

SC-06-27

**6th Meeting of the Southern Indian Ocean Fisheries Agreement (SIOFA) Scientific Committee
22nd - 26th March 2021, Virtual**

National Report – Cook Islands

Relates to agenda item:

Working paper ☒ info paper ☐

Delegation of the Cook Islands

Abstract

This paper provides an overview of the trawl fishing activities in the Southern Indian Ocean Fisheries Agreement area undertaken by Cook Island flagged vessels. It highlights activities during 2020 and takes the form of the Cook Islands National Report.

Recommendation

The meeting is invited to consider the Cook Islands National Report



Ministry of Marine Resources
GOVERNMENT OF THE COOK ISLANDS

SOUTHERN INDIAN OCEAN FISHERIES AGREEMENT

Cook Islands National Report
2020

Prepared by the MMR Offshore Fisheries Division

This report provides an overview of the trawl fishing activities in the Southern Indian Ocean Fisheries Agreement (SIOFA) area by Cook Islands vessels, and highlights activities during 2020.

In 2020 the Cook Islands authorised two vessels to operate in the SIOFA area, pursuant to high seas fishing authorisations issued by the Ministry of Marine Resources (MMR). These vessels target deep-water finfish species, primarily alfonsino (*Beryx splendens*) and orange roughy (*Hoplostethus atlanticus*) using bottom and midwater trawl fishing methods. A list of species is given in Appendix 1. Cook Islands vessels are not permitted to fish within the Benthic Protected Areas listed in Appendix 2 of this national report, and additionally do not fish on the Del Cano Rise.

Catch is unloaded in Mauritius and South Africa. Alfonsino are generally exported to Japan and orange roughy to China. Some catch is sold in the local markets in Mauritius and South Africa, Thailand, New Zealand, Vietnam, Indonesia and Australia.

1. DESCRIPTION OF FISHERIES

In 2020, the Cook Islands authorised two trawl vessels to operate in the SIOFA area. These vessels have been the only Cook Islands vessels in the fishery since 2012. Prior to 2012 three additional vessels were authorised to operate in various years. Historically, the Cook Islands have no other vessels operating in the Agreement area.

2. CATCH DATA

In line with confidentiality restrictions that prevent the disclosure of fishing activity, fine scale catch data is not presented for Cook Islands operations in the SIOFA area in this National Report, as this data would form part of the public record of SIOFA.

The three key species captured and reported by weight in 2020 were: alfonsino (66%) orange roughy (19%), and cardinal fish (9%) (Table 1). These species comprised over 90% of the total catch. Alfonsino has been the species most commonly caught in this fishery since 2006, with the exemption of the 2018 fishing season. Orange roughy has steadily remained the second highest catch in this trawl fishery for trawl gears. Fishing effort peaked in 2010 at 900 days fished by three Cook Islands vessels in the Agreement area. Overall effort has remained steady over recent years after a notable drop in 2018 due to one vessel not fishing for half the year.

Table 1: Summary table of provisional catch composition and fishing effort (days) from 2002 – 2020 and catch composition of main species caught by Cook Island trawlers. See Appendix I for species code definitions

Year	Effort (days)	Catch of major species proportionate to total catch									
		BYS	BWA	BOE	SSO	ONV	ORY	EPI	SEY	EDR	OTHER
2002	293	0.36	0.00	0.00	0.01	0.14	0.47	0.01	0.00	0.00	0.00
2003	292	0.48	0.00	0.00	0.02	0.14	0.32	0.04	0.00	0.00	0.00
2004	276	0.41	0.00	0.00	0.00	0.13	0.42	0.04	0.00	0.01	0.00
2005	256	0.29	0.00	0.00	0.02	0.03	0.58	0.08	0.00	0.00	0.00
2006	468	0.61	0.00	0.00	0.00	0.01	0.25	0.06	0.04	0.01	0.01
2007	537	0.47	0.02	0.00	0.00	0.01	0.41	0.03	0.00	0.05	0.00
2008	553	0.52	0.01	0.00	0.00	0.02	0.34	0.04	0.00	0.08	0.00
2009	673	0.58	0.00	0.00	0.02	0.01	0.19	0.08	0.03	0.08	0.00
2010	900	0.67	0.01	0.01	0.00	0.02	0.18	0.02	0.04	0.05	0.00
2011	599	0.54	0.00	0.00	0.00	0.02	0.28	0.06	0.05	0.04	0.00
2012	490	0.75	0.01	0.00	0.00	0.02	0.18	0.04	0.01	0.01	0.00
2013	524	0.61	0.01	0.00	0.00	0.01	0.23	0.04	0.04	0.04	0.00
2014	523	0.66	0.01	0.00	0.00	0.02	0.19	0.07	0.03	0.01	0.00
2015	501	0.62	0.00	0.00	0.00	0.00	0.23	0.07	0.03	0.02	0.03
2016	455	0.57	0.00	0.00	0.00	0.00	0.20	0.17	0.01	0.03	0.01
2017	495	0.57	0.00	0.00	0.00	0.03	0.29	0.07	0.00	0.01	0.02
2018	301	0.31	0.00	0.00	0.00	0.01	0.57	0.02	0.00	0.06	0.03
2019	343	0.46	0.00	0.00	0.01	0.02	0.33	0.11	0.00	0.06	0.00
2020	317	0.66	0.00	0.00	0.00	0.01	0.19	0.09	0.01	0.02	0.02

