

INTER-AMERICAN TROPICAL TUNA COMMISSION COMISION INTERAMERICANA DEL ATUN TROPICAL

**Data Report — Informe de Datos
No. 3**

**OCEANOGRAPHIC OBSERVATIONS FOR THE MAZATLAN
PROJECT: OCTOBER 1966 — AUGUST 1967**

**OBSERVACIONES OCEANOGRAFICAS POR EL PROYECTO
MAZATLAN: OCTUBRE 1966 — AGOSTO 1967**

**by — por
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**La Jolla, California
1969**

The Inter-American Tropical Tuna Commission was established by a Convention between the Governments of the Republic of Costa Rica and the United States of America. The Convention entered into force in 1950. The Commission's duties under the Convention (Art. II, 1.) include the conduct of:

"investigations concerning the abundance, biology, biometry, and ecology of yellowfin (*Neothunnus*) and skipjack (*Katsuwonus*) tuna in the waters of the eastern Pacific Ocean . . . and the kinds of fishes commonly used as bait in the tuna fisheries . . . and of other kinds of fish taken by tuna fishing vessels; and the effects of natural factors and human activities on the abundance of the populations of fishes supporting all of these fisheries."

and to

"Recommend from time to time, on the basis of scientific investigations, proposals for joint action . . . designed to keep populations of fishes covered by this Convention at those levels of abundance which will permit the maximum sustained catch."

The Commission initiated its investigations, which are conducted by a permanent international scientific staff, in 1951.

Provision is made in the Convention (Art. V, 3.) for:

"Any government, whose nationals participate in the fisheries covered by this Convention . . . Upon receiving the unanimous consent of the High Contracting Parties . . ."

to adhere. Under this provision the Republic of Panama adhered in 1953, the United Mexican States in 1964, and Canada in 1968.

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La Comisión Interamericana del Atún Tropical fue establecida por una Convención entre los Gobiernos de la República de Costa Rica y los Estados Unidos de América. La Convención entró en vigencia en el año de 1950. Las obligaciones de la Comisión bajo la Convención (Art. II, 1.) incluyen:

"Llevar a cabo investigaciones sobre la abundancia, biología, biometría y ecología de los atunes de aletas amarillas (*Neothunnus*) y bonitos (*Katsuwonus*) de las aguas del Pacífico Oriental . . . como también de las clases de pescado que generalmente se usan como carnada en la pesca del atún . . . y otras clases de peces que pescan las embarcaciones atuneras; y asimismo sobre los efectos de los factores naturales y de la acción del hombre en la abundancia de las poblaciones de peces que sostengan a todas estas pesquerías."

como también

"Recomendar en su oportunidad, a base de investigaciones científicas, la acción conjunta necesaria . . . para fines de mantener las poblaciones de peces que abarca esta Convención en el nivel de abundancia que permita la pesca máxima constante."

La Comisión inició sus investigaciones, las cuales son conducidas por un personal científico internacional permanente, en 1951.

Existe una disposición en la Convención (Art. V, 3.) por medio de la cual:

"Todo gobierno cuyos nacionales tomen parte en las operaciones de pesca que abarca esta Convención . . . Al recibir el consentimiento unánime de las Altas Partes Contratantes . . ."

puede adherirse. Bajo esta cláusula la República de Panamá se adhirió en 1953, los Estados Unidos Mexicanos en 1964, y Canadá en 1968.

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OCEANOGRAPHIC OBSERVATIONS FOR THE MAZATLAN PROJECT, 1966-1967

INTRODUCTION

The waters off the coast of western Mexico, including the area just to the south of the Gulf of California, are important to the fishing industries of both California and Mexico because of their high yields of yellowfin tuna. Adult fish, however, are only seasonal residents in the area because they tend to migrate north and south along the coast of Mexico and Central America as indicated by tagging studies (Schaefer, Chatwin, and Broadhead 1961), and analysis of catch distribution (Calkins & Chatwin 1967).

To learn more about the early life of yellowfin tuna in their immediate environment, the Inter-American Tropical Tuna Commission initiated a 2-year cooperative investigation with the Dirección General de Pesca e Industrias Conexas (DGP) of Mexico in August 1966. The project called for monthly cruises of about 5 days duration to be made in a triangular track between Mazatlan, Cape San Lucas and the Tres Marias Islands. Laboratory space for the field work was provided by the DGP in their biological station in Mazatlan and the research vessel Yolanda, property of the DGP, was made available for the monthly cruises.

Cruise description

During each cruise a grid of 15 to 17 stations was occupied in approximate accord with local sunrise, noon, sunset and midnight. Bathythermograph casts were made at each station to measure subsurface temperature, and Knudsen-Morrison bottles were used to collect water samples for the determination of salinity. Water transparency was determined with the aid of a Secchi disc. Zooplankton samples were collected by making surface and oblique net tows at each station. Samples of surface plankton and nekton were collected at night

by dip netting under a floodlight on several cruises.

Starting with the sixth cruise, estimates were made of the phytoplankton concentration at the surface by the measurement of the plant pigments chlorophyll a and phaeophytin a. Carbon fixation by phytoplankton was measured by the uptake of C¹⁴. Certain weather observations were made at each station at the time of the bathythermograph (BT) cast. A solar radiation recorder was installed atop the biological station at Mazatlan just prior to the sixth cruise. A continuous trace was made to provide a general index of the solar energy input at the sea surface for the general area under study.

Scientific personnel

The cruises were made with the aid of the following persons:

Cruise Number	Vessel	Personnel
1	Yolanda	William Leet*, Witold Klawe, Anatolio Hernández - biologists
2	Yolanda	William Leet*, Anatolio Hernandez -biologists; Teodosio Raygoza-technician
3	Yolanda	William Leet*, Ruben Soto - biologists
4	Yolanda	William Leet* - biologist; Teodosio Raygoza-technician
5	Yolanda	William Leet* - biologist; Gilberto Valdez-technician
6	Yolanda	William Leet* - biologist; Merritt Stevenson-Oceanographer
7 +	Defiance	James Squire, Jr.,*, William Leet**, Howard Ness, Lloyd Richards, W.H. Witherspoon, Dan Eilers - biologists; Chris Psaropoulos -scientist.
8	Tuxpan	William Leet* - biologist; Eric Forsbergh-oceanographer, Marco Osuna-technician

* Cruise leader

** Assistant cruise leader

+ A joint cruise made with the U.S. Bureau Sportfish and Wildlife aboard their U.S. chartered vessel.

Acknowledgements to participants

Many persons were associated with one or more phases of the investigation. Particular acknowledgement is given to Cuthbert Love, Commission Oceanographer, for setting up the cruise schedule and assisting with the plans for the field work; Mr. Robert Wagner Commission technician, for preparing the equipment for the project and subsequently for making the salinity and chlorophyll determinations for the project; Mr. William Leet, who was responsible for the field work of the project and participated in all cruises and processed the zooplankton samples; and Mr. Chris Psaropoulos, Commission programmer, who modified and assisted with the computer processing of the data. The invitation by the U.S. Bureau Sport-fish and Wildlife to the Tuna Commission to make a joint extended cruise in the area of this study aboard their chartered vessel is gratefully acknowledged. Data processing and compilation was directed by Dr. Merritt Stevenson.

METHODS

Each monthly cruise with the exception of the seventh (Mazatlan-7 or MZ-7) was planned to take 5 days. The stations were spaced at 6-hour intervals: 6:00 AM, noon, 6:00 PM and midnight (+7 time zone). Each data section in this report is preceded by a figure containing the appropriate cruise track and station positions. Knudsen-Morrison reversing bottles were placed at 0,10,25,40,55,75, 100,150,200,270 m depth for each station where possible.

Temperature and salinity

Temperature was determined by BT cast to a depth of 270 m or less. A continuous recording thermograph monitored near surface

(3 m depth) temperature during some of the cruises. Temperatures were read from each BT trace at depths that corresponded with the placement of Knudsen bottles. Observations of surface temperature were also made with a bucket thermometer calibrated to $\pm 0.1^{\circ}\text{C}$ and were used to align the BT records. The temperatures are considered reliable to $\pm 0.2^{\circ}\text{C}$. Salinity determinations were made with the use of an inductive salinometer and are considered accurate to $\pm 0.003\%$ (Brown and Hamon 1961).

Zooplankton

Zooplankton concentration was estimated from surface and oblique net tows made with a conical net having a circular mouth with a diameter of 1-meter. The conical and cod end sections were made from Nytex with a mesh opening of 505 and 333 microns respectively. The oblique tow was made by first allowing the net to fall freely until 110 m of towing line was paid out. The angle on the towing line was then adjusted to about 45° (for a net depth of 77 m) by slowly towing the net through the water and at the same time pulling the net to the ship. The surface tow was made at low speed (about 2 knots) and took 15 minutes. The strained volumes were determined by flow-meter readings made after each tow. Zooplankton concentrations were determined by measuring the wet volume of zooplankton and standardizing to 1000 m^3 of water strained.

Water transparency

Water transparency was estimated by measurements with a Secchi disc. The maximum depth at which the white disc is visible is related to the extinction coefficient for visible light by

$$\underline{k} = 1.7/\underline{D}$$

where \underline{D} is the depth of the disc measured in meters.

The intensity of transmitted light at some depth beneath the surface

is expressed by the relationship

$$I = I_0 e^{-kz}$$

where I_0 is the incoming light intensity,
 z is the depth measured from the surface, and
 k is the extinction coefficient for some wave-length of light.

Plant pigments

Surface water samples were collected with a polyethylene bucket and placed in 550 ml polyethylene bottles. Each quantity of water was then filtered with aid of a vacuum system through an HA Millipore filter on the sixth and seventh cruises, and a combination of Whatman GF/C glass fiber filters and HA Millipore filters on the eighth cruise. The filtered plant material was then covered with a thin layer of magnesium carbonate from a saturated magnesium carbonate solution contained in a washbottle. After filtration, the filters were carefully folded, marked for station identification and vacuum dried in an opaque container. The filters were then refrigerated for shipment by air to La Jolla for final analysis. All samples were processed with a Turner fluorometer Model III according to the method outlined by Holm-Hansen, Lorenzen, and others (1965) and the Manual of EASTROPAC Observations (Anon. 1967).

The actual pigment concentrations were determined by

$$\text{chlor a (mg.M}^{-3}\text{)} = \frac{\frac{F_o/F_{amax}}{(K_x)(F_o-F_a)} \text{ (dilution factor)}}{\frac{(F_o/F_{amax} - 1)}{\text{liters filtered}}}$$

$$\text{phaeophytin a } (\text{mg.M}^{-3}) = \frac{\frac{F_o/F_{amax}}{(F_o/F_{amax} - 1)} (K_x)(F_a(\frac{F_o}{F_{amax}}) - F_o) \text{ (dilution factor)}}{\text{liters filtered}}$$

where

F_o = fluorescence before acidification

F_a = fluorescence after acidification

K_x = calibration factor of a specific instrument slit

F_o/F_{amax} = maximum acid factor in absence of phaeophytin

Primary production

Estimates of primary productivity were made by modifying the C^{14} fixation method of Steeman Nielsen (1952). A surface water sample was collected (either at local sunrise or noon) with a clean polyethylene bucket. The water was put into three 250 ml reagent bottles (two clear, one opaque). Each bottle was innoculated with a known quantity of a carbonate solution containing C^{14} . The bottles were then placed in a cylindrical plastic incubator and towed behind the ship at a depth of about 1 meter for 6 hours beginning at sunrise or local noon. On the seventh cruise a deck incubator with running sea water was used. After incubation, the innoculated samples were filtered, stored in an evacuated dessicator flask and later sent to the International Agency for C^{14} Determination in Denmark, for counting and analysis. The uncertainty of this method at the 18 $\text{mg C/m}^3/\text{day}$ level was $\pm 1.8 \text{ mg/C/m}^3/\text{day}$ (Strickland and Parsons 1965).

Solar radiation

The solar radiation recorder consisted of an Eppley 10 junction pyranometer and associated amplifier and calibration system with strip chart recorder. Daily traces were recorded a month at a time. A planimeter was used to integrate each daily trace two

times, and areal integration constant was determined for each trace. Analysis of integration constants and the daily traces indicates an integration error for calibration of about $\pm 1\%$ and an overall uncertainty in the energy units of about $\pm 4\%$. A check on the variability for a number of the traces indicated a standard deviation of 11 langleys per day.

TREATMENT OF DATA

After each cruise the BT slides were sent to the BT section of Scripps Institution of Oceanography, La Jolla, to be photoprocessed and digitized. Each BT card was then checked for inflection points and inversions and these values noted. Additional temperatures at depths corresponding to the depths of the Knudsen bottles were also noted.

The temperature and salinity values were punched onto IBM cards prior to machine processing. The hydrographic program used contains a printer plotting program that was used to draw temperature versus depth and temperature versus salinity (T-S) diagrams. These profiles were used to eliminate bad values or make minor changes in the data. A final computer tabulation was used to print the data tables.

EXPLANATION OF DATA TABLES

A blank space in the tables or headings indicates either that no observation was taken or that the measurement was not considered reliable enough to be used. Observations of present weather, visibility, clouds, sea, and swell appearing in the heading information have been coded according to the codes provided in the U.S. National Oceanographic Data Center Publication M-2 (1962). Abbreviations used in the tables and units in which the properties are expressed are explained below.

NAME OF VESSEL	The name of the vessel appears after the participant CIAT (IATTC)
CRUC (Cruise number)	Cruise numbers were assigned with the first two numbers for the year and the 3rd number for the quarter of the year. The serial number of each cruise is to the right of the vessel name.
ESTAC (Station number)	Station numbers were assigned by the participants conducting the cruise
LAT (Latitude) LONG (Longitude)	In degrees and minutes of arc
FECHA (Date)	Local date of the first cast
HORA (Time of cast)	Local time of the cast. If a second number appears, it is the time of the second cast.
TIEMPO (present weather)	Coded according to NODC Publication M-2 (1962)
VISIB (Visibility)	Coded according to NODC Publication M-2 (1962)
NUBES-TIPO (Cloud type)	Coded according to NODC Publication M-2 (1962)
CANT (Cloud cover)	Coded according to NODC Publication M-2 (1962)
VIENTO: VEL-DIR (wind velocity and direction)	Velocity: The first number indicates knots, the number in parentheses indicates meters per second. Direction: numbers indicate range of direction in degrees true, from which wind was blowing.
BAR (Barometric pressure)	In millibars
TERMHUM (Air temperature, wet bulb)	In degrees Celsius
TERMSEC (Air temperature, dry bulb)	In degrees Celsius
HUMREL (Relative humidity)	In percent
OLAS: DIR-ALT (Waves; direction and height)	Direction: Numbers indicate range of direction, in degrees true, from which swell was coming. Height: coded according to NODC Publication M-2 (1962)
PER (Period of waves)	Period of dominant waves coded according to NODC Publication M-2 (1962)

SECCHI (Water transparency)	Depth in meters to which a Secchi disc could be seen
PROF (Depth of sample)	Depth in meters from which sample was obtained
TEMP (Temperature)	In degrees Celsius
SAL (Salinity)	In parts per thousand (‰)
SIGMA-T (σ_t)	An expression for the density of sea water at atmospheric pressure, having the indicated temperature and salinity
ANOM TERMOST (Thermosteric anomaly)	In centiliters per ton
ALT DINAM (Dynamic height)	Dynamic height of the layer of water between the surface and the indicated depth expressed in dynamic meters
ESTAB (stability)	The units of static stability are $10^5 \frac{du}{dz} t$ (See Sverdrup, Johnson and Fleming 1942, p.416-18)
PIGMENTOS:CLO.A - FAE0. (Chlorophyll a and phaeophytin pigments)	Plant pigments in mg/M ³ collected from the surface water
PRODUCCION PRIMARIA (Primary production)	The first number is for the "light" bottles, second number is another "light" or a 50% ambient light "medium" bottle (followed by *), third number is for "dark" bottle. Values are in mgC/M ³ per day as determined from uptake of C ¹⁴ . Samples are from surface water.
ZOOPLANCTON:SUPER, OBLICUO (Zooplankton:surface and oblique)	Plankton concentrations are in ml/1000M ³ . The numbers below *MACRO* signify specimens longer than 30 mm - the numbers above are for those less than 30 mm.
1 (questionable value)	The numeral one to the right of a tabulated number indicates a value considered questionable by the originator or compiler of the data.

OBSERVACIONES OCEANOGRAFICAS DEL PROYECTO DE MAZATLAN,

1966-1967

INTRODUCCION

Las aguas frente a la costa del litoral de México occidental, incluyendo el área justo al sur del Golfo de California, son importantes para las industrias pesqueras de California y México debido al alto rendimiento producido de atún aleta amarilla. Los peces adultos, sin embargo, son solamente residentes estacionales en el área, ya que tienden a desplazarse al norte y al sur a lo largo de la costa de México y de la América Central, como lo indican los estudios de marcación (Schaefer, Chatwin y Broadhead 1961), y el análisis de la distribución de captura (Calkins y Chatwin 1967).

Con el fin de obtener un conocimiento más avanzado sobre la vida temprana de estos atunes aleta amarilla, y del ambiente que los rodea, la Comisión Interamericana del Atún Tropical inició una investigación colaborativa de 2 años con la Dirección General de Pesca e Industrias Conexas (DGP) de México, en agosto de 1966. El proyecto requirió cruceros mensuales de unos 5 días de duración para que fueran realizados en un rumbo triangular entre Mazatlán, Cabo San Lucas y las Islas Tres Marías. La Dirección General de Pesca ofreció amablemente las facilidades del laboratorio para el trabajo experimental en la estación biológica de Mazatlán, y el barco de investigación Yolanda para los cruceros mensuales.

Descripción de los cruceros

Durante cada crucero se ocupó una malla de 15 a 17 estaciones, aproximadamente de acuerdo al orto, el mediodía, el ocaso y la media noche local. Los lances batítermográficos se hicieron en cada estación para medir la temperatura subsuperficial y se emplearon botellas Knudsen-Morrison para obtener las muestras de agua para determinar

la salinidad. La transparencia del agua fue determinada mediante el disco Secchi. Los ejemplares de zooplancton fueron obtenidos en cada estación mediante arrastres superficiales y oblicuos de la red. En varios cruceros se obtuvieron por la noche muestras superficiales de plancton y necton, con una red manual bajo la luz de un reflector.

Al empezar el sexto crucero, se hicieron los estimativos de la concentración del fitopláncton en la superficie, mediante el avalúo de los pigmentos de las plantas, la clorofila a y el faeofitin a. La fijación de carbono del fitopláncton fue determinada por la absorción de C¹⁴. Se realizaron ciertas observaciones meteorológicas en cada estación en el momento del lanzamiento batítermográfico (BT). Un registro de radiación solar fue instalado encima de la estación biológica de Mazatlán, justamente antes del sexto crucero. Continuamente se hizo una delineación para proveer un índice general de la energía solar recibida en la superficie del mar, correspondiente al área general del estudio.

Personal científico

Los cruceros se llevaron a cabo con la ayuda de las siguientes personas:

Número del crucero	Barco	Personal
1	Yolanda	William Leet*, Witold Klawe, Anatolio Hernández - biólogos
2	Yolanda	William Leet*, Anatolio Hernández-biólogos Teodosio Raygoza-técnico
3	Yolanda	William Leet*, Rubén Soto - biólogos
4	Yolanda	William Leet* - biólogo; Teodosio Raygoza-técnico
5	Yolanda	William Leet* - biólogo; Gilberto Valdez técnico

* Jefe del crucero

<u>Número del crucero</u>	<u>Barco</u>	<u>Personal</u>
6	Yolanda	William Leet* - biólogo; Merritt Stevenson - oceanógrafo
7+	Defiance	James Squire, Jr.,*, William Leet**, Howard Ness, Lloyd Richards, W. H. Witherspoon, Dan Eilers - biólogos; Chris Psaropoulos, científico
8	Tuxpan	William Leet* - biólogo; Eric Forsbergh - oceanógrafo, Marco Osuna - técnico

Reconocimiento a los participantes

Varias personas estuvieron asociadas con una o más fases de la investigación. Se agradece especialmente a Cuthbert Love, oceanógrafo de la Comisión, quién organizó el itinerario de los cruceros y ayudó con los planes del trabajo experimental; al Sr. Robert Wagner, técnico de la Comisión, por preparar el equipo del proyecto, y por hacer luego las determinaciones de salinidad y clorofila para el proyecto; al Sr. William Leet, quién fue responsable por el trabajo experimental del proyecto y quién participó en todos los cruceros y procesó las muestras de zooplancton; y al Sr. Chris Psaropoulos programador de la Comisión, quién modificó y ayudó con el procesamiento de los datos por computador. Se reconoce también la invitación que el U.S. Bureau Sportfish and Wildlife, hizo a la Comisión del Atún para realizar un crucero conjunto en el área de estudio, a bordo de un barco fletado por ellos. El procesamiento de los datos y la compilación fue dirigida por el Dr. Merritt Stevenson.

METODOS

Cada crucero mensual con excepción del séptimo (Mazatlán-7 o MZ-7) fue planeado para que durara 5 días. Las estaciones fueron espaciadas a intervalos de 6 horas: 6:00 am, mediodía, 6:00 pm y a

* Jefe del crucero

** Subjefe del crucero

+ Crucero realizado en conjunto con el U.S. Bureau Sportfish and Wildlife a bordo de un barco fletado de los E.U.

la medianoche (+ 7 hora zonal). Cada sección de datos en este informe es precedida por una cifra que contiene la travesía apropiada del crucero y la posición de las estaciones. Las botellas reversibles Knudsen-Morrison fueron colocadas donde era posible a 0, 10, 25, 40, 55, 75, 100, 150, 200, 270 m de profundidad para cada estación.

Temperatura y salinidad

La temperatura fue determinada por el lanzamiento BT a una profundidad de 270 m o inferior. Durante algunos de los cruceros se registró continuamente mediante un termógrafo la temperatura cercana a la superficie (3 m de profundidad). Las temperaturas fueron leídas según cada trazado BT a profundidades correspondientes a la colocación de las botellas Knudsen. Se hicieron también observaciones de la temperatura superficial con un termómetro de cubo calibrado a $\pm 0.1^{\circ}\text{C}$ y se usaron para alinear los registros BT. Las temperaturas se consideran confiables hasta $\pm 0.2^{\circ}\text{C}$. Las determinaciones de la salinidad fueron realizadas con un salinómetro inductivo y se consideran con una precisión hasta de $\pm 0.005\%$ (Brown y Hamon 1961).

Zooplancton

La concentración de zooplancton fue estimada según los arrastres superficiales y oblicuos de la red, realizados con una red cónica con una apertura circular de 1-metro en diámetro. La sección cónica y de la manga eran de Nytex con la malla de una apertura de 505 y 333 microns respectivamente. El arrastre oblicuo se realizó primero dejando que la red cayera libremente hasta tener unos 110 m de la línea de arrastre. El ángulo de la línea de arrastre fue entonces ajustado a unos 45° (para una profundidad de 77 m de la red) arrastrando lentamente la red a través del agua y halando al mismo tiempo la red a bordo. El arrastre superficial se hizo a muy poca velocidad

(unos 2 nudos) y tomó 15 minutos. Los volúmenes filtrados fueron determinados mediante las lecturas de un correntómetro, realizadas después de cada arrastre. Las concentraciones de zooplancton fueron determinadas al medir el volumen húmedo del zooplancton y standardizando el agua filtrada a 1000 m^3 .

Transparencia del agua

La transparencia del agua fue estimada mediante mediciones con el disco Secchi. La profundidad máxima a la que el disco blanco es visible está relacionada al coeficiente de extinción de la luz visible por

$$\underline{K} = 1.7/\underline{D}$$

donde \underline{D} es la profundidad del disco medida en metros.

La intensidad o luz transmitida a alguna profundidad debajo de la superficie está expresada por la relación

$$I = I_o e^{-kz}$$

donde I_o es la intensidad de luz entrante

z es la profundidad medida desde la superficie, y

k es el coeficiente de extinción de alguna longitud de onda de la luz.

Pigmentos de las plantas

Las muestras del agua superficial fueron obtenidas con un cubo de polietileno y colocadas en botellas de polietileno de 550 ml. Se filtró luego cada cantidad de agua con la ayuda de una bomba aspiradora a través de un filtro HA Millipore en los cruceros sexto y séptimo, y en el octavo crucero con una combinación de filtros de fibra de vidrio Whatman GF/C y filtros HA Millipore. El material filtrado de las plantas fue entonces cubierto con una fina capa de carbonato de magnesio de una solución saturada de carbonato de magnesio conte

nida en una botella de enjuague. Después de la filtración, los filtros se doblaron cuidadosamente, se marcaron para identificar la estación y se secaron al vacío en un recipiente opaco. Los filtros fueron entonces refrigerados para enviarlos vía aérea a La Jolla para el análisis final. Todas las muestras fueron procesadas con un fluorómetro Turner Modelo III, de acuerdo al método indicado por Holm-Hansen, Lorenzen y otros (1965), y el Manual de las Observaciones de EASTROPAC (Anon. 1967).

Las concentraciones actuales de los pigmentos fueron determinadas por

$$\text{clor } a \text{ (mg.M}^{-3}) = \frac{\frac{F_o/F_{amax}}{(F_o/F_{amax} - 1)} (K_x)(F_o - F_a) \text{ (factor de dilución)}}{\text{litros filtrados}}$$

$$\text{faeofitin } a \text{ (mg.M}^{-3}) = \frac{\frac{F_o/F_{amax}}{(F_o/F_{amax} - 1)} (K_x)(F_a(\frac{F_o}{F_{amax}}) - F_o) \text{ (factor de dilución)}}{\text{litros filtrados}}$$

donde

F_o = fluorescencia antes de la acidificación

F_a = fluorescencia después de la acidificación

K_x = factor de calibración de la cortadura de un instrumento específico

F_o/F_{amax} = factor de acidez máxima en ausencia de faeofitin

Producción primaria

Los estimativos de la productividad primaria fueron hechos al modificar el método de la fijación del C^{14} de Steeman Nielsen (1952). Se extrajo una muestra de agua superficial (ya sea al orto o al mediodía local) con un cubo limpio de polietileno. El agua se puso en tres botellas de reactivos de 250 ml (dos claras, una opaca). Cada botella fue inoculada con una cantidad conocida de una solución

de carbonato contenido C¹⁴. Las botellas fueron colocadas entonces en una incubadora cilíndrica de plástico y remolcada detrás del barco a una profundidad de cerca de 1 metro por 6 horas, empezando al orto o al mediodía local. En el séptimo crucero se empleó una incubadora a cubierta por la que corría el agua de mar. Después de la incubación, se filtraban las muestras inoculadas, se almacenaban en un frasco desecador vacío y luego se enviaron al International Agency de la Determinación del C¹⁴ en Dinamarca, para su cálculo y análisis. La inseguridad de este método al nivel de 18 mg C/m³/día fue ±1.8 mg/C/m³/día (Strickland y Parsons 1965).

Radiación solar

El registro de la radiación solar consistió de un piranómetro Eppley de 10-conexiones y de un sistema asociado amplificador y de calibración con cinta grabadora. Los trazos de cada día fueron registrados por grupos cada mes. Se empleó un planímetro para integrar cada trazo diario dos veces, y se determinó una constante de integración areal para cada trazo. El análisis de las constantes de integración y de los trazos diarios indica un error de integración para la calibración de por ahí ±1% y una inseguridad total en las unidades de energía de cerca del ±4%. Un examen de la variabilidad para un número de trazos indicó una desviación standard de 11 langleyes por día.

PROCESAMIENTO DE LOS DATOS

Después de cada crucero las placas BT fueron enviadas a la sección BT de Scripps Institution of Oceanography, La Jolla, para que fueran fotoprocесadas y digitalizadas. Cada tarjeta BT fue entonces examinada para ver si se encontraban puntos de inflexión e inversiones y estos valores fueron anotados. Además se anotaron unas temperaturas adicionales correspondientes a las profundidades de las

botellas de Knudsen.

Los valores de temperatura y salinidad fueron perforados en tarjetas IBM antes de procesarlos mecánicamente. El programa hidrográfico, empleado, contiene un programa de imprenta gráfico que fue usado para diseñar los diagramas de temperatura versus profundidad y de temperatura versus salinidad (T-S). Estos perfiles fueron usados para eliminar valores errados o con el fin de hacer cambios menores en los datos. Se empleó una tabulación final de cómputo para imprimir la tabla de los datos.

EXPLICACION DE LA TABLA DE LOS DATOS

Un espacio en blanco en la tabla o en los títulos, indica que no se ha efectuado observación alguna o que las mediciones no se consideran suficientemente fidedignas para ser empleadas. Las observaciones del tiempo actual, visibilidad, nubes, mar y oleaje que aparecen en el encabezamiento del informe han sido codificadas de acuerdo a los códigos provistos en la Publicación M-2 (1962) del U.S. National Oceanographic Data Center. Las abreviaturas usadas en la tabla y en las unidades que expresan las propiedades, se explican en seguida.

NOMBRE DE LA NAVE

El nombre de la nave aparece después de la entidad participante CIAT

CRUC (número del crucero)

Se asignaron los números del crucero: los dos primeros números correspondientes al año y el tercer número al trimestre del año. El número de la serie de cada crucero se encuentra a la derecha del nombre del barco.

ESTAC (número de la estación)

Los números de las estaciones fueron asignados por los participantes que realizaron el crucero

LAT (latitud) LONG (longitud)

En grados y minutos del arco

FECHA	Fecha local del primer lanzamiento
HORA (hora del lanzamiento)	Hora local del lanzamiento. Si aparece una segunda cifra esta corresponde a la hora del segundo lanzamiento
TIEMPO (tiempo actual)	Codificado de acuerdo a NODC Publicación M-2 (1962)
VISIB (visibilidad)	Codificada de acuerdo a NODC Publicación M-2 (1962)
NUBES - TIPO (tipo de nube)	Codificadas de acuerdo a NODC Publicación M-2 (1962)
CANT (cubierta de nubes)	Codificada de acuerdo a NODC Publicación M-2 (1962)
VIENTO: VEL-DIR	Velocidad: la primera cifra indica nudos, la cifra entre paréntesis indica metros por segundo. Dirección: las cifras indican la amplitud de dirección, expresada en grados fieles, de la cual soplaba el viento
BAR (presión barométrica)	En milibares
TERMHUM (temperatura del aire, ampolla húmeda)	En grados Celsius (centígrados)
TERMSEC (temperatura del aire, ampolla seca)	En grados Celsius (centígrados)
HUMREL (humedad relativa)	El porcentaje
OLAS: DIR-ALT (dirección de las olas y su altura)	Dirección: las cifras indican la amplitud de dirección en grados fieles, de la cual proviene el oleaje. Altura: codificada de acuerdo a NODC Publicación M-2 (1962)
PER (periodo del oleaje)	Período dominante del oleaje codificado de acuerdo a NODC Publicación M-2 (1962)
SECCHI (transparencia del agua)	Profundidad en metros a la cual podía verse el disco Secchi
PROF (profundidad de la muestra)	Profundidad en metros a la cual se obtuvo la muestra
TEMP (temperatura)	En grados Celsius (centígrados)
SAL (salinidad)	En partes por mil (%)
SIGMA-T (σ_t)	Expresión que representa la densidad del agua de mar a presión atmosférica, teniendo la temperatura y salinidad indicada

ANOM TERMOST (anomalía termos térica)	En centilitros por tonelada
ALT DINAM (altura dinámica)	Altura dinámica de la capa de agua comprendida entre la superficie y la profundidad indicada, expresada en metros dinámicos
ESTAB (estabilidad)	Las unidades de estabilidad son $10^5 \frac{d\sigma_t}{dz}$ (véase Sverdrup, Johnson y Fleming 1942; p. 416-418
PIGMENTOS: CLO.A - FAEQ. (clorofila a y pigmentos de faeofitin)	Pigmentos de las plantas en mg/m^3 obtenidos del agua superficial
PRODUCCION PRIMARIA	La primera cifra es para las botellas "claras", la segunda cifra es también para otra "clara" o el 50% de luz ambiental, botella (seguida por *) "semiclaras", la tercera cifra es para la botella "opaca". Los valores están en mgC/m^3 por día según se han determinado por la absorción del C^{14} . Las muestras son de agua superficial
ZOOPLANCTON: SUPER, OBLICUO	Las concentraciones de plancton están expresadas en $\text{ml}/1000\text{m}^3$. Las cifras debajo de *MACRO* indican especímenes de una longitud mayor de 30 mm - las cifras encima son para aquellos menores de 30 mm.
1 (valor dudos)	La cifra uno colocada a la derecha de una cifra tabulada indica que quién originó los datos, la considera dudosa.

