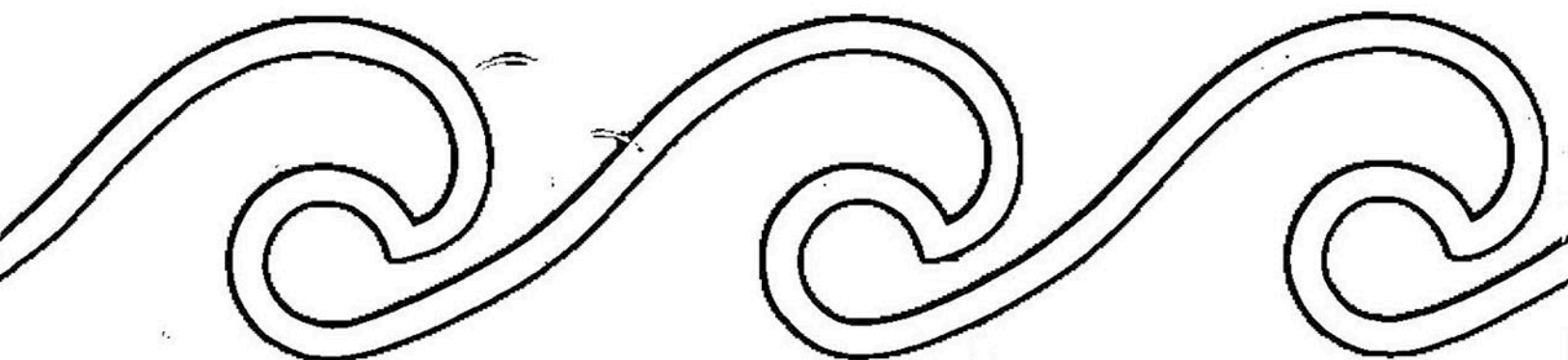


INSTITUTO DE GEOFISICA



Progreso - Yukalpeten, Yuc

CALENDARIO GRAFICO DE MAREAS, 1988

REGION PROGRESO-YUKALPETEN, YUC.

REGIMEN DE MAREAS:

Las mareas en la región Progreso-Yukalpetén, son predominantemente diurnas, ocurre una pleamar y una bajamar en cada día de marea, sin embargo, en determinados días ocurren dos pleamares y dos bajamares de gran desigualdad diurna en las bajamares.

El cálculo de las constantes armónicas utilizadas para la predicción de las mareas para la región de Progreso-Yukalpetén, Yuc., se basó en los datos obtenidos por el mareógrafo de Progreso, Yuc., durante un período de 369 días (Enero 10 de 1963 a Enero 4 de 1964). Las constantes armónicas, así como la predicción horaria de la marea, fueron calculadas en el **SERVICIO MAREOGRAFICO NACIONAL DEL INSTITUTO DE GEOFISICA DE LA U.N.A.M.**, utilizando el sistema B-7800 del **PROGRAMA UNIVERSITARIO DE COMPUTO DE LA U.N.A.M. (PUC)**

El plano de referencia, al cual están referidas las gráficas de la marea, es el nivel de bajamar media (NBM); promedio de las bajamares mínimas diarias durante el período: Enero de 1952 a Diciembre de 1960.

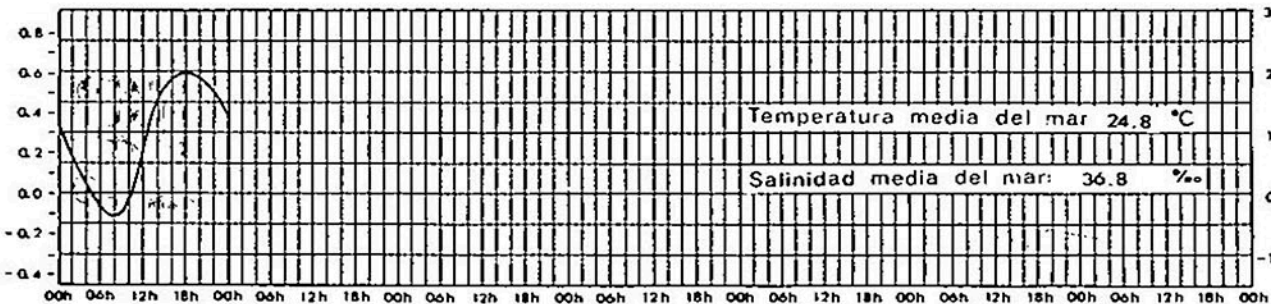
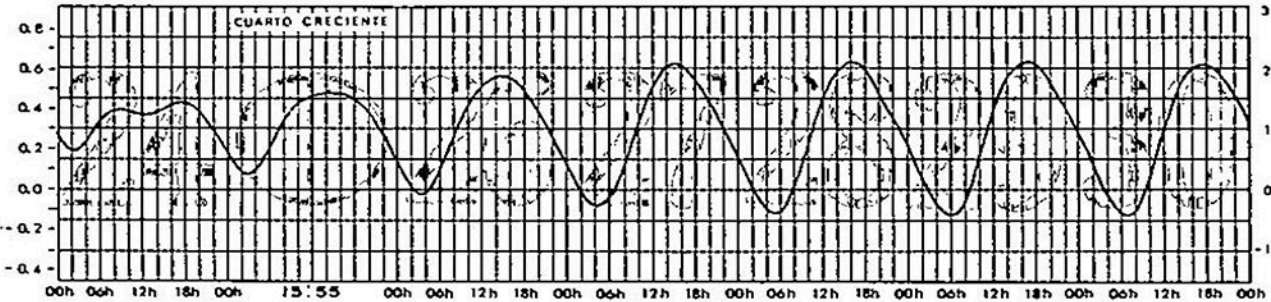
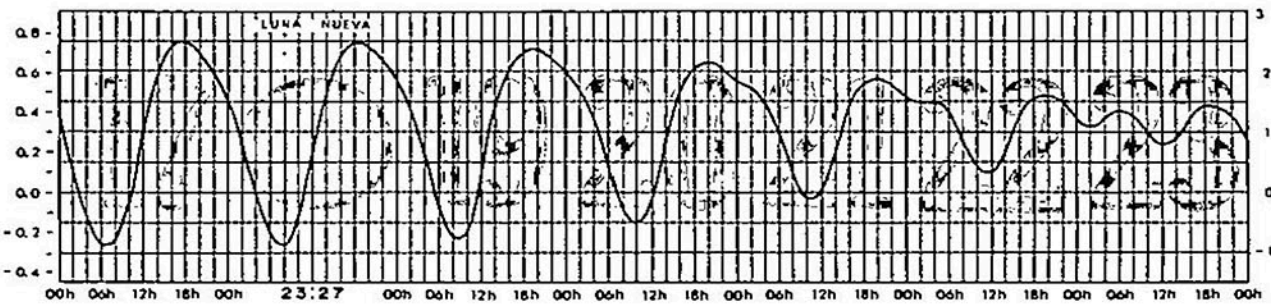
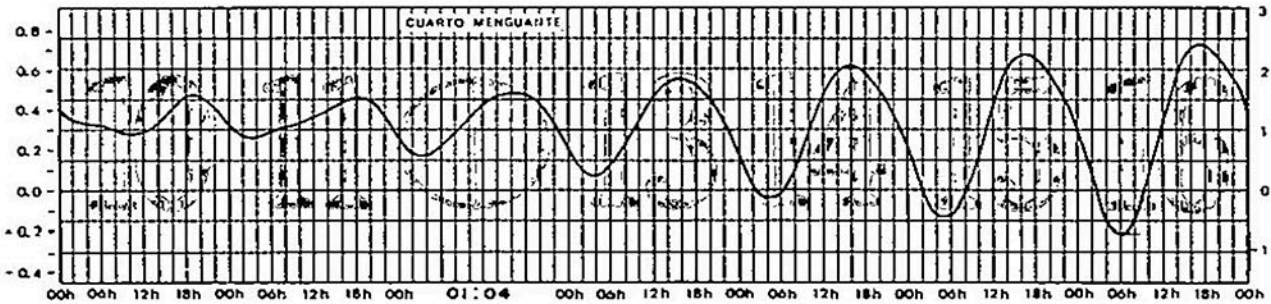
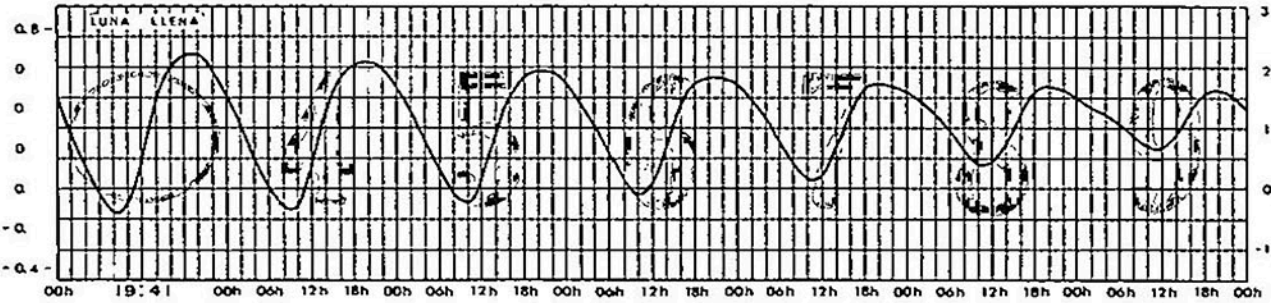
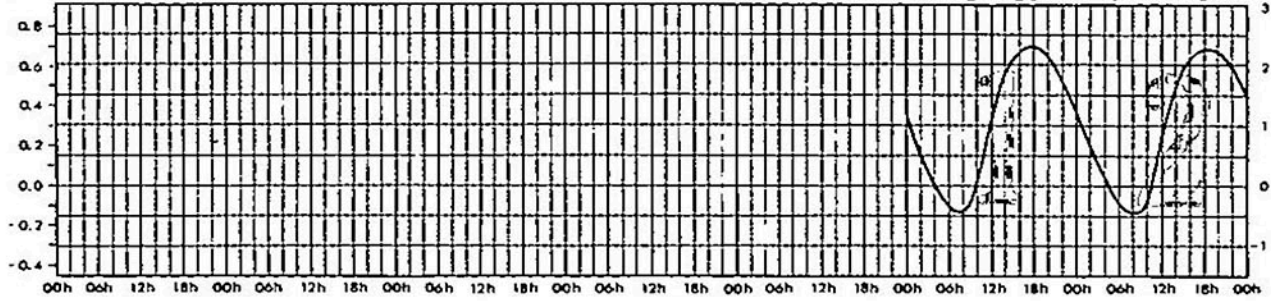


ENERO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO - YUKALPETEN, YUC.