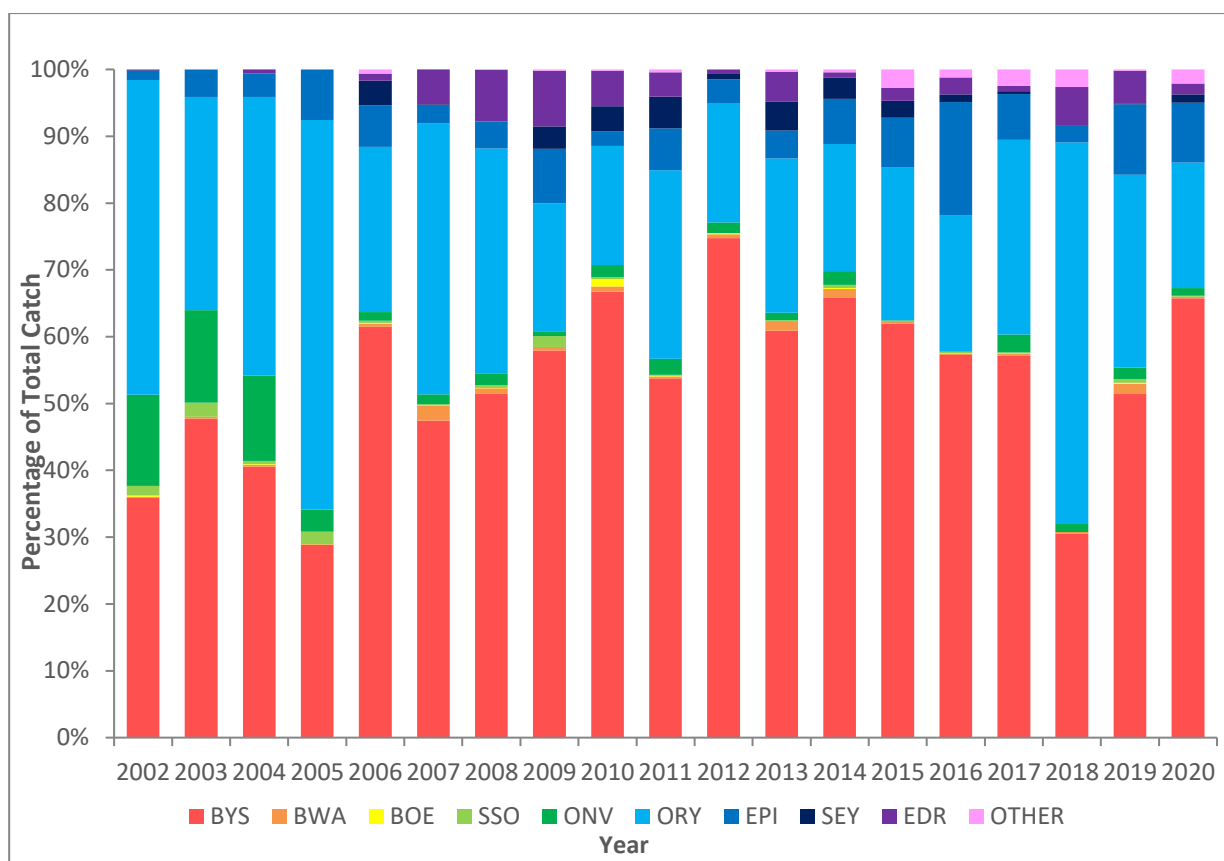


Figure 1: Proportion of by species in trawl catch by Cook Island vessels in the SIOFA Area from 2002-2020

Catch per unit effort (CPUE) of major target species is no longer being reported in the national report CPUE itself is not considered a reliable index of abundance for orange roughy.

