

PACIFIC TUNA TAGGING PROJECT WP 2

CRUISE REPORT No. 5

19th May to 3rd June 2009

INTRODUCTION

This report summarizes activities of the fifth cruise of the Pacific Tuna Tagging Project (PTTP) WP2 during a 15 day period following arrival and inbound clearance in Tuvalu (Funafuti) on May 19th until arrival in Solomon Islands (Honiara) via the eastern EEZ (Santa Cruz Islands) on 3rd June 2009.

Scientific personnel onboard the Soltai 105 during Cruise 5 are listed in Table 1.

Table 1. SPC and In-Country personal onboard during Cruise 5

Name	Title	Affiliation	Period
Bruno Leroy	Cruise leader	SPC	19/05/09 – 26/05/09
Tony Lewis	Cruise leader	SPC contractor	26/05/09 – 03/06/09
Thomas Usu	Tagging tech	SPC contractor	19/05/09 – 21/05/09
Valerie Allain	Scientist	SPC	19/05/09 - 21/05/09
Telmo Morato	Scientist	SPC	19/05/09 – 26/05/09
Cynthia Wickham	Tagging tech	SPC contractor	19/05/09 – 03/06/09
Hearty Matamaru	Tagging tech	SPC contractor	19/05/09 – 03/06/09
Jonathan Solo	Observer	Tuvalu Fisheries	19/05/09 – 25/05/09

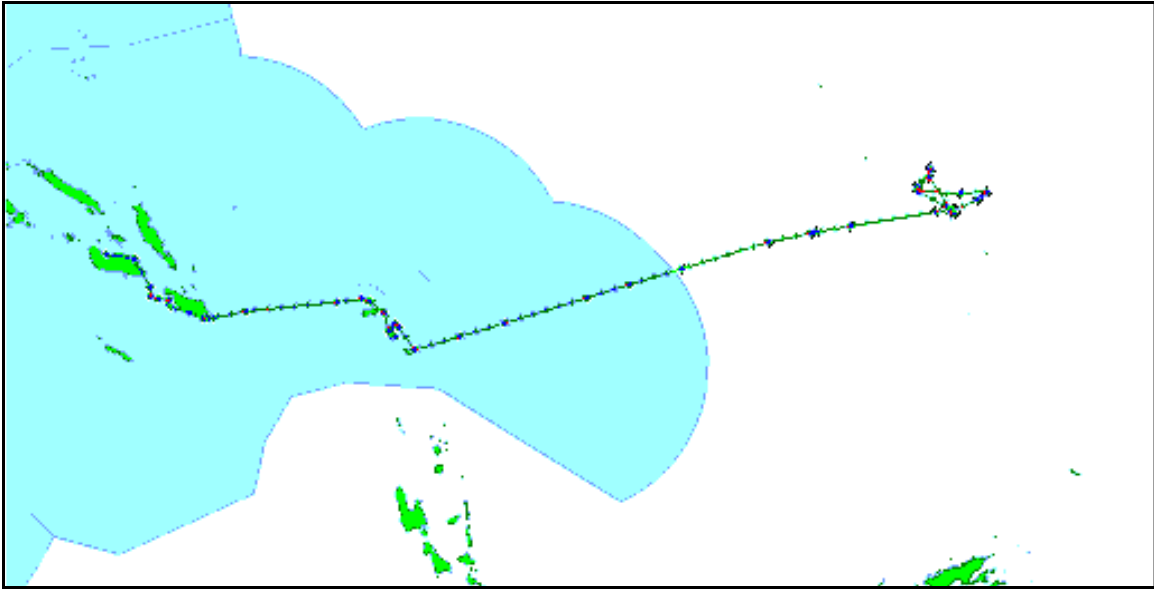
GENERAL DESCRIPTION OF SEARCHING and FISHING ACTIVITY

The vessel cleared customs and immigration formalities in Funafuti on the 19th May. After baiting without success in Funafuti lagoon, the vessel went to Nukufetau but experienced similar difficulties baiting. The fishing options in the Tuvalu EEZ were thus very restricted and although some schools were encountered near the two main atolls, the poor quality and small quantity of bait made fishing almost impossible. It was decided to leave Tuvalu 3 days earlier than scheduled and the vessel cleared out of Funafuti on the 26th May. The small amount of bait carried was soon exhausted on the following day in Tuvalu waters. Good quantities of fish were sighted in transit to Santa Cruz, where the vessel fished in difficult weather for two days. The vessel then fished on the inwards to Honiara via Makira, enjoying one day of good fishing in rough conditions on FADs off north Makira before arriving in Honiara early on the morning of June 3rd.

