



MONTHLY REPORT

Nuclear Risk Assessment

Korean Peninsula
2023/06



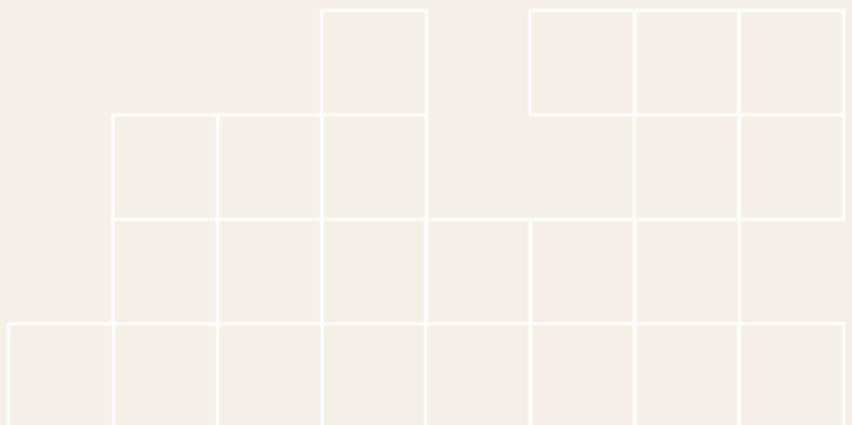
Open Nuclear Network

One Earth Future's Open Nuclear Network programme is a non-aligned, non-governmental entity that seeks to increase security for all States by ensuring that nuclear decision makers have access to high quality, shareable open source information which enables them to make the best decisions in the face of escalating conflict.

Nuclear Risk Assessment Report

Nuclear risk can emanate from various factors. These range from the more obvious military developments and incidents that could lead to increased tensions and possibly even nuclear misuse, to the often overlooked domestic and external contexts in which a country perceives its circumstances and, based on those perceptions, makes decisions that have direct or indirect implications for nuclear risk.

In an attempt to more comprehensively assess nuclear risks on and around the Korean Peninsula, this monthly Report examines the DPRK's and the ROK's nuclear and military spheres, as well as activities and policy decisions across main domestic and foreign policy spheres that could impact nuclear risks.



Methodology & Scope

The “ONN Nuclear Risk Assessment Report” strives for objectivity and accuracy through collection, research and analysis of open source information.

The Report focuses on the DPRK and the ROK; other key regional State actors – namely China, Japan, Russia, and the United States – are covered as part of the context in which Pyongyang and Seoul act and make their decisions, but they themselves are not the main objects of this Report’s analysis.

The Report consists of three sections: Nuclear, Military and Political.

The **Nuclear section** covers notable developments with direct implications for nuclear capabilities and dynamics on and around the Korean Peninsula. These include the DPRK’s nuclear and missile development and tests; military activities related to US extended deterrence to the ROK and in the region; as well as major nuclear policy changes.

The **Military section** covers key military-related developments that may not have direct implications for nuclear capabilities and postures but could lead to heightened nuclear risks. These include the two Koreas’ conventional military build-ups or military exercises, or unusual moves by the DPRK’s Korean People’s Army (KPA) or inter-Korean military conflicts.

The **Political section** addresses key domestic and external factors that could impact Pyongyang’s decisions on its nuclear posture. Examples include notable domestic political, economic and social developments, as well as its ROK and foreign policy trends. This section may also address domestic pressures in the ROK or changes in Seoul’s foreign policy that could have repercussions for nuclear risk, such as the public discourse in the ROK on acquiring its own nuclear capabilities or significant policy changes related to the ROK-US alliance or inter-Korean relations.

For busy readers, these three sections are preceded by key takeaways from each chapter.

To produce this monthly Report, ONN regularly monitors, collects and analyzes text, satellite imagery and ground photos and videos in publicly and commercially available sources from China, the DPRK, Japan, the ROK, Russia and the United States. Secondary and tertiary sources are used only if primary sources are unavailable. ONN observes a [Code of Ethics](#) for collection, research and analysis.