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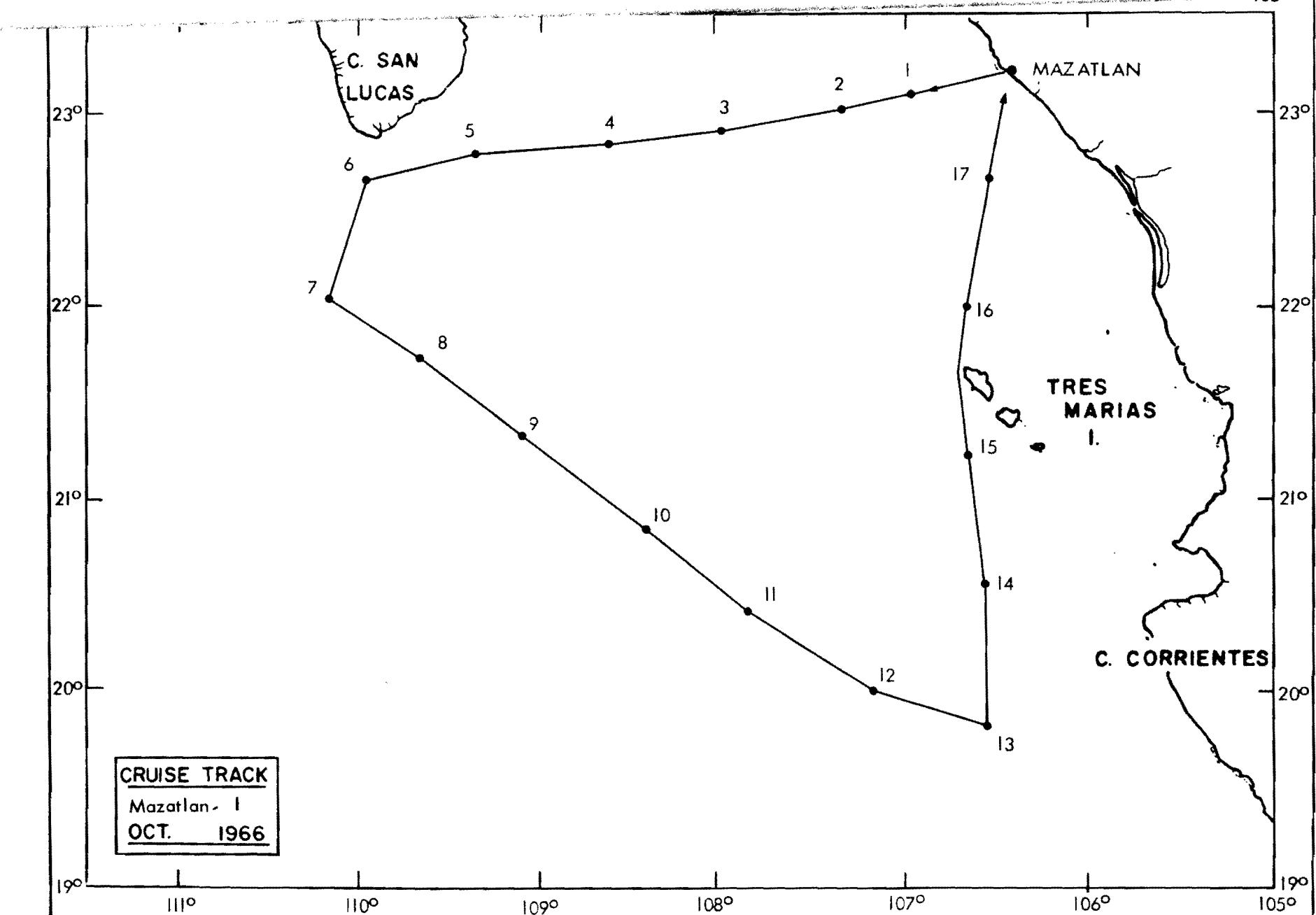


FIGURE 1. Cruise track and station locations for the first Mazatlán cruise, MZ-1.

FIGURA 1. Rumbo del crucero y localidad de las estaciones del primer crucero de Mazatlán, MZ-1.

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 1 LAT 23-06.1N LONG 106-59.0W FECHA 15 OCT 66 HORA 1225,
 TIEMPO 1 VISIB 8 NUBES-TIPO 0 CANT 1 VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1011
 TERMHUM TERMSEC 27.6 HUMREL OLAS-DIR 275-285 ALT 3 PER 4 SECCHI 28

VALORES OBSERVADOS

PROF MTR.	TEMP DEC.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	28.2	34.711	22.13	25.23			
5	28.2						* MACRO *
10	28.1						
20	28.1						
25	27.8						
35	25.2						
40	22.9						
45	21.2						
50	20.4						
65	18.7						
75	17.0						
100	15.5						
135	13.2						
150	12.8						
200	11.9						
240	11.3						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 2 LAT 23-02.5N LONG 107-22.5W FECHA 15 OCT 66 HORA 1800,
TIEMPO 1 VISIB NUBES-TIPO 0 CANT 1 VIENTO-VEL 2 (1.0) DIR 355- 5 BAR
TERMHUM TERMSEC HUMREL OLAS-DIR - ALT PER SECCHI 19

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	28.5	35.417	22.56	25.79			333.76 2795.01
15	28.4						* MACRO *
25	28.0						2795.01
35	23.1						
40	21.2						
50	19.0						
60	17.9						
75	16.4						
100	14.9						
115	14.4						
125	14.6						
150	13.6						
200	12.2						
230	11.5						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 3 LAT 22-55.0N LONG 107-59.0W FECHA 16 OCT 66 HORA 0000,
 TIEMPO 1 VISIB NUBES-TIPO CANT VIENTO-VEL 2 (1.0) DIR 355- 5 BAR 1013
 TERMHUM TERMSEC 27.2 HUMREL OLAS-DIR - ALT PER SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	28.9	34.598	21.82	25.20			171.20 412.51
25	28.9						* MACRO *
30	28.1						412.51
35	25.2						
50	20.0						
65	17.8						
70	17.5						
75	17.6						
100	15.1						
150	13.3						
165	12.9						
170	13.0						
200	12.4						
245	11.6						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 4 LAT 22-51.ON LONG 108-38.1W FECHA 16 OCT 66 HORA 0600,
TIEMPO 2 VISIB 6 NUBES-TIPO 6 CANT 8 VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1013
TERMHUM TERMSEC 27.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 2 SECCHI 28

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	28.2	34.679	22.11	25.20			74.90 237.11
15	28.2						* MACRO *
25	25.0						237.11
35	21.2						
50	19.1						
65	16.9						
80	16.0						
85	15.5						
100	15.2						
150	13.4						
200	12.6						
240	11.9						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 5 LAT 22-49.5N LONG 109-22.5W FECHA 16 OCT 66 HORA 1200,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 7 VIENTO-VEL 2 (1.0) DIR 225-235 BAR 1014
 TERMHUM TERMSEC 26.5 HUMREL OLAS-DIR 225-235 ALT 2 PER 2 SECCHI 24

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	28.0	34.680	22.18	25.19			7.38 257.26
10	27.8						* MACRO *
25	27.8						257.26
30	27.2						
35	21.6						
45	19.7						
55	17.8						
75	15.1						
100	13.7						
145	12.1						
150	12.2						
160	12.0						
200	11.5						
240	11.2						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 6 LAT 22-40.6N LONG 109-57.5W FECHA 16 OCT 66 HORA 1800,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 7 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1013
 TERMHUM TERMSEC 26.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI 21

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	27.0	34.654	22.48	25.09			425.29 2358.13
10	27.0						* MACRO *
20	26.7						2358.13
30	24.4						
40	21.2						
50	17.8						
60	17.0						
100	14.9						
125	13.7						
150	13.1						
185	12.5						
210	11.7						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 7 LAT 22-03.ON LONG 110-10.1W FECHA 17 OCT 66 HORA 0000,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 7 VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1014
 TERMHUM TERMSEC 26.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	26.1	34.658	22.77	25.01			49.85 177.27
30	25.9						* MACRO *
50	22.1						177.27
60	19.9						
70	18.1						
100	15.2						
105	14.5						
125	13.9						
140	12.9						
150	12.4						
175	12.1						
180	12.2						
200	11.8						
245	10.8						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 8 LAT 21-43.5N LONG 109-41.3W FECHA 17 OCT 66 HORA 0600,
TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 7 VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1012
TERMHUM TERMSEC 26.5 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI 25

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	25.9	34.639	22.81	24.98			
15	25.9						* MACRO *
30	25.6						
35	24.9						
40	23.3						
50	20.5						
75	17.9						
100	15.6						
125	14.1						
150	12.7						
180	12.4						
200	11.7						
225	11.1						
240	10.9						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 9 LAT 21-19.5N LONG 109-06.3W FECHA 17 OCT 66 HORA 1200,
 TIEMPO 1 VISIB 6 NUBES-TIPO 8 CANT 2 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1013
 TERMHUM TERMSEC 26.5 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI 28

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	26.1	34.416	22.58	24.83			9.57 160.91
10	25.8						* MACRO *
40	25.7						160.91
50	23.7						
75	17.5						
95	15.1						
100	15.3						
105	15.9						
115	15.0						
150	12.8						
160	12.0						
175	12.1						
200	11.4						
240	11.0						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 10 LAT 20-50.1N LONG 108-22.1W FECHA 17 OCT 66 HORA 1800,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 2 VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1013
 TERMHUM TERMSEC 27.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI 20

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	27.2	34.724	22.47	25.15			246.70 245.54
10	26.9						* MACRO *
25	25.7						245.54
35	22.6						
50	20.0						
65	17.0						
75	16.0						
85	16.1						
100	15.0						
150	13.0						
165	12.5						
180	12.6						
200	12.4						
250	11.5						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 11 LAT 20-26.5N LONG 107-48.6W FECHA 18 OCT 66 HORA 0000,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 2 VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1013
 TERMHUM TERMSEC 26.5 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	27.8	34.506	22.11	25.04			251.04 552.40
10	27.7						* MACRO *
25	27.4						552.40
35	24.5						
50	20.4						
75	16.5						
100	14.6						
105	14.1						
150	13.0						
200	12.1						
225	11.8						
230	11.7						
250	11.2						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 12 LAT 20-01.5N LONG 107-10.5W FECHA 18 OCT 66 HORA 0600,
 TIEMPO 2 VISIB 6 NURES-TIPO 3 CANT 8 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1013
 TERMHUM TERMSEC 26.5 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI 23

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	28.6	34.356	21.73	24.99			63.67 172.53
20	28.6						* MACRO *
30	28.2						172.53
45	23.8						
55	20.4						
75	17.0						
80	16.1						
100	14.8						
120	14.0						
150	12.9						
175	12.6						
200	12.4						
250	11.7						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 13 LAT 19-51.7N LONG 106-32.0W FECHA 18 OCT 66 HORA 1300,
 TIEMPO 2 VISIB 5 NUBES-TIPO 3 CANT 8 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1012
 TERMHUM TERMSEC 27.0 HUMREL OLAS-DIR 275-285 ALT 2 PER I SECCHI 30

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	28.2	34.415	21.91	25.01			49.84 152.77
15	28.1						* MACRO *
35	28.0						152.77
50	24.0						
60	21.4						
75	18.7						
85	17.9						
100	15.4						
125	13.8						
150	13.1						
175	12.5						
200	12.1						
235	11.3						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 14 LAT 20-33.ON LONG 106-35.5W FECHA 18 OCT 66 HORA 1800,
TIEMPO 2 VISIB 5 NUBES-TIPO 3 CANT 8 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1013
TERMHUM TERMSEC 27.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	28.6	34.321	21.71	24.97			138.67 286.81
20	28.6						* MACRO *
25	28.5						286.81
35	26.3						
50	22.3						
60	21.0						
75	18.5						
100	15.3						
115	14.6						
150	13.3						
200	12.3						
245	11.4						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 15 LAT 21-14.0N LONG 106-39.5W FECHA 19 OCT 66 HORA 0000,
TIEMPO 2 VISIB 5 NUBES-TIPO 2 CANT 8 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1013
TERMHUM TERMSEC 26.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	28.2	34.718	22.14	25.23			126.68 206.83
25	28.1						* MACRO *
30	25.0						206.83
35	22.4						
50	18.8						
70	15.4						
75	14.6						
100	13.4						
150	12.7						
170	12.3						
200	11.8						
250	11.2						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 16 LAT 22-01.0N LONG 106-41.5W FECHA 19 OCT 66 HORA 0600,
TIEMPO 2 VISIB 5 NUBES-TIPU 2 CANT 8 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1013
TERMHUM TERMSEC 26.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	28.5	34.705	22.03	25.25			50.73 209.52
5	28.6						* MACRO *
15	28.6						209.52
25	28.2						
35	24.6						
50	20.4						
75	16.7						
100	14.2						
115	13.4						
150	12.7						
200	11.9						
245	11.3						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-1

CRUC 66-4 ESTAC 17 LAT 22-40.0N LONG 106-33.0W FECHA 19 OCT 66 HORA 1200,
 TIEMPO 2 VISIB 5 NUBES-TIPO 2 CANT 8 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1013
 TERMHUM TERMSEC 26.5 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI 30

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	28.3	34.768	22.14	25.28			26.47 124.84
10	28.0						* MACRO *
25	27.8						124.84
30	24.6						
40	21.4						
50	19.4						
80	15.8						
100	13.9						
125	13.0						
150	12.5						
200	11.7						
245	11.0						

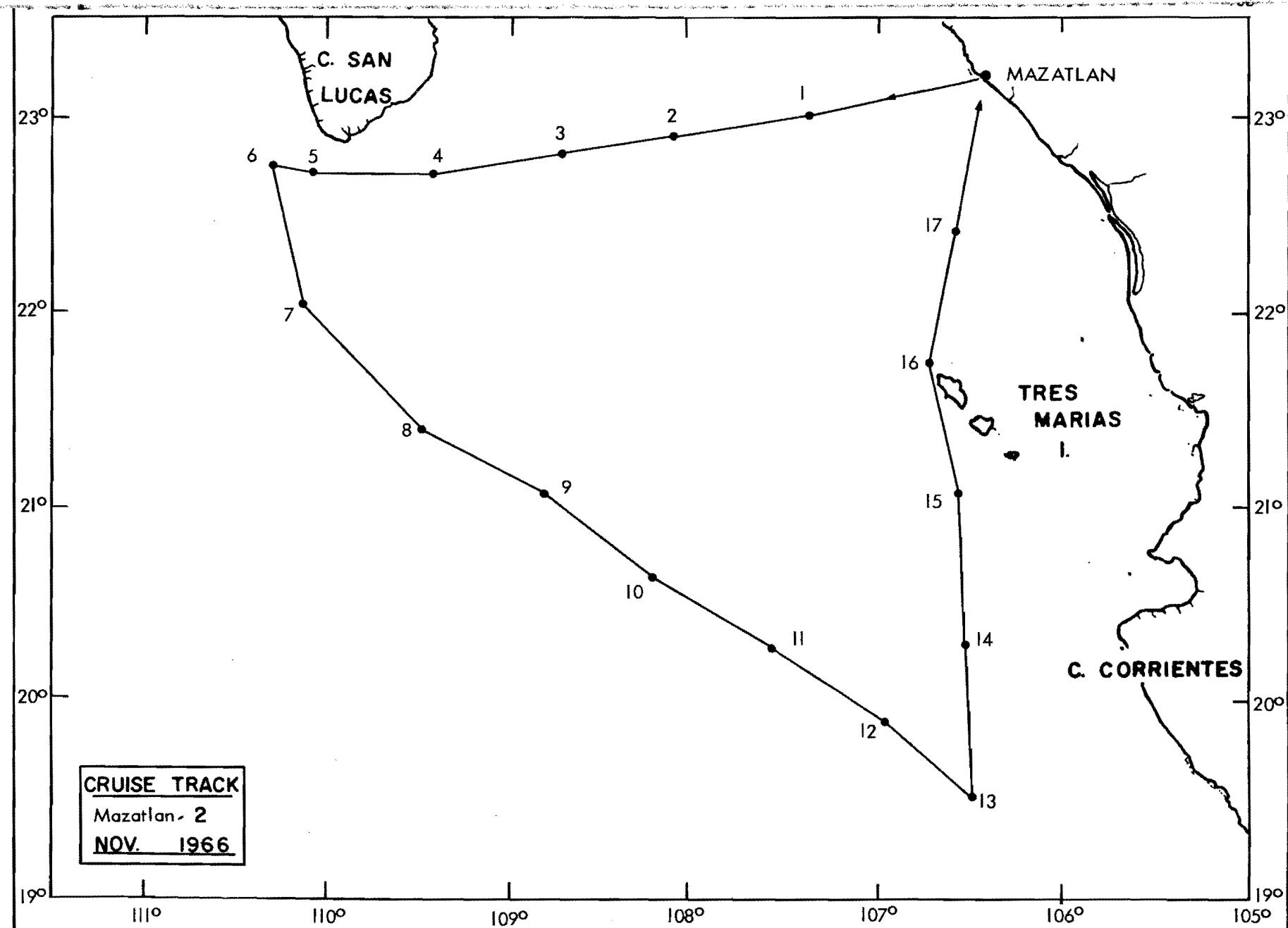


FIGURE 2. Cruise track and station locations for the second Mazatlan cruise, MZ-2.

FIGURA 2. Rumbo del crucero y localidad de las estaciones del segundo crucero de Mazatlán, MZ-2.

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 1 LAT 23-03.ON LONG 107-22.0W FECHA 10 NOV 66 HORA 1800,
 TIEMPO 1 VISIB 6 NUBES-TIPO 1 CANT 6 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1015
 TERMHUM TERMSEC 26.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	27.6	35.079	22.61	25.46			54.59 265.84
25	27.5						* MACRO *
35	26.2						265.84
40	25.1						
50	23.1						
75	17.4						
100	14.7						
150	12.9						
200	12.3						
250	11.1						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 2 LAT 22-56.5N LONG 108-03.0W FECHA 11 NOV 66 HORA 0000,
 TIEMPO 1 VISIB 6 NUBES-TIPO 1 CANT 6 VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 24.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	27.5	34.868	22.48	25.29			62.43 221.93
5	27.6						* MACRO *
25	27.5						221.93
35	26.3						
50	21.4						
75	16.2						
100	14.7						
105	14.4						
115	14.5						
150	13.3						
200	12.0						
255	11.0						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 3 LAT 22-50.2N LONG 108-42.2W FECHA 11 NOV 66 HORA 0600,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 3 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 24.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI 30

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	26.1	35.147	23.13	25.38			73.65 296.58
20	26.0						* MACRO *
30	23.8						296.58
50	19.3						
75	16.1						
100	14.6						
125	13.3						
150	12.8						
200	11.8						
255	11.1						

* MAZATLAN PROJECTO *

MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 4 LAT 22-44.ON LONG 109-25.5W FECHA 11 NOV 66 HORA 1200,
 TIEMPO 1 VISIB 7 NUBES-TIPO 6 CANT 6 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 27.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI 21

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBPLICUD ML/1000M3
0	25.9	34.599	22.78	24.95			8.31 74.80
30	25.8						* MACRO *
35	24.3						74.80
50	19.4						
75	16.6						
100	14.7						
125	13.4						
150	12.6						
200	11.6						
245	10.9						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 5 LAT 22-44.ON LONG 110-05.OW FECHA 11 NOV 66 HORA 1800,
TIEMPO 1 VISIB 7 NUBES-TIPO 6 CANT 6 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
TERMHUM TERMSEC 24.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	26.4	34.791	22.77	25.14			32.87 259.75
25	26.4						* MACRO *
30	24.1						259.75
35	21.7						
50	18.5						
75	15.3						
85	13.9						
90	14.1						
100	13.8						
150	12.4						
200	11.4						
250	10.5						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 6 LAT 22-46.5N LONG 110-18.0W FECHA 11 NOV 66 HORA 2040,
 TIEMPO 1 VISIB 7 NUBES-TIPO 6 CANT 6 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1018
 TERMHUM TERMSEC 24.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	25.2	34.531	22.95	24.84			30.22 218.04
15	25.0						* MACRO *
25	22.4						218.04
45	18.0						
50	17.6						
75	14.7						
100	13.2						
150	12.4						
200	11.2						
255	10.6						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 7 LAT 22-04.5N LONG 110-09.2W FECHA 13 NOV 66 HORA 0000,
TIEMPO 1 VISIB 7 NUBES-TIPO 6 CANT 6 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1018
TERMHUM TERMSEC 23.5 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	25.6	34.721	22.97	25.02			47.33 198.51
25	25.6						* MACRO *
35	24.0						198.51
40	20.4						
50	18.9						
75	16.2						
100	13.7						
150	12.0						
155	11.9						
165	12.3						
200	11.7						
250	10.6						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 8 LAT 21-26.0N LONG 109-28.6W FECHA 13 NOV 66 HORA 0600,
 TIEMPO 1 VISIB 7 NUBES-TIPO 6 CANT 6 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 24.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	25.5	34.648	22.94	24.96			31.68 98.95
40	25.4						* MACRO *
45	25.3						98.95
50	22.2						
75	18.1						
100	15.1						↔
105	14.6						
110	15.0						
135	12.7						
145	12.8						
200	11.5						
210	11.6						
255	10.6						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 9 LAT 21-04.0N LONG 108-48.0W FECHA 13 NOV 66 HORA 1200,
 TIEMPO 1 VISIB 7 NUBES-TIPO 0 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 25.5 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI 35

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBICUO ML/1000M3
0	26.8	34.717	22.59	25.12			5.70 120.61
20	26.5						* MACRO *
45	26.0						120.61
50	25.1						
75	19.1						
100	15.3						
155	12.3						
170	12.8						
185	12.6						
200	12.4						
255	11.4						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 10 LAT 20-41.2N LONG 108-12.0W FECHA 13 NOV 66 HORA 1800,
 TIEMPO 1 VISIB 7 NUBES-TIPO 0 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 25.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	27.3	34.865	22.54	25.27			39.53 217.28
20	27.1						* MACRO *
30	26.9						217.28
40	24.0						
50	20.8						
75	17.6						
95	14.8						
100	14.9						
150	13.2						
200	11.9						
255	11.1						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 11 LAT 20-17.0N LONG 107-34.5W FECHA 14 NOV 66 HORA 0000,
 TIEMPO 1 VISIB 7 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 25.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	27.5	34.778	22.41	25.22			45.20 225.32
25	27.4						* MACRO *
30	27.3						225.32 .92
35	23.1						
50	20.1						
75	16.0						
100	14.4						
150	12.7						
200	12.0						
250	11.1						
260	11.1						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 12 LAT 19-53.3N LONG 106-58.2W FECHA 14 NOV 66 HORA 0600,
 TIEMPO 1 VISIB 7 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 355- 5 BAR 1017
 TERMHUM TERMSEC 26.5 HUMREL OLAS-DIR 355- 5 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBPLICUG ML/1000M3
0	27.4	34.641	22.34	25.11			50.30 204.78
10	27.6						* MACRO *
30	27.4						204.78
45	23.0						
50	21.4						
75	17.4						
100	15.2						
150	12.9						
200	11.9						
255	11.0						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 13 LAT 19-34.8N LONG 106-29.6W FECHA 14 NOV 66 HORA 1200,
TIEMPO 1 VISIB 7 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 355- 5 BAR 1018
TERMHUM TERMSEC 26.5 HUMREL OLAS-DIR 355- 5 ALT 1 PER 1 SECCHI 31

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	28.0	34.469	22.02	25.03			25.14 126.55
10	27.6						* MACRO *
30	27.6						126.55
35	26.0						
50	21.2						
70	18.2						
100	14.3						
150	12.7						
200	11.9						
240	11.4						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 14 LAT 20-17.8N LONG 106-32.0W FECHA 14 NOV 66 HORA 1800,
 TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1018
 TERMHUM TERMSEC 26.5 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	27.4	34.617	22.32	25.09			64.44 449.02
25	27.4						* MACRO *
30	25.4						449.02
35	23.1						
50	18.8						
60	17.0						
65	16.6						
100	13.9						
150	12.5						
200	11.6						
245	10.9						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 15 LAT 21-04.2N LONG 106-37.2W FECHA 15 NOV 66 HORA 0000,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1018
 TERMHUM TERMSEC 24.5 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	27.5	34.629	22.30	25.11			111.73 316.84
15	27.4						* MACRO *
25	27.3						316.84
35	24.8						
50	19.2						
75	16.0						
100	13.9						
150	12.5						
200	11.5						
240	10.7						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 16 LAT 21-45.5N LONG 106-45.0W FECHA 15 NOV 66 HORA 2300,
TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1016
TERMHUM TERMSEC 25.5 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBPLICUO ML/1000M3
0	27.2	34.793	22.52	25.21			628.78 483.07
25	27.0						* MACRO *
30	26.8						483.07
40	24.5						
50	20.0						
75	15.8						
100	13.3						
125	13.0						
150	12.5						
200	12.4						
215	11.7						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-2

CRUC 66-4 ESTAC 17 LAT 22-26.5N LONG 106-36.1W FECHA 16 NOV 66 HORA 0600,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1015
 TERMHUM TERMSEC 26.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	26.5	34.926	22.84	25.25			207.52 171.75
30	26.5						* MACRO *
35	24.8						171.75
50	20.7						
70	18.5						
75	16.7						
100	13.2						
150	12.5						
200	11.8						
255	10.9						

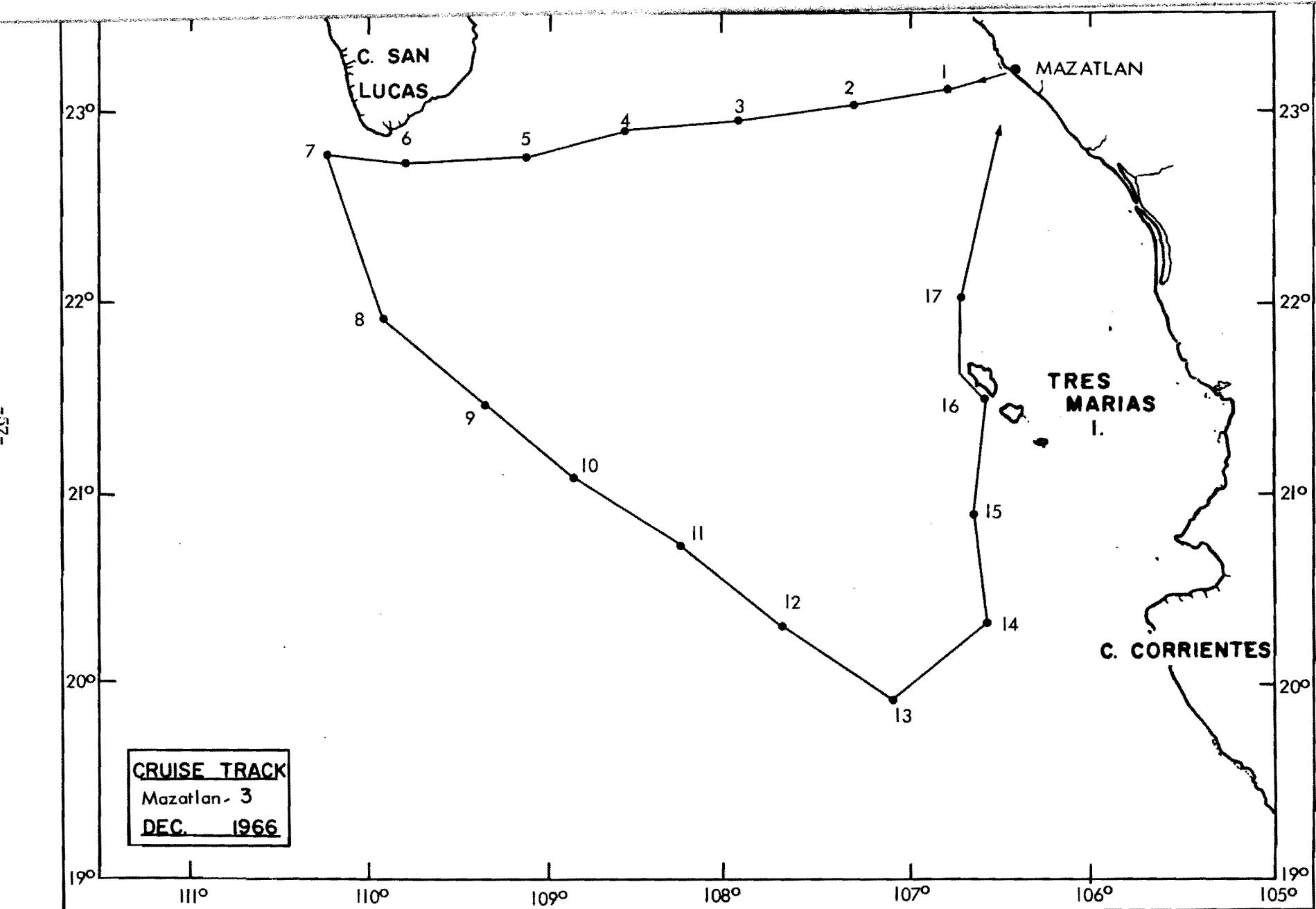


FIGURE 3. Cruise track and station locations for the third Mazatlan cruise, MZ-3.

FIGURA 3. Rumbo del crucero y localidad de las estaciones del tercer crucero de Mazatlán, MZ-3.

