

Quick Report

(Cruise No. KIOS2021/HI-21-13)



1. Name of Research Program

Seychelles-Chagos Thermocline Ridge (SCTR) Pilot Time-series Observation Initiative

Dynamics underlying upwelling structure and its temporal variability in the Seychelles-Chagos Thermocline Ridge

2. Research vessel and duration

R/V ISABU (December. 15. 2021 ~ January. 19. 2022)

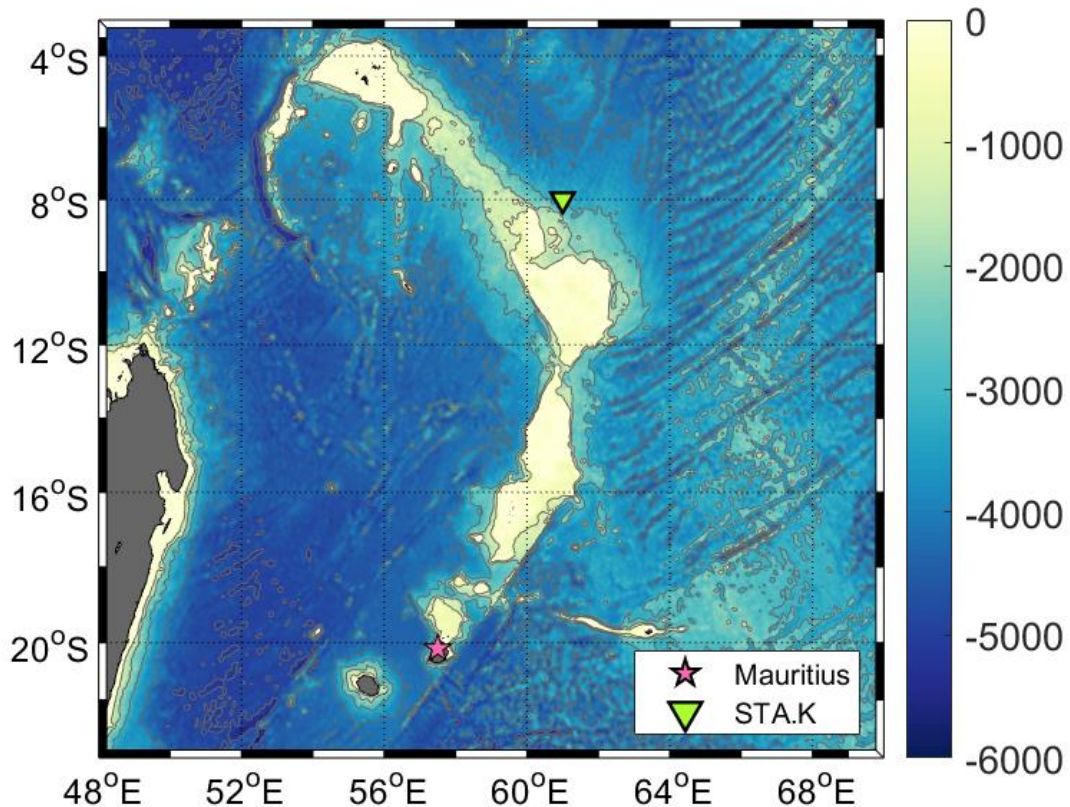
3. Objectives

To understand off-equatorial upwelling in the SCTR

4. Scientist List

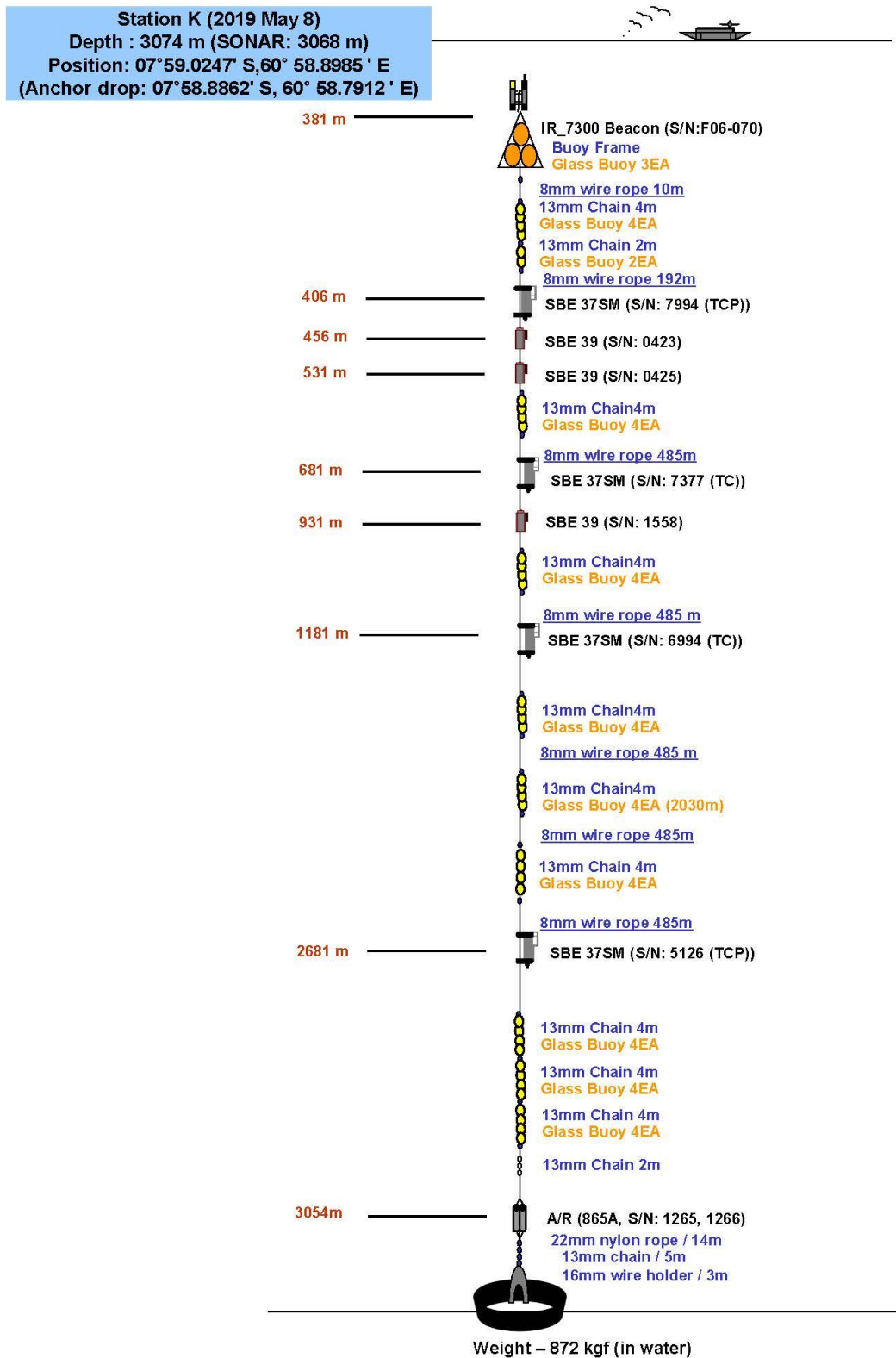
No.	Family Name	Given Name	Affiliation
1	KANG	DONG-JIN	Korea Institute of Ocean Science and Technology
2	CHOI	SANG-HWA	Korea Institute of Ocean Science and Technology
3	SON	PURENA	Korea Institute of Ocean Science and Technology
4	KIM	YESEUL	Korea Institute of Ocean Science and Technology
5	KIM	MIN JU	Korea Institute of Ocean Science and Technology
6	JEONG	SEONGHEE	Korea Institute of Ocean Science and Technology
7	KWON	SOYEON	Korea Institute of Ocean Science and Technology
8	NOH	SU YUN	Seoul National University
9	KIM	DAY HONG	Seoul National University
10	LEE	EUNSUN	Seoul National University
11	LEE	JU HYEON	Pohang University of Science and Technology
12	LEE	JEONGHYEON	Pohang University of Science and Technology
13	OH	SUNYOUNG	Chonnam National University
14	YESMIN	FARZANA	Chungnam National University
15	MARTIN	KOREY	NOAA
16	KESTER	DENISE	NOAA

5. Station map



6. Mooring design and moored instruments

1) Recovered mooring (2019 May 8 ~ 2021 Dec 21)