Nuclear Risk Takeaways

Nuclear. Military. Political.



NUCLEAR

The DPRK reaffirmed its commitment to continue satellite launches and increase nuclear weapons production. Its failed satellite launch in May and two short-range ballistic missile (SRBM) launches in June showed that the DPRK continues to carry out launches using ballistic missile technology. In response to the DPRK's satellite launch, the ROK and the United States announced new sanctions, while on the military side, Japan, the ROK, and the United States continued to enhance security cooperation. Although the continuous strengthening of mutual deterrence could lead to a more stable equilibrium on and around the Korean Peninsula in the long term, non-negligible risks exist for the time being.



MILITARY

Both Koreas have continued to invest in drones to enhance their ability to conduct surveillance, collect intelligence and strike targets, which may help reduce the risk of miscalculation due to improved situational awareness. The DPRK's conventional military, including new types of light frigates, could potentially provide basic cover and support to the operation of its nuclear forces in times of armed conflict.



POLITICAL

In June, the DPRK leadership continued to stress economic issues at home, while externally continuing to side with Russia. Pyongyang stepped up anti-US rhetoric timed with the anniversary of the start of the Korean War, suggesting it may be paving the way for escalating tensions if it decides to do so. Both Koreas appointed experts known as hardliners to their respective offices in charge of inter-Korean affairs, indicating that DPRK-ROK relations will remain strained for the foreseeable future.



Nuclear

DPRK Reaffirms Commitment to Bolstering Satellite and Nuclear Capabilities; US Strengthens Extended Deterrence

The DPRK reaffirmed its commitment to continue satellite launches and increase nuclear weapons production. Its failed satellite launch in May and two short-range ballistic missile (SRBM) launches in June showed that the DPRK continues to carry out launches using ballistic missile technology. In response to the DPRK's satellite launch, the ROK and the United States announced new sanctions, while on the military side, Japan, the ROK, and the United States continued to enhance security cooperation. Although the continuous strengthening of mutual deterrence could lead to a more stable equilibrium on and around the Korean Peninsula in the long term, non-negligible risks exist for the time being.

During the Party's Eighth Enlarged Plenary Meeting, the DPRK acknowledged to the domestic public the "failure" of its 31 May satellite launch but vowed to keep bolstering its satellite and nuclear capabilities, highlighting the country's deteriorating external security environment. Pyongyang's pledge to continue to strengthen its weapons capabilities is consistent with its five-year defence development plan from the Eighth Party Congress in January 2021, as well as its shift to a hard-line foreign policy in recent years.

- The [plenary meeting](#) referred to the [satellite launch](#) as a "most serious failure" and reaffirmed its intent to launch another satellite "in a short span of time." Describing the country's security situation as "extremely deteriorating," the Party reaffirmed its commitment to respond to perceived hostilities based on the "principle of action for action" and called for "increasing the production of powerful nuclear weapons."
- The DPRK's pledge to continue with weapons development is in line with its [five-year defence development plan](#), which includes bolstering nuclear, missile, and satellite capabilities. The "principle of action for action" is consistent with Pyongyang's [hardening line](#) on Washington and the pivot to China and Russia.

The launch of what the DPRK claimed to be its first "military reconnaissance satellite" suggests Pyongyang may have made technological advancements in its satellite technology. The satellite launch on 31 May and the two SRBM launches in mid-June showed that the DPRK continues to carry out launches using ballistic missile technology.

- According to photos released by DPRK state media, the Chollima-1 carrier rocket launched on 31 May appears to be as powerful as the Hwasong-17 ICBM (Figure 1), making it the largest carrier rocket of the DPRK to date. With a higher payload capacity, the DPRK will be able to send more capable satellites into space, should the problems causing the launch failure be solved.



Nuclear (cont.)

