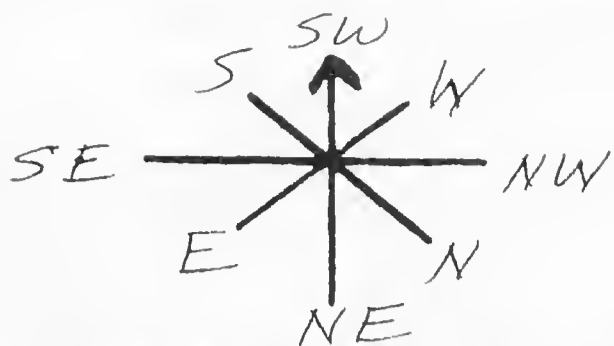


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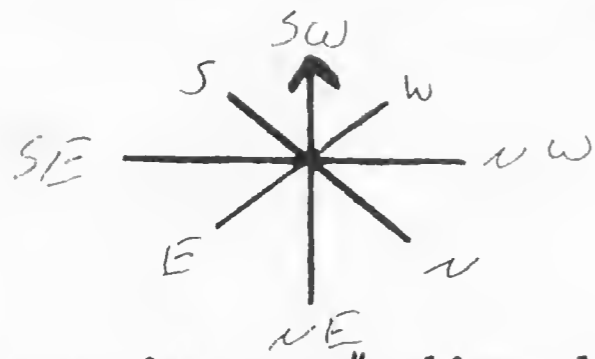
	time	species	#	dir.	hgt.	remarks	loc.
	0945					entrance Pearl Harbor	
	0946	Golden Plover	2			ON SAND BARS AT ENTRANCE	
		Ruddy Turnstone	6			to Pearl Harbor	
FF	1005	Noddy Tern	40			flock feeding	
		Brown Booby	1	⊙		immature	1 Noddy rested on surface for a few seconds
		Wedge-tailed Shearwater	5				
	1027	Wedge-tailed Shearwater	1	W			
	1032	White-tailed Tropicbird	1	E			
	1033	Wedge-tailed Shearwater	1	W			
	1036	Bird sp.?	1	S			
	1037	Noddy Tern	1	W			
	1046	Wedge-tailed Shearwater	1	S			
	1047	Wedge-tailed Shearwater	1	S			
	1048	Bulwer's Petrel	1	E			
	1049	Wedge-tailed Shearwater	1	W			
		Wedge-tailed Shearwater	1	W			
	1053	Wedge-tailed Shearwater	1	N			
	1054	Wedge-tailed Shearwater	1	NW			
	1058	Wedge-tailed Shearwater	1	SE			
	1059	Wedge-tailed Shearwater	1	SE			
	1106	Great Frigatebird	1	SE	250'		
	1115	Wedge-tailed Shearwater	1	NE			
	1122	Wedge-tailed Shearwater	1	NE			
	1122	Red-footed Booby	1	N			



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time species # dir. hgt. remarks loc.

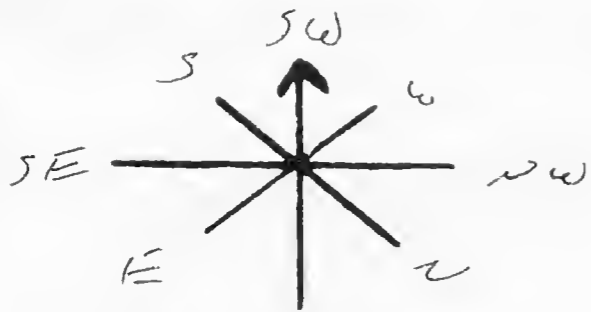
1124	Wedge-tailed Shearwater	1	NE			
1154	Wedge-tailed Shearwater	1	N			
1156	Red Footed Boobie	1			SITTING ON WATER	
1212	Wedge-tailed Shearwater	1	NW			
1248	WEDGETAILED SHEARWATER	3	E	Low		
1250	WEDGETAILED SHEARWATER	1	NW	Low	- WEDGETAILS FLYING WITH TIERODROMA-like Arching Today. SEAS FAIRLY HIGH - WIND FROM NE.	
1252	COMMON NODDY TERN	1	N	Low		
1254	WEDGETAILED SHEARWATER	1	NW	Low		
1255	COMMON NODDY TERN	3	N	Low		
1320	COMMON NODDY TERN	1	N	Low		
1323	COMMON NODDY TERN	1	N	Low		
1358	Shearwater SHEARWATER - PETREL	1	SE	Low		
1400	COOK-BONIN IS. TYPE PETREL	1	⊙	Low		
1402	WHITE-TAILED TROPICBIRD	1	NE	100'	Feeding - did not go below SURFACE in dive	
1404	SOOTY-SHEARWATER	2	S-SE	TO 40'		
1410	" "	2	S	"		
1415	" "	4	S	"		
1422	" "	2	S	TO 30'		
1424	" "	1	S	TO 50'		
1427	" "	1	S	"		
1428	" "	3	S	"		
1430	" "	1	S	"		



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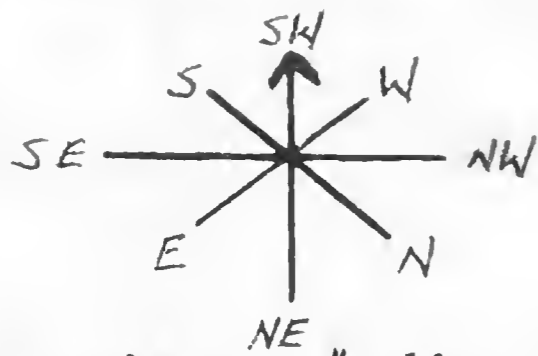
time	species	#	dir.	hgt.	remarks	loc.
1433	Sooty Shearwater	1	S	low-50'		
1444	" "	2	S	" "		
1447	Small Pterodroma	1	SE	low		
1452	Sooty Shearwater	1	S	low-50'		
1454	" "	1	?	" "	avoiding ship	
1456	" "	1	S	" "		
1459	Cook's or Bonin's Petrel	1	SE	low	appeared to have thick black border to under wing although back looked very grey. P.F.	
1502	Sooty Shearwater	2	S	low-50'		
1505	Wedge-tail Shearwater	2	NE	low		
1509	Sooty Shearwater	2	S	low-50'		
1513	Shearwater/Petrel	1	—	low		
1514	Sooty Shearwater	1	S	low-50'		
1517	" "	1	S	" "		
1519	" "	1	S	" "		
1520	" "	1	S	" "		
1522	Wedge-tail Shearwater	1	E	low		
1526	White-tail Tropicbird	1	on H ₂ O			
1527	Sooty Shearwater	3	S	low-50'		
1530	Sooty? Shearwater	1	S	" "		
1530	" ? "	2	S	" "		
1530	" ? "	1	S	" "		
1534	(Bonin or Petrel) (P. hypoleuca)	1	NW	low	dark band & contrast between neck & back, broad black bands under wings P.F.	
1534	wedge-tail? Shearwater	1	E	low		
1535	Sooty Shearwater	1	S	low-50'		
1539	Shearwater	3	N	low		
1540	wedge-tail Shearwater	1	NE	low		
1542	Bonin or Cook's Petrel	5+	⊙	low	not active, feeding	
1543	Sooty Shearwater	1	S	low-50'		
1544	wedge-tail Shearwater	1	E	low		
1545	Pterodroma	1	—	low		
1545	Sooty Shearwater	1	S	low-50'		
1546	Pterodroma	1	—	low		
1546	Sooty Tern	2	NNE	250-300'		
1550	Sooty? Shearwater	2	S	low-50'		
1555	Sooty Shearwater	1	S			
1556	" "	1	S			
1557	" "	1	S			
1557	" "	1	S			
1603	Flock					
	Common Noddy Tern	5	⊙		} not feeding	
	Wedge-tail Shearwater	2				
1603	Sooty Shearwater	1	S			

flock.



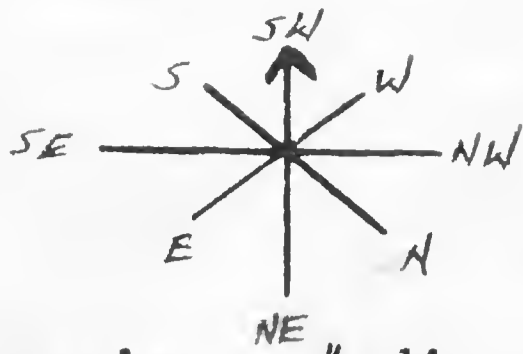
DATE 28 Sept. 1964
Pg. # 4

time	species	#	dir.	hgt.	remarks	loc.
1606	Sooty Shearwater	1	S	low-50'		
1610	Pterodroma	1	SSE	low		
1610	wedge tail	1	NW	low		
1611	Sooty Shearwater	1	S	low-50'		
1612	wedge tail Shearwater	1	NNE	low		
1614	" " "	1	SE	low	dark phase (light as in the Hawaiian island petrel)	
1616	" " "	2	NW	low	birds (not the dark olive-brown of line islands)	
1616	" " "	2	N	low		
1616	Pterodroma	1	W	low		
1620	SHEARWATER - PETREL	1	NW	"	(Distant.)	
1621	WHITE-TAILED TROPICBIRD	2	NE	150' b	-one diving but not hitting WATER	
1624	WEDGETAILED SHEARWATER	1	NW	low		
1630	WEDGETAILED SHEARWATER	1	NW	low		
1633	WEDGETAILED SHEARWATER	1	SE	"		
1634	"	1	NW	"		
1643	Shearwater - Petrel	2	NW	"		
1647	Wedge-tailed Shearwater	1	S	"		
1657	Wedge-tailed Shearwater	1	S	"		
1658	Wedge-tailed Shearwater	1	SW	"		
1700	Wedge-tailed Shearwater	1	SW	"		
	Sooty Shearwater	5	W	"		
1708	Shearwater	1	S	"		
1712	WHITE-TAILED TROPICBIRD	1	E	100' b	-Feeding.	
1714	SOOTY SHEARWATER	4	S-SE	LOW TO 30'	- spread out over 600'	
1719	BONIN Is. (TYPE) PETREL	2	N	low		
1722	SOOTY SHEARWATER	3	S-SE	TO 30'		
1724	" "	1	"	"		



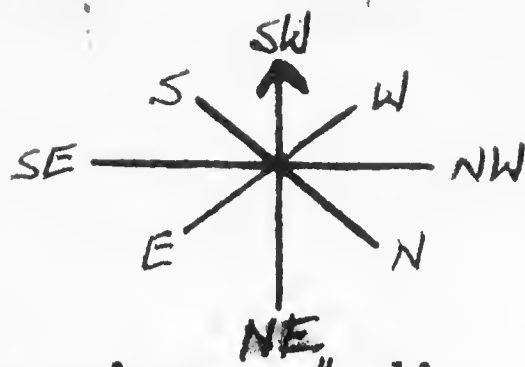
DATE 28 SEPTEMBER 64
Pg. # 5

time	species	#	dir.	hgt.	remarks	loc.
1726	WEDGETAILED SHEARWATER	1	SE	LOW		
1728	SOOTY SHEARWATER	2	S-SE	TO 30'		
1729	" "	3	"	"		
1729	" "	1	"	"		
1729	" "	1	"	"		
1729	" "	2	"	"		
1729	WEDGETAILED SHEARWATER	1	W	LOW		
1730	SOOTY SHEARWATER	1	S-SE	TO 30'		
1730	" "	2	"	"		
1730	" "	1	"	"		
1730	" "	1	"	"		
1730	WEDGETAILED SHEARWATER	1	E	LOW		
1732	" "	1	N	LOW		
1733	BONIN Is. (TYPE) PETREL	1	SE	LOW		
1737	SOOTY SHEARWATER	1	S	"		
1738	BONIN Is. (TYPE) PETREL	1	E	"		
1741	SOOTY SHEARWATER	1	S-SE	TO 30'		
1743	WEDGETAILED SHEARWATER	1	ENE	LOW		
1745	SOOTY SHEARWATER	1	S-SE	TO 30'		
1745	" "	2	"	"		
1745	" "	1	"	"		
1745	" "	1	"	"		
1747	" "	1	"	"		
1747	" "	2	"	"		
1747	" "	1	"	"		
1751	" "	1	"	"		
1751	" "	1	"	"		
1751	" "	1	"	"		
1751	" "	1	"	"		
1751	" "	1	"	"		
1752	White-tailed Tropicbird	1	S	3'		
1755	SOOTY SHEARWATER	1	S-SE			
1759	WEDGETAILED SHEARWATER	1	LOW	NE		
1759	" "	1	NW	LOW		



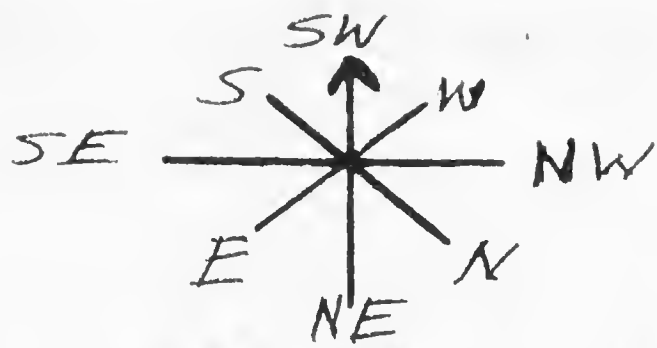
DATE 28 SEPTEMBER '64
Pg. # 6

time	species	#	dir.	hgt.	remarks	loc.
1803	RED-FOOTED BOOBY	1	AA	TO 60'	SUB-ADULT.	
1805	WEDGETAILED SHEARWATER	1	SE	LOW		
1808	SOOTY SHEARWATER	1	S-SE	TO 35'		
1808	" "	1	"	"		
1808	" "	1	"	"		
1808	" "	2	"	"		
FF 1810	SHEARWATER - PETS	35 ± 10				
	WEDGETAILED SHEARWATER	5 ± 1	NE	0'		
	FAIRY TERN	1		TO		
	TERN SP.	25 ± 10		125'	PROBABLY SOOTY & NODDY TERNS	
1815	SOOTY SHEARWATER	2	S-SE	TO 35'		
1825	WEDGETAILED SHEARWATER	1	SE	LOW		
1826	SOOTY SHEARWATER	1	S-SE	TO 35'		
1827	WEDGETAILED SHEARWATER	1	NW	LOW		
1828	---	---	---	---	SUNSET	
1842	WEDGETAIL SHEARWATER	2	---	LOW		
1842	"	1	---	"		
1845	---	---	---	---	secured observations	



DATE 29 SEPTEMBER 64
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0600	---	---	---	---	COMMENCE OBSERVATIONS	
0615	---	---	---	---	APPARENT SUNRISE	
0625	WEDGETAIL SHEARWATER	1	NW	LOW		
0629	BONIN Is (TYPE) PETREL	1	SE	LOW		
0637	SOOTY TERN	1	E	LOW		
0639	BONIN Is. (TYPE) PETREL	1	SE	LOW	- Flying very fast with rapid arches. wings darker above than back, head not clearly seen. Apparent narrow wing edgings, slash mark in underwing.	
0653	SOOTY TERN	1	E	LOW		
0700	PTERODROMA	2	NW	"	DISTANT	
0710	Golden Plover	1	⊙	40'		
0715	WEDGETAILED SHEARWATER	1	N	LOW	-- 0725 - Bird SAT IN WATER FOR NEARLY 1 MINUTE & TOOK OFF 0745 - CAME ABOARD ON HELO-DECK - WALKED WITHIN 6'	
0720	PTERODROMA	2	S	LOW		
0732	WEDGETAILED SHEARWATER	1	E	"		
0733	SOOTY SHEARWATER	1	S-SE	TO 40'		
0736	" "	1	"	"		
0736	WHITE-TAILED TROPICBIRD	1	NE	175'		
0750	SOOTY SHEARWATER	1	S-SE	TO 40'		
0753	GREAT FRIGATEBIRD	1	⊙	175'		
0755	BONIN Is. (TYPE) Petrel	1	NW	TO 30'	- wide underwing edgings	
0808	GOLDEN PLOVER	1			ON HELO DECK SAME bird as earlier	
0812	SOOTY SHEARWATER	1	W	LOW		
0815	WEDGETAILED SHEARWATER	1	NE	TO 30'		
0816	Red-footed Booby	1	SE	TO 30'		
0819	Sooty Shearwater	1	SE	TO 20'		
0827	Golden Plover	1			collected on helo deck with pellet gun by member of crew	
0837	Pterodroma	3	NW	to 10'	small; white underparts and wing linings;	
0840	Cook's Petrel	1	SE	low	light gray back	
0845	Cook's Petrel	2			along side bow to 100' thick dark wing linings with white down center on underside	
0910	White-tailed Tropicbird	1	NE	150'		
0915	Blue-faced Booby	1	S	low	Adult	

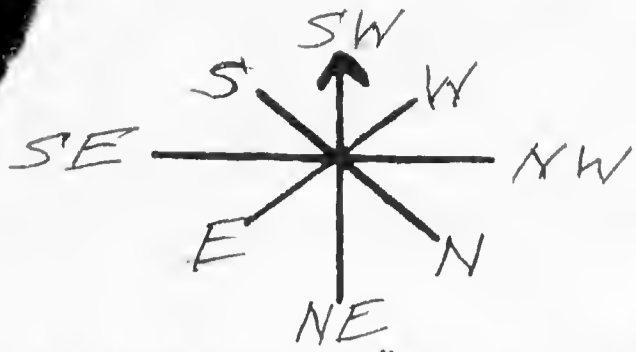


DATE 29 Sep 1964

Pg. # 2

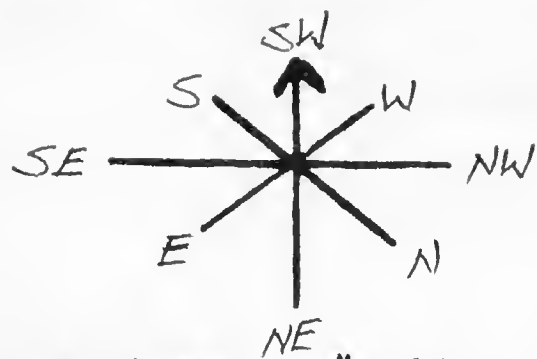
time species # dir. hgt. remarks loc.

0927	Shearwater/ petrel	1	S	low	light underparts	
0943	Shearwater/ petrel	1	N	low		
0944	Great Frigatebird	1	NE	300'	♀	
1000	Bulwer's Petrel	1	NW	low		
1001	Cook's Petrel	1	SE	low		
1002	Great Frigate	2	E	250'		
1003	White-tailed Tropicbird	1	SW			
1006	Bonin (type) Petrel	1	NW	low		
1012	BONIN Is. (TYPE) PETREL	1	SW	Low		
1013	Bonin Is. (Type) Petrel	2	N	low		
1021	"	1	SE	low	1030-OAHU - 135 mi, WIND 5 ⁶ KNOTS from ESE	
1040	WEDGETAILED SHEARWATER	1	⊙	Low		
1047	Bonin Is. (Type) Petrel	1	S	low		
1048	White-tailed Tropicbird	1	⊙	150'		
1052	WEDGETAILED SHEARWATER	1	N	Low		
1053	BONIN Is. (TYPE) PETREL	1	SE	"		
1054	"	1	"	"		
1058	WHITE-TAILED TROPICBIRD	3	⊙	750'	one with long tail, one medium, one short.	
1100	BIRDS	3	N	low	SEEN BY SAILOR.	
1123	Great Frigatebird	2	E	250'		
1220	GREAT FRIGATEBIRD	1	NE	200'	Feeding - NOT SEEN ON WHAT - DISTANT	
1222	WEDGETAILED SHEAR- WATER	1	W	Low		
1253	SOOTY SHEARWATER	1	S-SE	TO 50'		
1257	BONIN Is. (TYPE) PETREL	3	SE	Low		
1302	SHEARWATER-PETREL	1	E	low	PROBABLE WEDGETAIL - DISTANT	
1310	-----	-----	-----	-----	COURSE CHANGE FOR BT DROP.	
1421	Wedge-tailed Shearwater	1	S	low		
1422	Wedge-tailed Shearwater	1	S	low		



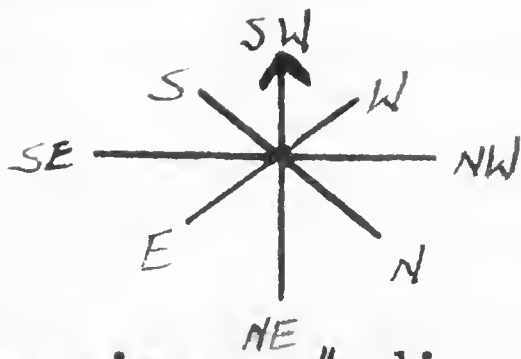
DATE 29 Sep 1964
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
1427	Cook's Petrel	1	S	low	light gray back	
1500	---	---	---	---	ship circling	
1510	Shearwater/ petrel	1	?	low	large size light colored (white?) patches on wings and back	
1535					resume course	
1540	Wedge-tailed Shearwater	1	SE	low		
1608	BONIN ISLAND PETREL	1	NW	low		
1613	SOOTY SHEARWATER	1	S-SE	70-60'		
1637	GREAT FRIGATEBIRD	2	☉	200'	IN OR VERY NEAR RAIN-SQUALL	
1722	Wedge-tail Shearwater	2	NE	low		
1731	Common Noddy Tern	1	NW		sitting on log on water, flew off as we approached.	
1736	BONIN Is. (TYPE) PETREL	1	NE	low.		
1758	Pomarine Jaeger	1	NE	50'	flying steadily, did not pause or move toward ship migrating? Immature bird	
1758	---	---	---	---	- A Butterfly (monarch) flying ca 45', just above Helio deck.	
1819	NEWELL'S SHEARWATER	1	W	Low	- PROBABLY FLUSHED FROM WATER	
1833	" "	1	NW	"		
CA 1835	---	---	---	---	- SUNSET APPARENT.	