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar 24.8 °C

Salinidad media del mar: 36.8 ‰

4x12-221
1120



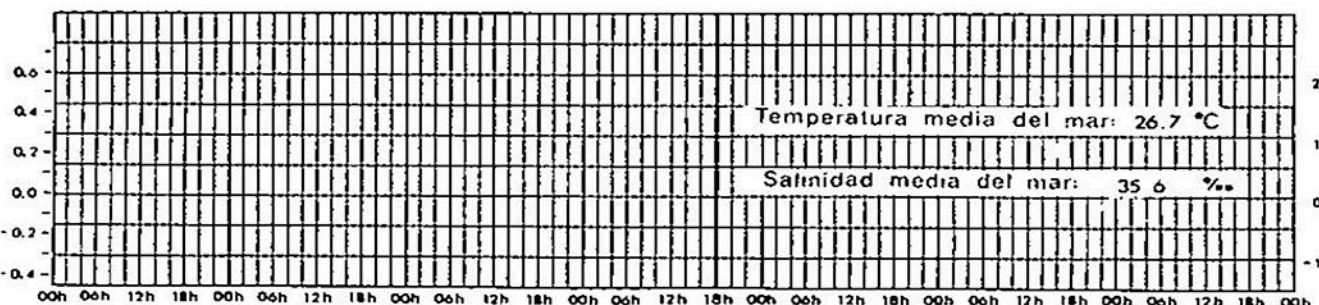
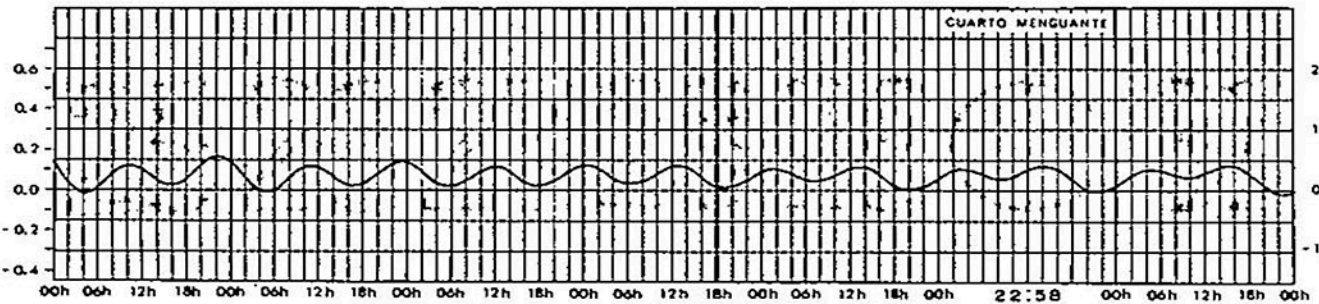
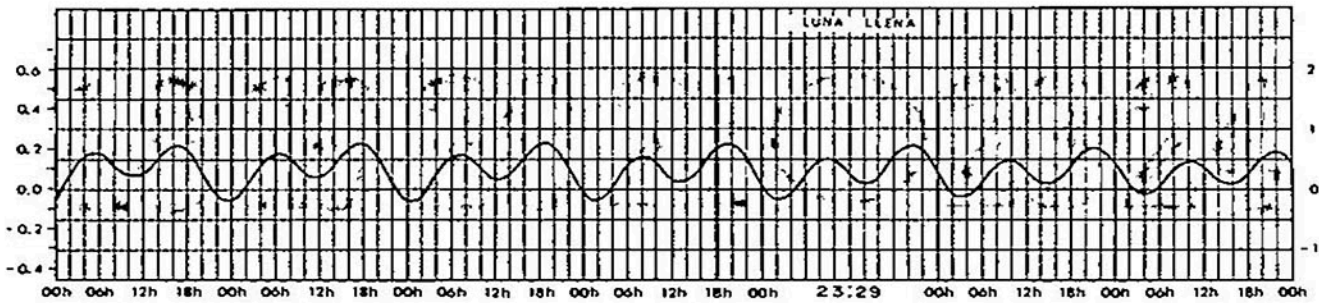
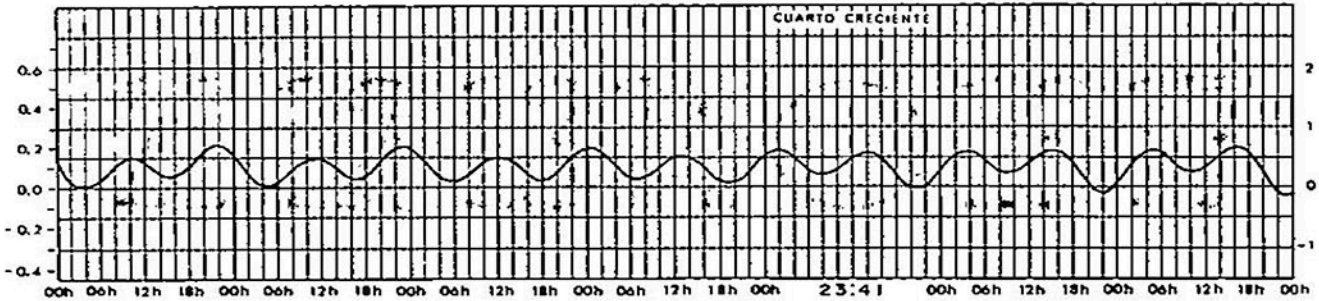
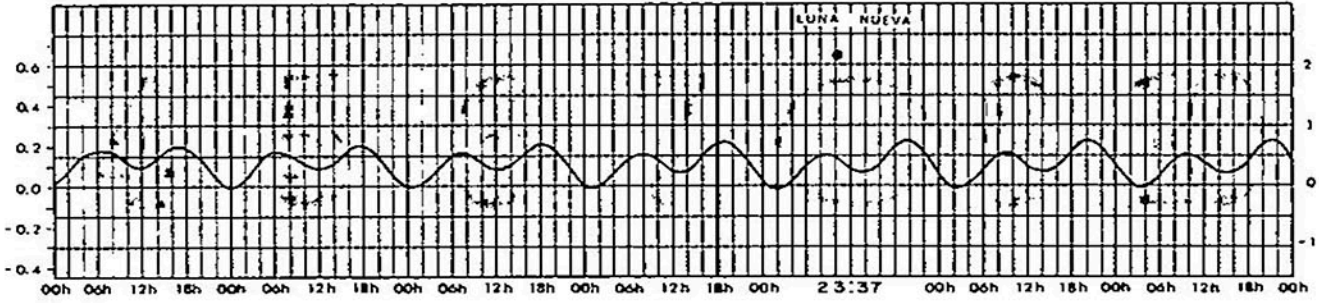
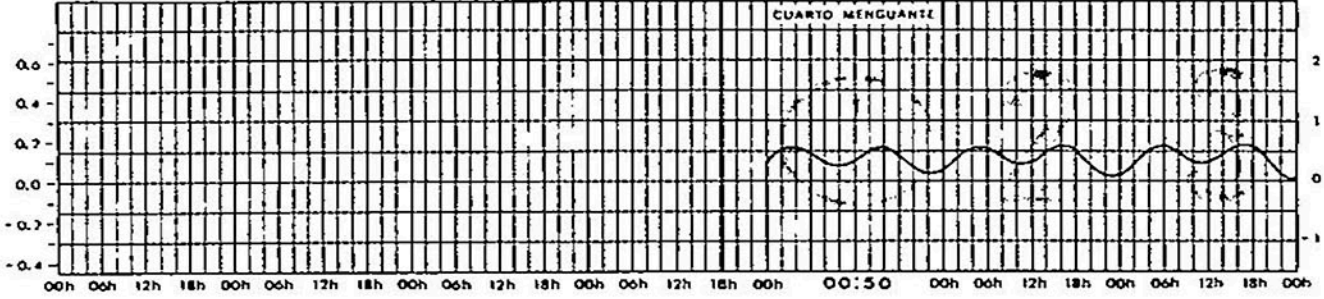
DICIEMBRE

1988

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 26.7 °C

Salinidad media del mar: 35.6 ‰

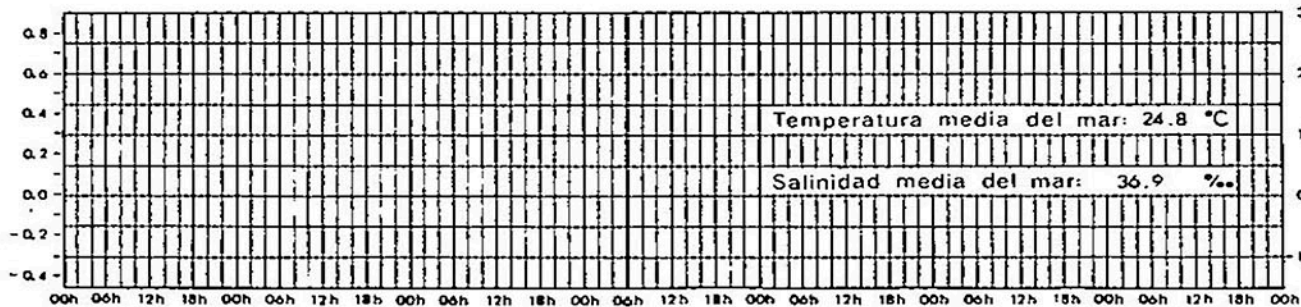
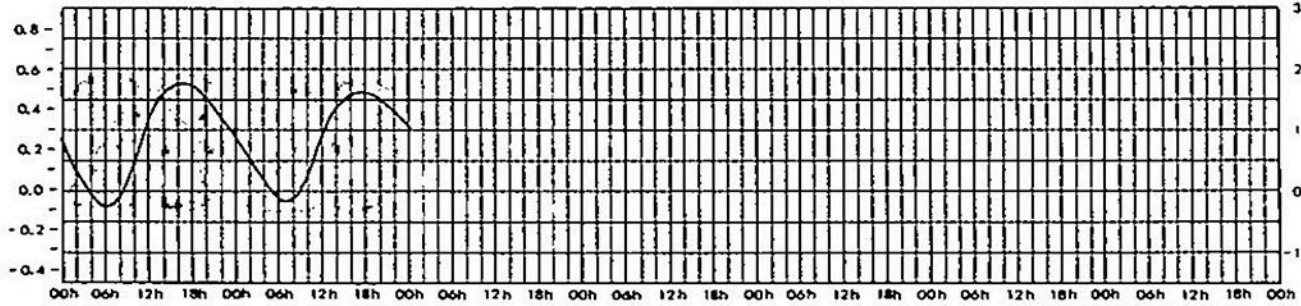
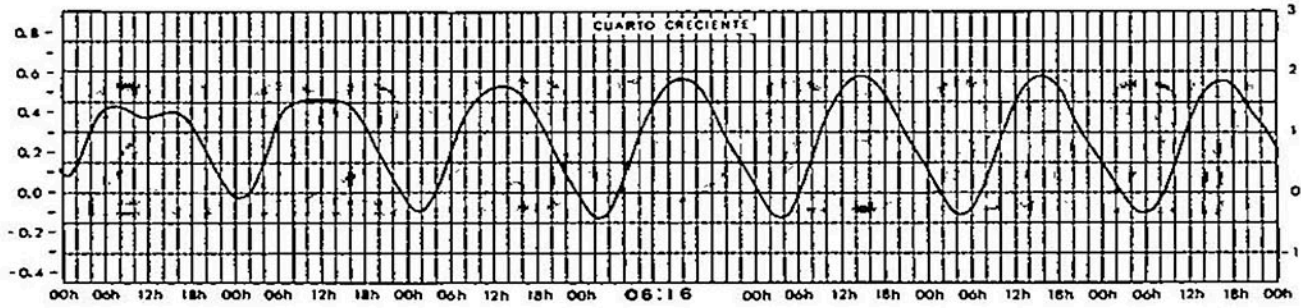
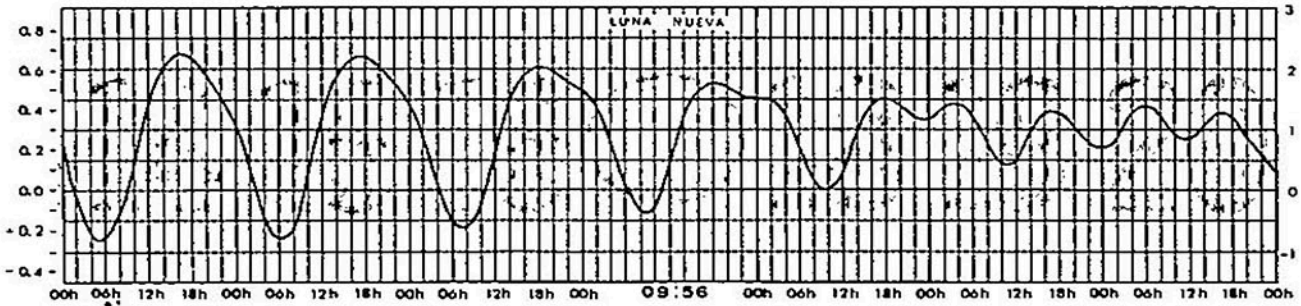
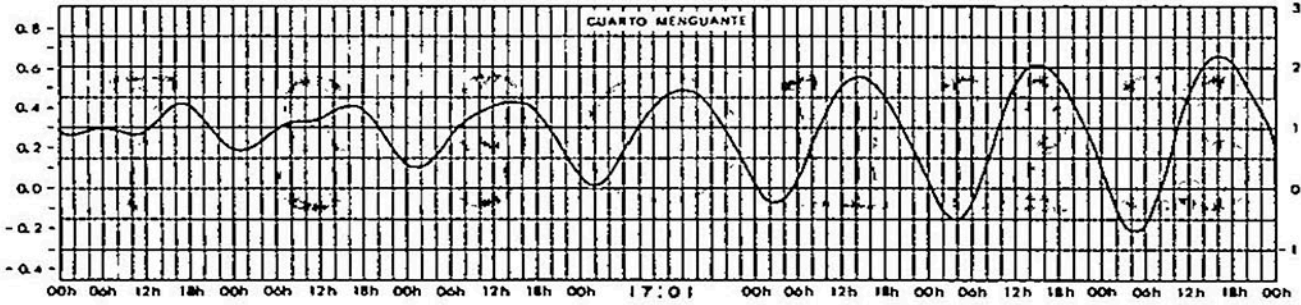
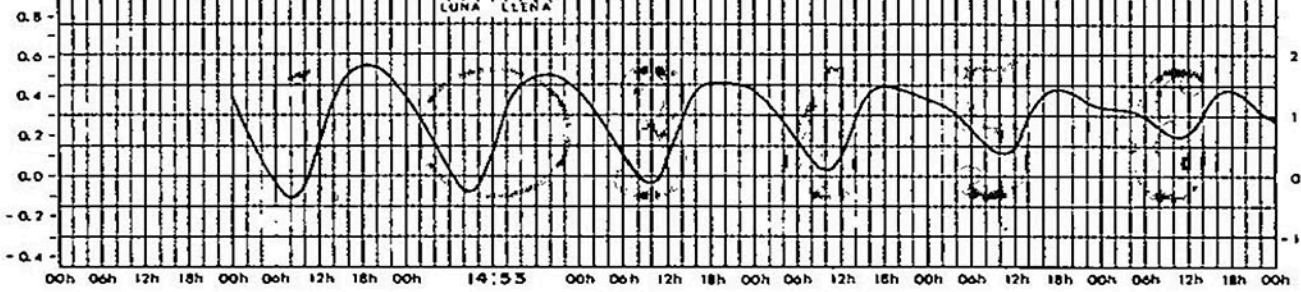