The track of the cruise in Tuvalu EEZ, based on school and 1800 positions, is found below as **Figure 1** and a summary of general movements and tag releases follows as **Table 2**.

A compilation of the daily log extracts, detailing daily activities, is provided as **Appendix 1**.

Figure 1: Cruise track during WP2 Cruise 5



TAG RELEASES

Of the 15 days of charter, 9 were spent in Tuvalu, and 6 in the Solomon EEZ, with a high seas zone between the two transited at night. 8.5 days were spent searching and fishing, much of this in bad weather, 3 days steaming without bait and 4.5 days were spent in port, for clearances, provisioning, getting water and personnel changes.

A total of 2099 fish were tagged and released during the cruise, with just 61 fish in Tuvalu and 2038 releases in the Solomons EEZ. This comprised 1441 skipjack (68%), 630 yellowfin (30%) and 28 bigeye (2%), including one archival tag. 63% of the releases were the larger P tags, with balance smaller Z tags mostly released during the successful days' fishing in Solomon Islands. Reflecting the fact that more than two thirds of releases were on a single day's fishing on anchored FADs, 71% of releases were on anchored FADs, 26% from free schools and the balance from drifting FADs.

The Cruise 5 releases are summarized by tag type, day and area in **Table 2**, whereas **Figure 2** shows the distribution of releases during the cruise

SIZE DISTRIBUTION OF TAGGED FISH

Figure 3 shows the size distribution of fish tagged during Cruise 5. The skipjack size distribution was unimodal, centering on 37-38 cm, whereas the yellowfin size distribution was made up small fish < 40cm, a smaller group slightly larger (around 45cm) and a small tail of larger fish. The small bigeye sample showed a wide size range.

Figure 2 Distribution of tags releases by species during Cruise 5

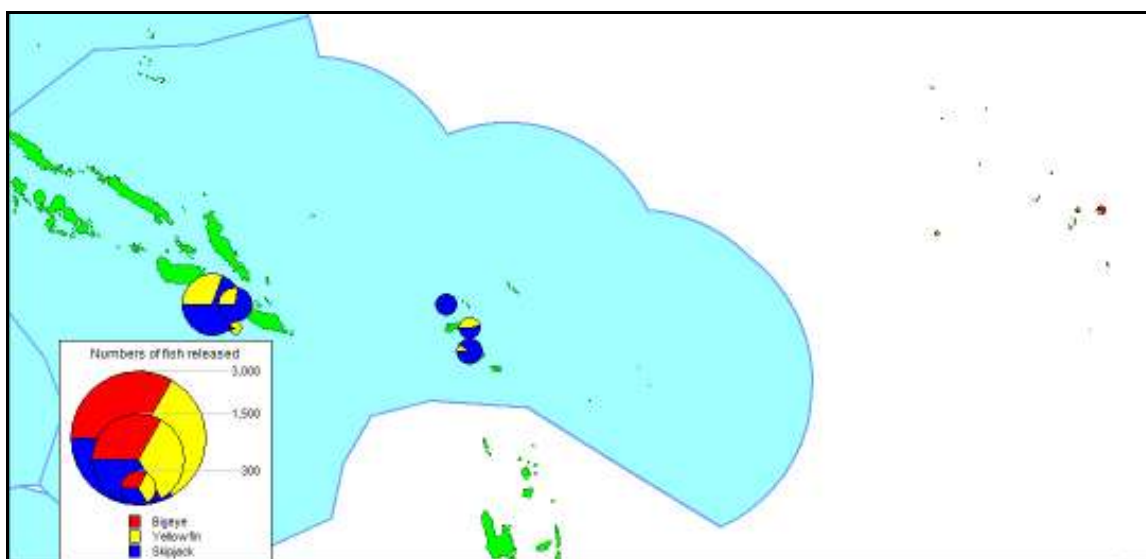
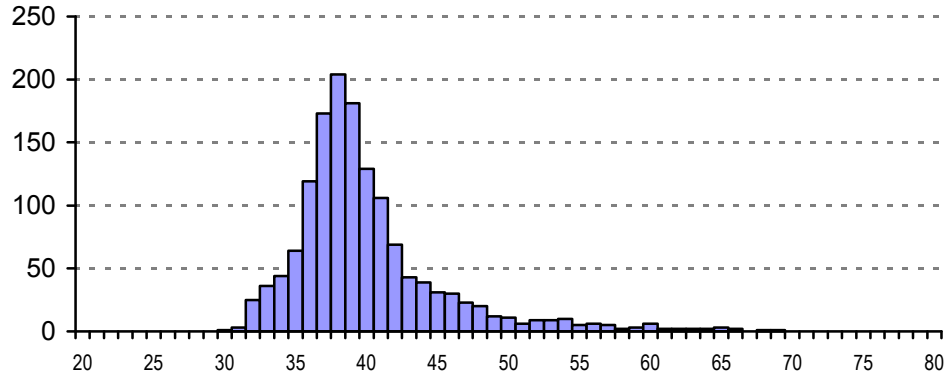