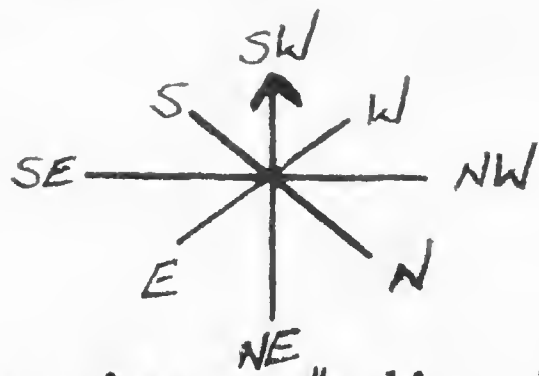
DATE 30 SEPTEMBER 64
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
	0610					commence watch	
	0620					apparent sunrise	
2-2	0648	Wedge-tailed Shearwater	1	E	low		
	0700					slow for BT	
	0720					resume speed and course	
1-1	0727	Bird	1	?		on horizon	
1-1	0735	Kermadec Petrel	1	S	5-10'	chocolate brown (entire bird) light colored patch on undersurface of each wing about 2/3 out from body	
1-1	0746	Newell's Shearwater	1	W	5-30'		
8-10	0815	Bonin Is. (Type) Petrel	2	N	low		
2-2	0823	shearwater/ Petrel	1	NE	low		
	0832	Wedge-tail Shearwater	1	SE	low		
	0841	" "	1	SE	"		
	0858	Bonin Is. (Type) Petrel	1	N	low		
1-1	0900	Pterodroma	1	N	"		
	0903	Bonin Is. (Type) Petrel	2	N	"		
	0905	"	1	N	"		
1-2	0911	Sooty Shearwater	2	S	low-50'		
	0922	Bonin Is. (Type) Petrel	1	N	low		
	0938	"	1	S	low		
1-1	0950	Bonin Island Petrel	1	NNW	low	- slaty back a darker appearing head etc.	
	1008	BONIN IS (TYPE) PETREL	1	N	low		
	1013	BONIN IS. (TYPE) PETREL	1	N	low		
	1021	SHEARWATER - PETREL	1	-	70-20'	- PROBABLE SOOTY SHEARWATER - not clearly seen.	
1-1	1030	Pomarine Jaeger	1	SW	50'	Adult (Lt. Phase)	
1-1	1037	GREAT FRIGATE BIRD	1	⊙	100'	imm.	



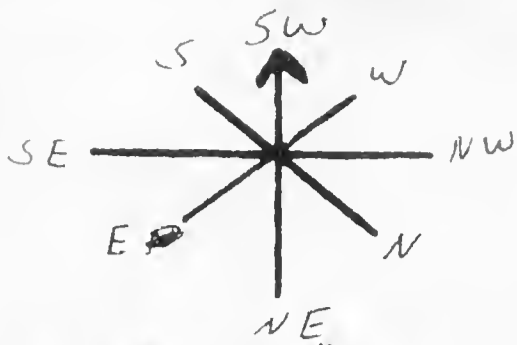
DATE 30 SEPTEMBER 69
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
3-4	1039	WEDGE TAILED SHEARWATER	1	NW	LOW		
4-1	1057	PTERODROMA	1	NW	LOW	- PROBABLE BONIN Is. (TYPE) - DISTANT	
4-1	1110	GOLDEN PLOVER	1	☉	30'	1122 - Alighted briefly on Helo Deck 1123: " " " " "	
2-3	1125	SHEARWATER-PETREL	1	SE	LOW		
	1141	GOLDEN PLOVER	1			BIRD SIGHTED AT 1110 WAS KILLED WITH PELLET GUN ON HELO DECK	
2-2	1210	Bulwer's Petrel	1	SW	low		
2-3	1212	Sooty Shearwater	2	S		Flushed from water by ship	
FF	1215	Wedge-tailed Shearwater	1	☉		Feeding flock	
4-2		BONIN Island type Petrels	12				
		Shearwater petrel	2				Very DARK (Christmas Island Shearwater?)
2-3	1230	Pterodroma externa	1			probably P. e. externa bird closely observed but white collar absent (Sundell)	
4	1305	Great Frigatebird	4	☉		1 Ad. ♂, 1 Ad. ♀, 1 imm. ♀, 1 ?	
FF	1325	Wedge-tailed Shearwater	2			ship underway after BT	
		Noddy Tern	2				
		JUAN FERNANDEZ Petrel?	2				Frigatebirds diving at feeding petrels
		BONIN Island type Petrel	15				
		Blue-faced Booby	1				Adult observed feeding and resting on water
	1325	Sooty Shearwater	1				
	1440	WHITE-NECKED PETREL	1	NW	LOW	flying through flock, not observed to feed.	
	1545	Bulwer's Petrel BONIN Is. (TYPE) Petrel	1 2	☉ S	LOW	- flying together	
	1552	BONIN Is. (TYPE) PETREL	1	NW	LOW		



DATE 30 SEPTEMBER 64
Pg. # 3

	time	species	#	dir.	hgt.	remarks	loc.
3-4	1602	GREAT FRIGATEBIRD	2	NE	200 FT	♂, ♀	
LT	1620	Bulwer's Petrel	1	S	low		
LT	1658	White-tailed Tropicbird	1	⊙			
	1700	Great Frigatebird	1	NE	500 yds.		
F	1724	Sooty Tern	12			flock not feeding	
		Wedge-tailed Shearwater	1				
	1727	Pterodroma	1	N	low		
	1734	Sooty Shearwater	2				
F	1735	Great Frigatebird	1			flock probably feeding	
		Juan Fernandez Petrel	2				
		Cook's or Bonin Petrel	3				
		Pterodroma	10+				
	1835	Shearwater/petrel	1	S		APPARENT SUNSET	
	1845					↓	



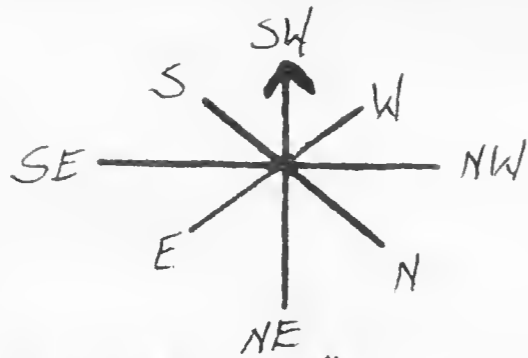
DATE 1 OCTOBER 64
Pg. # 1

many birds reported this morning by watch - they were all about ship in the rain.

time species # dir. hgt. remarks loc.

time	species	#	dir.	hgt.	remarks	loc.
0630					begin watch	
0649	Wedge-tailed Shearwater (?)	1	⊙	low	1 Tropicbird was reported to have run into ship.	
0652	Juan Fernandez Petrel	1	⊙	low		
0705	"	1	E	"		
0706	Cook's (Type) Petrel	1	N	"		
0707	Wedge-tailed Shearwater	1	N	"		
0712	Juan Fernandez Petrel	1	N	"		
0821	TERNS	9	NW	"	Flying low in long string - PROBABLE COMMON NODDYS.	
0844	TERNS	14	SW	To 50'	PROBABLE SOOTYS BUT TOO DISTANT TO SEE FIELD MARKS. WERE POSSIBLY FEEDING WHEN FIRST SEEN.	
0858	SOOTY SHEARWATER	2	S-SE	Low	Flying in straight line - No Arching	
0902	"	1	"	"	" " " " " "	
0911	SHEARWATER - PETREL	1	S	"	- POSSIBLE SOOTY SHEARWATER.	
0917	WHITE-TAILED TROPIC BIRD	1	⊙	175'		
0931	SOOTY TERN	70±5			flock	
	WHITE-NECKED PETREL	3	⊙	70'	Not seen to actively feed.	
	BONIN Is (TYPE) PETREL	1	⊙	↓		
0935	TROPIC BIRD	1	⊙	150'	- SEEN BY SAILOR	
1000	SHEARWATER - PETREL	1	NW	Low		
1012	DARK-rumped Petrel	1	NE	low	Approached to within 50 feet on starboard	
1050	Pterodroma	1	SW	low	Flustered from water large size JUAN FERNANDEZ - WHITE-NECK - DARK-RUMP size	
1101	Leach's } Storm Petrel Harcourt's }	1	S	low	may have flustered from water - white rump	
1137	Sooty Tern	6	NE	High	} feeding flock most were resting on the water in a large group.	
	Wedge-tailed Shearwater	1	↓	low		
	White-necked Petrels	15	↓	low		
1152	Pterodroma BONIN OR COOK'S PETREL	1	NW	low	small size (BONIN Is. - COOK) dark black bars on dorsal surface of wings running parallel to humerus of each wing ventral surface with much white but not well seen back and wings medium gray (seemed to be between dark gray of BONIN Is. and light gray of COOK'S)	

F-1-74
F-1-22



DATE 1 OCTOBER 64
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
3-3	1230	Bulwer's Petrel	1	S-SW	Low		
1-1	1300	BLUE-FACED BOOBY	1	⊙	Low	- SUB-ADULT.	
3-8	1306	Cook's OR BONN (TYPE) PETREL	1	NW	Low	- seen around WASTE BOXES DISCARDED BY SHIP.	
	1319	Bulwer's Petrel	1	SW	Low		
	1350	BONN (TYPE) PETREL	1	S-SE	Low	APPARENTLY WAS SITTING ON WATER & FLUSHED BY SHIP. LITTLE CONTRAST BETWEEN HEAD & BACK.	
1-1	1406	Shearwater/Petrel	1	SE	low	passed about 300 yds. behind ship	
2-2	1435	Great Frigatebird	1	S			
1-1	1438	White-tailed Tropicbird	1	NE			
1-4	1454	Pterodroma	1	W		large size (probably JUAN FERNANDEZ PETREL)	
2-2	1505	Red-tailed Tropicbird	1	⊙		collected	
	1514	Great Frigatebird	1	⊙		circling over wounded Tropicbird ON WATER	
	1535	Red-tailed Tropicbird	1	⊙			
2-6	1620	Cooks Petrel	1	⊙		PP9.	
FF	1640	Feeding Flock					
		Cooks Petrel	5			shot & collected. (out lost)	
1-4		Juan Fernandez Petrel	4			large school of skipjack tuna nearby, water all birds sitting on water at first then they scattered as ship approached.	
2-5		Sooty Shearwater	4			bird scattered before ship saw the fish.	
		Tern	1				
3-5	1815	SOOTY SHEARWATER	1	S-SE	low		
	1830	Bulwer's petrel?	1	⊙	low		
	1842	4 Feeding Flocks					
FF		a. Terns	40+				
FF		b. Terns	10+				
		Cook/Bonn Pet.	7				
		Large Pterodroma	3				
1-1		Wedge-tail	1				

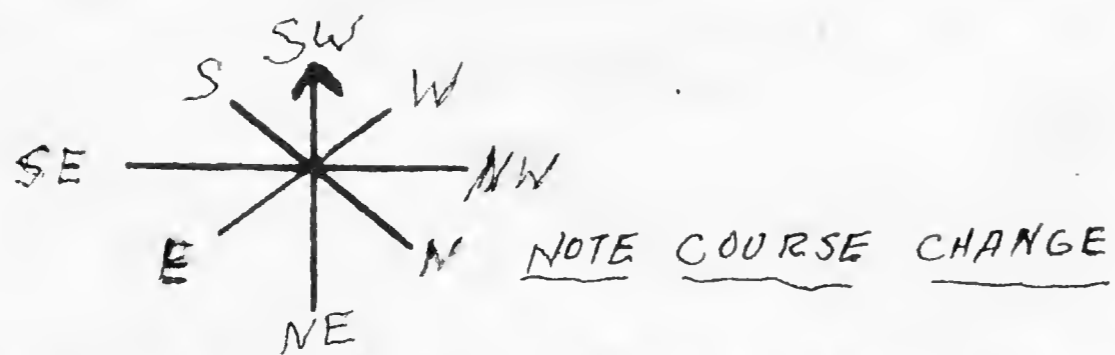
FF-3-75



DATE 1 October, 1964
Pg. # 3

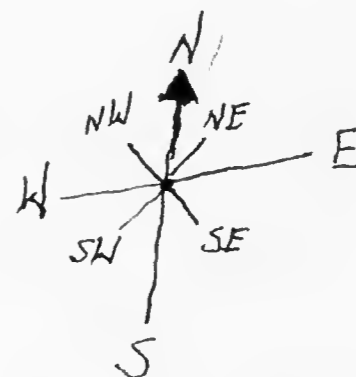
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FF	C. Terns	40			these flocks could all be seen at the same time but were not together	
FF	D. Terns	100 125 ± 25				
0700 1901	- - -	145			apparent sunset.	

FF - 2 - 105



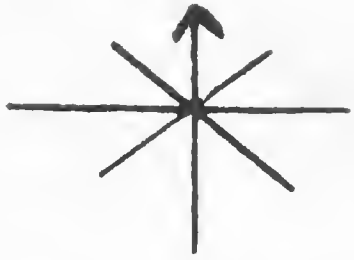
DATE 2 Oct 1964
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0655	---	---	---	---	APPARENT SUNRISE - COMMENCE OBSERVATIONS	
0706	SHEARWATER-PETREL	1	☉	LOW	DISTANT	
0714	" "	1	S	"	"	
0720	BONIN Is. (TYPE) PETREL	1	S	"	"	
0720	" " "	1	NW	"	"	
0720	" " "	1	N	"	"	
0722	SOOTY TERN	1	SE	"	"	
0724	Bulwer's PETREL	1	☉	"	"	
0725	BONIN Is. (TYPE) Petrel	1	SE	"	"	
0727	SOOTY SHEARWATER	3	S-SE	Low	"	
0750	JUAN FERNANDEZ PETREL	1	☉	"	"	
0803	FAWCETT'S JAEGER Long-tailed	1	E	60'	- Collected R. Kirkpatrick	Ship stationary for B.T.
0902	Golden Plover	1	☉	60'	- circling ship	
FF 0934	Great Frigatebird Pterodroma (Bonin-Cook's type)	1 12+			feeding flock	
0954	BONIN-Cook's Type Petrel	3	☉	low	just out of shotgun range	
1025	RED-TAILED TROPICBIRD	1	N	low	- Arose from water.	
1045	---	---	---	---	- COURSE CHANGE TO DUE NORTH	
1100	SOOTY SHEARWATER	1	S-SE	Low		
1105	Juan Fernandez PETREL	1	NE	Low		
1135	SOOTY TERN	2	NE	low	- adult, 1-imm	
1135	SOOTY SHEARWATER	1	☉	low	- Not flying with definite direction - perhaps feeding(?)	
1139	WEDGETAILED SHEARWATER	1	☉	low		
1250	Red-tailed Tropicbird	1	NW	5'	flushed from water	
1318	Shearwater/ petrel	1	S	low		
1408	Cooks Petrel	1	☉	low	flushed from water probably feeding at sea	
1420	Red-Tailed Tropicbird	1	☉	90'	that circling ship - adult - no retrics	
1425	Juan Fernandez Petrel	1	NW	low		
1523	Mottled Mottled Petrel	2	S	low	well observed 1fg + DU. - dad bellie well noted	
1535	" "	1	S	low	very close to ship. (Pterodroma inexpectata)	
1539	" "	1	S	"	" " " " " " " " " "	



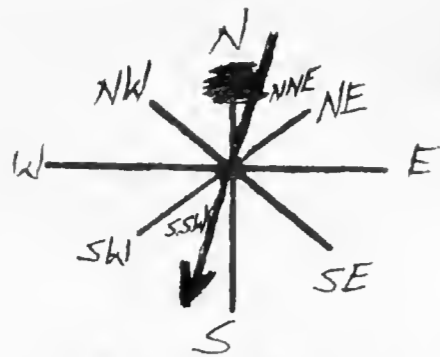


time	species	#	dir.	hgt.	remarks	loc.
1545	Sooty Tern	11±1	-	-	- feeding flock	-
	White-neck Petrel	1			most of the terns were immatures	
	Large Pterodroma	3				
1550	Sooty Shearwater	1	SE		avoiding ship	
1605	BONIN Is. (TYPE) PETREL	1	NE	Low		
F 1608	TERNs	40±10	S	60' TO LOW	- Flock, loosely scattered, PROBABLE SOOTIES, Not seen to feed, Distant	
F 1612	TERNs	3±5	E	"	- Flock, " " " " " " " " " " " "	MOST LIKELY PART OF SAME FLOCK.
	BONIN Is (TYPE) Petrel	1	"	"		
1630	WHITE-NECKED PETREL	1	N	Low		
F 1635	Flock of					
	SOOTY TERN	12	GENERALLY S.	70'	Not seen to feed but flock probably dispersed by ship, SHEARWATERS & PETRELS REMAINED TOGETHER, SOOTIES DEPARTED TO NW. Most BONIN TYPE WERE LIGHT-BACKED but prolonged observation given up for counting. MOVED BY QUICKLY!	
	BONIN Is. (TYPE) PETREL	10	SOME	TO		
	WHITE-NECKED PETREL	8	Circling.	Low		
	WEDGETAILED SHEARWATER	3				
F 1645	Flock of					
	SOOTY TERN	14		60'	Feeding IN MID-AIR ON Flying Fish (small). Fish also seen jumping under flying fish (probably skip-jack). SEVERAL BIRDS following VERY large flock of small flying fish TO SOUTH.	
	JUAN FERNANDEZ PETREL	5+	↻	TO		
	WHITE-NECKED PETREL	8		Low		
	WEDGETAILED SHEARWATER	2				
	LARGE PTERODROMA	10±3				
1705	BONIN Is. (TYPE) PETREL	1	NW	Low		
1714	" " "	1	N	"		
1720	SOOTY SHEARWATER	1	S-SE	"		
1720	BONIN Is. PETREL	1	NW	"	- DARK BACK & Head!	
1725	SHEARWATER-PETREL	1	NW	"		
1739	SHEARWATER-PETREL	1	S	"	- DISTANT	
1749	WEDGETAILED SHEARWATER	3	N	"	"	
F 1753	Flock of WHITENECKED PETRELS	3	SE			
	LARGE PTERODROMA	3	SE			
	SMALL "	1	SE			
1756	Cook's OR BONIN Is. PETRELS	2	W	Low		
1800	SHEARWATER-PETREL	1	NE			
1805	Cook's Petrel	1	N	low		
1820	BONIN Is. (TYPE) PETREL	1	N	Low		
1827	JUAN FERNANDEZ Petrel	1	N	low		
1905	Wedge-tailed Shearwater	3	SE	low		



DATE 2 Oct 1964
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
1920					APPARENT SUNSET	
1924	Sooty Tern	1	N	low	immature	
2124	SOOTY TERN	3-4	N	100'	calling - Adults.	
2135	" "	5-10	N	"	" "	
2140	" "	2-3	N	40-50'	" " , estimate, probably more!	
2252	" "	3-5	"	"	" "	
2255	" "	3-5	"	LOW	" " - one flew directly over Helo-Deck - Moving RAPIDLY	
2315	" "	2-3	"	100'	" " - lower than Helo-deck over WATER.	
2325	" "	1-2	"	"	" "	
2330	TROPIC BIRDS	2	(?)	100-150'	calling - PROBABLE WHITE-TAILED - (FAIRLY HIGH Note calls)	
2340	SOOTY TERN	3-6+	N(?)	40-50'	" - immature in group, TROPIC BIRDS CALLING ALSO - Restaps flying	
2355	" "	2-3	N	40-50'	Together?	



DATE 3 OCTOBER 64

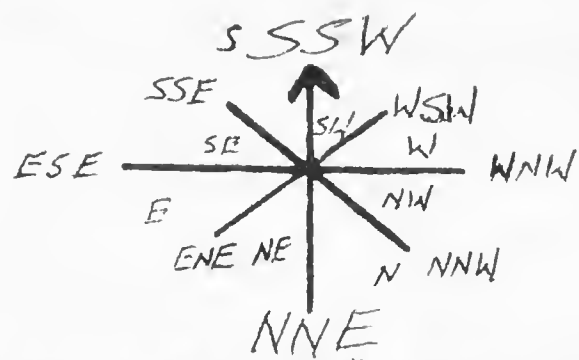
Pg. # 1

time species # dir. hgt. remarks loc.