FEBRERO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO - YUKALPETEN, YUC.

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



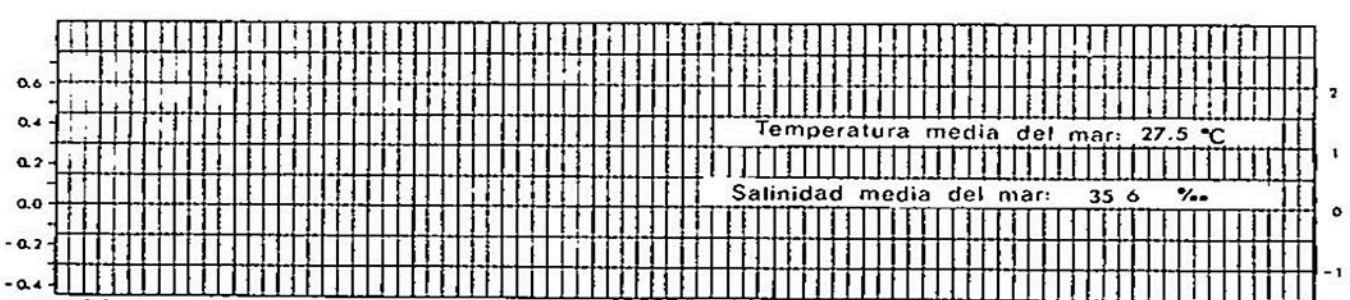
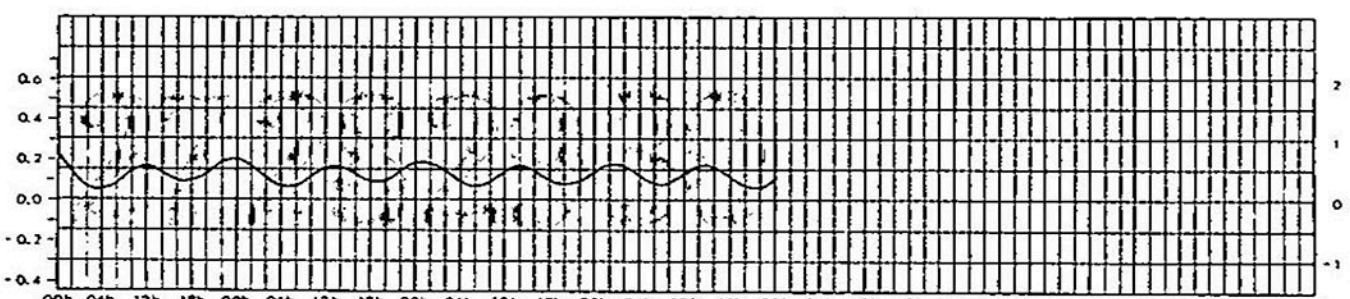
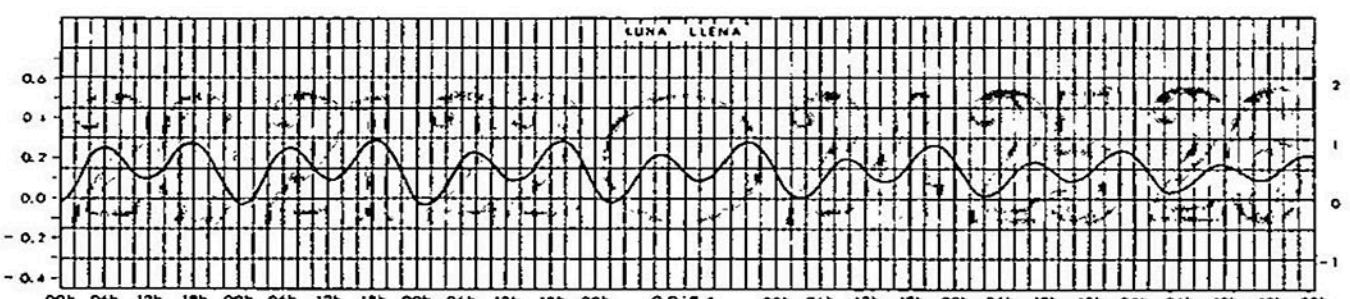
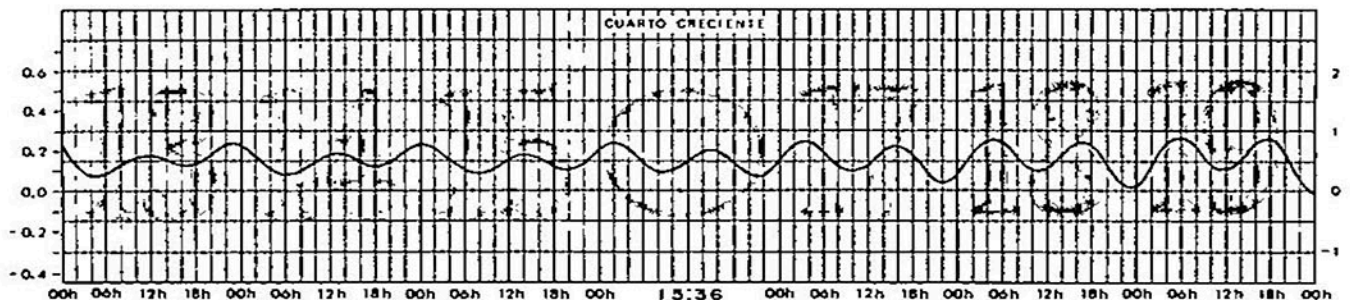
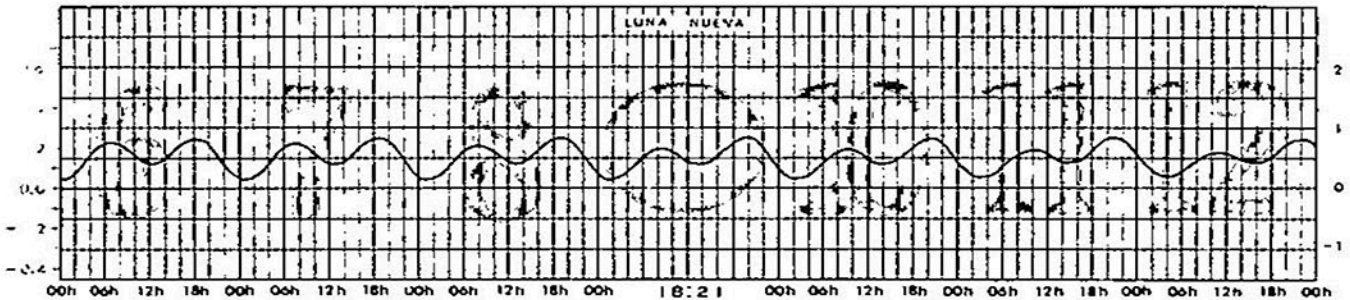
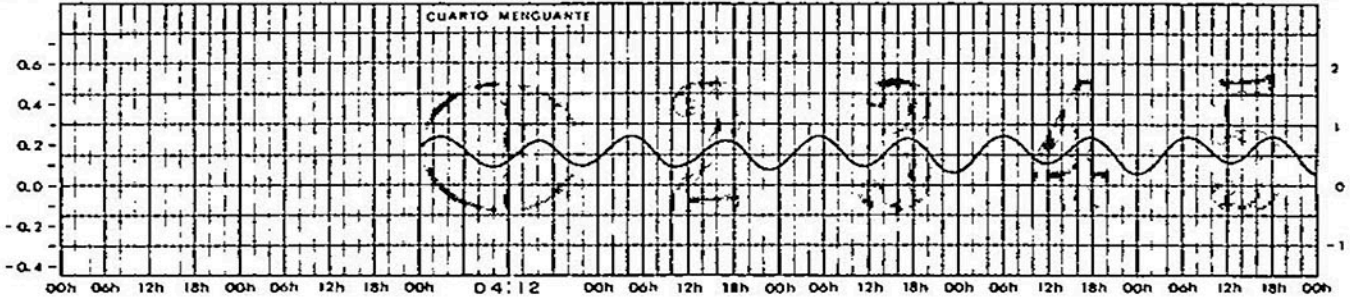