3. FISHING EFFORT DATA

‘Mid-water trawl’ is defined as fishing with a pelagic net designed for off-bottom fishing, but may include occasional contact with the sea floor.

The split in effort between bottom trawl and mid-water trawls (Table 2) varies between years. The provisional number of midwater trawl shots for alfonsino has significantly increased from 2012 to 2020 with the exemption of 2018. Bottom trawling effort has experienced a gradual decline from 2012-2020, except in 2018 when there was a higher effort of bottom trawling.

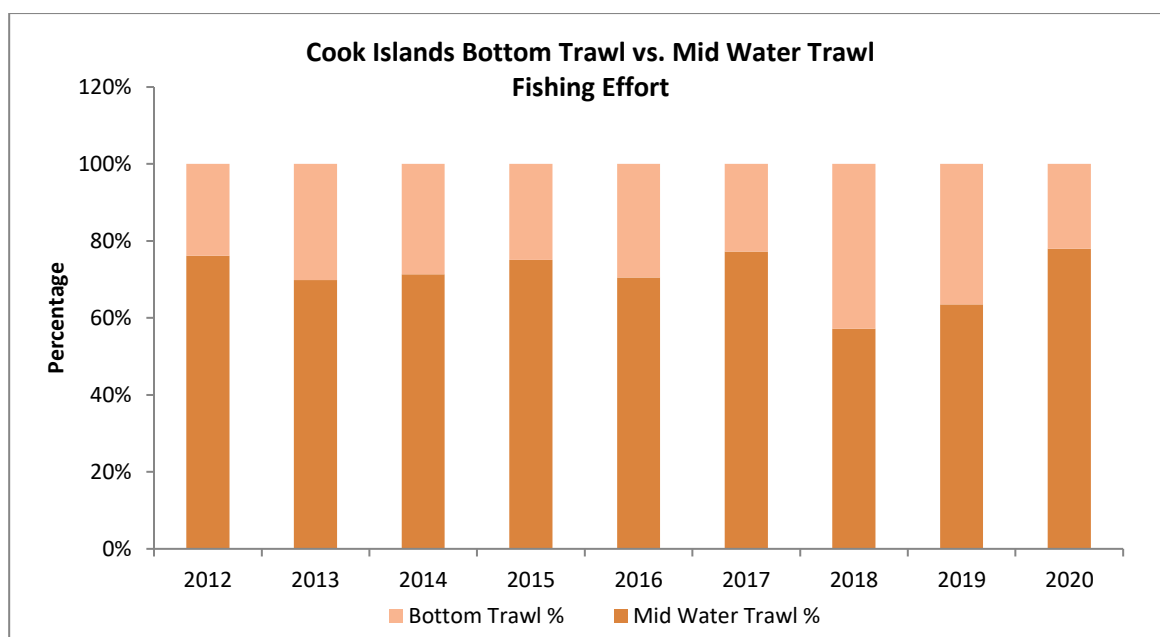


Figure 2: Composition of Cook Islands Bottom Trawl Effort 2012-2020

Table 2: Cook Islands vessel effort 2012-2020

Year	Total trawls	Midwater	Bottom	Days Fished	Days at sea
2012	1781	1357	424	490	602
2013	1601	1118	483	524	636
2014	1971	1406	565	523	645
2015	2729	2050	679	501	604
2016	1999	1409	590	455	544
2017	1985	1534	451	495	627
2018	1569	897	672	317	387
2019	1615	1026	589	348	515
2020	1922	1549	381	355	559

In 2020 bottom trawling comprised 20% and mid-water trawling comprised 80% of overall effort (Figure 2). Mid-water trawling for alfonsino was consistently the major effort in the fishery from 2012 to 2020 for Cook Islands vessels.

