Oceanographic research cruises in the eastern tropical Pacific Ocean

Column labels: B= biological sampling, H= bottle sampling, BT= depth-temperature (C= STD or CTD, X= XBT, m= MBT), W = data in NODC World Ocean Database 2001. Cruises that were primarily meteorological or geological have been omitted. References are generally not original data reports, which are cited within the references.

Cruise or Expedition	Country/Institution	Name of Ship	Date	Latitude	Longitude	B	Btl	BT	W	Reference
Russian circumnavigations	Russia	Nadezhda and others, *Kruzenshtern*	1804, 1816	18S-27N	125-147W	x	x		w	Lebedev & Grekov (1967)
-	France	Coquille, *Duperrey*	1823	50-5S	71-160W	x				Garry (1967)
-	UK	Blossom, *F. Beechey*	1825-1828	24S-0	100-163W		x		w	Ruggles (1967)
-	UK	Discoverer	1826-27	Galapagos		x				Fraser (1943)
-	UK	Beagle, *C. Darwin*	1835	50S-1N	71-150W	x	x			Ruggles (1967)
-	France	La Bonite, *Vaillant*	1836	50S-?	71-160W		x		w	(2)
-	France	Venus, *du Petit-Thouars*	1836-1837	50S-30N	71-160W		x		w	Garry (1967), (3)
United States Exploring Expedition	US	Vincennes, Peacock, Porpoise	1839-1840	18-8S	80-125W	x	x		w	Bertrand (1967), Philbrick (2003)
North Pacific Survey	UK	Herald, *H. Kellet*	1846	9-27N	97-133W		x		w	Ruggles (1967), Samson (1998)
-	Russia	Varyag	1864	30S-21N	75-160W		x		w	
Hassler Expedition	US / Harvard	Hassler, *L. Agassiz*	1872	coastal, Galapagos		x				(4)
-	Italy	Vettor Pisani	1883-1884	50S-24N	71-160W	x	x			della Croce (2002), Groeben (1987)
-	Russia / Navy	Vityaz	1887	16S-5N	93-153W		x		w	Lebedev & Grekov (1967), Lappo (1999)
Albatross transit	US	Albatross	1888, Feb-May	coastal, Galapagos		x	x			Hedgepeth (1945)
Albatross 1891	US / Fish Commission	Albatross, *A. Agassiz*	1891, Feb-Apr	2S-30N	79-116W	x	x			Agassiz (1892)
Albatross Expedition to the Eastern Tropical Pacific	US / Fish Commission	Albatross, *A. Agassiz*	1904-05, Nov-Feb	27S-30N	79-135W	x	x			Agassiz (1906)
-	US / Fish Commission	?, *R. Coker*	1906-1908	3-17S	Peru coast	x				Fraser (1943)
Dana 1922	Denmark	Dana II	1922, Jan.	Gulf of Panama		x	x		w	Wolff (2002)
Galapagos Expedition	US / NY Zool. Soc.	Noma, *W. Beebe*	1923	Galapagos		x				Beebe (1923)
Arcturus	US / NY Zool. Soc.	Arcturus, *W. Beebe*	1925, Mar-Jun	0-8N	80-91W	x	x			Beebe (1926)
Dana 1928-1929	Denmark	Dana II	1928, Sep	20S-7N	78-169W	x	x		w	*, Wolff (2002)
Cruise VII	US / Carnegie Inst.	Carnegie	1928-29, Oct-Nov	25S-34N	78-168W	x	x		w	*, Graham (1941), Fleming et al. (1945)
Discovery I	UK	William Scoresby	1931, Jun-Aug	24-2S	70-85W	x	x		w	*, Gunther (1936)
Allan Hancock Pacific Expeditions	US	Velero III	1931-35, 1938-39	17S-32N	76-115W	x				Fraser (1943)
-	US / Navy	multiple ships	1933-present	Pacific Ocean		x	x	mx	w	*, OOP, Karo (1967)
Templeton Crocker Expedition	US / NY Zool. Soc.	Zaca, *W. Beebe*	1936, Mar-May	18-32 N	106-116 W	x				Crocker (1933)
Eastern Pacific Expeditions	US / NY Zool. Soc.	Zaca, *W. Beebe*	1937-1938	3-32 N	coastal	x				Beebe (1938)
-	US / Amer. Mus. Nat. History	Askoy	1941, Feb-May	Gulf of Panama		x	x			*, Wooster (1959)
Swedish Deep-Sea Expedition	Sweden	Albatross	1947, Jul-Oct	16S-21N	79-160 W	x	x		w	*, Pettersson (1957)
-	US / Navy Electronics Lab	Serrano	1949, May-Jun	1S-28N	117-137W			m	w	Wooster & Cromwell (1958)
Pacific Oceanic Fishery Investigations	US / BCF	Hugh M. Smith, Gilbert, Cromwell	1950-1959	11S-27N	140-180W	x	x	m	w	*, OOP, Cromwell (1953)
MidPac	US / SIO, Navy	Horizon	1950, Aug	5-15N	142-152W		x		w	Revelle & Maxwell (1952)
-	UK / Royal Navy	Challenger	1950, Oct	16-30N	102-117W		x		w	Wooster & Cromwell (1958)
Galathea Deep Sea Expedition	Denmark	Galathea	1952, Mar-May	6S-33N	79-170W		x		w	Bruun (1959)
Shuttle	US / NEL	Marysville	1952, Apr-Jun	4-24N	87-119W		x		w	*, OOP
Shellback	US / SIO	Horizon	1952, May-Aug	15S-31N	78-125W	x	x	m	w	*, OOP Wooster & Cromwell (1958)
Bondy 5207-6201	Peru	Bondy, Unanue	1952, 1955, 1958-64	15-5S	78-85W		x		w	*, OOP
Capricorn	US / SIO	Horizon, Spencer F. Baird	1952-1953, Sep-Feb	10S-8N	120-165W		x	m	w	OOP, Revelle (1955)