0001	Sooty Tern	1	?		calling	
0007	" "	5+	N		"	
0100	bird	1	⊙			
0230	Red-footed Booby	1			immature following ship off fan tail	
0338	bird	1	E	20FT.	LARGE, white - size of Tropic Bird	
0645	Wedge-tailed Shearwater	3	E	low	0630 Johnston Island	
0702	"	1	S	low	0645 change in course	
0715					apparent sunrise	
0722	Wedge-tailed Shearwater	2	S	low		
0740	Wedge-tailed Shearwater	2	S	low		
0746	Wedge-tailed Shearwater	1	S	low		
0821	WEDGETAILED SHEARWATER	1	⊙	LOW		
0832	RED-TAILED TROPICBIRD	1	⊙	100'		
0840	WEDGETAILED SHEARWATER	3		0'	- sitting ON WATER TOGETHER & Feeding. flushed by ship & dispersed quickly in different directions.	
	WHITE-NECKED PETREL	1		50 LOW		
0849	Flock				feeding in distance	
	large Pterodroma	5+				
	Shearwater or Petrel	5+	⊙			
	Terns	2+			may be sooty's	
0904	PTERODROMA	1	SSW	Low	- DISTANT.	
0910	RED-TAILED TROPICBIRD	1	⊙	100'		
0910	WEDGETAILED SHEARWATER	1	SSW	Low		
0930	" "	3	⊙	Low	- 2-LIGHT PHASE, 1-Dark PHASE	
0930	PTERODROMA	1	NNE	low	- DISTANT.	
0950	RED-TAILED TROPICBIRD	2	SE	100'		
0957	PTERODROMA	1	S	low		
1023	Red-tailed Tropicbird	2	⊙	200'		
1026	Wedge-tailed Shearwater	1	S	low		
1106	Wedge-tailed Shearwater	1	N	low		







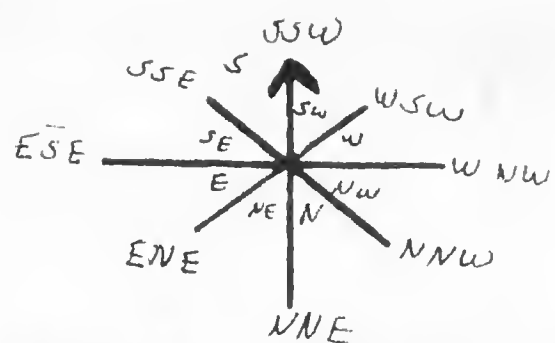
DATE 3 October 1964
Pg.# 2

	time	species	#	dir.	hgt.	remarks	loc.
	1116	SHEARWATER-PETREL	1	NNE	Low		
FF	1127	Wedge-tailed Shearwater	1	☉	low	flying feeding flock	
		Pterodroma	9			both large and small Pterodroma in distant flock	
	1220	sm Pterodroma	1	NNE	low		
	1223	Juan Fernandez Petrel	1	S	low	} may have been sitting on water	
	1225	" " "	1	S	low		
	1231	Pterodroma	1	N	low		
	1326	Juan Fernandez Petrel	5	☉		sitting in group on water	
	1332	" " "	2	☉	low		
	1358	Red-tailed Tropicbird	1	ESE	300ft		
	1400	Golden Plover	1	☉	300ft.	calling	
	1404	Bonin Cook's Petrel	1	SE	low		
	1421	WEDGETAILED SHEARWATER	1	SSW	LOW		
	1433	WHITE-NECKED PETREL	3	NE	low	intermed grad ca 1430 close by - good white-necks.	
	1436	WEDGETAILED SHEARWATER	1	W	low		
	1440	WHITE-NECKED PETREL	1	ESE	Low		
	1445	RED-TAILED TROPICBIRD	1	S	150'	seen again arising from H ₂ O at 1455 - realigned Ahead.	
	1447	Lg. Pterodroma	1	W	Low	- Juan Fernandez or White-neck (lost in sun reflection)	
	1448	WEDGETAILED SHEARWATER	1	NNW	low		
	1452	sm. Petrel	1	SE	Low	- flying like Bolwer's but too distant for positive ident.	
	1504	Juan Fernandez Petrel	1	☉	LOW		
	1507	Cook-Bonin Petrel	1				
	1508	Juan Fernandez Petrel	1	SSE	LOW		
	1517	" "	1	NE	"	- apparently flushed by ship.	
	1520	Lg. Pterodroma	1	ESE	"	- distant	
	1545	JAUN FERNANDEZ PETREL	2	SE	"		
	1550	KERMADEC PETREL	1	S	"	- SEEN AT distance to alight in water. kept in view - appeared to have lighter nape than rest of body.	

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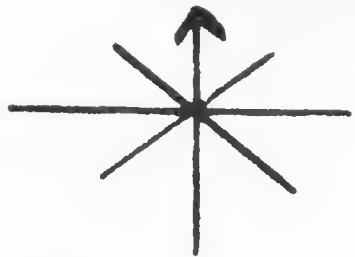
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Pg.# 3

	time	species	#	dir.	hgt.	remarks	loc.
	1612	Red-tailed Tropicbird	1	SSW	90'		
	1615	Shearwater/petrel	1	⊙	low		
FF	1635	Great Frigatebird	1	WNW		feeding flock, frigate an adult female diving into water, then flying to about 40'	
		Juan Fernandez Petrel	10				
		Cook's Petrel	3				
	1642	Sooty Tern	2	S	to 100'	immature	
	1652	Cook's/Bonin Petrel	1	S	low		
	1659	Blue-faced Booby	1	W	to 50'		
	1702	Large Pterodroma	1	S	low		
	1703	Red-tailed Tropicbird	2	S	250'		
	1718	Juan Fernandez Petrel	1	S	low		
	1721	Large Pterodroma	1	S	low		
	1729	Cook's Petrel	1	S	low		
	1740	Cook's Petrel	1	S	low		
	1749	Juan Fernandez Petrel	1	ESE	low		
	1755	Pterodroma	1	SSE	low		
	1809	Shearwater a Petrel	1	N	"		
	1815	Juan Fernandez Petrel	1	SE	"		
	1828	Pterodroma	1	S	"		
	1845	Suegra	1	⊙		immature, Parasitic or Long-tailed - exactly like the bird collected previously	
	1850	"	4			2 adults as above + 2 immatures (total of 5)	
	1850	Blue-faced booby	1			collected same immature Cheryl Webster	
	1855	Cook's/Bonin Petrel	1	?	50		
	1905	Shearwater/Petrel	1	?			
	1915	golden Plover	1	⊙			



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Pg. # 4

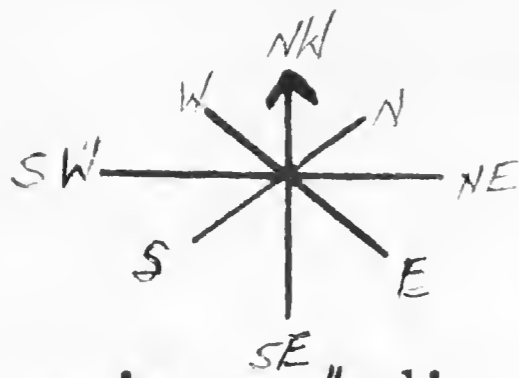
time species # dir. hgt. remarks loc.

1930 Shearwater 2 \approx

Probably Wedge-tails

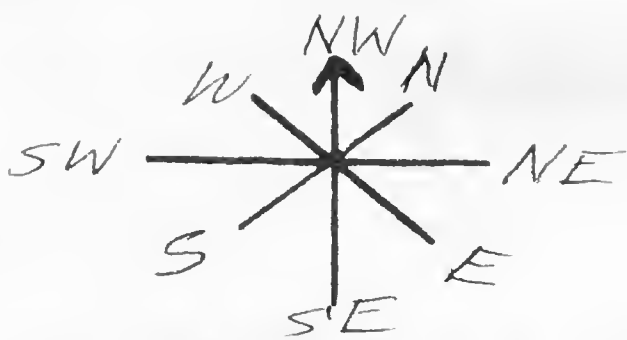
2129 Sooty Tern 3 or 4 ? ?

possibly more birds in flock
All immatures from high pitched calls



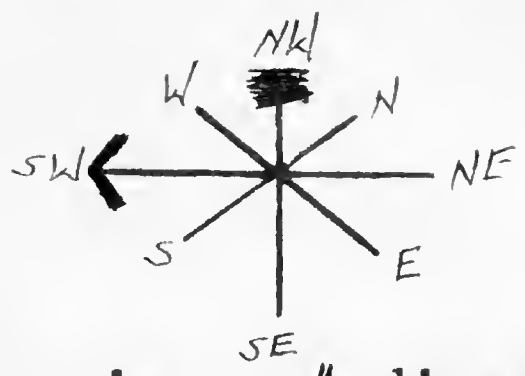
DATE 4 October 1964
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0800-0300					No birds SEEN OR HEARD	
0653	White-necked Petrel	1	NW			
0653	Wedgetailed Shearwater	1	NE	Low		
0705	" "	3	⊙	Low		
0705	White-necked Petrel	2	⊙	"		
0710					SUNRISE APARENT	
0715	Pterodroma	1	NE	low		
0728	Shearwater-Petrel	1	S	low		
0739	Pterodroma	1	S NE	low		
0809	Golden Plover	1	NE	150'		
0823	Sooty Shearwater	1	SW	low		
0827	Sooty Shearwater	1	SW	low		
0829	Cook's-Bonin Petrel	1	SW	low		
0830	Cook's-Bonin Petrel	2	SW	low		
0831	Cook's-Bonin Petrel	1	N	low		
0832	Cook's-Bonin Petrel	1	S	low		
FF 0835	Sooty Tern (adults)	10	⊙		Feeding Flock	
	White-necked Petrel	3				
	White-necked or Juan Fernandez Petrels	9				
	Cook's-Bonin Petrel	10				
0838	Golden Plover	1	⊙	to 100'		
0853	Large Pterodroma	1	N	low		
0855	Sooty Shearwater	1	SW	to 50'		
FF 0856	Kermadec Petrel	1	⊙		Feeding Flock	
	White-necked or Juan Fernandez Petrel	18				
	Solander's? Petrel	1				
	Cook's-Bonin Petrels	12				
					size of White-neck and Juan Fernandez Petrels distinct black cap round white patch in primaries (1/4 from tip of wing) on dorsal surface white patch (possibly double on ventral surface of wing) back dark brown or dark gray neck light gray	
					definitely NOT Solander's Petrel	



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Pg. # 2

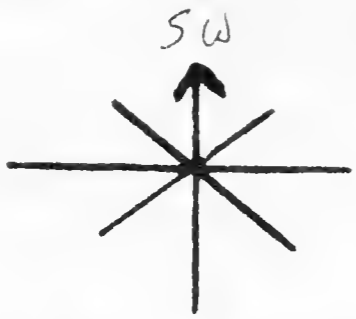
time	species	#	dir.	hgt.	remarks	loc.
0900	Red-tailed Tropicbird	1	SE	200'		
0914	Cook's-Bonin Petrel	1				
0919	Pterodroma	1	SE	low		
0922	Cook's-Bonin Petrel	1	SE	low		
0924	Cook's-Bonin Petrel	1				
0926	Cook's-Bonin Petrel	2	NW	low		
0927	Cook's-Bonin Petrel	1	SW	low		
0929	Cook's-Bonin Petrel	1	SW	low		
0930	Sooty Shearwater	1	SW	low		
0930	Cook's-Bonin Petrel	2	W	low		
0938	Sooty Shearwater	1	SE	to 40'		
FF 0939	Sooty Tern	10	⊙		feeding flock	
	Pterodroma	30+				
0946	Red-tailed Tropicbird	1	⊙	200'		
0948	Shearwater/petrel	1	N	low		
0955	Cook's-Bonin Petrel	1	SW	low		
0956	Cook's-Bonin Petrel	2	SW	low		
0958	Cook's-Bonin Petrel	1	SW	low		
1010	Red-tail Tropicbird	1		low	shot - collected + settled in the water	
1035	" " "	1			hovering over above bird in the water "bird in water riding high with head up" As the ship approached the one on the water the second bird flew off a ways and sat down	
1115	Ruddy Turnstone	1	⊙	30'		
1132	bird	1	W	low	white	
1145	Sooty Shearwater	1	W	low		
1147	Bonin Island Petrel?	2	NW	low	sitting in water, both had dark brown backs.	
1235	MASKED BOOBY	1	SE	40'	Collected R. KIRKPATRICK	



time species # dir. hgt. remarks loc.

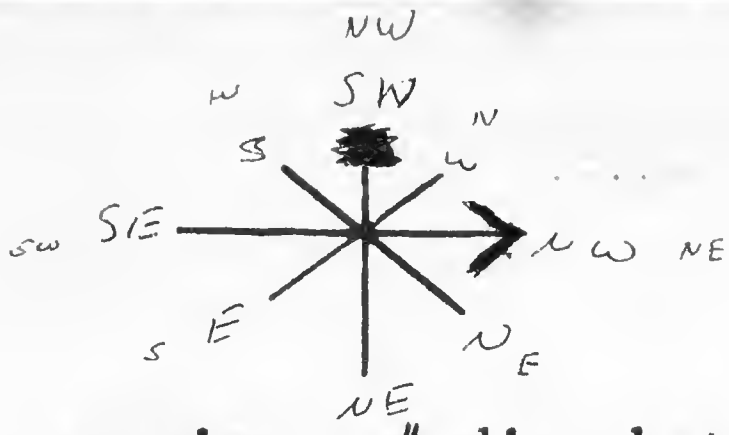
1257	Golden Plover	1	NW	250'	CALLING	
1308	BONIN Is. (TYPE) PETREL	1	NE	70-30'		
1330	JUAN FERNANDEZ PETREL	2	SW	LOW	} Flying Together when first seen.	
	WHITE-NECKED PETREL	1	SE	"		
1345	SHEARWATER - PETREL	1	W	"	- PROBABLE WHITE-NECK OR JUAN FERNANDEZ - DISTANT.	
1349	JUAN FERNANDEZ PETREL	1	NE	LOW		
1409	BONIN-COOK'S PETREL	1	⊙	"	- Feeding TYPE Flight.	
F 1415	WEDGETAILED SHEARWATER	2	N	LOW	flock - NOT ACTIVELY FEEDING! - PROBABLE JUAN FERNANDEZ	
	SOOTY TERN	6	TO	60'		
	WHITE-NECKED PETREL	1	NE	LOW		
	SHEARWATER - PETREL	3		LOW		
1458	Red-tailed Tropicbird	1	⊙	150'	bird hit by shotgun blast	
1500	JUAN FERNANDEZ Petrel	2	N	low	1 bird hit by shotgun blast	
1529	Cook's-BONIN Petrel	1	NE	low		
1530	Cook's-BONIN Petrel	1				
1540	Red-tailed Tropicbird	1	SW	250'		
1645	Pterodroma	1	S	low	moving fast.	
1655	- - - - -	-	-	-	sighted flock on horizon + altered course for pt.	
1710	flock	-	-	-	actively feeding, no flying fish flew off as ship approached.	
	Sooty Shearwater	125 ± 25			Primarily immatures	
	Sooty terns	100 ± 10				
	Juanfernandez Petrel	5+			Sooty Shearwaters were feeding as a group within the flock -	
	Cook's n Bonin Petrel	2+			NO red-tipped birds	
	Wedge-tail Shearwater	1				
	Bulwers Petrel	1			Atuna was caught as we went through the flock	

COURSE CHANGE ENTERED ON SHEET 1630



DATE 4 October, 1964
Pg. # 4

	time	species	#	dir.	hgt.	remarks	loc.
FF	1835	Sooty TERN	18+	⊙		ON HORIZON SLOWLY WORKING NW	
	1838	Sooty SHEARWATER	1	S			
	1849	PETREL	1	N	Low		
F	1855	Sooty TERN	40+	S		MOVED RAPIDLY; PROBABLY NOT FEEDING(?)	
	1904	Sooty SHEARWATER	1	S			
50	1912						
	1923	WEDGETAIL SHEARWATER	1	NE	Low		
	2220	Sooty Tern	2+	75'		calling	
	2250	large white bird	1			reported by watch	



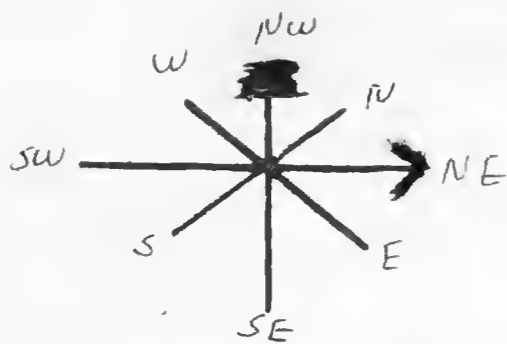
DATE 5 October, 1964
Pg. # 1

time species # dir. hgt. remarks loc.

0105	Sooty Tern	1			calling	
0203	Bird	1			flew low over the helodeck, possibly a shearwater	
0404	SOOTY TERN	1	N-NW	60'-80'		
0445	SHOREBIRDS (?)	3-5	N-NW N-NW	75'-100'	calling - a high pitched, short call note not dissimilar from one calling a dog (j.j.j.). (OR SPRING PEEPERS)	
0430	---	---	---	---	---	
0523	SHOREBIRDS	2-3	N-NW	75'hd	- COURSE CHANGE TO NW - SAME AS ABOVE - PROBABLE RUDDY TURNSTONES.	
0653	Ruddy Turnstone	1	⊙	low	just over helodeck	
0720					apparent sunrise	
0730	Brown Booby	1	⊙	to 100'	immature	
0735	Ruddy Turnstone	1	⊙		same bird still circling ship	
0743	Wedge-tailed Shearwater	1	E	low		
0745	Sooty Shearwater	28	S	low		
0753	Sooty Shearwater	23	S	low		
0756	Sooty Shearwater	20+	S	low		
0803	Sooty Shearwater	8				
0805	SOOTY SHEARWATER	20	S			
0810	SOOTY SHEARWATER	25 ²³	S			
0811	SOOTY SHEARWATER	11	S			
0815	SOOTY SHEARWATER	24	S			
0817	Wedge-tail Shearwater	1	⊙		around oil slick	
0821	Sooty Shearwater	21	S			
0823	Golden Plover	1	⊙			
0825	Ruddy Turnstone	1	⊙		flying with golden plover	
0826	Small Pterodroma	1				
0830	Large Pterodroma	1	⊙		around oil slick	
					under way at ca 0840	
0848	Sooty Shearwater	2	S			
0855	Wedge-Tailed Shearwater	1	S	low		
0900	Sooty Shearwater	38 ³⁷	S			
0907	"	34	S			
0910	"	18	S			
0912	Mottled Petrel	1	S	low		

one gallon Wesson oil spread
0730 about 15 minutes
before plankton detail.
by 0830 the oil slick had
become almost completely
broken up by wave action.
A few birds apparently were
attracted to it but several
flocks of sooty shearwaters
flew over it without
stopping

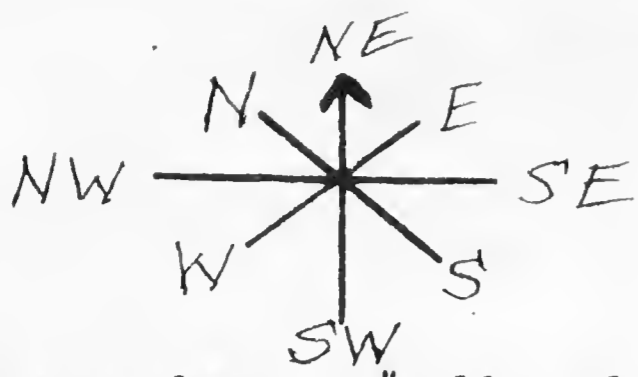
Together



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Pg. # 2

time species # dir. hgt. remarks loc.