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 1 LAT 23-08.6N LONG 106-47.3W FECHA 10 DEC 66 HORA 1200,
 TIEMPO 1 VISIR 6 NUBES-TIPO 0 CANT 1 VIENTO-VEL () DIR 285-295 BAR 1016
 TERMHUM TERMSEC 23.0 HUMREL OLAS-DIR 285-295 ALT 3 PER 1 SECCHI 23

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
					OSMOT	CLO.A ATM.	FAEO. MG/M3	
0	24.5	34.734	23.31	24.94				23.16 96.43
10	24.5	34.739	23.32	24.94				* MACRO *
25	23.3	34.754	23.68	24.85				96.43
40	18.2	34.704	25.02	24.39				
55	16.6	34.684	25.38	24.24				
70	15.6	34.725	25.65	24.18				
100	13.4	34.443	1					
150	12.3	34.862	26.44	24.01				
200	11.9	34.791	26.46	23.92				
250	11.2							
270		34.827						

CRUC 66-4 ESTAC 1

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	24.5	34.734	23.31	457.6	0	
10	24.5	34.739	23.32	457.2	.046	38
20	23.7	34.749	23.57	433.3	.090	2506
30	21.5	34.737	24.18	374.7	.131	6142
50	17.1	34.687	25.27	270.6	.196	5458
75	15.2	34.734	25.75	225.7	.258	1896
100	13.4	34.776	26.16	186.6	.310	1643
150	12.3	34.862	26.44	159.5	.399	569
200	11.9	34.791	26.46	157.5	.480	46
250	11.2	34.816	26.61	143.2	.558	299

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
143.2	250	.358	11.20	34.816
160.0	149	.392	12.32	34.860
200.0	91	.440	14.01	34.757
240.0	67	.471	15.78	34.714
260.0	56	.484	16.63	34.694
300.0	44	.504	18.32	34.678
320.0	41	.512	19.17	34.683
340.0	37	.520	20.02	34.696
360.0	33	.527	20.86	34.717
400.0	26	.539	22.43	34.736
457.6	0	.546	24.50	34.734

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 2 LAT 23-03.0N LONG 107-18.8W FECHA 10 DEC 66 HORA 1800,
 TIEMPO 1 VISIB 6 NUBES-TIPO 0 CANT 1 VIENTO-VEL () DIR 285-295 BAR 1015
 TERMHUM TERMSEC 22.5 HUMREL OLAS-DIR 285-295 ALT 3 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	24.6	35.096	23.56	25.21			
20	24.6						* MACRO *
30	24.0						
40	23.0						
50	20.0						
75	16.0						
100	14.3						
115	12.9						
130	13.3						
140	13.1						
150	12.9						
200	11.9						
245	11.1						

* MAZATLAN PROJECTO *

MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 3 LAT 22-58.3N LONG 107-55.2W FECHA 11 DEC 66 HORA 0000,
 TIEMPO 1 VISIB 6 NUBES-TIPO 0 CANT 1 VIENTO-VEL () DIR 285-295 BAR 1016
 TERMHUM 22.5 TERMSEC 29.0 HUMREL OLAS-DIR 285-295 ALT 3 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMUT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	24.9	34.963	23.36	25.14			10.29 163.15
25	24.9						* MACRO *
35	21.3						163.15
50	16.8						
75	15.4						
100	15.1						
125	14.4						
150	13.9						
200	13.0						
240	12.2						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 4 LAT 22-53.5N LONG 108-33.5W FECHA 11 DEC 66 HORA 0600,
 TIEMPO 1 VISIB 6 NUBES-TIPO 2 CANT 1 VIENTO-VEL 4 (2.0) DIR 285-295 BAR 1017
 TERMHUM TERMSEC 23.0 HUMREL OLAS-DIR 285-295 ALT 4 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	24.6	35.003	23.49	25.15			97.08 169.74
40	24.6						* MACRC *
50	24.5						169.74
75	17.9						
85	16.6						
90	16.9						
100	15.4						
125	14.6						
150	13.6						
200	12.0						
240	11.2						

* MAZATLAN PROJECTO *

MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 5 LAT 22-47.5N LONG 109-09.1W FECHA 11 DEC 66 HORA 1200,
 TIEMPO 1 VISIB 6 NUBES-TIPO 2 CANT 1 VIENTO-VEL 4 (2.0) DIR 285-295 BAR 1017
 TERMHUM TERMSEC 23.0 HUMREL OLAS-DIR 285-295 ALT 5 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBPLICUD ML/1000M3
0	23.7	35.151	23.86	25.18			34.12 220.56
30	23.6						* MACRO *
40	23.2						220.56
50	22.1						
75	18.4						
100	16.1						
115	14.7						
150	12.9						
200	12.1						
230	11.5						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 6 LAT 22-44.ON LONG 109-49.5W FECHA 11 DEC 66 HORA 1800,
 TIEMPO 1 VISIB 5 NUBES-TIPO 2 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 23.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	23.9	34.507	23.32	24.72			19.91 89.28
20	23.8						* MACRO *
35	23.7						89.28
50	20.1						
75	17.3						
100	14.6						
125	12.8						
150	12.1						
200	11.3						
210	11.5						
240	11.0						

* MAZATLAN PROJECTO *

MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 7 LAT 22-46.1N LONG 110-17.2W FECHA 11 DEC 66 HORA 2200,
 TIEMPO 1 VISIB 5 NUBES-TIPO 2 CANT 1 VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 23.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	23.9	34.758	23.51	24.90			51.22 112.98
30	23.9						* MACRO *
35	23.8						112.98
50	17.9						
75	15.3						
100	13.9						
115	13.4						
150	12.3						
200	11.3						
240	10.6						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 8 LAT 21-55.6N LONG 109-56.2W FECHA 12 DEC 66 HORA 0600,
TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
TERMHUM TERMSEC 23.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	24.0	34.419	23.22	24.66			24.89 35.58
15	24.1						* MACRO *
20	24.1						35.58
30	24.1						
40	23.9						
50	20.4						
75	16.6						
100	13.8						
150	12.4						
200	10.7						
240	10.4						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 9 LAT 21-28.6N LONG 109-24.0W FECHA 12 DEC 66 HORA 1200,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 26.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI 42

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBLICUD ML/1000M3
0	24.7	34.564	23.12	24.83			2.27 41.58
10	24.6						* MACRO *
45	24.6						41.58
50	24.5						
55	21.0						
60	19.9						
75	18.6						
100	15.7						
120	13.7						
150	12.2						
200	11.4						
235	10.7						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 10 LAT 21-06.2N LONG 108-51.2W FECHA 12 DEC 66 HORA 1800,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 26.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	24.5	34.578	23.19	24.82			8.19 63.93
45	24.5						* MACRO *
50	24.4						63.93
55	21.5						
65	19.3						
75	17.8						
100	16.4						
110	15.1						
125	14.4						
150	12.5						
200	11.4						
235	10.9						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 11 LAT 20-43.5N LONG 108-16.5W FECHA 13 DEC 66 HORA 0000,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 25.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBICUO ML/1000M3
0	25.2	34.820	23.17	25.06			1353.60 182.21
25	25.0						* MACRO *
40	25.0						182.21 47.90
50	21.9						
75	17.4						
100	15.6						
120	13.6						
125	13.9						
150	12.8						
200	12.0						
240	11.5						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 12 LAT 20-20.5N LONG 107-42.4W FECHA 13 DEC 66 HORA 0600,
TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
TERMHUM TERMSEC 25.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	25.8	34.673	22.87	25.00			83.47 193.60
30	25.8						* MACRO *
35	25.4						193.60
40	23.2						
50	20.4						
75	16.0						
100	14.6						
115	13.9						
120	14.0						
150	13.3						
200	12.0						
240	11.3						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 13 LAT 19-56.3N LONG 107-07.5W FECHA 13 DEC 66 HORA 1200,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 25.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI 36

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	26.1	34.633	22.75	24.99			8.45 86.04
10	26.0						* MACRO *
30	25.7						86.04
50	18.1						
75	15.4						
100	14.3						
125	13.3						
150	12.7						
200	11.9						
230	11.4						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 14 LAT 20-22.3N LONG 106-35.0W FECHA 13 DEC 66 HORA 1800,
 TIEMPO 1 VISIB 6 NUBES-TIPC 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 25.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLU.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	25.8	35.157	23.24	25.36			31.73 344.18
30	25.7						* MACRO *
40	21.9						344.18
50	19.5						
75	15.0						
100	13.7						
120	13.3						
150	12.8						
200	12.0						
240	11.3						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 15 LAT 20-54.5N LONG 106-39.2W FECHA 14 DEC 66 HORA 0000,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 25.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUD ML/1000M3
0	25.6	34.851	23.07	25.12			31.62 166.54
25	25.6						* MACRO *
35	25.3						166.54
40	22.9						
50	19.0						
75	16.0						
100	13.7						
150	12.5						
200	11.7						
240	11.1						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 16 LAT 21-32.3N LONG 106-34.2W FECHA 14 DEC 66 HORA 0600,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 25.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	25.0	35.002	23.36	25.18			128.23 281.60
15	25.0						* MACRO *
25	24.8						281.60
35	22.2						
50	17.2						
75	15.1						
100	13.4						
150	12.6						
200	12.0						
245	11.4						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-3

CRUC 66-4 ESTAC 17 LAT 22-03.8N LONG 106-43.3W FECHA 14 DEC 66 HORA 1200,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1018
 TERMHUM TERMSEC 26.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI 37

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBLICUO ML/1000M3
0	25.0	34.934	23.31	25.13			13.89 101.36
25	24.9						* MACRO *
35	22.4						101.36
50	19.0						
75	14.8						
100	13.7						
125	13.0						
150	12.4						
200	11.7						
250	10.9						

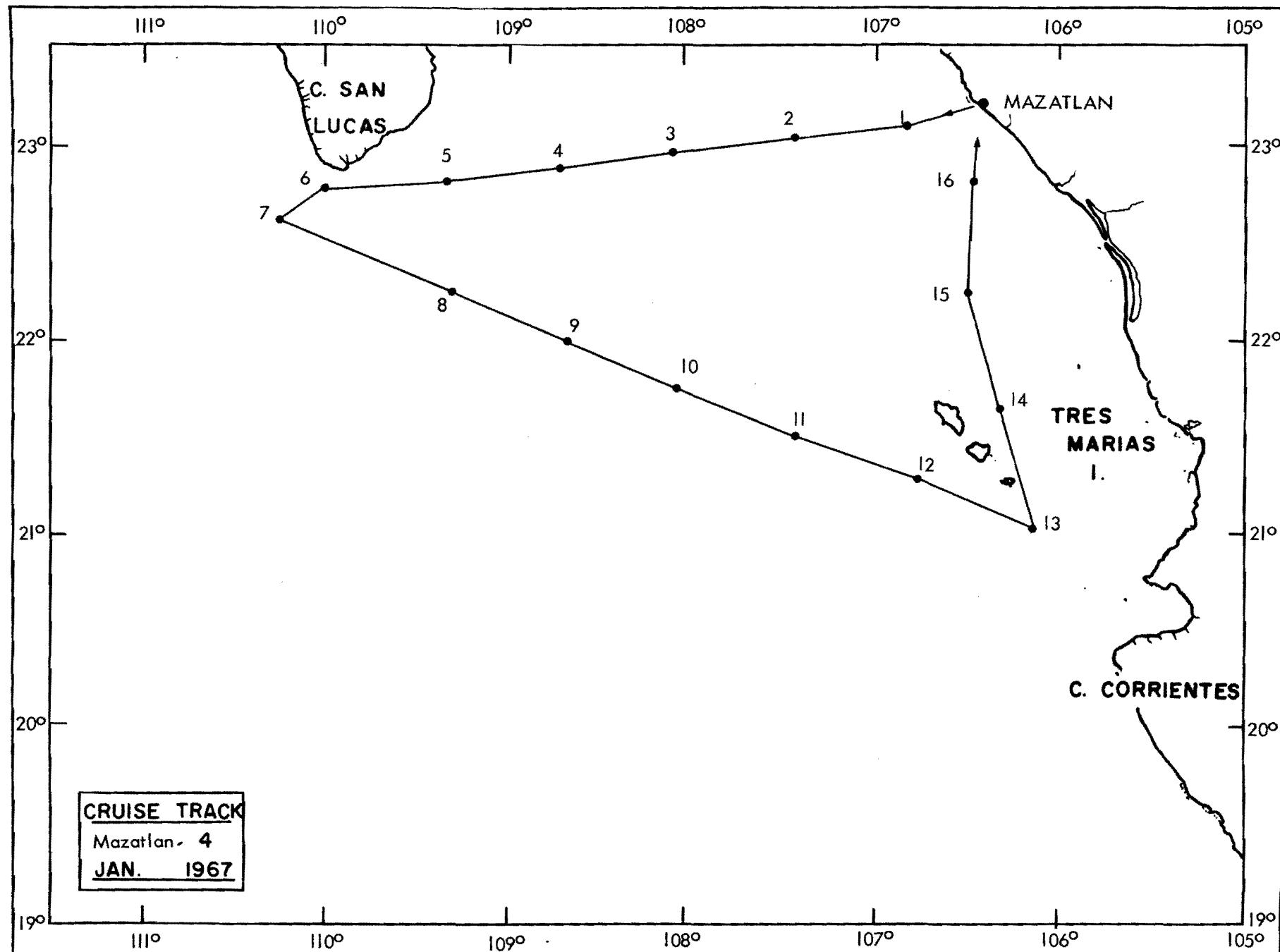


FIGURE 4. Cruise track and station locations for the fourth Mazatlan cruise, MZ-4.

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 1 LAT 23-07.ON LONG 106-51.5W FECHA 10 ENERO 67 HORA 1307,
 TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT VIENTO-VEL 3 (1.5) DIR 35- 45 BAR 1017
 TERMHUM TERMSEC 21.5 HUMREL OLAS-DIR 35- 45 ALT 3 PER 2 SECCHI 20

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	21.8	35.014	24.30	24.92			10.58 125.41
10	21.7	34.992	24.32	24.89			* MACRO *
25	21.7	34.989	24.31	24.89			125.41
35	21.7						
40	21.6	34.994	24.34	24.89			
45	21.4						
50	19.3						
55	17.7	34.643	25.09	24.30			
75	15.4	34.562	25.56	24.05			
100	13.5	34.679	26.06	23.97			
125	12.8						
150	12.5	34.740	26.31	23.93			
200	11.8	34.747	26.45	23.88			
250	11.0						
270		34.716					

CRUC 67-1 ESTAC 1

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	21.8	35.014	24.30	363.0	0	
10	21.7	34.992	24.31	361.9	.036	111
20	21.7	34.990	24.31	362.0	.073	-15
30	21.7	34.991	24.31	362.0	.109	17
50	19.3	34.760	24.78	317.6	.177	2330
75	15.4	34.562	25.56	242.9	.248	3138
100	13.5	34.679	26.06	195.7	.303	1987
150	12.5	34.740	26.31	172.2	.397	496
200	11.8	34.747	26.45	158.9	.482	278
250	11.0	34.722	26.58	146.6	.561	258

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
146.6	250	.367	11.00	34.722
160.0	196	.396	11.86	34.746
200.0	98	.455	13.67	34.666
240.0	77	.490	15.28	34.568
260.0	69	.505	16.29	34.591
300.0	56	.530	18.38	34.697
320.0	49	.540	19.43	34.770
340.0	40	.549	20.51	34.868
360.0	31	.556	21.59	34.979
363.0	0	.556	21.80	35.014

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 2 LAT 23-03.5N LONG 107-25.5W FECHA 10 ENERO 67 HORA 1855,1911
 TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT VIENTO-VEL 3 (1.5) DIR 35- 45 BAR 1017
 TERMHUM TERMSEC 21.5 HUMREL OLAS-DIR 35- 45 ALT 3 PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	21.8	35.104	24.37	24.98			106.25 285.30
10	21.8	35.083	24.36	24.97			* MACRO *
20	21.7						285.30
25	21.7	35.073	24.38	24.95			
35	21.6						
40	21.5	35.064	24.43	24.93			
50	18.7						
53	18.4	34.636	24.91	24.35			
73	16.3	34.711	25.48	24.23			
97	14.8	34.730	25.83	24.12			
125	14.0						
145	13.6	34.776	26.12	24.05			
196	11.6	34.765	26.50	23.88			
240	10.6						
268		34.691					

CRUC 67-1 ESTAC 2

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	21.8	35.104	24.37	356.4	0	
10	21.8	35.083	24.36	358.0	.036	-159
20	21.7	35.076	24.38	355.8	.071	239
30	21.6	35.070	24.39	354.9	.107	91
50	18.7	34.735	24.91	304.9	.173	2627
75	16.2	34.711	25.51	248.3	.243	2374
100	14.7	34.731	25.85	216.0	.302	1358
150	13.4	34.772	26.16	186.5	.404	622
200	11.5	34.759	26.51	152.7	.491	712
250	10.4	34.704	26.67	137.8	.567	313

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
137.8	250	.344	10.40	34.704
160.0	189	.393	11.91	34.758
200.0	127	.456	13.98	34.751
240.0	81	.498	15.78	34.714
260.0	70	.513	16.68	34.710
300.0	52	.538	18.48	34.730
320.0	44	.547	19.59	34.825
340.0	36	.555	20.77	34.959
356.4	0	.558	21.80	35.104

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 3 LAT 22-58.3N LONG 108-04.5W FECHA 11 ENERO 67 HORA 0100,0110
 TIEMPO 3 VISIB 6 NUBES-TIPO 9 CANT VIENTO-VEL 5 (2.5) DIR 265-275 BAR 1016
 TERMHUM TERMSEC 20.0 HUMREL OLAS-DIR 265-275 ALT 4 PER 3 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUG ML/1000M3
0	22.2	34.851	24.07	24.83			85.19 451.31
10	22.3	34.773	23.98	24.78			* MACRO *
23	22.3	34.778	23.99	24.78			451.31
37	22.3	34.770 1					
51	22.3	34.786	23.99	24.79			
60	21.5						
70	19.8	34.605	24.53	24.45			
93	16.0	34.160 1					
120	14.2						
139	13.7	34.642	25.99	23.96			
200	12.0						
235	11.5						
250		34.725					

CRUC 67-1 ESTAC 3

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
				TERMOST	DINAM	
0	22.2	34.851	24.07	385.4	0	
10	22.3	34.773	23.98	393.7	.039	-861
20	22.3	34.777	23.98	393.4	.078	18
30	22.3	34.780	23.99	393.2	.118	24
50	22.3	34.785	23.99	392.8	.197	22
75	18.9	34.608	24.77	318.4	.286	3127
100	15.5	34.621	25.59	240.5	.357	3276
150	13.3	34.650	26.07	194.8	.467	961
200	12.0	34.688	26.37	166.9	.560	589
250	11.3	34.725	26.52	151.8	.643	315

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
151.8	250	.380	11.31	34.725
160.0	223	.399	11.68	34.704
200.0	144	.472	13.59	34.644
240.0	101	.521	15.46	34.621
260.0	94	.541	16.34	34.605
300.0	81	.576	18.08	34.599
320.0	74	.591	18.95	34.610
340.0	68	.605	19.87	34.645
360.0	61	.618	20.79	34.691
385.4	0	.626	22.20	34.851

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 4 LAT 22-53.3N LONG 108-43.0W FECHA 11 ENERO 67 HORA 0650,
 TIEMPO 2 VISIB 6 NUBES-TIPO 9 CANT VIENTO-VEL 4 (2.0) DIR 285-295 BAR 1016
 TERMHUM TERMSEC 21.0 HUMREL OLAS-DIR 285-295 ALT 3 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBLICUO ML/1000M3
0	20.3	34.797	24.55	24.63			212.91 654.70
10	20.4	34.566	1				* MACRO *
25	20.4	34.991	24.67	24.78			654.70
40	20.2	35.190	24.87	24.91			
55	20.0	35.233	24.96	24.93			
75	19.5						
100	15.4	34.784	25.74	24.21			
148	12.9	34.792	26.27	24.01			
197	11.2	34.791	26.60	23.86			
235	10.6						
266		34.591					

CRUC 67-1 ESTAC 4

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	20.3	34.797	24.55	339.8	0	
10	20.4	34.895	24.59	335.2	.034	469
20	20.4	34.959	24.64	330.6	.067	485
30	20.3	35.056	24.73	321.8	.100	919
50	20.1	35.218	24.93	303.4	.163	970
75	19.5	35.033	24.94	302.7	.239	34
100	15.4	34.784	25.74	226.7	.306	3194
150	12.8	34.792	26.29	174.4	.408	1102
200	11.1	34.780	26.60	144.9	.490	618
250	10.4	34.631	26.62	143.1	.565	39

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
143.1	250	.358	10.39	34.631
160.0	174	.394	12.00	34.782
200.0	126	.454	14.08	34.778
240.0	96	.498	16.12	34.813
260.0	89	.516	17.20	34.869
300.0	76	.549	19.36	35.021
320.0	32	.560	20.31	35.072
339.8	0	.563	20.30	34.797

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 5 LAT 22-49.0N LONG 109-21.1W FECHA 11 ENERO 67 HORA 1245,1250
 TIEMPO 2 VISIB 6 NUBES-TIPO 9 CANT VIENTO-VEL 3 (1.5) DIR 285-295 BAR 1016
 TERMHUM TERMSEC 21.0 HUMREL OLAS-DIR 285-295 ALT 3 PER 1 SECCHI 25

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLU.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	21.5	34.627	24.09	24.61			34.47 270.91
10	21.5						* MACRO *
20	21.2						270.91
25	20.7						
30	20.3						
40	20.0						
50	19.7						
55	19.7						
75	19.6						
100	19.5						
150	13.8						
200	12.1						
225	11.7						

* MAZATLAN PROJECTO *

MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 6 LAT 22-47.0N LONG 110-01.0W FECHA 11 ENERO 67 HORA 1840,1845
 TIEMPO VISIB NUBES-TIPO CANT VIENTO-VEL 3 (1.5) DIR 275-285 BAR
 TERMHUM TERMSEC HUMREL OLAS-DIR - ALT PER SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON
				OSMOT	CLO.A	FAEO.		SUPER. OBLICUO ML/1000M3
0	22.2	34.962	24.15	24.91				9.55 79.88
10	21.9	34.537	23.91	24.57				* MACRO *
25	21.7	34.543	23.97	24.56				79.88
40	21.5	34.543	24.03	24.54				
55	18.6	34.478	24.74	24.25				
75	15.9	33.869	24.92	23.59				
100	14.2	34.089	25.46	23.61				
150	12.9	34.609	26.13	23.87				
200	12.0	34.728	26.40	23.88				
245	11.5							
270		34.685						

CRUC 67-1 ESTAC 6

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	22.2	34.962	24.15	377.4	0	
10	21.9	34.537	23.91	400.1	.039	-2370
20	21.8	34.541	23.95	396.3	.079	390
30	21.6	34.543	23.99	392.6	.118	396
50	19.5	34.496	24.52	342.7	.192	2612
75	15.9	33.869	24.92	304.2	.274	1620
100	14.2	34.089	25.46	252.8	.344	2161
150	12.9	34.609	26.13	189.3	.456	1336
200	12.0	34.728	26.40	163.9	.547	533
250	11.5	34.695	26.47	156.5	.630	156

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
156.5	250	.391	11.45	34.695
160.0	226	.400	11.71	34.710
200.0	142	.473	13.12	34.520
240.0	110	.524	13.94	34.192
260.0	97	.544	14.44	34.056
300.0	77	.579	15.76	33.885
320.0	65	.593	17.39	34.106
340.0	52	.605	19.29	34.447
360.0	43	.614	20.27	34.507
377.4	0	.618	22.20	34.962

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 7 LAT 22-37.5N LONG 110-13.8W FECHA 11 ENERO 67 HORA 2150,
 TIEMPO 2 VISIB 6 NUBES-TIPO 9 CANT VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1016
 TERMHUM TERMSEC 20.0 HUMREL OLAS-DIR 275-285 ALT 3 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	22.3	34.622	23.87	24.67			49.07 44.25
10	22.5	34.563	23.77	24.64			* MACRO *
25	22.6	34.570	23.74	24.66			44.25
40	22.4	34.570	23.80	24.64			
50	21.5						
55	20.9	34.370	24.06	24.37			
75	17.5	34.056	24.69	23.86			
100	14.4	33.915	25.28	23.50			
125	12.9						
148	12.1	34.269	26.02	23.56			
200	11.1						
245	10.6						
266		34.563					

CRUC 67-1 ESTAC 7

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM TERMOST	ALT DINAM	ESTAB
0	22.3	34.622	23.87	404.6	0	
10	22.5	34.563	23.77	414.3	.041	-1000
20	22.6	34.567	23.75	415.8	.083	-165
30	22.5	34.570	23.76	414.7	.124	125
50	21.5	34.468	23.97	394.5	.205	1051
75	17.5	34.056	24.69	326.1	.296	2870
100	14.4	33.915	25.28	269.6	.371	2380
150	12.1	34.274	26.03	198.3	.490	1497
200	11.1	34.386	26.30	173.2	.585	529
250	10.6	34.524	26.50	153.7	.669	411

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
153.7	250	.384	10.55	34.524
160.0	234	.399	10.73	34.478
200.0	149	.476	12.11	34.264
240.0	121	.530	13.43	34.056
260.0	107	.553	14.08	33.959
300.0	87	.591	16.07	33.976
320.0	78	.608	17.16	34.035
340.0	70	.623	18.31	34.124
360.0	63	.636	19.48	34.237
400.0	45	.657	21.78	34.495
404.6	0	.658	22.30	34.622

* MAZATLAN PROJECT *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 8 LAT 22-15.5N LONG 109-17.2W FECHA 12 ENERO 67 HORA 0650,
 TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT VIENTO-VEL 2 (1.0) DIR 35- 45 BAR 1017
 TERMHUM TERMSEC 21.0 HUMREL OLAS-DIR 35- 45 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	21.9	34.599	23.96	24.62			52.38 109.65
10	21.9	34.559	23.93	24.59			* MACRO *
25	21.9	34.556	23.93	24.59			109.65
40	21.9	34.561	23.93	24.59			
55	21.8	34.562	23.96	24.58			
75	21.6	34.534	24.00	24.55			
100	16.1	33.848	24.86	23.59			
125	13.4	34.260	25.76	23.67			
135	15.1						
150	14.1	34.670	25.93	24.02			
200	12.5	34.764	26.33	23.95			
245	11.5						
270		34.730					

CRUC 67-1 ESTAC 8

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM TERMOST	ALT DINAM	ESTAB
0	21.9	34.599	23.96	395.6	0	
10	21.9	34.559	23.93	398.5	.040	-303
20	21.9	34.557	23.93	398.6	.080	-15
30	21.9	34.557	23.93	398.6	.120	5
50	21.8	34.561	23.95	396.5	.199	108
75	21.6	34.534	23.99	392.4	.299	175
100	16.1	33.848	24.86	310.1	.387	3459
150	14.1	34.670	25.93	208.3	.519	2141
200	12.5	34.764	26.33	170.4	.616	794
250	11.4	34.736	26.51	152.6	.699	376

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
152.6	250	.382	11.40	34.736
160.0	229	.399	11.86	34.745
200.0	161	.477	13.75	34.688
240.0	134	.536	14.72	34.409
260.0	125	.562	15.12	34.247
300.0	105	.608	15.90	33.927
320.0	97	.628	16.76	33.911
340.0	91	.647	18.10	34.056
360.0	85	.665	19.44	34.221
395.6	0	.680	21.90	34.599

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 9 LAT 22-00.8N LONG 108-40.0W FECHA 12 ENERO 67 HORA 1244,1248
 TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT VIENTO-VEL 2 (1.0) DIR 35- 45 BAR 1014
 TERMHUM TERMSEC 21.0 HUMREL OLAS-DIR 35- 45 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	23.0	34.792	23.80	24.85			17.68 107.12
10	22.9	34.730	23.78	24.80			* MACRO *
25	22.2	34.817	24.04	24.80			107.12
40	21.9	34.933	24.21	24.87			
50	19.0						
53	18.1	34.750	25.07	24.41			
72	16.3	35.091	1				
97	14.7	34.121	25.38	23.67			
120	13.7						
145	13.0	34.682	26.17	23.93			
193	12.1	34.754	26.40	23.91			
240	11.5						
261		34.835					

CRUC 67-1 ESTAC 9

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	23.0	34.792	23.80	411.4	0	
10	22.9	34.730	23.78	413.1	.041	-171
20	22.4	34.784	23.95	396.4	.082	1740
30	22.1	34.854	24.10	382.4	.121	1463
50	19.0	34.783	24.87	308.6	.190	3874
75	16.1	34.351	25.25	273.0	.263	1499
100	14.6	34.158	25.44	255.0	.330	757
150	12.9	34.690	26.19	183.3	.441	1509
200	12.0	34.763	26.42	161.4	.530	461
250	11.4	34.823	26.58	146.0	.610	324

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
146.0	250	.365	11.39	34.823
160.0	204	.397	11.95	34.768
200.0	138	.465	13.28	34.563
240.0	110	.515	14.21	34.266
260.0	93	.535	14.98	34.209
300.0	56	.565	18.30	34.669
320.0	47	.576	19.48	34.787
340.0	41	.584	20.32	34.800
360.0	36	.592	21.16	34.821
400.0	18	.603	22.53	34.772
411.4	0	.604	23.00	34.792

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 10 LAT 21-45.7N LONG 108-02.5W FECHA 12 ENERO 67 HORA 1845,
 TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT VIENTO-VEL 2 (1.0) DIR 35- 45 BAR 1015
 TERMHUM TERMSEC 23.0 HUMREL OLAS-DIR 35- 45 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	22.2	34.842	24.06	24.82			274.90 684.61
10	22.0	34.905	24.17	24.85			* MACRO *
25	21.5	34.952	24.34	24.85			684.61
40	21.4	35.038	24.43	24.90			
50	21.0						
55	19.5	34.446	24.49	24.31			
60	20.8						
70	20.7						
75	19.5	34.449	24.49	24.31			
90	16.4						
100	16.9	34.542	25.21	24.16			
148	14.0	34.720	25.99	24.05			
197	12.3	34.745	26.35	23.92			
240	11.1						
266		34.663					

CRUC 67-1 ESTAC 10

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	22.2	34.842	24.06	386.0	0	
10	22.0	34.905	24.17	376.1	.038	1038
20	21.7	34.936	24.28	365.0	.075	1160
30	21.5	34.981	24.37	356.5	.111	885
50	21.0	34.747	24.32	361.3	.184	-249
75	19.5	34.449	24.49	345.1	.272	686
100	16.9	34.542	25.21	277.1	.351	2855
150	13.9	34.720	26.01	201.0	.472	1599
200	12.2	34.739	26.36	166.8	.567	719
250	10.9	34.676	26.57	147.5	.648	407

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
147.5	250	.369	10.85	34.676
160.0	218	.398	11.73	34.714
200.0	151	.472	13.87	34.720
240.0	124	.527	15.45	34.616
260.0	111	.551	16.23	34.573
300.0	92	.591	17.78	34.502
320.0	84	.609	18.54	34.474
340.0	77	.625	19.31	34.453
360.0	26	.635	21.55	34.962
386.0	0	.638	22.20	34.842

* MAZATLAN PROJECTC *

MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 11 LAT 21-31.5N LONG 107-24.0W FECHA 13 ENERO 67 HORA 0043,
 TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1016
 TERMHUM TERMSEC 22.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	22.9	34.784	23.82	24.84			19.66 159.12
10	22.9	34.788	23.82	24.84			* MACRO *
25	22.8	34.780	23.84	24.83			159.12
40	22.8	34.949	23.97	24.95			
50	21.1						
55	18.2	34.528	24.88	24.26			
73	15.8	34.434	25.38	23.99			
97	14.6	34.544	25.73	23.97			
120	13.7						
146	13.0	34.696	26.18	23.94			
195	12.1	34.761	26.40	23.92			
240	11.3						
263		34.740					

CRUC 67-1 ESTAC 11

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	22.9	34.784	23.82	409.2	0	
10	22.9	34.788	23.82	408.9	.041	19
20	22.8	34.782	23.84	407.5	.082	150
30	22.8	34.836	23.89	402.7	.122	499
50	21.1	34.898	24.41	352.9	.198	2610
75	15.7	34.443	25.41	257.7	.275	4003
100	14.5	34.551	25.76	224.4	.336	1399
150	12.9	34.701	26.20	182.8	.440	875
200	12.0	34.758	26.42	161.7	.528	445
250	11.1	34.742	26.57	147.6	.608	296

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
147.6	250	.369	11.14	34.742
160.0	206	.397	11.90	34.756
200.0	129	.464	13.56	34.636
240.0	88	.508	15.04	34.499
260.0	74	.524	15.82	34.450
300.0	64	.552	18.09	34.603
320.0	59	.564	19.23	34.702
340.0	53	.575	20.36	34.816
360.0	47	.585	21.34	34.887
400.0	31	.601	22.71	34.838
409.2	0	.602	22.90	34.784