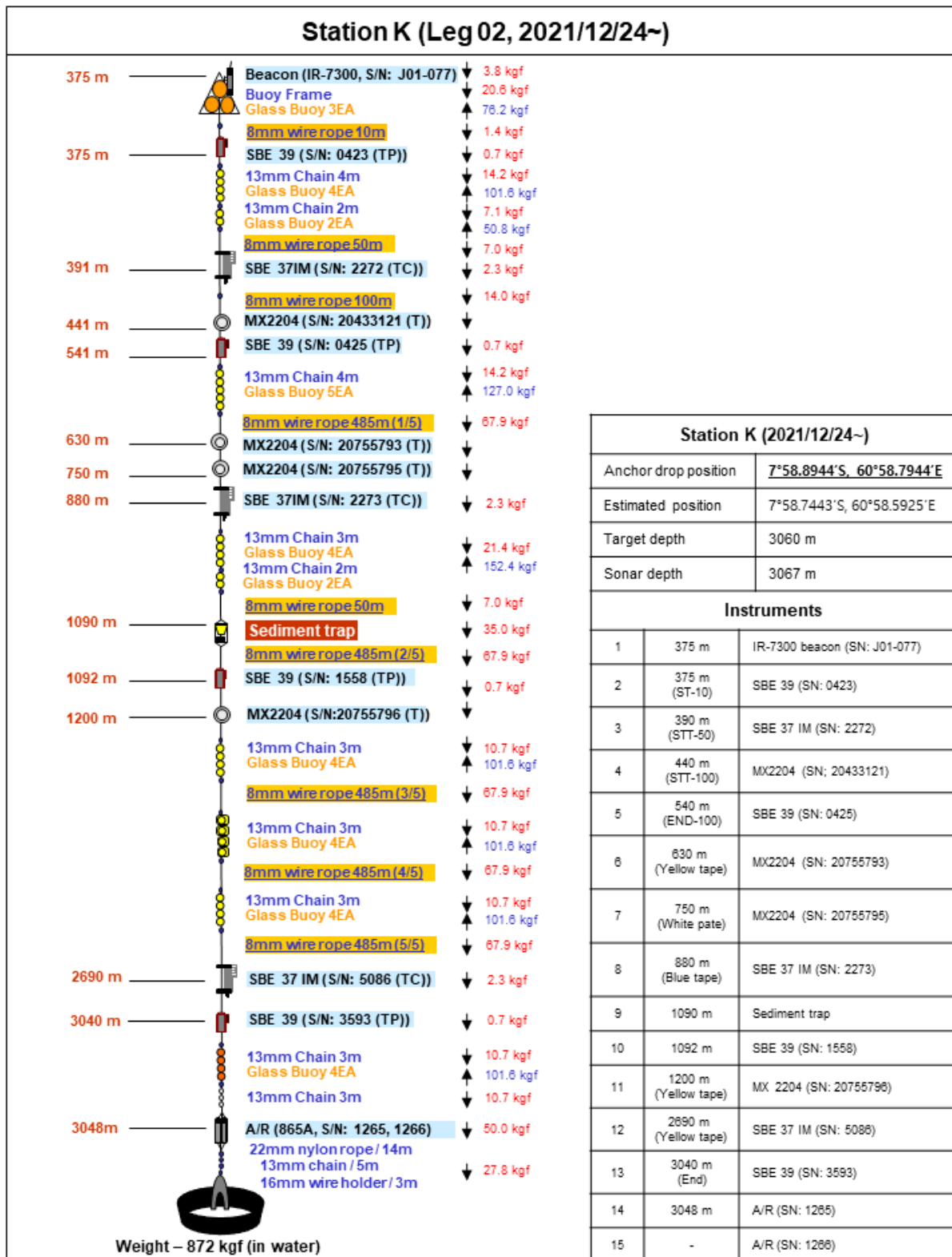
Four moored CTDs (SBE37) and three moored temperature loggers (SBE39) were attached to the mooring along with dual acoustic releasers and a beacon (IR-7300) on May 08, 2019. The time interval of PIES which was located 3 km from mooring was set at 1-hour intervals. All instruments were covered on Dec 21, 2021 (Table 1).

Table 1. Instruments attached to the mooring (Station K)

Item	Serial No.	Variable	Owner
SBE37 MicroCAT	7994	Temperature, Conductivity, Pressure	SIO
	5126	Temperature, Conductivity, Pressure	SIO
	7377	Temperature, Conductivity	SIO
	6994	Temperature, Conductivity	SIO
SBE39	0423	Temperature, Pressure	SNU
	0425	Temperature, Pressure	SNU
	1558	Temperature, Pressure	SNU
Acoustic Releaser	1265	-	SNU
	1266	-	SNU
IR-7300	F06-070	GPS	SNU
PIES	300	Pressure, Acoustic travel time	SIO



2) Relunched mooring (2021 Dec 24~)



Before deploying the mooring, time intervals of the equipped sensors (SBE37 and SBE39) were set to 30 minutes and mounted on the mooring to collect continuous time series data at the fixed depths of mooring. The time interval of temperature loggers (MX2204) was set to 20 minutes. Three moored CTDs (SBE37), eight moored temperature loggers (SBE39 and MX2204) were attached to the mooring along with dual acoustic releasers and a beacon (IR-7300). The time interval of C-PIES which was located 3 km from mooring was set at 1-hour intervals. All instruments attached to the mooring are listed in Table 2.



