

R/V Moana Wave Tribute

(1973 -1999)

The ocean sciences community was very well served by the R/V *Moana Wave* during her 25-year lifetime. The 65-m *Moana Wave*, or simply "Wave" as she is affectionately called by those who sailed aboard her, was built in 1973 at Halter Marine Corporation in New Orleans for the U.S. Navy. At that time she carried the military designation Auxiliary General Oceanographic Research (AGOR) – the twenty-second such vessel commissioned for the Navy fleet. Her design was for multi-disciplinary use with general capabilities that allowed her to conduct a broad range of scientific missions. The Hawaii Institute of Geophysics at the University of Hawaii was selected as the operator of this new state-of-the-art research vessel.



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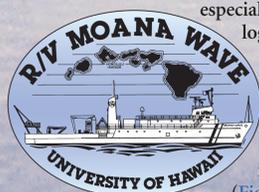
February 1974, the *Wave* joined the R/V *Kana Keoki*, a 48-m vessel that the University had obtained in November 1970 on a lease-purchase agreement from Halter Marine (Fig. 2); the purchase was completed in 1973, just prior to the arrival of the *Wave*. At this time, the University of Hawaii's research "fleet" was home-ported at the Marine Expeditionary Center at Pier 18 in Honolulu Harbor. The present Snug Harbor facility which eventually provided expanded dock-side capability was developed a few years later and is still in use today (Fig. 3).



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Moana Wave began service in South America and also worked in Alaska and off the west coast of the U.S. during her first few years of service. In 1977 she entered a long-term charter agreement with the Naval Electronics System Command and spent six years operating out of Fort Lauderdale, Florida and Little Creek, Virginia where she supported the development and testing of the Navy's SURveillance-Towed Array Sensor System (SURTASS). Following a mid-life overhaul and refit in 1984, she came out of the yard a larger (a 9-m section was added amidships) and more sea- and science-capable vessel (Fig. 4, before; Fig. 5, after).

In September 1984 the *Wave* returned to Honolulu where she remained active until her retirement on 31 May 1999. During this period, the *Wave* supported diverse research missions throughout the Pacific basin from Korea to Antarctica and numerous exotic ports in between. Her research mission and support capabilities were fully tested over one especially busy 2-year period from 1987 to 1988, during which time the *Wave* logged nearly 100,000 nautical miles and spent 633 days at sea (Fig. 6 and Table). Not a single operating day was lost for repair or maintenance, which is an outstanding service record by any measure. The end of this demanding 2-year period coincided with the start of the Hawaii Ocean Time-series (HOT) project with its inaugural cruise in October 1988. Over the next decade, the R/V *Moana Wave* would go on to support a majority of these physical-biogeochemical expeditions to Station ALOHA (Fig. 7) earning the well-deserved reputation as the HOT program flagship.