* MAZATLAN PROJECTO *

MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 12 LAT 21-17.5N LONG 106-46.0W FECHA 13 ENERO 67 HORA 0640,
 TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 21.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	23.3	34.909	23.80	24.97			125.78 245.84
10	23.4	34.890	23.75	24.96			* MACRO *
25	23.4	34.890	23.75	24.96			245.84
35	23.3						
40	20.7	34.887	24.51	24.73			
50	18.7						
55	18.2	34.499	24.86	24.24			
75	15.6	34.419	25.41	23.96			
100	14.6	34.546	25.73	23.97			
125	14.0						
150	13.3	34.735	26.15	24.00			
200	12.3	34.746	26.35	23.92			
235	12.0						
268		34.733					

CRUC 67-1 ESTAC 12

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM TERMOST	ALT DINAM	ESTAB
0	23.3	34.909	23.80	411.2	0	
10	23.4	34.890	23.75	415.3	.041	-423
20	23.4	34.890	23.75	415.3	.083	0
30	23.3	34.889	23.77	414.0	.125	138
50	18.7	34.525	24.75	320.1	.198	4918
75	15.6	34.419	25.41	257.6	.271	2632
100	14.6	34.546	25.73	227.5	.332	1270
150	13.3	34.735	26.15	187.7	.438	836
200	12.3	34.746	26.35	168.1	.529	412
250	11.9	34.735	26.42	161.3	.614	143

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
161.3	250	.403	11.88	34.735
200.0	135	.478	13.70	34.674
240.0	90	.522	15.02	34.491
260.0	74	.539	15.72	34.421
300.0	58	.565	17.70	34.478
320.0	50	.576	18.69	34.524
340.0	46	.586	19.68	34.581
360.0	42	.594	20.67	34.649
400.0	33	.609	22.66	34.819
411.2	0	.611	23.30	34.909

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 13 LAT 21-03.5N LONG 106-07.8W FECHA 13 ENERO 67 HORA 1235,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1015
 TERMHUM TERMSEC 21.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI 17

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	23.8	34.365	23.24	24.60			68.89 569.60
10	23.3	34.360	23.38	24.56			* MACRO *
25	20.8	34.386	24.10	24.37			569.60
40	19.1	34.521	24.65	24.33			
55	18.0	34.492	24.90	24.21			
75	15.8	34.666	25.55	24.16			
100	15.0	34.708	25.77	24.12			
130	13.8						
150	13.3	34.788	26.19	24.04			
200	12.5	34.784	26.34	23.97			
235	12.2						
270		34.766					

CRUC 67-1 ESTAC 13

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
				TERMOST	DINAM	
0	23.8	34.365	23.24	464.4	0	
10	23.3	34.360	23.38	450.8	.046	1431
20	21.6	34.376	23.88	403.4	.089	4955
30	20.1	34.434	24.31	362.1	.127	4329
50	18.3	34.499	24.83	313.2	.195	2569
75	15.8	34.666	25.55	243.9	.265	2918
100	15.0	34.708	25.77	223.9	.324	842
150	13.3	34.788	26.19	183.9	.428	840
200	12.5	34.784	26.34	169.0	.518	314
250	12.1	34.770	26.41	162.3	.604	140

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
162.3	250	.406	12.08	34.770
200.0	130	.477	13.99	34.751
240.0	80	.519	15.64	34.673
260.0	69	.534	16.39	34.620
300.0	55	.559	17.85	34.525
320.0	47	.569	18.58	34.488
340.0	39	.578	19.32	34.459
360.0	31	.585	20.06	34.436
400.0	21	.595	21.47	34.380
464.4	0	.602	23.80	34.365

* MAZATLAN PROJECTC *

MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 14 LAT 21-39.ON LONG 106-19.3W FECHA 13 ENERO 67 HORA 1840,
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1015
 TERMHUM TERMSEC 21.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBPLICUO ML/1000M3
0	23.6	34.804	23.63	24.91			66.1197818.74
10	23.5	34.769	23.63	24.88			* MACRO *
25	23.4	34.777	23.67	24.88			7818.7*
40	19.6	34.404	24.43	24.28			
50	17.6						
55	16.8	34.415	25.13	24.06			
73	15.5	34.558	25.54	24.05			
97	14.6	34.644	25.80	24.04			
146	13.4	34.751	26.14	24.02			
195	12.5	34.754	26.32	23.94			
230	12.1						
263		34.749					

CRUC 67-1 ESTAC 14

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	23.6	34.804	23.63	427.1	0	
10	23.5	34.769	23.63	426.8	.043	39
20	23.4	34.774	23.66	424.6	.085	223
30	22.1	34.629	23.93	398.5	.127	2731
50	17.6	34.411	24.94	302.5	.197	5043
75	15.4	34.565	25.56	243.0	.266	2500
100	14.5	34.651	25.83	217.9	.324	1054
150	13.3	34.751	26.16	186.9	.427	656
200	12.4	34.753	26.33	170.1	.519	351
250	11.9	34.750	26.43	160.4	.604	206

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
160.4	250	.401	11.90	34.750
200.0	129	.476	13.82	34.7C7
240.0	78	.517	15.31	34.575
260.0	68	.532	16.04	34.516
300.0	51	.556	17.51	34.416
320.0	46	.566	18.42	34.434
340.0	42	.574	19.35	34.469
360.0	38	.582	20.29	34.514
400.0	29	.596	22.17	34.637
427.1	0	.600	23.60	34.804

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 15 LAT 22-15.8N LONG 106-30.2W FECHA 14 ENERO 67 HORA 0045,0055
 TIEMPO 1 VISIB 6 NUBES-TIPO 6 CANT VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1016
 TERMHUM TERMSEC 20.5 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON
				OSMOT	CLO.A	FAEO.		SUPER. OBLICUO ML/1000M3
0	22.8	34.944	23.97	24.95				91.59 284.04
10	22.7	34.935	23.99	24.93				* MACRO *
25	22.7	34.930	23.99	24.93				284.04
35	22.3							
38	21.5	34.824	24.24	24.75				
52	17.4	34.516	25.07	24.18				
71	15.1	34.557	25.63	24.02				
95	13.9	34.644	25.95	23.98				
125	13.3							
143	12.9	34.749	26.24	23.97				
190	12.2	34.771	26.39	23.93				
240	11.8							
257		34.742						

CRUC 67-1 ESTAC 15

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM TERMOST	ALT DINAM	ESTAB
0	22.8	34.944	23.97	394.9	0	
10	22.7	34.935	23.99	392.8	.039	218
20	22.7	34.931	23.99	393.1	.079	-25
30	22.5	34.889	24.01	390.7	.118	262
50	18.0	34.553	24.96	300.5	.187	4726
75	14.9	34.572	25.69	231.2	.254	2915
100	13.8	34.660	25.99	202.8	.309	1196
150	12.8	34.752	26.26	176.6	.406	551
200	12.1	34.765	26.40	163.2	.493	283
250	11.7	34.744	26.46	157.8	.576	112

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
157.8	250	.395	11.73	34.744
160.0	230	.400	11.89	34.753
200.0	105	.467	13.68	34.669
240.0	72	.502	15.27	34.563
260.0	65	.516	16.16	34.550
300.0	50	.539	17.93	34.552
320.0	46	.548	18.94	34.605
340.0	41	.557	19.95	34.671
360.0	37	.565	20.95	34.748
394.9	0	.571	22.80	34.944

* MAZATLAN PROJECTC *
MEXICO-CIAT*YOLANDA*MZ-4

CRUC 67-1 ESTAC 16 LAT 22-50.1N LONG 106-27.5W FECHA 14 ENERO 67 HORA 0642,0645
 TIEMPO VISIB 6 NUBES-TIPO 6 CANT VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1016
 TERMHUM TERMSEC 20.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAED. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBPLICUD ML/1000M3
0	22.3	34.913	24.09	24.88			98.85 248.57
10	22.2	34.892	24.10	24.86			* MACRO *
15	22.1						248.57
25	22.1	34.911	24.14	24.87			
30	21.9						
40	19.3	34.743	24.77	24.51			
55	17.3	34.542	25.11	24.19			
75	15.1	34.574	25.64	24.03			
100	14.0	34.645	25.93	23.99			
120	13.3						
150	12.8	34.761	26.27	23.97			
200	12.2	34.773	26.39	23.93			
235	11.9						
270		34.737					

CRUC 67-1 ESTAC 16

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	22.3	34.913	24.09	383.6	0	
10	22.2	34.892	24.10	382.4	.038	134
20	22.1	34.892	24.13	379.7	.076	272
30	21.9	34.855	24.16	377.1	.114	287
50	17.9	34.597	25.01	296.0	.182	4253
75	15.1	34.574	25.64	235.8	.249	2537
100	14.0	34.645	25.93	208.1	.305	1164
150	12.8	34.761	26.27	176.3	.403	670
200	12.2	34.773	26.39	164.2	.490	251
250	11.8	34.745	26.45	158.7	.574	116

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
158.7	250	.397	11.78	34.745
160.0	238	.400	11.88	34.752
200.0	113	.470	13.69	34.673
240.0	73	.507	15.30	34.572
260.0	65	.521	16.23	34.572
300.0	49	.544	18.10	34.606
320.0	44	.553	19.08	34.654
340.0	39	.562	20.07	34.714
360.0	34	.569	21.06	34.785
383.6	0	.573	22.30	34.913

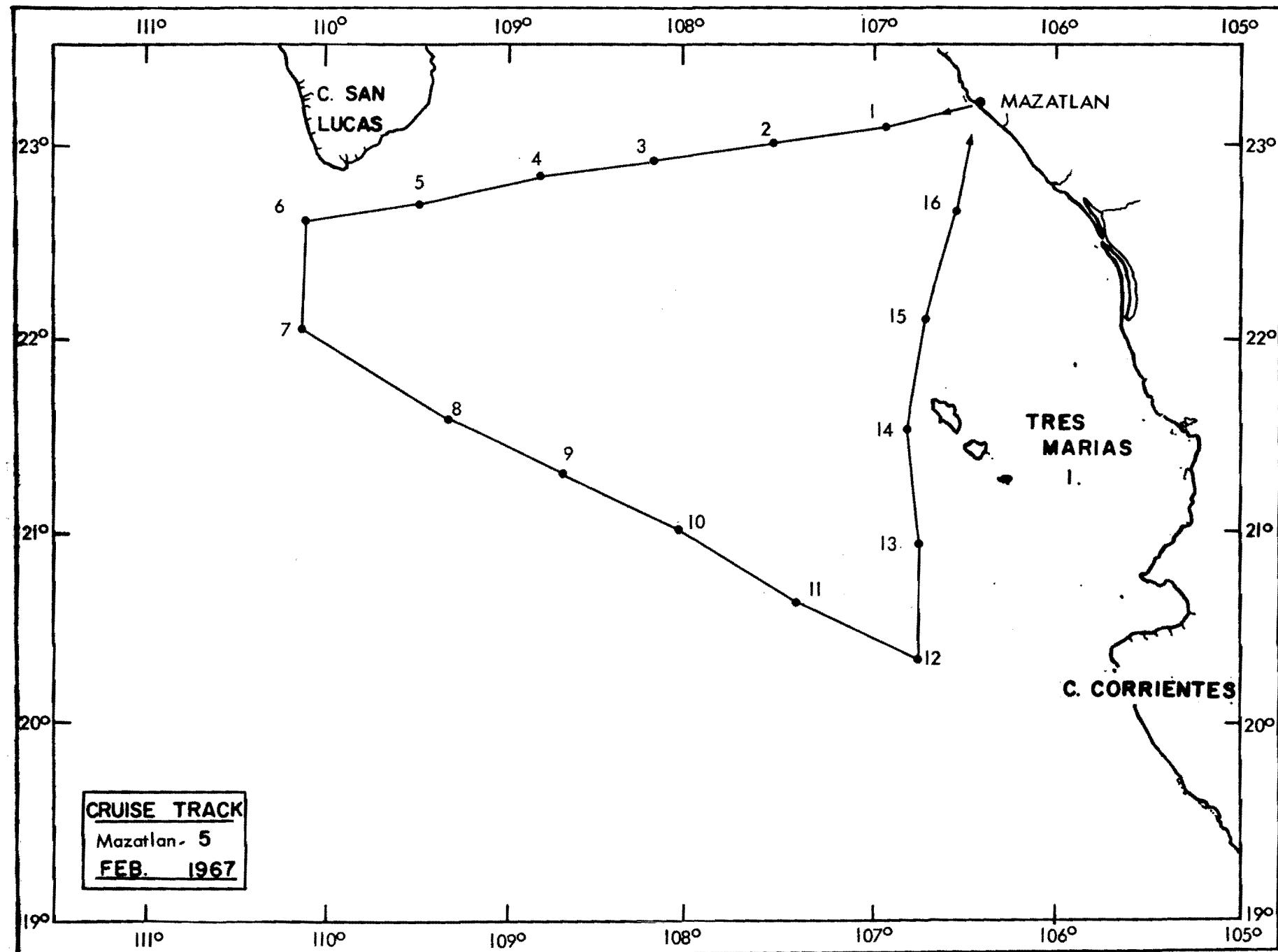


FIGURE 5. Cruise track and station locations for the fifth Mazatlan cruise, MZ-5.

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC L LAT 23-06.5N LONG 106-57.0W FECHA 16 FEB 67 HORA 1309,
 TIEMPO 1 VISIB 6 NUBES-TIPO 0 CANT 1 VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1015
 TERMHUM TERMSEC 22.5 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	22.0	34.736	24.04	24.73			9.62 202.02
10	21.5	34.736	24.18	24.69			* MACRO *
25	20.8	34.765	24.39	24.65			202.02
40	19.4	34.706	24.71	24.49			
55	18.1	34.518	24.90	24.24			
75	15.8	34.522	25.44	24.05			
100	14.0	34.657	25.94	24.00			
150	12.8	34.764	26.27	23.98			
200	11.9	34.757	26.44	23.90			
240	11.4						
270		34.714					

CRUC 67-1 ESTAC 1

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	22.0	34.736	24.04	388.4	0	
10	21.5	34.736	24.18	375.1	.038	1387
20	21.0	34.749	24.32	361.7	.075	1399
30	20.3	34.721	24.49	344.7	.111	1781
50	18.5	34.555	24.83	312.3	.177	1701
75	15.8	34.522	25.44	254.4	.248	2439
100	14.0	34.657	25.94	207.2	.306	1986
150	12.8	34.764	26.27	176.1	.404	653
200	11.9	34.757	26.44	160.0	.490	339
250	11.3	34.724	26.53	151.5	.571	178

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
151.5	250	.379	11.29	34.724
160.0	200	.398	11.90	34.757
200.0	112	.460	13.72	34.680
240.0	83	.499	15.25	34.559
260.0	73	.515	16.06	34.521
300.0	55	.540	17.90	34.541
320.0	45	.550	18.89	34.590
340.0	33	.558	20.01	34.694
360.0	21	.563	20.95	34.746
388.4	0	.566	22.00	34.736

* MAZATLAN PROJECTO *

MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC ? LAT 23-01.8N LONG 107-33.2W FECHA 16 FEB 67 HORA 1850,
 TIEMPO 1 VISIB 6 NUBFS-TIPO 1 CANT 2 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1015
 TERMHUM TERMSEC 22.0 HUMREL OLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBPLICUD ML/1000M3
0	22.3	34.835	24.03	24.83			55.48 206.51
10	22.1	34.812	24.07	24.79			* MACRO *
25	21.6	34.802	24.20	24.74			206.51
40	19.2	34.791	24.83	24.53			
55	16.5	34.714	25.43	24.25			
73	14.8	34.574	25.71	24.01			
98	13.9	34.672	25.97	24.00			
147	12.6	34.753	26.30	23.95			
196	12.0	34.723	26.39	23.88			
240	11.1						
265		34.708					

CRUC 67-1 ESTAC 2

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
				TERMOST	DINAM	
0	22.3	34.835	24.03	389.2	0	
10	22.1	34.812	24.07	385.5	.039	388
20	21.8	34.803	24.15	377.2	.077	874
30	20.7	34.798	24.45	348.6	.113	3009
50	17.4	34.736	25.24	273.8	.176	3925
75	14.7	34.582	25.73	227.2	.239	1960
100	13.8	34.675	25.99	202.6	.293	1036
150	12.6	34.750	26.31	172.5	.389	634
200	11.9	34.721	26.41	162.8	.475	205
250	10.9	34.709	26.58	146.2	.555	349

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
146.2	250	.366	10.92	34.709
160.0	208	.397	11.74	34.718
200.0	104	.460	13.73	34.681
240.0	68	.494	15.45	34.616
260.0	57	.507	16.59	34.682
300.0	43	.527	18.52	34.744
320.0	38	.535	19.40	34.760
340.0	32	.542	20.27	34.785
360.0	26	.548	21.09	34.798
389.2	0	.551	22.30	34.835

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 3 LAT 22-56.8N LONG 108-11.7W FECHA 17 FEB 67 HORA 0047,
 TIEMPO 1 VISIB 6 NUBES-TIPO 1 CANT 2 VIENTO-VEL 5 (2.5) DIR 275-285 BAR 1017
 TERMHUM TERMSEC 21.5 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	22.1	34.870	24.11	24.84			80.94 589.22
10	22.0	34.837	24.11	24.80			* MACRO *
25	21.9	34.835	24.14	24.79			589.22
40	17.9	34.570	24.99	24.26			
53	16.5	34.578	25.33	24.15			
72	15.3	34.661	25.66	24.11			
96	14.3	34.700	25.91	24.06			
144	12.7	34.774	26.30	23.98			
192	11.9	34.754	26.44	23.89			
235	11.3						
260		34.692					

CRUC 67-1 ESTAC 3

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	22.1	34.870	24.11	381.3	0	
10	22.0	34.837	24.11	381.1	.038	30
20	21.9	34.835	24.13	379.4	.076	176
30	20.5	34.706	24.43	350.9	.113	2989
50	16.8	34.574	25.25	272.3	.175	4127
75	15.2	34.665	25.70	230.3	.239	1768
100	14.1	34.706	25.95	206.4	.294	1004
150	12.6	34.770	26.31	171.6	.390	734
200	11.8	34.745	26.45	158.7	.475	272
250	11.1	34.699	26.54	150.4	.555	175

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
150.4	250	.376	11.12	34.699
160.0	195	.397	11.86	34.747
200.0	109	.458	13.85	34.715
240.0	69	.494	15.54	34.642
260.0	57	.506	16.31	34.598
300.0	43	.527	18.09	34.603
320.0	38	.535	19.03	34.636
340.0	33	.542	19.97	34.679
360.0	27	.548	20.94	34.745
381.3	0	.550	22.10	34.870

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 4 LAT 22-51.1N LONG 108-50.7W FECHA 17 FEB 67 HORA 0645,
 TIEMPO 1 VISIB 6 NUBES-TIPO 1 CANT 2 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1016
 TERMHUM TERMSEC 21.5 HUMREL OLAS-DIR 275-285 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	21.6	34.831	24.22	24.76			174.00 587.18
10	21.5	34.823	24.24	24.75			* MACRO *
25	20.8	34.856	24.46	24.72			587.18
40	18.5	34.678	24.92	24.39			
55	17.0	34.503	25.15	24.14			
75	15.2	34.534	25.59	24.01			
98	14.1	34.667	25.93	24.02			
147	12.8	34.762	26.27	23.98			
196	12.2	34.766	26.39	23.93			
235	11.6						
265		34.724					

CRUC 67-1 ESTAC 4

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
				TERMOST	DINAM	
0	21.6	34.831	24.22	370.9	0	
10	21.5	34.823	24.24	368.8	.037	227
20	21.0	34.839	24.38	355.2	.073	1420
30	20.0	34.781	24.61	333.3	.108	2298
50	17.4	34.552	25.08	288.8	.170	2337
75	15.2	34.534	25.59	240.8	.237	2025
100	14.0	34.671	25.94	206.9	.294	1422
150	12.8	34.762	26.28	175.4	.391	665
200	12.1	34.762	26.40	163.8	.478	242
250	11.4	34.731	26.51	152.9	.560	229

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
152.9	250	.382	11.40	34.731
160.0	217	.399	11.88	34.751
200.0	111	.464	13.76	34.689
240.0	76	.502	15.17	34.537
260.0	65	.516	16.10	34.534
300.0	45	.538	18.09	34.603
320.0	36	.546	19.24	34.705
340.0	27	.552	20.31	34.798
360.0	16	.557	21.19	34.833
370.9	0	.557	21.60	34.831

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 5 LAT 22-46.ON LONG 109-29.2W FECHA 17 FEB 67 HORA 1243,
 TIEMPO 1 VISIB 6 NUBES-TIPO 1 CANT 1 VIENTO-VEL 3 (1.5) DIR 225-235 BAR 1018
 TERMHUM TERMSEC 22.5 HUMREL OLAS-DIR 225-235 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIC PRODUCCION	ZOOPLANCTON
				OSMOT	CLO.A	FAEO. MG/M3	MG/M3-DIA	SUPER. OBLOCUD ML/1000M3
0	20.7	34.560	24.26	24.49				16.87 118.13
10	20.6	34.435	24.19	24.39				* MACRO *
25	18.8	34.218	24.49	24.08				118.13
38	19.1	34.366	24.53	24.21				
53	16.4	34.888	25.59	24.37				
72	15.0	34.303	24.26	24.49				
96	14.3	34.588	25.82	23.98				
143	13.3	34.750	26.16	24.01				
191	12.4	34.761	26.35	23.94				
240	11.5							
258		34.717						

CRUC 67-1 ESTAC 5

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
				TERMOST	DINAM	
0	20.7	34.560	24.26	367.1	0	
10	20.6	34.435	24.19	373.6	.037	-682
20	19.3	34.252	24.39	354.6	.074	2000
30	18.9	34.273	24.51	343.5	.109	1165
50	16.9	34.786	25.39	259.7	.169	4400
75	14.9	34.628	25.72	227.7	.231	1349
100	14.2	34.604	25.86	215.1	.287	530
150	13.2	34.751	26.19	183.7	.388	660
200	12.2	34.753	26.37	166.0	.478	372
250	11.3	34.720	26.51	152.7	.560	282

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
152.7	250	.382	11.34	34.720
160.0	223	.399	11.82	34.737
200.0	124	.468	13.70	34.673
240.0	65	.506	15.68	34.683
260.0	50	.518	16.92	34.784
300.0	40	.536	17.88	34.534
320.0	36	.543	18.35	34.412
340.0	31	.550	18.83	34.293
360.0	17	.555	19.67	34.302
367.1	0	.555	20.70	34.560

* MAZATLAN PROJECTO *

MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 6 LAT 22-41.5N LONG 110-06.1W FECHA 17 FEB 67 HORA 1700,
 TIEMPO 1 VISIB 5 NUBES-TIPO 6 CANT 1 VIENTO-VEL 5 (2.5) DIR 315-325 BAR 1017
 TERMHUM TERMSEC 21.0 HUMREL OLAS-DIR 315-325 ALT 3 PER 3 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	21.1	34.539	24.14	24.51			13.57 28.47
10	21.1						* MACRO *
25	21.1						28.47
40	19.7						
55	17.8						
75	14.6						
100	14.2						
150	12.8						
200	12.0						
230	11.5						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 7 LAT 22-03.ON LONG 110-06.4W FECHA 17 FEB 67 HORA 2350,
TIEMPO 1 VISIB 5 NUBES-TIPO 6 CANT 1 VIENTO-VEL 3 (1.5) DIR 315-325 BAR 1017
TERMHUM TERMSEC 21.0 HUMREL OLAS-DIR 315-325 ALT 2 PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	22.0	34.636	23.96	24.65			28.73 281.60
10	22.0	34.601	23.94	24.63			* MACRO *
25	22.0	34.601	23.94	24.63			281.60 2.21
40	21.9	34.604	23.97	24.62			
53	21.6	34.597	24.04	24.59			
73	19.2	34.467	24.58	24.30			
97	18.3	34.878	1				
145	12.4	34.140	25.86	23.50			
196	12.2	34.558	26.23	23.78			
240	11.3						
262		34.588					

CRUC 67-1 ESTAC 7

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	22.0	34.636	23.96	395.6	0	
10	22.0	34.601	23.94	398.1	.040	-254
20	22.0	34.601	23.94	398.1	.080	0
30	22.0	34.602	23.94	397.2	.119	89
50	21.7	34.598	24.02	389.5	.198	400
75	19.1	34.464	24.60	334.4	.290	2313
100	17.0	34.344	25.03	293.7	.369	1716
150	12.4	34.187	25.90	210.6	.497	1745
200	12.1	34.559	26.24	178.3	.596	680
250	11.1	34.581	26.45	159.1	.683	405

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
159.1	250	.398	11.12	34.581
160.0	248	.400	11.17	34.580
200.0	166	.483	12.29	34.309
240.0	132	.543	14.01	34.212
260.0	120	.568	15.12	34.249
300.0	96	.611	17.32	34.359
320.0	84	.629	18.36	34.416
340.0	72	.645	19.37	34.474
360.0	63	.658	20.30	34.517
395.6	0	.670	22.00	34.636

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 8 LAT 21-39.2N LONG 109-18.0W FECHA 18 FEB 67 HORA 0645,0658
 TIEMPO 1 VISIB 5 NUBES-TIPO 6 CANT 1 VIENTO-VEL 2 (1.0) DIR 315-325 BAR 1017
 TERMHUM TERMSEC 21.5 HUMREL OLAS-DIR 315-325 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	22.3	34.718	23.94	24.74			96.24 233.00
10	22.2	34.665	23.93	24.69			* MACRO *
25	22.2	34.669	1				233.00
40	22.2	34.666	23.93	24.69			
52	22.2	34.666	23.93	24.69			
71	20.1	34.611	24.46	24.48			
95	17.4	34.259	24.87	24.00			
142	13.1	34.162	25.74	23.57			
189	12.5	34.615	26.21	23.84			
235	11.9						
255		34.721					

CRUC 67-1 ESTAC 8

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	22.3	34.718	23.94	397.7	0	
10	22.2	34.665	23.93	398.8	.040	-109
20	22.2	34.665	23.93	398.8	.080	-9
30	22.2	34.665	23.93	398.8	.120	3
50	22.2	34.666	23.93	398.8	.200	7
75	19.6	34.527	24.53	341.5	.293	2398
100	16.9	34.234	24.98	298.5	.374	1808
150	13.0	34.248	25.83	217.4	.505	1704
200	12.3	34.634	26.26	177.1	.606	849
250	11.7	34.713	26.44	160.1	.693	358

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
160.1	250	.400	11.73	34.713
200.0	172	.484	12.71	34.414
240.0	136	.546	14.06	34.226
260.0	124	.572	15.02	34.218
300.0	99	.616	16.95	34.243
320.0	87	.635	18.22	34.369
340.0	76	.651	19.49	34.515
397.7	0	.673	22.30	34.718

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 9 LAT 21-20.0N LONG 108-39.8W FECHA 18 FEB 67 HORA 1245,
TIEMPO 1 VISIB 5 NUBES-TIPO 6 CANT 1 VIENTO-VEL 2 (1.0) DIR 315-325 BAR 1016
TERMHUM TERMSEC 22.0 HUMREL OLAS-DIR 315-325 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	22.2	34.687	23.94	24.71			15.45 86.04
10	22.2	34.648	23.91	24.68			* MACRO *
25	22.2	34.638	23.91	24.67			86.04
38	22.1	34.640	23.94	24.67			
52	22.0	34.636	23.96	24.65			
71	20.0	34.368	24.30	24.29			
95	17.7	34.387	24.90	24.11			
142	14.3	34.729	25.93	24.08			
189	12.5	34.741	26.31	23.94			
235	11.9						
255		34.719					

CRUC 67-1 ESTAC 9

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	22.2	34.687	23.94	397.2	0	
10	22.2	34.648	23.91	400.1	.040	-295
20	22.2	34.641	23.91	400.6	.080	-51
30	22.2	34.638	23.92	399.7	.120	88
50	22.0	34.636	23.96	395.9	.200	198
75	19.6	34.371	24.42	352.4	.294	1832
100	17.3	34.423	25.03	294.1	.376	2445
150	14.0	34.731	26.01	200.9	.501	1962
200	12.3	34.736	26.34	169.6	.596	656
250	11.7	34.720	26.44	159.6	.681	210

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
159.6	250	.399	11.73	34.720
160.0	248	.400	11.75	34.720
200.0	151	.480	13.91	34.730
240.0	129	.536	15.35	34.586
260.0	118	.561	16.06	34.521
300.0	97	.604	17.50	34.415
320.0	89	.622	18.29	34.392
340.0	80	.639	19.08	34.377
360.0	71	.655	20.00	34.412
397.2	0	.668	22.20	34.687

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 10 LAT 21-01.1N LONG 108-01.0W FECHA 18 FEB 67 HORA 1858,1907
 TIEMPO 1 VISIB 5 NUBES-TIPO 6 CANT 1 VIENTO-VEL 2 (1.0) DIR 315-325 BAR 1015
 TERMHUM TERMSEC 23.0 HUMREL OLAS-DIR 315-325 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	22.7	34.760	23.86	24.80			71.70 271.04
10	22.7	34.735	23.84	24.79			* MACRO *
25	22.6	34.735	23.87	24.78			271.04
40	22.2	34.771	24.01	24.77			
55	21.3	34.714	24.21	24.65			
73	18.9	34.477	24.67	24.28			
97	17.0	34.579	25.21	24.19			
142	13.8	34.754	26.06	24.05			
189	12.5	34.746	26.31	23.94			
235	11.7						
255		34.727					

CRUC 67-1 ESTAC 10

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	22.7	34.760	23.86	405.5	0	
10	22.7	34.735	23.84	407.3	.041	-178
20	22.6	34.735	23.86	405.5	.081	190
30	22.5	34.745	23.91	400.1	.122	547
50	21.6	34.725	24.14	378.1	.200	1154
75	18.7	34.485	24.72	323.5	.288	2293
100	16.7	34.588	25.28	270.2	.363	2238
150	13.6	34.750	26.11	191.5	.480	1658
200	12.3	34.741	26.35	168.3	.573	488
250	11.5	34.727	26.49	154.5	.656	290

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
154.5	250	.386	11.47	34.727
160.0	230	.399	11.80	34.732
200.0	145	.474	13.90	34.727
240.0	119	.527	15.52	34.636
260.0	107	.550	16.33	34.603
300.0	86	.588	17.85	34.525
320.0	77	.604	18.59	34.490
340.0	67	.619	19.58	34.547
360.0	58	.631	20.63	34.635
400.0	30	.649	22.46	34.745
405.5	0	.650	22.70	34.760

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 11 LAT 20-40.5N LONG 107-23.3W FECHA 19 FEB 67 HORA 0045,
TIEMPO 1 VISIB 5 NUBES-TIPO 6 CANT 1 VIENTO-VEL 2 (1.0) DIR 315-325 BAR 1016
TERMHUM TERMSEC 22.0 HUMREL OLAS-DIR 315-325 ALT 2 PER 1 SECCHI 20

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	23.2	34.646	23.63	24.76			65.32 312.48
10	23.2	34.683	23.66	24.79			* MACRO *
25	21.7	34.779	24.15	24.73			312.48
40	21.3	34.865	24.33	24.76			
55	19.0	34.575	24.72	24.36			
73	15.9	34.421	25.34	23.99			
97	14.8	34.571	25.70	24.01			
146	13.4	34.705	26.10	23.98			
200	12.2						
235	11.7						
263		34.709					

CRUC 67-1 ESTAC 11

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	23.2	34.646	23.63	427.4	0	
10	23.2	34.683	23.66	424.7	.043	280
20	22.2	34.724	23.98	393.5	.084	3258
30	21.6	34.805	24.21	371.8	.122	2283
50	19.6	34.616	24.58	336.2	.193	1864
75	15.8	34.434	25.38	260.7	.268	3175
100	14.7	34.580	25.73	226.9	.330	1420
150	13.3	34.705	26.12	189.9	.436	782
200	12.2	34.707	26.34	169.1	.528	438
250	11.5	34.709	26.47	156.5	.612	265