Table 2. Summary of Cruise 5 activity, with number of conventional and archival tag releases per day

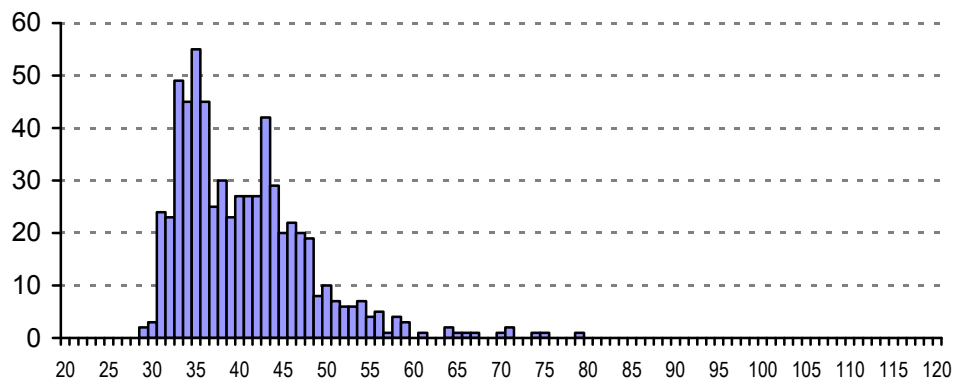
Date	Activity	Conventional releases			Archival releases			Total releases
		SJ	YF	BE	SJ	YF	BE	
May 19 th	In port, customs clearance in Funafuti	-	-	-	-	-	-	-
May 20 th	Fishing around Funafuti	2	5	0	0	0	0	7
May 21 st	In port, personnel change, steam to Nukufetau	0	0	0	0	0	0	0
May 22 nd	Fishing to Vaitupu and back to Nukufetau	0	0	0	0	0	0	0
May 23 rd	Fishing to TAO 8S/180	0	11	23	0	0	1	35
May 24 th	Fishing around Funafuti, half day break	0	0	0	0	0	0	0
May 25 th	In port Funafuti, water, provisions	0	0	0	0	0	0	0
May 26 th	Personnel change, clearance out; steaming							
May 27 th	Fishing towards Santa Cruz AM then steaming		19					19
	TUVALU	2	35	23			1	61
May 28 th	Steaming towards Santa Cruz							
May 29 th	Steaming towards SC; baiting Vanikoro							
May 30 th	Fishing towards Utupua; baiting Utupua	200	20					220
May 31 st	Fishing towards Tinakula, then towards Makira	241	88					329
June 1 st	Fishing towards Makira Hbr along west coast	7	58	1				66
June 2 nd	Fishing towards Honiara	991	429	3				1423
June 3 rd	Arrival and clearance in Honiara							
	SOLOMON ISLANDS	1439	595	4				2038
	CRUISE TOTAL	1441	630	27			1	2099