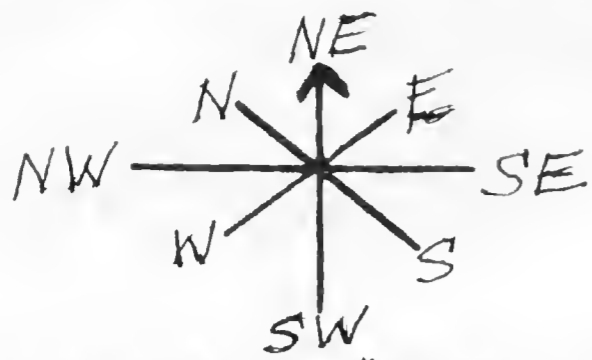
0919	Sooty Shearwater	20	S		
0929	" "	65	S		
0929	Starling Golden Plover	1	NW		
0938	Sooty Shearwater	1	S		
0934	" "	7	S		
0940	" "	"	S		
0948	Mottled Petrel	1	S		
0949	Cook's Petrel	1	SE	low	
1002	Sooty Shearwater	16	S		
1004	LARGE PTERODROMA	1	N	Low	-white-neck OR JUAN FERNANDEZ.
1014	WHITE-NECKED PETREL	1	NW	TO 30'	
1022	SOOTY SHEARWATER	20	S-SE	TO 50'	
1025	WEDGETAILED SHEARWATER	1	SE	0' to Low	Arose from WATER
1030	RED-TAILED TROPICBIRD	1	NW	60' to Low	
1045	- - -	- - -	- - -	- - -	COURSE CHANGE TO NE
1055	SOOTY SHEARWATER	75 ± 10	S	TO 60'	
1056	SHEARWATER-PETREL	1	SE	Low	
1105	BONIN Is. (TYPE) PETREL	1	NW	Low	
1110	GOLDEN PLOVER	1	⊙	40'	
1110	- - -	- - -	- - -	- - -	COURSE CHANGE TO NNW
1115	- - -	- - -	- - -	- - -	COURSE CHANGE TO NE AGAIN!
1120	BULLER'S PETREL	1	S	Low	
1124	SOOTY SHEARWATER	30 ± 5	S	TO 50'	
1127	" "	30 ± 5	S	"	
1134	SOOTY SHEARWATER	75 ± 10	S		
1135	PETREL	1	S		
1142	SOOTY SHEARWATER	25	S		
1149	SOOTY SHEARWATER	27	S		
1204	Sooty Shearwater	18	S	to 40'	
1217	Mottled Petrel	1	S	low	
1221	Sooty Shearwater	2	S	to 20'	
1222	Wedge-tailed Shearwater	1	NE	low	



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1224	Sooty Shearwater	14	S	to 30'		
1225	Sooty Shearwater	1	S	to 30'		
1236	Sooty Shearwater	30	S	to 50'		
1237	Sooty Shearwater	27	S	to 50'		
1245	Sooty Shearwater	2	S	to 40'		
1246	JUAN FERNANDEZ Petrel	1	S	low		
1250	Sooty Shearwater	1	S	to 20'		
1251	Cook's-BONIN Petrel	1	S	low		
1255	Sooty Shearwater	49	S	to 50'		
1257	Sooty Shearwater	31	S	to 50'		
1310- 1313	Sooty Shearwater	180+	S	to 75'	It appears that some a few of the birds in these flocks are slightly larger? and darker than Sooty Shearwaters and lack the white wing linings of that species.	
1314	Sooty Shearwater	40	S	to 80'		
1338	Sooty Shearwater	30	S	to 100'		
1356	Sooty Shearwater	1	S	to 40'		
1358	Sooty Shearwater	32	S	to 40'		
1359	Cook's-BONIN Petrel	1	S	low		
1410	JUAN FERNANDEZ Petrel	1	S	low		
1412	Sooty Shearwater	60	S	to		
1415	" "	60±	10 S			
1422	Cooks or Bonin Petrel	3	NE	low		
F 1425	Flock - TERNS	20±				
1430	RIBBY TURNSTONE	1	NE	low	- shot - J.D.W. Collected (ASMIN. Pickyp)	
1435	SOOTY SHEARWATER	20±	S	"		
ca 1445	RED-TAILED TROPICBIRD	1	ca	"	- circling Downed bird.	
1510	SOOTY SHEARWATER	1	S	"		
1523	RED-TAILED TROPICBIRD	1	N	150'	- POSSIBLY SAME BIRD AS 1445 ENTRY.	
1540	SOOTY SHEARWATER	20±	S	low		
1550	Cooks or Bonin Petrel	1	NE	low		
1601	mottled Petrel	1	NE		- wandering ship	
1714	Sooty Shearwater	4	S	low		
1723	Sooty Shearwater	15	S	low		
1726	Petrel	1	S	low		
1730	Sooty Shearwater	8	S	low		



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Pg. # 4

time species # dir. hgt. remarks loc.

1750 Ruddy Turnstone 1 @ low

1752 " " collected not picked up

1817 Sooty Shearwater 7 S low

1822 Cook's-Bonin Petrel 1 S low

1826 Sooty Shearwater 1 SW low

1834 White-Necked Petrel 2 S low

1837 Sooty Shearwater 1 S low

1843 Skua ? 1 S 60'

flew from water — a medium sized bird with very short tail & broad wings. Flew with a slow wingbeat unlike typical jaegers. It was too distant to see color characteristics, but appeared to be all dark. Chunky in shape

1844 Golden Plover 1 @ low

circling ship.

1909 Sooty Shearwater 1 S low

1911 Wedge-tailed Shearwater 1 SE low

1914 Mottled Petrel 1 S low

1915 Sooty Shearwater 1 S low

1917 Wedge-tailed Shearwater 1 S low

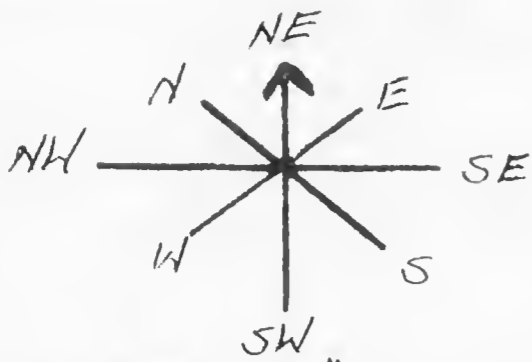
1918 Juan Fernandez Petrel 1 S low

- very unstable flight

1933 Shearwater/Petrel 1 NW low

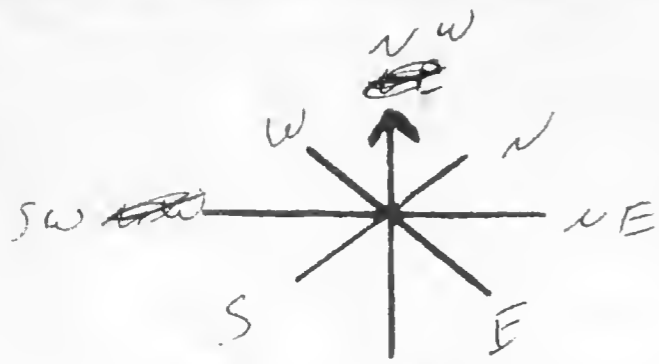
2040 bird 1

single call note from above ship, but muffled beyond recognition due to wind



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Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0250	SHOREBIRDS	1-3	E	50'-75'	PROBABLE GOLDEN PLOVERS - calling.	
0454	Golden Plover	1	☉	?	probably circled ship ONCE; called several times	
0643	Petrel	1	SSE	low	Bulwer's or storm petrel close to ship but could only see silhouette 'due to darkness.	
0715	Juan Fernandez Petrel	1	NW			
0741	Cook's Petrel	1	SW	low		
0746	Cook's Petrel	1	S	low		
	wedge-tailed Shearwater	2	S	low		
0747	Blue-faced Booby (imm)	1	NW	50'		
0745	Pterodroma	8	☉			
0740	wedge-tail Shearwater	3	☉			
0750	pterodroma	2				
0816	SMALL PTERODROMA	1	W	low	- Going TOWARD oil slick.	
0817	Golden Plover	1	☉	LOW		
0825	PTERODROMA	1	—	LOW		
0830	RED-TAILED TROPICBIRD	2	E	100'		
0845	—	—	—	—	Cruised through oil slick - no birds near or in vicinity. Oil is spread into long streaks by wind & waves but seems to remain well on surface.	
0853	Golden Plover	1	NE	55-60'		
0904	SHEARWATER - PETREL	1	S	LOW	- IN SUN'S reflection	
0922	GOLDEN PLOVER	2	NE	TO 50'		
0924	SOOTY SHEARWATER	1	S	LOW	- not Arching flight.	
0937	WEDGETAILED SHEARWATER	1	NE	LOW		
1000	" "	1	NE	"		
F 1000	FRIGATEBIRD TERNS	2	☉	150'	- VERY DISTANT - DURING GENERAL QUARTERS - SHIP CHANGED COURSE FOR GEN GENERAL QUARTERS. Flock lost.	
		50-60	—	LOW		
1024	LARGE PTERODROMA	1	NE	"		
1029	SOOTY SHEARWATER	4	S	LOW	probably flushed from water by ship	
1043	Golden Plover	1	☉	to 60'	circled ship ONCE	
1101	Petrel	1	N	low	small, black possibly Bulwer's Petrel	
1108	Golden Plover	1	NE	to 100'	probably bird sighted earlier	
1120	Blue-faced Booby (imm)	1	NE	30'		
1130	Cook's Petrel	1	☉	low	shot, wounded, but not picked up.	
1233	wedge-tail Shearwater	1	E	low		

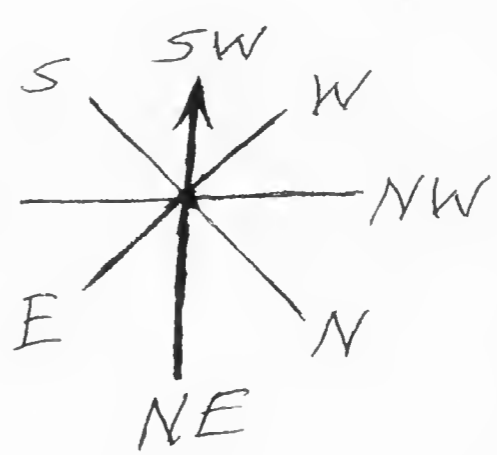


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Pg. # 2

time species ^{SE}# dir. hgt. remarks loc.

1245 Red-tail Tropicbird 1 \odot high
 1302 Shorebirds 2 N low
 1337 Golden Plover 1 N TO 60'
 1357 " " 1 N "
 1458 Cook's Petrel 1 N low

changed course



1505
 1506 Golden Plover 1 \odot to 100'
 1630 Red-Tailed Tropicbird 1 ~~NE~~ NE 80'
 1636 Bonin or Cook's Petrel 1 SW low
 1645 Pterodroma 1 WNW low
 1649 Cook's or Bonin Petrel 2 \approx
 Wedge-tail Shearwater 1 \approx
 1648 Golden Plover 1 75ft \odot
 1651 Shear/Petrel 3 NE
 1654 White-neck Petrel 1 SSE
 1657 Pterodroma 1 SSE
 1652 Cook's or Bonin Petrel 1 NE
 1656 Juan Fernandez Petrel 1 \approx

looked large

1700 Red-tail Tropicbird 1 on water - ad.
 1703 Frigate bird 1 immature

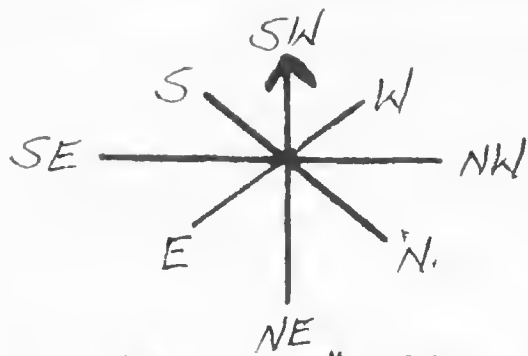
shot Dave Bratley
 shot by CAPTAIN - it hovered & took 2 or 3 abortive dives at the tropicbird in the water

1745
 1750 Wedge-tail Shearwater 2

there was a large school of Bonin Terns around the ship and lots of flying fish as we returned the last two birds.

1756 Juan Fernandez Petrel 1 \odot
 1800 Flock - - - -
 Sooty tern 6
 Wedge-tail Shearwater 8+
 Pterodroma 4+
 Common Noddy Tern 1

- feeding - Tern school still around.
 Feeding - no flying fish observed.



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Pg. # 3

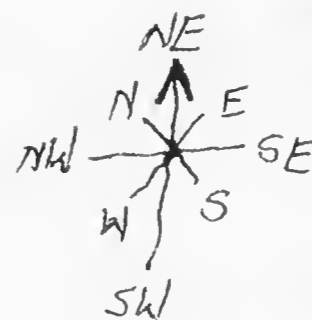
time species # dir. hgt. remarks loc.

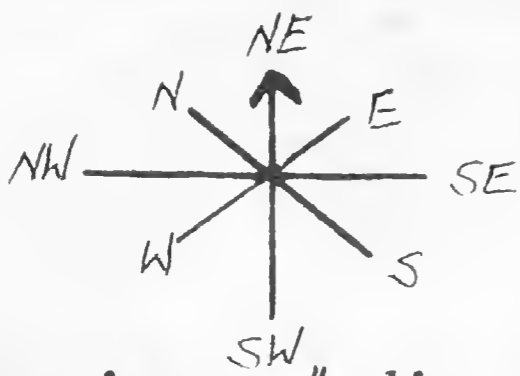
time	species	#	dir.	hgt.	remarks	loc.
1814	JUAN FERNANDEZ PETREL	2	S	Low		
1817	MASKED BOOBY	1	⊙	Low	- SUB-ADULT.	
1852	WEDGETAILED SHEARWATER	1	SE	Low		
1915	- - -	-	-	-	- APPARENT SUNSET	
1945	SHEARWATER PETREL	1	⊙	40'	- Looks like Wedgetail.	
2100	SOOTY TERN	2	SW	30'	- 1-ADULT, 1-IMMATURE	
2215	Sooty Tern	1			SATURNITE - MOVING TO SE ACROSS MILKY-WAY - VERY RAPIDLY. calling	
2320	Shorebird ?	1			call note — only once, high pitched whistle. apparently at some distance from ship.	
2348	Sooty Tern	4			calling (3 imm + 1 adult)	



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time	species	#	dir.	hgt.	remarks	loc.
0003	Sooty Tern	1			calling	
0008	Sooty Tern	2			calling	
0720	RED-TAILED TROPIC BIRD	1	SE	150'		
0722	---	---	---	---	SUNRISE.	
0727	WEDGETAILED SHEARWATER	1	NE	Low		
0740	---	---	---	---	STOPPED FOR MORNING STATION.	
0744	WEDGETAILED SHEARWATER	1	W	Low		
0814	Golden Plover Ruddy Turnstone	1 2	⊙	to 100'	plover calling	
0815	---	---	---	---	underway	
0834	Golden Plover	2	⊙			
0846	Golden Plover	1	⊙		joined flock of 3 plover and 2 turnstones circling ship	
0914	Wedge-tailed Shearwater	1	S	low	0914	
1111	GOLDEN PLOVER	1	⊙	low		
1212	Shearwater/ petrel	1	SE	low	appeared to be all black or dark brown did not fly like Christmas Island Shearwater	
1318	Sooty (?) Shearwater	1	S	low		
1329	Wedge-tailed Shearwater	2	S	low		
1345	Sooty Shearwater	1	S	to 60'		
1350	Sooty Shearwater	1	S	to 60'		
1429	Golden Plover	1	NW	80'	calling	
1432	Bonin or Cooks Petrel	1	UNE	low		
1622	WEDGETAILED SHEARWATER	1	SE	low		
1632	BONIN Is. (TYPE) PETREL	1	S	low		
1645	RED-TAILED TROPIC BIRD	1	⊙	150'		
1650	---	---	---	---	COURSE CHANGE TO NE	
1848	Shearwater/petrel	1	SE	low		
1920	---	---	---	---	apparent sunset	





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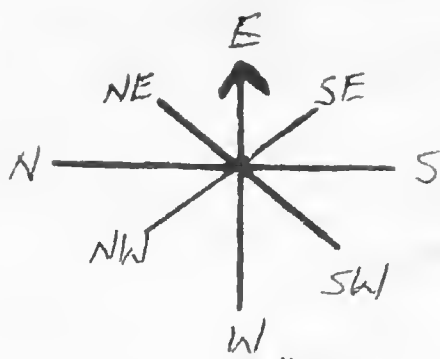
0740	Golden Plover	1	↻	80'	calling	
0742	Juan Fernandez Petrel	1	SE	low		
0751	Cook's Petrel	1	NW	low		
0802	Red-Tailed Tropicbird	1	N	200'		
0836	WEDGETAILED SHEARWATER	1	E	low	- DARK PHASE	
0856	Cook's PETREL	1	E	LOW		
0941	BONIN-COOK'S PETREL	1	E	Low		
1004	Cook's PETREL	1	SE	"		
1005	GOLDEN PLOVER	3	NE	Low		
1014	JUAN FERNANDEZ PETREL	1	NE	low		
1018	JUAN FERNANDEZ PETREL	1	NE	low	possibly same bird as 1014 sighting	
1052	CHRISTMAS ISLAND SHEARWATER	1	E	low	small size, all black, characteristic flight noted	
1053	Cook's-BONIN Petrel	1	N	low		
1222	Cook's Petrel	1	SE	"		
1327	" "	1	SE	"		
1327	Golden Plover	1	↻	45'		
1413	JUAN FERNANDEZ PETREL	1	SE	LOW	- AROSE FROM WATER	
1440	SHEARWATER - PETREL	1	SE	LOW		
1450	Golden Plover	1	NE	TO 35'		
FF 1505	WEDGETAILED SHEARWATER	6	↻			
	BONIN Is. (TYPE) PETREL	3	TO	LOW	Feeding, but dispersed quickly by ship.	
	JUAN FERNANDEZ PETREL	5	SE			
1517	" "	1	NW	"		
1520	BONN-Cook's Petrel	1	↻	"		
1522	SOOTY TERN	6	N	50'		
1522	WHITE-NECKED PETREL	1	↻	LOW		
1522	WEDGETAILED SHEARWATER	4	↻	LOW	- 1 shot - R. Kirkpatrick could not be picked up	
1524	BONIN Is (TYPE) PETREL	2+	↻	LOW		

REMNANTS OF flock?



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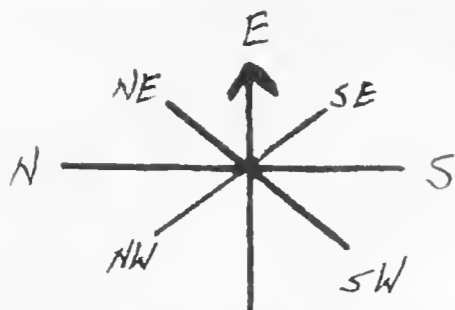
time	species	#	dir.	hgt.	remarks	loc.	
1600	Golden Plover	1	⊙	to 40'	collected P. Gould SAME location as Wedge-tailed Shearwater		
1612	Pterodroma	1	SW	low			
1618	Sooty Shearwater	1	S	to 50'			
1621	Golden Plover	1	⊙	150'			
1652	White-necked Petrel	1	SE	low	plumage appeared fresh		
1653	Golden Plover	1	SE	low			
1718	White-necked Petrel	1	NE	low	flew parallel with ship for several minutes landed ON water for several seconds at least three times definitely feeding kept wings extended while on water		
1731	Golden Plover	1	NW	to 60'			
1741	Sooty Shearwater	1	S	low			
1750	Wedge-tailed Shearwater	1	S	low	Dark phase		
1808	Golden Plover	1	NE	40'			
1829	Pterodroma	1	NE	low			
1831	Golden Plover	1	NE	to 150'			
1849	Sooty Shearwater	1	S	to 50'			
1910	-----					apparent sunset	



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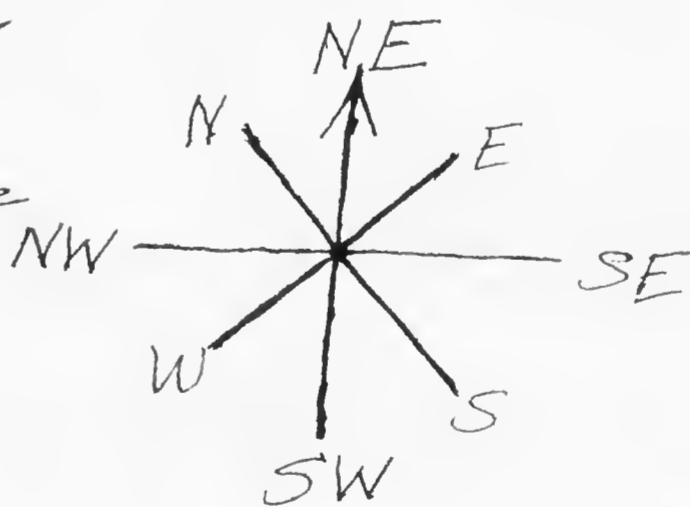
Pg. # 1

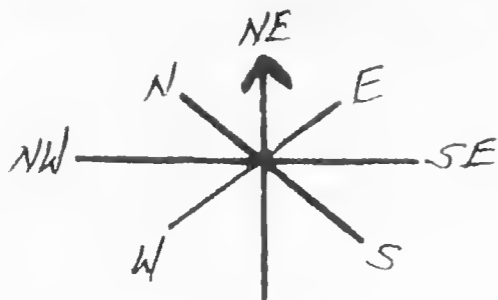
time	species	#	dir.	hgt.	remarks	loc.
CA 0715	---	---	---	---	APPARENT SUNRISE - COMMENCE OBSERVATIONS, (APPROXIMATELY 48 [±] ₂ Miles FROM I.I.)	
0717	WEDGETAILED SHEARWATER	3	⊙	LOW	- following ship.	
0730	---	---	---	---	STOPPED FOR MORNING STATION	
0801	RED-TAILED TROPICBIRD	1	SE	75'	- arose from water	
0806	WEDGETAILED SHEARWATER	1	⊙	LOW		
0807	GOLDEN PLOVER	1	W	30'		
0810	---	---	---	---	UNDERWAY	
0825	PETREL, SMALL	1	S	TO 30'	- Looked like Bulwer's but flashed silver at peaks of arches. Like sooty SHEARWATER. UPPER wing not seen due to light conditions. WAS DEFINITELY NOT SOOTY SHEARWATER IN close!	
0906	Petrel, large	1	S	low		
0917	Golden Plover	1	⊙	to 100'		
0926	Golden Plover	1	⊙	to 100'	possibly same bird as 0917 sighting	
0928	Cook's Petrel	1	S	low		
0933	Pterodroma	1	E	low		
0937	Cook's-BONIN Petrel	1	E	low		
0949	Cook's-BONIN Petrel	1	S	low		
0954	Wedge-tailed Shearwater	1	SW	low		
0959	Red-footed Booby	1	E	to 40'	immature	
1006	Golden Plover	1	E	to 50'		
1012	Wedge-tailed Shearwater	1	N	low		
1022	Great Frigatebird	4	N	to 250'		
1025	Wedge-tailed Shearwater	2	E	to 20'	following ship	
1047	Red-footed Booby	2	N	to 30'	1 adult, 1 immature	
1050	Cook's or Bonin Petrel	1	N			
1053	Shearwater	1	E	---	all dark	
1054	Wedge-tailed Shearwater	1	E	low		
1100	Christmas Is. Shearwater	1	S	low		
1150	Golden Plover	1	E	80'	calling	
1200	Blue-faced Booby	1	⊙	-	Imm.	
1200	Gt. Frigatebird	1	S	300 FT.	♀ ad.	