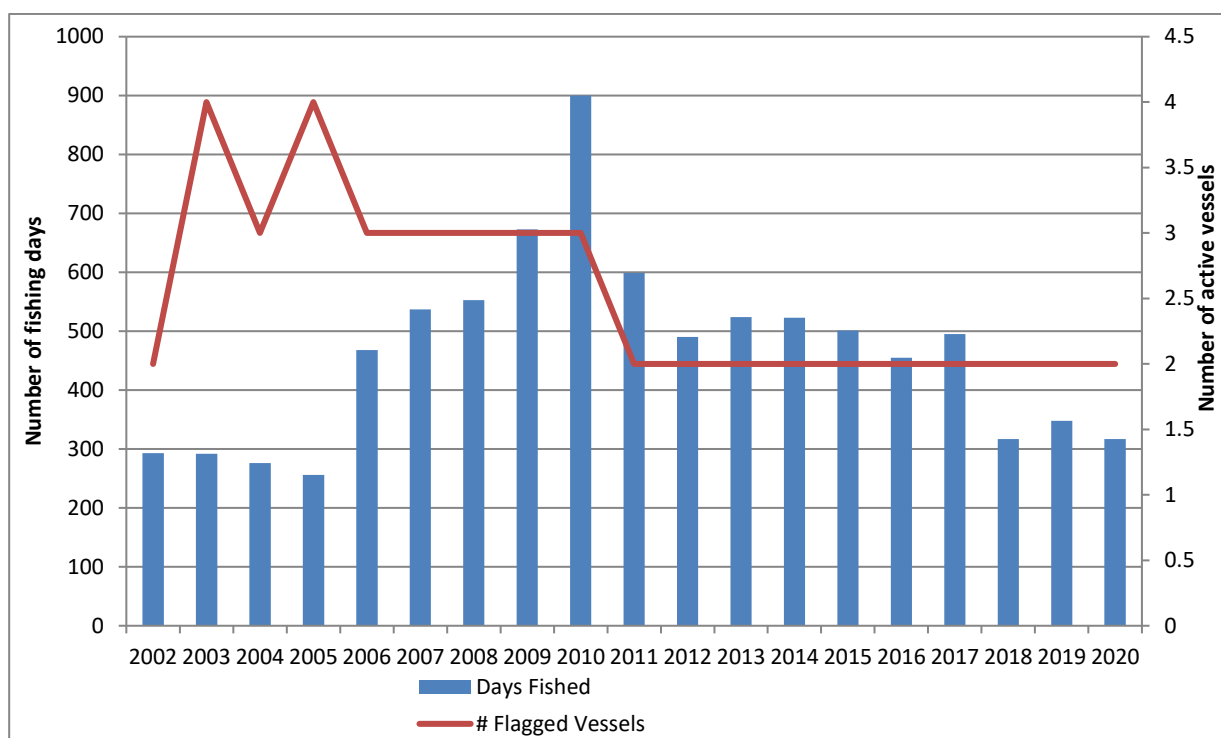


Figure 3: Trend in effort (fishing days) and number of CK flagged vessels from 2002-2020

4. FISHERIES DATA COLLECTION

Cook Islands vessels are issued high seas fishing authorisations, in accordance with Section 21 and Section 35 of the Marine Resources Act 2005. Cook Islands regulations require vessels carrying high seas authorisations to record daily information on catch and effort, including position information.

In April 2019, Cook Islands trawl vessels commenced the use of electronic logsheets as a trial to record catch and effort information during fishing trips. The use of an eLogsheets streamlines the submission of catch and effort of a trip from the vessel to MMR's Offshore Division. The electronic format captures a range of catch and effort data in line with CMM 19-02. The timely transmissions and automated processes of the eLogsheets has also resulted in less administrative overhead for MMR since the trial's commencement. Original log sheets are still being sent to MMR for comparative purposes throughout the trial. A revised eLog was updated in the beginning of 2020 as trials were ongoing throughout 2020.

Cook Islands vessels unload in Mauritius and or South Africa. Unloadings are monitored periodically by Cook Islands authorised fisheries inspectors usually during the annual Sanitary and compliance inspection. Product temperature is monitored regularly during every unloading. Samples of each species caught are collected by SGS Internationally accredited laboratory technicians during the unloading. Testing is conducted for various hazards to make sure product is fit for human consumption in line with international excepted limits. Unloadiong data, catch log sheets, observer data and laboratory test results is sent to MMR in Rarotonga for oversight, verification and certification.