Figure 3. Size distribution of fish tagged (all tags) during Cruise 5

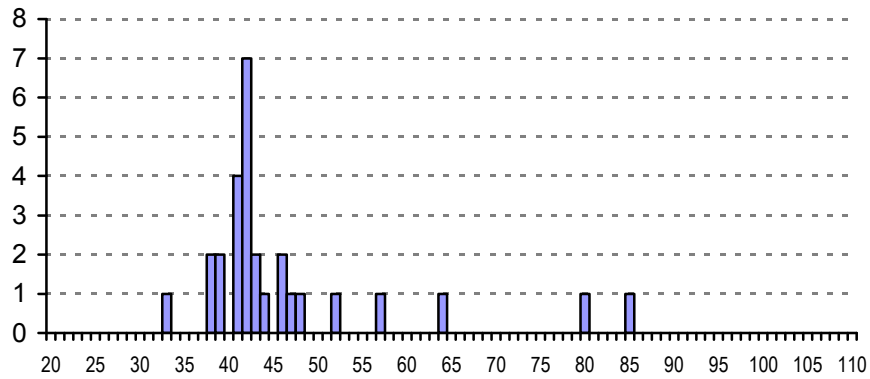
Skipjack n = 1439



Yellowfin n = 630



Bigeye n = 28



ARCHIVAL TAG SUMMARY

Only some small L2510 Lotek tag models were left onboard after the extensive Kiribati tagging and these tags were intended for deployment in skipjack.

As catching suitable size skipjack has been compromised by the absence of bait, the only opportunity to deploying an archival tag was seized when meeting some good size bigeye under a drifting FAD. One tag was deployed in an 85 cm bigeye.

BAITING

Very poor baiting was experienced in Tuvalu, with a total of 122 buckets of bait loaded in 16 hauls in the only two suitable lagoons (Funafuti, Nukufetau), for an average of 7 buckets per haul and 17 buckets per night. In contrast, two small bays in remote Solomons locations provided good bait at an average of 130 bkts per night, while less bait was caught at one deep-sided harbour (Makira, 30 bkts in 2 hauls under a bright moon)

Table 4 Summary of bait fishing activity during WP2 Cruise 5

Date	Location	Catch (bkts loaded, hauls)	Species
May 19 th	Funafuti	25 (4)	Atherinids, Decapterus
May 20 th	Funafuti	6(2)	Atherinids, Decapterus, sprat (d)
May 21 st	Nukufetau	64 (3)	Atherinids, scads (Selar)
May 22 nd	Nukufetau	10(2)	Atherinids, scads (Selar)
May 23 rd	Funafuti	6 (1)	Atherinids, scads (Selar)
May 24 th	Funafuti	6(2)	Atherinids, scads (Selar)
May 25 th	Funafuti	5(2)	Atherinids, scads (Selar)
Total	TUVALU	122(16)	
May 29 th	Vanikoro	127 (3)	Sprats (l, g), anchovy (d), h/h
May 30 th	Utupua	146 (3)	Sprats (l,g), anchovy, sardine
June 1 st	Makira Hbr	30 (2)	Sardines
Total	SOLOMON ISLANDS	303 (8)	

CONCLUSIONS

A difficult cruise, with first poor baiting in Tuvalu then rough weather in the eastern Solomon Islands and fish availability seemingly limited.

APPENDIX 1

DAILY LOG EXTRACTS

May 19th

Arrived at Te Ava I te Lape entrance at 1130 hrs; pilot arrived at 1200 hrs, at the wharf at 1300 hrs. Met Nikolasi from the Fisheries who picked up Cynthia, Hearty and Telmo at the airport. Immigrations and customs at 1400 hrs. All good. Left the wharf at 1630 hrs for baitground just in front of the wharf. First bait set at 2100 hrs for 18 bkts of atherinids. Second set at 2200 hrs for...1 bkt.

May 20th

Third set at 330 for 6 bkts of big Decapterus. Fourth set on light boat for nothing. Decided not to go to TAO 8S/180 as not worth with almost no bait. Will cruise around Funafuti instead. Went out of the lagoon at 0645 hrs. Worked around the island clockwise. Only found some schools at the entrance and at north point. Mixed school with RR, MT, small YF and a few skipjack. Very hard to make them interested with the poor bait we had. Only tagged 7 fish before bait exhausted. Inside the lagoon and anchored in front of the marine school at 1400 hrs; first bait set at 2100 hrs for 1 bkt of mix bag h/h and juvenile fish, second set at 0100 hrs, nul...