Experimental Longlining	US/ CDFG	N.B. Scofield	1952-1956	4S-16N	80-110W	x	x	m		Wooster & Jennings (1955), Mais & Jow (1960)
Yale	US / Yale	Marise	1953, March-April	coastal Peru		x				Morrow & Posner (1957)
CHUBASCO or Acapulco Trench	US / SIO	Horizon, Spencer F. Baird	1954, Oct-Dec	10-25N	88-117W		x		w	*, OOP
Eastropic	US / SIO	Horizon, S. F. Baird, Hugh M. Smith	1955, Oct-Dec	8S-30N	77-140W	x	x	m	w	*, Bennett (1963)
FRONTS	US / U Hawaii	Hugh M. Smith	1955, Oct-Nov	8S-13N	108-135W	x			w	
EQUAPAC	US, France, Japan/ BCF, SIO	Hugh M. Smith, Stranger, Horizon	1956, Mar-Sep	5S-25N	140-162W		x	m	w	*, Austin (1957)
-	Japan	Daifuji Maru	1956, Jul-Sep	20S-21N	140-160W		x		w	
SCOPE (Scripps Cooperative Oceanic Prod. Exp.)	US / SIO	Stranger, Black Douglas	1956, Nov-Dec	4-23N	80-114W		x	m	w	*, OOP, Holmes (1958)
Gulf of California	US / CalCOFI	Horizon, Stranger	1956, Nov-Dec	18-23N	106-113W	x	x	m		*, OOP
Cruise 38 (POFI)	US / BCF	Hugh M. Smith	1957, Jan-Mar	18S-18N	110-156W	x	x	m	w	*, OOP, Wilson & Rinkel (1957)
Island Current Survey	US / IATTC, SIO	Spencer F. Baird	1957, May-Jun	5-26N	80-120W		x		w	*, OOP, Bennett & Schaefer (1960)
Downwind	US / SIO	Horizon	1957-58, Aug-Feb	47S-37N	70-150W		x	m	w	*, OOP
SCOT	US / SIO STOR	Spencer F. Baird	1958, Apr-Jun	4-27N	78-120W		x	m	w	*, Holmes & Blackburn (1960)
Dolphin	US / SIO	Horizon	1958, Apr-May	0N	89-140W		x	m	w	*, OOP
Doldrums	US / SIO	Stranger, Horizon, Spencer F. Baird	1958, Aug-Sep	4-9N	107-108W		x	m	w	*, OOP
NAVOCEANO Inshore Surveys	US / Navy		1958, Aug-Sep	G. Panama			x		w	
Tehuantepec	US / SIO STOR	S. F. Baird, Stranger, Hugh M. Smith	1958-1959, Nov-Sep	14-20 N	92-98 W		x		w	*, OOP, Blackburn et al. (1962)
-	USSR / Shirshov Inst. Oceanol.	Vityaz	1959-1965	20S-30N	109-158W	x	x		w	Lappo (1999)
Vermillion Sea	US / SIO	Spencer F. Baird, Horizon	1959, Mar-May	19-31N	105-114W		x		w	OOP
Dorado	US / SIO	Horizon	1959, Jul-Aug	5-17N	120W		x		w	*, OOP
Costa Rica Dome	US / SIO, IATTC	Spencer F. Baird	1959, Nov-Dec	5-23N	86-110W	x	x		w	*, OOP, Wyrtki (1964)
Chiper	US / Navy	Burton Island	1960, Mar-Apr	25-5S	70-87W		x		w	*
TO-60-1	US / SIO	Hugh M. Smith	1960, May	19-24N	106-112W		x		w	Blackburn et al. (1962)
TETHYS	US / SIO	Spencer F. Baird	1960, Jun-Aug	5S-23N	122-156W		x		w	
Step-I	US / SIO	Horizon	1960, Sep-Dec	24S-22N	71-110W		x		w	*
Cruise 00675	US / Navy	Rehoboth	1960, Nov	9S-7N	77-89W		x		w	*
-	US / SIO	Hugh M. Smith	1961, Mar	13-16N	93-97W		x		w	
Swan Song	US / SIO	Argo	1961, Sep-Nov	6S-6N	87-140W		x		w	*
-	Ecuador	Pinta, St. Jude, Huayaipe	1961-1964?	G. Guayaquil			x		w	
-	Japan / JFA Tokyo	Shoyo Maru	1962-1963, Dec-Jan	25S-10N	78-109W		x		w	
Cruise 13	Japan / Nankai RFRL, IATTC	Shoyo Maru	1963-1964, Oct-Mar	25S-16N	78-160W		x	m	w	*, Forsbergh & Broenkow (1965)
Trade Wind Zone Oceanography Pilot Study	US / BCF	Cromwell, Gilbert	1964-1965, Feb-Jun	10-26N	148-157W		x			Seckel 1970)
CARROUSEL	US / SIO	Baird	1964, Jul	19S-21N	109-115W		x		w	
Alizé 1	France	Coriolis	1964-1965, Nov-Mar	0N	86-160W+	x	x	c	w	Le Borgne et al. (2002)
-	USSR	Birakan	1964-1965, Dec-May	2S-25N	90-124W		x		w	
-	US / SIO	Agassiz	1965, Nov-Dec	15S-25N	80-113W		x		w	
-	USSR	Lira	1965-1966, Nov-Jan	21S-12N	74-100W		x		w	
SE Pacific Biological Oceanographic Program	US	Anton Bruun	1966, April	2 S-2 N	92 W	x	x	c	w	Barber & Ryther (1969)
MAZATLAN	Mexico	Yolanda	1966-67	18-23N	106-111W		x		w	Leet & Stevenson (1969)
Te Vega Expeditions to the ETP	US / Stanford	Te Vega	1967, Jan-Nov	0-23N	89-110W	x	x		w	
VOS	France / IRD Noumea	multiple ships	1967-1998	15S-5N	160-78W		x	x	w	Donguy & Meyers (1996)
EASTROPAC	US,Mexico,Peru,Chile,	multiple ships	1967-1968	20S-29N	75-126W	x	x	xc	w	(4)
PONCHO	US / UW	Thompson	1968, Mar	8-19N	87-105W		x	c	w	Cline and Richards (1972)
-	USSR	Akademik Kurchatov	1968, Sep-Nov	0-30S	70-90W	x				Geynrikh (1973)
PISCO	US / UW	Thompson	1969, Feb-April	0-23N	83-111W		x	c	w	
SKIPJACK	US / NMFS,SIO	Jordan,	1970-1973	12S-15N	96-124W	x	x		w	

