



Osprey Flight Solutions

A new age for aviation risk management

29 April 2022

Russia-Ukraine Situation Update



Welcome

Matthew Borie, Chief Intelligence Officer

- Since c.0300 UTC on 24 February, Russian military cross-border strikes into Ukraine have been reported, **with approximately 2,000 cruise and ballistic missiles as well as guided rocket artillery** targeting main urban centres outside of Donetsk and Luhansk, including Kyiv, Kharkiv, Dnipro, Lviv, Ivano-Frankivsk, Lutsk, Odessa, Kherson, Zaporizhzhia and Mariupol. **Airports, airbases and/or military installations with aviation infrastructure in many cities have been targeted.**
- On 29 March, Russia stated the primary aim of the “Special Military Operation” is to “liberate” the Donbass (Donetsk and Luhansk), and **Russian forces have completely withdrawn from areas north of Kyiv. The vast majority of the fighting in the south spans from Mykolaiv near Crimea through to Mariupol on the Sea of Azov and into the Donbass.** However, Russian military operations in the Kharkiv region also remain ongoing at present.
- Russian naval activity has also been reported in the Black Sea and Sea of Azov since 24 February, and Russian cruise missiles have been launched from the Caspian Sea into Ukraine on multiple occasions during March – the Russian Navy Black Sea Fleet flagship *Moskva* was severely damaged in a Ukrainian military cruise missile strike off the coast of Odessa on 14 April. **While reports in late April have noted “explosions” in the Moldovan breakaway territory of Transnistria, there are no clear indications of a military advance by Russia into the area or against Odessa in southern Ukraine.**
- Ukrainian military drone or ballistic missile strikes have targeted Russian logistics military bases in Kursk, Bryansk, Belgorod, Taganrog and Millerovo. Russian air defences have reportedly shot down a limited number of Ukrainian ballistic missiles and drones over Belgorod, Bryansk, Kursk, Voronezh and Rostov.