5. RESEARCH ACTIVITIES

All Cook Islands vessels follow the scientific data guidelines as described in 2006 FAO Fisheries Circular 1020, updated in 2012 (FAO 2012). The 2012 document includes sampling methods for alfoncino and recommendations on how to conduct acoustic surveys.

In 2019, the Cook Islands provided 908 otoliths to be read for the 2020 alfoncino stock assessment. Additionally, in 2020 to assist the stock assessment, the Cook Islands undertook work to estimate provisional growth equations for otoliths taken from alfoncino in the 'East' of the assessment area. In 2021, additional information on growth, length frequency and maturity are provided in SERAWG-03-09.

6. VME THRESHOLDS FOR BOTTOM FISHING ACTIVITY

Cook Islands supports the protection of biodiversity, taking into account UNGA Resolution 61/105 and subsequent resolutions, which call on states to implement measures for the high seas in accordance with the precautionary principle and ecosystem approaches to fisheries management.

The Cook Islands notes that other RFMOs have progressed to spatial management as a standardised conservation and management measure to minimise bottom fishing impacts as being more effective than move-on rules, and supports the use of Benthic Protected Area (BPA) conservation closures to meet the requirements of Resolution 61/105.

Many areas in SIOFA are already identified and closed to Cook Islands vessels due to the potential for significant adverse impact on known VMEs by bottom trawling activity. Others are closed to Cook Islands vessels as a precautionary measure to maintain and protect biodiversity.

Findings by Cook Islands Fisheries Observers on board indicate that there have been low encounter rates with vulnerable marine benthic ecosystems by Cook Islands vessels.

MMR has developed an advanced encounter protocol with input from industry over a number of years to include holistic management approaches, either by moving off encounter areas, or more significantly by voluntary BPA fishing closures. Five BPA closures were implemented by the Meeting of the Parties in 2018. The Cook Islands maintains that and suggested further seven BPA areas should also be closed to fishing activities and these areas remain closed to Cook Islands vessels.

In 2020, flagged vessels adhered to the VME encounter threshold established in the interim CMM 19/01 section 12(b) when it came into effect in the second half of 2019.

Table 3: Threshold levels for VME encounters and move-on protocols in areas other than BPAs for Cook Island vessels

Gear/fishery	Thresholds	Move-on protocols
Trawl (CMM 19/01-12b)	More than 60 kg of live corals and/or 300 Kg of sponges in any tow.	For bottom or mid-water trawling, or fishing with any other net – two miles either side of a trawl track extended by two (2) nautical miles at each end;

In 2020 a total of 381 bottom trawl shots were carried out by Cook Islands vessels, and based on provisional data from observer reports no shots breached the VME threshold.

7. BIOLOGICAL SAMPLING AND LENGTH/AGE COMPOSITION OF CATCHES

Biological data has been collected from Cook Islands vessels since 2004. Data has been collected by vessel crews, Cook Islands Observers, or scientists on specific voyages. Length frequency distributions of orange roughy vary significantly within the SIOFA area, as reported in 2016 (SC-01-INFO- 15). In total 50,369 orange roughy were sampled for length, weight, sex and maturation from 522 target trawls shots between 2004 and 2015. This database has now increased to 66,400 samples following a major increase in sampling during 2017. This was to provide data for age composition for the planned stock assessment. These fish were aged, and provide the first ever age composition data for a high seas orange roughy stock anywhere in the world.

8. OBSERVER PROGRAMME

In 2020, The Cook Islands National Observer Programme (CINOP) was unable to maintain 100% observer trip coverage due to the global impact of Covid-19. This resulted in a derogation of paragraph 39 of CMM 2019-01 (interim Bottom Fishing Measures). The Cook Island requested for an extension of this derogation period to June 2021 to provide relief to flagged vessels and the challenging circumstances that Covid-19 has placed on the Cook Islands National Observer Programme.

The Cook Islands attempted to maintain some observer coverage, and the programme allowed one observer aboard a national fleet vessel to continue to carry out observer duties until it was safe enough to repatriate the observer in February 2021.

Table 4: Observer coverage summary table

Gear	Trip coverage (%)	Total No. sets/hauls	No. sets/hauls covered	Within set/haul coverage	Incidental bycatch (bird, mammal) observation coverage
Trawl	50%	1922	996	52%	52%

9. PORT SAMPLING AND INSPECTION PROGRAMME

Cook Islands vessels unload in either Cape Town or Port Louis. Entry and unloading at port is governed by the relevant Port State authorities under their domestic legislation.