DPRK Reaffirms Commitment to Bolstering Satellite and Nuclear Capabilities; US Strengthens Extended Deterrence

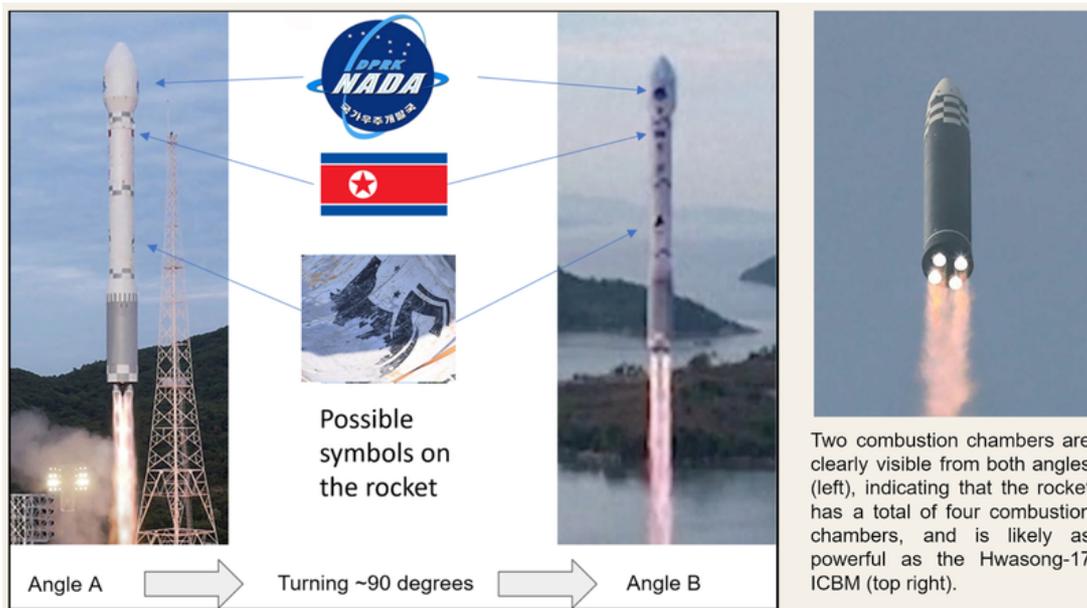


Figure 1. The first stage of the Chollima-1 carrier rocket launched on 31 May is similar to the engines of the Hwasong-17 ICBM. Images: [KCNA](#), [Korea Herald](#) (Left), [KCNA](#) (Top right).

- The failed satellite launch and the [two SRBM launches](#) brought the number of launches using ballistic missile technology and launches of cruise missiles and underwater attack drones by the DPRK in the first half of 2023 to [a total of 33](#) (see the Appendix). The DPRK [conducted 69 launches](#) in 2022.

As the UN Security Council remained [divided](#) over the DPRK's latest satellite launch, the ROK and the United States each announced fresh sanctions against individuals and entities for their alleged illicit financial activities and involvement in DPRK ballistic missile programs. On the military front, the United States has increased strategic asset deployments in line with the ROK-US Washington Declaration, while Japan, the ROK and the United States continued to make headway with trilateral security cooperation.

- The [ROK sanctions](#) target a Russian national of Korean descent, a DPRK national and two companies for their "illicit financial activities." The US sanctions target two DPRK nationals based in China, reportedly for their involvement in procurements for the DPRK's ballistic missile programs. The [US sanctions](#) indicate that the DPRK continues to rely on foreign materials and equipment for some missile components despite its advancements in missile development.



Nuclear (cont.)

DPRK Reaffirms Commitment to Bolstering Satellite and Nuclear Capabilities; US Strengthens Extended Deterrence

- Washington has increased its strategic asset deployments to the Korean Peninsula, consistent with the ROK-US [Washington Declaration](#) adopted in late April to ensure the “regular visibility of strategic assets to the Korean Peninsula.” For example, US B-52H bombers were deployed to the Korean Peninsula for the [second time in two months](#) for a [joint air drill](#), while a US nuclear-powered guided missile submarine (SSGN) [visited](#) the ROK for the first time in six years.
- Seoul, Tokyo and Washington continued to strengthen trilateral security cooperation. In a [trilateral meeting](#) on 3 June, they committed to enhance trilateral security exercises and operate an information-sharing mechanism of real-time missile warning data “before the end of the year.”

