

8 missing after fishing boat sinks in E China

Rescuers are searching for eight people missing after a fishing boat sank early Monday morning in the waters off east China's Zhejiang Province, according to local maritime police.

The boat, with 24 people onboard, sank around 2 a.m. at sea near the city of Zhoushan, said police, who received a report of the accident at 4:30 a.m.

Science ship returns after sulphide research in Indian Ocean

Chinese science ship "Xiangyanghong 10" Sunday returned to China after a voyage to the southwest Indian Ocean that lasted more than 200 days.

The ship docked at a port in Zhoushan, east China's Zhejiang Province.

The voyage was to explore the polymetallic sulphide at a seabed ore covering 30,000 square meters, under a contract signed between China and the International Seabed Authority, said Li Huaiming, a scientist involved in the project.

Scientists used China-developed unmanned submersible Qianlong 2 to conduct eight dives, reaching maximum 3,320 meters at depth. Qianlong 2 spent 170 hours, traveling 456 km for the research, proving that it was able to work on complicated terrains underwater, Li said.

Other advanced Chinese technologies in exploring polymetallic sulphide were also used, Li said.

Xiangyanghong 10 is the first Chinese ocean science survey ship built with the participation of a private company.

83 dead or missing after central China

floods

Severe rainfall in central China's Hunan Province since June has affected over 12 million people and left 83 dead or missing, the provincial government said Sunday.

Of the dead or missing, 28 were buried by landslides, 13 were washed away by flash floods, 22 died in collapsed buildings, four drowned, and 16 were killed or went missing due to ground collapses or other reasons.

Over 1.62 million people were relocated across the province, and more than 470,000 need urgent living aid. A total of 53,000 homes collapsed, 68,000 homes were seriously damaged, and over 280,000 homes were partially damaged.

A round of heavy rainfall hit the province from June 22, triggering the most serious floods on record in many rivers.

Over 52,000 soldiers, police, firefighters and government officials were dispatched to do rescue and relief work. Relief funds and materials were also sent to disaster areas.

The provincial government is on high alert as a new round of rainfall arrived Saturday.

China wraps up combustible ice mining trial, setting world records

China on Sunday completed a 60-day trial of mining gas hydrates, commonly known as combustible ice, in the South China Sea, marking breakthroughs in human's search for alternative clean energy sources.

Started from May 10, the mining operation in waters near the Pearl River estuary has beaten previous expectations and set world records in both the length and total amount of extraction, according to the China Geological Survey Bureau.

The trial exploration produced over 300,000 cubic meters of gas – mainly methane, with an average daily extraction of more than 5,000 cubic meters of high purity gas, and a highest daily output of 35,000 cubic meters, said the bureau.

Meanwhile, 6.47 million sets of experimental data were recorded.

China declared its first success in collecting samples of combustible ice in the South China Sea on May 18, which usually exists in seabed or tundra areas

with the strong pressure and low temperature necessary for its stability.

The substance can be ignited like solid ethanol, which is why it is called combustible or flammable ice.

One cubic meter of combustible ice, a kind of natural gas hydrate, is equal to 164 cubic meters of regular natural gas.

China Geological Survey Bureau's deputy director Li Jinfa said combustible ice will play a vital part in China's energy security and economic development.

"It is considered a strategic alternative to oil and natural gas in the future," Li said. "Not just China, the world at large sets eyes on it."

He said other countries like Japan had also begun mining combustible ice, but operations were suspended due to a significant amount of sand entering the production wells.

Chinese scientists this time invented a new technique to prevent sand from disrupting the exploration. Other adjustments were also made to ensure commercial explorations.

Environmental tests showed that there were no methane leaks. Neither did geological hazards occur.

China began research in combustible ice in 1998. The latest exploration showcased a number of breakthroughs.

"China is leading the world in combustible ice exploration, whether it is about theory, techniques, machinery, or engineering," said Ye Jianliang, director of Guangzhou Marine Geological Bureau.

"The trial will have a big impact on the world's energy sector," he said.

Li said his bureau will double the efforts on research to prepare for combustible ice's commercial production, with emphasis on ocean ecology protection and "green" exploitation of the new energy. Regulations on exploitation management and industrial policy are also being drawn up.

[China completes tests of quantum communication network](#)



Command center of Jinan quantum communication network [Photo/Ta Kung Pao]

Quantum communication network, which boasts ultra-safe connection impenetrable to hackers, is expected to be put into commercial use in a Chinese city by the end of next month.

Jinan Institute of Quantum Technology announced Sunday that the network, connecting Communist Party and government bodies in Jinan, capital of East China's Shandong Province, had lately been tested and the designers were satisfied with its performance, especially in secured communications.

Liu Hong, a professor with Shandong University who was involved in the test, said the network has proved to be in a "very ideal" condition.

In the test, which involved over 50 programs, the network transmitted data with quantum encryption keys among nearly 200 terminals in the city. Between users, more than 4,000 keys were generated in just a second, said Zhou Fei, an assistant director of the institute.

Quantum communication uses quantum entanglement of photons to make sure that nobody taps into the line, for doing so would inevitably corrupt the signal.

In quantum communication, any interference is detectable. Two parties can exchange secret messages by sharing an encryption key encoded in the properties of entangled particles.

Zhou said the success of the test is a landmark in the development of quantum communication technology worldwide, paving the way for its commercial use first in government and then in finance, energy and other sectors.