Vancouver Maritime Museum

Ship Name: *Ben Franklin*

Vital Statistics:
Length: 48’ Beam: 18’6” (including motors) Draft: 14’ Tonnage: 147.35 tons
Hull: Steel - 3.5 cm thick (1 3/8") with 30 9 cm thick (3.5") Plexiglas viewing ports
Operational depth max: 2000 ft Collapse depth: 4000 ft
Power source: 750 kWh supplied from 378 battery cells housed in keel
Propulsion: four 25 hp electric motors
Life Support: 6 people for 4 weeks plus 2 weeks emergency reserve
Built: Switzerland, Bureau Piccard and Grumman Aircraft Engineering Corporation 1968

Ben Franklin is a research submersible built specifically to drift in the Gulf Stream and conduct oceanographic studies. The submersible was also used as an analogue for extended space flight. It was named after Benjamin Franklin, the first person to map and name the Gulf Stream.

What was the significance of *Ben Franklin*?

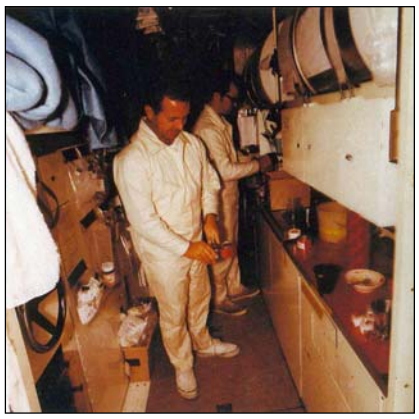
- First submersible built specifically to drift in ocean currents
- Contributed to our understanding of what people would require to endure extended space flight
- An international crew of scientists on board was lead by Dr Jacques Piccard, renowned scientist and explorer. Other participants in the mission included NASA, the US Navy and Grumman Aircraft Engineering Corporation.

What was the Gulf Stream Mission?
The Gulf Stream Drift Mission's primary objective was to drift the maximum distance along the core of the Gulf Stream at varying depths safely for 30 days. In addition to the oceanographic studies conducted on board, NASA was interested in the submersible as an analogue for a space station. The mission was a great success. The submersible drifted for 30 days and 11 hours and covered a distance of approximately 2400 kilometres at an average depth of 200 metres. All aspects of the submersible performed well, the crew reacted well to the rigours of the 30-day drift dive and NASA gained valuable information for future space travel.

What is the Gulf Stream?
The Gulf Stream current flows from the Gulf of Mexico, along the southeast coast of the United States to North Carolina where it then flows eastwards towards Europe. It is characterized by warm water, which travels north at about 2 metres per second. The Gulf Stream may be one reason why the European climate is relatively mild.

Who were the crew?
Six men were on board *Ben Franklin*; two from Switzerland, one from Britain and three Americas. Dr Jacques Piccard was the mission leader. Other crewmembers worked for Grumman Aircraft Corporation, the British Navy and the US Navy. Chet May was with NASA and was responsible for collecting information about environmental conditions and the crews' physiological and psychological reactions.

What did the crew eat?
The crew were limited to "cooking" that used only a small amount of energy (because of the limited supply on board), didn't produce smoke or odours, didn't use fire and the food didn't require refrigeration. Most of the food was either freeze-dried or dehydrated. All their food was heated using hot water stored in insulated tanks. Meals were pre-packaged in two-man portions and the packaging was used to discard any waste (it was sprayed with a sterilizing agent to limit odours). Each crewmember was given a set of easy to clean Teflon-coated eating utensils. There was enough food for a 30-day mission plus an extra 12-day emergency supply.


Crew preparing a meal

What happened to *Ben Franklin*?
Ben Franklin was seriously damaged in 1970 when it struck a coral reef off the Bahamas. In 1971 Horton Trading Ltd bought *Ben Franklin* and brought it to British Columbia to be used for commercial diving. This project was never carried out. *Ben Franklin* was eventually moved to Vancouver Shipyards in North Vancouver and stored for many years. In December 1999 *Ben Franklin* arrived at the Vancouver Maritime Museum, donated by Horton Trading Limited. Restoration of the exterior was completed in July 2002.

For more information:
Vancouver Maritime Museum - http://www.vancouvermaritimemuseum.com/exhibits_ben.htm