Although the continuous strengthening of mutual deterrence could lead to a more stable equilibrium in the long term, non-negligible risks exist for the time being. The DPRK on the one side, and Japan, the ROK, and the United States on the other, appear to be in a transition phase of recalibrating their defence policies and military postures across both the conventional and nuclear realms in accordance with their changing threat perceptions. Both sides’ transitions may create even greater uncertainties about the other’s intentions and insecurities about their own vulnerabilities, further entrenching the security dilemma on and around the Korean Peninsula and making crisis management more challenging.



Military

Two Koreas Continue Drone Development; DPRK's New Frigates Likely to Provide Modest Protection for Strategic Assets

Both Koreas have continued to invest in drones to enhance their ability to conduct surveillance, collect intelligence and strike targets, which may help reduce the risk of miscalculation due to improved situational awareness. The DPRK's conventional military, including new types of light frigates, could potentially provide basic cover and support to the operation of its nuclear forces in times of armed conflict.

A prototype medium-altitude long-endurance (MALE) drone with a wingspan of approximately 35 meters [was spotted](#) at the DPRK's Panghyon Airbase in mid-June. The MALE drones could potentially improve the operation of DPRK missiles and other means of strike by conducting surveillance and offering information on time-sensitive targets in the ROK.

- This is the second time a MALE drone was seen after a prototype version with a wingspan of approximately 20 meters [was spotted in October 2022](#). Drone development is part of Pyongyang's broader effort to update its conventional military equipment. During the [Eighth Party Congress](#) in January 2021, Kim Jong Un called for the development of reconnaissance drones and other means of reconnaissance capable of conducting surveillance up to 500 km deep into the ROK.
- The MALE drones could potentially conduct surveillance, collect intelligence and provide information on time-sensitive targets in the ROK for both conventional and nuclear strikes. As the DPRK rapidly enhances its strike capabilities with a new generation of nuclear-capable solid-propellant short-range ballistic missiles, it needs corresponding targeting information to effectively use its missiles, particularly against time-sensitive targets.
- Advanced MALE drones are typically controlled via communication satellites for operations over long distances. While the DPRK does not have its own communication satellites, ground control within line of sight or via a relay platform (such as another drone) may be sufficient for limited operations due to the relatively small size of the Korean Peninsula.

The ROK has continued to expand the military use of drones and its [counter-drone capabilities](#), with the ROK Ministry of National Defense (MND) issuing an [order](#) to establish a drone operations command in September to respond to the DPRK's drone infiltrations. In addition to this mission, the drones will likely contribute to the ROK's three-axis defence system, namely the Kill Chain, Korea Air and Missile Defense and the Korean Massive Punishment and Retaliation.



Military (cont.)

Two Koreas Continue Drone Development; DPRK's New Frigates Likely to Provide Modest Protection for Strategic Assets

- The command's main mission is to respond to "enemy UAVs [unmanned aerial vehicles] through surveillance, reconnaissance and potential strike operations, among other military actions," [according to the ministry](#). The command [plans](#) to secure 100 small drones, which reportedly can cover the whole of the DPRK, by the end of June.
- The MND adopted a counter-drone operational principle, under which the ROK would counter a single DPRK drone infiltration into Seoul with 10 or more drones flying into Pyongyang. The command's focus on "responding" to unmanned enemy drones implies that the command would not act without provocation, [according to a government official](#).
- The [war in Ukraine](#) and Taiwan's [development](#) of attack drones are just two examples of drones performing an increasingly offensive role. In light of this global trend, and the likelihood of drones strengthening the ROK military's situational awareness and [strike capabilities](#), drones almost certainly will [contribute](#) to Seoul's three-axis defence system.

Pyongyang's recent registration of new frigates with the International Maritime Organization (IMO) and a DPRK state media video seem to suggest modest progress made by the DPRK in naval shipbuilding in the past decades. The new DPRK frigates, limited in their number and capabilities, could potentially offer some modest protection for the country's future sea-based ballistic missile launch platforms in times of high tension.

