Satellite images show how hundreds of North Korean troops were likely transported to a secluded Russian port

By Lauren Kent, CNN
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A Russian landing ship comes and goes from the port of Dunai, in Russia's far east, on November 30. Researchers have been tracking Russian ships believed to be used for transfers of North Korean troops.

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James Martin Center for Nonproliferation Studies/Planet Labs PBC

CNN —

Hundreds of North Korean troops were likely transported by sea to Russia to fight in its war against Ukraine, satellite images have revealed, according to a new analysis from a US-based think tank shared exclusively with CNN.

At least two Russian naval ships are believed to have moved North Korean soldiers to a Russian military port in Dunai, in the far east, in October and November, according to researchers at the James Martin Center for Nonproliferation Studies at the Middlebury Institute of International Studies, in California.

The ship transfers were first identified by the South Korean National Intelligence Service (NIS), which said in a press release last year that some soldiers were transported via the North Korean port areas of Chongjin, Hamhung and Musudan. But the South Korean agency only offered a grainy radar image at the time.

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"I don't think that the Russians or the North Koreans want these transfers caught on camera," Sam Lair, a research associate at the Center for Nonproliferation Studies, told CNN. "The secrecy element is quite remarkable."

Now, researchers have verified that during the same time period of the troop transfers reported by South Korea intelligence, the Russian vessels identified by the spy agency docked at Dunai port in a remote, eastern part of Russia.

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In North Korea, soldiers likely boarded these ships at night, making it difficult to capture evidence of the transfers, researchers said. But satellite images have revealed activities at Dunai, “where it appears the Russians have been less careful.”

For example, in one satellite image from Planet Labs, a crane can be seen extending to one of Russia’s naval landing ships, which researchers believe is the Nikolay Vilkov, at the port on October 17, and a covered cargo truck is on the dock next to it. By October 20, the crane is retracted, and it appears a transfer of soldiers is complete.

Researchers could identify the Russian “Ropucha-class” and “Alligator-class” ships in the satellite images because they match with photos captured by the Japanese Defense Ministry in March 2022, when the vessels passed through Japanese waters.

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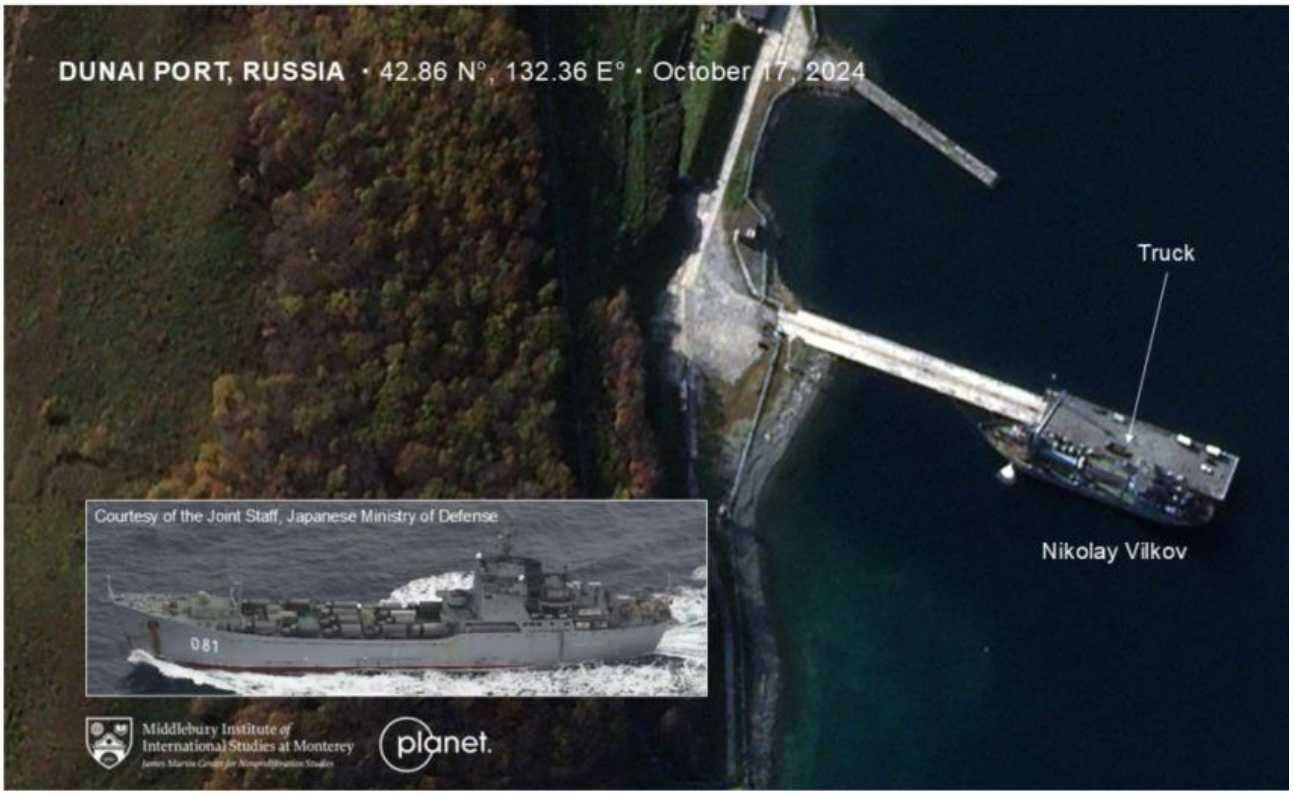