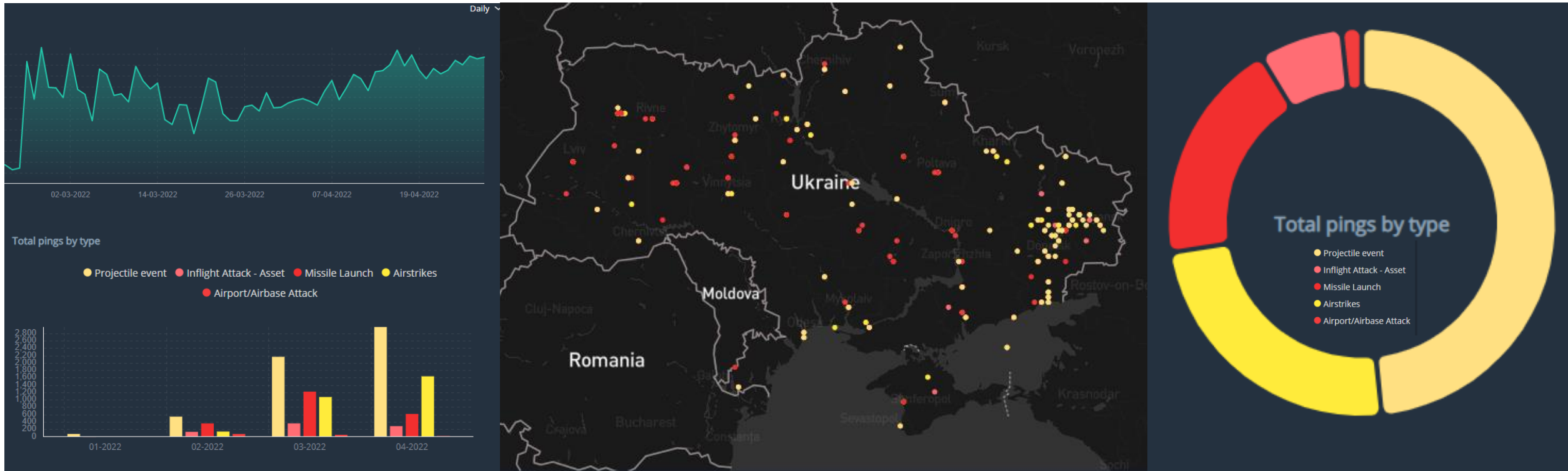
Russia-Ukraine Situation Update

UK Defence Intelligence Update - 29 April



Russia-Ukraine Situation Update

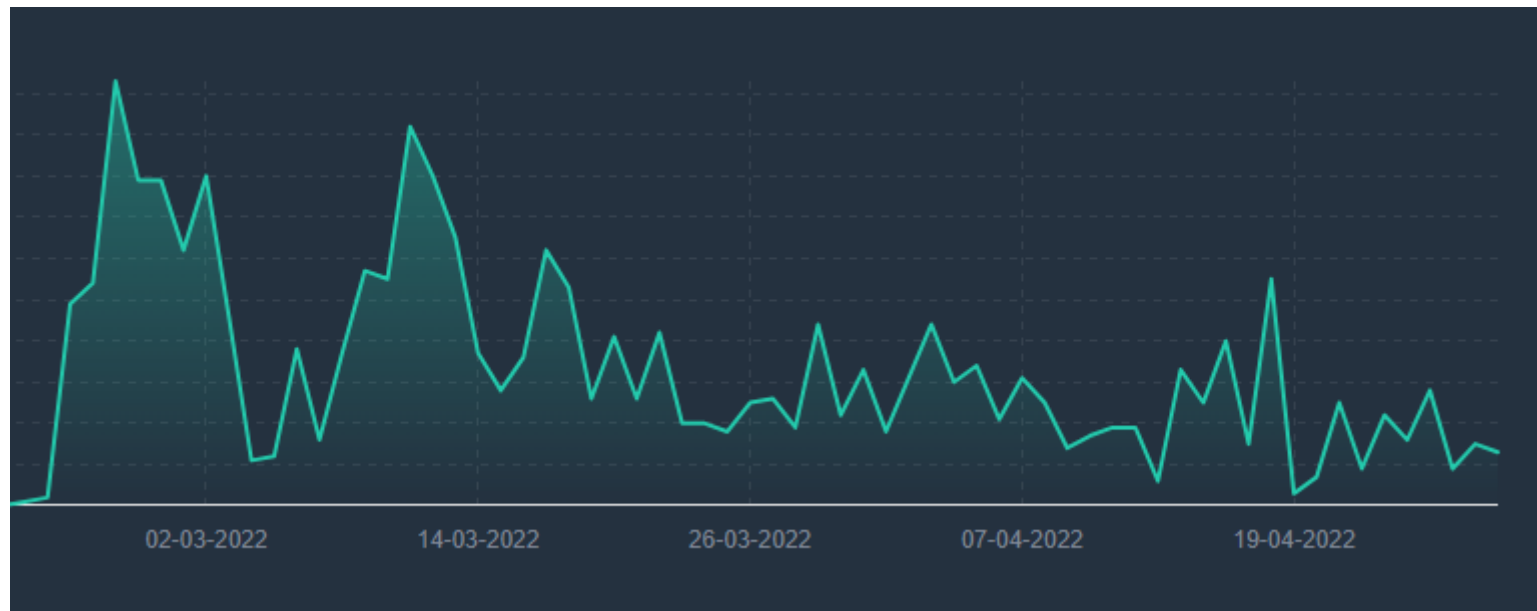
Osprey:Explore - Rocket and missile strikes, attacks on airports/airbases and aerial target engagements in Ukraine since 24 February





