

Chinese rocket to tumble back to Earth in uncontrolled re-entry

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A large segment of China's Long March-5B rocket, pictured here during launch on April 29, is expected to make an uncontrolled reentry into the Earth's atmosphere

A large segment of a Chinese rocket is expected to make an uncontrolled

re-entry into the Earth's atmosphere over the weekend, but Beijing has downplayed fears of damage on the ground and said the risk is very low.

A Long March-5B rocket launched the first module of China's new space station into Earth's orbit on April 29.

Its 18-tonne main segment is now in freefall and experts have said it is difficult to say precisely where and when it will re-enter the atmosphere.

Russian space agency Roscosmos predicted the rocket will re-enter after 2330 GMT Saturday south of Indonesia over the Timor Sea.

The Pentagon gave a time of around 2300 GMT Saturday with a window of nine hours either side.

Chinese authorities have said most of the rocket components will likely be destroyed as it descends.

"The probability of causing harm... on the ground is extremely low," Chinese foreign ministry spokesman Wang Wenbin told reporters on Friday.

Although there has been fevered speculation over exactly where the rocket—or parts of it—will land, there is a good chance any debris that does not burn up will just splash down into the ocean, given that the planet is 70 percent water.

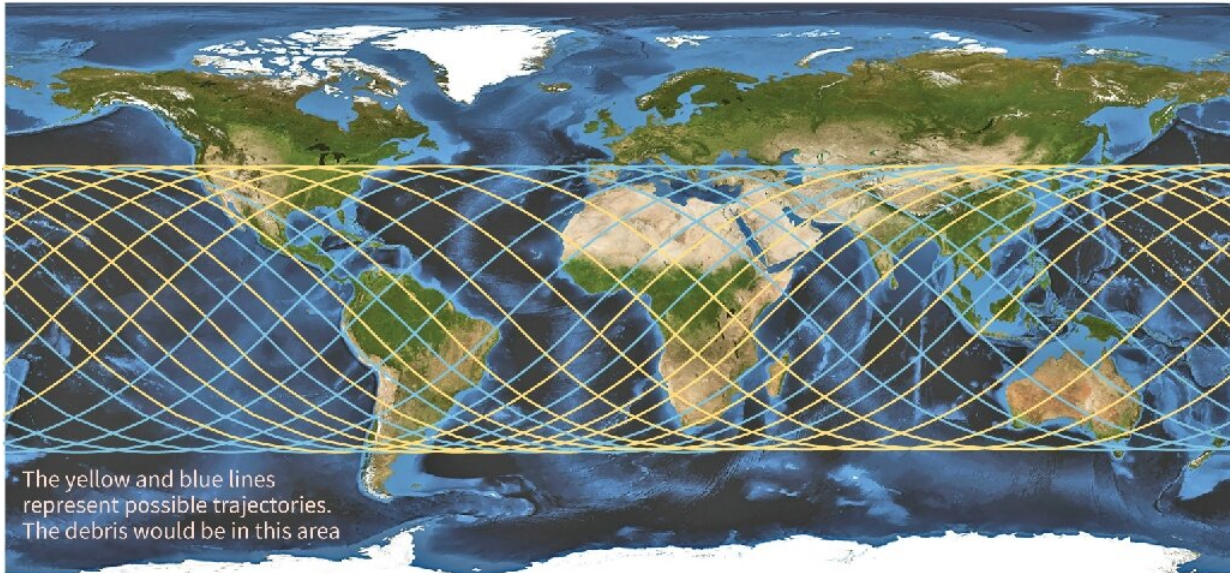
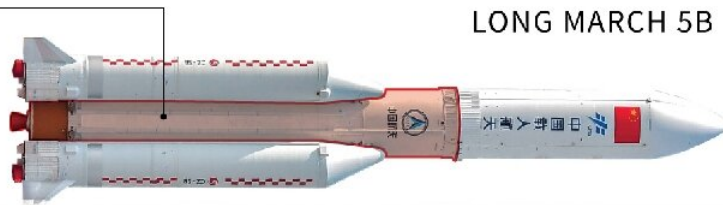
"We're hopeful that it will land in a place where it won't harm anyone," said Pentagon spokesman Mike Howard.

Chinese rocket out of control

A part of a rocket that has placed the first module of the future Chinese space station into orbit will disintegrate while re-entering the atmosphere, with a very low probability that debris touches inhabited areas

The main stage falling toward the Earth

Speed ————— around 28,000 kph
 Length ————— approx. 31 m
 Weight ————— 21 tonnes (empty)



Sources: NASA, SpaceNews, Orbiting-now.com, Aerospace



Possible trajectories of the main stage of the Chinese rocket that is expected to make an uncontrolled re-entry into the Earth's atmosphere

Howard said the United States was tracking the rocket segment but "its exact entry point into the Earth's atmosphere cannot be pinpointed until within hours of its re-entry".

Defence Secretary Lloyd Austin earlier said the US military had no plans to shoot it down, and suggested that China had been negligent in letting it fall out of orbit.

"Given the size of the object, there will necessarily be big pieces left over," said Florent Delefie, an astronomer at the Paris-PSL Observatory.

"The chances of debris landing on an inhabited zone are tiny, probably one in a million."

Last year debris from another Long March rocket fell on villages in the Ivory Coast, causing structural damage but no injuries or deaths.

Jonathan McDowell, an astrophysicist at the Harvard–Smithsonian Center for Astrophysics, said that although there was no need to worry "too much", the rocket's design needed a re-think to stop such a scenario happening again.

"There is a real chance of damage to whatever it hits and the outside chance of a casualty," he said.

"Having a ton of metal shards flying into the Earth at hundreds of kilometres per hour is not good practice, and China should redesign the Long-March 5B missions to avoid this."

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