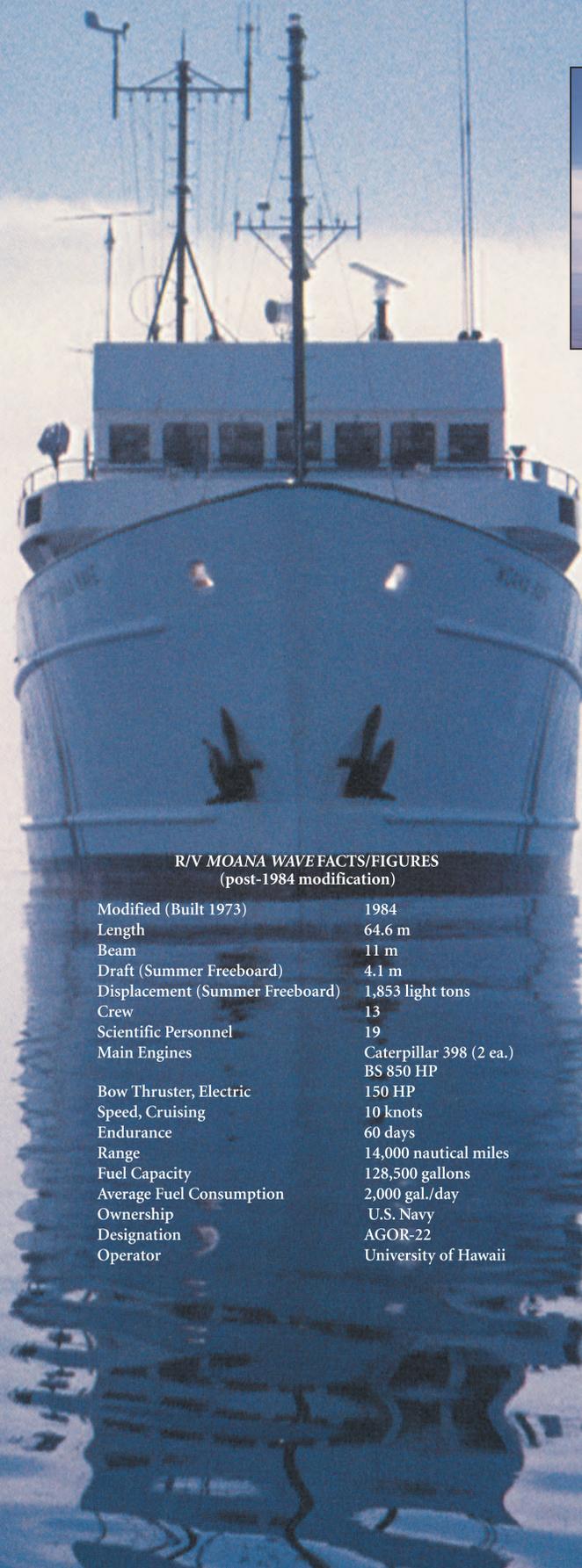


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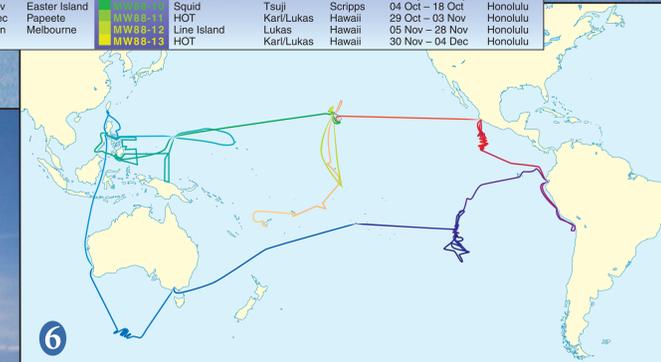
When the *Wave* (at that point a modest 56-m vessel) arrived in Honolulu she replaced the 28-m R/V *Teritu*, a yacht constructed on a North Sea trawler hull which had been purchased and outfitted for scientific research by the University of Hawaii in 1964 (Fig. 1). With her 14,000-mile range and 60-day endurance, the *Wave* was a superb replacement for this much smaller, less capable ship. Upon her arrival in Honolulu in



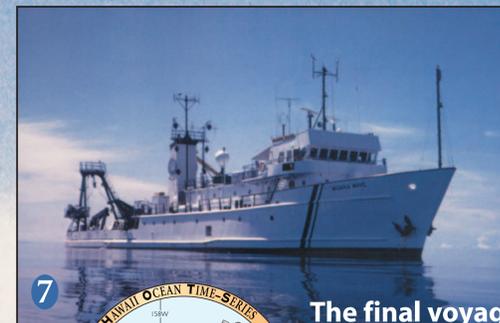
R/V MOANA WAVE FACTS/FIGURES (post-1984 modification)

