NURP Supports NASA Extreme Environment Mission Operations (NEEMO)

What is NEEMO?

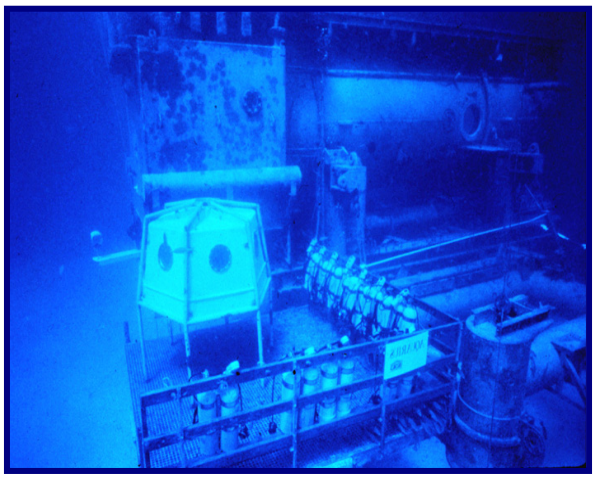
The NASA Extreme Environment Mission Operations (NEEMO) program is a NOAA-NASA partnership designed to prepare astronauts for long-duration space habitation. NASA astronauts live and work onboard the National Undersea Research Program's (NURP) *Aquarius* (see box below), an undersea lab that rests on the Florida Keys National Marine Sanctuary (FKNMS) seafloor 62 feet below the ocean's surface.

Similar in size to the International Space Station (ISS) living module, *Aquarius* provides the physical isolation, operational complexity, communication networks and science objectives typical of an outer space mission.

Additionally, habitation onboard *Aquarius* requires an absolute reliance on one's immediate life support systems, posing the potential dangers associated with space habitation. The facility is supported by a 10-meter buoy on the surface that provides power, life support, and communications to the aquanauts.

The mission control base on Key Largo supports missions with 24-hour video, audio and life-support systems monitoring. NEEMO missions host live-links with the ISS and the Johnson Space Center's Exploration Planning and Operations Center (ExPOC) control room, simulating the interaction between astronaut and control room on space flights.

Zvezda, the International Space Station module where astronauts live and work. .



Aquarius, the world's only operational underwater habitat, situated on the FKNMS seafloor.

Aquarius is currently the only operational, offshore underwater habitat in the world, typically used by marine scientists to study coral reefs and coastal ocean processes. *Aquarius* is owned by NOAA, operated by the University of North Carolina at Wilmington, and funded by NOAA's Undersea Research Program (NURP). Its unique design allows scientists to live and work on the seafloor for extended periods using a special technique called saturation diving, which dramatically increases the time divers can spend working in the ocean's depths. A buoy on the surface provides the *Aquarius* with power, life support and communications capabilities.