May 21st

Third set at 0315 for 5 bkts of a mixed bag - Decapterus, blue sprat, h/h. Fourth set nul. Wait until 0700hrs to go to the wharf then wait for Nikolasi to come at 0830 hrs. Quick shopping and then Valerie and Thomas left at 0930hrs for the airport. Try to get some water but the guy in charge to switch on the wharf water system arrived too late; we have to leave at 1030 hrs to arrive at Nukufetau during day time for entering in the lagoon. Arrived at the main pass at 1700 hrs. At anchor on the SE part of the lagoon at 1745 hrs. First set at 2100 hrs for 13 bkts of h/h...second set - one bkt...

May 22nd

Third set at 0415 hrs, full of Selar(atule). Loaded 50 bkts and let go the rest (50). Anchor up at 0615 hrs. Outside the lagoon at 0645hrs, heading to Vaitupu. Passed by the 525m summit but just a few birds around; one wahoo strike on the troll line but cut-off the hook; one small marlin (70 lbs) on the Alvey just before the island. Tried to chum a nice school of small YF near the west point of Vaitupu but the fish were not interested in the bait. Steamed back to Nukufetau; one school chummed at 1510 hrs but no success; inside the pass at 1600hrs and at anchor 1630 hrs. First set at 2100 hrs for 7 bkts of h/h, second set 3 bkts...Left Nukufetau at 2230 hrs for the TAO 08S/180

May 23rd

Arrived at the TAO at 1130 hrs, which was 8 nm east from the position. No birds, no detection at echo-sounder....no fish; headed back towards Funafuti at 1145 hrs. Found a dFAD (low profile GPS buoy) at 1400hrs. Managed to tag 12 fish using the few buckets of h/h, nearly all bigeye 40 to 80 cm. Decided to tie up to the FAD and to wait until 1630 hrs to see if it was possible to catch the bigger fish with the akule as it was the only bait left. Tagged 35 fish including 1 AT in a 85 cm BE. Lost the fish at 1730 hrs so steamed back to Funafuti for baiting. Arrived at the baitground at 2220 hrs.

May 24th

First set at 0315 hrs for 6 buckets of h/h and scads mixed; second set not possible because light boat switched off for some reason. Not worth putting the light in the water at 0400 hrs. Left the bait ground at 0700 hrs to try catch a few fish around the NE corner with our 6 bkts of h/h - quite a miserable situation...Chummed a few schools but fish not interested. Come back inside Funafuti lagoon to have a Sunday picnic on Tepuka island. Anchor at the baitground closed to Funafuti wharf at 1650. Dropped the observer Solo with the inflatable at the wharf. First set at 2100 hrs for 6 bkts of h/h and some scads. Second set with the light boat at 2200 hrs for zero. No worth doing any more set.

May 25th

Alongside at 0700; wait until 0830 for Nikolasi; went shopping for crew and SPC provisions. Got 25 tons of fresh water for free but have to borrow the fire hose from the patrol boat to load the water. Paid for Pilot fees and charges. After lunch Nikolasi took us for an "island tour" and also visited, at his house, previous Te Tautai Captain Lefata Paeniu. Left the dock for baiting ground at 1700 hrs. First set at 2100 hrs for 5 bkts of the usual mixed species and 1/2 bkt for the second set. End of Tuvalu baiting...em tasol!

May 26th

Alongside Funafuti wharf at 0915 hrs; water taken on, some provisions; new CL arrived from Suva 1230 hrs, BML and Telmo on return flight; cast off 1515 hrs after prompt clearance, and with Capt Lefata Paeniu and Nikolasi waving farewell; steamed without searching until dark; the usual home guard school just outside the pass but not fished; catching up on all the news and plans over several bowls of yaqona; easy overnight steam with low southerly swell; 37 KI water onboard, but just 35 KI fuel.

May 27th

Good steam overnight but wind freshened from ESE in morning; one dFAD found just before 1100 hrs; poor biting with the bait available (hardyheads and large atule/opelu); 19 YF tagged; no small bait left - kept atule and opelu for food; nothing remarkable all day - no comms since Satphone used up; decided to head for Vanikoro 1600 hrs and gradually increased speed so as to get there Friday afternoon for baiting; one small wahoo trolled 1700 hrs; crossed into high seas 2000 hrs and Solomons waters mid-morning tomorrow.

May 28th

Crossed into Solomons waters approx 0800 hrs - clocks back one hour; good speed at just > 10 kts; message to SPC via Noro base; satphone contact re-established 1130 hrs after bills paid; radio contact with Vanikoro and Utupua on Temotu frequency indicating welcome for baiting but would appreciate meeting beforehand; to and fro about clearance in Lata on Monday morning at great expense - yet to be confirmed but can easily be accommodated in the cruise plan; good sightings (and on bird radar) of bird flocks all day, but especially in the morning - bodes well; nothing trolled all day ...