- For the first time since 2014, the DPRK registered with the IMO two new frigates, which it [plans](#) to build by 2026. Meanwhile, state-run Korean Central Television (KCTV) aired a [music video](#) on 25 June containing the first official image of a new frigate built by the DPRK (Figure 2).
- According to commercially available images, the DPRK in the early 2010s started the construction of two types of light frigates, respectively designated by the United States as the Tuman class and the Amnok class. The Nampo shipyard on the west coast and the Najin shipyard on the east coast have each built one of these two ships (Figure 2). Currently, one Tuman-class ship serves in the west sea fleet, and one Amnok-class ship is in the east sea fleet. The DPRK embarked on a fleet modernization programme in the 1990s that mainly included surface effect ships, fast attack boats and frigates.



Military (cont.)

Two Koreas Continue Drone Development; DPRK's New Frigates Likely to Provide Modest Protection for Strategic Assets

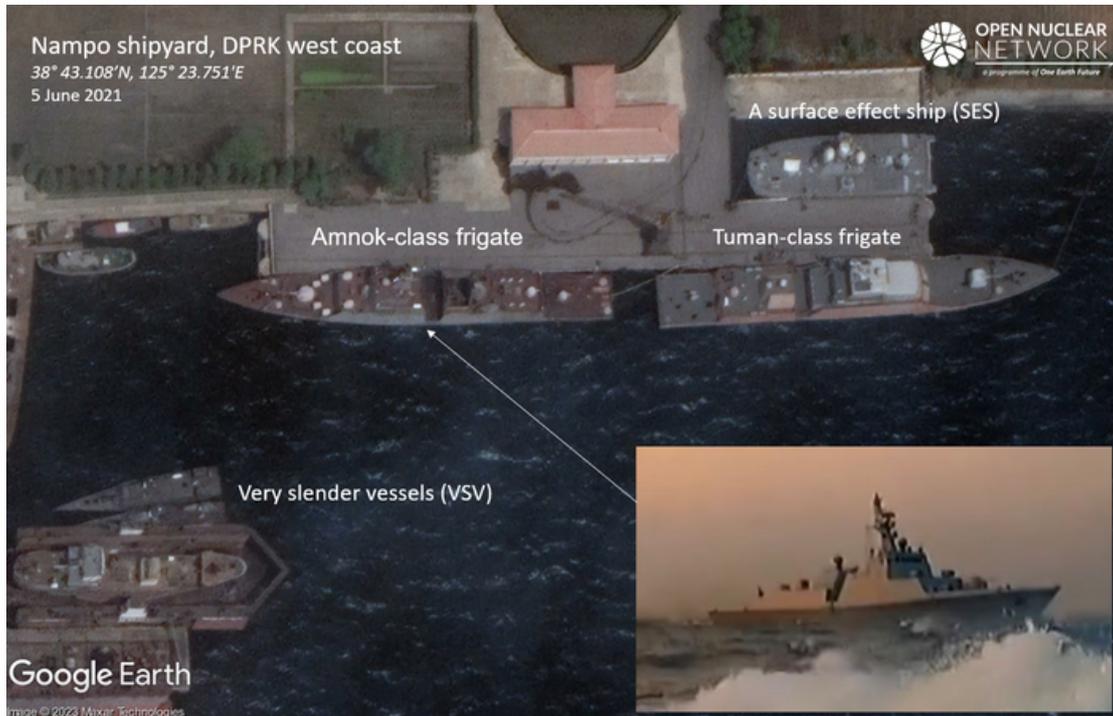


Figure 2. An Amnok-class frigate and a Tuman-class frigate at the Nampo shipyard. Inset image: Official TV footage of an Amnok-class frigate, aired on 25 June 2023. Images: Google Earth, KCTV

- A review of [ground photos](#) of the frigates taken by visitors to the DPRK suggests that their air defence and anti-submarine warfare capabilities are obsolete or underdeveloped by modern standards. Commercially available satellite images show the DPRK's naval vessels anchored in ports on most days, indicating that the level of the navy's activities has remained low. However, in an armed conflict, these frigates may be tasked to provide limited cover and protection for operating strategic assets, such as ballistic missile submarines, which may [operate close to the DPRK coastline for better survivability](#). Currently, the DPRK operates one experimental ballistic missile submarine and is [suspected](#) of converting a Chinese Type 033 submarine into a ballistic missile submarine.



