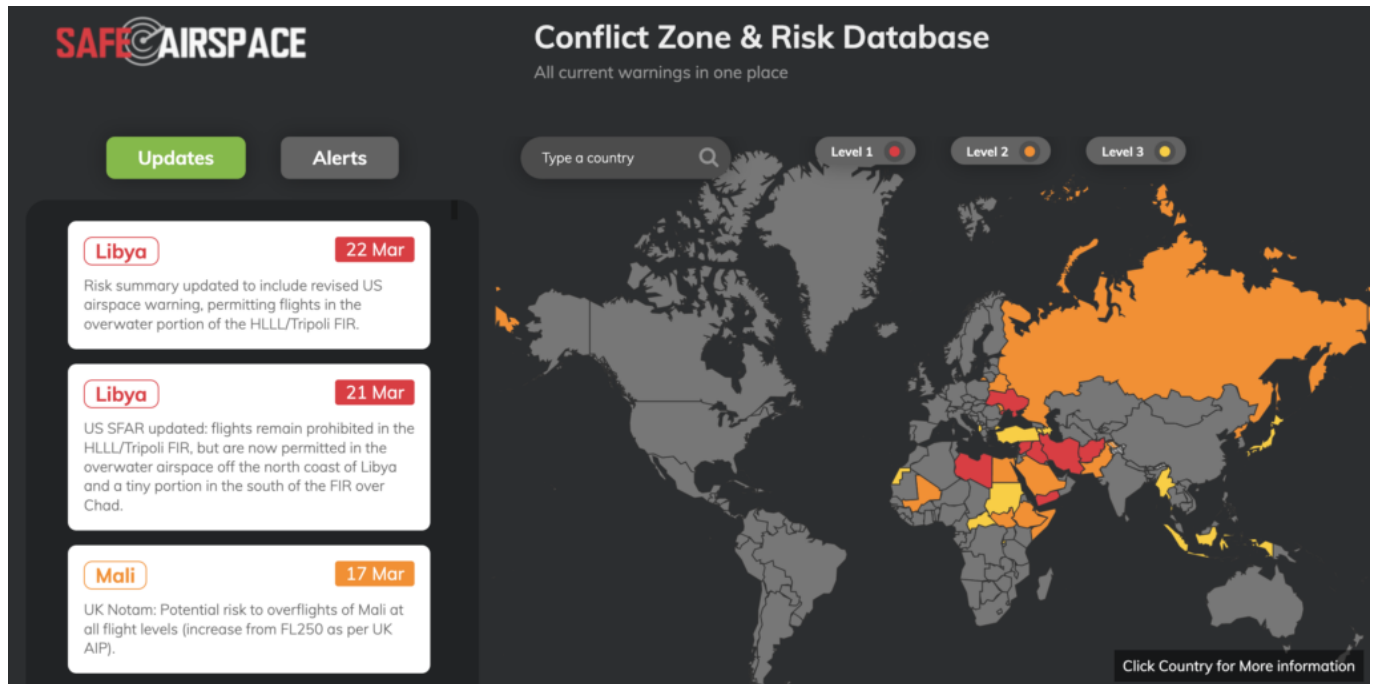
Well, first up, the rest of **Libya is very decidedly still not OK.**

There have been a whole bunch of reports of issues in Libya, some fairly recently. From GPS jamming, to reported drone shoot-downs, to known anti aircraft weapons that can reach 49,000'...

Aside from the slight improvement the US has mentioned, there is really no change on what we wrote last year.

So Libya remains a "Do Not Fly" area.

Libya remains volatile. Safety and security on the ground is not good, and there is a **significant risk to aircraft overflying due to the conflict and weapons available to militia groups.**



Tell me more about the SFAR

SFAR 112 has been extended to March 20, 2025 but they will keep monitoring the situation and updating it as and when the security situation changes.

The SFAR provides a good summary of the situation (the ongoing, messy, risky situation). You can read it via the link at safeairspace.net/libya

Shanghai: ZSSS closed to non-sched traffic

Chris Shieff
8 November, 2023



Key Points

- You won't find it in the Notams, but **ZSSS/Hongqiao** (one of Shanghai's two international airports) **will not accept non-scheduled international flights** for the next four to six months.
- This includes both private and commercial operators, and is due to FBO renovations.
- Operators looking to clear customs will need to use **ZSPD/Pudong** instead.

FBO Works at Hongqiao

On August 1, official notification was published that the Hongqiao FBO would be closed for major renovation – **including the customs channel**. You can read that here (in Mandarin).

All non-scheduled international flights now need to use the other Shanghai airport, **ZSPD/Pudong**.

No dates are provided for when things at ZSSS will get back to normal. We reached out and have been advised that it could be up to **six months** before non-scheduled international flights will be welcome again. You can contact them directly on fbo@fboshanghai.com for updates on that.

What about domestic flights?

The news is a little better. They can still land at ZSSS. Asides from the FBO being shut, there is little impact. Instead, a VIP room is being used as a replacement facility. Obviously, there will be no customs available.

Local agents advise there is **no change** to existing procedures or parking.

ZSPD/Pudong

For international non-scheduled flights then, **ZSPD/Pudong** will be the only Shanghai option for the next few months.

This maybe especially unusual for operators who commonly arrive over the city from the west.