May 29th

Wind freshened overnight (15-25 kts), with rain and seas moderate - rough (strong wind warning current for Temotu); speed slowed to < 10 kts for 8 hrs or so (current ?) but picked up again and may make Vanikoro passage by 1800 hrs; and so it was - inside Vanikoro 1810 hrs in near dark (just made it) and drifted off Puma village on Tevai Is whilst Hearty went ashore to meet with landowners; proceed to Manieve Bay inner harbour and anchored 1900 hrs in 32m with good shelter; baiting approved for payment of SBD 500; visit by villagers and Provincial Member Ernest Fea - accorded full welcome with kaikai, kava, half basket of atule, 10l fuel etc; first net 2200 hrs for 49 bkts of mostly sprat (lewisi) with gold anchovy; second net 2315 hrs in 30m for 10 bkts; will make final haul 0400 hrs before heading out

May 30th

Third net 0415 hrs for a nice 68 bkts - total 127 bkts; headed out 0530 hrs with wind still strong from ESE; one good wahoo (> 15 kgs) trolled just outside; seas still moderate -> rough as headed towards Utupua; one seamount halfway (690m) and others just north of Utupua; 2 schools large YF not chummed north of Vanikoro; two schools on 43m seamount north of Utupua but just RR, MT and two shark mackerel (a first); nothing then until close to Basilisk Harbour entrance (~2 nm) - one good free school fished, on a slow bite, for 220 in half an hour, with 20 YF; inside and at main village 1600 hrs for access negotiations; the usual SBD 500 plus fish; very nice anchorage in inner Byron Bay - looks promising baiting; anchored 1650 hrs in 32m with lightboat also set; bait quick to gather off bottom - last tank of atule and opelu from Tuvalu drained in anticipation;

first net 2100 hrs for 68 bkts of sprats and anchovy; second net 2215 hrs for just 7 bkts large sardine (moon not covered).

May 31st

Third set 0315 hrs for 71 bkts loaded after much large stuff scooped; anchovies mixed with much *Dussumieria* and others; up anchor 0415 hrs and headed out bound for Tinakula with a nominal 230 bkts; cleared pass at 0445 hrs; flighty school near seamount for 185 small fish (88 YF) 0900 hrs, then headed for Tinakula; very little in vicinity but good area of small fish to SW - not biting well but 144 tagged, all small SJ; Tinakula very active on NW side; nothing else in afternoon, with freshening wind again as headed for Makira; 329 for the day and 549 for Santa Cruz.

June 1st

No sightings all morning - turned between Santa Ana and main island 1000 hrs to head for Makira Harbour along west coast of Makira; one small school just on east corner of reef - no interest in chum; one rippler of RR and MT 1120 hrs; spys stood down 1200-1400 hrs; one school several miles from FAD chummed briefly but did not stop; reached FAD SC 13 at 1715 hrs; initially just RR but YF jumping so persisted, and eventually 66 (58 YF, 1 BE) tagged in a slow bite under very windy conditions; broke off when two partial tanks used and headed for Makira Harbour; anchored 1930 hrs in 45m - light boat not set; totally protected and at night, cannot see the scars of logging; very little bait early; many canoes but shy to come alongside; emergency run to the camp canteen saved the smokers from withdrawal dry horrors.

June 2nd

First net 0015 hrs with moon still hanging bright over the beautiful harbour - alas, half bkt only; second set with better showing on sounder 0415 hrs for 30 bkts - sardines, little priest and moonfish (*Mene maculata*); up anchor and headed out 0510 hrs; wind resumes, with heavy rain; first raft SC 9 at 0740 hrs in poor weather - 379 tagged (106 YF) in nearly an hour, mostly just hanging on; then headed for SC4 some 12 nm away for more punishment, with weather worsening; did even better there with 1044 tagged (323 YF, 2 BE) before bait ran out; no one hurt and quite a performance, with 1423 for the day ... one for the annals, with commendations all round; headed for Honiara at 1100 hrs - much better when wind and sea astern; large marlin lost (maybe for the best) at 1600 hrs then uneventful passage to Honiara - anchored in stream 2140 hrs.