Russia-Ukraine Situation Update

Osprey:Explore – Missile launches during the Ukraine conflict

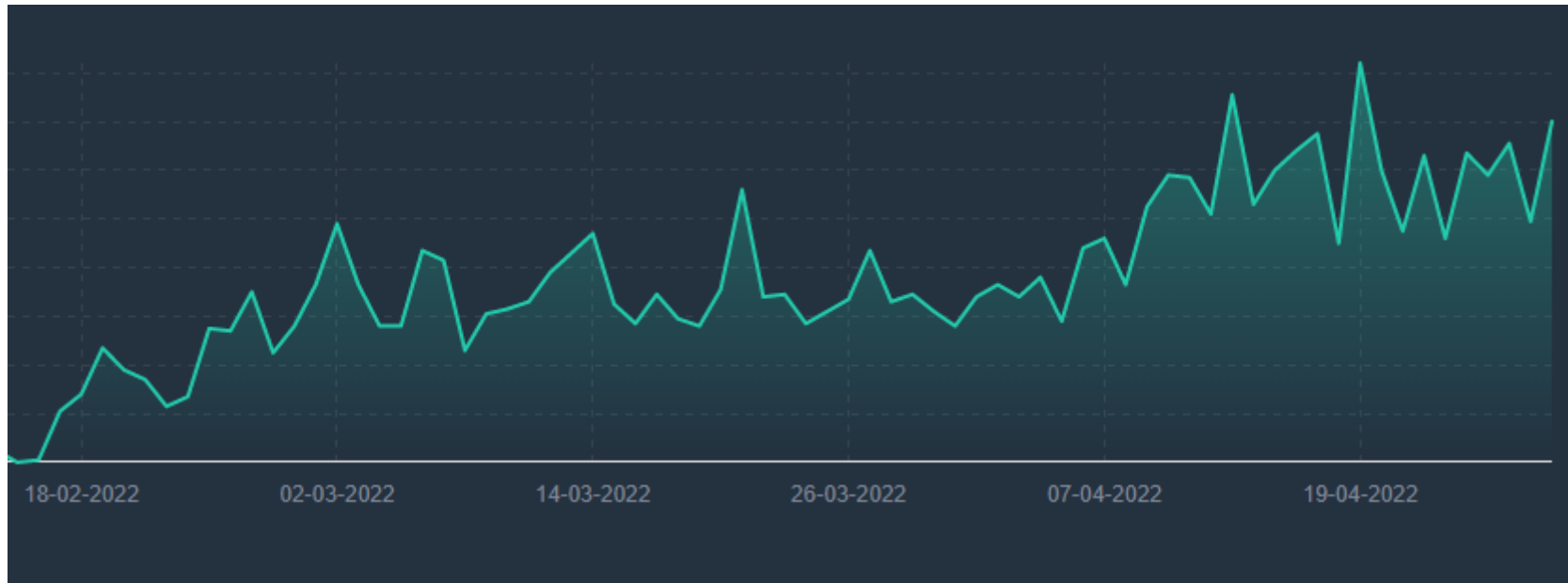


Missile launches: Russian cruise missile and ballistic missile launches are steadily trending downward, though they have been more precise in recent weeks with specific targeting of Ukrainian military bases, logistical sites and critical infrastructure. However, strikes targeting Kyiv have dissipated in the past three weeks though have not ceased completely.



Russia-Ukraine Situation Update

Osprey:Explore – Unguided rocket, artillery and mortar barrages during the Ukraine conflict



Rocket/artillery barrages (unguided munitions): Use of these weapons has been steadily increasing during the conflict but have remained at a notably high intensity in the past seven days amid the Mariupol siege, and as Russia advances on Donbass and continues shelling Kharkiv. However, strikes targeting Kyiv have dissipated in the past three weeks.