Modified (Built 1973)	1984
Length	64.6 m
Beam	11 m
Draft (Summer Freeboard)	4.1 m
Displacement (Summer Freeboard)	1,853 light tons
Crew	13
Scientific Personnel	19
Main Engines	Caterpillar 398 (2 ea.) BS 850 HP
Bow Thruster, Electric	150 HP
Speed, Cruising	10 knots
Endurance	60 days
Range	14,000 nautical miles
Fuel Capacity	128,500 gallons
Average Fuel Consumption	2,000 gal./day
Ownership	U.S. Navy
Designation	AGOR-22
Operator	University of Hawaii

NO REST FOR THE WEARY, A TRUE TEST OF ENDURANCE AND WORTH (1967-86: 97,307 nmi and 633 days at sea)											
Expedition	Study Region	Name/PI	Institution	Dates	Port	Expedition	Study Region	Name/PI	Institution	Dates	Port
MW87-01	Fiji Basin	Kroenke	Hawaii	12 Jan - 02 Feb	Pago Pago	MW88-01	Antarctica	Christie	LDGO	16 Jan - 20 Feb	Freemantle
MW87-02	Cook Island	Coulbourn	Hawaii	06 Feb - 03 Mar	Honolulu	MW88-02	Transit	N/A	N/A	25 Feb - 07 Mar	Manila
MW87-03	ADIOS	Betzer	So. Fla.	18 Mar - 16 Apr	Honolulu	MW88-03	Taiwan Survey	Hussong	Non-Fed	11 Mar - 27 Mar	Manila
MW87-04	Transit	N/A	N/A	24 Apr - 26 Apr	Kawaihae	MW88-04	SUB SEA	Kang	Cornell	31 Mar - 19 Apr	Guam
MW87-05	Transit	N/A	N/A	27 Apr - 08 May	Manzanillo	MW88-05	GLYOTS	Duennebler	Hawaii	23 Apr - 29 May	Guam
MW87-06	ONR SMII	Macdonald	UCSB	09 May - 03 Jun	Manzanillo	MW88-06	EPOC	Lukas	Hawaii	17 Jun - 07 Jul	Palau
MW87-07	Rise Crest SMII	Fornari	LDGO	07 Jun - 09 Jul	Guayaquil	MW88-06	EPOC	Lukas	Hawaii	04 Jul - 30 Jul	Manila
MW87-08	Peru Margin	Farrington	WHOI	12 Jul - 28 Jul	Callao	MW88-07	SULU SEA	Thunnel	S. Car.	03 Aug - 25 Aug	Guam
MW87-09	E. Pac. Rise	Moberly	Hawaii	01 Aug - 02 Sep	Guayaquil	MW88-08	Transit	N/A	N/A	29 Aug - 12 Sep	Honolulu
MW87-10	E. Pac. Rise	Macdonald	UCSB	06 Sep - 14 Oct	Easter Island	MW88-09	Loihi Seamount	Karl	Hawaii	21 Sep - 30 Sep	Honolulu
MW87-11	Easter Micro.	Hey	Hawaii	17 Oct - 17 Nov	Easter Island	MW88-10	Squad	Tsuji	Scripts	04 Oct - 18 Oct	Honolulu
MW87-12	E. Pac. Rise	Sinton	Hawaii	19 Nov - 22 Dec	Papeete	MW88-11	HOT	Karl/Lukas	Hawaii	29 Oct - 03 Nov	Honolulu
MW87-13	Transit/Papeete	N/A	N/A	28 Dec - 11 Jan	Melbourne	MW88-12	Line Island	Lukas	Hawaii	05 Nov - 28 Nov	Honolulu
						MW88-13	HOT	Karl/Lukas	Hawaii	30 Nov - 04 Dec	Honolulu



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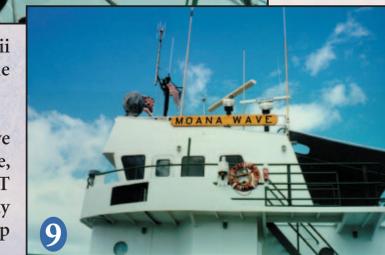
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The final voyage: R/V Moana Wave retires from UNOLS fleet