NOVIEMBRE 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



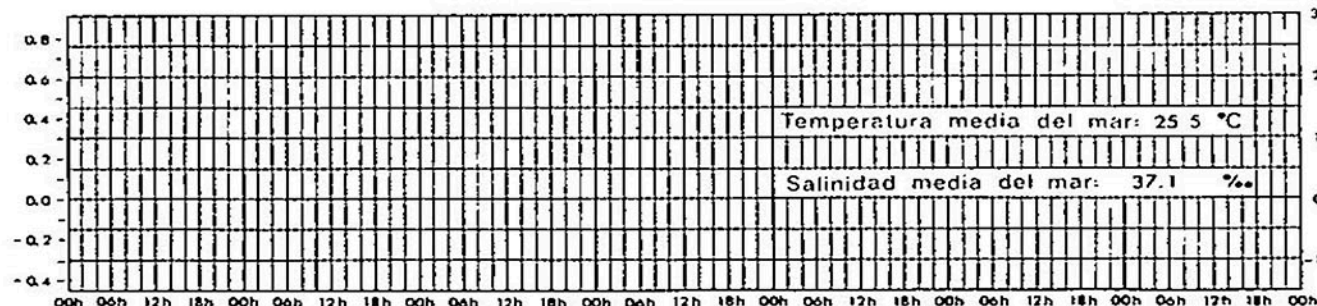
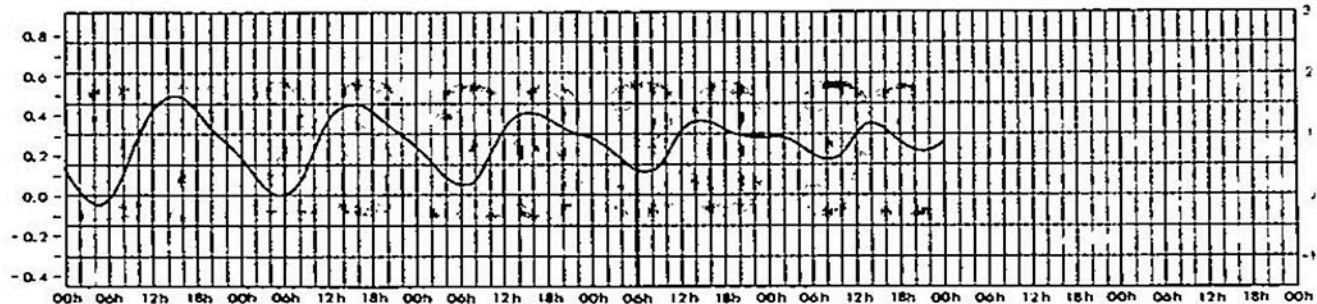
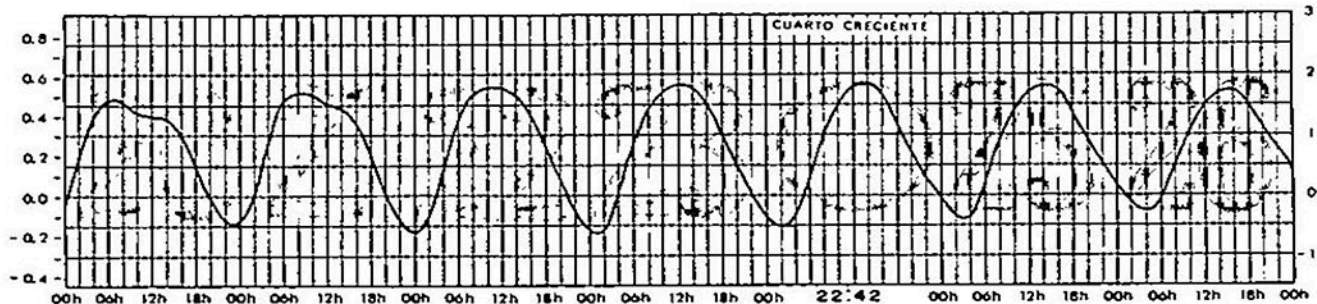
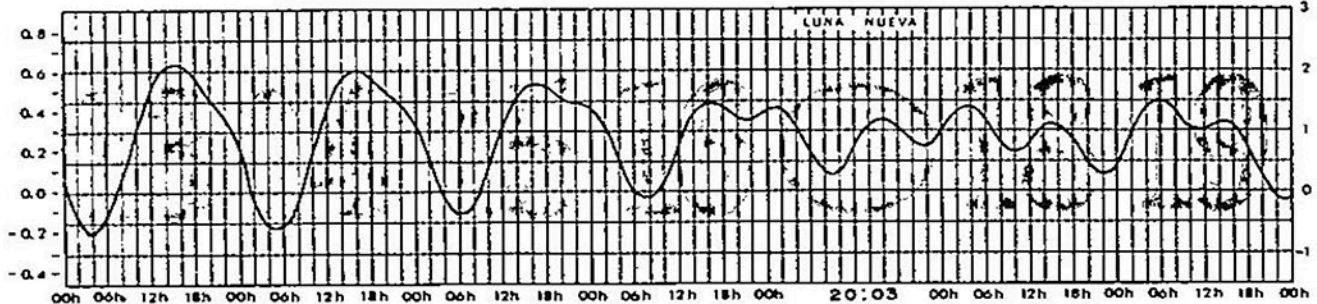
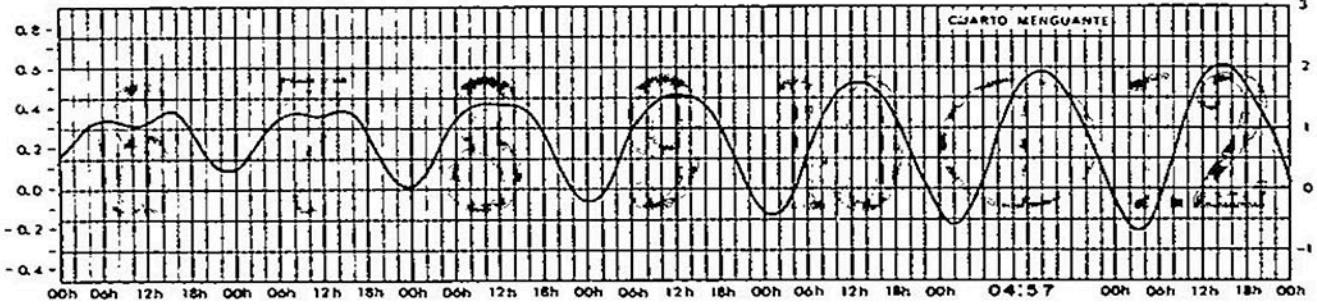
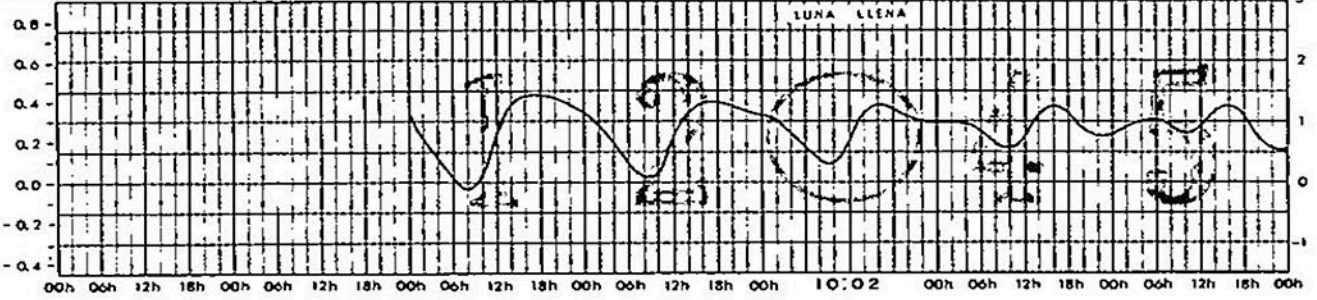


MARZO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO-YUKALPETEN, YUC.

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



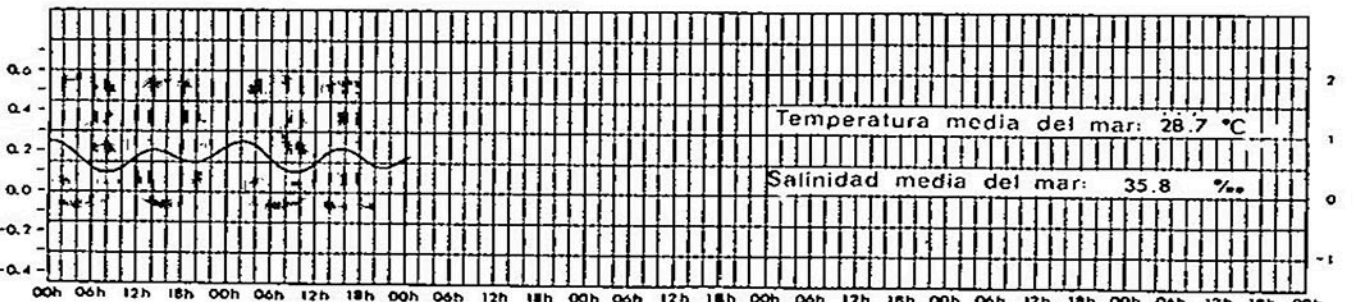
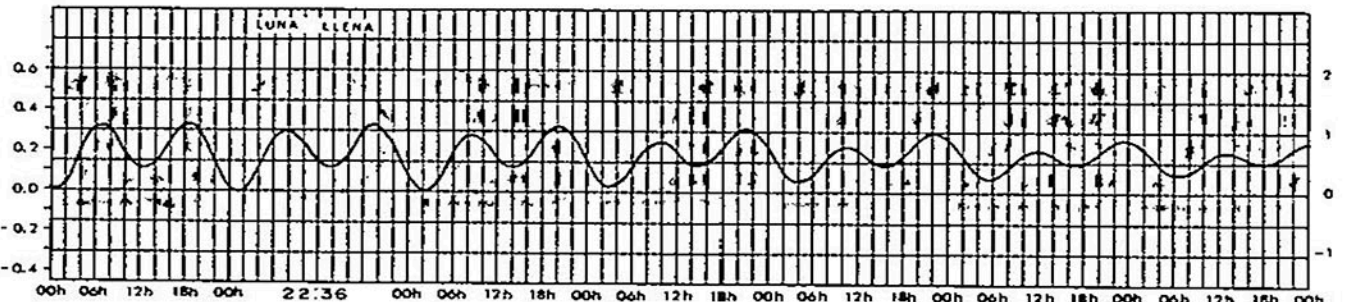
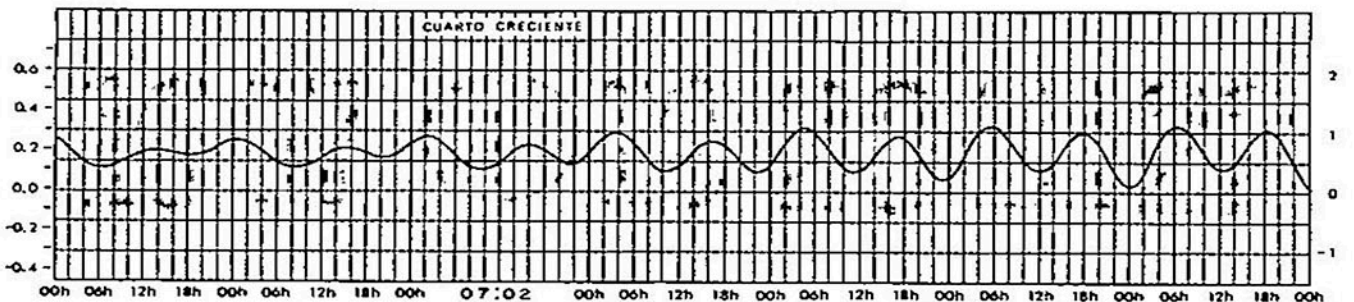
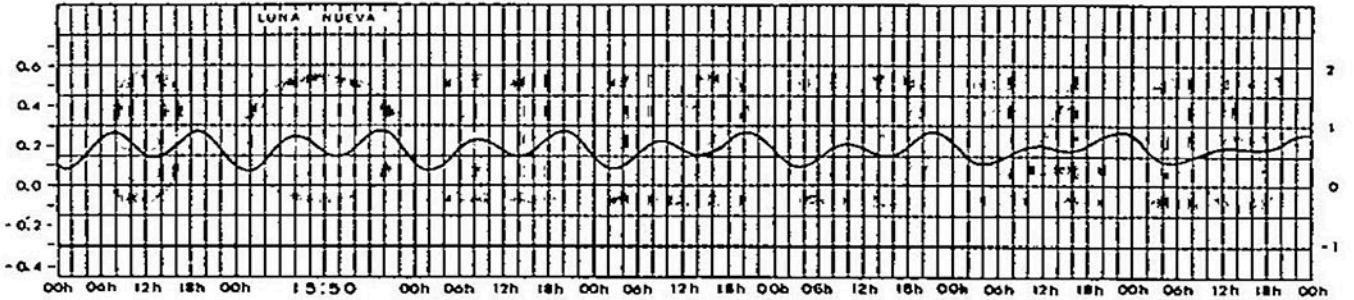
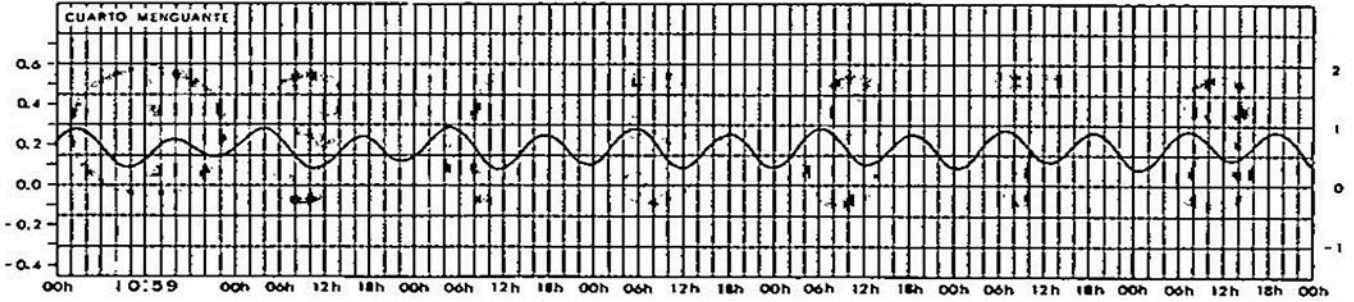
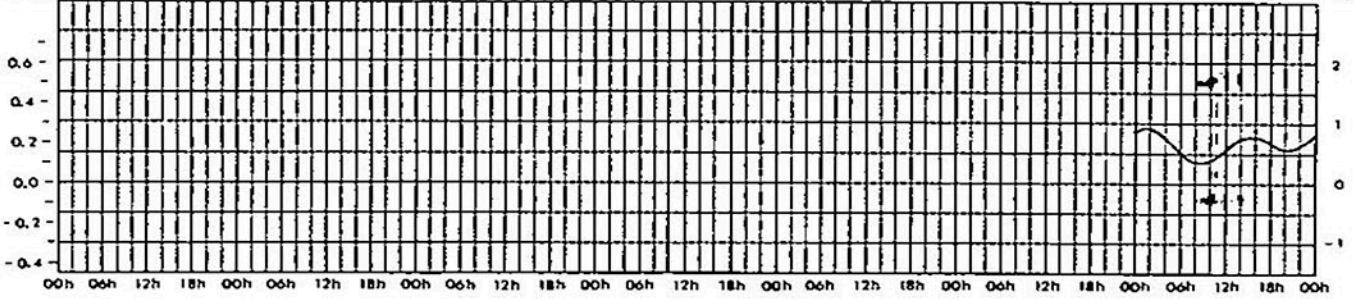