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Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.	
	1215	Juan Fernandez Petrel	1	N	low			
	1222	Shearwater/Petrel	1	W	low			
	1256	MASKED BOOBY	2	N	Low	- 1-adult, 1-imm.		
	1306	WEDGETAILED SHEARWATER	1	S	low			
	1314	JUAN FERNANDEZ PETREL	1	N	low			
	1316	RED-FOOTED BOOBY	2	⊙	Low	- 1 imm.		
	1317	WEDGETAILED SHEARWATER	4	⊙	LOW			
	1317	CHRISTMAS IS. SHEARWATER	1	NE	LOW			
	1335	BONIN Is. (TYPE) PETREL	1	E	LOW			
	1420	WEDGETAILED SHEARWATER	2	N	LOW			
	1425	GREAT FRIGATEBIRD	1	—	175'	1 imm		
	1427	RED-footed Booby	1	NE	LOW	- 508 - Adult.		
	1435	Cook's Petrel	1	N	LOW			
	1446	Cook's Petrel	1	N	LOW			
	1449	Mottled Petrel	1	S	LOW			
FF	1455	Great Frigatebird	27	⊙	to 300'	feeding flock		
	1510	Cook's Petrel	2	N	low			
	1515	----- change course -----						
	1522	Cook's Petrel	1	N	low			
	1536	Cook's Petrel	1	SE	low			
	1547	Shearwater/petrel	1	E	low			
	1607	Shearwater/petrel	1	SE	low			
	1608	Cook's Petrel	1	SE	low			
	1622	Storm Petrel Harcourt's	1	N	low	very broad white tail patch square broad tail well seen close to ship flight slow, tail straight and flat		
	1638	JUAN FERNANDEZ PETREL	1	N	LOW			
	1640	BONIN-COOK'S PETREL	1	NE	LOW			
FF	1645	GREAT FRIGATE WEDGETAILED SHEARWATER	30±1					
		JUAN FERNANDEZ PETREL	2-3					
		WHITE-NECKED PETREL	1					





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Pg. # 3

time species # dir. hgt. remarks loc.

1708 PTERODROMA 1 NW low - Dull neck - JUAN FERNANDEZ OR WHITE-NECKED PETREL.

1711 " 1 E " - DISTANT - " " " " " "

1711 COOK'S PETREL 1 N-NW "

1715 Flock - - - - Feeding, no flying fish observed

Sooty Tern 20 - - - 6 or 7 immatures

Wedge-tail shearwater 2

Great Frigatebird 7

Juan Fernandez Petrel 1

Cooks or Bonin's Petrel 5±1

The terns were just visible when first observed. it took the ship 5 minutes to reach the flock traveling at ca. 9 1/2 knots per hour. This means that the flock was about 1 mile distant

1738 Small Pterodroma 1 SE

1748 Cooks or Bonin's Petrel 1 W

1810 PTERODROMA 1 SE low

- White-necked or JUAN FERNANDEZ - DISTANT. 1.

1812 MOTTLED PETREL 1 S low

very close, excellent view of Dark Grey belly

9.5 x .16
60 19.500
60
350
3
.16
80

1824 Cooks or Bonin's Petrel 1 NE low

1827 WHITE-NECKED PETREL 1 NE low

1828 Cook's-Bonin Is. PETREL 1 NE low

1829 " " " 1 NE low

1830 " " " 1

1832 white-neck Petrel 1 S
Dark-rumped Petrel 1 S
Large Pterodroma 1 S

excellent view



Ventral

dorsally very solid uniform dark grey or slaty colored - no suggestion of bare on wings size of white-neck Petrel.

1835 Cooks/Bonin Petrel 2 SE

1835 Brown Booby 1 N low Adult

1836 Christmas Island Shearwater 1 SE

1840 Cooks Petrel 1 SE

1846 Pterodroma 1 S low

1847 RED-tailed TROPICBIRD 1 NE low

1856 MOTTLED PETREL 1 S To 30'

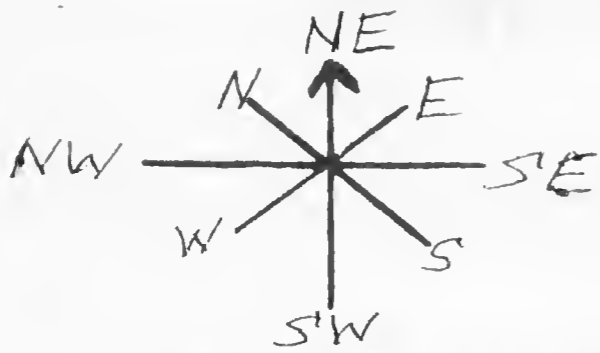
1855 Pterodroma 1 SSE

1855 White 1

light mist

apparent sunset.

1857 - - - -



DATE 10 October 1964
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
Heading 070						
0701	BONIN ISLAND TYPE PETREL	2	NE	Low		
0712	PETREL	2	E	low		
0720	KERMADEC PETREL	1	S	Low to 40 FT	ALL CHOCOLATE BROWN EXCEPT A WHITE PATCH UNDER EACH WING NEAR WRIST AREA	
0735	Pterodroma	1	S	low		
0738	Pterodroma	1	N	low		
FF 0753	White-necked Petrel Large Pterodroma Small Pterodroma	1 15 15	⊙	low	feeding flock total no. birds in flock 30 ± 10	
Watch secured from 0830 until 0930 so that the ship could be washed down with fresh water						
0958	Juan Fernandez Petrel	1	low	E		
	small Pterodroma	1	low	E		
1010	wedge-tailed Shearwater	1	low	NE		
1012	Cook's-Bonin Petrel	1	low	SW		
1016	Mottled Petrel	1	low	S		
1027	Pterodroma	1	low	NW		
1037	Juan Fernandez Petrel	1	low	NW		
1047	RED-TAILED TROPICBIRD	1	N	Low	- SITTING ON H ₂ O	
1108	SHEARWATER-PETREL	1	NE	LOW	- DISTANT	
1131	MASKED BOOBY	1	NE	30'	SUBADULT; ALIGHTED IN WATER AT 1140	
1140	SOOTY SHEARWATER	1	S	Low		
FF 1150	Great Frigatebird Storm Petrel	1 100 ± 15	⊙	to 40' low	large whale dead in large oil slick adult ♂ circling over and diving toward whale petrels feeding in oil slick 3 Leach's - Forked tails closely observed MANY of rest of petrel could not be observed at close range since they dispersed rapidly at the approach	



DATE 10 Oct 1964

Pg. # 2

time species # dir. hgt. remarks loc.

of the ship but several birds appeared to have squared tails (Harcourt's) All birds observed had white rump patch possibly one light gray storm petrel in flock ship circled whale three times and upon close approach sharks could be seen feeding upon the whale

ALBACORE & MAHIMAH I CAUGHT NEAR WHALE.

~~12~~

About 1230 garbage was dumped from the ship and about a dozen storm petrels immediately gathered about it

1240 under way resumed course

1255 Storm Petrel 6 NE low flying parallel to ship's course

1204 Wedge-tailed Shearwater 1 S low

1322 Mottled Petrel 1 SE low

1411 JUAN FERNANDEZ Petrel 1 SE low feeding sitting on water when first observed


1430 JUAN FERNANDEZ Petrel 1 E low

FF 1434 Wedge-tailed Shearwater 8 NE Flock Feeding
Cook's Petrel 2 NE
JUAN FERNANDEZ Petrel 1 NE

1452 BONIN Is. (TYPE) PETREL 2 E low

1454 JUAN FERNANDEZ PETREL 1 SE low

1454 " " 1 SE low

ca. 1520 ~~Juan's Storm Petrel~~ Storm Petrel 1  low collected - Charlie Noteboom

JUAN FERNANDEZ Petrel 4

BONIN-type Petrel 1

JUAN FERNANDEZ Petrel 5

Great Frigatebird 3

Pickup - 1hr. 5min.

FLARER Life - 55 min. feeding

STORM-PETREL & BONIN (TYPE) OVER SCHOOL of MAHIMAH I

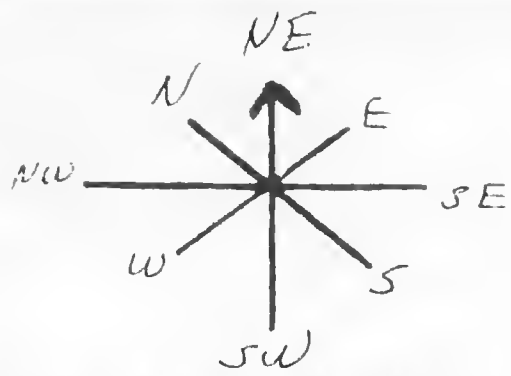
1641 Wedge Tailed Shearwater 1 N



DATE 10 Oct 1964
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1652	Cook's-Bonin Petrel	1	SE	low		
1653	Cook's-Bonin Petrel	2	S	low		
1708	Cook's-Bonin Petrel	1	NE	low		
1719	Blue-faced Booby	1	NE	to 60'	immature (bird of the year)	
1722	Cook's Petrel	1	NE	low		
1755	Sooty Terns	6	☉	To 200'	NEAR HORIZON E OF SHIP	
1815	Blue-faced Booby	1	NE	to 150'	adult Flew parallel with ship for About 10 minutes	
1833	Red-tailed Tropicbird	1	NE	to 150'		
1845					APPARENT SUNSET	

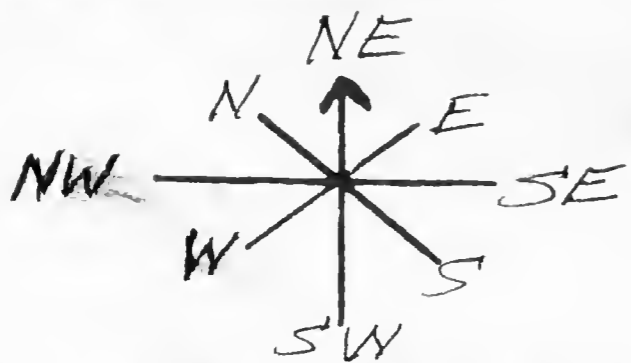
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DATE 11 Oct 64
Pg. # 1

time species # dir. hgt. remarks loc.

0715	Cook's Petrel	1	NE	low		
0735	Kermadec Petrel	1	SE	low	all light brown, with white patches at base of primaries on underwing. about the size of Juan Fernandez Petrel	
0740	Shearwater Petrel	1	NE	low		
0743	Newell's Shearwater	1	E	low		
0748	Cook's Petrel	1	NW	low		
0800	Sooty Shearwater	1	S	low		
0806	Wedge-tailed Shearwater	1	E	low		
0817	Cook's Petrel	1	S	low		
0822	Small Pterodroma	1	NE	low		
0843	Wedge-tailed Shearwater	1	SE	low		
0844	Cook's-BONIN TYPE PETREL	1	W	Low		
0844	WEDGETAILED SHEARWATER	1	SW	Low		
0844	PTERODROMA	1	SW	Low		
0847	WEDGETAILED SHEARWATER	1	SE	Low		
0903	" "	5	NE	Low	-1 dark phase	
0903	Cook's/BONIN PETREL	1	E	Low		
0920	---	---	---	---	LOST STEERING	
0920	WHITE-TAILED TROPICBIRD	1	---	125'		
0922	PTERODROMA	1	Low	---	DISTANT	
0940	---	---	---	---	ON COURSE	
0945	---	---	---	---	WHALE SPRAY DISTANT OFF STARBOARD	
0957	Cook's PETREL	1	NW	Low		
1000	" "	1	E	"		
1021	LEACH'S/HARCOURT'S STORM PETREL	1	NW	Low		
1027	Cook's PETREL	1	E	Low		
1040	Leach's Storm Petrel	1	SE	low	white rump patch separated by ^{median} thin dark line	
1050	Cook's Petrel	1	SE	low		
1100	Wedge-tailed shearwater	3	SE	low		



DATE 11 Oct 1964
Pg.# 2

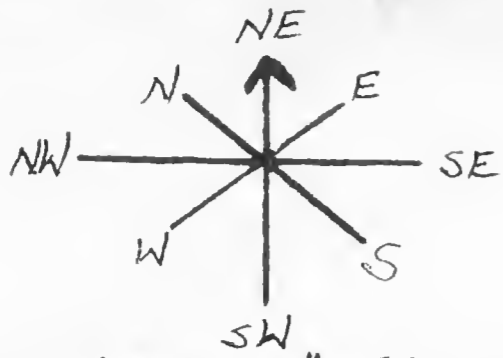
	time	species	#	dir.	hgt.	remarks	loc.
	1123	Cook's Petrel	2	NE	low		
	1212	Juan Fernandez Petrel	1	SE	low		
	1215	Wedge-tailed Shearwater	1	N	low	flushed from water	
	1222	Cook's Petrel	1	NE	low		
FF	1225	Wedge-tailed Shearwater	12			feeding flock	
		Pomarine Jaeger	1				
	1255	Cook's Petrel	1	SE			
	1257	Cook's/Bonin Petrel	1	NE			
	1326	Pterodroma	1	SE			
	1350	WEDGETAILED SHEARWATER	1	SW			
	1350	BONIN/COOK'S PETREL	1	SE			
	1350	Golden Plover	1	NE	50'		
	1358	MOTTLED PETREL	1	SSE	TO 40'		
	1402	SHEARWATER/PETREL	1	E-SE	LOW	-DISTANT.	
	1451	Cook's Petrel	1	S	low		
	1502	Wedge-tailed Shearwater	3	S	low		
	1508	Shearwater/petrel	1	SE	low		
	1511	Wedge-tailed Shearwater	1	SE	low		
	1512	Wedge-tailed Shearwater	1	NE	low		
	1513	Cook's Petrel	1	S	low		
	1519	Cook's Petrel	1	SE	low		
	1523	Wedge-tailed Shearwater	1	N	low		
	1545	WEDGETAILED SHEARWATER	1	SE	Low		
	1549	WEDGETAILED SHEARWATER	1	⊙	Low		
	1549	COOK'S PETREL	1	N	Low		



DATE 11 Oct 1964
Pg. # 3

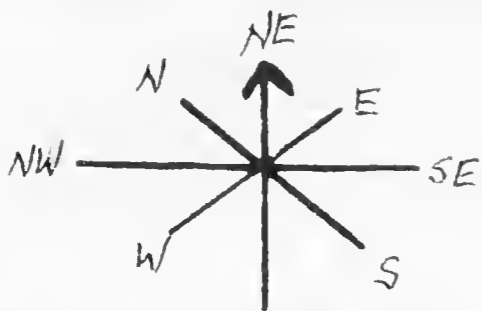
time species # dir. hgt. remarks loc.

time	species	#	dir.	hgt.	remarks	loc.
1608	PETREL	1	SE	Low		
1612	COOK'S PETREL	1	SE	Low		
1613	WEDGE-TAILED SHEARWATER	2	SE	Low		
1619	COOK'S PETREL	1	SE	Low		
1620	COOK'S PETREL	1	S	Low		
1627	SHEARWATER-PETREL	1	SW	Low	NEAR HORIZON	
1644	Golden Plover	2	NE	90'		
1646	Wedge-tailed Shearwater	2	SE	low		
1646	SE Cook's Petrel	1	NW	low		
1652	Wedge-tailed Shearwater	1	SE	low		
1653	"	2	SE	low		
1655	Mottled Petrel	1	SE	low		
1657	Wedge-tailed Shearwater	1	SE	low		
1658	"	1	SE	low		
1707	Mottled Petrel	1	S	low		
1707	Cook's Petrel	1	N	low		
1722	Mottled Petrel	1	S	low		
1723	Wedge-tailed Shearwater	1	SE	low		
1724	Cook's Petrel	1	SW	low		
1732	Mottled Petrel	1	S	low		
1736	" (?) "	1	S	low	black axillars, but not sure of bellie could be <u>P. cooki axillaris</u> ? pfg.	
1746	Wedge-tail Shearwater	1	NE			
1746	Cook's Petrel	1	NW			
1751	Mottled Petrel	1	SE		avoiding ship; extensive dark grey bellie, which and a lot of greyish suffusion under wings.	
1759	Large Pterodroma	1	SE			
1801	Mottled Petrel	1	S			
1803	" "	1	S			
1804						
1805	White-tail Tropicbird	1	Ø	400 FT.		
1810	Wedge-tail Shearwater	1	SE			
1811	Sooty Shearwater	1			avoiding ship	
1815	Pterodroma	2	E NE		apparent sunset 1820	



DATE 12 OCT 64
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
CA	0632	- - -	-	-	-	- APPARENT SUNRISE	
	0650	NEWELL'S SHEARWATER	1	N	LOW		
	0652	SHEARWATER/PETREL	1	NW	LOW		
	0658	NEWELL'S SHEARWATER	1	E	LOW	- DISTANT	
	0658	WEDGETAILED - SHEARWATER	1	NE	LOW		
	0702	" "	4	☉	LOW		
F	0717	TERNS	1st	S	TO 100'	Flock LOOSE & apparently Not Feeding	
F	0721	SOOTY TERN	3	SW	100'		
		SHEARWATER SP	8	☉	LOW	- PROBABLE Feeding & WEDGETAILS - DISTANT.	
	0728	WEDGETAILED SHEARWATER	1	NW	LOW		
	0744	SHEARWATER/PETREL	1	S	LOW	DISTANT	
	0755	GOLDEN PLOVER	1	NE	40'		
	0903	Wedge-tailed Shearwater	1	SW	LOW		
	0910	Golden Plover	1			heard calling, but could not be located	
	0920	Shearwater/Petrel	1	SE	LOW	very distant	
	0927	Noddy Tern	1	NW	LOW		
	0933	Newell's Shearwater	1	SE	LOW		
	0944	Cook's Petrel	1	NE	LOW	- Black-winged.	
	0948	Wedge-tailed Shearwater	1	N	LOW		
	0950	White-tailed Tropicbird	1	NE	TO 300'		
	1030	Newell's Shearwater	1	NE	LOW		
	1040	Pomarine Jaeger	1	E	TO 200'	- Light phase	
	1050	" "	1	☉		← light phase (same as above?)	
	1128	GOLDEN PLOVER	1	NE	TO 70'		
	1130	NODDY TERN SP.	1	N	LOW	- Not clearly seen - flying directly away from view.	
	1134	COMMON NODDY TERN	1	E	LOW	- SITTING ON FLOATING LOG	
	1134	WEDGETAILED SHEARWATER	1	☉	LOW		
	1134	NEWELL'S SHEARWATER	1	N	LOW		



DATE 12 OCT 64
Pg. # 2

time	species	SW #	dir.	hgt.	remarks	loc.
1141	Shearwater 500' SHEARWATER (?)	1	E	Low	was sitting on water, All dark bird - flew low to water with series of slow wing beats & circling glides. No Acclining Heavy chunky bird - larger than wedgetail flying nearby	
1141	WEDGETAILED SHEARWATER	1				
1216	SHEARWATER	1	N	Low	- SAME AS ABOVE but APPARENTLY IN HEAVY MOULT. - BREAST & NECK (BROWN BOOBY PATTERN BELOW) DARK, BELLY & UNDER TAIL WHITISH - PARTIAL ALBINO? UPPER WINGS & BODY HAS POOR LOOKING FEATHERS. - Blotchy.	
1238	Wedge-tailed Shearwater	1	N	low		
1246	Wedge-tailed Shearwater	1				
1255	Pomarine Jaeger	2	SW	to 300'		
1304	Pomarine Jaeger	1	SW	to 200'		
1320	Red-footed Booby	1	NE	to 50'	adult flushed from water	
F 1314	Wedge-tailed Shearwater	6	⊙		NO ACTIVE FEEDING OBSERVED BUT FRIGATEBIRD CHASING BOOBIES	
	Brown Booby	1			Adult	
	Great Frigatebird	1				
1358	GREAT FRIGATEBIRD	1	SE	300'		
1402	POMARINE JAEGER	1	S	To 300'		
1403	- - -	-	- -	- -	TURNED AND HEADED NE	
1442	Wedge-tailed Shearwater	1	S	low		
1447	"	1	S	low		
1452	Great Frigatebird	1	⊙	300'		
1456	Wedge-tailed Shearwater	1	S	low		
1459	"	1	NW	low		
1500	"	1	S	low		
1501	"	2	NW	low		
1503	"	1	SE	low		
1505	Pomarine Jaeger	1	SE	35'	dark breast, white belly	
1522	Wedge-tailed Shearwater	1	SE	low		
1530						