Yaloc-71	US / OSU,URI	Yaquina	1971, Oct-Dec	3S-5N	80-93W				w	Pak & Zaneveld (1974)
Cruise 75	US / UW	Thompson	1973, Jan-Feb	8-17N	87-100W	x	x	c		King & Devol (1979)
TRANSPAC II	France / IFREMER	Le Noirot	1973, Oct-Nov	27-12S	78-139W	x	x			(5)
GEOSECS	international IDOE	multiple ships	1973-1974, Aug-Jun	24S-34N	121-160W+		x	c	w	
Pelagic Ecosystems	USSR	Multiple ships	1974-1986	30S-15N	70-160W	x	x	c		Vinogradov et al. (1995)
El Niño Watch	US / U. Hawaii	Moana Wave	1975, Feb-May	14S-2N	70-95W	x	x	xc	w	Patzert (1978)
DOMES	US	Oceanographer	1975-1976, Aug-Mar	6-18N	125-150W	x	x	c		Ohman et al. (1982)
CUEA JOINT-II	US / SIO,OSU,UW		1976, Mar-May	15S	coastal	x	x	c	w	Brink et al. (1980)
NORPAX	international IDOE	multiple ships	1975-1979?	17S-23N	77-160W			c	w	McNally et al. (1983)?
Marine Mammal Survey	US / NMFS	Jordan	1976, Feb	7S-25N	84-116W	x		x		
ESACAN	Peru,Germany / IMARPE, Inst.	Unanue	1977, ?	5S	81-83W	x				Zuta & Flores (1990)
VARIFRONT	US / Navy	USNS DeSteiguer	1979, Nov.	2S-10N	95-100 W		x	c		Zirino et al. (1986)
Hawaii-Tahiti Shuttle Exp.	US / UH,OSU	Gyre, Wecoma, Oceanographer	1979-1980, Feb-June	17S-21N	150-159W			xc		Wyrtki et al. (1981)
DOMO	Mexico	Matamoros, El Puma	1979-1982	2-13N	84-97W	x	x	c		
EPOCS	US / NOAA	multiple ships	1979-1991	15S-15N	78-160W		x	xc	w	Hayes et al. (1986)
TOGA-TAO	US	buoys	1980-	8S-8N	85W-160E					McPhaden et al. (1998)
Biostat	Canada / BIO	Hudson	1981, Mar	9N	89-94W	x	x	c		Li et al. (1983)
CLIPPERTON	France / IFREMER	Jean Charcot	1981, May-Jun	7-19N	81-109W		x			(5)
PEQUOD	US	Thompson	1982-1982	5S-15N	80-151W			c	w	Eriksen (1987)
KH-82-5	Japan	Hakuho Maru	1982-1983, Nov-Jan	2S-49N	105W-		x			Yoshida et al. (1984)
TROPIC HEAT	US	Thompson, Wecoma	1983-1987							Eriksen (1985)
Peru Currents Project	US / OSU,URI	Endeavor, Weloc	1983-1985	13S-3N	77-95W		x	c	w	
DELETE???????	Russia	[Russian cruises off Nicaragua]	1984-1988, monthly	9-13N	86-90W		x	x		Brenes et al. (1998)
Monitoring of Porpoise Stocks	US / NMFS	Jordan, McArthur	1986-1990, Aug-Nov	10S-30N	75-155W	x	x	xc	w	Fiedler et al. (1992)
Pacific Test Polygon	USSR	Professor Khromov, Priliv, Volna, etc	1987-1989	5-20N	124-135W		x			Gubanov & Zubakina (1994)