A crane is seen extending to one of Russia’s naval landing ships, which researchers believe is the Nikolay Vilkov, at Dunai port on October 17, and a covered cargo truck is on the dock next to it.

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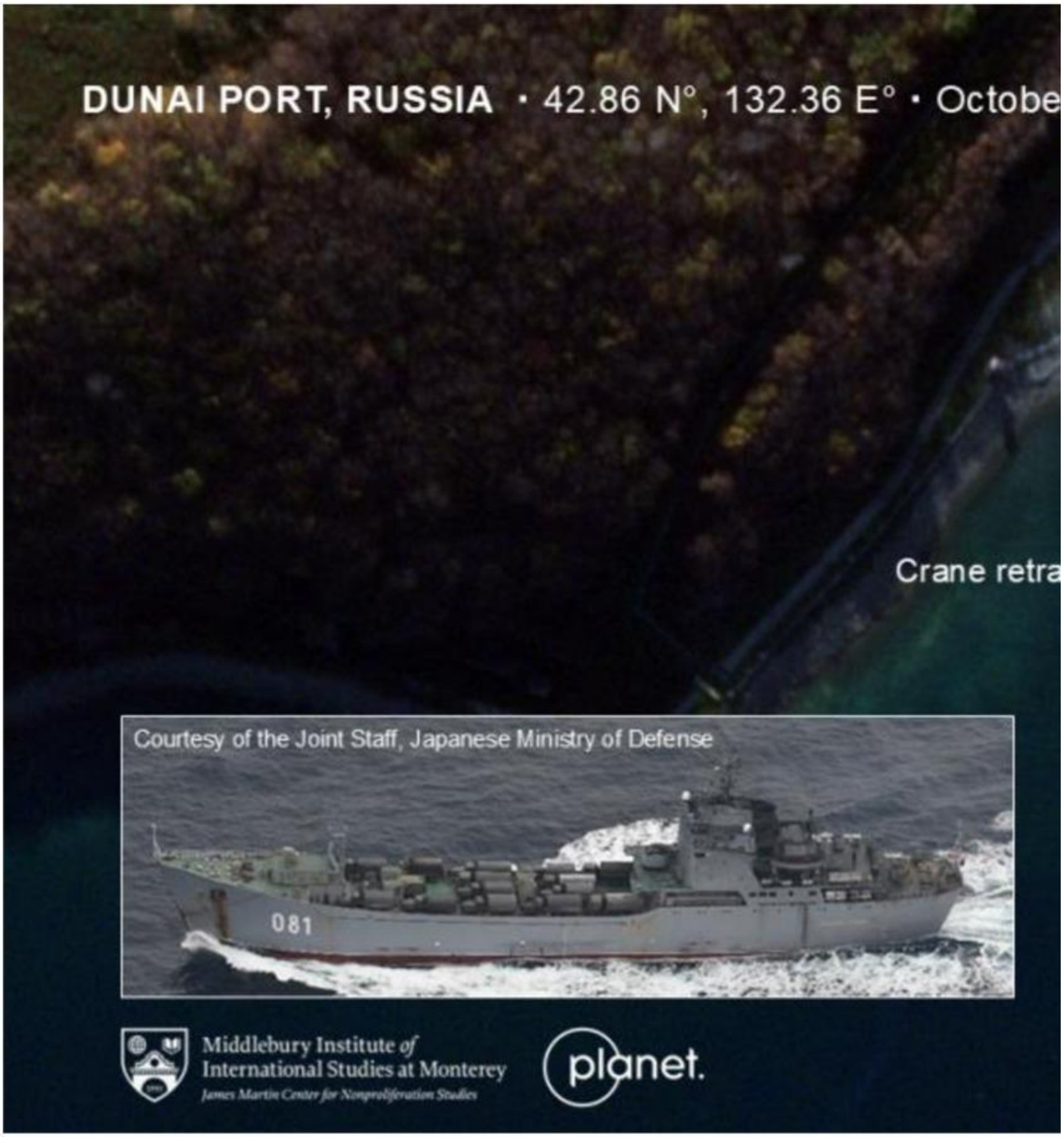