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
156.5	250	.391	11.51	34.709
160.0	236	.400	11.70	34.707
200.0	136	.474	13.68	34.668
240.0	90	.520	15.12	34.522
260.0	76	.536	15.77	34.437
300.0	62	.564	17.79	34.507
320.0	55	.575	18.81	34.562
340.0	48	.586	19.84	34.634
360.0	37	.594	20.92	34.738
400.0	18	.605	22.38	34.714
427.4	0	.608	23.20	34.646

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 12 LAT 20-24.ON LONG 106-44.2W FECHA 19 FEB 67 HORA 0640,
 TIEMPO VISIB 5 NUBES-TIPO 6 CANT 1 VIENTO-VEL 2 (1.0) DIR 315-325 BAR 1017
 TERMHUM TERMSEC 23.0 HUMREL OLAS-DIR 315-325 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	23.2	34.745	23.70	24.84			72.35 375.92
10	23.2	34.725	23.69	24.82			* MACRO *
24	23.0	34.764	23.78	24.83			375.92
40	22.3	34.740	23.96	24.76			
55	19.2	34.453	24.57	24.29			
75	16.4	34.431	25.24	24.04			
100	14.1	34.440	25.75	23.85			
150	12.6	34.722	26.28	23.93			
200	11.9	34.754	26.44	23.89			
235	11.5						
270		34.695					

CRUC 67-1 ESTAC 12

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	23.2	34.745	23.70	420.3	0	
10	23.2	34.725	23.69	421.7	.042	-140
20	23.1	34.752	23.75	415.8	.084	610
30	22.7	34.750	23.84	407.0	.125	923
50	20.2	34.543	24.38	355.9	.202	2679
75	16.4	34.431	25.24	274.1	.281	3440
100	14.1	34.440	25.75	225.1	.344	2061
150	12.6	34.722	26.28	175.4	.446	1047
200	11.9	34.754	26.43	160.2	.532	318
250	11.3	34.709	26.50	153.6	.613	138

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
153.6	250	.384	11.35	34.709
160.0	201	.398	11.88	34.752
200.0	125	.464	13.34	34.579
240.0	92	.507	14.80	34.430
260.0	82	.525	15.74	34.427
300.0	67	.555	17.61	34.448
320.0	61	.567	18.54	34.473
340.0	55	.579	19.47	34.508
360.0	48	.589	20.41	34.557
400.0	33	.606	22.38	34.717
420.3	0	.609	23.20	34.745

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 13 LAT 20-57.8N LONG 106-45.2W FECHA 19 FEB 67 HORA 1242,
TIEMPO 1 VISIB 5 NUBES-TIPO 6 CANT 1 VIENTO-VEL 2 (1.0) DIR 315-325 BAR 1017
TERMHUM TERMSEC 25.0 HUMREL OLAS-DIR 315-325 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	24.1	34.454	23.22	24.69			71.76 331.89
10	23.9	34.522	23.33	24.73			* MACRO *
25	23.0	34.717	23.74	24.80			331.89
40	21.0	34.597	24.21	24.54			
55	18.9	34.802	24.91	24.52			
75	16.0	34.490	25.37	24.05			
100	14.1	34.629	25.90	23.99			
148	12.8	34.763	26.27	23.98			
197	11.9	34.766	26.45	23.90			
235	11.3						
267		34.723					

CRUC 67-1 ESTAC 13

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM TERMOST	ALT DINAM	ESTAB
0	24.1	34.454	23.22	466.4	0	
10	23.9	34.522	23.33	455.8	.046	1104
20	23.3	34.642	23.60	430.1	.090	2685
30	22.3	34.638	23.89	402.3	.132	2916
50	19.5	34.677	24.67	328.1	.206	3893
75	16.0	34.490	25.37	261.1	.280	2821
100	14.1	34.629	25.90	211.3	.339	2095
150	12.8	34.763	26.28	175.3	.438	757
200	11.8	34.763	26.45	158.6	.523	351
250	11.1	34.731	26.57	147.6	.603	232

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
147.6	250	.369	11.09	34.731
160.0	196	.397	11.93	34.763
200.0	116	.459	13.68	34.668
240.0	86	.499	15.20	34.543
260.0	76	.515	15.96	34.492
300.0	60	.542	18.02	34.581
320.0	53	.554	19.06	34.647
340.0	47	.564	19.93	34.665
360.0	41	.573	20.68	34.650
400.0	31	.587	22.17	34.638
466.4	0	.597	24.10	34.454

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 14 LAT 21-32.ON LONG 106-46.5W FECHA 19 FEB 67 HORA 1835,
TIEMPO 1 VISIB 5 NUBES-TIPO 6 CANT 1 VIENTO-VEL 2 (1.0) DIR 315-325 BAR 1017
TERMHUM TERMSEC 23.0 HUMREL OLAS-DIR 315-325 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	24.2	34.373	23.13	24.64			246.82 713.12
10	24.3	34.341	23.08	24.63			* MACRO *
25	22.9	34.775	23.81	24.83			713.12
40	21.9	34.927	24.21	24.86			
55	18.3	34.435	24.78	24.20			
75	15.6	34.568	25.52	24.07			
100	14.1	34.687	25.94	24.03			
150	12.9	34.807	26.28	24.02			
200	12.1						
235	11.7						
270		34.763					

CRUC 67-1 ESTAC 14

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	24.2	34.373	23.13	475.1	0	
10	24.3	34.341	23.08	480.2	.048	-527
20	23.3	34.602	23.55	434.3	.094	4792
30	22.5	34.814	23.94	397.5	.135	3864
50	19.5	34.590	24.61	334.1	.209	3325
75	15.6	34.568	25.52	246.8	.282	3675
100	14.1	34.687	25.94	207.0	.339	1673
150	12.9	34.807	26.28	174.8	.436	676
200	12.1	34.770	26.41	162.6	.523	257
250	11.5	34.764	26.51	153.1	.605	200

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
153.1	250	.383	11.55	34.764
160.0	214	.399	11.95	34.768
200.0	111	.464	13.84	34.711
240.0	79	.502	15.35	34.586
260.0	71	.517	16.19	34.560
300.0	60	.543	17.96	34.561
320.0	54	.554	18.85	34.575
340.0	48	.565	19.76	34.607
360.0	42	.574	20.73	34.669
400.0	29	.588	22.60	34.799
475.1	0	.599	24.20	34.373

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 15 LAT 22-06.5N LONG 106-40.3W FECHA 20 FEB 67 HORA 0037,
TIEMPO 1 VISIB 5 NUBES-TIPO 6 CANT 1 VIENTO-VEL 2 (1.0) DIR 315-325 BAR 1017
TERMHUM TERMSEC 22.5 HUMREL OLAS-DIR 315-325 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	23.5	34.486	23.42	24.67			289.99 656.09
10	23.6	34.468	23.38	24.66			* MACRO *
25	23.4	34.469	23.44	24.65			656.09
40	19.1	34.462	24.60	24.28			
55	17.3	34.505	25.08	24.17			
75	14.6	34.477	25.67	23.92			
100	13.7	34.524	25.90	23.88			
150	12.9	34.756	26.24	23.98			
200	12.3	34.788	26.39	23.95			
235	11.6						
268		34.740					

CRUC 67-1 ESTAC 15

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	23.5	34.486	23.42	447.3	0	
10	23.6	34.468	23.38	451.3	.045	-416
20	23.5	34.468	23.42	447.6	.090	381
30	21.9	34.467	23.86	404.9	.133	4489
50	17.8	34.488	24.94	302.5	.204	5365
75	14.6	34.477	25.67	232.5	.271	2948
100	13.7	34.524	25.90	211.0	.327	905
150	12.9	34.756	26.24	178.5	.426	684
200	12.3	34.788	26.38	165.0	.514	283
250	11.3	34.749	26.54	150.4	.596	307

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
150.4	250	.376	11.33	34.749
160.0	217	.398	11.97	34.773
200.0	117	.465	13.43	34.602
240.0	72	.503	14.95	34.472
260.0	65	.517	15.87	34.466
300.0	51	.540	17.72	34.485
320.0	47	.550	18.53	34.471
340.0	43	.559	19.32	34.459
360.0	39	.567	20.11	34.453
400.0	31	.581	21.70	34.463
447.3	0	.588	23.50	34.486

* MAZATLAN PROJECT *
MEXICO-CIAT*YOLANDA*MZ-5

CRUC 67-1 ESTAC 16 LAT 22-42.1N LONG 106-32.7W FECHA 20 FEB 67 HORA 0647,0650
 TIEMPO 1 VISIB 5 NUBES-TIPO 6 CANT 1 VIENTO-VEL 2 (1.0) DIR 315-325 BAR 1016
 TERMHUM TERMSEC 21.5 HUMREL OLAS-DIR 315-325 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	22.5	34.624	23.81	24.69			118.11 325.16
10	22.5	34.599	23.79	24.67			* MACRO *
25	21.1	34.625	24.20	24.57			325.16
40	18.2	34.621	24.95	24.33			
55	16.3	34.630	25.41	24.17			
75	15.6						
100	14.5						
150	12.9						
200	12.1						
235	11.5						

CRUC 67-1 ESTAC 16

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	22.5	34.624	23.81	409.9	0	
10	22.5	34.599	23.79	411.7	.041	-178
20	21.7	34.616	24.03	388.9	.081	2386
30	20.2	34.624	24.44	350.0	.118	4078
50	16.9	34.623	25.27	270.5	.181	4169

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
270.5	50	.135	16.87	34.623
300.0	43	.149	18.11	34.608
320.0	38	.157	18.95	34.608
340.0	33	.164	19.79	34.616
360.0	27	.170	20.59	34.619
400.0	15	.178	22.09	34.607
409.9	0	.179	22.50	34.624

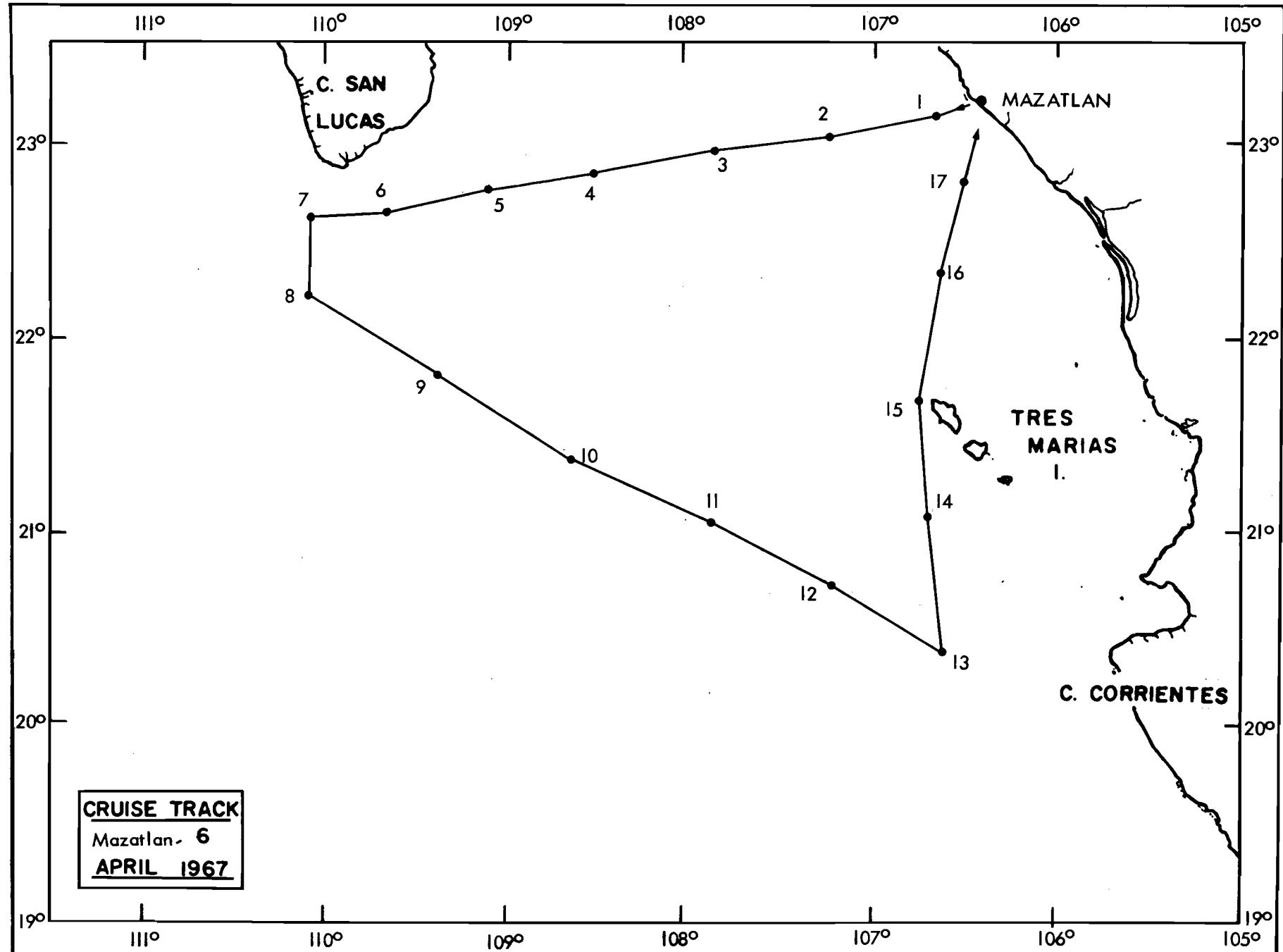


FIGURE 6. Cruise track and station locations for the sixth Mazatlan cruise, MZ-6.

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 1 LAT 23-08.8N LONG 106-42.3W FECHA 14 APRIL 67 HORA 1200,
TIEMPO 1 VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1017
TERMHUM 19.2 TERMSEC 22.3 HUMREL 75 OLAS-DIR 275-285 ALT 3 PER 3 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	22.6	34.814	23.93	24.84			
10	21.9						* MACRO *
25	19.6						
40	17.0						
55	15.1						
75	14.4						
100	13.3						
135	12.4						

* MAZATLAN PROJECTO *

MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 2 LAT 23-04.0N LONG 107-15.0W FECHA 14 APRIL 67 HORA 1858,
 TIEMPO VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1016
 TERMHUM 19.5 TERMSEC 22.5 HUMREL 76 OLAS-DIR 275-285 ALT 3 PER 3 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON
				OSMOT	CLO.A	FAEO.		SUPER. OBLICUO ML/1000M3
0	23.0	35.113	24.04	25.09	.48	.02		56.19 341.26
10	23.0	35.095	24.03	25.08				* MACRO *
25	20.9	35.104	24.62	24.91				341.26
40	18.3	34.860	25.11	24.51				
53	17.4	34.967	25.41	24.51				
73	16.5	34.967	25.63	24.43				
97	14.9	34.986	26.00	24.31				
145	13.0	34.837	26.29	24.05				
200	11.8	34.801	26.49	23.92				
235	11.1							
262		34.675						

CRUC 67-2 ESTAC 2

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	23.0	35.113	24.04	388.2	0	
10	23.0	35.095	24.03	389.5	.039	-125
20	21.5	35.101	24.45	349.3	.076	4218
30	20.0	35.003	24.79	317.0	.109	3379
50	17.6	34.944	25.35	263.5	.168	2811
75	16.3	34.967	25.66	233.8	.230	1247
100	14.8	34.973	26.02	199.4	.285	1448
150	12.9	34.832	26.31	172.4	.380	568
200	11.8	34.801	26.49	154.9	.464	369
250	10.8	34.695	26.59	145.7	.542	193

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
145.7	250	.364	10.83	34.695
160.0	186	.395	12.11	34.808
200.0	100	.452	14.78	34.972
240.0	70	.486	16.61	34.961
260.0	53	.499	17.44	34.946
300.0	36	.516	19.23	34.977
320.0	29	.523	20.13	35.011
340.0	23	.528	21.08	35.070
360.0	17	.532	21.91	35.097
388.2	0	.535	23.00	35.113

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 3 LAT 22-59.0N LONG 107-52.1W FECHA 15 APRIL 67 HORA 0048,0100
 TIEMPO 1 VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 2 (1.0) DIR 245-255 BAR 1017
 TERMHUM 28.2 TERMSEC 21.0 HUMREL 76 OLAS-DIR 275-285 ALT 2 PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	21.3	34.473	24.03	24.48			69.02 312.26
10	21.4	34.474	24.00	24.48			* MACRC *
25	19.7	34.340	24.36	24.24			312.26
40	16.8	33.945	24.77	23.72			
55	15.4	34.420	1				
75	14.7	34.259	1				
100	14.0	33.886	25.35	23.45			
147	12.4	34.689	26.29	23.89			
200	11.7	34.747	26.47	23.87			
235	11.3						
265		34.689					

CRUC 67-2 ESTAC 3

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	21.3	34.473	24.03	388.9	0	
10	21.4	34.474	24.00	391.5	.039	-278
20	20.2	34.354	24.24	369.3	.077	2325
30	18.7	34.178	24.50	344.2	.113	2634
50	15.8	33.935	24.99	297.7	.177	2449
75	14.7	33.911	25.22	276.0	.250	911
100	14.0	33.886	25.35	263.7	.318	517
150	12.4	34.692	26.30	173.0	.429	1907
200	11.7	34.747	26.47	157.1	.513	335
250	11.1	34.700	26.53	150.8	.593	133

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
150.8	250	.377	11.15	34.700
160.0	191	.397	11.82	34.736
200.0	135	.462	12.84	34.449
240.0	113	.512	13.57	34.094
260.0	102	.534	13.93	33.918
300.0	49	.564	15.96	33.945
320.0	40	.573	17.18	34.040
340.0	32	.580	18.40	34.152
360.0	24	.586	19.63	34.285
388.9	0	.589	21.30	34.473

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 4 LAT 22-54.2N LONG 108-28.8W FECHA 15 APRIL 67 HORA 0639,0650
 TIEMPO 1 VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM 19.0 TERMSEC 22.5 HUMREL 72 OLAS-DIR 275-285 ALT 1 PER 1 SECCHI 29

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	21.4	34.332	23.90	24.38	.43 .02		33.71 158.61
10	21.4	34.302	23.87	24.36			* MACRO *
25	21.4	34.296	23.87	24.35			158.61
40	19.9	34.116	24.13	24.10			
55	17.4	33.921	24.61	23.75			
75	14.8	33.902	25.19	23.52			
100	14.1	34.137	25.52	23.63			
150	11.8	34.361	26.15	23.61			
200	11.3	34.588	26.42	23.73			
235	10.7						
270		34.584					

CRUC 67-2 ESTAC 4

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	21.4	34.332	23.90	401.7	0	
10	21.4	34.302	23.87	403.9	.040	-228
20	21.4	34.298	23.87	404.2	.081	-30
30	20.8	34.211	23.96	396.1	.121	854
50	18.2	33.982	24.46	348.0	.196	2520
75	14.8	33.902	25.19	278.7	.274	2917
100	14.1	34.137	25.52	247.3	.341	1320
150	11.8	34.361	26.15	187.3	.451	1263
200	11.3	34.588	26.42	161.8	.541	536
250	10.5	34.585	26.57	147.8	.621	297

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
147.8	250	.370	10.47	34.585
160.0	206	.397	11.20	34.587
200.0	139	.466	12.29	34.308
240.0	106	.516	13.82	34.161
260.0	90	.535	14.38	34.041
300.0	67	.567	15.85	33.912
320.0	60	.579	16.83	33.933
340.0	53	.591	17.82	33.966
360.0	45	.600	18.87	34.032
400.0	25	.614	21.11	34.253
401.7	0	.615	21.40	34.332

* MAZATLAN PROJECTO *

MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 5 LAT 22-48.3N LONG 109-07.5W FECHA 15 APRIL 67 HORA 1232,
 TIEMPO 1 VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1017
 TERMHUM 21.4 TERMSEC 25.6 HUMREL 70 OLAS-DIR 275-285 ALT 3 PER 3 SECCHI 30

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON
				OSMOT	CLO.A	FAEO. MG/M3		SUPER. OBLOCUD ML/1000M3
0	22.3	34.384	23.69	24.49	.40	0	3.7 6.4 .3	4.77 138.11
10	21.7	34.356	23.83	24.42				* MACRO *
25	20.4	34.319	24.16	24.29				138.11
40	17.8	33.989	24.57	23.83				
55	16.3	33.913	24.86	23.65				
75	14.4	33.809	25.20	23.42				
100	13.7	34.201	25.65	23.65				
150	13.3	34.734	26.14	24.00				
200	12.2	34.753	26.38	23.92				
235	10.9							
270		34.658						

CRUC 67-2 ESTAC 5

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	22.3	34.384	23.69	421.8	0	
10	21.7	34.356	23.83	407.9	.042	1461
20	20.8	34.331	24.06	386.2	.081	2290
30	19.5	34.188	24.30	363.5	.119	2361
50	16.7	33.933	24.77	318.2	.187	2382
75	14.4	33.809	25.20	277.4	.262	1719
100	13.7	34.201	25.65	234.7	.327	1794
150	13.3	34.734	26.14	187.8	.434	987
200	12.2	34.753	26.38	165.7	.525	463
250	10.4	34.675	26.65	140.0	.604	541

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
140.0	250	.350	10.40	34.675
160.0	211	.396	11.80	34.732
200.0	137	.466	13.40	34.595
240.0	97	.513	13.79	34.152
260.0	85	.531	14.12	33.968
300.0	61	.560	15.70	33.869
320.0	49	.571	16.86	33.941
340.0	40	.580	18.07	34.045
360.0	32	.587	19.27	34.165
400.0	14	.596	21.37	34.346
421.8	0	.598	22.30	34.384

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 6 LAT 22-42.5N LONG 109-41.1W FECHA 15 APRIL 67 HORA 1800,
TIEMPO 2 VISIB 5 NUBES-TIPO CANT 0 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1017
TERMHUM 18.5 TERMSEC 21.9 HUMREL 72 OLAS-DIR 275-285 ALT 3 PER 3 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	21.2	34.463	24.05	24.46	.60 .07		49.08 106.53
10	21.2						* MACRO *
25	20.4						106.53
40	16.1						
55	14.1						
75	13.4						
100	13.6						
150	12.4						
200	11.7						
235	11.0						

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 7 LAT 22-42.0N LONG 110-02.4W FECHA 15 APRIL 67 HORA 2000,
TIEMPO 2 VISIB 5 NUBES-TIPO CANT 0 VIENTO-VEL 4 (2.0) DIR 275-285 BAR 1018
TERMHUM 18.1 TERMSEC 20.9 HUMREL 76 OLAS-DIR 275-285 ALT 3 PER 5 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBICUO ML/1000M3
0	20.8	34.419	24.13	24.39	.78 .04		
10	20.9						* MACRO *
25	20.3						
40	15.9						
55	14.1						
75	13.4						
100	13.1						
150	12.2						
200	11.5						
235	11.1						

* MAZATLAN PROJECTO *
MEXICO-CIAT*YCLANDA*MZ-6

CRUC 67-2 ESTAC 8 LAT 22-12.5N LONG 110-02.4W FECHA 16 APRIL 67 HORA 0000,
TIEMPO 2 VISIB 6 NUBES-TIPC CANT 0 VIENTO-VEL 5 (2.5) DIR 275-285 BAR 1017
TERMHUM 17.0 TERMSEC 19.5 HUMREL 78 OLAS-DIR 275-285 ALT 5 PER 5 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIO	ZOOPLANCTON
				OSMOT	CLO.A	FAEO.	PRODUCCION	SUPER. OBPLICUD ML/1000M3
0	19.7	34.519	24.49	24.38	3.18	.24		320.31 320.08
10	19.7							* MACRC *
25	19.7							320.08
40	15.6							
55	14.2							
75	13.9							
100	13.3							
150	12.4							
200	11.7							
230	11.2							

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 9 LAT 21-50.2N LONG 109-22.0W FECHA 16 APRIL 67 HORA 0600,
TIEMPO 2 VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 5 (2.5) DIR 275-285 BAR 1017
TERMHUM 18.2 TERMSEC 20.0 HUMREL 84 OLAS-DIR 275-285 ALT 5 PER 5 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	20.2	34.138	24.07	24.14	.70 .09		51.70 206.98
10	20.2						* MACRO *
25	20.1						206.98
40	18.8						
55	17.0						
75	14.5						
100	13.5						
150	11.7						
200	10.9						
230	10.5						

* MAZATLAN PROJECTC *

MEXICO-CIAT*YCLANDA*MZ-6

CRUC 67-2 ESTAC 10 LAT 21-24.8N LONG 108-37.1W FECHA 16 APRIL 67 HORA 1229,1246
 TIEMPO VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 4 (2.0) DIR 275-285 BAR 1015
 TERMHUM TERMSEC 25.0 HUMREL OLAS-DIR 275-285 ALT 4 PER 4 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
					CLO.A	FAEO. MG/M3		
0	22.9	34.654	23.72	24.74	.33	.05	5.2 6.9 .5	10.18 47.11
10	22.7	34.636	23.76	24.71				* MACRO *
25	22.4	34.585	23.81	24.65				47.11
38	21.4	34.304	23.88	24.36				
49	20.1	34.194	24.14	24.17				
72	18.4	34.177	24.56	24.02				
96	15.4	34.365	25.41	23.91				
144	13.2	34.227	25.77	23.63				
192	12.1	34.742	26.39	23.90				
230	11.5							

CRUC 67-2 ESTAC 10

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	22.9	34.654	23.72	418.6	0	
10	22.7	34.636	23.76	414.4	.042	435
20	22.5	34.599	23.79	411.8	.083	271
30	22.1	34.494	23.83	408.0	.124	403
50	20.0	34.189	24.15	377.3	.203	1611
75	18.1	34.186	24.65	329.6	.292	2002
100	15.2	34.348	25.45	253.9	.366	3181
150	13.0	34.299	25.86	214.8	.485	822
200	11.9	34.828	26.48	155.5	.579	1251

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
155.5	200	.311	11.94	34.828
160.0	196	.320	12.03	34.787
200.0	163	.392	12.77	34.430
240.0	118	.448	14.42	34.324
260.0	98	.469	15.41	34.331
300.0	85	.506	16.93	34.238
320.0	78	.522	17.70	34.201
340.0	70	.537	18.49	34.183
360.0	59	.550	19.32	34.183
400.0	35	.569	21.55	34.410
418.6	0	.572	22.90	34.654

* MAZATLAN PROJECT *
MEXICO-CIAT-YOLANDA-MZ-6

CRUC 67-2 ESTAC 11 LAT 21-02.3N LONG 107-53.8W FECHA 16 APRIL 67 HORA 1857,
 TIEMPO 1 VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1014
 TERMHUM 22.0 TERMSEC 24.6 HUMREL 80 OLAS-DIR 275-285 ALT 3 PER 3 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	23.6	34.781	23.61	24.90	1.15 .01		229.53 392.87
10	23.3	34.781	23.70	24.87			* MACRO *
24	21.8	34.779	24.13	24.74			392.87
38	19.1	34.793	24.86	24.53			
52	16.7	34.708	25.38	24.26			
71	15.8	34.719	25.60	24.20			
95	13.1	34.465	25.98	23.79			
143	12.9	34.703	26.20	23.94			
190	11.1	34.596	26.46	23.71			
230	10.6	34.620	26.57	23.69			
257		34.639					

CRUC 67-2 ESTAC 11

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
				TERMOST	DINAM	
0	23.6	34.781	23.61	428.8	0	
10	23.3	34.781	23.70	420.4	.042	862
20	22.2	34.780	24.02	390.4	.083	3159
30	20.6	34.785	24.45	348.8	.120	4359
50	17.0	34.715	25.31	266.8	.182	4303
75	15.3	34.664	25.67	233.2	.245	1413
100	13.1	34.494	26.00	201.1	.300	1353
150	12.6	34.482	26.24	178.3	.396	480
200	11.0	34.462	26.49	154.9	.482	492
250	10.4	34.434	26.62	142.7	.559	257

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
142.7	250	.357	10.38	34.634
160.0	189	.395	11.32	34.616
200.0	102	.453	13.05	34.503
240.0	70	.487	15.64	34.671
260.0	55	.500	16.66	34.702
300.0	42	.519	18.47	34.725
320.0	37	.527	19.35	34.743
340.0	32	.534	20.23	34.770
360.0	27	.540	21.04	34.781
400.0	17	.549	22.55	34.778
428.8	0	.551	23.60	34.781

* MAZATLAN PROJECTO *
MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 12 LAT 20-43.ON LONG 107-15.0W FECHA 17 APRIL 67 HORA 0045,0052
 TIEMPO 1 VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1016
 TERMHUM 21.8 TERMSEC 23.9 HUMREL 84 OLAS-DIR 275-285 ALT 2 PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON
				OSMOT	CLO.A	FAEO.		SUPER. OBLICUD ML/1000M3
0	23.2	34.718	23.68	24.82	.40	.05		61.84 170.20
10	23.3	34.697	23.64	24.81				* MACRO *
25	22.5	34.675	23.85	24.72				170.20
40	18.7	34.247	24.54	24.09				
55	17.0	34.185	24.91	23.91				
73	14.6	34.248	25.50	23.76				
98	13.2	34.524	26.00	23.84				
147	12.4	34.734	26.32	23.92				
196	11.9	34.770	26.45	23.91				
225	11.6	34.712	26.46	23.84				

CRUC 67-2 ESTAC 12

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	23.2	34.718	23.68	422.2	0	
10	23.3	34.697	23.64	426.5	.042	-448
20	22.8	34.682	23.77	414.3	.085	1290
30	21.4	34.534	24.05	387.1	.125	2835
50	17.5	34.200	24.80	315.9	.195	3740
75	14.5	34.272	25.54	244.9	.266	2984
100	13.2	34.534	26.02	199.8	.322	1898
150	12.4	34.736	26.33	170.0	.416	628
200	11.9	34.761	26.45	158.8	.501	234

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. CF SURFACE
158.8	200	.318	11.86	34.761
160.0	195	.320	11.91	34.758
200.0	100	.379	13.17	34.533
240.0	78	.414	14.33	34.299
260.0	70	.429	15.12	34.247
300.0	56	.454	16.83	34.206
320.0	49	.465	17.74	34.214
340.0	43	.474	18.83	34.293
360.0	38	.482	19.92	34.386
400.0	25	.495	22.07	34.602
422.2	0	.497	23.20	34.718

* MAZATLAN PROYECTO *

MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 13 LAT 20-24.5N LONG 106-36.0W FECHA 17 APRIL 67 HORA 0642,0651
 TIEMPO VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
 TERMHUM 22.6 TERMSEC 26.5 HUMREL 71 OLAS-DIR 275-285 ALT 2 PER 2 SECCHI 25

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	24.9	34.844	23.27	25.05	1.08 .11		72.61 551.47
10	24.9	34.834	23.27	25.04			* MACRO *
25	21.0	34.768	24.34	24.67			551.47
40	16.4	34.633	25.39	24.18			
55	14.8	34.593	25.72	24.02			
73	13.9	34.593	25.91	23.95			
97	13.7	34.740	26.07	24.04			
142	12.7	34.804	26.32	24.00			
190	12.1	34.798	26.43	23.94			
240	11.5						
256		34.750					

CRUC 67-2 ESTAC 13

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM TERMOST	ALT DINAM	ESTAB
0	24.9	34.844	23.27	461.1	0	
10	24.9	34.834	23.27	461.9	.046	-75
20	22.1	34.790	24.06	386.6	.089	7894
30	19.3	34.661	24.70	325.3	.124	6423
50	15.3	34.601	25.62	237.5	.181	4615
75	13.9	34.607	25.93	208.5	.237	1220
100	13.6	34.744	26.09	193.3	.288	642
150	12.6	34.802	26.34	169.2	.380	506
200	12.0	34.789	26.45	158.8	.465	219
250	11.4	34.753	26.53	151.2	.545	160