1 OCTUBRE 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



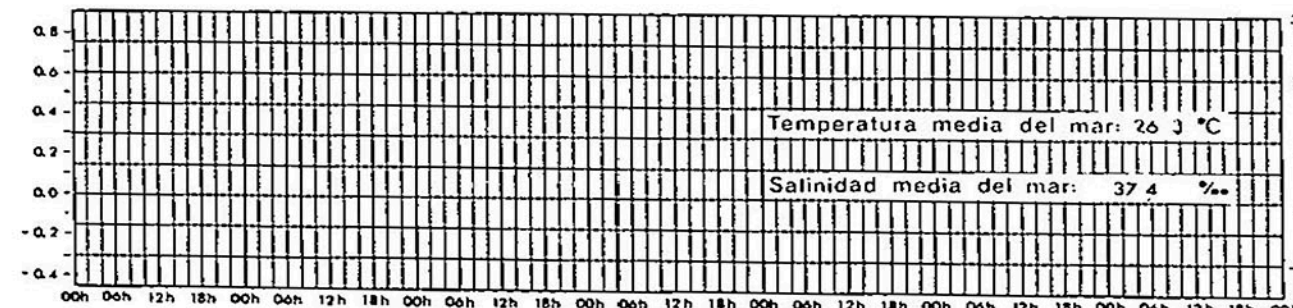
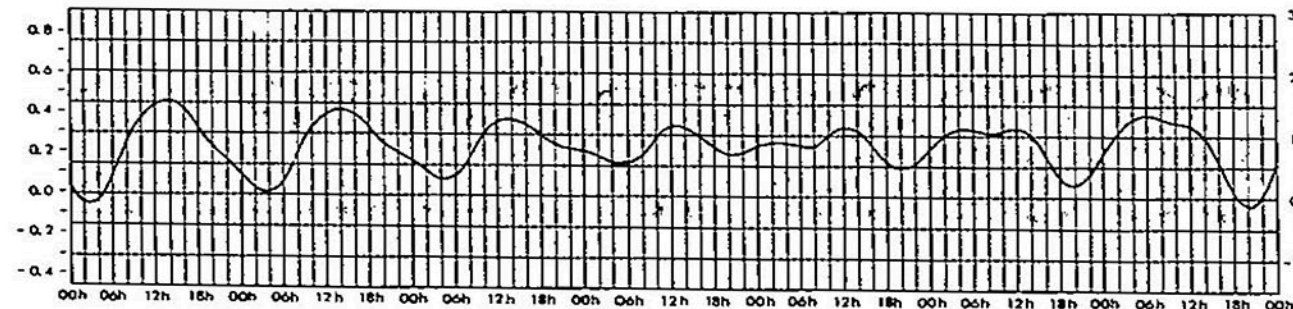
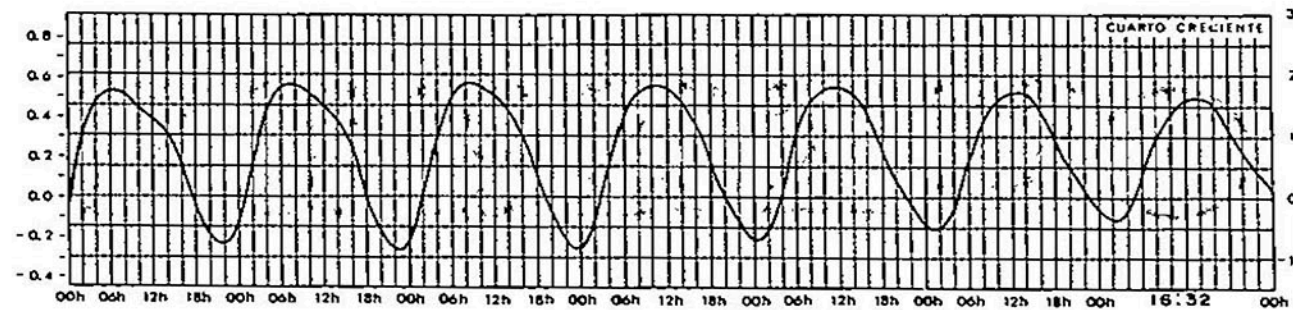
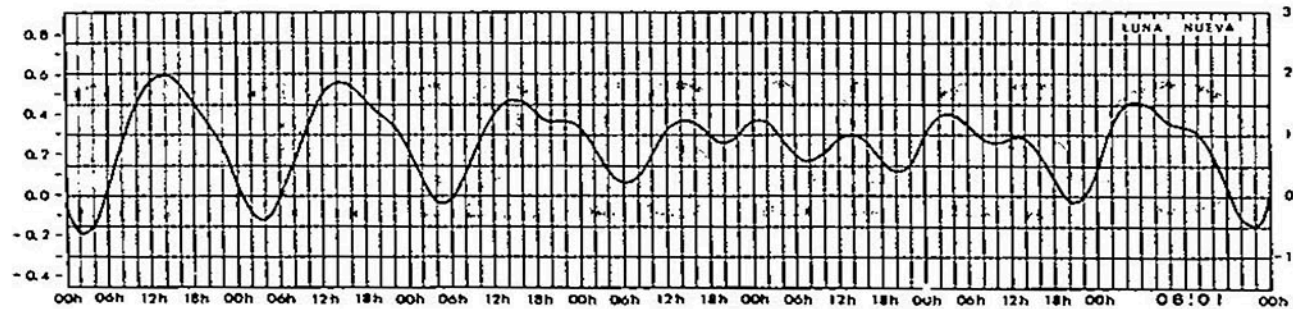
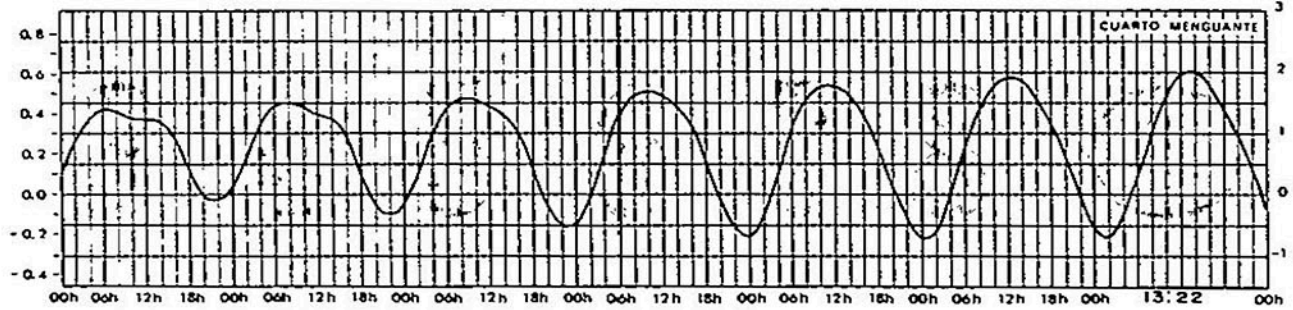
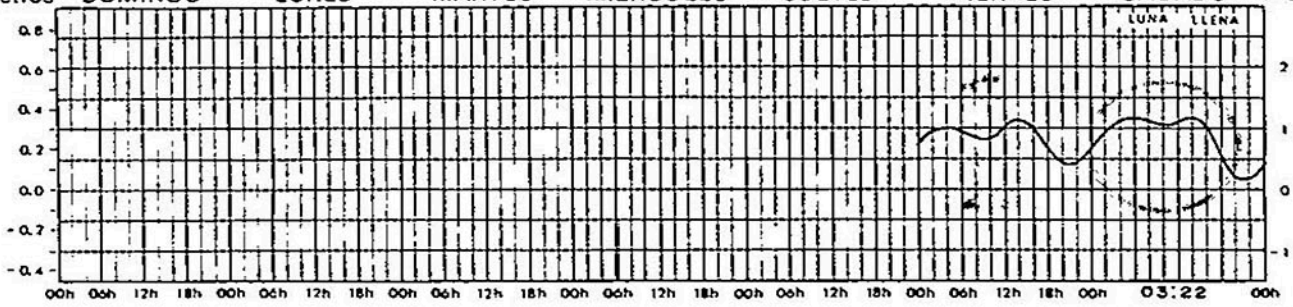


ABRIL 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO-YUKALPETEN, YUC.

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 26.3 °C
 Salinidad media del mar: 37.4 ‰