Russia-Ukraine Situation Update

Osprey:Explore – Airstrikes during the Ukraine conflict

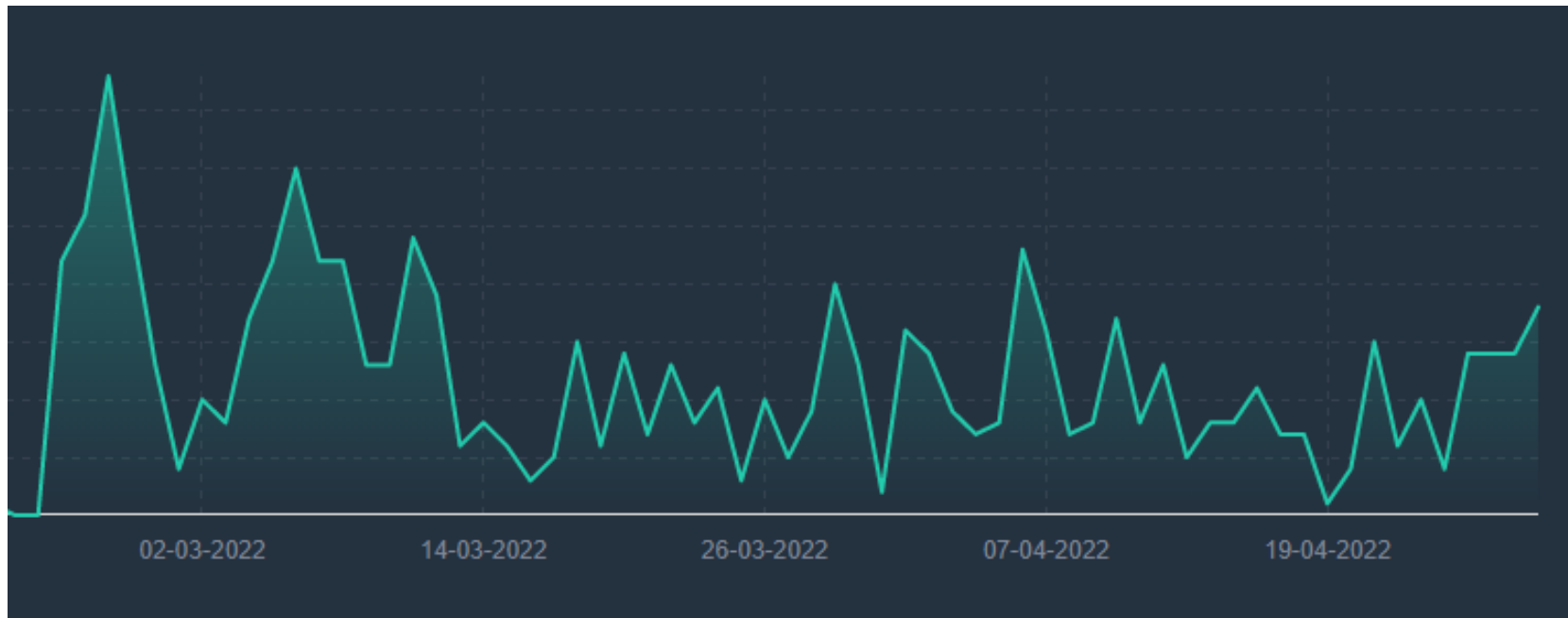


Airstrikes: Russian Air Force performance during the conflict had been inconsistent from day to day in the first month of the conflict, though airstrike totals have stabilised in recent weeks and are now trending upward due to the increase in air operations over the Donbass. However, strikes targeting Kyiv have dissipated in the past three weeks.



Russia-Ukraine Situation Update

Osprey:Explore – Actual or attempted downings of aircraft, helicopters, drones & missiles over Ukraine



Attacks on aerial targets: A high number of aircraft, drones and missiles were shot at or shot down in the first two weeks. Totals have declined due to attrition and changes in tactics; however, in the past week engagements are rising due to increased lower-altitude air operations over the Donbass coupled with more reporting of drone downings. Surface-to-air fire events in the Kyiv area have also dissipated in the past three weeks.



Russia-Ukraine Situation Update

UK Defence Intelligence Update – 27 April



UPDATE ON UKRAINE
27 April 2022

INTELLIGENCE UPDATE

- Ukraine retains control over the majority of its airspace. Russia has failed to effectively destroy the Ukrainian Air Force or suppress Ukrainian air defences. Ukraine continues to hold Russian air assets at risk.
- Russian air activity is primarily focused on southern and eastern Ukraine, providing support to Russian ground forces. Russia has very limited air access to the north and west of Ukraine, limiting offensive actions to deep strikes with stand-off weapons. Russia continues to target Ukrainian military assets and logistics infrastructure across the country.
- The majority of Russian air strikes in Mariupol are likely being conducted using unguided free-falling bombs. These weapons reduce Russia's ability to effectively discriminate when conducting strikes, increasing the risk of civilian casualties.