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
151.2	250	.378	11.40	34.753
160.0	194	.398	12.04	34.790
200.0	89	.454	13.74	34.683
240.0	49	.482	15.40	34.600
260.0	45	.491	16.32	34.599
300.0	36	.507	18.16	34.625
320.0	31	.514	19.08	34.652
340.0	28	.520	19.98	34.684
360.0	24	.525	20.88	34.723
400.0	18	.534	22.58	34.791
461.1	0	.539	24.90	34.844

* MAZATLAN PROYECTO *
MEXICO-CIAT-YOLANDA*MZ-6

CRUC 67-2 ESTAC 14 LAT 21-03.0N LONG 106-39.5W FECHA 17 APRIL 67 HORA 1225,
TIEMPO VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1017
TERMHUM 22.0 TERMSEC 25.4 HUMREL 75 OLAS-DIR 275-285 ALT 2 PER 2 SECCHI 23

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	24.6	34.859	23.38	25.04	.57 .03	8.9 13.0 .9	23.80 263.00
10	24.2	34.839	23.48	24.99			* MACRO *
25	20.0	34.197	24.17	24.16			263.00
40	18.9	34.439	24.64	24.25			
55	17.0	34.593	25.22	24.20			
75	14.8	34.564	25.70	24.00			
98	13.8	34.681	26.00	24.00			
148	12.7	34.755	26.28	23.96			
197	11.9	34.760	26.44	23.90			
240	11.2						
266		34.732					

CRUC 67-2 ESTAC 14

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	24.6	34.859	23.38	451.4	0	
10	24.2	34.839	23.48	441.5	.045	1044
20	21.3	34.392	23.96	395.2	.087	4845
30	19.6	34.289	24.35	358.5	.124	3848
50	17.6	34.542	25.04	292.3	.190	3477
75	14.8	34.564	25.70	230.3	.256	2615
100	13.7	34.684	26.01	200.2	.310	1261
150	12.7	34.755	26.29	174.1	.405	551
200	11.8	34.758	26.45	158.9	.491	318
250	11.1	34.736	26.58	146.6	.570	260

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
146.6	250	.366	11.06	34.736
160.0	196	.396	11.91	34.757
200.0	100	.456	13.74	34.684
240.0	71	.490	15.24	34.554
260.0	63	.503	16.13	34.542
300.0	48	.526	17.80	34.510
320.0	42	.535	18.41	34.431
340.0	36	.542	19.01	34.355
360.0	30	.549	19.64	34.292
400.0	19	.558	21.62	34.434
451.4	0	.563	24.60	34.859

* MAZATLAN PROYECTO *
MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 15 LAT 21-42.ON LONG 106-45.OW FECHA 17 APRIL 67 HORA 1839,
TIEMPO VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1014
TERMHUM 21.1 TERMSEC 23.6 HUMREL 80 OLAS-DIR 275-285 ALT 2 PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	24.1	34.923	23.57	25.04	2.26 .04		141.02 493.42
10	23.7	34.925	23.69	25.01			* MACRO *
25	21.9	34.787	24.10	24.76			493.42
40	19.0	34.725	24.83	24.47			
55	16.3	34.651	25.43	24.19			
75	14.6	34.857	25.97	24.20			
98	13.6	34.627	26.00	23.95			
147	12.8	34.732	26.24	23.95			
196	11.7	34.758	26.48	23.88			
235	11.2						
265		34.762					

CRUC 67-2 ESTAC 15

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	24.1	34.923	23.57	432.6	0	
10	23.7	34.925	23.69	421.2	.043	1184
20	22.4	34.805	23.96	395.4	.084	2705
30	20.9	34.744	24.35	358.6	.121	3854
50	17.1	34.664	25.25	272.9	.185	4498
75	14.6	34.857	25.97	204.7	.245	2871
100	13.6	34.632	26.01	200.4	.296	183
150	12.7	34.733	26.26	176.9	.392	495
200	11.6	34.758	26.49	155.3	.478	457
250	11.0	34.760	26.60	144.3	.555	228

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
144.3	250	.361	11.03	34.760
160.0	189	.395	11.88	34.751
200.0	101	.453	13.55	34.633
240.0	62	.486	15.90	34.748
260.0	55	.497	16.63	34.695
300.0	44	.517	18.30	34.672
320.0	39	.525	19.19	34.688
340.0	34	.533	20.07	34.713
360.0	30	.539	20.95	34.746
400.0	18	.549	22.67	34.825
432.6	0	.552	24.10	34.923

* MAZATLAN PROJECTO *

MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 16 LAT 22-20.5N LONG 106-36.5W FECHA 18 APRIL 67 HORA 0045,0050
 TIEMPO 1 VISIB 6 NUBES-TIPO CANT 0 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1015
 TERMHUM 21.1 TERMSEC 23.0 HUMREL 84 OLAS-DIR 275-285 ALT 2 PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	23.0	35.004	23.96	25.01	.65 .10		233.31 810.78
10	23.0	35.012	23.96	25.02			* MACRO *
25	21.2	35.022	24.48	24.87			810.78
40	18.1	34.841	25.14	24.48			
55	16.6	34.714	25.41	24.26			
75	14.7	34.575	25.73	24.00			
100	13.4	34.701	26.10	23.98			
150	12.4	34.761	26.35	23.94			
193	11.9	34.478	26.22	23.70			
235	11.2						
261		34.713					

CRUC 67-2 ESTAC 16

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	23.0	35.004	23.96	396.1	0	
10	23.0	35.012	23.96	395.5	.040	61
20	21.7	35.019	24.32	361.1	.077	3608
30	20.1	34.935	24.70	324.9	.112	3785
50	17.0	34.749	25.33	265.4	.171	3126
75	14.7	34.575	25.73	227.4	.233	1604
100	13.4	34.701	26.10	192.2	.286	1482
150	12.4	34.761	26.34	168.8	.378	490
200	11.8	34.505	26.27	176.2	.467	-157
250	11.0	34.678	26.55	149.5	.551	563

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
149.5	250	.374	10.98	34.678
160.0	230	.399	11.29	34.609
200.0	94	.464	13.69	34.671
240.0	67	.496	15.48	34.625
260.0	54	.508	16.72	34.720
300.0	38	.527	18.83	34.844
320.0	32	.534	19.85	34.916
340.0	26	.539	20.79	34.966
360.0	20	.544	21.69	35.015
396.1	0	.548	23.00	35.004

* MAZATLAN PROJECTC *
MEXICO-CIAT*YOLANDA*MZ-6

CRUC 67-2 ESTAC 17 LAT 22-51.1N LONG 106-30.5W FECHA 18 APRIL 67 HORA 0532,0539
 TIEMPO 1 VISIB 6 NUBES-TIPC 9 CANT 1 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1016
 TERMHUM TERMSEC 23.0 HUMREL OLAS-DIR 275-285 ALT 2 PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON
				OSMOT	CLO.A	FAEO. MG/M3		SUPER. OBLICUO ML/1000M3
0	22.3	34.857	24.05	24.84	9.73	.68		134.04 389.98
10	22.2	34.850	24.07	24.83				* MACRO *
25	19.8	35.092	24.90	24.81				389.98
37	17.4	34.830	25.31	24.41				
52	15.6	34.621	25.57	24.11				
75	14.5	34.634	25.82	24.03				
95	13.7	34.690	26.03	24.00				
143	12.6	34.763	26.31	23.96				
190	12.0	34.757	26.42	23.90				
210	11.4							

CRUC 67-2 ESTAC 17

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	22.3	34.857	24.04	387.6	0	
10	22.2	34.850	24.07	385.5	.039	240
20	21.0	35.011	24.51	342.9	.075	4468
30	18.8	34.986	25.07	289.7	.107	5574
50	15.8	34.643	25.53	245.7	.161	2311
75	14.5	34.634	25.82	219.0	.219	1131
100	13.6	34.698	26.06	195.5	.272	982
150	12.5	34.761	26.33	170.6	.365	525
200	11.9	34.756	26.44	159.9	.450	228

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
159.9	200	.320	11.89	34.756
160.0	200	.320	11.90	34.755
200.0	95	.379	13.74	34.685
240.0	55	.409	15.53	34.639
260.0	44	.419	16.79	34.742
300.0	28	.433	19.25	34.987
320.0	24	.439	20.08	34.994
340.0	21	.443	20.91	35.008
360.0	16	.447	21.50	34.944
387.6	0	.449	22.30	34.857

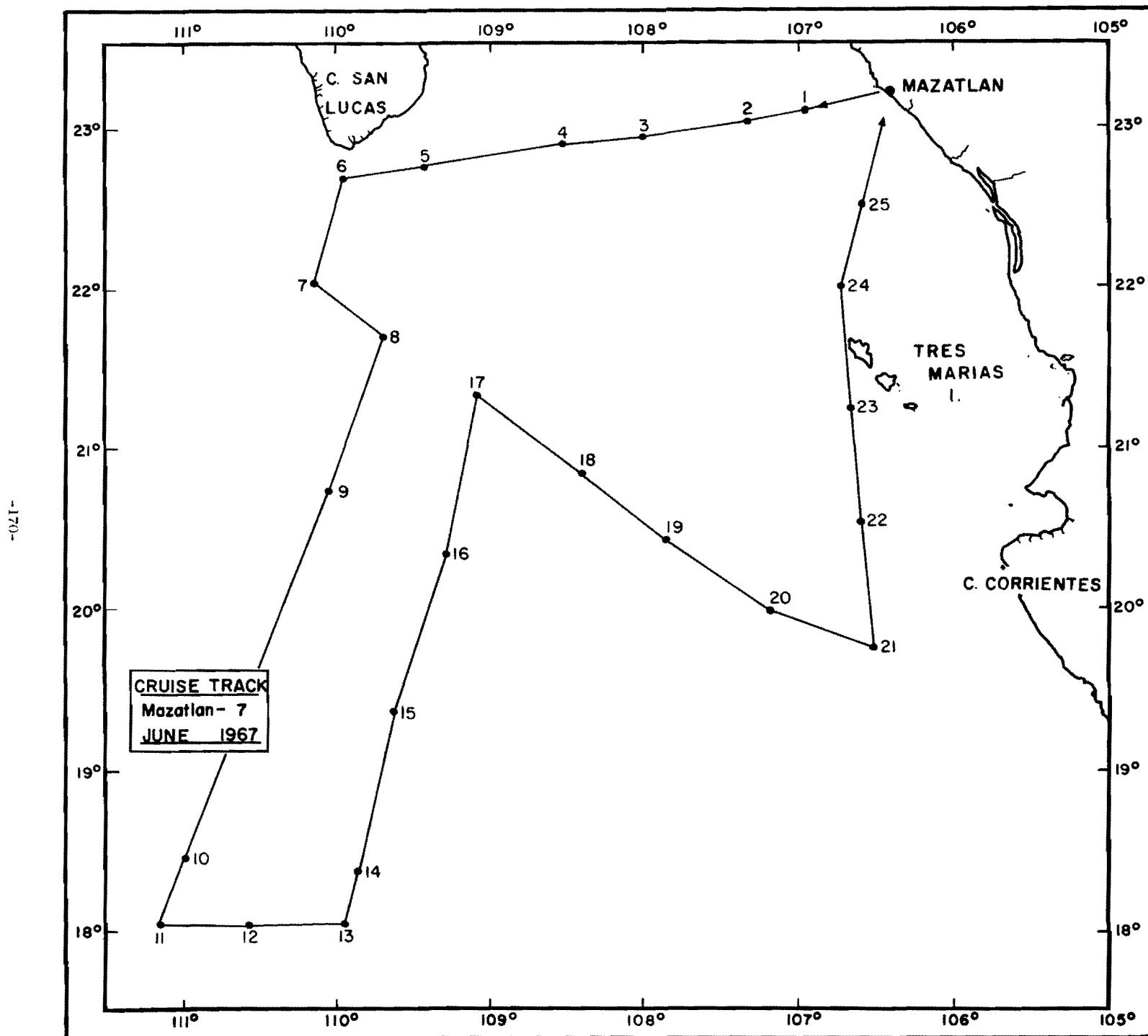


FIGURE 7. Cruise track and station locations for the seventh Mazatlan

* MAZATLAN PROYECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 1 LAT 23-06.3N LONG 106-58.3W FECHA 22 JUNIO 67 HORA 0855,
 TIEMPO VISIB NUBES-TIPC CANT VIENTO-VEL () DIR 355- 5 BAR
 TERMHUM TERMSEC HUMREL OLAS-DIR - ALT PER SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	27.6	35.100	22.62	25.47			
10	27.5	34.914	22.51	25.32			* MACRO *
25	23.6	34.844	23.66	24.94			
39	19.0	34.588	24.73	24.37			
54	16.2	34.449	25.30	24.03			
72	14.8	34.424	25.59	23.90			
97	13.8	34.663	25.99	23.99			
150	12.6						
200	12.1						
250	11.6						
265	11.5	34.753	26.51	23.86			

CRUC 67-2 ESTAC 1

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	27.6	35.100	22.62	523.6	0	
10	27.5	34.914	22.51	533.9	.053	-1075
20	25.9	34.909	23.03	484.7	.104	5144
30	22.1	34.758	24.04	388.3	.148	10099
50	16.9	34.473	25.16	281.3	.215	5617
75	14.7	34.456	25.64	235.3	.280	1932
100	13.7	34.665	26.01	201.0	.335	1449
150	12.6	34.691	26.25	177.6	.432	493
200	12.1	34.710	26.36	167.1	.520	221
250	11.6	34.737	26.48	156.0	.604	233

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
156.0	250	.390	11.60	34.737
160.0	232	.400	11.78	34.727
200.0	102	.466	13.67	34.665
240.0	72	.501	14.89	34.455
260.0	62	.515	15.84	34.458
300.0	47	.536	17.77	34.501
320.0	43	.545	18.74	34.541
340.0	39	.554	19.71	34.591
360.0	35	.561	20.68	34.653
400.0	29	.574	22.52	34.768
523.6	0	.592	27.60	35.100

* MAZATLAN PROYECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 2 LAT 23-03.5N LONG 107-19.5W FECHA 22 JUNIO 67 HORA 1200,
TIEMPO VISIB 8 NUBES-TIPO CANT VIENTO-VEL () DIR 355- 5 BAR
TERMHUM 26.3 TERMSEC 26.6 HUMREL 95 OLAS-DIR - ALT PER SECCHI 24

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	27.0	35.202	22.89	25.50			
10	26.6	35.151	22.98	25.43			
25	23.4	34.760	23.66	24.86			
40	18.5	34.647	24.90	24.37			
55	16.7	34.618	25.31	24.20			
75	14.8	34.602	25.73	24.03			
100	13.8	34.712	26.03	24.02			
149	12.7	34.755	26.28	23.96			
199	12.0	34.776	26.43	23.92			
269	11.1	34.745	26.58	23.82			

* MACRO *

CRUC 67-2 ESTAC 2

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	27.0	35.202	22.89	497.8	0	
10	26.6	35.151	22.98	489.3	.049	888
20	25.1	34.795	23.19	469.2	.097	2112
30	21.9	34.695	24.03	388.7	.140	8432
50	17.2	34.622	25.19	278.9	.207	5761
75	14.8	34.602	25.73	227.5	.271	2169
100	13.8	34.712	26.03	199.2	.325	1190
150	12.7	34.755	26.28	174.5	.420	518
200	12.0	34.775	26.44	160.1	.506	303
250	11.3	34.751	26.54	150.0	.587	213

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
150.0	250	.375	11.32	34.751
160.0	201	.398	11.98	34.775
200.0	99	.458	13.83	34.708
240.0	69	.491	15.39	34.600
260.0	59	.504	16.34	34.607
300.0	46	.525	18.13	34.617
320.0	43	.534	18.98	34.621
340.0	39	.542	19.83	34.632
360.0	35	.549	20.68	34.652
400.0	29	.562	22.34	34.702
497.8	0	.576	27.00	35.202

* MAZATLAN PROYECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 3 LAT 22-57.7N LONG 108-00.0W FECHA 22 JUNIO 67 HORA 1805,
 TIEMPO VISIB NUBES-TIPO CANT VIENTO-VEL () DIR 355- 5 BAR
 TERMHUM 22.2 TERMSEC 25.0 HUMREL 78 OLAS-DIR - ALT PER SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
				OSMOT ATM.	CLO.A MG/M3	FAEO. .20		
0	26.0	34.921	23.00	25.20	.58	.20		
10	25.8	34.907	23.05	25.17				* MACRO *
25	22.1	34.579	23.89	24.62				
40	19.0	34.640	24.77	24.41				
55	17.1	34.697	25.28	24.29				
75	15.1	34.401	25.51	23.91				
100	13.3	34.813	26.21	24.05				
150	12.3	34.648	26.28	23.85				
200	11.6	34.714	26.46	23.84				
265	10.7							
270		34.688						

CRLC 67-2 ESTAC 3

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM TERMOST	ALT DINAM	ESTAB
0	26.0	34.921	22.99	487.9	0	
10	25.8	34.907	23.05	483.0	.049	516
20	23.3	34.677	23.63	426.8	.094	5879
30	20.9	34.590	24.23	370.2	.134	5937
50	17.7	34.675	25.12	284.9	.200	4475
75	15.1	34.401	25.51	248.4	.267	1541
100	13.3	34.813	26.20	182.0	.321	2789
150	12.3	34.648	26.28	175.3	.412	145
200	11.6	34.714	26.46	157.8	.498	366
250	10.9	34.693	26.58	146.8	.577	230

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
146.8	250	.367	10.89	34.693
160.0	194	.396	11.69	34.705
200.0	93	.454	13.79	34.697
240.0	78	.488	14.87	34.451
260.0	67	.502	15.92	34.479
300.0	46	.525	18.24	34.652
320.0	42	.534	19.00	34.626
340.0	37	.542	19.76	34.607
360.0	32	.549	20.52	34.594
400.0	25	.560	22.14	34.628
487.9	0	.571	26.00	34.921

* MAZATLAN PROYECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 4 LAT 22-53.5N LONG 108-32.5W FECHA 22 JUNIO 67 HORA 2330,
TIEMPO 1 VISIB 3 NUBES-TIPO 8 CANT 1 VIENTO-VEL 16 (8.0) DIR 245-255 BAR
TERMHUM 20.1 TERMSEC 22.7 HUMREL 79 OLAS-DIR 245-255 ALT PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T OSMOT ATM.	PRES CLO.A FAEO. MG/M3	PIGMENTOS	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	21.5						
10	21.5						* MACRO *
20	21.4						
30	21.1						
40	17.1						
50	14.4						
75	13.4						
100	13.8						
150	12.6						
200	11.7						
250	11.0						
265	10.7						

* MAZATLAN PROJECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 5 LAT 22-46.0N LONG 109-25.3W FECHA 23 JUNIO 67 HORA 0600,
TIEMPO 1 VISIB 7 NUBES-TIPO 8 CANT 6 VIENTO-VEL 18 (9.0) DIR 245-255 BAR
TERMHUM 20.0 TERMSEC 21.1 HUMREL 91 OLAS-DIR 245-255 ALT PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	21.2	34.514	24.09	24.50	1.13 .29	45.4 34.2 .7	
10	20.9						* MACRC *
20	17.0						
30	15.8						
40	15.3						
50	15.3						
75	14.0						
100	13.2						
150	12.1						
200	11.7						
235	11.4						

* MAZATLAN PROYECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 6 LAT 22-41.5N LONG 109-57.7W FECHA 23 JUNIO 67 HORA 1145,
TIEMPO 2 VISIB 8 NUBES-TIPO 8 CANT 7 VIENTO-VEL 15 (7.5) DIR 265-275 BAR
TERMHUM 19.1 TERMSEC 21.0 HUMREL 83 OLAS-DIR 265-275 ALT PER 2 SECCHI 11

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	21.5	34.833	24.25	24.76	2.15 .43		
10	21.2	34.797	24.30	24.71			* MACRO *
25	17.7	34.576	25.04	24.25			
39	15.0	34.773	25.82	24.17			
54	14.4	34.575	25.79	23.97			
74	13.9	34.379	25.75	23.79			
99	13.9	34.427	25.78	23.83			
150	12.7						
200	12.1						
250	11.5						

CRUC 67-2 ESTAC 6

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	21.5	34.833	24.25	368.1	0	
10	21.2	34.797	24.30	362.9	.037	549
20	18.8	34.641	24.82	314.0	.070	5127
30	16.6	34.646	25.36	262.8	.099	5389
50	14.5	34.621	25.80	220.8	.148	2209
75	13.9	34.381	25.75	225.4	.204	-197
100	13.9	34.429	25.79	221.9	.261	152

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
221.9	100	.222	13.90	34.429
240.0	41	.235	15.48	34.626
260.0	31	.242	16.46	34.643
300.0	23	.253	18.20	34.637
320.0	19	.257	19.09	34.656
340.0	15	.260	20.07	34.716
360.0	11	.263	21.06	34.786
368.1	0	.263	21.50	34.833

* MAZATLAN PROYECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 7 LAT 22-03.0N LONG 110-08.5W FECHA 23 JUNIO 67 HORA 1550,
TIEMPO 0 VISIB 8 NUBES-TIPO CANT 0 VIENTO-VEL 7 (3.5) DIR 305-315 BAR
TERMHUM 22.0 TERMSEC 25.0 HUMREL 77 OLAS-DIR 295-305 ALT PER 2 SECCHI 29

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	23.3	34.534	23.51	24.69	.35 .06		
10	22.7	34.539	23.69	24.64			* MACRO *
24	22.6	34.530	23.71	24.63			
39	19.6	34.054	24.17	24.03			
53	17.2	34.335	24.98	24.03			
73	15.8	34.486	25.42	24.03			
97	14.4	34.619	25.83	24.01			
145	12.2	34.510	26.19	23.74			
191	11.4	34.553	26.37	23.71			
258	10.4	34.588	26.58	23.65			

CRUC 67-2 ESTAC 7

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	23.3	34.534	23.51	438.2	0	
10	22.7	34.539	23.69	421.4	.043	1750
20	22.6	34.532	23.70	420.0	.085	152
30	21.5	34.347	23.88	403.2	.126	1761
50	17.7	34.276	24.82	313.7	.198	4696
75	15.7	34.497	25.45	253.3	.270	2537
100	14.2	34.608	25.85	215.4	.329	1594
150	12.1	34.514	26.21	181.4	.430	716
200	11.2	34.557	26.40	163.1	.518	387
250	10.5	34.583	26.56	148.5	.599	307

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
148.5	250	.371	10.50	34.583
160.0	211	.398	11.09	34.562
200.0	123	.464	13.27	34.559
240.0	84	.506	15.16	34.534
260.0	72	.521	15.89	34.471
300.0	56	.547	17.21	34.322
320.0	49	.557	17.93	34.276
340.0	44	.567	18.79	34.280
360.0	40	.575	19.64	34.292
400.0	31	.589	21.36	34.342
438.2	0	.595	23.30	34.534

* MAZATLAN PROYECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 8 LAT 21-42.0N LONG 109-41.0W FECHA 23 JUNIO 67 HORA 2010,
TIEMPO 0 VISIB 3 NUBES-TIPO CANT 0 VIENTO-VEL 7 (3.5) DIR 265-275 BAR
TERMHUM 22.0 TERMSEC 25.0 HUMREL 77 OLAS-DIR 285-295 ALT PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBLICUO ML/1000M3
0	23.4	34.411	23.39	24.60			
10	22.8	34.368	23.53	24.52			
24	22.5	34.365	23.62	24.49			
39	20.5	34.257	24.08	24.25			
53	19.3	34.090	24.27	24.03			
72	17.8	33.982	24.56	23.83			
96	14.7	33.983	25.27	23.57			
144	12.6	34.447	26.06	23.73			
192	12.2	34.660	26.31	23.85			
259	10.8	34.663	26.57	23.74			

* MACRO *

CRUC 67-2 ESTAC 8

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	23.4	34.411	23.39	449.9	0	
10	22.8	34.368	23.53	436.5	.044	1402
20	22.6	34.366	23.59	431.0	.088	589
30	21.7	34.312	23.73	412.1	.130	1968
50	19.5	34.120	24.23	369.6	.209	2228
75	17.4	33.982	24.67	328.3	.296	1738
100	14.5	34.027	25.33	263.2	.371	2733
150	12.5	34.477	26.10	192.3	.487	1490
200	12.0	34.660	26.34	169.0	.579	493
250	11.0	34.661	26.54	150.6	.662	387

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
150.6	250	.376	10.97	34.661
160.0	224	.399	11.50	34.659
200.0	145	.473	12.75	34.426
240.0	116	.525	13.85	34.169
260.0	102	.547	14.40	34.046
300.0	86	.584	16.11	33.989
320.0	78	.601	16.99	33.982
340.0	68	.615	17.97	34.015
360.0	56	.628	19.02	34.083
400.0	36	.646	21.11	34.252
449.9	0	.655	23.40	34.411

* MAZATLAN PROJECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 9 LAT 20-45.8N LONG 110-03.0W FECHA 24 JUNIO 67 HORA 0940,
TIEMPO VISIB NUBES-TIPO CANT VIENTO-VEL 7 (3.5) DIR 275-285 BAR
TERMHUM 22.1 TERMSEC 25.0 HUMREL 77 OLAS-DIR 265-275 ALT PER 2 SECCHI 15

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	23.1	34.512	23.56	24.65	.60 .08	3.3 4.6 .7	
9	23.0	34.515	23.59	24.65			* MACRO *
23	22.6	34.603	23.77	24.68			
38	20.6	34.455	24.21	24.40			
52	19.4	34.232	24.35	24.14			
70	16.6	34.006	24.87	23.75			
94	14.8	34.141	25.37	23.70			
141	12.1	34.427	26.14	23.68			
188	11.7	34.658	26.40	23.81			
200	11.6						
250	11.0						

CRUC 67-2 ESTAC 9

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM TERMOST	ALT DINAM	ESTAB
0	23.1	34.512	23.56	434.3	0	
10	23.0	34.521	23.60	430.2	.043	428
20	22.7	34.528	23.68	422.1	.086	840
30	21.9	34.524	23.90	401.3	.127	2183
50	19.6	34.268	24.33	360.5	.204	2138
75	16.2	34.034	24.98	298.2	.287	2617
100	14.4	34.179	25.49	250.0	.356	2026
150	12.0	34.476	26.20	182.7	.466	1418
200	11.6	34.717	26.46	157.8	.553	527

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
157.8	200	.316	11.61	34.717
160.0	196	.320	11.65	34.695
200.0	137	.386	12.63	34.393
240.0	107	.435	14.04	34.219
260.0	95	.456	14.76	34.146
300.0	74	.489	16.28	34.039
320.0	66	.504	17.37	34.100
340.0	58	.516	18.47	34.176
360.0	50	.527	19.57	34.266
400.0	31	.543	21.84	34.515
434.3	0	.548	23.10	34.512

* MAZATLAN PROJECTC *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 10 LAT 16-27.7N LONG 110-59.5W FECHA 25 JUNIO 67 HORA 0330,
TIEMPO 2 VISIB 3 NUBES-TIPO 6 CANT 2 VIENTO-VEL 7 (3.5) DIR 255-265 BAR
TERMHUM 23.5 TERMSEC 25.9 HUMREL 81 OLAS-DIR 115-125 ALT PFR 4 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMUT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBLOCUC ML/1000M3
0	25.8	34.583	22.80	24.93	.63 .05		
10	25.8						* MACRO *
20	25.8						
30	25.7						
40	24.0						
50	22.9						
75	19.8						
100	16.2						
150	13.2						
200	12.2						
250	11.4						
265	11.1						

* MAZATLÁN PROJECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 11 LAT 18-03.ON LONG 111-09.5W FECHA 25 JUNIO 67 HORA 0715,
 TIEMPO VISIB NUBES-TIPO CANT VIENTO-VEL () DIR 355- 5 BAR
 TERMHUM 23.4 TERMSEC 26.3 HUMREL 78 OLAS-DIR - ALT PER SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEC.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBLICUO ML/1000M3
0	25.8	34.696	22.89	25.02	.89 .20		
10	25.8	34.699	22.89	25.02			* MACRO *
25	25.7	34.691	22.91	25.00			
39	24.6	34.822	23.35	25.01			
54	22.7	34.584	23.72	24.67			
74	19.6	34.304	24.36	24.21			
98	15.3	34.328	25.41	23.87			
148	13.0	34.676	26.16	23.93			
197	11.9	34.732	26.42	23.88			
250	11.0						
270	10.6						

CRUC 67-2 ESTAC 11

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	25.8	34.696	22.89	498.1	0	
10	25.8	34.699	22.89	497.9	.050	12
20	25.7	34.694	22.91	496.4	.100	174
30	25.4	34.738	23.04	483.4	.149	1360
50	23.3	34.663	23.60	430.3	.240	2773
75	19.4	34.305	24.40	354.1	.339	3200
100	15.2	34.343	25.44	254.4	.416	4183
150	12.9	34.678	26.17	185.2	.527	1457
200	11.8	34.735	26.43	160.5	.616	522

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
160.5	200	.321	11.84	34.735
200.0	139	.388	13.43	34.601
240.0	110	.438	14.72	34.408
260.0	99	.459	15.43	34.336
300.0	89	.496	17.13	34.300
320.0	84	.514	17.99	34.294
340.0	79	.530	18.84	34.297
360.0	73	.545	19.74	34.326
400.0	60	.571	21.80	34.500
498.1	0	.601	25.80	34.696

* MAZATLAN PROJECTO *

MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 12 LAT 18-03.0N LONG 110-34.5W FECHA 25 JUNIO 67 HORA 1200,
 TIEMPO 2 VISIB 7 NUBES-TIPO CANT VIENTO-VEL () DIR 355- 5 BAR
 TERMHUM 24.8 TERMSEC 28.8 FUMREL 72 OLAS-DIR 295-305 ALT PER 2 SECCHI 24

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS		PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. ML/1000M3	OBPLICUD ML/1000M3
					CLO.A	FAEO. MG/M3			
0	26.1	34.616	22.73	24.98	.43	.09	5.4	6.1	2.1
10	25.9	34.623	22.80	24.97					* MACRO *
25	25.9	34.635	22.81	24.98					
39	25.1	34.632	23.05	24.91					
54	23.6	34.671	23.53	24.81					
74	19.6	34.332	24.38	24.23					
98	16.2	34.288	25.17	23.92					
148	13.2	34.537	26.01	23.85					
197	12.3	34.721	26.33	23.90					
250	11.3								
266	11.0	34.710	26.57	23.79					

CRUC 67-2 ESTAC 12

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	26.1	34.616	22.73	512.8	0	
10	25.9	34.623	22.80	506.4	.051	675
20	25.9	34.631	22.81	505.8	.102	48
30	25.7	34.634	22.88	498.6	.152	762
50	24.1	34.661	23.38	451.5	.247	2467
75	19.4	34.327	24.41	352.4	.348	4150
100	16.1	34.297	25.21	276.2	.428	3199
150	13.2	34.545	26.03	198.9	.548	1627
200	12.2	34.720	26.34	168.8	.643	635
250	11.3	34.718	26.52	152.2	.726	350

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
152.2	250	.380	11.30	34.718
160.0	226	.399	11.74	34.717
200.0	149	.474	13.20	34.541
240.0	123	.529	14.70	34.401
260.0	111	.552	15.45	34.341
300.0	92	.593	17.11	34.292
320.0	86	.610	18.00	34.298
340.0	79	.627	18.89	34.313
360.0	73	.642	19.80	34.344
400.0	63	.669	21.68	34.457
512.8	0	.705	26.10	34.616

