

# A PRIMER ON THE TREATY ON OPEN SKIES



OC-135B Open Skies - RAF Mildenhall Feb 2010 . Credit: Tim Felce (Airwolfhound) [CC BY-SA 2.0 (<https://creativecommons.org/licenses/by-sa/2.0/>)]

## THE PURPOSE OF THE OPEN SKIES TREATY

- Arms control treaties are negotiated between countries with conflicting interests where relationships are often characterised by distrust. These treaties are designed to reduce tensions and alleviate concerns.
- By opening airspace for observation flights among its member countries, the Open Skies Treaty provides transparency and is designed to build confidence between countries about military activity.

## WHAT IS THE OPEN SKIES TREATY?

- The treaty opens up the airspace of 34 countries from 'Vancouver to Vladivostok' for observational flights by other countries.
- The treaty has been in force for over 17 years. It was negotiated in 1992 and entered into force on 1st January 2002.
- The Treaty has resulted in over 1500 flights.

- Participating countries include the UK, the US, Russia and 31 NATO and former Warsaw pact countries. Of all NATO countries, 27 of 29 are members.
- The Open Skies Treaty is entirely distinct from accords on civil aviation, which are often referred to as 'Open Skies' agreements.

## WHAT IS THE TREATY'S VALUE FOR ITS PARTICIPANTS?

- Images are recorded on the flights using strictly certified equipment and shared between all participating countries.
- Open Skies images have a unique level of international provenance, because all parties recognise they are authentic.
- Open Skies images are shared with all the members of the treaty, including the country that is being observed, making this an important confidence-building tool for countries without access to regular high-definition satellite imagery.
- Cooperation between flight crews of different countries over



time has fostered trust and cooperation in what some call 'the spirit of Open Skies'.

## HOW OBSERVATION FLIGHTS WORK

- Each participating country has a quota of flights it can use over the territory of other countries and a quota it must accept over its territory every year. This quota is determined by the country's geographic area. For example, the UK must accept 12 flights per year over its airspace and in return it can conduct 12 flights over the territory of the other countries
- Flights are announced 72 hours in advance. The flight plans are prepared and agreed with the knowledge of the observed country 24 hours before the flight.
- Flights are conducted with joint aircrews, representing both the observed and the observer.

## CAMERAS AND SENSORS

- Open Skies aircrafts can use optical cameras, infra-red sensors (useful for identifying heat from engines and other heat sources), and Synthetic Aperture Radar, a type of radar that can be useful to measure elevation and volume, identify metallic objects, and penetrate foliage and cloud cover.
- The limit on the quality of images is designed to allow general identification of military land vehicles, aircraft and infrastructure but does not provide enough detail to identify specialised equipment such as tank antennae.
- Images taken during the flight are downloaded and encoded using certified equipment and software, to ensure they cannot be manipulated or altered.
- Russia uses digital optical sensors, after their instruments were certified in 2014.
- Infra-red and Synthetic Aperture Radar are not yet used on Open Skies flights, although Germany has developed an infra-red capability which may be certified in due course.

## OPEN SKIES AND COMMERCIAL SATELLITES

- Countries such as the United States have access to imagery from national satellite assets that exceeds the quality of images available from cameras under the treaty. However, the US does not routinely share its satellite images.
- The availability of commercial satellite imagery has been used to argue that the treaty is obsolete. Yet, aerial

overflights offer distinct advantages over commercial satellite imagery.

- Open Skies flights offer flexible flight paths to reach points of interest, can be arranged at short notice (72 hours by treaty), can fly below cloud cover and can linger over points of interest to provide images from multiple angles.
- In terms of image quality, cameras allowed under Open Skies have a resolution as good as, or slightly better, the very best commercially available satellites. Infrared sensors are also significantly better, while satellite-mounted Synthetic Aperture Radar is better than those allowed under Open Skies.
- Commercial imagery is not subject to the same authenticity checks as Open Skies imagery.

## PAST CONTROVERSIES

- Suspensions of all Open Skies flights have occurred twice: in 2017-2018 Georgia withdrew Russian access to its airspace, prompting Russia to block the decision on allocated flight quotas for 2018-2019; In 2011-2012 Greece disputed with Turkey about how to include Cyprus. In both cases, the suspension of Open Skies flights was a collateral of broader political disputes. In both cases treaty flights were eventually resumed
- Since 2014, the US has found Russia to not be complying fully with the treaty by restricting flight distance over Kaliningrad, restricting flight altitudes over Moscow and flight corridors in Georgia. In efforts stated to bring Russia back into compliance the US has been placing restrictions in turn on Russian overflights.
- Certification of the new Russian Tu-214ON aircraft was held up by the United States before being completed in September 2018.

## USE CASES

- The Open Skies treaty has been used to monitor crises.
- Special quota flights were used in March 2014 by Sweden, the US and Ukraine to monitor Russian Federation forces near the Ukrainian border. Regular quota flights were also used by Romania and in a joint flight by Germany and the US.