Political

Author: Elin BERGNER

DPRK Continues to Stress Economic Issues and Support Russia; DPRK-US and Inter-Korean Ties Will Likely Remain Strained for Foreseeable Future

In June, the DPRK leadership continued to stress economic issues at home, while externally continuing to side with Russia. Pyongyang stepped up anti-US rhetoric timed with the anniversary of the start of the Korean War, suggesting it may be paving the way for escalating tensions if it decides to do so. Both Koreas appointed experts known as hardliners to their respective offices in charge of inter-Korean affairs, indicating that DPRK-ROK relations will remain strained for the foreseeable future.

The Party's [Eighth Enlarged Plenary Meeting](#) from 16 to 18 June and a [subsequent Cabinet meeting](#) showed a continued focus on resolving economic issues and increasing agricultural production. These reports came amid the ROK's National Intelligence Service (NIS) estimate that deaths from starvation had recently surged in the DPRK.

- This second plenary meeting of the year continued to raise issues in state economic management and agriculture.
- Meanwhile, the ROK's NIS [assessed](#) that unprecedentedly high staple food prices could cause a threefold increase in starvation deaths in the DPRK.

In line with the DPRK's policy of strengthening solidarity with nations opposed to the United States, reiterated during the plenary meeting, the DPRK continued to bolster ties with Russia. Russia, alongside China, has in turn continued to express support for the DPRK in international and bilateral forums.

- The DPRK extended messages of support on the occasion of Russia's national day at the highest levels, namely from [Kim Jong Un](#) and [Foreign Minister Choe Son Hui](#). Choe's message was notable in that it reiterated the DPRK's wish to continue developing "strategic and tactical cooperation" between the two nations, a formulation the DPRK has used on Russia since [June 2022](#).
- The DPRK vice foreign minister's [expression of support](#) to the Russian ambassador to the DPRK in connection with the Wagner Group's rebellion was further proof of Pyongyang making an extra effort to side with Russia.
- At a [meeting](#) on 26 June, the Russian vice foreign minister and the Chinese government's special representative for Korean Peninsula affairs reiterated that the root cause of the Korean Peninsula issue was that the DPRK's "reasonable security concerns" had not been properly addressed. At an earlier UN Security Council meeting, Chinese Ambassador Geng Shuang [expressed](#) similar support for the DPRK's security concerns.



Political (cont.)

DPRK Continues to Stress Economic Issues and Support Russia; DPRK-US and Inter-Korean Ties Will Likely Remain Strained for Foreseeable Future

The DPRK stepped up its anti-US rhetoric timed with the Korean War anniversary on 25 June, carrying out anti-US rallies that resumed in 2022 after a hiatus resulting from improved relations in 2018. The use of harsh language in rallies and articles for its domestic audience suggests that the leadership may be continuing to set the groundwork for further external escalation, should it decide to go down that path. Similarly, Pyongyang and Seoul each appointed officials who are considered hardliners to offices in charge of inter-Korean affairs, suggesting that inter-Korean relations will remain strained for the foreseeable future.

- An anti-US Pyongyang [mass rally](#) took place on 25 June, followed by [provincial and municipal rallies](#) in the rest of the country. These, together with DPRK media [articles](#), emphasized the need for the DPRK's nuclear armament. Up until 2017, similar [rallies](#) and [articles](#) in state media were prominent on and around 25 June. These rallies were not held from 2018, when DPRK-US relations thawed, but [returned](#) in 2022 and appear to have been further intensified this year.
- The language used in this year's rallies is similar to that aimed at the ROK's Yoon administration during [rallies](#) in May, [referring to](#) the "eradication" of "the US imperialists."
- Pyongyang [reinstated](#) Kim Yong Chol, former head of the Party's United Front Department (UFD), which is in charge of South Korea affairs, to the Party's Political Bureau and appointed him as an advisor to the UFD. ROK President Yoon Suk Yeol nominated Kim Yung-ho, a professor known for his "[hard-line](#)" views of North Korea, as the new ROK unification minister.