* MAZATLAN PROYECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 13 LAT 18-03.ON LONG 109-58.0W FECHA 25 JUNIO 67 HORA 1635,
TIEMPO 0 VISIB 8 NUBES-TIPO CANT 0 VIENTO-VEL 4 (2.0) DIR 95-105 BAR
TERMHUM 25.0 TERMSEC 27.5 HUMREL 82 OLAS-DIR 295-305 ALT PER 2 SECCHI 19

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBPLICUD ML/1000M3
0	24.8	34.540	23.08	24.82	.56 .10		
10	23.9	34.548	23.35	24.75			* MACRO *
25	23.8	34.642	23.45	24.81			
40	23.4	34.476	23.44	24.65			
55	21.5	34.391	23.91	24.43			
75	18.2	34.270	24.68	24.07			
100	15.0	34.410	25.54	23.91			
150	12.6	34.690	26.25	23.91			
200	11.7	34.739	26.46	23.87			
250	10.8						
270	10.4	34.734	26.69	23.75			

CRUC 67-2 ESTAC 13

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
				TERMOST	DINAM	
0	24.8	34.540	23.08	480.2	0	
10	23.9	34.548	23.35	454.0	.047	2743
20	23.8	34.606	23.41	447.9	.092	621
30	23.7	34.589	23.45	444.7	.137	343
50	22.3	34.397	23.70	420.3	.223	1274
75	18.2	34.270	24.68	326.8	.317	3929
100	15.0	34.410	25.54	245.7	.390	3410
150	12.6	34.690	26.25	177.7	.497	1430
200	11.7	34.739	26.46	157.7	.583	420
250	10.8	34.735	26.62	142.3	.661	328

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
142.3	250	.356	10.80	34.735
160.0	194	.395	11.80	34.732
200.0	134	.461	13.39	34.590
240.0	104	.508	14.80	34.430
260.0	96	.528	15.57	34.376
300.0	83	.564	17.14	34.303
320.0	77	.580	17.93	34.277
340.0	71	.595	18.78	34.276
360.0	66	.609	19.65	34.293
400.0	55	.633	21.39	34.354
480.2	0	.655	24.80	34.540

* MAZATLAN PROJECT *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 14 LAT 18-24.ON LONG 109-52.OW FECHA 25 JUNIO 67 HORA 2000,
 TIEMPO 0 VISIB 8 NUBES-TIPO CANT 0 VIENTO-VEL 8 (4.0) DIR 95-105 BAR
 TERMHUM 25.2 TERMSEC 27.5 HUMREL 85 OLAS-DIR 295-305 ALT PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMUT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBLICUO ML/1000M3
0	24.1	34.580	23.32	24.79	.21 .04		
10	23.7	34.583	23.44	24.76			* MACRO *
25	23.5	34.607	23.51	24.76			
40	20.7	34.276	24.04	24.28			
55	19.4	34.049	24.21	24.01			
75	17.7	34.203	24.75	23.98			
100	15.6	34.277	25.30	23.86			
150	13.3	34.596	26.04	23.90			
200	12.6	34.759	26.30	23.96			
250	11.7						
270	11.5	34.726	26.49	23.84			

CRUC 67-2 ESTAC 14

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMUST DINAM
0	24.1	34.580	23.32	457.3	0	
10	23.7	34.583	23.44	445.8	.045	1201
20	23.6	34.594	23.48	441.4	.090	454
30	22.7	34.495	23.66	424.2	.133	1800
50	19.8	34.115	24.16	376.5	.213	2503
75	17.7	34.203	24.75	320.0	.301	2374
100	15.6	34.277	25.30	268.0	.375	2186
150	13.3	34.596	26.04	197.9	.493	1474
200	12.6	34.759	26.30	172.7	.588	530
250	11.7	34.735	26.46	158.0	.674	313

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
158.0	250	.395	11.70	34.735
160.0	243	.400	11.82	34.738
200.0	149	.478	13.37	34.585
240.0	120	.532	14.68	34.397
260.0	106	.555	15.34	34.310
300.0	85	.593	16.89	34.225
320.0	75	.609	17.70	34.203
340.0	66	.623	18.44	34.166
360.0	57	.635	19.18	34.135
400.0	40	.655	21.22	34.290
457.3	0	.666	24.10	34.580

* MAZATLAN PROJECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 15 LAT 19-23.ON LONG 109-37.OW FECHA 26 JUNIO 67 HORA 1340,
TIEMPO 0 VISIB 8 NUBES-TIPO CANT 0 VIENTO-VEL 5 (2.5) DIR 85- 95 BAR
TERMHUM 25.5 TERMSEC 27.2 HUMREL 87 OLAS-DIR 295-305 ALT PER 2 SECCHI 22

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/0C	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBLICUO ML/1000M3
					CLO.A	FAEO. MG/M3		
0	24.4	34.599	23.24	24.83	.44	.11	4.7 4.7 1.5	* MACRO *
10	23.2	34.591	23.59	24.72				
25	22.4	34.575	23.80	24.64				
40	19.2	34.194	24.37	24.10				
60	17.2	33.984	24.71	23.78				
85	14.5	33.806	25.18	23.43				
135	13.0	34.380	25.93	23.72				
185	12.1	34.696	26.35	23.87				
200	11.9							
250	11.2							
265	10.9							

CRUC 67-2 ESTAC 15

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	24.4	34.599	23.24	464.5	0	
10	23.2	34.591	23.59	431.4	.045	3464
20	22.7	34.580	23.72	418.4	.087	1373
30	21.4	34.455	23.98	393.3	.128	2612
50	18.1	34.072	24.56	338.8	.202	2860
75	15.5	33.859	25.01	295.8	.281	1808
100	14.0	34.004	25.44	254.5	.351	1735
150	12.7	34.484	26.07	194.7	.465	1258
200	11.9	34.791	26.47	157.1	.555	795

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
157.1	200	.314	11.88	34.791
160.0	196	.320	11.94	34.766
200.0	146	.388	12.81	34.441
240.0	112	.440	13.66	34.119
260.0	97	.461	14.17	33.983
300.0	73	.495	15.73	33.877
320.0	61	.508	16.95	33.969
340.0	50	.519	18.17	34.079
360.0	42	.528	19.39	34.206
400.0	27	.542	21.76	34.487
464.5	0	.551	24.40	34.599

* MAZATLAN PROJECTO *
MEXICO-CIAT-DEFIANCE-MZ-7

CRUC 67-2 ESTAC 16 LAT 20-21.0N LONG 109-21.5W FECHA 26 JUNIO 67 HORA 2100,
TIEMPO 0 VISIB 8 NUBES-TIPC CANT 0 VIENTO-VEL 5 (2.5) DIR 85- 95 BAR
TERMHUM 26.0 TERMSEC 28.4 HUMREL 82 OLAS-DIR 295-305 ALT PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	26.7	35.112	22.92	25.40	.80 .16		
10	25.2	34.912	23.23	25.13			* MACRO *
24	24.1	34.549	23.29	24.76			
39	21.7	34.435	23.89	24.48			
53	17.7	34.468	24.96	24.17			
72	15.2	34.475	25.54	23.97			
97	13.7	34.668	26.01	23.98			
145	12.7	34.754	26.28	23.96			
193	11.8	34.752	26.45	23.88			
250	10.9						
261	10.7	34.727	26.64	23.77			

CRUC 67-2 ESTAC 16

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	26.7	35.112	22.92	495.2	0	
10	25.2	34.912	23.23	465.0	.048	3161
20	24.5	34.668	23.27	461.2	.094	396
30	23.3	34.455	23.45	443.9	.140	1807
50	18.5	34.455	24.74	320.9	.217	6449
75	15.0	34.499	25.61	239.0	.287	3445
100	13.6	34.674	26.03	198.5	.342	1703
150	12.6	34.753	26.30	173.0	.437	538
200	11.7	34.749	26.47	156.5	.522	347
250	10.9	34.739	26.61	143.7	.599	270

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
143.7	250	.359	10.90	34.739
160.0	189	.395	11.87	34.749
200.0	99	.453	13.67	34.667
240.0	75	.487	15.04	34.498
260.0	69	.502	15.90	34.474
300.0	56	.527	17.62	34.453
320.0	50	.537	18.48	34.455
340.0	47	.547	19.26	34.439
360.0	44	.556	20.04	34.428
400.0	37	.572	21.59	34.426
495.2	0	.590	26.70	35.112

* MAZATLAN PROJECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 17 LAT 21-19.5N LONG 109-05.5W FECHA 27 JUNIO 67 HORA 0450,
TIEMPO 4 VISIB 4 NUBES-TIPO CANT VIENTO-VEL 8 (4.0) DIR 355- 5 BAR
TERMHUM 24.1 TERMSEC 25.2 HUMREL 91 OLAS-DIR 315-325 ALT PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBLICUO ML/1000M3
0	24.5	34.651	23.25	24.87	.80 .12		
9	23.4	34.641	23.57	24.77			* MACRO *
24	22.4	34.613	23.83	24.67			
38	20.0	34.216	24.18	24.18			
52	18.7	34.073	24.41	23.97			
71	16.8	33.870	24.71	23.66			
95	13.8	33.845	25.36	23.40			
99	14.0	34.427	25.76	23.83			
142	12.4	34.402	26.07	23.68			
189	11.4	34.522 1					
255	10.5	34.289	26.33	23.45			
270	10.3						

CRUC 67-2 ESTAC 17

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ESTAB	
					TERMOST	DINAM
0	24.5	34.651	23.25	463.6	0	
10	23.3	34.637	23.58	432.1	.045	3298
20	22.7	34.620	23.75	415.8	.087	1712
30	21.4	34.447	23.98	393.4	.128	2343
50	18.9	34.090	24.38	355.6	.203	1979
75	16.2	33.857	24.83	312.4	.287	1817
100	14.0	34.426	25.77	223.3	.355	3747
150	12.2	34.386	26.09	192.9	.460	640
200	11.2	34.316	26.22	180.6	.556	259
250	10.6	34.291	26.32	171.0	.647	201

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
171.0	250	.428	10.56	34.291
200.0	138	.484	12.62	34.392
240.0	95	.531	14.38	34.314
260.0	90	.549	14.90	34.184
300.0	78	.583	15.92	33.932
320.0	71	.598	16.70	33.892
340.0	59	.611	17.91	33.996
360.0	48	.621	19.16	34.127
400.0	27	.636	21.79	34.496
463.6	0	.645	24.50	34.651

* MAZATLAN PROJECT *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 18 LAT 20-51.5N LONG 108-25.3W FECHA 27 JUNIO 67 HORA 1030,
TIEMPO 1 VISIB 8 NURES-TIPO 8 CANT 1 VIENTO-VEL 5 (2.5) DIR 355- 5 BAR
TERMHUM 24.9 TERMSEC 27.0 HUMREL 85 OLAS-DIR 175-185 ALT PER 2 SECCHI 19

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS		PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
					CLO.A	FAEO. MG/M3		
0	26.5	35.037	22.93	25.33	.78	.10	12.7	9.1 1.8
10	26.0	34.995	23.05	25.26				* MACRO *
25	25.2	34.943	23.26	25.15				
40	20.3	34.559	24.37	24.46				
55	17.2	34.283	24.94	24.00				
75	15.3	34.415	25.47	23.93				
100	14.2	34.652	25.89	24.01				
150	12.7	34.777	26.30	23.98				
200	11.8	34.712	26.42	23.86				
250	11.2							
270	10.9	34.729	26.60	23.79				

CRUC 67-2 ESTAC 18

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	26.5	35.037	22.92	494.5	0	
10	26.0	34.995	23.05	482.6	.049	1251
20	25.5	34.960	23.18	470.6	.097	1267
30	23.8	34.791	23.56	434.0	.142	3820
50	18.1	34.354	24.76	319.0	.218	6028
75	15.3	34.415	25.47	251.6	.289	2841
100	14.2	34.652	25.89	211.6	.348	1683
150	12.7	34.777	26.30	173.2	.446	805
200	11.8	34.712	26.42	161.5	.532	250
250	11.2	34.724	26.54	150.0	.612	242

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
150.0	250	.375	11.20	34.724
160.0	206	.398	11.72	34.713
200.0	115	.462	13.75	34.687
240.0	82	.502	14.98	34.482
260.0	72	.517	15.65	34.402
300.0	57	.543	17.33	34.361
320.0	50	.553	18.18	34.356
340.0	46	.563	19.17	34.406
360.0	43	.572	20.16	34.468
400.0	36	.588	22.13	34.624
494.5	0	.605	26.50	35.037

* MAZATLAN PROJECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 19 LAT 20-27.5N LONG 107-51.0W FECHA 27 JUNIO 67 HORA 1530,
TIEMPO 0 VISIB 8 NUBES-TIPO CANT 0 VIENTO-VEL 5 (2.5) DIR 355- 5 BAR
TERMHUM 25.9 TERMSEC 28.4 HUMREL 82 OLAS-DIR 175-185 ALT PER 2 SECCHI 15

VALORES OBSERVADOS

PROF MTK.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	26.6	34.747	22.68	25.12	.49 .08		
10	26.2	34.777	22.82	25.11			* MACRO *
25	23.9	34.726	23.48	24.88			
40	21.1	34.356	24.00	24.37			
55	19.2	34.109	24.31	24.03			
75	16.9	33.902	24.72	23.69			
100	14.1	34.176	25.55	23.66			
149	12.9	34.655	26.16	23.91			
199	11.9	34.755	26.44	23.89			
250	11.0						
269	10.7	34.699	26.61	23.75			

CRUC 67-2 ESTAC 19

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	26.6	34.747	22.68	518.4	0	
10	26.2	34.777	22.82	504.2	.051	1473
20	25.0	34.743	23.17	471.2	.100	3464
30	23.0	34.609	23.65	425.2	.145	4813
50	19.8	34.178	24.21	371.3	.225	2820
75	16.9	33.902	24.72	323.8	.312	2003
100	14.1	34.176	25.55	244.4	.384	3334
150	12.9	34.657	26.17	185.4	.493	1241
200	11.9	34.754	26.44	159.8	.582	538
250	11.0	34.712	26.57	147.4	.661	263

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
147.4	250	.368	11.00	34.712
160.0	200	.397	11.89	34.753
200.0	138	.464	13.18	34.536
240.0	104	.513	14.01	34.211
260.0	95	.532	14.65	34.115
300.0	82	.568	16.06	33.974
320.0	76	.584	16.77	33.913
340.0	66	.598	17.88	33.985
360.0	56	.610	19.09	34.104
400.0	39	.629	21.50	34.393
518.4	0	.653	26.60	34.747

* MAZATLAN PROJECT *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 20 LAT 19-59.5N LONG 107-11.3W FECHA 27 JUNIO 67 HORA 2130,
TIEMPO 0 VISIB 8 NUBES-TIPO CANT 0 VIENTO-VEL 5 (2.5) DIR 355- 5 BAR
TERMHUM 26.1 TERMSEC 28.8 HUMREL 81 OLAS-DIR 175-185 ALT PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	27.1	34.867	22.61	25.25	.60 .17		
9	26.1	34.804	22.88	25.12			* MACRO *
22	25.2	34.779	23.13	25.03			
35	23.4	34.580	23.52	24.73			
48	20.4	34.337	24.17	24.30			
75	15.9						
100	14.3						
150	13.0						
200	12.2						
250	11.6						
265	11.4						

CRUC 67-2 ESTAC 20

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOS
0	27.1	34.867	22.61	525.0	0	
10	26.0	34.799	22.89	497.9	.051	2826
20	25.4	34.783	23.09	479.1	.100	1989
30	24.2	34.660	23.34	454.6	.147	2547
50	20.0	34.300	24.25	367.8	.229	4557

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
367.8	50	.184	19.98	34.300
400.0	43	.199	21.55	34.410
525.0	0	.225	27.10	34.867

* MAZATLAN PROYECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 21 LAT 19-47.5N LONG 106-30.3W FECHA 28 JUNIO 67 HORA 0955,
 TIEMPO 0 VISIB 8 NUBES-TIPO CANT 0 VIENTO-VEL 5 (2.5) DIR 355- 5 BAR
 TERMHUM 26.0 TERMSEC 28.0 HUMREL 85 OLAS-DIR 125-135 ALT PER 2 SECCHI 12

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	27.7	34.897	22.44	25.33	.69 .11	19.7 20.3 2.2	
9	27.5	34.881	22.49	25.30			* MACRO *
24	27.1	34.587	22.40	25.04			
38	22.9	34.548	23.64	24.66			
52	17.6	34.444	24.96	24.15			
75	14.9						
100	13.8						
150	12.7						
200	12.1						
250	11.6						
260	11.5						

CRUC 67-2 ESTAC 21

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANCM TERMOST	ALT DINAM	ESTAB
0	27.7	34.897	22.44	541.3	0	
10	27.5	34.858	22.48	537.2	.054	431
20	27.2	34.661	22.41	543.4	.108	-652
30	26.1	34.570	22.71	515.3	.161	2956
50	18.3	34.450	24.79	316.5	.245	10409

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
316.5	50	.158	18.32	34.450
320.0	50	.160	18.46	34.446
340.0	48	.170	19.24	34.429
360.0	46	.179	20.02	34.419
400.0	42	.196	21.58	34.420
541.3	0	.226	27.70	34.897

* MAZATLAN PROJECTC *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 22 LAT 20-33.5N LONG 106-36.0W FECHA 28 JUNIO 67 HORA 1530,
TIEMPO 0 VISIB 8 NUBES-TIPO CANT 0 VIENTO-VEL 10 (5.0) DIR 265-275 BAR
TERMHUM 26.0 TERMSEC 29.0 HUMREL 79 OLAS-DIR 175-185 ALT PER 2 SECCHI 15

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	27.9	35.054	22.49	25.46	1.06 .06		
10	27.7	34.983	22.50	25.39			* MACRO *
25	26.0	34.938	23.01	25.21			
39	21.0	34.479	24.12	24.45			
54	17.1	34.463	25.10	24.12			
74	15.3	34.483	25.53	23.98			
98	14.5	34.690	25.86	24.07			
148	12.8	34.808	26.30	24.01			
197	12.1	34.789	26.42	23.94			
250	11.4						
266	11.2	34.743	26.56	23.83			

CRUC 67-2 ESTAC 22

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM TERMOST	ALT	ESTAB
					DINAM	
0	27.9	35.054	22.49	536.2	0	
10	27.7	34.983	22.50	535.1	.054	118
20	26.8	34.953	22.77	509.1	.106	2730
30	24.4	34.770	23.37	452.4	.154	5925
50	18.0	34.467	24.88	308.3	.230	7561
75	15.3	34.492	25.54	245.1	.300	2654
100	14.4	34.695	25.88	212.8	.358	1358
150	12.8	34.807	26.31	172.3	.456	853
200	12.1	34.786	26.43	160.6	.542	246
250	11.4	34.755	26.53	151.2	.622	198

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
151.2	250	.378	11.40	34.755
160.0	203	.398	12.01	34.784
200.0	116	.462	13.89	34.727
240.0	79	.501	15.13	34.524
260.0	69	.516	15.91	34.478
300.0	53	.540	17.66	34.465
320.0	48	.550	18.54	34.474
340.0	46	.560	19.43	34.494
360.0	43	.568	20.31	34.523
400.0	37	.584	22.09	34.607
536.2	0	.610	27.90	35.054

* MAZATLAN PROYECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 23 LAT 21-15.5N LONG 106-46.5W FECHA 28 JUNIO 67 HORA 2155,
TIEMPO 0 VISIB 8 NUBES-TIPO CANT 0 VIENTO-VEL 8 (4.0) DIR 265-275 BAR
TERMHUM 26.8 TERMSEC 29.0 HUMREL 85 OLAS-DIR 175-185 ALT PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBICUO ML/1000M3
0	27.9	34.980	22.43	25.41	1.02 .14		
10	27.6						* MACRO *
20	26.3						
30	23.0						
40	20.5						
50	18.3						
75	15.6						
100	14.7						
150	12.9						
200	12.4						
250	11.9						
270	11.6						

* MAZATLAN PROJECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 24 LAT 22-00.ON LONG 106-43.5W FECHA 29 JUNIO 67 HORA 0720,
TIEMPO 0 VISIB 8 NUBES-TIPC CANT 0 VIENTO-VEL 5 (2.5) DIR 355- 5 BAR
TERMHUM 26.5 TERMSEC 29.0 HUMREL 82 OLAS-DIR 355- 5 ALT PER 2 SECCHI 30

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUD ML/1000M3
0	26.9	35.035	22.80	25.36	.82 .20		
10	26.7						* MACRO *
20	25.8						
30	23.0						
40	21.0						
50	18.3						
75	15.4						
100	14.2						
150	13.0						
200	12.5						
250	12.0						
270	11.9						

* MAZATLAN PROYECTO *
MEXICO-CIAT*DEFIANCE*MZ-7

CRUC 67-2 ESTAC 25 LAT 22-32.7N LONG 106-35.5W FECHA 29 JUNIO 67 HORA 1430,
TIEMPO 0 VISIB 8 NUBES-TIPO CANT 0 VIENTO-VEL 3 (1.5) DIR 175-185 BAR
TERMHUM 27.7 TERMSEC 30.3 HUMREL 83 OLAS-DIR 175-185 ALT PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	29.0	35.335	22.34	25.77	.70 .12		
10	28.1						* MACRO *
20	27.1						
30	24.7						
40	20.9						
50	19.3						
75	15.6						
100	14.6						
150	12.9						
200	12.4						
245	11.9						

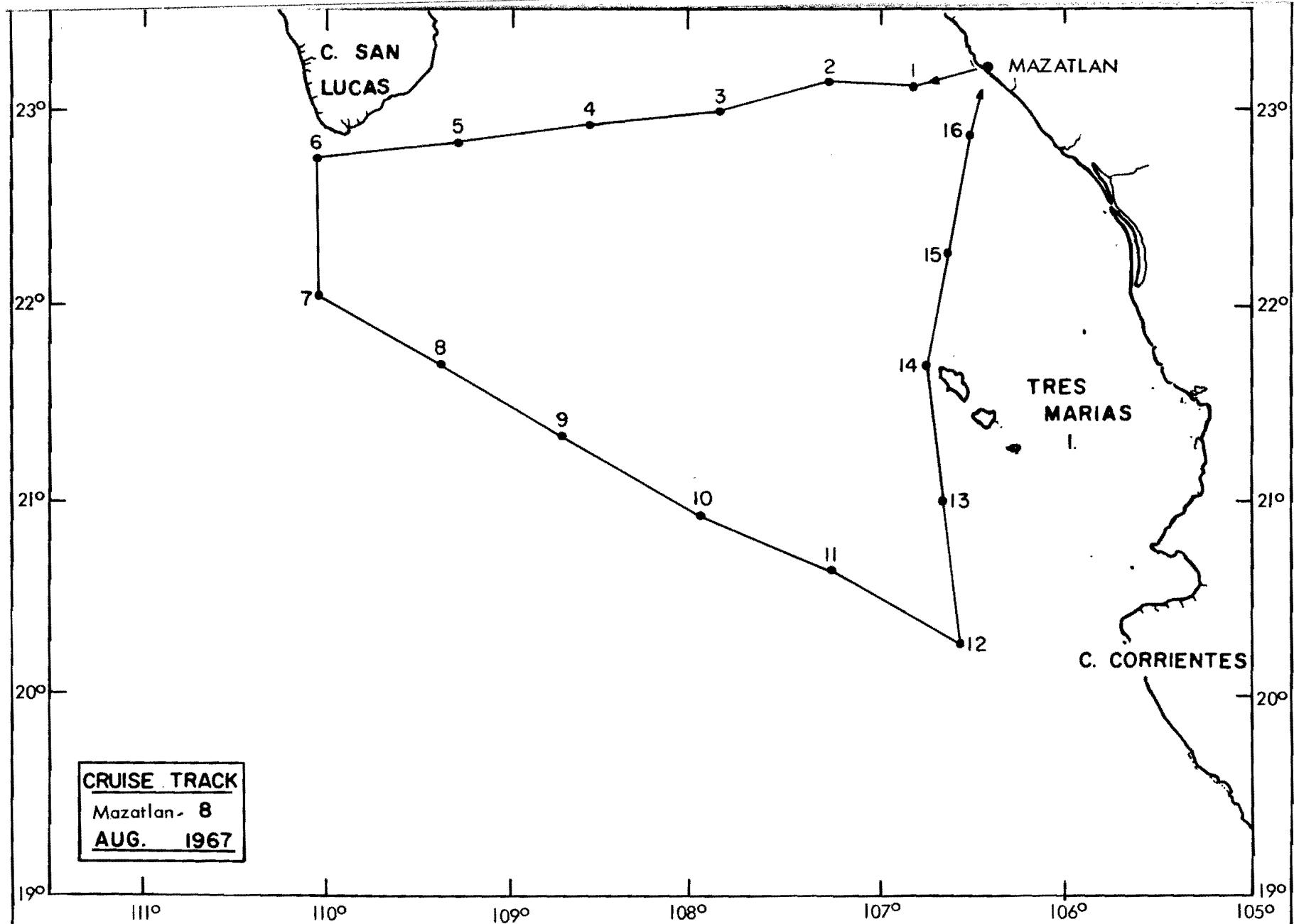


FIGURE 8. Cruise track and station locations for the eighth Mazatlán cruise, MZ-8.

FIGURA 8. Rumbo del crucero y localidad de las estaciones del octavo crucero de Mazatlán, MZ-8.

* MAZATLAN PROJECTO *
MEXICO-CIAT* TUXPAN *MZ-8

CRUC 67-3 ESTAC 1 LAT 23-07.8N LONG 106-48.0W FECHA 23 AG 67 HORA 1253,1320
 TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT 4 VIENTO-VEL 3 (1.5) DIR 135-145 BAR 1020
 TERMHUM 30.0 TERMSEC 30.6 HUMREL 95 OLAS-DIR 135-145 ALT 1 PER 1 SECCHI 24

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIC	ZOOPLANCTON	
				OSMOT	CLO.A	FAEO.	PRODUCCION	MG/M3-DIA	SUPER. OBLICUD
0	27.9	34.892	22.37	25.34	1.06	.24	1.0	1.8	.1
8	27.6	34.886	22.46	25.31					* MACRO *
17	25.9	34.805	22.94	25.11					57.95
38	21.4	34.340	23.90	24.39					
53	18.8	34.050	24.37	23.96					
70	17.0	34.574	25.21	24.19					
126	13.2	34.576	26.04	23.88					
168	12.3	34.361	26.05	23.65					
230	11.5								

CRUC 67-3 ESTAC 1

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	27.9	34.892	22.37	547.9	0	
10	27.3	34.829	22.50	535.4	.054	1310
20	25.4	34.743	23.05	482.8	.105	5502
30	23.0	34.504	23.56	433.4	.151	5170
50	19.3	34.095	24.28	364.8	.231	3597
75	16.6	34.574	25.31	267.1	.311	4109
100	14.7	34.575	25.73	227.3	.373	1673
150	12.7	34.444	26.05	196.8	.481	640

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
196.8	150	.295	12.65	34.444
200.0	145	.300	12.87	34.455
240.0	92	.347	15.29	34.570
260.0	79	.364	16.22	34.571
300.0	67	.394	17.47	34.404
320.0	61	.406	18.02	34.305
340.0	56	.418	18.57	34.209
360.0	51	.429	19.12	34.117
400.0	40	.447	21.20	34.285
547.9	0	.477	27.90	34.892

* MAZATLAN PROJECTO *
MEXICO-CIAT* TLXPN *MZ-B

CRUC 67-3 ESTAC 2 LAT 23-08.8N LONG 107-16.4W FECHA 23 AG 67 HORA 1901,
TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT 4 VIENTO-VEL 3 (1.5) DIR 135-145 BAR 1017
TERMHUM 28.2 TERMSEC 28.6 HUMREL 96 OLAS-DIR 135-145 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	28.5	34.795	22.10	25.32	1.09 .41		49.75 315.50
9	28.4	34.854	22.17	25.35			* MACRO *
24	21.6	34.470	23.95	24.50			315.50
39	18.1	34.393	24.80	24.15			
53	16.1	34.525	25.38	24.08			
72	13.9	34.542	25.87	23.91			
97	13.4	34.598	26.02	23.91			
144	12.4	34.489	26.13	23.75			
193	11.6	34.761	26.50	23.87			
260	10.9	34.759	26.63	23.81			

CRUC 67-3 ESTAC 2

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT ESTAB	
					TERMOST	DINAM
0	28.5	34.795	22.10	573.7	0	
10	28.2	34.798	22.20	564.2	.057	984
20	23.3	34.548	23.54	436.2	.107	13392
30	20.0	34.417	24.34	359.7	.147	8019
50	16.5	34.496	25.27	271.1	.210	4652
75	13.8	34.549	25.89	211.7	.271	2498
100	13.3	34.589	26.03	198.9	.323	541
150	12.3	34.526	26.18	184.0	.421	314
200	11.5	34.760	26.51	152.9	.507	656
250	11.0	34.759	26.61	143.8	.584	193

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
143.8	250	.359	10.99	34.759
160.0	189	.395	11.69	34.706
200.0	98	.452	13.37	34.585
240.0	63	.484	15.09	34.513
260.0	55	.496	15.99	34.500
300.0	43	.516	17.63	34.455
320.0	39	.524	18.42	34.435
340.0	34	.531	19.22	34.423
360.0	30	.538	20.01	34.418
400.0	25	.549	21.72	34.471
573.7	0	.570	28.50	34.795

* MAZATLAN PROJECTO *
MEXICO-CIAT* TUXPAN *MZ-8

CRUC 67-3 ESTAC 3 LAT 23-00.0N LONG 107-51.3W FECHA 23 AG 67 HORA 0048,
 TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT 4 VIENTO-VEL 3 (1.5) DIR 135-145 BAR 1019
 TERMHUM TERMSEC 27.9 HUMREL OLAS-DIR 135-145 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBPLICUD ML/1000M3
0	27.8	34.489	22.10	25.03	.83 .13		99.56 333.17
9	26.9	34.574	22.45	25.02			* MACRO *
24	20.5	34.213	24.05	24.22			333.17
38	18.1	34.556	24.93	24.27			
52	16.1	34.491	25.35	24.06			
71	14.6	34.361	25.59	23.84			
95	12.5	34.587	26.19	23.82			
142	11.6	34.469	26.27	23.67			
190	11.2	34.437	26.32	23.61			
257	10.5	34.723	26.67	23.75			

CRUC 67-3 ESTAC 3

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAR
						TERMOST DINAM
0	27.8	34.489	22.10	573.7	0	
10	26.7	34.544	22.51	534.6	.055	4082
20	22.1	34.287	23.68	422.5	.103	11727
30	19.3	34.371	24.47	346.8	.142	7945
50	16.4	34.496	25.30	268.2	.204	4125
75	14.2	34.399	25.70	230.2	.267	1600
100	12.4	34.571	26.20	182.5	.319	2008
150	11.5	34.462	26.28	174.9	.410	159
200	11.1	34.485	26.38	165.5	.497	198
250	10.6	34.696	26.64	141.2	.576	514

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
141.2	250	.353	10.56	34.696
160.0	211	.396	10.96	34.533
200.0	91	.457	13.05	34.503
240.0	69	.489	14.76	34.419
260.0	55	.501	15.89	34.471
300.0	42	.521	17.56	34.433
320.0	37	.528	18.32	34.402
340.0	32	.535	19.08	34.378
360.0	28	.541	19.81	34.350
400.0	23	.551	21.25	34.303
573.7	0	.571	27.80	34.489

