

The map displays the following locations and their corresponding attack frequency categories:

- 5 times or more (Dark Red):** Eielson Air Force Base, Joint Base Elmendorf-Richardson (JBER), Scott Air Force Base, Travis Air Force Base, San Diego, Pearl Harbor, Libby Army Airfield, Manzanillo.
- 3 times or more (Light Red):** Rosecrans Air National Guard Base, Norfolk, CFB Greenwood.
- Twice (Yellow):** RAF Fairford, Stockholm, Helsinki, Berlin, Portsmouth, Barcelona, Ankara, Fujairah, Agra, Visakhapatnam, Kolkata, Cheongju, Xiangyang, Kalaikunda, Chiang Mai, Phnom Penh, Nha Trang/Cam Ranh International Port, Manila/Subic, Antonio Bautista Air Base, Saipan, Tinian, Rota, Guam, Majuro, Federated States of Micronesia, Honiara, Nadi, Port Moresby, Sydney, Melbourne, Darwin, Balikpapan, Muara/Bandar Seri Begawan, Jakarta, Bengkulu, Changi, Kuala Lumpur, Kuantan, Bangkok/U-Tapao, Mattala Rajapaksa, Colombo, Chennai, Trincomalee, Dugm, Goa, Jiddah, Abu Dhabi, Mina Salman, Nairobi, Djibouti.
- Once (Green):** (No specific locations are labeled in this category on this map).

Cooperation in Use of Space and Cyber Domains

swiftly achieve superiority in space and cyber domain by strengthening coordination and cooperation with relevant countries through information sharing, consultation, exercise, and capacity building assistance, while promoting measures concerning the development of international norms.

1 Cooperation in the Use of Space Domain

The MOD/SDF is also working on cooperation with countries other than the United States. For example, the Japan-Australia Space Security Dialogue and Japan-U.S.-Australia Space Security Dialogue are held to exchange opinions on space policy. With France, based on the agreement to strengthen bilateral dialogue on space at the Japan-France Foreign and Defense Ministers' Meeting in March 2015, the two countries decided to start the Japan-France Comprehensive Space Dialogue. At the 2nd Japan-France Comprehensive Space Dialogue in March 2017, in order to strengthen bilateral cooperation on SSA, the two countries signed a technology arrangement on information sharing pertaining to space situation awareness between the competent authority of Japan and the Minister of Defense of the Republic of France, and

See Chapter 2, Section 2 (Strengthening Ability of Japan-U.S. Alliance to Deter and Counter Threats)

agreed to promote specific cooperation initiatives. With the EU, it was decided to start the Japan-EU Space Policy Dialogue at the Japan-EU Summit in May 2014, and four dialogue sessions have been held. At the Japan-India summit

meeting in October 2018, the two countries decided to start space dialogue between the governments, and the MOD participated in the first meeting held in March 2019.



Section 1-2 (Promotion of Defense Cooperation and Exchanges)

2 Cooperation in the Use of Cyber Domain

Regarding the use of the cyber domain, Japan will enhance its partnership and cooperation with relevant countries through measures such as sharing views on threat awareness, exchanging views on response to cyber attacks, and participating in multilateral exercises.

The MOD has held cyber dialogues with the respective defense authorities of Australia, the United Kingdom, Germany, Estonia, and others to exchange views on threat awareness and relevant initiatives taken by each country. With NATO, the MOD carries out initiatives looking at possible future operational cooperation, such as establishing a cyber dialogue between defense authorities called the Japan-NATO Expert Staff Talks on Cyber Defense and participating in the cyber defense exercise (Cyber Coalition) hosted by NATO as an observer. Furthermore, Japan has participated in the International Conference on Cyber Conflict (CyCon) and has participated as an observer in a cyber defense exercise

(Locked Shields), both organized by the CCDCOE based in Estonia. The MOD is further developing collaborative relationships with NATO in the cyber domain through the dispatch of personnel to the Centre since March 2019.

In addition, the IT Forum has been held between the defense authorities of Singapore, Vietnam, and Indonesia to exchange views on initiatives in the information communications area including cybersecurity and current trends in technology. The MOD has been expanding the cooperation by implementing human resource development seminars for Vietnamese Forces in the area of cybersecurity as part of its capacity building assistance in December 2017 and March 2019.



Section 1-2 (Promotion of Defense Cooperation and Exchanges)
Section 1-5 (Proactive and Strategic Initiatives for Capacity Building Assistance)



Strengthening Cyber Collaboration with NATO

NATO Cooperative Cyber Defence Centre of Excellence (Tallinn, Estonia)

Keiko Kono, Senior Research Fellow at the National Institute for Defense Studies

Since March 2019, I have been working as a researcher at the Law Branch of NATO Cooperative Cyber Defence Centre of Excellence (CCDCOE) in Estonia. The centre holds a multinational cyber defense exercise named Locked Shields and an annual international conference (CyCon) every year, and it also provides various education and training opportunities to military officers and government officials. Furthermore, the centre conducts research on various aspects of cyber security and publishes the outcome through its websites and other means.

This year, as a member of the headquarters, I engaged in the legal play of Locked Shields by drafting legal questions and scoring answers presented from 23 teams participating in the exercise. I also research legal issues on cyber defense in the Law Branch.

How to respond to cyber attacks in terms of international law, strategy, technology and operation has been increasingly attracting attention also at NATO. Expectations for the centre, which conducts research, education/training and exercises in these fields, have been rising year by year.

I wish to learn the latest research trends at NATO and contribute to research projects of the centre as a member of the centre, and reflect my expertise in initiatives launched by the MOD/SDF in these fields.



Author working at NATO CCDCOE (second from right)