A browse of the **Airport Spy reports** submitted by OPSGROUP members are mostly positive. We'd welcome some new ones though, and so if you have been there lately, we'd love to hear from you. You can submit yours here.

International arrivals at ZSPD can expect to be processed via **VIPP-H** on the chart below. Crew will need to clear customs through the regular customs channel, aka the passenger terminal.

A big heads-up – Universal advise a general parking restriction of **max 48 hours** still applies without a special extension. Which means for longer stays, you may be looking at a **re-position** to ZSSS and back.

You can reach Universal for handling and other enquiries on chinaoperations@universalaviation.aero

We'll keep you updated.

If international non-scheduled flights resume at ZSSS earlier than expected, we'll let you know. Also keep an eye out for new (and potentially better) procedures and facilities when the FBO re-opens its doors.

Military Coup: Sudan Airspace Closed

Chris Shieff
8 November, 2023



Update

This article has been updated to reflect the current status as of Aug 14, 2023.

Key Points

- Following a military coup in April 2023, Sudan airspace remains closed to all civilian flights.
- In South Sudan, air navigation services remain suspended above FL245.
- HSSK/Khartoum airport is closed, but no Notams are being issued.
- There is a Contingency Plan available with published routes for ops in and out of HSPN/Port Sudan airport.
- For overflights, there are some north-south routes available via Egypt and Saudi, and some east-west contingency routes available over South Sudan.
- If routing via nearby airspace, be aware of other active warnings in close proximity.

The Coup

News first emerged on April 15. Sudan's paramilitary group 'Rapid Support Forces' (RSF) became engaged in active fighting with the state military in Khartoum in an apparent coup attempt. While the details were scarce, they reportedly seized control of several important assets, including **HSSK/Khartoum Airport**.

This has been brewing for some time. There has been a power struggle between the two rival military forces since an overthrow of the government back in 2019. A failure for the existing government to

successfully transition Sudan to a freely elected one has fanned the flames. Along with this is strong public demand for the RSF to be merged with the regular armed forces. This now looks pretty unlikely.

Closed Airspace

On April 15, the **HECC/Cairo FIR** advised Eurocontrol that Sudanese airspace had closed, and that local authorities were unable to issue any Notams to that effect.

At the same time, videos began to emerge of large passenger jets on fire on the tarmac at HSSK/Khartoum Airport. This included reports that **an A330 was shot at multiple times** while preparing to depart. The pax and crew evacuated, and were transported to safety at a local embassy.

As of June 2023, the HSSS/Khartoum FIR is now publishing Notams again, and they have said once again that **the airspace over Sudan is closed to all flights except for humanitarian and evacuation flights**. And in South Sudan, air navigation services remain suspended above FL245.

For overflights, there are some **north-south routes** available via Egypt and Saudi, and some **east-west contingency routes** available over South Sudan. Check the HSSS Notams and the Contingency Plan for details.

Adjacent Airspace Warnings

The HSSS/Khartoum is a big piece of airspace. The scramble now will be how to avoid it. Unfortunately, several adjacent countries have their own **airspace warnings** in place and so it is important to take these into careful consideration. Here's a summary:

South Sudan

You may be tempted to fly below FL245 through South Sudanese airspace to ensure air traffic control services. However these have been the focus of recent scrutiny. The primary risk there is **poor levels of ATC provision**, especially for aircraft operating in and out of HSSJ/Juba. Back in 2021, ICAO issued a letter warning of disruptions, a lack of qualified controllers, communication issues and coordination issues with adjacent airspace. There have also been reports of nav aids being withdrawn from service and other changes without proper notification to crew. We've received no further reports of these problems since.

Chad

There are no active airspace warnings for the **FTTT/N'Djamena FIR**, although several states (including the US) advise against travel here. The main issue seems to be the risk of crime, kidnapping and terrorism. The general advice is to avoid landing here. We haven't heard of any issues for overflying aircraft, but keep safety during diversions in mind.

Ethiopia

Special attention needs to be paid to the **Northern Tigray Region**, near the border with Eritrea. A long running conflict there has recently come under ceasefire, but there may still be some resistance to this amongst militant groups with access to **portable air defence systems**. These can pose a risk to low level aircraft (below FL250).

Several states including Germany, the UK, France and Canada still have airspace warnings in place. Although they are due for review, they should still be considered active in the meantime. The US warning has previously been lifted. You can view all active advisories [here](#).

Egypt

To the north of Sudan lies the **HECC/Cairo FIR**. There is still a reported threat of terrorism in Egypt,

particularly in the Sinai Peninsular. Only the UK and Germany still have active airspace warnings here – both countries essentially advise against overflights below FL260 in the northern part of the Sinai region. The US had a similar warning in place until it was rescinded in March 2022.

Central African Republic

The news isn't great here. The **security situation** on the ground in the Central African Republic is fairly dire. There have been numerous attacks on civilians and peacekeeping troops in recent years.

FEFF/Bangui airport is operating under UN control, and is subject to regular power outages. The US and UK advise against all travel to the entire country due to violent crime, civil unrest, and the presence of armed groups who control large areas of the country. There are no official airspace warnings in place for the CAR, but the general advice is to avoid landings here completely.

What will happen next?

It is a developing situation and Sudan should be avoided until things stabilise. We'll continue to publish updates as they become available, both to OPSGROUP members, and also via Safeairspace.net – our conflict zone risk database.