* MAZATLAN PROJECTO *
MEXICO-CIAT* TUXPAN *MZ-8

CRUC 67-3 ESTAC 4 LAT 22-56.0N LONG 108-33.1W FECHA 24 AG 67 HORA 0650,
TIEMPO 1 VISIB 6 NUBES-TIPC 9 CANT 4 VIENTO-VEL () DIR 5- 15 BAR 1020
TERMHUM 26.8 TERMSEC 28.6 HUMREL 86 OLAS-DIR 5- 15 ALT 1 PER 1 SECCHI 28

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS		PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
					CLO.A	FAEO. MG/M3		
0	28.5	34.936	22.20	25.42	1.06	.27		34.69 540.28
10	28.4	34.934	22.23	25.41				* MACRO *
24	22.3	34.530	23.80	24.60				540.28
38	17.0	34.230	24.94	23.94				
52	15.3	34.503	25.54	24.00				
76	14.1	34.557	25.84	23.94				
95	12.8	34.723	26.24	23.95				
143	12.2	34.593	26.25	23.80				
191	11.5	34.786	26.54	23.88				
257	10.3	34.748	26.72	23.76				

CRUC 67-3 ESTAC 4

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
			TERMOST	DINAM		
0	28.5	34.936	22.20	563.6	0	
10	28.4	34.934	22.23	560.6	.056	315
20	23.9	34.624	23.40	449.0	.107	11674
30	19.7	34.344	24.35	358.5	.147	9488
50	15.5	34.467	25.47	252.3	.209	5576
75	14.1	34.554	25.83	217.5	.268	1462
100	12.7	34.706	26.24	178.9	.318	1628
150	12.1	34.624	26.30	173.1	.408	123
200	11.3	34.778	26.56	147.9	.490	529
250	10.4	34.750	26.70	134.6	.563	281

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
134.6	250	.337	10.41	34.750
160.0	176	.391	11.68	34.703
200.0	86	.443	13.50	34.620
240.0	59	.472	15.03	34.495
260.0	49	.483	15.82	34.451
300.0	41	.501	17.41	34.386
320.0	37	.509	18.21	34.365
340.0	33	.516	19.00	34.351
360.0	30	.522	19.81	34.348
400.0	25	.533	21.66	34.449
563.6	0	.554	28.50	34.936

* MAZATLAN PROJECTO *
MEXICO-CIAT* TUXPAN *MZ-8

CRUC 67-3 ESTAC , LAT 22-51.5N LONG 109-17.0W FECHA 24 AG 67 HORA 1243,
 TIEMPO 1 VISIB 6 VUBFS-TIPC 8 CANT 4 VIENTO-VEL () DIR 5- 15 BAR 1019
 TERMHUM 28.5 TERMSEC 32.0 HUMREL 90 OLAS-DIR 5- 15 ALT 1 PER 1 SECCHI 26

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	29.3	34.845	21.87	25.42	.84 .05	2.0 7.0 1.4	15.48 194.82
9	28.6	34.800	22.07	25.33			* MACRO *
24	23.7	34.653	23.49	24.81			194.82
38	19.6	34.397	24.43	24.28			
52	17.1	34.558	25.17	24.19			
90	14.4	34.147	25.93	24.10			
95	14.3	34.476	25.74	23.90			
143	12.5	34.794	26.35	23.97			
190	11.7	34.787	26.50	23.90			
257	10.8	34.867	26.73	23.88			

CRUC 67-3 ESTAC - 5

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	29.3	34.846	21.87	595.6	0	
10	28.4	34.763	22.11	572.8	.058	2383
20	24.9	34.681	23.15	472.8	.111	10454
30	21.7	34.505	23.94	397.5	.154	7892
50	17.4	34.534	25.08	289.3	.223	5676
75	15.3	34.674	25.67	232.6	.289	2387
100	14.1	34.513	25.81	219.2	.346	564
150	12.4	34.792	26.37	165.9	.444	1123
200	11.5	34.799	26.54	150.5	.526	324
250	10.9	34.859	26.71	134.5	.600	336

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
134.5	250	.336	10.88	34.859
160.0	169	.390	12.05	34.794
200.0	118	.447	13.46	34.610
240.0	72	.485	15.58	34.653
260.0	63	.499	16.32	34.600
300.0	48	.521	17.84	34.522
320.0	44	.530	18.63	34.504
340.0	41	.538	19.43	34.494
360.0	37	.546	20.22	34.492
400.0	30	.560	21.82	34.509
595.6	0	.589	29.30	34.846

* MAZATLAN PROJECTO *
MEXICO-CIAT* TUXPAN *MZ-8

CRUC 67-3 ESTAC 6 LAT 22-45.0N LONG 110-02.5W FECHA 24 AG 67 HORA 1846,1857
 TIEMPO 1 VISIB 6 NUBFS-TIPC 8 CANT 4 VIENTO-VEL 1 (.5) DIR 5- 15 BAR 1019
 TERMHUM 27.1 TERMSEC 28.3 HUMREL 92 OLAS-DIR 5- 15 ALT 1 PER 1 SECCHI 18

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON
				OSMOT	CLO.A	FAEO. MG/M3		SUPER. OBPLICUD ML/1000M3
0	29.8	34.880	21.72	25.49	.72	.07		22.76 349.73
10	29.7	34.842	21.73	25.45				* MACRO *
26	25.6	34.632	22.90	24.95				349.73
42	19.2	34.245	24.41	24.13				
57	17.2	34.648	25.22	24.26				
78	15.6	34.864	25.75	24.28				
104	14.6	34.842	25.96	24.18				
156	12.6	34.715	26.27	23.93				
208	11.7	34.765	26.48	23.89				
250	11.3	34.753	26.55	23.84				

CRUC 67-3 ESTAC 6

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	29.8	34.880	21.72	609.4	0	
10	29.7	34.842	21.73	608.9	.061	55
20	28.2	34.711	22.14	570.1	.120	4065
30	24.2	34.529	23.24	464.2	.172	11060
50	18.1	34.469	24.87	309.0	.249	8138
75	15.8	34.835	25.68	231.5	.317	3257
100	14.7	34.844	25.93	208.4	.373	972
150	12.8	34.725	26.24	178.8	.472	624
200	11.8	34.757	26.45	158.5	.558	427
250	11.3	34.753	26.55	149.6	.638	191

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
149.6	250	.374	11.30	34.753
160.0	196	.397	11.89	34.754
200.0	114	.459	14.18	34.805
240.0	72	.497	16.05	34.792
260.0	66	.510	16.63	34.694
300.0	53	.534	17.80	34.509
320.0	49	.544	18.50	34.459
340.0	46	.554	19.29	34.447
360.0	43	.563	20.08	34.442
400.0	38	.579	21.67	34.453
609.4	0	.619	29.80	34.880

* MAZATLAN PROJECTO *
MEXICO-CIAT* TUXPAN *MZ-8

CRUC 67-3 ESTAC 7 LAT 22-03.8N LONG 110-02.5W FECHA 25 AG 67 HORA 0045,
TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT 4 VIENTO-VEL 2 (1.0) DIR 15- 25 BAR 1020
TERMHUM 27.4 TERMSEC 28.3 HUMREL 93 OLAS-DIR 15- 25 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON
				OSMOT	CLO.A ATM.	FAEO. MG/M3		SUPER. OBLICUO ML/1000M3
0	27.4	34.425	22.18	24.95	1.01	.14		391.89 685.53
9	26.6	34.362	22.39	24.83				* MACRO *
24	22.4	34.155	23.49	24.33				685.53
38	18.0	34.096	24.60	23.93				
53	17.0	34.574	25.21	24.19				
70	14.9	34.249	25.43	23.78				
96	12.9	34.752	26.24	23.98				
144	12.4	34.716	26.31	23.91				
193	10.8	34.593	26.51	23.69				
260	10.1	34.685	26.71	23.69				

CRUC 67-3 ESTAC 7

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	27.4	34.425	22.18	566.0	0	
10	26.5	34.335	22.41	544.0	.056	2295
20	24.3	34.210	22.99	488.2	.107	5843
30	20.6	34.123	23.96	395.2	.151	9730
50	17.2	34.489	25.10	287.2	.220	5672
75	14.5	34.355	25.61	238.7	.286	2040
100	12.8	34.748	26.25	178.2	.339	2547
150	12.2	34.696	26.34	169.4	.428	184
200	10.7	34.603	26.54	150.6	.510	397
250	10.2	34.672	26.68	136.8	.584	291

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
136.8	250	.342	10.19	34.672
160.0	175	.391	11.45	34.646
200.0	91	.444	13.43	34.603
240.0	74	.478	14.54	34.357
260.0	64	.491	15.66	34.403
300.0	48	.514	17.58	34.439
320.0	44	.523	18.20	34.364
340.0	40	.531	18.83	34.294
360.0	37	.539	19.46	34.229
400.0	29	.552	20.75	34.124
566.0	0	.577	27.40	34.425

* MAZATLAN PROJECTO *
MEXICO-CIAT* TLXPAN *MZ-8

CRUC 67-3 ESTAC 8 LAT 21-42.6N LONG 109-23.2W FECHA 25 AG 67 HORA 0642,
TIEMPO 1 VISTB 6 NUBES-TIPO 9 CANT 8 VIENTO-VEL 2 (1.0) DIR 105-115 BAR 1019
TERMHUM 27.3 TERMSEC 27.9 HUMREL 95 OLAS-DIR 105-115 ALT 2 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBLICUO ML/1000M3
0	27.5	34.623	22.30	25.10	.93 .13	80.70	261.77
10	26.4	34.435	22.50	24.87			* MACRO *
24	23.2	34.164	23.26	24.40			261.77
39	19.9	33.845	23.93	23.90			
53	17.9	33.762	24.37	23.67			
72	16.2	34.234	25.13	23.88			
96	13.8	34.385	25.77	23.79			
144	12.2	34.622	26.28	23.82			
193	11.5	34.741	26.50	23.85			
260	10.2	34.625	26.64	23.66			

CRUC 67-3 ESTAC 8

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANCM TERMOST	ALT DINAM	ESTAB
0	27.5	34.623	22.29	554.8	0	
10	26.4	34.435	22.50	534.8	.055	2089
20	24.0	34.232	23.07	480.9	.105	5636
30	21.7	34.002	23.57	433.2	.151	5001
50	18.3	33.774	24.28	364.7	.231	3587
75	15.9	34.251	25.22	275.5	.312	3751
100	13.6	34.407	25.82	218.4	.374	2401
150	12.1	34.638	26.31	172.4	.474	968
200	11.3	34.726	26.52	152.4	.557	421
250	10.4	34.639	26.62	142.2	.633	215

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
142.2	250	.355	10.37	34.639
160.0	181	.394	11.63	34.691
200.0	120	.454	13.03	34.496
240.0	91	.496	14.48	34.341
260.0	82	.513	15.26	34.287
300.0	68	.543	16.53	34.113
320.0	63	.556	17.07	34.005
340.0	57	.568	17.61	33.900
360.0	51	.579	18.15	33.798
400.0	40	.597	20.04	33.875
554.8	0	.628	27.50	34.623

* MAZATLAN PROJECTO *
MEXICO-CIAT# TUXPAN *MZ-8

CRUC 67-3 ESTAC 4 LAT 21-21.0N LONG 108-42.7W FECHA 25 AG 67 HORA 1243,
TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT 8 VIENTO-VEL 1 (.5) DIR 135-145 BAR 1018
TERMHUM 28.7 TERMSEC 31.0 HUMREL 84 OLAS-DIR 135-145 ALT 2 PER 2 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT	PIGMENTOS		PRIMARIO PRODUCCION	ZOPLANCTON			
					CLO.A	FAEO. ATM.		MG/M3	MG/M3-DIA	SUPER.	OBPLICUD ML/1000M3
0	28.4	34.753	22.10	25.28	.92	.08	.9	4.3	.9	9.89	221.26
10	28.0	34.727	22.21	25.22						*	MACRO *
24	27.5	34.743	22.39	25.19							221.26
39	23.1	34.476	23.53	24.63							
53	21.2	34.338	23.96	24.37							
72	18.6	34.043	24.41	23.94							
96	16.1	34.471	25.34	24.04							
144	12.4	34.575	26.20	23.81							
193	11.7	34.703	26.43	23.84							
260	10.5	34.673	26.63	23.72							

CRUC 67-3 ESTAC. 9

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	28.4	34.753	22.10	573.6	0	
10	28.0	34.727	22.21	562.9	.057	1129
20	27.7	34.738	22.33	551.5	.113	1192
30	25.9	34.603	22.78	508.5	.166	4485
50	21.6	34.361	23.87	403.9	.257	5476
75	18.2	34.099	24.54	340.3	.351	2669
100	15.7	34.474	25.42	256.4	.426	3526
150	12.3	34.592	26.23	179.4	.537	1620
200	11.6	34.698	26.46	158.1	.624	448
250	10.7	34.675	26.60	144.3	.702	292

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
144.3	250	.361	10.66	34.675
160.0	196	.396	11.62	34.688
200.0	137	.462	13.22	34.546
240.0	111	.512	15.00	34.487
260.0	99	.533	15.84	34.456
300.0	87	.570	17.04	34.270
320.0	81	.587	17.64	34.183
340.0	75	.602	18.24	34.100
360.0	67	.616	19.27	34.167
400.0	52	.640	21.36	34.341
573.6	0	.685	28.40	34.753

* MAZATLAN PROJFCTC *
MEXICO-CIA1* TUXPAN *MZ-8.

CRUC 67-3 ESTAC 10 LAT 20-57.4N LONG 107-55.5W FECHA 25 AG 67 HORA 1842,
TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT 7 VIENTO-VEL 2 (1.0) DIR 275-285 BAR 1015
TERMHUM 27.8 TERMSEC 30.0 HUMREL 85 CLAS-DIR 275-285 ALT 2 PER 2 SECCHI 25

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIC PRODUCCION MG/M3-DIA	ZCOPLANCTON
				OSMOT	CLO.A	FAEO.		SUPER. OBLOCOS ML/1000M3
0	28.6	34.578	21.90	25.16	.72	.08		189.65 423.09
10	27.7	34.525	22.16	25.05				* MACRO *
24	26.1	34.544	22.68	24.93				423.09
39	22.9	34.437	23.56	24.58				
53	18.2	34.088	24.54	23.94				
72	15.8	34.304	25.28	23.90				
96	13.4	34.348	25.83	23.73				
144	12.5	34.751	26.32	23.94				
193	11.6	34.748	26.49	23.86				
260	10.6	34.674	26.63	23.74				

CRUC 67-3 ESTAC 10

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	28.6	34.578	21.90	592.5	0	
10	27.7	34.525	22.16	568.1	.058	2563
20	26.7	34.539	22.49	535.8	.113	3370
30	25.1	34.482	22.94	492.9	.165	4481
50	19.2	34.152	24.35	358.5	.250	7040
75	15.5	34.306	25.35	262.9	.328	4015
100	13.3	34.388	25.87	213.4	.389	2084
150	12.4	34.750	26.34	169.1	.486	931
200	11.5	34.740	26.50	153.7	.569	326
250	10.7	34.700	26.61	143.7	.646	210

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
143.7	250	.359	10.73	34.700
160.0	180	.394	11.85	34.743
200.0	115	.453	13.03	34.496
240.0	87	.494	14.47	34.337
260.0	76	.510	15.33	34.309
300.0	65	.538	16.90	34.227
320.0	60	.551	17.67	34.195
340.0	55	.562	18.45	34.169
360.0	50	.573	19.23	34.153
400.0	44	.591	21.00	34.212
592.5	0	.634	28.60	34.578

* MAZATLAN PROJECTO *
MEXICO-CIAT* TUXPAN *MZ-8

CRUC 67-3 ESTAC 11 LAT 20-37.5N LONG 107-15.0W FECHA 26 AG 67 HORA 0045,
TIEMPO 1 VISIB 6 NUBES-TIPO 9 CANT 8 VIENTO-VEL 3 (1.5) DIR 275-285 BAR 1017
TERMHUM 27.4 TERMSEC 29.0 HUMREL 89 OLAS-DIR 275-285 ALT 2 PER 3 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES	PIGMENTOS		PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON	SUPER. ML/1000M3	OBPLICUD ML/1000M3
				OSMOT	CLO.A	FAEO.		MG/M3		
0	28.7	34.771	22.01	25.32	.87	.11			74.10	757.78
10	28.5	34.844	22.13	25.35						* MACRO *
24	24.4	34.459	23.13	24.72						757.78
39	20.1	34.057	24.04	24.07						
53	17.8	34.119	24.67	23.93						
72	15.5	34.605	25.58	24.09						
97	13.9	34.731	26.02	24.05						
145	12.8	34.804	26.30	24.01						
193	12.2	34.806	26.42	23.96						
258	11.3	34.779	26.57	23.86						

CRUC 67-3 ESTAC 11

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
				TERMOST	DINAM	
0	28.7	34.771	22.01	581.8	0	
10	28.5	34.844	22.13	570.2	.058	1200
20	25.5	34.555	22.88	499.1	.111	7437
30	22.4	34.249	23.55	435.1	.158	6695
50	18.2	34.102	24.55	339.9	.236	4994
75	15.3	34.620	25.63	236.2	.308	4359
100	13.8	34.736	26.04	197.8	.363	1615
150	12.7	34.804	26.31	171.8	.457	550
200	12.1	34.802	26.44	160.1	.543	244
250	11.4	34.781	26.55	149.2	.623	229

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
149.2	250	.373	11.40	34.781
160.0	200	.397	12.08	34.802
200.0	99	.457	13.90	34.728
240.0	74	.492	15.39	34.599
260.0	69	.506	15.96	34.492
300.0	60	.532	17.10	34.290
320.0	55	.543	17.67	34.194
340.0	50	.554	18.24	34.102
360.0	46	.563	19.12	34.117
400.0	37	.580	20.89	34.172
581.8	0	.614	28.70	34.771

* MAZATLAN PROJECTO *
MEXICO-CIAT* TUXPAN *MZ-8

CRUC 67-3 ESTAC 12 LAT 20-18.0N LONG 106-33.5W FECHA 26 AG 67 HORA 0652,0659
 TIEMPO 2 VISIB 6 NUBES-TIPO 9 CANT 8 VIENTO-VEL 3 (1.5) DIR 305-315 BAR 1016
 TERMHUM 27.4 TERMSEC 29.0 HUMREL 89 OLAS-DIR 305-315 ALT 2 PER 3 SECCHI 30

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIC PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUO ML/1000M3
0	28.6	34.769	22.04	25.31	.92 .11		26.73 254.60
9	28.6	34.761	22.04	25.30			* MACRO *
24	26.7	34.748	22.64	25.13			254.60
39	22.8	34.405	23.56	24.55			
53	19.1	34.288	24.47	24.16			
72	16.2	34.353	25.22	23.96			
96	14.1	34.852	26.07	24.15			
143	12.5	34.791	26.35	23.97			
191	11.7	34.744	26.47	23.87			
258	10.7	34.747	26.65	23.79			

CRUC 67-3 ESTAC 12

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	28.6	34.769	22.04	578.8	0	
10	28.5	34.760	22.07	576.8	.058	212
20	27.4	34.751	22.42	542.5	.114	3588
30	25.5	34.626	22.92	495.3	.166	4925
50	19.9	34.307	24.29	364.3	.252	6863
75	15.9	34.420	25.34	264.0	.331	4213
100	13.9	34.844	26.10	192.2	.389	3021
150	12.4	34.782	26.37	166.6	.480	539
200	11.5	34.744	26.50	154.6	.563	256
250	10.8	34.746	26.63	141.6	.640	272

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
141.6	250	.354	10.80	34.746
160.0	177	.393	11.92	34.760
200.0	97	.448	14.15	34.796
240.0	83	.484	15.25	34.557
260.0	76	.500	15.79	34.443
300.0	66	.529	17.32	34.359
320.0	61	.542	18.11	34.335
340.0	56	.553	18.90	34.318
360.0	51	.564	19.69	34.308
400.0	45	.583	21.41	34.359
578.8	0	.623	28.60	34.769

* MAZATLAN PROJECTO *
MEXICO-CIATE TUXPAN *MZ-8

CRUC 67-3 ESTAC 13 LAT 21-01.ON LONG 106-39.5W FECHA 26 AG 67 HORA 1252,1307
 TIEMPO 2 VISIB 6 NUBES-TIPO 9 CANT 8 VIENTO-VEL 3 (1.5) DIR 305-315 BAR 1016
 TERMHUM 27.0 TERMSEC 26.2 HUMREL 91 OLAS-DIR 305-315 ALT 2 PER 3 SECCHI 24

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZCOPLANCTON SUPER. OBLICUO ML/1000M3
					CLO.A	FAEO. MG/M3		
0	28.6	34.512	21.85	25.11	1.40	.27	3.2 13.8 .6	282.63
10	27.9	34.600	22.15	25.12				* MACRO *
24	27.7	34.728	22.31	25.20				282.63
38	23.9	34.488	23.30	24.70				
53	19.8	34.165	24.20	24.12				
72	16.9	34.084	24.85	23.83				
96	14.9	34.450	25.59	23.93				
144	12.3	34.564	26.21	23.79				
192	11.5	34.754	26.51	23.86				
260	10.3	34.699	26.68	23.72				

CRUC 67-3 ESTAC 13

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	28.6	34.512	21.85	597.2	0	
10	27.9	34.600	22.15	568.9	.058	2961
20	27.8	34.682	22.25	558.6	.115	1060
30	26.7	34.639	22.57	528.1	.169	3193
50	20.6	34.221	24.03	388.7	.261	7296
75	16.6	34.133	24.96	300.6	.348	3700
100	14.6	34.457	25.65	234.7	.416	2771
150	12.2	34.590	26.25	177.4	.520	1206
200	11.3	34.745	26.53	150.8	.605	560
250	10.5	34.705	26.66	138.7	.680	255

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
138.7	250	.347	10.46	34.705
160.0	183	.393	11.63	34.691
200.0	130	.455	13.15	34.529
240.0	98	.501	14.80	34.430
260.0	90	.520	15.40	34.328
300.0	75	.553	16.60	34.136
320.0	69	.568	17.49	34.137
340.0	64	.581	18.39	34.150
360.0	58	.593	19.29	34.172
400.0	48	.614	21.08	34.239
597.2	0	.662	28.60	34.512

* MAZATLAN PROJECTO *
MEXICO-CIAT# TUXPAN *MZ-8

CRUC 67-3 ESTAC 14 LAT 21-42.3N LONG 106-45.5W FECHA 26 AG 67 HORA 1855,
TIEMPO 2 VISIB 6 NUBES-TIPO 9 CANT 6 VIENTO-VEL 3 (1.5) DIR 305-315 BAR 1014
TERMHUM 26.2 TERMSEC 29.0 HUMREL 81 OLAS-DIR 305-315 ALT 2 PER 3 SECCHI 25

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A FAEO. MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBICUO ML/1000M3
0	28.9	34.535	21.77	25.15	1.92 .24		120.98 783.30
19	28.9	34.497	21.74	25.13			* MACRO *
24	28.5	34.576	21.93	25.15			783.30
38	26.2	34.635	22.72	25.00			
52	22.4	34.483	23.73	24.57			
71	19.3	34.517	24.60	24.34			
95	16.4	34.473	25.27	24.07			
143	13.2	34.658	26.11	23.93			
190	12.3	34.783	26.38	23.95			
257	11.3	34.769	26.56	23.85			

CRUC 67-3 ESTAC 14

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
						TERMOST DINAM
0	28.9	34.535	21.77	605.1	0	
10	28.9	34.504	21.75	607.3	.061	-228
20	28.8	34.507	21.77	604.8	.121	262
30	27.7	34.601	22.20	563.9	.180	4278
50	22.9	34.499	23.60	430.2	.280	6993
75	18.8	34.501	24.72	323.2	.374	4489
100	16.0	34.489	25.37	261.1	.448	2610
150	13.0	34.678	26.15	187.1	.562	1557
200	12.1	34.779	26.41	162.5	.652	518
250	11.4	34.769	26.54	150.0	.733	264

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
150.0	250	.375	11.39	34.769
160.0	210	.398	11.98	34.777
200.0	141	.468	13.56	34.638
240.0	114	.519	15.16	34.532
260.0	101	.541	15.96	34.491
300.0	84	.578	17.73	34.486
320.0	76	.594	18.61	34.498
340.0	71	.609	19.41	34.488
360.0	66	.622	20.19	34.479
400.0	57	.647	21.74	34.480
605.1	0	.706	28.90	34.535

* MAZATLAN PROYECTO *
MEXICO-CIAT* TUXPAN *MZ-8

CRUC 67-3 ESTAC 15 LAT 22-16.ON LONG 106-38.0W FECHA 27 AG 67 HORA 0045,
TIEMPO 1 VISIB 6 NUBES-TIPO 8 CANT 6 VIENTO-VEL 1 (.5) DIR 275-285 BAR 1016
TERMHUM 26.8 TERMSEC 28.9 HUMREL 36 CLAS-DIR 275-285 ALT 1 PER 1 SECCHI

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS CLO.A MG/M3	PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUD ML/1000M3
0	28.8	34.575	21.83	25.18	1.26 .30		83.79 333.35
9	28.7	34.581	21.87	25.17			* MACRO *
23	27.3	34.677	22.40	25.13			333.35
37	24.2	34.572	23.28	24.79			
51	21.0	34.277	23.96	24.31			
69	18.3	34.095	24.53	23.95			
94	14.4	34.268	25.56	23.75			
141	12.7	34.634	26.19	23.88			
185	11.8	34.780	26.48	23.90			
250	11.0	34.754	26.60	23.82			

CRUC 67-3 ESTAC 15

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	28.8	34.575	21.83	599.1	0	
10	28.6	34.588	21.90	593.0	.060	637
20	27.7	34.656	22.25	559.6	.117	3485
30	26.1	34.602	22.72	514.3	.171	4723
50	21.2	34.295	23.92	399.6	.263	6006
75	17.2	34.124	24.80	315.4	.353	3532
100	14.1	34.321	25.65	234.6	.422	3399
150	12.5	34.666	26.25	177.5	.527	1201
200	11.6	34.772	26.51	153.3	.612	510
250	11.0	34.754	26.60	144.3	.689	192

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
144.3	250	.361	11.00	34.754
160.0	186	.395	11.84	34.742
200.0	130	.458	13.14	34.527
240.0	98	.504	14.35	34.305
260.0	92	.523	15.12	34.247
300.0	80	.557	16.66	34.153
320.0	74	.573	17.46	34.129
340.0	68	.587	18.41	34.155
360.0	62	.600	19.35	34.192
400.0	50	.622	21.23	34.295
599.1	0	.672	28.80	34.575

* MAZATLAN PROJECTO *
MEXICO-CIAT* TUXPAN #MZ-8

CRUC 67-3 ESTAC 16 LAT 22-50.ON LONG 106-31.2W FECHA 27 AG 67 HORA 0700,
TIEMPO 1 VISIB 6 NUBES-TIPC 7 CANT 6 VIENTO-VEL 1 (.5) DIR 5- 15 BAR 1015
TERMHUM 27.2 TERMSEC 29.0 HUMREL 86 OLAS-DIR 5- 15 ALT 1 PER 1 SECCHI 34

VALORES OBSERVADOS

PROF MTR.	TEMP DEG.C	SAL 0/00	SIGMA-T	PRES OSMOT ATM.	PIGMENTOS		PRIMARIO PRODUCCION MG/M3-DIA	ZOOPLANCTON SUPER. OBPLICUC ML/1000M3
					CLO.A	FAEO. MG/M3		
0	27.9	34.589	22.14	25.11	1.37	.25		1722.94 271.04
7	27.8	34.667	22.23	25.16				* MACRO *
19	27.3	34.563	22.31	25.04				271.04
30	24.7	34.279	22.91	24.61				
41	22.4	34.094	23.44	24.29				
56	20.2	34.078	24.03	24.09				
74	17.5	34.143	24.76	23.92				
111	14.5	34.689	25.86	24.07				
148	13.0	34.429	25.97	23.75				
200	12.0	34.579	26.28	23.78				

CRUC 67-3 ESTAC 16

VALORES INTERPOLADOS A PROFUNDIDADES ESTANDAR

PROF	TEMP	SAL	SIGMA-T	ANOM	ALT	ESTAB
					TERMOST	
0	27.9	34.589	22.14	569.7	0	
10	27.7	34.642	22.25	559.4	.056	1060
20	27.1	34.531	22.32	549.8	.112	1006
30	24.7	34.279	22.91	496.1	.164	5615
50	21.0	34.084	23.82	409.3	.255	4550
75	17.4	34.159	24.79	316.3	.347	3898
100	15.3	34.538	25.57	242.0	.417	3125
150	13.0	34.435	25.98	203.1	.530	817
200	12.0	34.579	26.28	174.9	.627	595

DENSITY SURFACE	DEPTH OF SURFACE	ACCEL POTENTIAL	TEMP OF SURFACE	SAL. OF SURFACE
174.9	200	.350	12.00	34.579
200.0	156	.394	12.85	34.450
240.0	103	.446	15.16	34.531
260.0	94	.466	15.79	34.442
300.0	80	.501	16.93	34.238
320.0	74	.516	17.54	34.153
340.0	69	.530	18.32	34.126
360.0	63	.543	19.09	34.106
400.0	53	.567	20.64	34.085
569.7	0	.611	27.90	34.589

SOLAR RADIATION DATA MAZATLAN PROJECT
DATOS DE LA RADIACION SOLAR, PROYECTO MAZATLAN

Month	Day	Total energy ly/day	Average energy ly/min (daylight)	Daily average energy ly/min (24 hr)
Mes	Día	Energía total ly/día	Promedio de energía ly/min (luz del día)	Promedio diario de energía ly/min (24 hr)
April	20	673	.919	.467
	21	686	.899	.476
	22	676	.890	.469
	23	691	.904	.480
	24	711	.940	.494
	25	672	.886	.467
	26	692	.879	.481
	27	643	.821	.447
	28	635	.831	.441
	29	649	.833	.451
	30	656	.849	.456
May	1	689	.875	.478
	2	728	.930	.506
	3	718	.929	.499
	4	711	.895	.494
	7	614	.781	.426
	10	683	.882	.474
	11	702	.886	.488
	12	736	.943	.511
	13	739	.943	.513
	14	729	.926	.506
	15	756	.941	.525
	16	645	.829	.448
	21	517	.654	.359
	22	593	.758	.412
	23	566	.707	.393
	24	471	.596	.327
	25	648	.822	.450
	26	687	.863	.477
	27	708	.901	.492
	30	635	.796	.441
	31	644	.817	.447

SOLAR RADIATION DATA MAZATLAN PROJECT
DATOS DE LA RADIACION SOLAR, PROYECTO MAZATLAN

Month	Day	Total energy ly/day	Average energy ly/min (daylight)	Daily average energy ly/min (24 hr)
Mes	Día	Energía total ly/día	Promedio de energía ly/min (luz del día)	Promedio diario de energía ly/min (24 hr)
June	2	632	.791	.439
	3	650	.823	.451
	4	678	.841	.471
	5	669	.848	.465
	6	741	.928	.515
	7	697	.866	.484
	8	518	.642	.360
	9	764	.937	.531
	10	758	.939	.526
	11	775	.957	.538
	12	818	1.010	.568
	13	817	1.003	.567
	14	748	.931	.519
	15	729	.901	.506
	16	673	.822	.467
	17	427	.556	.297
	18	533	.668	.370
	19	749	.913	.520
	20	702	.865	.488
	21	738	.923	.513
	22	733	.894	.509
	23	652	.836	.452
	24	644	.789	.447
	25	668	.817	.464
	26	728	.777	.506
	27	751	.928	.522
	28	741	.894	.514
	29	787	.941	.547
July	1	786	.952	.546
	2	424	.522	.294

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