DATE 28 Sept 1964

Time at sunrise = Position at sunrise =
 Time at sunset = 1826 Position at sunset = 20-40.5 N 159-10 W
 Miles traveled from 0000 hours to sunrise =
 Miles traveled from ^{PEARL HARBOR} sunrise to sunset = 87
 Miles traveled from sunset to 2400 hours = 52

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	1032	VISUAL	157-59 W	21-13.5 N
2.	1130	VIS + RADAR	158-03 W	21-06 N
3.	1318	LORAN	158-18 W	21-00 N
4.	1707	LORAN	158-56 W	20 46 N
5.	1941	LORAN	159-19 W	20-36 N
6.	2241	LORAN	159-48 W	20-26.5 N

DATE 29 Sept 1964

Time at sunrise = 0630 Position at sunrise = 20-06 N 160-54 W
 Time at sunset = 1840 Position at sunset = 19-30.0 N 162-17.0 W
 Miles traveled from 0000 hours to sunrise = 53
 Miles traveled from sunrise to sunset = 86
 Miles traveled from sunset to 2400 hours = 49

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0707	LORAN	160-59 W	20-04.5 N
2.	0740	LORAN	161-04 W	20-02.0 N
3.	0810	LORAN	161-24 W	19-53.5 N
4.	1137	LORAN	161-36 W	19-49.5 N
5.	1335	LORAN	161-50 W	19-43.0 N
6.	1940	LORAN	162-26 W	19-27.0 N

25

DATE 30 Sept 1964

Time at sunrise = ~~0647~~ Position at sunrise = 18-58.0N 163-53.0W
Time at sunset = 1850 Position at sunset = 17-53.0N 165-17.0W
Miles traveled from 0000 hours to sunrise = 52
Miles traveled from sunrise to sunset = 106
Miles traveled from sunset to 2400 hours = 46

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0800	LORAN	164-01.0W	18-56.0N
2.	0933	LORAN	164-14W	18-51N
3.	1010	LORAN	164-19.5W	18-47.5N
4.	1115	LORAN	164-27.0W	18-40.0N
5.	1400	LORAN	164-41.0W	18-27.0N
6.	1905	LORAN	165-18.0W	17-51.0N

DATE 1 OCT 64

Time at sunrise = 0702 Position at sunrise = 16-32.0N 166-39.0W
Time at sunset = ~~1901~~ Position at sunset = 15-29.0N 167-42.0W
Miles traveled from 0000 hours to sunrise = 65
Miles traveled from sunrise to sunset = 88
Miles traveled from sunset to 2400 hours = 51

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0740	LORAN	166-40.0W	16-30.0N
2.	1020	LORAN	166-56.0W	16-14.0N
3.	1115	LORAN	167-05.0W	16-06.0N
4.	1445	LORAN	167-30.0W	15-41.0N
5.	1907	LORAN	167-45.0W	15-24.0N
6.	2135	LORAN	168-02.0W	15-08.0N

DATE 7 Oct 64

Time at sunrise = 0706 Position at sunrise = 14-06.0N 169-10.0W
Time at sunset = 1906 Position at sunset = 15-08.0N 169-37.0W
Miles traveled from 0000 hours to sunrise = 68
Miles traveled from sunrise to sunset = 105
Miles traveled from sunset to 2400 hours = 38

	<u>TIME OF FIX</u>	<u>TYPE OF FIX</u>	<u>LONGITUDE</u>	<u>LATITUDE</u>
1.	0734	LORAN	169-12.0W	14-04.0N
2.	0945	LORAN & CEL	169-25.0W	13-55.0N
		LORAN & CEL	169-27.5W	13-53.0N
3.	1100		169-32.0W	14-00.0N
4.	1130	LORAN & CEL	169-34.0W	14-49.0N
5.	1605	LORAN & CEL	169-37.0W	15-14.0N
6.	1940	CELESTIAL		

DATE 30 Oct 64

Time at sunrise = 0705 Position at sunrise = 16-35 N 169-32 W
Time at sunset = 1914 Position at sunset = 14-55 N 170-10 W
Miles traveled from 0000 hours to sunrise = 68
Miles traveled from sunrise to sunset = 108 *37 miles in gulf*
Miles traveled from sunset to 2400 hours = 46 *inland gulf*

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0650	VISUAL	169-31W	16-38 N
2.	0920	LORAN + CEL	169-35W	16-17 N
3.	1102	" "	169-40W	16-02 N
4.	1647	" "	169-58 W	15-08 N
5.	1933	CELESTIAL	170-11 W	14-57 N
6.				

DATE 4 Oct 64

Time at sunrise = 0708 Position at sunrise = 15-23 N 169-40 W
Time at sunset = 1913 Position at sunset = 14-32 N 171-13 W
Miles traveled from 0000 hours to sunrise = 63
Miles traveled from sunrise to sunset = 118
Miles traveled from sunset to 2400 hours = 58

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0630W	CELESTIAL	169-37W	15-21.0N
2.	0917W	LORAN + CEL	169-58W	15-31.0N
3.	1022W	LORAN + CEL	170-16W	15-29.0N
4.	1510W	LORAN + CEL	170-49W	14-58.0N
5.	1704W	LORAN + CEL	170-54W	14-54.0N
6.	1930W	CELESTIAL	170-17W	14-27.0N

DATE

5 Oct 64

Time at sunrise = 0721 Position at sunrise = 13-41.0N 172-47W
 Time at sunset = 1915 Position at sunset = 14-44.0N 172-28W
 Miles traveled from 0000 hours to sunrise = 64
 Miles traveled from sunrise to sunset = 80
 Miles traveled from sunset to 2400 hours = 53

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0700	CELESTIAL	172-45W	13-40.0N
2.	0921	LORAN + CEL	172-51W	13-57.0N
3.	1115	LORAN + CEL	172-57W	14-04.0N
4.	1335	" "	172-38.0W	14-21.0N
5.	1642	" "	172-33.0W	14-38.0N
6.	1940	CELESTIAL	172 ² -25.0W	14-47.0N

DATE

6 Oct 64

Time at sunrise = 0704 Position at sunrise = 16-03.0N 171-09.0W

Time at sunset = 1914 Position at sunset = 16-12.0N 171-50.0W

Miles traveled from 0000 hours to sunrise = 67

Miles traveled from sunrise to sunset = 98

Miles traveled from sunset to 2400 hours = 35

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0645	CELESTIAL	171-09.0W	16-03.0N
2.	1130	CEL + LORAN	170-50.0W	16-24.0N
3.	1518	" "	171-23.0W	16-34.0N
4.	1940	CELESTIAL	171-53.0W	16-10.0N
5.				
6.				

DATE

7 Oct 64

Time at sunrise = 0720 Position at sunrise = 14-57.0N 173-16.0W
 Time at sunset = 1920 Position at sunset = 15-24.0N 173-59.0W
 Miles traveled from 0000 hours to sunrise = 65
 Miles traveled from sunrise to sunset = 104
 Miles traveled from sunset to 2400 hours = 39

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0700	CEL + LORAN	173-11.0W	15-00.0N
2.	0945	" "	173-27.0W	14-45.0N
3.	1320	" "	173-46.0W	14-43.0N
4.	1507	" "	174-00.0W	14-55.0N
5.	1953	CELESTIAL	173-55.0W	15-27.0N
6.				

DATE

8 Oct 64

Time at sunrise = 0722 Position at sunrise = 16-34.0N 172-49.0W
 Time at sunset = 1906 Position at sunset = 16-55.0N 171-38.0W
 Miles traveled from 0000 hours to sunrise = 58
 Miles traveled from sunrise to sunset = 75
 Miles traveled from sunset to 2400 hours = 32

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0700	CEL + LORAN	172-52.0W	16-32.0N
2.	1058	CEL + LORAN	172-32.0W	16-45.0N
3.	1628	" "	171-52.0W	16-56.0N
4.	1724	" "	171-44.0W	16-55.0N
5.	1930	" "	171-35.0W	16-55.0N
6.				

DATE 9 Oct 64

Time at sunrise = 0711 Position at sunrise = 16-58.0N 170-18.0W
Time at sunset = 1855 Position at sunset = 17-17.0N 168-42.0W
Miles traveled from 0000 hours to sunrise = 46
Miles traveled from sunrise to sunset = 96
Miles traveled from sunset to 2400 hours = 50

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0650	Celestial	170-20.0W	16-57.0N
2.	0948	Loran	169-59.0W	16-58.0N
3.	1125	Radar	169-46.0W	16-54.0N
4.	1340	Radar	169-28.0W	16-58.0N
5.	1920	Celestial	168-37.0W	17-18.0N
6.				

DATE 10 Oct 64

Time at sunrise = 0700 Position at sunrise = 18-00.0N 166-46.0W
Time at sunset = 1841 Position at sunset = 18-36.0N 165-11.0W
Miles traveled from 0000 hours to sunrise = 69
Miles traveled from sunrise to sunset = 96
Miles traveled from sunset to 2400 hours = 51

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0635	Celestial	166-49.0W	17-58.0N
2.	0935	CEL + LORAN	166-23.0W	18-08.0W
3.	1020	"	166-15.0W	18-11.0W
4.	1107	"	166-05.0W	18-15.0W
5.	1910	Celestial	165-07.0W	18-37.0W
6.				

DATE

11 Oct 64

Time at sunrise = 0646 Position at sunrise = 19-11.0N 163-18.0W
 Time at sunset = 1826 Position at sunset = 19-50.0N 161-24.0W
 Miles traveled from 0000 hours to sunrise = 65
 Miles traveled from sunrise to sunset = 112
 Miles traveled from sunset to 2400 hours = 57

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0630	Celestial	163-18.0W	19-09.0W
2.	0940	CEL + LORAN	162-49.0W	19-22.0W
3.	1115	" "	162-34.0W	19-27.0W
4.	1234	" "	162-17.0W	19-34.0W
5.	1450	" "	161-58.0W	19-37.0W
6.	1900	Celestial	161-17.0W	19-51.0W

DATE

12 Oct 64

Time at sunrise = 0616 Position at sunrise = 20-29.0N 159-20.0W
 Time at sunset = Position at sunset =
 Miles traveled from 0000 hours to sunrise = 65
 Miles traveled from sunrise to sunset ^{PH} = 93
 Miles traveled from sunset to 2400 hours = —

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0605	CELESTIAL	159-26W	20-29 N
2.	0925	LORAN	158-53W	20-49.0N
3.	1100	VIS + RD	158-38.0W	20-53N
4.	1242	VIS + RD	158-18.0W	21-00.0N
5.	1314	VIS + RD	158-15.0W	21-03.0W
6.				

DATE 28 SEPTEMBER 1964 (W)

25
10 knots

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMP.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED	DIR.	HEI- GHT	PER.		
0100																		
0200																		
0300																		
0400																		
0500																		
0600																		
0700																		
0800																		
0900																		
1000	21° 13'	158° 10'																
1100	21° 01'	158° 14'																
1200	21° 05'	158° 17'																
1300	21° 01'	158° 20'																
1400	21.0 20-57	158.1 23	.3	CU/AS	2000			10	81.0	73.0	69	070	22	080	03	06	.25	79.0
1500	20° 53'	158° 35'	.3	CU/AC	2000			10	81.0	72.0	64	063	20	070	03	06	.2	79.0
1600	20° 50'	158° 41'	.3	CU	2000			10	84.0	76.0	69	063	20	070	03	06	.2	79.0
1700	20° 45'	158° 55'	.2	CU	2000			10	86.0	76.0	63	071	15	070	03	06	.15	79.0
1800	20° 41'	157° 04'	.2	CU	2000			10	85.0	75.0	63	062	10	060	03	06	.55	79.0

DATE 28 SEPTEMBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	HEI- GHT	PER		
1900	20° 37'	159° 15'	.2	CU	2000		10	84.0	74.0	62	078	16	060	03	06	.55	79.0	
2000	20° 32'	159° 23'	.3	CU	2000		10	82.0	73.0	65	098	19	080	03	06	.5	79.0	
2100			.3	CU	2000		10	80.0	72.0	68	069	27	060	03	06	.2	78.0	
2241 2200	20-26	159-48	.3	CU	2000		10	80.0	72.0	68	070	26	060	03	06	.15	77.0	
2300			.3	CU=	2000		10	80.0	72.0	68	070	21	060	03	06	.5	77.0	
2400			.3	CU	2000		10	80.0	71.0	64	070	21	060	03	06	.5	79.0	

REMARKS:

DATE

29 SEPTEMBER 1964 (W)

230
8 knots

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED	DIR.	HGT	PER.		
0100			.3	CU	2000			10	81.0	72.0	64	070	21	060	03	06	.15	79.0
0200	20.5	160.2	.3	CU	2000			10	81.0	72.0	64	070	22	080	03	06	.1	79.0
0300	20.5	60.15	.4	CU/AC	2000			10	81.0	72.0	64	070	21	060	03	06	.5	79.0
0400	20.4	60.28	.6	CU/AC	2000			10	80.0	72.0	68	080	17	055	03	06	.15	79.0
0500	20.3	60.45	.6	CU/AC	2000			10	80.0	73.0	72	076	14	060	03	06	.5	79.0
0600	20.2	60.55	.6	CU/AC	2000			10	82.0	74.0	75	074	16	060	03	06	.8	78.0
0700	20.4	60.59	.6	CU/AC	2000			10	79.0	72.0	71	064	23	060	06	09	.4	79.0
0800	20.1	161.0	.9	CF/AC/ CI	1800			10	77.0	71.0	75	064	21	060	06	09	.4	79.0
0900	19.59	61.14	.7	CF/AC/ CI	1800			10	83.0	74.0	69	068	18	060	06	09	.15	79.0
1000	19.53	61.23	.7	CF/AC/ CI	1800			10	83.0	74.0	69	068	18	060	06	09	.8	79.0
1100	19.51	61.31	.7	CU/AC/ CI	2000			10	84.0	74.0	62	060	15	060	06	09	.8	79.0
1200	19.46	61.39	.7	CU/AC CI	2000			10	84.0	74.0	62	060	15	060	06	09	.8	78.0
1300	19.41	61.47	.7	CU/AC/ CI	2000			10	85.0	75.0	63	060	15-	060	06	09	.75	78.0
1400	19. ³⁸ 5	161. ⁵⁵ 7	.9	CU/AC	2000			10	84.0	74.0	62	064	15	070	04	08	.75	78.0
1500	19.35	62.02	.6	CU/AC	2000			10	84.0	74.0	62	064	15	070	04	08	.6	78.0
1600	19.32	62.09	.6	CU/AC	2000			10	84.0	72.0	55	064	12	070	04	08	.65	78.0
1700	19.29	62.16	.6	CU/AC	2000			10	84.0	72.0	55	076	11	070	04	08	.7	79.0
1800	19.26	62.21	.6	CU/AC	2000			10	83.0	72.0	63	082	11	070	04	08	.7	79.0

DATE 29 SEPTEMBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES WX.	VIS.	TEMPERATURE			WIND, SEC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT			D.B.	W.B.	R.H.	DIR.	SPEED	DIR.	PER- CENT	PER		
1900	19.26	162.26	.6	CU/AC	2000		10	82.0	70.0	69	070	8	070	04	08	.8	79.0
2000	19. ²⁵ 26	162.5	.8	CU/AC	2000		10	82.0	70.0	69	085	17	070	04	08	.8	79.0
2100			.7	CU/AC	2000		10	82.0	70.0	69	085	17	070	04	08	.8	79.0
2200			.7	CU/AC	2000		10	80.0	70.0	61	075	16	070	04	08	.8	79.0
2300			.7	CU/AC	2000		10	80.0	73.0	72	060	16	070	04	08	.6	79.0
2400			.7	CU/AC	2000		10	80.0	73.0	72	060	16	070	04	08	.35	79.0

REMARKS:

DATE 30 SEPTEMBER 1964 (W)

25°
9 knots

TIME	LAT.	LONG.	SKY CONDITION			PRES WK.	VIS.	TEMPERATURE			WIND DIR.	SFC. W.S. SPEED	SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT			D.B.	W.B.	R.H.			DIR.	HGT	PER		
0100			.6	CU/AC	2000		10	80.0	72.0	68	060	17	070	04	08	.3	79.0
0200	19.1	163.3	.6	CU/AC	2000		10	80.0	72.0	68	070	17	070	04	08	.65	79.0
0300	19.1	163.14	.6	CU/AC	2000		10	80.0	72.0	68	070	15	070	04	08	.5	79.0
0400	19.1	163.24	.6	CU/AC	2000		10	83.0	71.0	55	067	16	060	04	08	.6	79.0
0500	19.1	163.0	.6	CU/AC	2000		10	82.0	71.0	55	103	19	060	04	08	.7	79.0
0600	19.1	163.44	.6	CU/AC	2000		10	80.0	70.0	61	084	15	055	04	08	.7	79.0
0700	19.1	163.54	.6	CU/AC	2000		10	78.0	71.0	71	085	21	060	04	08	.7	79.0
0800	19.1 18.56	162.3 164.01	.9	CF/CU	2000	R	10	81.0	74.0	72	090	23	070	05	08	.75	79.0
0900	18.52	164.10	.7	CU/AC	2000		10	83.0	75.0	69	081	17	070	05	08	.75	79.0
1000	19.47	164.19	.4	CU/AC	2000		10	81.0	74.0	72	081	20	070	05	08	.5	79.0
1100	18.40	164.25	.4	CU/AC	2000		10	80.0	74.0	75	075	24	060	05	08	.4	79.0
1200	18.35	164.30	.4	CU/CI	2000		10	80.0	74.0	75	075	24	060	05	08	1.0	80.0
1300	18.31	164.35	.4	CU/CI	2000		10	80.0	74.0	75	072	24	060	05	08	.8	80.0
1400	18.6 18.27	164.0 164.41	.2	CU/CC	2000		10	80.0	73.0	72	073	19	080	06	08	.8	79.0
1500	17.57	164.46	.3	CU/CC	2000		10	80.0	72.0	68	072	21	060	06	08	.8	80.0
1600	17.51	164.51	.4	CU/CI	2000		10	84.0	73.0	59	064	13	040	05	08	.8	80.0
1700	17.38	164.56	.4	CU/CI	2000		10	84.0	72.0	55	070	16	080	04	08	.8	79.0
1800	17.27	165.06	.8	CF/CU	1000		10	83.0	72.0	55	070	18	080	04	08	.75	79.0

DATE 30 SEPTEMBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES WK.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT			D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	HGT FT	PER		
1900	17° 18	165.18	.8	CF/CU	1000		10	83.0	72.0	55	070	17	080	04	08	.5	79.0
2000	17.8	165.3 ²⁶	.8	CF/CU/AC	1000		10	79.0	75.0	83	070	17	080	05	08	.85	79.0
2100		165-32	.7	CF/CU/AC	1000		10	80.0	74.0	75	068	19	080	05	08	.8	79.0
2200		38	.8	CU/AC	2000		10	80.0	74.0	75	073	18	080	05	08	.8	79.0
2300		44	.8	CU/AC	2000		10	80.0	74.0	75	075	17	080	05	08	.8	79.0
2400		166-50	.8	CU/AC	2000		10	80.0	74.0	75	071	18	080	05	08	.75	79.0

REMARKS:

1 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	KTS. SPEED	DIR.	HGT. PER.			
0100		166.56	.6	ST	1800		10	78.0	70.0	67	070	9	080	05	08	.75	79.0	
0200	17.4	166.2	.8	CF/CU/AC	1000	LTNG & RW	10	79.0	74.5	81	090	15	080	05	08	.7	79.0	
0300	17.9	166.08	.8	CU	1800	RW	10	78.0	69.0	64	069	12	080	05	08	.7	80.0	
0400	16.55	166.15	.8	CU	1800	RW	10	77.0	70.0	70	045	15	080	05	08	.5	80.0	
0500	16.57	166.21	.8	CU	1800	RW	10	76.0	73.0	87	074	19	080	05	08	.4	80.0	
0600	16.40	166.29	.8	CU	1800		10	77.0	73.0	83	070	26	080	05	08	.8	79.0	
0700	16.35	166.35	.7	CU	1800		10	76.0	72.0	83	065	25	080	05	08	.85	79.0	
0800	16.28 16.5	166.42 166.5	.9	CF/AC	1500		10	77.0	72.6	81	050	22	070	05	08	.8	79.0	
0900	16.20	166.51	.2	CU	2500		10	82.0	76.0	76	086	18	070	03	06	.65	80.0	
1000	16.15	167.00	.1	CU	2000		10	82.0	75.0	72	094	18	070	03	06	.6	80.0	
1100	16.09	167.04	.1	CU	2000		10	82.0	75.0	72	086	18	070	03	06	.6	80.0	
1200	16.00	167.12	.2	CU	2000		10	82.0	75.0	72	084	19	070	03	06	.6	80.0	
1300	15.55	167.18	.2	CU	2000		10	82.0	75.0	72	066	23	070	03	06	.55	80.0	
1400	15.45 16.0	167.24 167.2	.7	CU/AC/CC	1800		10	81.5	76.0	77	110	11	070	03	06	.45	80.0	
1500	15.42	167.29	.2	CU	2000		10	82.0	75.0	72	083	18	070	03	06	.45	80.0	
1600	15.37	167.32	.2	CU	2000		10	82.0	75.0	72	074	17	070	03	06	.45	80.0	
1700	15.30	167.38	.2	CU	2000		10	82.0	75.0	72	074	16	070	03	06	.4	80.0	
1800	15.26	167.41	.3	CU	1800		10	82.0	75.0	72	074	22	070	03	06	.4	80.0	