The Cook Islands does not have a port sampling programme as sampling is conducted onboard the vessel by the observer.

Due to Covid-19 and travel restrictions, In 2020 Competent Authority inspection by MMR Fisheries Officers we not possible. Annual limited processing facility sanitary inspections were conducted by

International accredited SGS inspectors onboard flagged vessels in 2020. The Cook Islands is in the process of reviewing and updating legislative frameworks to support and achieve Competent Authority requirements.

10. VESSEL MONITORING SYSTEM (VMS)

Cook Islands vessels are required by law to carry and operate approved ALC/MTU units. The systems poll once an hour via Inmarsat-C systems to the service provider, with the vessels monitored at the MMR Oceans Monitoring Centre, in Rarotonga.

11. SHARKS

Trawl vessels are prohibited from targeting sharks, but where sharks are caught in the normal operations of the vessel they are required to be handled in a manner that affords them the best chance of survival before release.

Appendix 1

List of common and scientific names for main species caught by Cook Islands vessels.

FAO Code	Common Name	Scientific Name
BYS	Alfonsino	<i>Beryx splendens</i>
BOE	Black Oreo	<i>Allocyttus niger</i>
SEY	Black Butter Fish	<i>Schedophilus velaini</i>
BWA	Blue nose	<i>Hyperoglyphe antarctica</i>
EDR	Boarfish	<i>Pentaceros richardsoni</i>
EPI	Cardinal Fish	Family Apogonidae
ORY	Orange Roughy	<i>Hoplostethus atlanticus</i>
SSO	Smooth Oreo Dory	<i>Pseudocyttus maculatus</i>
ONV	Spiky Oreo Dory	<i>Neocyttus rhomboidalis</i>

Appendix 2

Benthic Protected Areas.

	Area	Coordinates			
		Position	Position	Position	Position
1	<i>Gulden Draak</i>	28° 00'S 98° 00'E	29° 00'S 98°00'E	28° 00'S 99°00'E	29° 00'S 99°00'E
2	<i>Rusky</i>	31° 20'S 94° 55'E	31° 30'S 94° 55'E	31° 20'S 95° 00'E	31° 30'S 95° 00'E
3	<i>Fools-Flat</i>	31° 30'S 94° 40'E	31° 40'S 94° 40'E	31° 30'S 95° 00'E	31° 40'S 95° 00'E
4	<i>East Broken Ridge</i>	32° 50'S 100° 50'E	33° 25'S 100° 50'E	32° 50'S 101° 40'E	33° 25'S 101° 40'E
5	<i>Mid-Indian Ridge</i>	13° 00'S 64° 00'E	15° 50'S 64° 00'E	13° 00'S 68° 00'E	15° 50'S 68° 00'E
6	<i>Atlantis Bank</i>	32° 00'S 57° 00'E	32° 50'S 57° 00'E	32° 00'S 58° 00'E	32° 50'S 58° 00'E
7	<i>Bridle</i>	38° 03'S 49° 00'E	38° 45'S 49° 00'E	38° 03'S 50° 00'E	38° 45'S 50° 00'E
8	<i>Walters Shoal</i>	33° 00'S 43° 10'E	33° 20'S 43° 10'E	33° 00'S 44° 10'E	33° 20'S 44° 10'E
9	<i>Coral</i>	41° 00'S 42° 00'E	41° 40'S 42° 00'E	41° 00'S 44° 00'E	41° 40'S 44° 00'E
10	<i>South Indian Ridge (North/South) this region abuts the CCAMLR-managed zone to the south and lies between the South African EEZ around Prince Edward and Marion Islands to the west and the French EEZ surrounding Crozet Island to the east. The estimated points of contact with the EEZ areas are: 44° S; 40.878° E; 44° S; 46.544° E; 45° S; 42.124° E; 45° S, 45.711° E.</i>	44° 00'S 40°52'40.8E	45° 00'S 42°07'26.4E	44° 00'S 46°32'38.4E	45° 00'S 45°42'39.6E
11	<i>Banana</i>	30° 20'S 45° 40'E	30° 30'S 45° 40'E	30° 20'S 46° 00'E	30° 30'S 46° 00'E
12	<i>Middle of What (MoW)</i>	37° 54'S 50° 23'E	37° 56'S 50° 23'E	37° 54'S 50° 27'E	37° 56'S 50° 27'E