Singing EER - 0.070 Data Report OMER — OTEC Cruise, Jan. 27 - Feb. 1, 1980. Center for Energy and Environment Research.

Data Report: OMER ~ OTEC Cruise, Jan. 27 - Feb. 1, 1980

Table of Contents: Methods, Bibliography, Station Plan, Hydrocast Data ~ 1,5,09, Chlorophyll, Nutrients, 0, Temperature (C/Salinity), Plots. Zooplankton Data Appendix, Cruise Plan, Scientific Personnel, Weather Code.

Introduction: The ability to detect the effects of an OTEC plant on the marine environment is dependent upon the magnitude of its effects relative to the scale and intensity of variability (pattern) within this ecosystem. The scale of pattern examined in this study is approximately 10 km², which has been estimated to be the area whose alteration by the operation of an OTEC plant can be physically measured. The purpose of this cruise was to determine the magnitude of variability of various ecosystem components within and between such areas. Small scale and large scale transects were run to determine the presence of environmental gradients, if any, and the magnitude of between station variability. Two current meters (InterOcean Model 135) were also moored at depths of 50 and 150 meters at the benchmark buoy during the period of the cruise. Hydrographic data Hydrocasts were made with 5 liter Niskin bottles usually lowered to depths of 100m. Bottles were placed at nominal depths of 0, 10, 25, 50, 75, 100, 150, 200, 250, 300, 400, 500, 650, 800, 1000 m for determinations of temperature, salinity, oxygen, chlorophyll, phaeopigments and nutrients (nitrate-nitrite, phosphate, ammonia, silicate). Temperature was measured with paired deep sea reversing thermometers, the thermometers were recently calibrated at the Physical Chemical Oceanographic Data Facility (PCODP) at Scripps Institution of Oceanography and measurements were considered accurate to 0.01°C. Unprotected thermometers were placed on bottles sampling at depths of 100

meters or greater. Salinity was

The text was determined with a Wytech induction salinometer. Readings are considered accurate to 0.003*/. Dissolved oxygen was determined by the Winkler method as revised by Carpenter (1965) and modified by Anderson (1971). Measurements are accurate to 0.02 ml/l. Nutrients were measured with a Technicon Autoanalyzer using methods described by Strickland and Parsons (1968). Chlorophyll was measured with a Turner Model 111 fluorometer using methods described by Strickland and Parsons. Station depths were obtained through a B.D.O. depth recorder permanently installed in the ship or estimated from a chart, NOS 26659. Sonic depths obtained in fathoms were converted to meters but were not corrected for speed of sound variations. Chart depths are indicated by (c) and sonic depths by (s) beside the number. All depths are in meters. Densities (σt) were calculated from a Handbook of Oceanographic Tables (Bialek, 1966). Station times are given in Greenwich Mean Time (GMT). Plankton 'Tow Times' are in local time. Puerto Rico is 4 hours behind GMT. A weather code is given in the Appendix. Net tows and Zooplankton tows were made with a 75 cm opening-closing net equipped with 202 um mesh. The volume of water filtered was calculated from a flowmeter suspended off-center in the mouth of the net.

BIBLIOGRAPHY

Anderson, G.C. 1971. Oxygen analysis. Marine Technicians Handbook, STO Ref. No. 71-10, Sea Grant Pub. No. 11.

Bialek, E.T. (compiler), 1966. Handbook of Oceanographic Tables. U.S. Naval Oceanographic Office, Washington, D.C. Special Publication.

Carpenter, D.H. 1965. The Chesapeake Bay Institute technique for Winkler Dissolved oxygen method. Limnol. Oceanogr. 10: 141-143,

Strickland, J.D.H. and T.R. Parsons. 1968, A practical handbook of Seawater analysis. Fish. Res. Board of Canada, Bull. No. 167: app.

STATION PLAN

(Correction needed for the following text)

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It seems like the text you've provided is heavily scrambled or possibly contains a large amount of typos. It's hard to determine its original meaning without additional context. However, I'll try to break it down into possible sections based on your formatting:

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Please provide more context or clarify the text more so I can assist you further.

I'm sorry, but the text you provided seems to be garbled or scrambled, making it impossible to correct. Could you please provide a clear and readable text?

I'm sorry, but the text provided is too garbled and doesn't provide enough context for me to make a meaningful correction. Could you provide a clearer version, or give more information about the content?

I'm sorry, but the provided text appears to be jumbled and nonsensical. It may contain typographical errors or it could be encrypted. I need more context or clearer information to assist you better.

The text appears to be highly garbled and may contain technical terms or data. Based on the recurring terms "salinity", "zooplankton data", and "January 1980 cruise plan", it seems to be related to marine science. However, it's impossible to correct this text without further contextual information. Could you provide more details?