DATE 1 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	HGT FT	PER.		
1900	15.22	167.44	.3	CU	1800		10	82.0	74.0	69	074	16	070	03	06	.4	80.0	
2000	15.4 15.18	167.8 167.87	.7	CU/AC/CS	1800		10	80.2	74.8	78	070	14	070	03	06	.4	79.0	
2100			.4	CU	2500		10	83.0	77.0	76	060	19	070	03	06	.4	79.0	
2200	15.00	168.00	.4	CU	2500		10	81.0	76.0	80	060	20	070	03	06	.4	79.0	
2300			.2	CU	2500		10	82.0	76.0	76	073	18	070	03	06	.4	79.0	
2400			.2	CU	2500		10	82.0	76.0	76	072	16	070	03	06	.4	79.0	

REMARKS:

DATE 2 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT			D.B.	W.B.	R.H.	DIR.	KTS. SPEED	DIR.	HEI - GHT	PER.		
0100			.2	CU/AC	2000		10	84.0	78.0	76	070	7	070	03	06	.4	80.0
0200	14.9	168.3	.4	CU/AC	2000		10	80.0	75.0	79	070	13	070	03	06	.4	79.0
0300			.2	CU/AC	2000		10	84.0	78.0	76	060	15	070	03	06	.4	80.0
0400			.6	CU	3000		10	81.0	77.0	84	061	14	070	03	06	.4	80.0
0500			.3	CU	2000		10	81.0	77.0	84	060	13	070	03	06	.4	80.0
0600			.2	CU	2000		10	81.0	77.0	84	074	15	070	03	06	.4	80.0
0700	14.06	169.10	.4	CU/CS	1800		10	81.0	77.0	84	082	13	070	03	06	.4	79.0
0800	14.02 13.9	169.15 169.4	.7	CU/CS	2000		10	79.0	77.0	90	070	15	070	03	06	.4	79.0
0900	13.58	169.20	.8	CU/	1800		10	81.0	77.0	84	080	12	070	03	06	.4	80.0
1000	13.53	169.25	.8	CU	1800		10	83.0	77.0	76	080	12	070	03	06	M	80.0
1100	13.55	169.27	.8	CU	1800		10	83.0	77.0	76	080	15	070	03	06	M	80.0
1200	14.05	169.32	.8	CU/CS	2000		10	82.0	77.0	81	066	11	070	03	06	M	80.0
1300	14.15	169.32	.8	CU/CS	2000		10	82.0	78.0	84	063	12	070	03	06	M	80.0
1400	14.26 14.1	169.33 169.4	.9	CU/CS	2000		10	82.0	78.0	84	090	14	070	03	06	M	79.0
1500	14.37	169.34	.8	CU/CS	2000		10	81.0	77.0	84	073	12	070	03	06	M	80.0
1600	14.47	169.34	.9	CU/CS	2000		10	81.0	77.0	84	076	14	070	03	06	.6	80.0
1700	14.55	169.35	.8	CU/CS	2000		10	81.0	77.0	84	076	15	070	03	06	.6	80.0
1800	15.03	169.35	.8	CU	2000		10	80.0	75.0	79	078	19	070	04	08	.6	80.0

DATE 2 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	REL- CHY	PER.		
1900	15.10	169.37	.8	Cu	2000		10	80.0	75.0	79	076	20	070	04	08	.6	80.0	
2000	15.5	169.5 37	.9	Cu/Cs	1800	RW	10	80.0	75.8	72	090	16	070	04	08	.6	79.0	
2100	15.22	38	.4	Cu/	1800		10	80.0	78.0	91	076	20	070	04	08	.6	79.0	
2200	15.30	37	.4	Cu	1800		10	80.0	78.0	91	075	18	070	04	08	.65	79.0	
2300	15.38	36	.4	Cu	1800		10	80.0	75.0	79	075	18	070	04	08	.7	79.0	
2400	15.46	35.3	.3	Cu	2000		10	80.0	75.0	79	086	15	070	04	08	.8	79.0	

REMARKS:

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 1 Oct 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700	16-32	166-39													22/08
0800	-27	-45													
0900	-21	-51													
1000	-16	-56													
1100	-10	67-02													
1200	-05	-06													
1300	15-59	-14													
1400	-53	-19													
1500	-47	-25													
1600	-41	-31													
1700	-36	-36													
1800	-32	-39													
1900	15-29	167-42													
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 2 Oct 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700	14-06	169-10													23/08
0800															
0900															
1000	12-55														
1100	13-53														
1200	14-06														32/08
1300															
1400															
1500															
1600															
1700															
1800															
1900	15-08	169-37													
2000	15	37													
2100	22	37													
2200	29	37													
2300	36	37													
2400	44	37													

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

DATE

3 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SFC. KTS. SPEED	DIR.	HGT. FT.	PER.		
0100	15-52	169-35	.3	Cu	2500		10	80.0	75.0	79	086	15	070	04	08	.75	80.0	
0200	15-50 15.8	169.36 169.6	.9	Cu/Cs	2000		10	80.0	74.0	77	090	17	070	04	08	.75	79.0	
0300	16-08	35	.4	Cu	3000		10	80.0	75.0	79	068	12	070	04	08	.8	80.0	
0400	16	34	.4	Cu	2500		10	80.0	75.0	79	062	16	070	04	08	.8	80.0	
0500	24	33	.4	Cu	2000		10	80.0	75.0	79	080	16	070	04	08	.8	80.0	
0600	16-30	69.33 69.3	.4	Cu	2000		10	80.0	75.0	79	078	18	070	04	08	.8	79.0	
0700	16-35	69.32	.4	Cu	2000		10	81.0	77.0	84	075	19	070	04	08	.75	79.0	
0800	16.27 16.5	169.33 169.6	1.0	CU/SC/AS/ CS	1500	RW	10	78.2	74.5	84	050	13	070	03	06	.6	80.0	
0900	16.19	69.34	.5	Cu	1800		10	81.0	77.0	84	070	19	070	03	06	.7	80.0	
1000	16.11	69.38	.5	Cu	1800		10	81.0	77.0	84	070	19	070	04	08	.75	79.0	
1100	16.02	69.40	.6	Cu	1800		10	81.0	77.0	84	070	17	070	04	08	.8	79.0	
1200	15.54	69.45	.6	Cu/Ci	1800		10	81.0	75.0	76	069	21	070	04	08	.8	79.0	
1300	15.46	69.48	.6	Cu/Ci	1800		10	81.0	75.0	76	069	21	070	04	08	.8	80.0	
1400	15.38	169.4 169.57	.4	Cu/Ac/Ci	2000		10	81.5	76.0	77	070	18	070	04	08	.75	79.0	
1500	15.30	69.54	.8	Cu/Ci	2000		10	81.0	75.0	76	069	10	070	04	08	.75	80.0	
1600	15.20	69.59	.8	Cu/Ci	2000		10	80.0	75.0	79	045	18	070	04	08	.65	80.0	
1700	15.08	70.00	.8	Cu/Ci	2000		10	81.0	76.0	80	050	19	070	04	08	.7	80.0	
1800	15.00	70.05	.8	Cu	1800		10	82.0	75.0	72	047	19	070	04	08	.6	80.0	

DATE 3 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED	DIR.	HEI- GHT	PER.		
1900	14.53	70.09	.8	Cu	1800		10	82.0	75.0	72	047	19	070	04	08	.8	80.0	
2000	14.4 ⁴⁶	170.14 ¹⁴	.3	Cu/Ac/Ci	2000		10	80.0	76.0	83	070	17	070	04	08	.55	79.0	
2100	14.4	170.	.6	Cu/Ci	2500		10	81.0	77.0	84	030	20	070	04	08	.55	80.0	
2200	14.2		.2	Cu/	2500		10	81.0	76.0	80	074	16	070	04	08	.6	80.0	
2300			.1	Cu	2500		10	81.0	76.0	80	087	14	070	04	08	.7	80.0	
2400			.2	Cu	3500		10	81.0	75.0	84	083	14	070	04	08	.75	80.0	

REMARKS:

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DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 3 Oct 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															36 / 09
0700	16-35	169-32													20 / 09
0800	-27	-33													
0900	16-19	169-34													
1000	-11	-37													
1100	16-02	169-40													
1200	-55	-43													
1300	-44	-46													
1400	-36	-49													
1500	-29	-52													
1600	-20	-54													
1700	15-10	169-56													
1800	-03	170-03													
1900	14-55	170-10													
2000	14-48	14													
2100	14-40	18													
2200	14-32	22													
2300															
2400															

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

4 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SFC. VIS. SPEED	DIR.	HEI. GHT	PER.		
1100			.2	Cu	3500		10	81.0	75.0	76	077	16	070	04	08	.7	80.0	
1200	14.7	169.8	.3	Cu/As/Cc	2000		10	79.0	74.0	79	090	14	070	04	08	.7	79.0	
1300	14.18	169.7	.2	Cu	3500		10	81.0	75.0	76	083	14	070	04	08	.7	80.0	
1400	14.29	169.8	.2	Cu	1800		10	81.0	75.0	76	050	19	070	04	08	.7	80.0	
1500	14.40	169.8	.2	Cu	1800		10	81.0	75.0	76	050	19	070	04	08	.7	80.0	
1600	14.51	169.7	.8	Cu	1800	RW	10	81.0	75.0	76	045	18	070	04	08	.7	80.0	
1700	14.58	169.7	.7	Cu	1800	RW	10	81.0	75.0	76	045	18	070	04	08	.75	80.0	
1800	15.4	169.7	.4	Cu	2000		10	79.2	75.5	83	080	17	070	04	08	.75	80.0	
1900	15.4	169.17	.2	Cu	2000		10	82.0	76.0	76	086	18	070	04	08	.8	80.0	
2000	15.4	169.25	.2	Cu	2500		10	82.0	75.0	72	094	18	070	04	08	.8	80.0	
2100	15.4	169.31	.1	Cu	2000		10	82.0	75.0	72	090	19	070	04	08	.8	80.0	
2200	15.4	169.42	.1	Cu	2000		10	82.0	75.0	72	084	19	070	04	08	.75	80.0	
2300	15.4	169.53	.2	Cu	2000		10	82.0	75.0	72	066	22	070	04	08	.75	80.0	
2400	15.4	170.3	.5	Cu/Ci	2000		10	81.5	76.0	77	070	18	070	04	08	.7	80.0	
2500	14.55	170.13	.2	Cu	2000		10	82.0	75.0	72	083	19	070	04	08	.65	80.0	
2600	14.46	170.25	.2	Cu	2000		10	82.0	75.0	72	074	17	070	04	08	.65	80.0	
2700	14.37	170.37	.2	Cu	2000		10	82.0	75.0	72	074	16	070	04	08	.5	80.0	
2800	14.25	170.49	.3	Cu	1800		10	82.0	75.0	72	074	22	070	04	08	.55	80.0	

DATE 4 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	HGT	PER.		
1900	14.16	70.55	.3	Cu	1800		10	82.0	78.0	82	074	16	070	04	08	.5	80.0	
2000	14.7	171.1	.5	Cu/Ci	1800		10	81.0	75.6	78	070	19	070	04	08	.5	80.0	
2100	14.2 ⁶⁰	71.3	.4	Cu	2500		10	83.0	77.0	76	060	20	070	04	08	.55	79.0	
2200	14.1 ⁵⁰	71.6	.4	Cu	2500		10	81.0	76.0	80	060	20	070	04	08	.55	79.0	
2300	15.50 #		.2	Cu	2500		10	82.0	76.0	76	073	18	070	04	08	.55	m79.0	
2400	15.45		.2	Cu	2500		10	82.0	76.0	76	072	16	070	04	08	.55	80.0	

REMARKS:

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 4 Oct.

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100																
0200																
0300																
0400																
0500																
0600																
0700	15-23	169-40														31 / 10
0800	26	48														"
0900	15-31	169-56														22 / 10
1000	30	170-08														
1100	24	16														
1200	18	24														
1300	12	32														
1400	06	40														
1500	15-00	170-49														
1600	14-57	54														
1700	14-54	170-57														
1800	44	171-03														
1900	14-33	171-12														
2000	26	16														
2100	20	20														07
2200	14	24														
2300	07	26														
2400	14-00	36														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

DATE 5 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA SURF			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT			D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	PER	HT		
0100	13.20		.3	CU	1800		10	82.0	76.0	76	072	16	070	08	04	.55	80.0
0200	13.8 ¹⁰	171.9	.4	CU/CI	2000		10	80.0	75.0	79.	070	18	070	08	04	.55	80.0
0300	13.8 ⁰⁰	170.57	.3	CU	2500		10	81.0	77.0	84	061	18	070	08	04	.55	80.0
0400	13.8 ⁰⁰	170.44	.2	CU	2000		10	81.0	77.0	84	061	17	070	08	04	.55	80.0
0500	13.8 ⁰⁷	170.31	.2	CU	2000		10	81.0	77.0	84	056	24	070	08	04	.6	80.0
0600	13.7	170.18	.2	CU	2000		10	81.0	77.0	84	055	27	070	08	04	.8	80.0
0700	13.7	170.13	.2	CU	1200		10	81.0	77.0	84	055	27	070	08	04	.75	80.0
0800	13.7	170.7	.8	CU/CI	1800	RW	10	79.5	76.0	85	070	22	070	08	04	.58	80.0
0900	13.16	170.20	.6	CU	2000		10	84.0	77.0	73	089	15	070	08	04	.79	80.0
1000	13.27	170.33	.7	CU	2000		10	84.0	77.0	73	089	15	070	08	04	.81	80.0
1100	13.38	170.46	.7	CU	2000		10	84.0	77.0	73	045	28	070	08	04	.76	80.0
1200	13.49	170.59	.7	CU/CI	2000		10	81.0	76.0	80	080	18	070	08	04	.75	80.0
1300	13.57	171.03	.6	CU/CI	2000		10	81.0	76.0	80	080	18	070	08	04	.70	80.0
1400	14.1	172.8	.8	SC/CI	2000		10	81.0	76.5	81	070	17	070	08	04	.78	80.0
1500	14.2	171.17	.6	CU/CI	2000		10	82.0	86.0	76	080	18	070	08	04	.65	80.0
1600	14.3	171.28	.4	CU/CI	2000		10	82.0	76.0	76	045	15	070	08	04	.68	80.0
1700	14.4	171.40	.4	CU/CI	2000		10	82.0	76.0	76	075	11	070	08	04	.65	80.0
1800	14.5	171.52	.4	CU/CI	2000		10	82.0	76.0	76	075	11	070	08	04	.68	80.0

DATE 5 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA		OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED	DIR.	PER X HT. X		
1900	14.6	71.57	.4	CU/CI	1800		10	82.0	76.0	76	055	14	070	08	04	.68	80.
2000	14.8	172.2	.6	CF/AS/CI	1800		10	80.0	75.0	79	070	14	070	08	04	.80	80.
2100			.3	CU	3000		10	82.0	76.0	76	083	12	070	08	04	.80	80.0
2200			.3	CU	3000		10	83.0	75.0	69	063	13	070	08	04	.80	80.0
2300			.3	CU	3000		10	83.0	74.0	65	062	12	070	08	04	.80	80.0
2400			.3	CU	3000		10	83.0	74.0	65	091	6	070	08	04	.80	79.0

REMARKS:

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 5 Oct

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	13-55	32														
0200	50	35														
0300	45	37														
0400	40	35														
0500	35	41														
0600	35	43														
0700	13-40	172-45														21/07
0800	45	48														
0900	52	51														
1000	00	54														31/06
1100	14-04	172-57														3105/
1200	10	50														
1300	14-16	172-43														
1400	22	40														
1500	28	37														
1600	14-34	172-34														
1700	38	32														
1800	42	30														
1900	14-44	172-28														05/08
2000	54	27														
2100	15-05	14														
2200	14	07														
2300	24	172-00														
2400	27	53														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

DATE 6 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED	DIR.	PER. CH	HT. PER.		
0100			.3	CU	3000		10	83.0	74.0	65	088	13	070	08	04	.80	80.0	
0200	15.3	171.6	.4	CF/CI	1800		10	81.0	74.5	74	090	14	070	08	04	.70	80.0	
0300	15.4	71.6	.2	CU	3000		10	81.0	75.0	76	070	16	070	08	04	.80	80.0	
0400	15.5	71.5	.2	CU	1800		10	81.0	75.0	76	070	15	070	08	04	.70	80.0	
0500	15.6	71.5	.2	CU	1800		10	81.0	75.0	76	070	18	070	08	04	.75	80.0	
0600	15.7	71.4	.2	CU	1800		10	79.0	75.0	83	090	20	070	08	04	.80	80.0	
0700	15.8	71.3	.2	CU	1800		10	79.0	75.0	83	080	20	070	08	04	.85	80.0	
0800	15.9	171.2	.5	CU/CI	1800		10	80.2	73.8	74	070	14	070	08	03	.80	80.0	
0900	15.17	70.55	.2	CU/CI	2200		10	81.0	75.0	76	068	13	070	08	03	.85	80.0	
1000	15.28	70.43	.2	CU/CI	2200		10	81.0	75.0	76	068	13	070	08	03	1.20	80.0	
1100	15.39	70.36	.3	CU/CI	2200		10	81.0	75.0	76	068	13	070	08	03	1.18	80.0	
1200	15.47	70.24	.2	CU/CI	2200		10	81.0	75.0	76	060	20	070	08	03	.65	80.0	
1300	15.56	70.15	.2	CU/CI	2000		10	81.0	75.0	76	077	21	070	08	03	.65	80.0	
1400	16.4	170.8	.3	CU/CI	2000		10	81.5	75.8	77	070	19	070	08	05	.70	80.0	
1500	16.4	70.18	.2	CU/CI	2000		10	81.0	74.0	72	079	17	070	08	05	.60	80.0	
1600	16.3	70.27	.7	CU	1800		10	81.0	74.0	72	075	10	070	08	05	.60	80.0	
1700	16.3	70.38	.2	CU	1800		10	81.0	74.0	72	078	9	070	08	05	.60	80.0	
1800	16.2	70.49	.3	CU/CI	2000		10	82.0	75.0	72	077	14	070	08	05	.55	80.0	

DATE 6 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA		OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	PER. X		
1900	14.2	70 58	.3	CU/CI	2000		10	82.0	75.0	72	060	15	070	08	05	.50	80.0
2000	16.1	171.8	.3	CU/CI	2000		10	81.0	74.5	74	070	17	070	08	05	.50	80.0
2100	16.1	71.8	.3	CU	2000		10	82.0	75.0	72	069	17	070	08	05	.50	80.0
2200			.3	CU	2000		10	82.0	75.0	72	074	16	070	08	05	.50	80.0
2300			.3	CU	2000		10	82.0	75.0	72	070	17	070	08	05	.50	80.0
2400			.3	CU	2000		10	82.0	75.0	72	070	17	070	08	05	.45	80.0

REMARKS:

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 6 Oct 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	15-33	171-47														05/08
0200	38	40														
0300	43	33														
0400	48	27														
0500	53	21														
0600	58	15														
0700	16-03	171-09														05/08
0800	08	171-04														
0900	13	170-59														
1000	18	170-54														
1100	16-23	170-47														
1200	28	170-54														32/08
1300	30	171-04														
1400	32	14														
1500	16-33	171-24														22/08
1600	27	30														
1700	23	36														
1800	18	42														
1900	16-13	171-49														
2000	08	171-56														
2100	16-03	172-01														
2200	15-58	172-08														
2300	50	15														
2400	42	22														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

DATE 7 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	PER. ^{PER.}	HT. ^{HT.}		
0100			.8	CU/CI	1800			10	82.0	77.0	80	070	17	070	08	05	.40	80.0
0200	16.4	173.6	.8	CU/CI	1800			10	80.0	75.8	82	070	17	070	08	05	.45	80.0
0300	15.55	73.5	.9	CU	1800	R		10	81.0	75.0	76	075	18	070	08	05	.45	80.0
0400	15.44	73.4	1.0	ST	1000			10	79.0	75.0	83	087	15	070	08	05	.40	80.0
0500	15.31	73.3	1.0	ST	1200			10	79.0	75.0	83	080	10	070	08	05	.45	81.0
0600	15.24	73.2	.6	ST/CU	1900			10	80.0	76.0	83	081	18	070	08	05	.50	81.0
0700	15.14	73.1	1.0	CU	1900			10	81.0	75.0	76	068	16	070	08	05	.50	81.0
0800	15.2	173.0	.9	CU/AC	1500			10	80.0	75.6	81	070	17	070	08	05	.50	80.0
0900	14.54	73.1	1.0	ST	1500			10	81.0	75.0	76	060	14	070	08	05	.55	81.0
1000	14.41	73.2	1.0	ST	1500	R		10	81.0	75.0	76	055	13	070	08	05	.40	81.0
1100	14.30	73.3	1.0	ST	1500			10	81.0	75.0	76	076	19	070	08	05	.50	81.0
1200	14.21	73.4	1.0	CU	1900			10	81.0	75.0	76	072	25	070	08	05	.55	81.0
1300	14.10	73.5	1.0	CU	1900			10	81.0	75.0	76	072	25	070	08	05	.55	81.0
1400	14.6	173.7	.9	SC/AC	2000			10	83.0	77.5	79	090	22	080	08	04	.50	81.0
1500	14.16	73.18	.8	CU	1800			10	81.0	75.0	76	072	25	080	08	04	.50	81.0
1600	14.27	73.27	.7	CU	1800			10	81.0	75.0	76	072	25	080	08	04	.50	81.0
1700	14.38	73.39	.6	CU	1800			10	81.0	75.0	76	070	27	080	08	04	.50	81.0
1800	14.49	73.47	.7	CU/CI	2000			10	82.0	76.0	76	079	13	080	08	04	.50	81.0