By October 20, the crane is retracted from the Russian landing ship at Dunai port, and it appears a likely transfer of North Korean soldiers is complete.

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Each landing ship is believed to have capacity to hold several hundred soldiers, possibly as many as 400, according to the researchers.

Lair explained that Dunai is a secure military facility, making it much more conducive to under-the-radar transfers than the large, nearby port of Vladivostok, which is in an area where civilians live.

“This is an isolated place where they can do these exchanges, where people aren’t going to notice… (where) their own citizens, and folks in the intelligence community might not notice,” Lair said.

An estimated 12,000 North Korean soldiers have been sent to Russia, according to Ukrainian officials and Western intelligence reports in January, which say around 4,000 of those troops have been killed or injured. Kyiv says it has captured at least two North Korean soldiers. Neither Moscow nor Pyongyang have confirmed the existence of North Korean troops on the front lines.

CNN has reached out to the Russian Ministry of Defense for comment.

North Korean troops have been deployed to Kursk since late October to repel Ukraine’s incursion in the southern Russian border region.

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Rajin Port, North Korea

Dunai Port, Russia

"The Russians seem to have been very careful to limit the exposure of the North Korean soldiers, moving them directly to military training facilities. The motive behind all the secrecy surrounding the North Koreans is uncertain, but moving some of them through Dunai would aid in that effort," Lair wrote in his analysis.

Dunai port has previously been used to transport cargo between Russia and the North Korea since Pyongyang started aiding the invasion of Ukraine in 2023, according to the James Martin Center for Nonproliferation Studies.

Satellite images taken in October show a cargo ship being loaded at Rajin port in North Korea, and the same ship docked two days later at Dunai in Russia.

An October 2023 report from the UK-based think tank The Royal United Services Institute for Defence and Security Studies (RUSI) said that "Russia has likely begun shipping North Korean munitions at scale" to the "inconspicuous naval facility" tucked away in Dunai.