100-200m) vertical net tow (1000-200m) oblique net tow (0-100, 100-200m) vertical net tow (1000-200m) hydrocast. Fluorometer profile vertical net tow (1000-200m) oblique net tows (0-100, 190-200) vertical net tow (1000-290m) oblique net tows (0-100, 109-200m) vertical net tow (1000-200m) oblique net tows (0-11, 109-200) hydrocast fluorometer profile. Begin small scale pattern study, steam for station S-1 hydrocast at station S-1 (primary productivity) fluorometer profile, station S-1 oblique net tow (0-100m) station S-1 steam for S-2.

DAF 2 (cont) Day 3 1000 1085, 1130 11s 1300 1345, 1430 1515 1600 1545, 1730 1930 2000 2100 2200 2400 0000 0100 0200 fluorometer profile, stations-2 oblique net tow (0-100m) steam for S-3 fluorometer profile, station S-3 oblique net tow (0-100m) steam for S-4 fluorometer profile, station S-4 oblique net tow (0-100m) steam for S-5 fluorometer profile, station S-5 (Benchmark) oblique net tow steam for S-6 fluorometer profile, station S-6 oblique net tow return to benchmark hydrocast. Begin night series steam for S-1 oblique net tow (0-100m) steam for S-2 oblique net tow (0-100m) steam for S-3 oblique net tow (0-100m) hydrocast steam for S-4 oblique net tow (0-100m) steam for S-5 (benchmark) oblique net tow (0-100m) steam for S-6 oblique net tow (0-100m) steam to Vieques. Begin large scale study.

Day 3 Day 4 0700 0900 1030 1400 1600 1930 0130 0530 0800 3000 arrive station V1 hydrocast (2 depths) shallow net tow fluorometer profile. Steam for V-2 shallow net tow, fluorometer profile, steam for V-3. Hydrocast (primary productivity), light profile, fluorometer profile, oblique net tow (0-100m) steam for V-4 oblique net tow (0-100m) fluorometer profile steam for V-5 oblique net tow (0-100m) fluorometer profile steam for V-6. Hydrocast oblique net tow (0-100m) fluorometer profile steam for PT-6 arrive PT-6 hydrocast, net tow, fluorometer profile, oblique net tow (0-100m) steam for PT-5 oblique net tow (0-100m) fluorometer profile steam for PT-8 fluorometer profile.

Oblique net tow (0-100m) steam for PT-3 (benchmark) hydrocast (primary productivity) oblique net tow (0-100m) fluorometer profile, light profile.

Day & Cont., Page 5:

1400, 1600, 2030, 2300, 0830, 0700, 1000, 2200. Steam for PT-2 fluorometer profile, oblique net tow, steam for PT-1 shallow hydrocast (2 depths), shallow net tow, fluorometer profile, steam for J-1 shallow hydrocast (2 depths), shallow net tow, fluorometer profile, steam for J-2.

Fluorometer profile, oblique net tow, steam for J-3 hydrocast, fluorometer profile, oblique net tow (0-100m), steam for J-4. Oblique net tow (0-100m), fluorometer profile, steam for J-5, fluorometer profile, oblique net tow (0-100m), steam for J-6 hydrocast (primary productivity), light profile, oblique net tow (0-100m), fluorometer profile, steam for Malecon. Arrive Malecon.

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LARGE SCALE PATTERN STUDY:

zj mV xv-2 rv ST oT xvod x02 oT? xo3 00 keT3 V5 deh x PTA xa x PTS V6 x96 x PTB. Sites join 1 1/2, 3 1/2, 7 1/2, 15 1/2, 32 mi, from shore.

Paul F. Yoshioka. Avin GonaSiex, 086 C. Maldonado, Carlos A. Sonasé, Amaury E. Torres, Joan G. González, Vance P. Vicente, Dennis, Corales, Jorge B. Carefa, Jorge Capella, José A. Panfrez, Angel Nazario, Daniel Pesante, Jose Y. Lopez, George C. Anderson.

LIST OF SCIENTIFIC PERSONNEL:

Tech student, lab tech, student scientist, senior associate, lab tech, MSc student, lab tech, lab tech, tech, senior associate scientist, 12 corr com, UPR High School, CEER Univ. of PR, EER, CEER, CEER, R & CER, AOAG, SAGA, Enterprise.

WEATHER CODE:

Clear (no cloud at any level), partly cloudy (scattered or broken clouds), continuous layer(s) of clouds, sandstorm, duststorm, or blowing snow, fog, thick dust, or light drizzle, rain, snow, or rain and snow mixed, showers, thunderstorms.