DATE 7 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA		OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	PER HT		
1900	14.55	73.55	.8	CU/CI	2000		10	82.0	76.0	76	079	14	080	08	04	.80	81.0
2000	15.3	174.1	.9	CU/CI	2000		10	81.0	75.2	77	090	15	070	08	04	.50	81.0
2100			.5	CU/CI	2000		10	81.0	75.0	76	078	21	070	08	04	.35	80.0
2200			.4	CU/CI	2000		10	81.0	75.0	76	076	22	070	08	04	.40	80.0
2300			.4	ST	1500	R	10	81.0	75.0	76	070	19	070	08	04	.40	80.0
2400			.2	CU	2000		10	81.0	75.0	76	070	20	070	08	04	.40	80.0

REMARKS:

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 7 Oct 64

ME

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	36	29													22 / 10
0200	30	36													
0300	24	43													
0400	18	50													
0500	12	57													
0600	06	04													22 / 10
0700	15-00	173-11													22 / 10
0800	14 54	16													22 / 10
0900	49	21													22 / 10
1000	14-44	173-28													27 / 06
1100	44	33													27 / 06
1200	43	38													27 / 06
X 1300	14-43	173-45													31 / 10
1400	49	55													31 / 10
1500	14-55	174-00													31 / 10
1600	15-01	174-00													35 / 06
1700	07	174-00													35 / 06
1800	12	173-58													34 / 06
1900	20	173 56													34 / 06
2000	15-27	173-55													
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

DATE 8 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE		OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	PER. HT.		
0100			.3	CU	2000		10	81.0	75.0	76	070	20	070	08	04	.40	80.0
0200	16.9	173.4	.4	CU/CI	2000		10	80.5	75.0	78	070	16	070	08	04	.35	81.0
0300	16.9	172.53	.5	CU	2000		10	81.0	75.0	76	070	23	070	08	04	.35	80.0
0400	16.8	172.41	.2	CU	2000		10	81.0	75.0	76	082	14	070	08	04	.45	81.0
0500	16.8	172.30	.2	CU	2300		10	81.0	75.0	76	063	20	070	08	04	.35	81.0
0600	16.7	172.22	.3	CU	2300		10	81.0	75.0	76	063	20	070	08	04	.40	81.0
0700	16.6	172.16	.9	CU	2000		10	81.0	75.0	76	095	25	070	08	04	.50	80.0
0800	16.6	172.4	.9	CU/AC	1500		10	78.5	75.0	85	110	20	070	08	04	.40	80.0
0900	16.6	172.4	.3	SC/AC/CI	2000		10	79.0	76.0	87	098	20	070	08	04	.50	81.0
1000	16.6	172.4	.6	SC	2000		10	80.0	76.0	83	098	20	070	08	04	.50	79.0
1100	16.7	172.4	.6	SC	2000		10	80.0	76.0	83	104	22	070	08	04	.50	80.0
1200	16.7	172.3	.8	SC	2000		10	80.0	76.0	83	070	12	070	08	04	.35	80.0
1300	16.8	172.3	.9	SC	2000		10	80.0	76.0	83	081	19	070	08	04	.35	80.0
1400	16.8	172.3	.8	CU/AS/CS	2000	R	10	81.4	74.8	74	070	12	070	08	04	.35	80.0
1500	16.8	171.52	.9	SC	2000		10	80.0	76.0	83	071	15	070	08	04	.40	80.0
1600	16.8	171.41	.9	SC	2000		10	80.0	76.0	83	070	14	070	08	04	.35	79.0
1700	16.8	171.30	.7	SC	2000		10	80.0	75.0	79	070	14	070	08	04	.40	79.0
1800	16.8	171.20	.8	CU/CI	2000		10	84.0	76.0	69	067	11	070	08	04	.45	79.0

DATE 8 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND		SEA			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	HT. X	HT. X		
1900	16.8	71.10	.8	CU/CI	2000		10	82.0	75.0	72	066	10	070	08	04	.50	80.0	
2000	16.8	171.5	.8	CU/AS/CS	2000	R	10	79.0	75.0	83	070	8	070	10	06	.50	80.0	
2100			.8	CU/CI	2000		10	82.0	75.0	72	043	17	070	10	06	.50	79.0	
2200			.8	CU/CI	2000		10	82.0	75.0	72	036	13	070	10	06	.50	79.0	
2300			.8	CU/CI	2000		10	82.0	75.0	72	041	19	070	10	06	.55	79.0	
2400			.8	CU	2000		10	82.0	75.0	72	042	18	070	10	06	.55	79.0	

REMARKS:

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DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 8 Oct 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100																
0200																
0300																
0400																
0500																
0600	16-24	172-58														
0700	16-33	172-52														
0800	36	46														04/09
0900	40	40														
1000	16-44	172-34														
1100	48	28														04/09
1200	50	22														
1300	52	16														
1400	54	10														
1500	56	172-03														
1600	16-57	171-56														09
1700	16-56	171-49														09/09
1800	55	42														"
1900	16-55	171-38														"
2000		32														
2100																
2200																
2300																
2400																

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

DATE 9 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES WX.	VIS.	TEMPERATURE			WIND		SEA STATE		OZONE PPHM	SEA TEMP	
			TOTAL AMT.	TYPE	LOWEST HEIGHT			D.B.	W.B.	R.H.	DIR.	SFC. LBS. SPEED	DIR.	PER X HT. HT.			
0100			.6	CU	2100		10	81.0	75.0	75	040	19	070	08	04	.50	80.0
0200			.7	CU	2100		10	81.0	75.0	75	077	14	070	08	04	.55	80.0
0300			.3	CU	2100		10	81.0	75.0	75	077	14	070	08	04	.50	80.0
0400			.3	CU	2500		10	81.0	75.0	75	068	11	070	08	04	.50	79.0
0500			.2	CU	2500		10	81.0	75.0	75	068	12	070	08	04	.55	80.0
0600	58	25	.4	CU	2000		10	81.0	74.0	72	068	11	070	08	04	.50	80.0
0700	16-58	170-18	.4	CU/CI	2000		10	81.0	74.0	72	034	12	070	08	04	.50	80.0
0800	16-58	170-11	.5	CU/CI	2000		10	81.0	74.0	72	033	15	070	08	04	.50	80.0
0900	16-58	170-04	.5	CU/CI	2000		10	81.0	74.0	72	039	16	070	08	04	.55	80.0
1000	16-57	169-58	.5	CU/CI	2000		10	81.0	74.0	72	038	19	070	08	04	.55	80.0
1100	16-55	169-48	.5	CU/CI	2000		10	81.0	74.0	72	030	14	070	08	04	.50	80.0
1200	16-56	169-40	.5	CU	2000		10	81.0	74.0	72	060	14	070	08	04	.50	80.0
1300	16-58	169-32	.5	CU	2000		10	81.0	74.0	72	060	14	070	08	04	.55	80.0
1400	17-01	169-24	.9	CU	2000		10	81.0	74.0	72	060	14	070	08	04	.50	80.0
1500	04	16	.8	CU/CI	2000		10	84.0	75.0	66	087	14	070	08	04	.50	79.0
1600	07	08	.8	CU/CI	2000		10	84.0	75.0	66	087	14	070	08	04	.50	79.0
1700	11	169-00	.8	CU/CI	2500		10	84.0	75.0	66	087	13	070	08	04	.50	79.0
1800	14	168-52	.8	CU/CI	2500		10	83.0	75.0	69	034	16	070	08	04	.55	79.0

86°
09°

86°
07°

DATE 9 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA		OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	PER. HT.		
1900	17-17	168-42	.7	CU/CI	2500		10	83.0	75.0	69	031	15	070	08	04	.55	79.0
2000	17.2 ¹⁸	168.6 ⁴⁸	.4	CU/AS	2000		10	79.8	74.0	76	070	13	070	06	03	.65	79.0
2100			.3	CU	2500		10	83.0	75.0	69	030	16	070	06	03	.65	79.0
2200			.3	CU	2500		10	83.0	75.0	69	034	16	070	06	03	.70	79.0
2300			.3	CU	2500		10	83.0	75.0	69	034	18	070	06	03	.70	79.0
2400			.3	CU	2500		10	83.0	75.0	69	047	15	070	06	03	.80	79.0

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070

DATE 10 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SFC. KTS. SPEED	DIR.	HEI- GHT	PER.		
0100			.3	CU	2500			10	81.0	75.0	75	047	14	070	03	06	.85	79.0
0200	17.6	167.7	.8	CU/AS	1800	RW		10	80.0	75.0	79	050	15	070	04	08	.95	79.0
0300	17.6	166.59	.3	CU	2500			10	81.0	75.0	75	047	17	070	04	08	.85	80.0
0400	17.7	166.48	.1	CU	2000			10	81.0	73.0	68	030	15	070	04	08	.70	79.0
0500	17.7	166.36	.1	CU	2000			10	81.0	73.0	68	030	15	070	04	08	.70	80.0
0600	17.8	166.25	.1	CU	2000			10	81.0	73.0	68	049	19	070	04	08	.70	79.0
0700	17.8	166.15	.1	CU	2000			10	81.0	73.0	68	049	19	070	04	08	.70	79.0
0800	17.9	166.6	.5	CU/CI	1500			10	79.4	73.0	73	070	14	070	04	08	.70	79.0
0900	17.20	165.55	.1	CU	2000			10	81.0	73.0	68	049	19	070	04	08	.80	79.0
1000	17.31	165.44	.1	CU	2000			10	81.0	73.0	68	045	17	070	04	08	.75	79.0
1100	17.40	165.33	.3	CU	2000			10	81.0	73.0	68	045	16	070	04	08	1.00	79.0
1200	17.52	165.24	.4	CU/CI	2000			10	81.0	74.0	72	049	15	070	04	08	1.00	80.0
1300	17.58	165.15	.5	CU/CI	2000			10	81.0	74.0	72	045	15	070	04	08	.90	80.0
1400	18.3	165.9	.8	CU/CI	2000			10	81.0	74.5	75	050	14	060	03	06	1.00	79.0
1500	18.3	165.8	.8	CU/CI	2000			10	81.0	74.0	72	050	12	060	03	06	1.00	80.0
1600	18.4	165.7	.7	CU/CI	2500			10	81.0	73.0	68	060	12	060	03	06	1.00	80.0
1700	18.4	165.6	.4	CU/CI	2500			10	81.0	73.0	68	060	12	060	03	06	1.00	80.
1800	18.5	165.4	.4	CU/CI	2500			10	81.0	73.0	68	060	12	060	03	06	1.00	80.0

DATE 10 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	HT	PER		
1900	18.6	165.3	.5	CU/CI	2500		10	81.0	73.0	68	060	14	060	03	06	1.00	80.0	
2000	18.7	165.1	.3	CU/AC	2000		10	79.0	72.5	73	070	13	060	03	06	1.00	79.0	
2100			.2	CU	2000		10	81.0	73.0	68	050	12	060	03	06	.90	80.0	
2200			.2	CU	2000		10	81.0	73.0	68	050	12	060	03	06	.95	80.0	
2300			.3	CU	2000		10	81.0	73.0	68	050	12	060	03	06	1.20	80.0	
2400			.2	CU	2000		10	81.0	73.0	68	053	13	060	03	06	1.20	80.	

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 10 Oct -64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600	17-57	56													04/10
0700	18-00	166-46													
0800	03	36													
0900	18-06	166-26													
1000	18-09	16													04/08
1100	18-14	06													
1200	17	165-59													
1300	20	51													
1400	23	43													
1500	26	35													
1600	29	28													
1700	31	21													
1800	34	14													
1900	18-37	165-07													
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

DATE 11 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED KTS.	DIR.	HEI-GHT	PER.		
0100			.2	CU	2000			10	81.0	73.0	68	053	13	060	03	06	1.15	80.0
0200	18.9	164.2	.7	CU/AC/CS	2000			10	78.5	72.0	73	070	14	060	03	06	1.00	79.0
0300	18.20	163.55	.2	CU	2500			10	81.0	73.0	68	053	13	060	03	06	1.00	80.0
0400	18.31	163.47	.2	CU	2000			10	80.0	73.0	72	035	15	060	03	06	1.05	79.0
0500	18.40	163.35	.2	CU	2000			10	79.0	73.0	75	020	15	060	03	06	1.00	79.0
0600	18.52	163.24	.4	CU	2000			10	79.0	73.0	75	033	15	060	03	06	1.00	79.0
0700	18.57	163.14	.4	CU	2000			10	77.0	73.0	82	032	15	060	03	06	1.00	79.0
0800	19.2	163.2	.3	CU	3000			10	78.8	73.4	77	070	14	060	03	06	1.10	79.0
0900	19.2	162.50	.2	CU	1800			10	78.0	73.0	78	030	15	060	03	06	1.15	79.0
1000	19.3	162.41	.2	CU	1800			10	79.0	72.0	72	030	15	060	03	06	1.15	79.0
1100	19.3	162.32	.3	CU	1800			10	81.0	73.0	68	030	16	060	03	06	1.15	79.0
1200	19.4	162.25	.4	CU/AC	2500			10	81.0	73.0	68	060	15	060	03	06	1.15	79.0
1300	19.4	162.15	.4	CU/AC	2500			10	81.0	73.0	68	060	15	060	03	06	1.00	79.0
1400	19.5	162.5	.5	CU/AC	2000			10	80.0	72.5	70	050	14	060	04	06	1.00	79.0
1500	19.6	161.54	.3	CU/AC	2500			10	81.0	72.0	66	065	17	060	04	06	1.00	79.0
1600	19.7	161.43	.3	CU /AC	2500			10	80.0	72.0	68	060	17	060	04	06	1.00	79.0
1700	19.7	161.32	.2	CU	2500			10	80.0	72.0	68	060	17	060	04	06	1.00	79.0
1800	19.8	161.21	.6	CU	2500			10	80.0	72.0	68	044	16	060	04	06	1.00	79.0

DATE 11 OCTOBER 1964 (W)

TIME	LAT.	LONG.	SKY CONDITION			PRES	WX.	VIS.	TEMPERATURE			WIND, SFC.		SEA STATE			OZONE PPHM	SEA TEMP
			TOTAL AMT.	TYPE	LOWEST HEIGHT				D.B.	W.B.	R.H.	DIR.	SPEED	DIR.	HGT	PER.		
1900	19.8	161.2	.7	CU	2000		10	80.0	72.0	68	070	11	060	04	06	1.00	79.0	
2000	19.9	161.2	.4	CU/AC	2000		10	78.2	71.5	73	050	12	060	04	06	1.00	79.0	
2100			.6	CU	2000		10	80.0	72.0	68	070	11	060	04	06	1.00	79.0	
2200			.5	CU	2000		10	80.0	72.0	68	070	10	060	04	06	1.00	79.0	
2300			.4	CU	1800		10	80.0	72.0	68	070	13	060	04	06	1.00	79.0	
2400			.1	CU	2200		10	79.0	70.0	63	070	16	060	04	06	1.00	79.0	

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AT SEA CLIMATOLOGICAL DATA

DATE 11 Oct 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600	08	163-26													07/10
0700	19-12	163-16													
0800	16	06													
0900	20	162-56													
1000	19-23	162-46													
1100	19-27	162-36													
1200	19-32	162-26													
1300	36	162 16													
1400	37	162 06													
1500	19-38	161-56													
1600	41	46													
1700	44	36													
1800	48	26													
1900	19-51	161-17													
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 12 Oct 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600	20-29	159-26													07/11
0700	33	14													
0800	37	92													
0900	20-42	158-50													
1000	47	49													
1100	20-53	158-38													
1200	58	27													
1300	21-03	158-17													
1400	08	158-09													
1500	21-13	158-01													
1600	18	157-53													
1700															
1800															
1900															
2000															
2100															
2200															
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NOTES ON "STARBRITE" CRUISE FOR OCTOBER 1964

The USS GRANVILLE S.HALL departed Pearl Harbor at 0830 Monday 28 September 1964 with a small contingent of SHAD personnel. One Officer, four Chief Petty Officers and thirteen other enlisted filled out our complement. We met with nothing but good weather, interspersed with fairly occasional rain squalls throughout the voyage, and the warm semi-tropic sun of the Central Pacific erased many cases of "Pearl Harbor pallor."

The main purpose of the voyage, Avian Observation, was excellently fulfilled. Specimen collecting was well below usual in the case of USS G.S. HALL's previous records. Roughly sixty six percent of specimens brought down were recovered. Three new and unusual specimens were recovered, and many new ones sighted. We were well acquainted with the Team Leader of the Ornithologists, and good rapport was soon established with the newcomers. The Ichthyologists were slower fitting in, mainly because of bizarre hair-dos. Later, they proved to be good mixers, despite the "Beatlish" appearances. The Captain, Chief Walsh and SN Charley Noteboom aided in the collecting with their excellent marksmanship. The whaleboat was lowered only once during the trip, in order to recover a Great Frigate Bird which was collected simultaneously with a smaller bird. The water was never too rough for smallboat operations, but it was felt that time could be saved by "alongside net recovery".

For the first week, the ship was stopped daily at 0700, 1300, 1900 and 0100 for bathythermograph drops, but a welcome accident to the bathythermograph halted all BT drops. Welcome because of the cessation of nightly hour long rumbling and clanking of the dropping winch directly over the crews berthing spaces. Plankton and NP water samples were collected until we departed the grid. Plankton specimens were placed on view with a microscope to acquaint interested members of the crew and aided the crew in understanding the mission.

SHAD personnel spent the time at sea in maintenance work, painting and many drills which interrupted a continuous program. While at sea, all hands aired bedding and washed bunk bottoms where applicable. The SHAD personnel were required to shine up the lockers of the Shore Detachment but were excused from washing up the latter's bunk bottoms. Almost daily bailing parties were organized because of leaks and rupturing pipes. The air-conditioner in area "W" went out of commission five days after sailing because of faulty pipe installation. The air-conditioners in the DeMineralizer Room furnishing cool air to the Ward Room went out twice. Valiga, Griffin and Feldman were kept hopping. Feldman also welded up many brackets throughout SHAD spaces and spent much time in rectifying deficient "Fire" and other "General Quarters" Bills. DC3 Martin, before being evacuated to Johnston Island was unable to find any Hull Report forms, and seemed also unaware of the method of making the Hull Report. It is expected that there will be no recurrence. In fact, there is a "pool" on it!

The Collecting Tanks in Number Two Hold were pumped out with some of Ship's Company participating. Chief Walsh also instructed all Field Crew personnel of SHAD in the procedure. HMI Thornhill has inoculated collected specimens of the tank sewage into Thioglycollate Broth.

The Ornithologists were aided by SHAD personnel in the Avian Census, England being especially sharp-eyed. Gordon, Valiga, Griffin, Jenkins and Peacock also assisted. Many fish were caught from the fan tail and sometimes there were from five to seven fish hooked at one time; most of them were lost in landing attempts. However, The CO, Chief Zelaney and DC3 Popielak were recognized as the champion anglers. The fish caught were Mahi-mahi, Albacore and King Mackerel.

For recreation the men played cards, cribbage, "Risk", Bingo, World Series Baseball Pools and sunbathing besides fishing. Many paperbacks were well worn from constant trading. A rigid system of bedding down shortly after 2200 was rigidly enforced by the First Lieutenant. There was general compliance accompanied by great grumbling.

The ballast tanks in Number One Hold flooded once, but damage was controlled effectively by combined SHAD and Ship's Company personnel.

One day we raised a dead whale of monstrous proportions, being devoured by many sharks (twenty three were counted from the bridge) and the whale acted as a platform for a host of sea birds. These were eyed avidly, but shooting them would have been useless--sharks would have collected them before we could reach them. Nevertheless we made three passes at the whale and it broke the monotony of the day.

About the third day out a garbled radiogram ordered us to transfer the man with the broken hand back to Tripler. There were four people with broken hands. Finally clarification resulted in DC Martin being evacuated at Johnston Island for further transfer to Tripler.

The message about Chief Tooney saddened all of us and caused speculation about who would replace him; the general consensus is that BCL GARD is the most suitable candidate.

While at sea several lots of accumulated trash was conveniently removed from the ship, especially a bucket of old steel slugs which were used on the fantail to discourage any bird which showed a propensity to fly forward toward the bow and become a target for the ornithologists. This was done only after we started back to Pearl Harbor on leaving the Grid.

The uniform at sea was usually shorts, undershirts and zoris, with Clubb, Murts, Goke, Thornhill and Griffin remaining non-conformists. While Walsh was busy teaching all hands the intricacies of acey-deucey, Feldman was busy cutting off and hemming trousers legs.

In general the Meteorological Department was too busy furnishing "good weather" to get with the sports program.

Finally, at 1500 with Mr. Tait on the Con, we raised Papa Hotel and started more or less reluctantly back to dirt, heat, noise, calamity, confrontation and confusion.