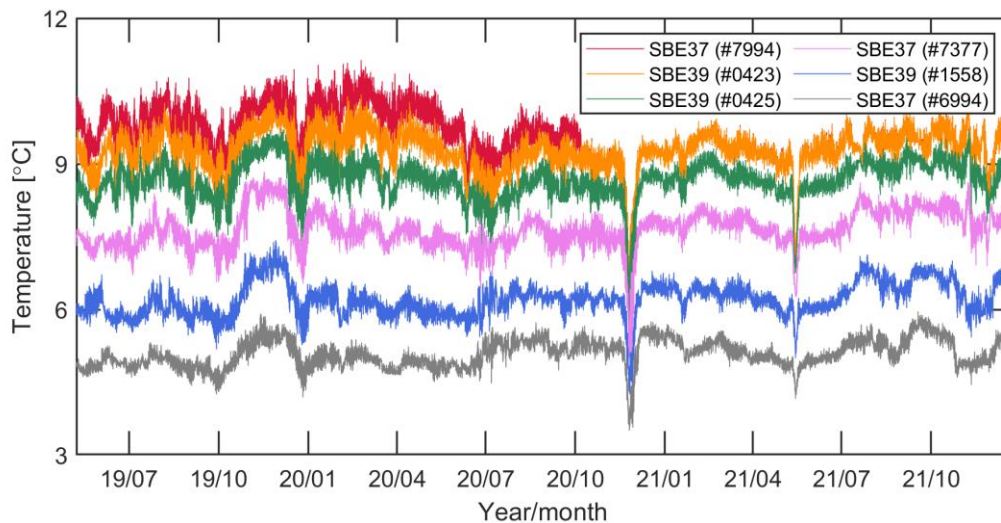
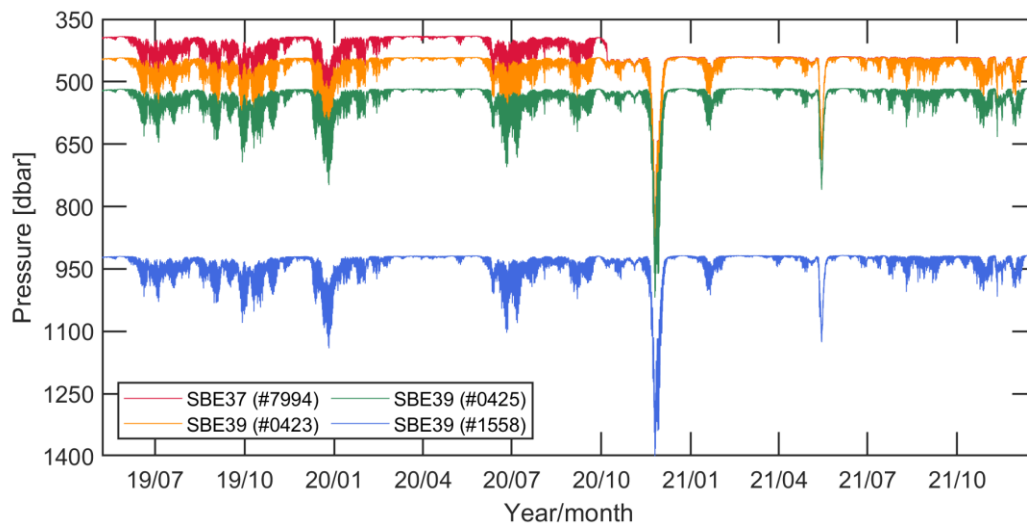
Table 2 Instruments attached to the mooring (Station K)

Item	Serial No.	Variable	Owner
SBE37 MicroCAT	2272	Temperature, Conductivity	SNU
	2273	Temperature, Conductivity	SNU
	5086	Temperature, Conductivity	SNU
SBE39	0423	Temperature, Pressure	SNU
	0425	Temperature, Pressure	SNU
	1558	Temperature, Pressure	SNU
	3593	Temperature, Pressure	SNU
MX2204	20433121	Temperature	SNU
	20755793	Temperature	SNU
	20755795	Temperature	SNU
	20755798	Temperature	SNU
Acoustic Releaser	1265	-	SNU
	1266	-	SNU

IR-7300	J01-077	GPS	SNU
C-PIES	412	Pressure, Acoustic travel time, current	SNU

6. Data from recovered mooring

The pressure and temperature observed from the sensors attached to the mooring (Station K) were as follows. The temperature and pressure were recorded from May 8, 2019 to December 21, 2021.



PIES (SN: 300)