At 0800 hrs on 28 May 1999, the research vessel *Moana Wave* departed Honolulu Harbor under sunny skies and light trade winds. When she cleared the last sea buoy en route to Station ALOHA, all hands were on deck to watch the island of Oahu disappear in the horizon as science parties had done so many times before during the 25-year history of this capable ship. A major difference, however, was that this would be her last voyage in support of oceanographic research. During the routine fire and boat drills, suddenly the reality – and the finality – of it all struck home. Soon the Hawaii Ocean Time-series (HOT) program scientists would lose the UNOLS flagship that has served them so well over the past decade.



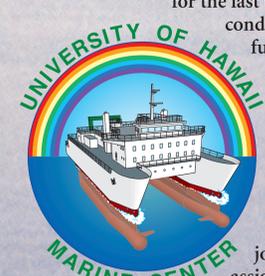
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The inaugural cruise, HOT-1, departed on 29 Oct 1988 with Dave Karl and Roger Lukas serving as co-chief scientists. Since that time, the R/V *Moana Wave* has been used for a majority of the HOT program monthly cruises (75 of 105 cruises from Oct 1988 to May 1999), as well as for all twelve of the bottom-moored sediment trap and biogeochemical mooring cruises.

Early in the morning on 30 May 1999, as the Honolulu city lights reappeared in the distance on the home-bound leg of her final sea voyage there was mixed emotion among both the scientists and the crew. As she docked at the University's Marine Center, the lei-draped *Moana Wave* lowered her flag for the last time (Figs. 8 and 9). This retirement seemed premature and hard to justify given the fine condition of this vessel, the exceptional qualifications of her crew and the large amount of funded science that still needed to be done. As for HOT, its field programs will continue with intermittent support from the State of Hawaii-owned R/V *Kaimikai-O-Kanaloa* (KOK) and various UNOLS vessels of opportunity. Eventually the R/V *Kilo Moana* (AGOR-26), a modern Small Water Area Twin Hull (SWATH) vessel currently under construction in Jacksonville, Florida, (delivery scheduled for May 2002) will fill this large void, but in certain respects, things will never be the same. The R/V *Moana Wave* will be a very hard act to follow. Throughout her life, the *Wave* was a user-friendly ship with a cheerful and competent crew. To all of the officers, crew, technicians and shore-based support personnel we say aloha and mahalo nui loa for a job well done. May you all have fair winds and a following sea as you deploy on your next assignments.



AHOY, MOANA WAVE!

1973	<i>Moana Wave</i> launched by Halter Marine Corporation, New Orleans as U.S. Navy AGOR-22. February 1974 Maiden voyage to Honolulu
1974-1977	Operations off South America, west coast of U.S. and Alaska
1977-1983	Chartered to Naval Electronics System Command operating out of Ft. Lauderdale, Florida in support of the U.S. Navy's SURveillance-Towed Array Sensor System (SURTASS).
1984	R/V <i>Moana Wave</i> overhaul/re-fit at Halter Marine Shipyard in Chickasaw, Alabama, included addition of a 9-m section amidships, a deckhouse on the main deck, 6 new science staterooms, additional lab space, a command center and a 2-m extension to the main deck. In September 1984, the R/V <i>Moana Wave</i> returned to Honolulu for the first time in 6 years. She departed on 16 December 1984 for the Galapagos Islands on her maiden voyage as a reconfigured research vessel.
1985 - May 1999	R/V <i>Moana Wave</i> supported a diverse, global ocean research mission, including 75 HOT cruises, until her retirement from the UNOLS fleet on 31 May 1999.
Dec 1999 - present	R/V <i>Moana Wave</i> is purchased by Ahtna Inc., an Alaska Native Corporation, and renovated for use in underwater mapping and fiber optic cable industry.