Russia-Ukraine Situation Update

Key Developments:

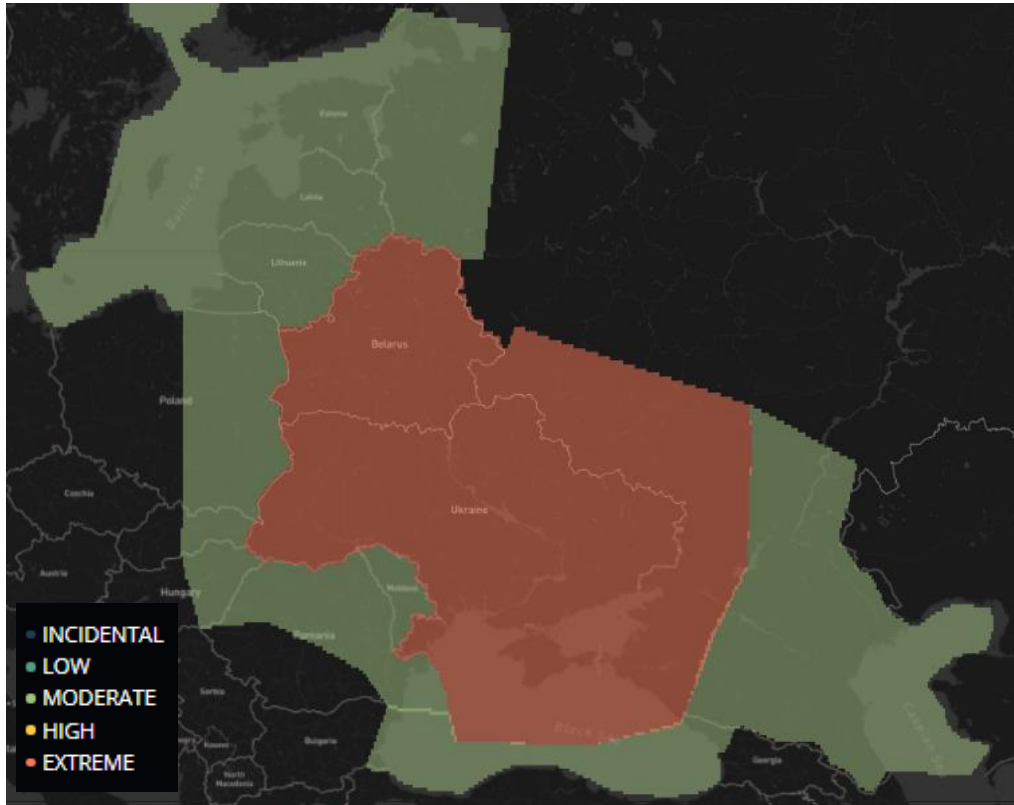
- Verified losses of Ukrainian military air assets: 20 aircraft, 5 helicopters & 20 drones
- Verified losses of Russian military air assets: 26 aircraft, 38 helicopters & 49 drones
- Verified losses of Ukrainian armed forces air-defence assets: 81 components
- Verified losses of Russian armed forces air-defence assets: 161 components
- Analyst Comment: Russia is not assessed to have achieved air superiority over Ukrainian airspace. While degraded, Ukrainian military air and air-defence operations remain ongoing. Ukraine is assessed to be conducting approximately 10 jet air sorties per day as the airspace remains contested. Russia is assessed to be conducting approximately 150-200 air sorties per day, though a notable portion are likely occurring in Russian airspace and not over Ukraine due to the persistent threat posed by Ukrainian air defences at all altitudes.