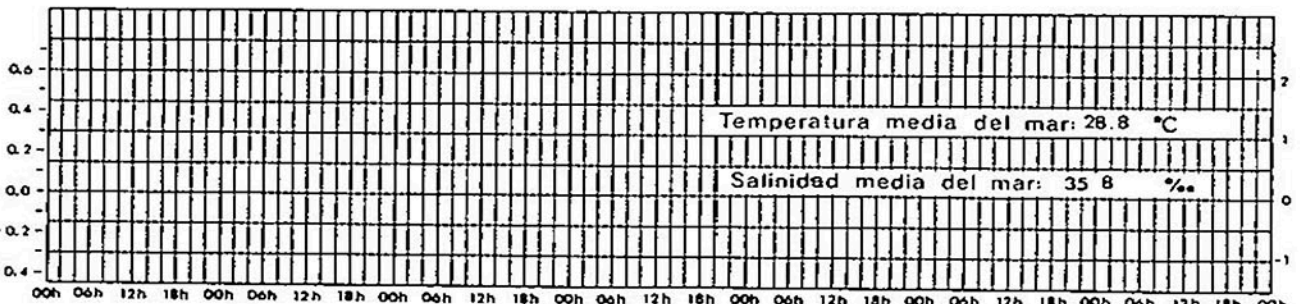
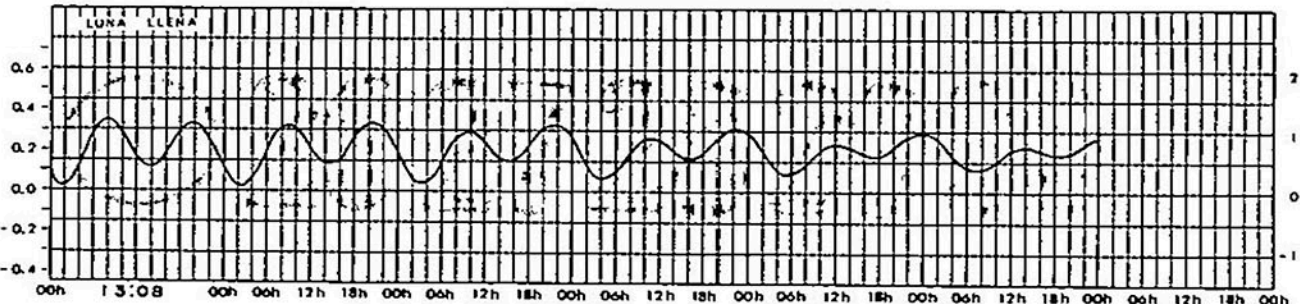
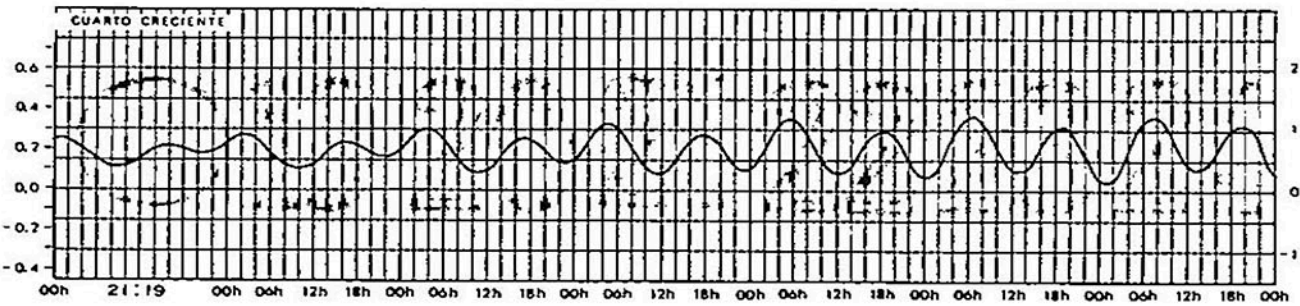
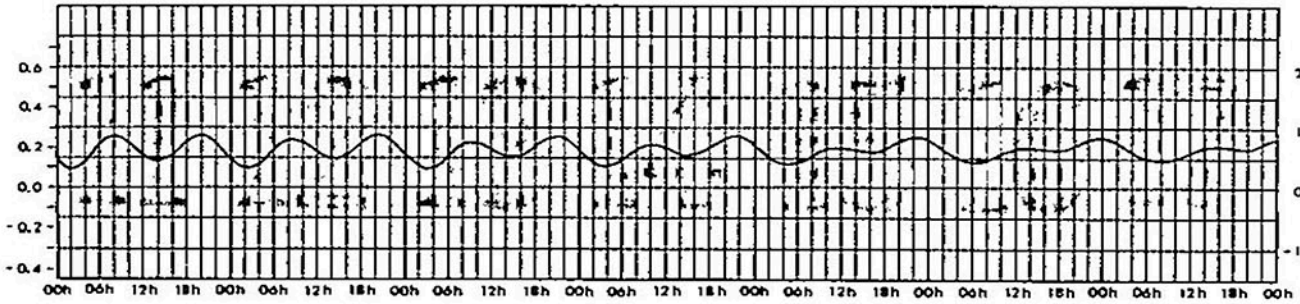
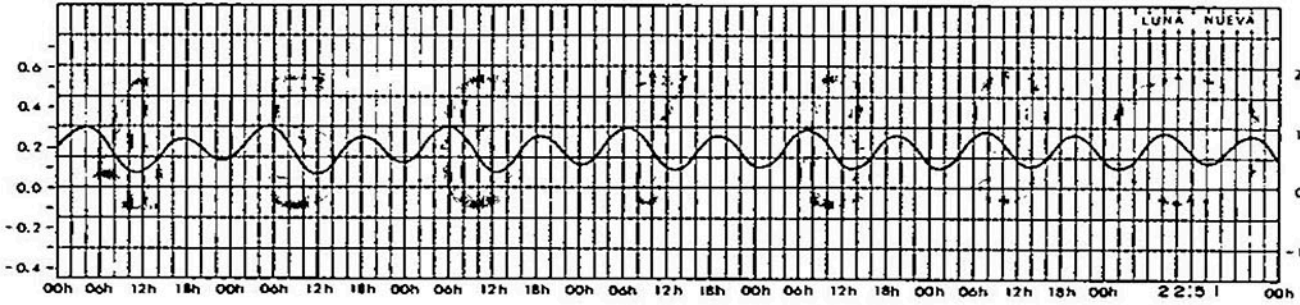
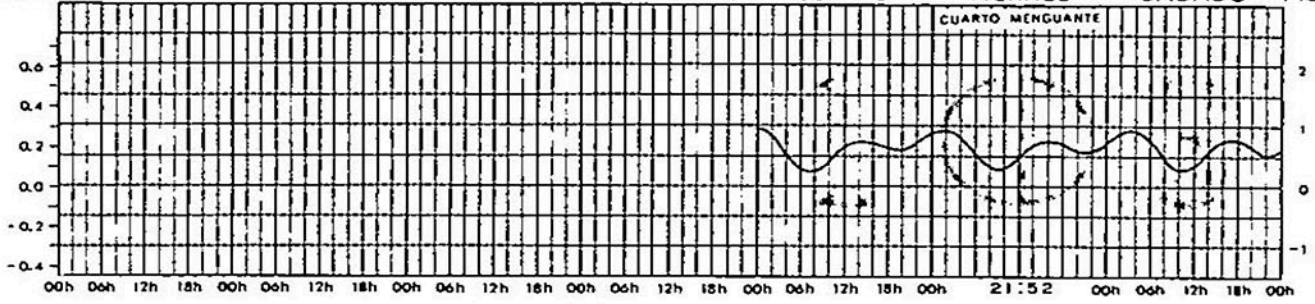
SEPTIEMBRE

1988

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros **DOMINGO** **LUNES** **MARTES** **MIERCOLES** **JUEVES** **VIERNES** **SABADO** **Pies**



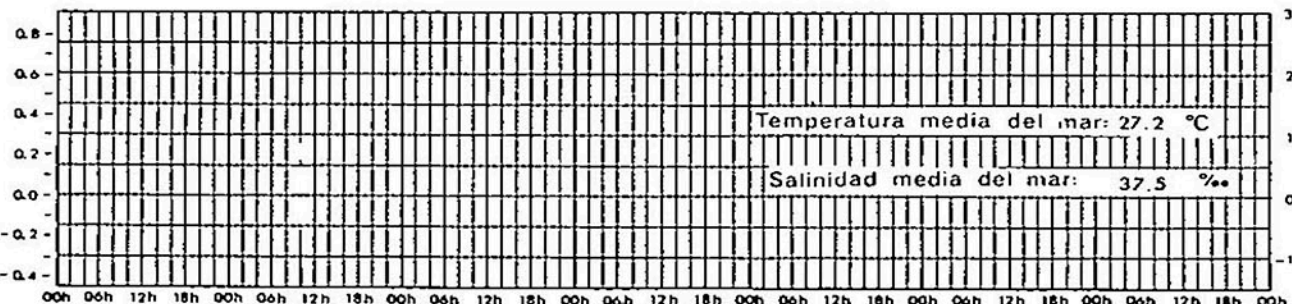
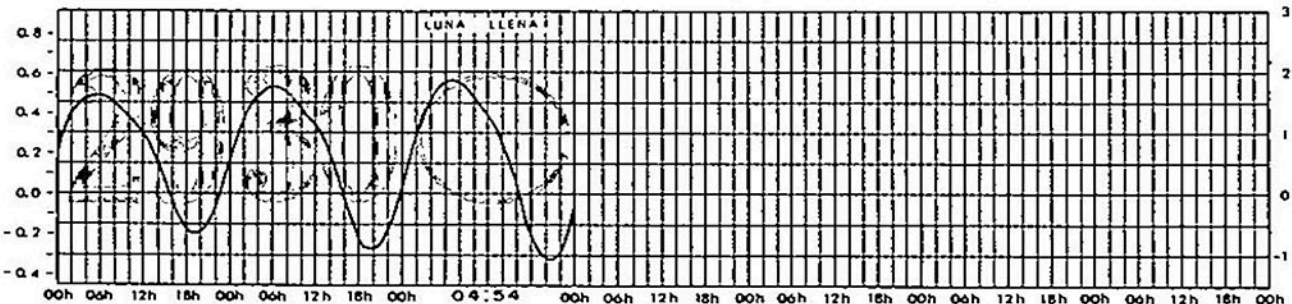
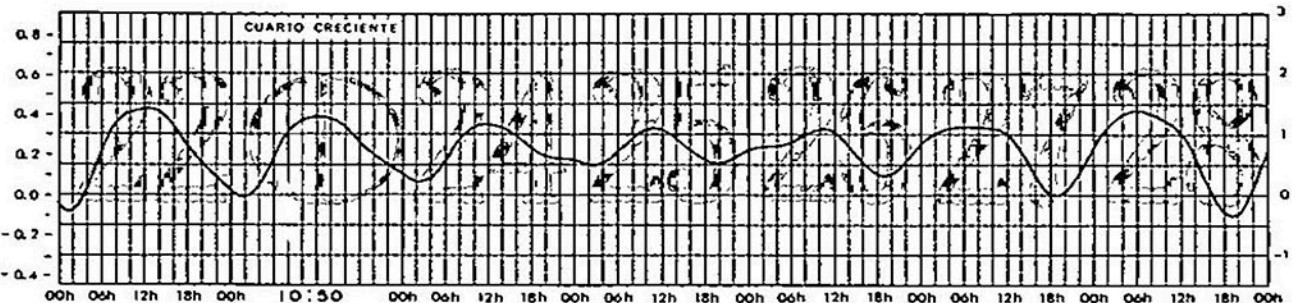
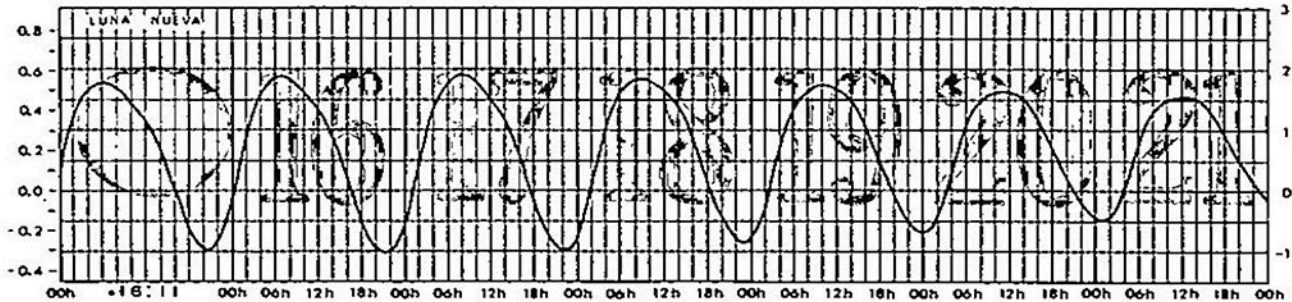
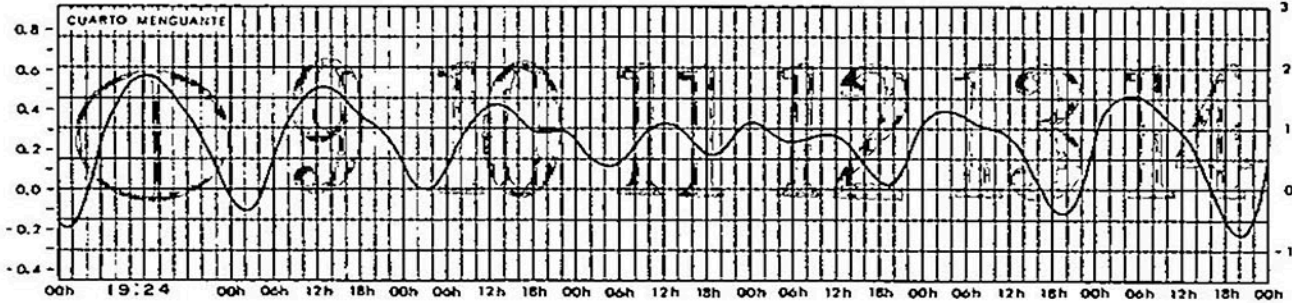
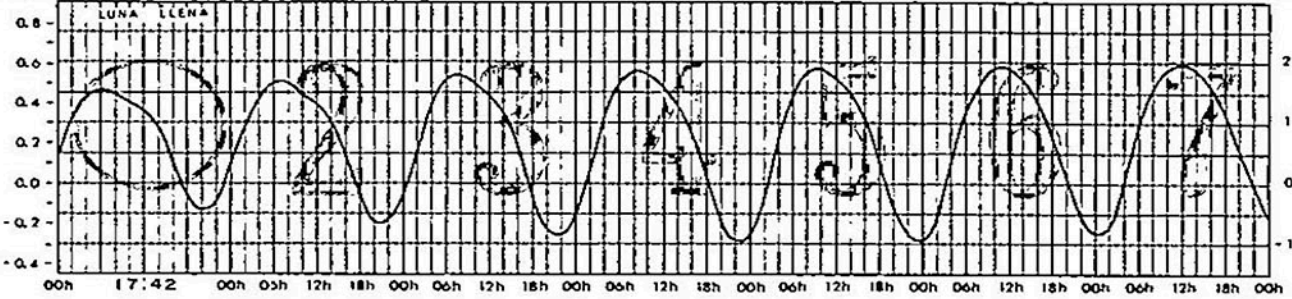


MAYO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO - YUKALPETEN, YUC.