Appendix

DPRK Launches: January-June 2023

Launches using ballistic missile technology and launches of cruise missiles and underwater attack drones in the first half of 2023.

Date	Type	#	Notes
1 Jan	600 mm multiple rocket launcher	1	Toward the East Sea/Sea of Japan Apogee: 100 km; Distance: 350 km
18 Feb	Hwasong-15	1	Launched from Sunan, Pyongyang, landed in the East Sea/Sea of Japan. Apogee: 5768.5 km; Distance: 989 km; Flight time 4015 s
20 Feb	600 mm multiple rocket launcher	2	Launched from Sukchon area, South Pyongan Province, landed in the East Sea/Sea of Japan. The launch simulated a nuclear attack against air bases in the ROK. Distance: 395 km and 337 km, respectively
23 Feb	Hwasal-2 cruise missile	4	Launched from Kimchaek City, North Hamgyong Province, cruised for 2000 km.
9 Mar	KN-23	6	Launched toward the West Sea/Yellow Sea from Nampho city.
12 Mar	Submarine-launched cruise missile	2	Launched in the waters off Kyongpho Bay, cruised for 1500 km over the East Sea/Sea of Japan.
14 Mar	KN-23	2	Launched from the Jangyon area, South Hwanghae Province, and landed in the East Sea/Sea of Japan after flying approximately 620 km.
16 Mar	Hwasong-17	1	Launched from Sunan, Pyongyang, landed in the East Sea/Sea of Japan Apogee: 6045 km; Distance of 1000.2 km; Flight time 4151 s
19 Mar	KN-23, launched from silo	1	Launched from Cholsan County, North Phyongan Province, simulated nuclear detonation 800 m above the East Sea/Sea of Japan after flying approximately 800 km.
21-23 Mar	Haeil, an unmanned underwater nuclear attack craft	1	Cruised in shallow waters for 59 hours in the East Sea/Sea of Japan before simulating a nuclear detonation.

Appendix

DPRK Launches: January-June 2023 (cont.)

Launches using ballistic missile technology and launches of cruise missiles and underwater attack drones in the first half of 2023.

Date	Type	#	Notes
22 Mar	Hwasal-1 and Hwasal-2 cruise missiles	4	Launched from Hungnam District, Hamhung City, South Hamgyong Province, cruised for 1500 km and 1800 km respectively. Two of the four missiles simulated a nuclear explosion 600 m above the ground.
25-27 Mar	Haeil-1, an unmanned underwater nuclear attack craft	1	Cruised for 41.5 hours and 400 km in the East Sea/Sea of Japan before simulating a nuclear detonation.
27 Mar	KN-23	2	Launched from Ryokpho District, Pyongyang, flew some 370 km before simulating a nuclear detonation.
4-7 Apr	Haeil-2, underwater nuclear attack drone	1	Cruised 1000 km in simulated underwater distance in elliptical and figure-eight patterns in the East Sea/Sea of Japan for 71 hours and 6 minutes.
13 Apr	Hwasong-18	1	Solid-propellant, road-mobile ICBM. First stage reportedly landed in the waters 10 km off the Hodo Peninsula in Kumya County, South Hamgyong Province and the second stage in the waters 335 km east of Orang County, North Hamgyong Province.
31 May	Chollima-1 carrier rocket	1	Second stage malfunctioned. Rocket reportedly fell into waters some 200 km west of the ROK's southwestern island of Eocheong.
15 June	SRBMs	2	Reportedly flew some 780 km before splashing into the East Sea/Sea of Japan.



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a programme of One Earth Future

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