Russia-Ukraine Situation Update

Key Developments: Regulatory, Risk & Operational

Russia-Ukraine Situation Update



Osprey Airspace Risk Areas

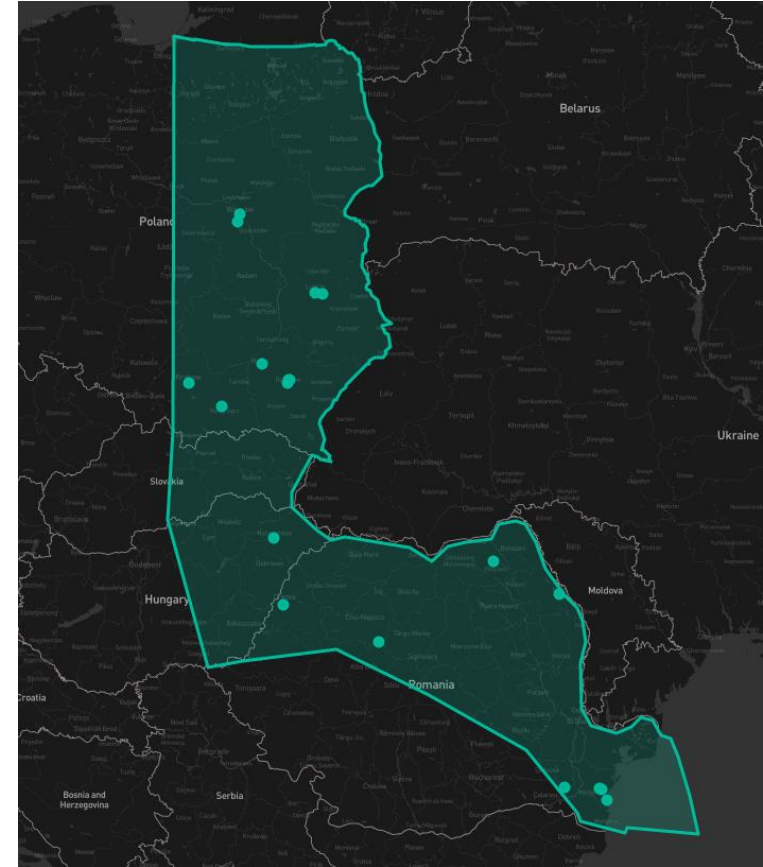
Osprey scoring for the relevant airspace risk areas outlined below:

- Ukraine - Donetsk & Luhansk: **EXTREME** at all altitudes
- Ukraine (non-Donbass): **EXTREME** at all altitudes (up from HIGH on 23 Feb)
- FIR Simferopol (UKFV): **EXTREME** at all altitudes (up from HIGH on 23 Feb)
- Russian Border: **EXTREME** at all altitudes (up from HIGH on 23 Feb)
- Belarus: **EXTREME** at all altitudes (up from HIGH on 23 Feb)
- Moldova: **MODERATE** at all altitudes (down from EXTREME on 24 Mar)
- South Black Sea, Southern Russia & North Caspian Sea: **MODERATE** at all altitudes (new on 25 Mar)
- Eastern Europe Border Areas & Baltic Sea: **MODERATE** at all altitudes (new on 25 Mar)

Russia-Ukraine Situation Update

Expansion of Osprey airspace risk areas

- **Baltic Sea:** Increased NATO and Russian military air activity as well as global positioning system (GPS)/global navigation satellite system (GNSS) jamming and electromagnetic interference (EMI)
- **Eastern Europe Border Areas:** Increased NATO air activity and air-defence system deployments coupled with spillover by drones from Russia-Ukraine conflict
- **Southern Black Sea:** Increased NATO and Russian military air activity as well as presence of GPS/GNSS jamming and EMI
- **Northern Caspian Sea:** Russian military air and naval activity, including cruise missile launches into Ukraine without prior notices issued