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 27.2 °C

Salinidad media del mar: 37.5 ‰

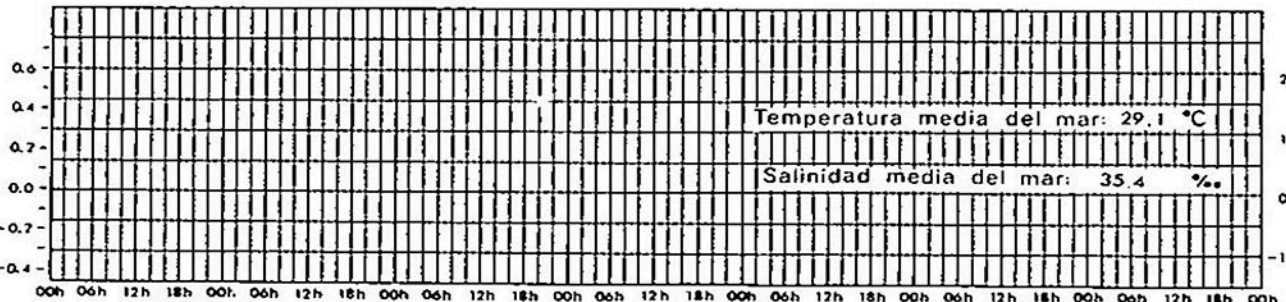
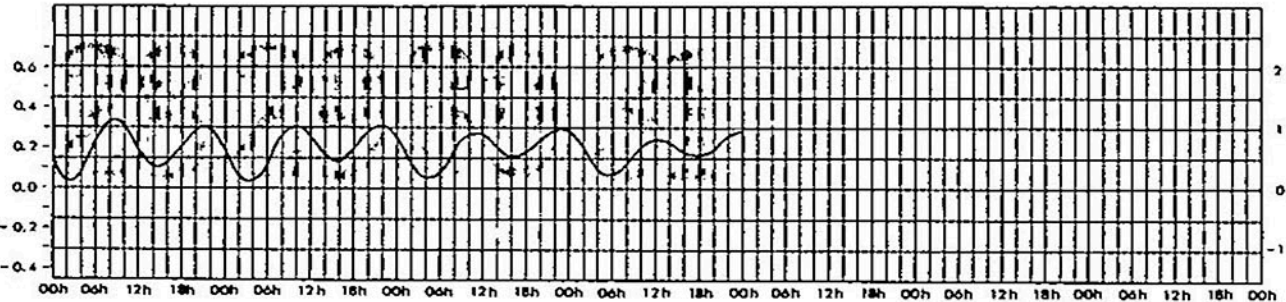
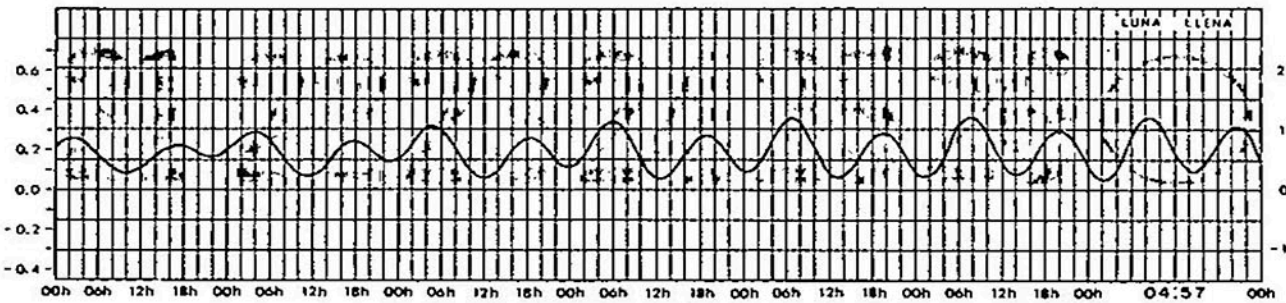
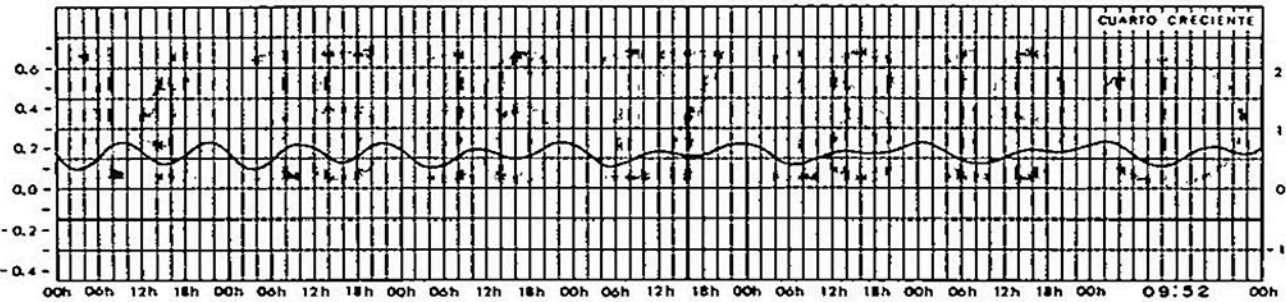
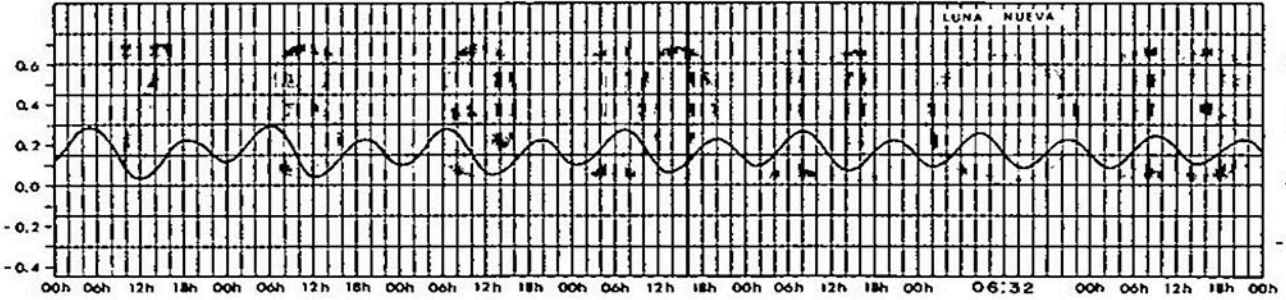
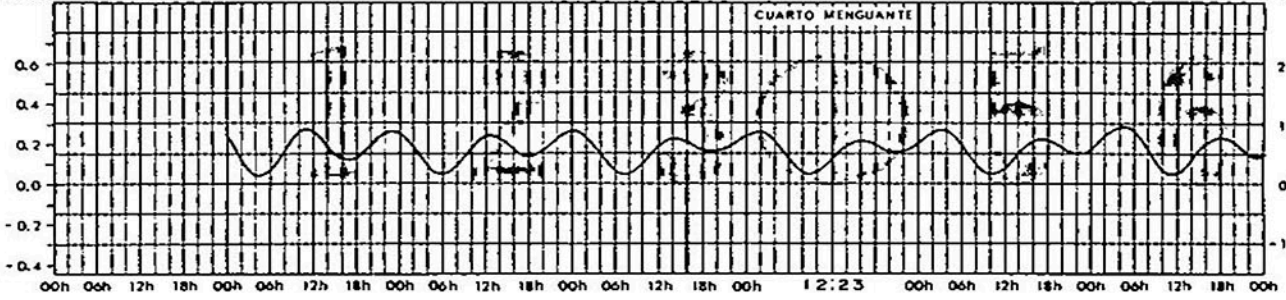


