



High Satellite Launch Tempo Keeps China's Space-Tracking Fleet Busy

OE Watch Commentary: China has embarked on an ambitious launch schedule of navigation, communication, imagery, and relay satellites. Officials at the China National Space Administration recently announced plans to launch 100 new satellites before 2025 to join the 200 already in orbit. According to China Aerospace Science and Technology Corporation, the main provider of domestic and international launch services in China, there have been 10 launches carrying 17 payloads as of the end of June. China is also expanding its satellite launch capabilities, and building an extensive facility in the southern island province of Hainan (the Wenchang Spacecraft Launch Site [文昌航天发射场]). In June, China launched a solid-fuel Long March 11 rocket from a barge in the Yellow Sea. These launches appear to be aimed at rapidly improving the country's satellite infrastructure for civilian and military purposes; and are consistent with China's 2015 Defense White Paper which describes space as "a commanding height in international strategic competition."

The accompanying article provides background on the activity of China's fleet of maritime Tracking, Telemetry, and Command (TT&C) ships. The Yuanwang [远望] class was initially conceived in the mid-1960s to support China's ballistic missile programs, and the early ships were used during tests of ICBMs and submarine-launched ballistic missiles (SLBMs) in the 1980s. Later tracking ships have continued to support China's space program. According to the article, the fleet of six ships has been put to sea for eight missions in the first half of this year.

The ships are homeported at China Satellite Maritime Monitoring and Control Department [中国卫星海上测控部] facility near the inland Port of Jiangyin [江阴港], in Wuxi, Jiangsu Province.

Publically available automatic identification system (AIS) information (signals transmitted by ships about their position and bearing) indicate that the Yuanwang 5 and her sister ships have traveled on recent missions to the Indian Ocean and the central pacific.

These tracking ships augment the land-based TT&C infrastructure China has built domestically and increasingly abroad, with facilities in Neuquén Argentina, Dongara, Australia, and Kiruna, Sweden, among others. **End OE Watch Commentary (Wood)**

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Yuan Wang 2, Chinese satellite and missile tracking ship in Papeete Harbor, Tahiti.

Source: David Broad via Wikimedia, https://commons.wikimedia.org/wiki/File:Yuan_Wang_2_Chinese_satellite_and_missile_tracking_ship_in_Papeete_harbor_Tahiti_-_panoramio.jpg, CC BY 3.0

Source: “远望号船队上半年累计出海240多天 - 我国航天年度发射任务密集 (The Yuanwang space-tracking ship fleet has accumulated more than 240 days at sea in the first half of the year - China's intensive annual space launch activity,” *PLA Daily*, 9 July 2019. <http://military.people.com.cn/n1/2019/0709/c1011-31222236.html>

On the morning of the July 8th, announced with a long whistle, Yuanwang No. 5 slowly sailed away from the dock of China Satellite Maritime Monitoring and Control Department [中国卫星海上测控部] and headed for a certain region to perform satellite maritime monitoring and control tasks. Not far away, the Yuanwang No. 3 was completing docking after finishing its own 8,000 nautical mile voyage for 46th Beidou navigation satellite maritime monitoring and control mission.*

“This is the second time that the two ships have met at the home port this year,” said Ni Liuguo [倪留国], captain of Yuanwang No. 3 ship. With the increasing intensity of China's space launch missions, most missions use a single ship for monitoring, and many survey ships head to different sea areas. On May 5 this year, the two ships “passed the baton,” with one heading out and another coming into port.

Yuanwang No. 3 a second-generation comprehensive ocean-going space tracking vessel, which is mainly responsible for launch- and flight-time monitoring missions and control of rockets, satellites, and spacecraft. Starting from the first implementation of the AsiaSat No. 2 maritime monitoring and control mission in 1995, the vessel has traveled gone to sea 52 times and completed 83 major space monitoring and control tasks, setting a record for the longest voyage and most missions in China.

Yuanwang No. 5 is China's third-generation comprehensive aerospace ocean-going survey ship. Since its launch, the ship has accumulated more than 1,900 days at sea, and completed more than 50 maritime monitoring and control tasks with 100% measurement and control success rate.

In the first half of this year, the Yuanwang fleet has dispatched six ships, including the Yuanwang 3, 5, and 7, and three other ocean-going space-tracking vessels, accumulating more than 240 days of sea, and successfully completing seven maritime satellite monitoring and control missions and one sea launch mission. This year, the number of missions of the Yuanwang fleet is expected to set another new record.

* Commentator's note: “a certain” [某] is Chinese euphemistic language for “unidentified” and is typically used to obscure details about unit names or geographic locations.