



Armed version of Wing Loong II side view

https://commons.wikimedia.org/wiki/File:Wing_Loong_II_side_view.jpg Attribution: CC x SA 4.0

UAV Used to Provide Communication Services to Flood-Stricken Areas of Central China

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OE Watch Commentary

In mid-July torrential rains struck Henan province in central China, causing severe flooding that resulted in over 30 deaths. The downpour quickly filled reservoirs, flooding subway tunnels and underpasses. As stranded passengers and emergency personnel quickly overwhelmed local communications networks, China's Ministry of Emergency Management deployed long-endurance Yilong-2H (翼龙; lit. Pterodactyl, also known as the Wing Loong) UAVs equipped with communication systems to provide cellphone service radar and optical imagery of affected areas. According to the accompanying excerpt from the *Global Times*, an affiliate publication of the Chinese Communist Party's *People's Daily*, the UAV was deployed to Mihe Township. The township is located between Gongyi County, which has seen major flooding, and Zhengzhou, a city of over 12 million that has also been greatly affected by the flooding.

The UAV was developed as a joint initiative between the Ministry of Emergency Management and the Aviation Industry Corporation of

China (AVIC). The Ministry of Emergency Management is a new ministry created in 2018 after recognition of the inadequacy of emergency responses to both seasonal events and a series of environmental disasters in the past two decades.

The article noted that the Yilong-2 was chosen for this mission due to its high take-off weight and longer endurance compared to other Chinese-developed Medium-Altitude Long Endurance (MALE) UAVs, helping to fill an important gap for first responders and allowed people to contact emergency services or make contact with family.

China is also testing UAVs for forest fire detection and high-altitude meteorological data collection roles. These activities along with this first deployment of the Yilong UAV to reestablish communications shows a focus in Chinese UAV development overall. The lessons will be applied more expansively and inevitably inform other national sectors including the military as well.

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Source: “穿越三省一市飞行1200公里 为什么选翼龙2H无人机给灾区‘送信号’ (Flying 1200 Kilometers Across Three Provinces and One City—Why choose the Yilong-2H UAV to “Provide ‘Bars’” to the Disaster Area?),” *Global Times* (Chinese publication sponsored by People's Daily, the daily newspaper of the CCP Central Committee), 23 July 2021. http://www.xinhuanet.com/mil/2021-07/23/c_1211254483.htm

Recently, many places in Henan have been hit by extremely heavy rain, destroying some communications facilities affected areas and interrupting communications. On the evening of July 21, people in the disaster area whose communications had been cut off suddenly received text messages: “The Ministry of Emergency Management has deployed an Yilong drone to the skies above your town which will temporarily restore China Mobile’s public communication network...”

According to the official WeChat (social media platform) account of the Aviation Industry Corporation of China (AVIC), the developer of the Yilong series of UAVs, after the disaster, the Yilong-2H emergency rescue UAV was placed on standby for this mission. On July 20, AVIC was tasked with surveying the disaster area. The UAV’s crew quickly set about refueling and completing flight preparations, was well readying the mobile communication base station, synthetic aperture radar and camera system. On July 21, the Yilong-2H took off for the disaster-stricken areas in Henan, flying nearly 1,200km before arriving at Mihe Township which was experiencing communications blackouts. The Yilong-2H’s mobile communications base station was able to provide stable mobile signal connections for an area covering roughly 50 square kilometers.

The total flight time of this mission is nearly 16 hours, with a total of 8 hours and 8 minutes spent operating over the disaster area.