DELETE???????		Fridtjof Nansen	1987, Feb, May, Aug,	11-16N	79-95W	x	x			Brenes et al. (1989)
Volcano 7	US / WHOI	Atlantis	1988, Nov-Dec	13N	103W	x	x	c		Wishner et al. (1995)
Tehuano	Mexico / CICESE	El Puma	1988-89, Dec-Feb	13-16N	94-98W			c		Barton et al. (1993), Trasvina et al. (1995)
Altair	Mexico	Altair	1990-1993	18-28N	105-115W	x				González et al. (1999)
WOCE	international	multiple ships	1990-1998	global			x	c	w	Siedler et al. (2001), Ganachaud (2003)
KH-90-2	Japan	Hakuho Maru	1990, Sep-Oct	17S-10N	150-160W	x	x	c		
Alizé 2	France	Le Noirot	1991,Jan-Mar	0N	95-160W+	x	x	c		Le Borgne et al. (2002)
Population of Delphinus Stocks	US / NMFS	Jordan, McArthur	1992, Aug-Nov	2-15N	78-100W		x	xc		
EqPac	US / JGOFS	Thompson, Baldridge	1992, Feb-Apr, Aug-	12S-12N	95-170W	x	x	c		Murray et al. (1997)
		Fridtjof Nansen	1993-1994			x	x			Brenes et al. (1995)
OLIPAC	France / JGOFS	Atalante	1994, Nov	16S-2N	150W	x	x	c		Murray et al. (1997)
ECOTAP 12	France / ORSTOM	Alis	1997, Jan-Feb	20-4S	135-150W	x		xc		(5)
KODOS	S. Korea	Onnuri	1995-2003	5-12N	131.5W	x	x	c		Kang et al. (2004)
PACS / TEPPS	US / NOAA	Ronald Brown	1997, Jul-Sep	3S-30N	80-130W			c		Yuter & Houze (2000), (5)
-	US	New Horizon	1997, Oct-Nov	17-25N	105-115W		x			Voss et al. (2001)
Stenella Abundance Research	US / NMFS	Jordan, McArthur	1998-2000, 2003, Aug-	10S-30N	75-155W	x	x	xc		Fiedler & Philbrick (2002)
NECC	US	Revelle	2001, Jun-Jul	3-10N	86-105W					
PACS / EPIC	US / NOAA, SIO		2001-02	20S-15N	78-140W			c		Cronin et al. (2002), (6)
FAMEX	France	Atalante	2002, Mar-Apr	18-29N	104-120W			x		(5)

* Wyrtki (1966, 1967)

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(1) http://www.lhl.lib.mo.us/events_exhib/exhibit/exhibits/voyages/vaillant.html
(2) http://www.lhl.lib.mo.us/events_exhib/exhibit/exhibits/voyages/duperrey.html
(3) http://www.mcz.harvard.edu/Departments/Fish/hassler.html
(4) http://swfsc.nmfs.noaa.gov/PRD/atlas/
(5) http://www.ifremer.fr/sismer/catal/campagne/
(6) http://www.ogp.noaa.gov/mpe/cppa/pacs/, http://www.pmel.noaa.gov/tao/epic/

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