Eastern Europe Border Areas



Russia-Ukraine Situation Update

Regulatory Information

- ✦ **Ukraine** has closed its airspace **until at least 25 May**. **Moldova's** airspace remains closed, except for a portion extending from the Romanian border, allowing flights to use Chisinau Airport.
- ✦ **Belarus** has extended the restriction for its southern airspace **but reduced the area covered**; **Russia** has closed much of its southwest airspace as well as numerous ATS route segments.
- ✦ **Poland, Slovakia, Hungary and Romania** have all issued NOTAMs regarding flight planning restrictions and Ukraine-related military activity in their airspace, primarily near their borders with Ukraine and Moldova. **Germany** has issued a NOTAM warning of reroutings and delays in its airspace due to Ukraine-related military activity.
- ✦ Major regulatory bodies – including **EASA, the UK, the US, Canada, France & Germany** – have issued conflict zone notices for airspace in Ukraine and neighbouring countries, most with 'buffer zones' around Ukrainian airspace ranging up to 200NM. EASA's CZIB was updated on 24 March to reflect the reopening of a portion of Moldovan airspace, and Canada's NOTAM was amended on 25 March to extend their prohibition to the entirety of the Minsk, Chisinau and Rostov FIRs.
- ✦ The **EU, the US, the UK, Canada**, almost all non-EU European nations and British Overseas Territories have banned Russian-linked aviation entities from using their airspace; Russia has reciprocated in almost all cases. Canada added Belarusian-linked flights to its ban on 16 March; most European nations have banned Belarusian flights since the May 2021 Ryanair forced landing incident.
- ✦ Eurocontrol-compiled NOTAMs related to Russia-Ukraine: <https://www.public.nm.eurocontrol.int/PUBPORTAL/gateway/spec/>
- ✦ For more details of these notices, please access Osprey:Open via the following link: <https://www.ospreyfs.net/login>

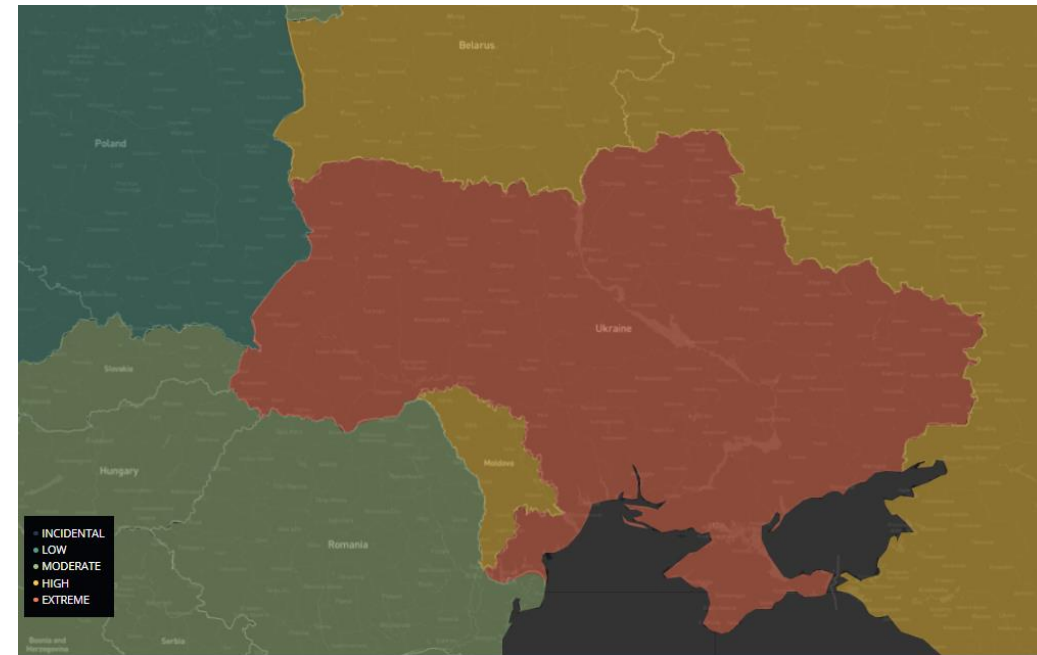
Russia-Ukraine Situation Update

Regional Impacts of the Conflict

Russia-Ukraine Situation Update

Key Geopolitical Developments:

- ✦ Between 27 February and 28 April, Ukrainian and Russian officials met for several rounds of talks; however, **no breakthrough regarding a ceasefire agreement is expected in the near term**, and humanitarian corridors have been largely ineffective.
- ✦ The EU plans to finance the purchase and delivery of weapons to Ukraine – the first time it has done this. Several NATO countries – on an individual basis and not at the direction of the alliance - continue to provide military armaments to Ukraine:
 - ✦ Slovakia provided S-300 conventional surface-to-air missile (SAM) systems to Ukraine and late April reports indicates additional similar provision of such systems by unspecified NATO member states – fighter jet components also delivered;
 - ✦ Russia stated it will take measures to defend against weapons shipments to Ukraine with late-April reiteration of this stance, in particular, any provision of high-altitude air-defence systems and/or aircraft;
 - ✦ NATO activated the Response Force within the alliance for the first time & **a multinational battlegroup for air defence was set up in Slovakia**, with US, Germany and the Netherlands deploying Patriot air-defence systems; US deployed Patriot air-defence systems to Poland, and the UK Sky Sabre will also be deployed to Poland;
 - ✦ NATO Baltic Sea & Black Sea air-policing missions remain ongoing along with increased air operations over Eastern Flank member states in the alliance.



Osprey Country Risk Areas

Russia-Ukraine Situation Update

NATO Eastern Flank Deployments



Russia-Ukraine Situation Update

Assessment, Indicators & Takeaways



Russia-Ukraine Situation Update

Osprey Assessment

Strikes are occurring in the wake of the Russian president stating on 24 February that Russia's armed forces had initiated a "special military operation" against Ukraine to "protect the Donbass" and to "demilitarize" Ukraine. **Osprey assesses that significant Russian military operations - likely including the use of cruise and ballistic missiles targeting Ukrainian armed forces bases and critical infrastructure sites in Ukraine, including airports/airbases - will persist through May.** Ukraine may continue to conduct a limited number of drone, missile and/or rocket launches into Russian territory, though such attacks are likely to occur within 160km (100 miles) of the border.

Increased military air and multi-type/variant missile (air-defence, cruise and/or ballistic) operations by the Russian and Ukrainian armed forces have the potential to cause airspace congestion and would impact the safety of civil aviation flights. The significant increase in the amount of air and missile operations in southwest Russia, Ukraine and the Black Sea are expected to disrupt availability of airports/airbases along with access to airspace in these areas indefinitely. While there are no indications that Russia or Ukraine intend to kinetically target legal civil aviation flights, Osprey assesses there is an increasing potential for miscalculation and/or misidentification.

Rerouting of civil aviation over additional portions of Belarus's FIR Minsk (UMMV) as well as Russia's FIR Moscow (UUWV), FIR Samara (UWWW) and/or FIR Rostov (URRV) along with the eastern portions of Moldovan, German, Polish, Hungarian, Slovakian and/or Romanian airspace is a significant concern going forward, either by further regulatory action and/or changes in insurance coverage. More restrictive measures could be enacted at short notice by these countries as well as other leading civil aviation governing bodies, including additional partial restrictions of airspace in the above FIRs or additional airspace areas over the Czech Republic or Croatia, for example. While Ukraine has closed its airspace, leading civil aviation governing bodies may issue further notices to operators in addition to those above regarding Ukrainian and neighbouring airspace.



Russia-Ukraine Situation Update

Key Indicators of Escalation

- Intensification of Russian strikes on main urban centres, military sites and critical infrastructure in Ukraine
- Significant Russian movement of forces deep into Ukrainian territory and control of main urban centres
- Additional deployment of further Russian military forces to Belarus or the areas bordering Ukraine
- Widespread telecommunications disruption and/or cyber attacks crippling critical infrastructure functionality

Key Indicators of De-escalation

- Russian willingness to engage in ceasefire negotiations
- Russian strikes being confined to a specific geographic area
- Russian troop movements confined to a specific avenue of approach
- Russia-NATO council engagements on deconfliction



Russia-Ukraine Situation Update

Key Takeaways

- ✈️ Ukraine is an active conflict zone and the airspace is closed. Neighbouring states are also restricting airspace.
- ✈️ Both Russia and NATO are conducting increased levels of military air patrols over the Black Sea and Baltic Sea.
- ✈️ GPS jamming and other forms of EMI continue to occur in the region, including over the Black Sea and Baltic Sea.
- ✈️ Regulatory NOTAMs, circulars, publications, restrictions and/or bulletins continue to be issued with short notice.
- ✈️ Potential changes to insurance coverage and/or access to such services for flights related to Ukraine conflict.



Osprey Flight Solutions

A new age for aviation risk management

29 April 2022

Russia-Ukraine Situation Update