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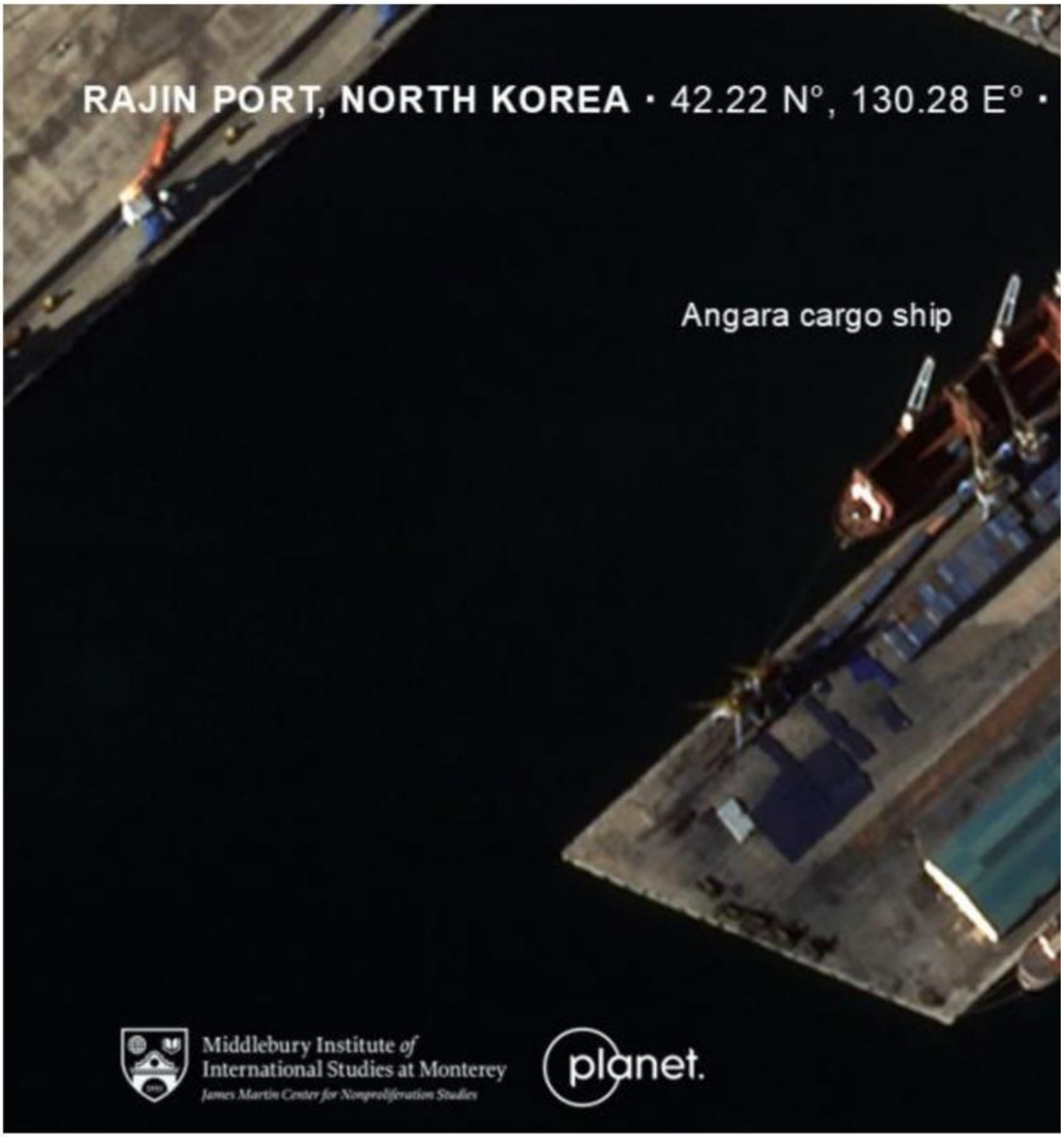

A cargo ship, the Angara, is loaded at Rajin port in North Korea, on October 27, 2023.

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The same ship, the Angara, is docked two days later on October 29, 2023, at the secluded port of Dunai in Russia.

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“We spend a lot of time looking at North Korea in general, because of North Korea’s nuclear weapons program, their conventional weapons program, their missile programs… So, we’ve been monitoring the North Korea-Russia connection since it started, in part because we think that that relationship might be going both ways,” Lair said.

Alyona Getmanchuk, director of the New Europe Center think tank in Kyiv, told a forum in South Korea this week that North Korea is gaining valuable combat experience with its involvement in Ukraine.

“It’s not only about supplies of missiles, it’s about testing their missiles in real battlefield conditions,” Getmanchuk said during the forum at the Goethe Institute in Seoul.

She said North Korea has used that experience to upgrade missiles to make them more accurate.

Pyongyang’s ground troops are also getting better, Getmanchuk said.

“They came totally unprepared… Now they are learning very quickly,” adapting to their tactics to be effective in “modern, hi-tech warfare,” she added.

Lair said the Pyongyang-Moscow relationship has deepened since the invasion began. “Sending your own soldiers to fight in

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someone else's conflict really suggests the strength of the connection," he said.

There are indications that Russia and North Korea are no longer using the sea route to transport troops, according to the think tank. Meanwhile, South Korean intelligence has reported that Russian military planes are frequently flying between Vladivostok and Pyongyang.

CNN's Brad Lendon contributed to this report.

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