AGOSTO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 29.1 °C

Salinidad media del mar: 35.4 ‰

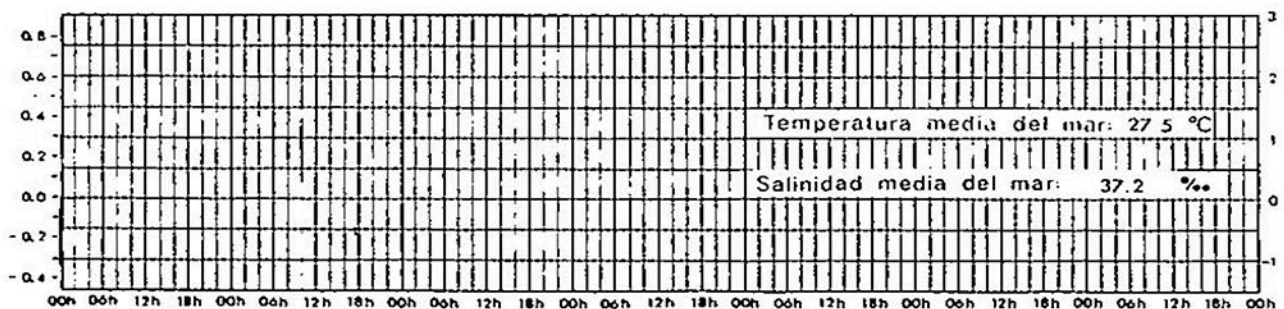
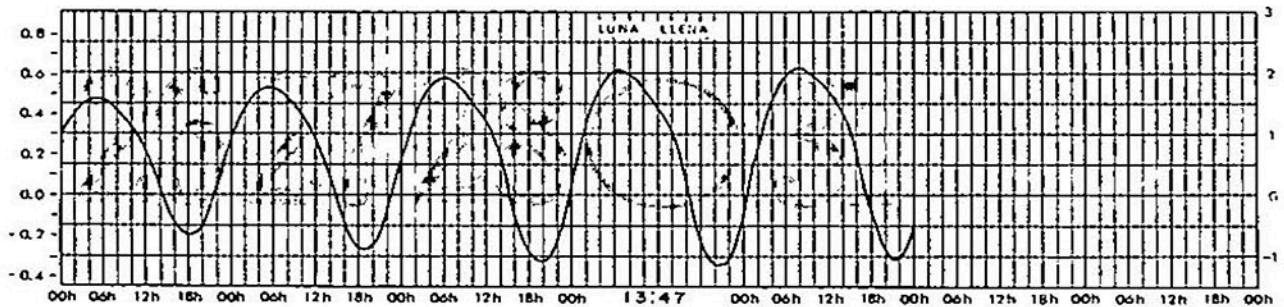
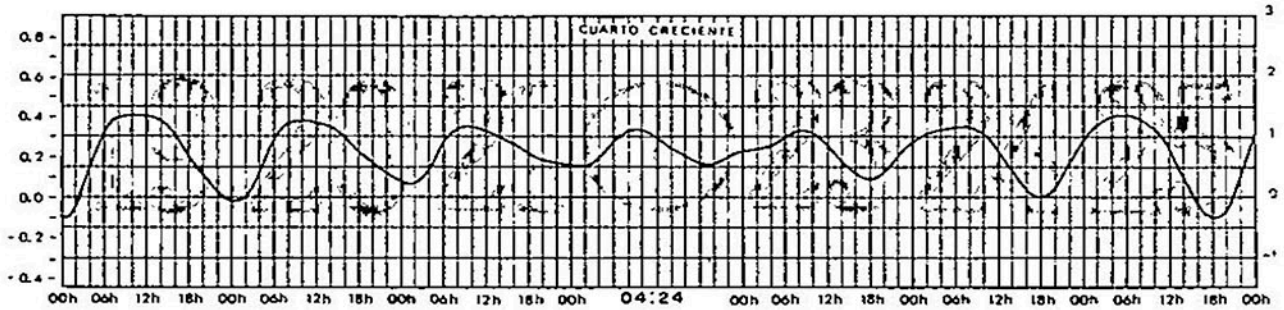
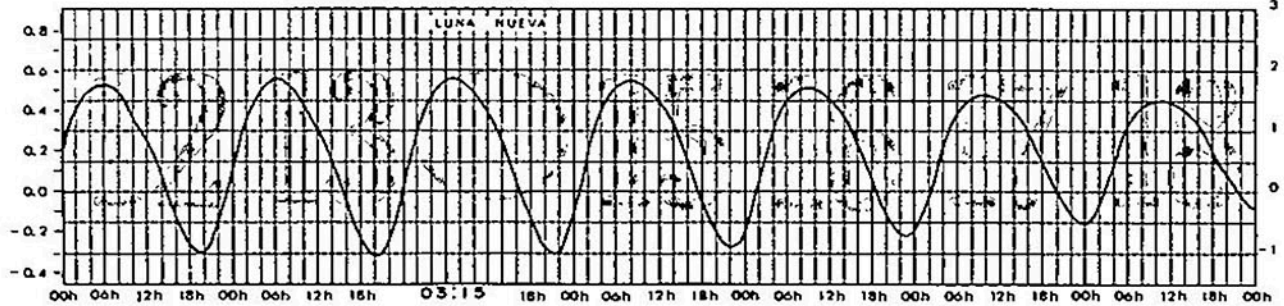
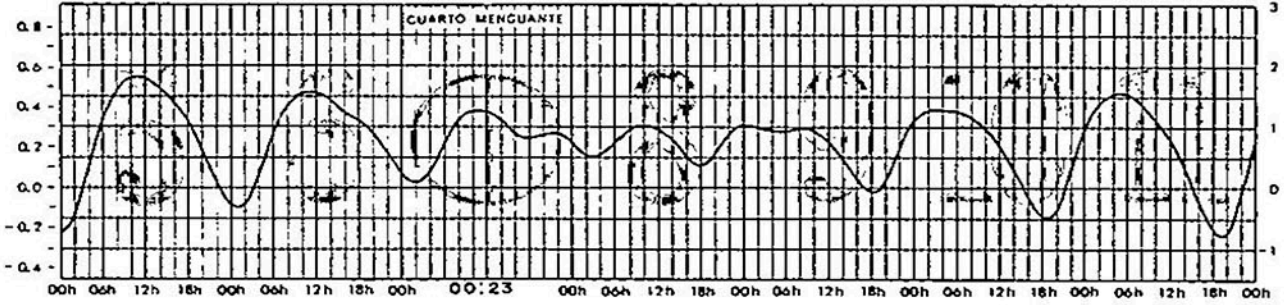
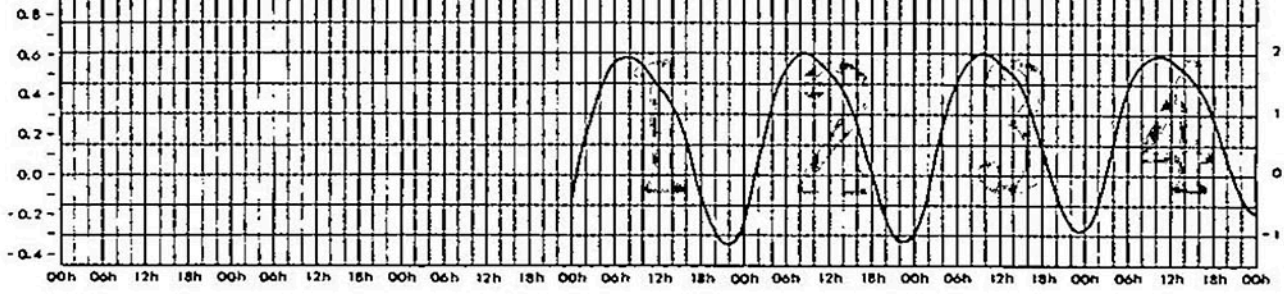


JUNIO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO - YUKALPETEN, YUC.

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 27.5 °C

Salinidad media del mar: 37.2 ‰

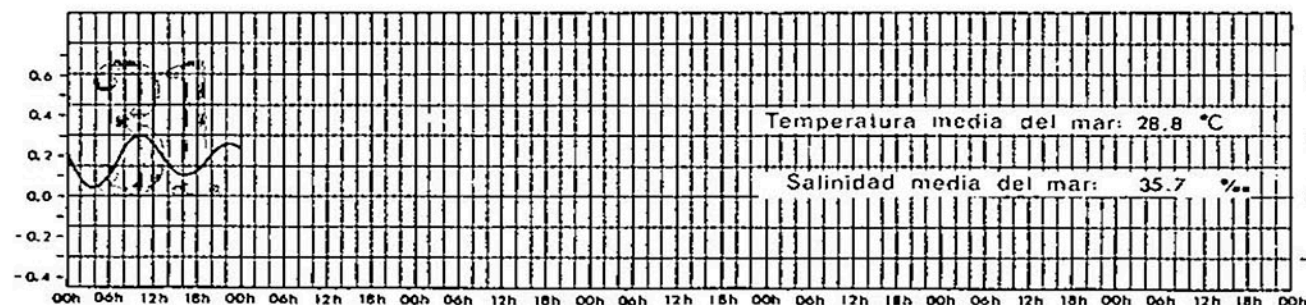
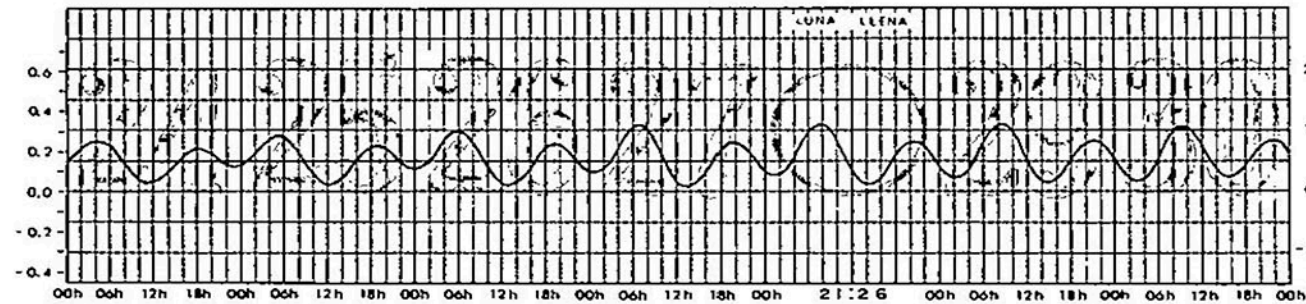
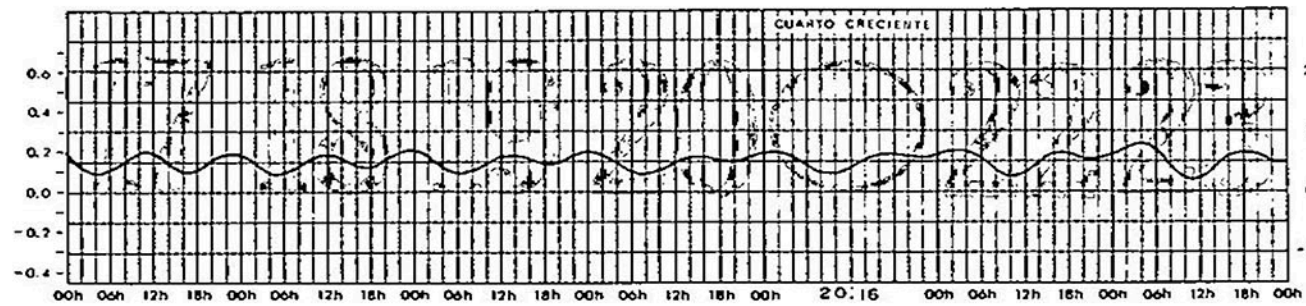
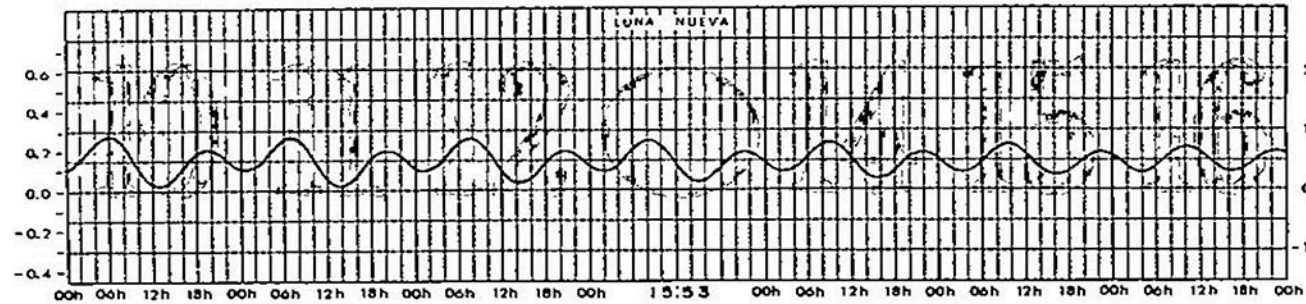
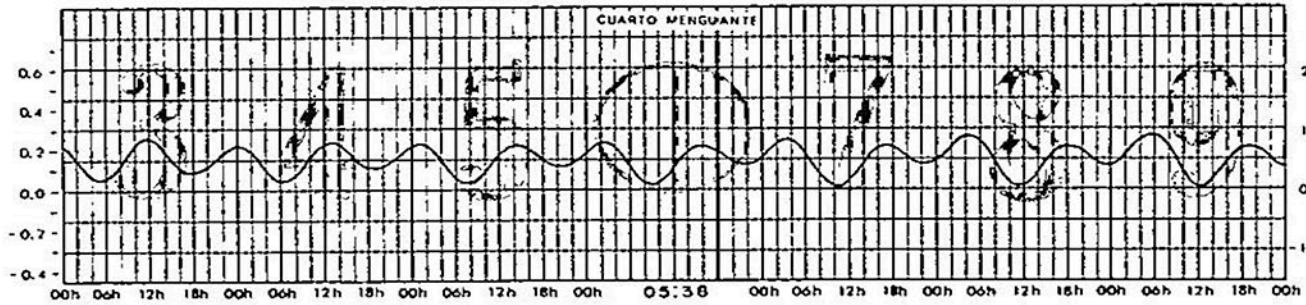
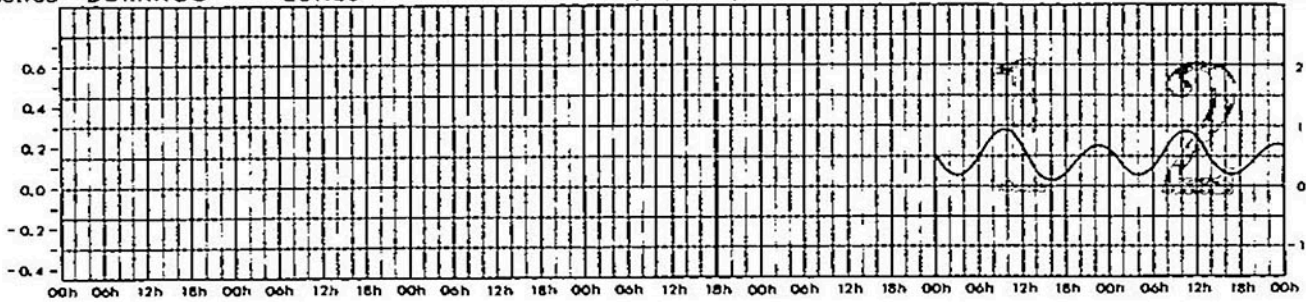


JULIO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 28.8 °C

Salinidad media del mar: 35.7 ‰

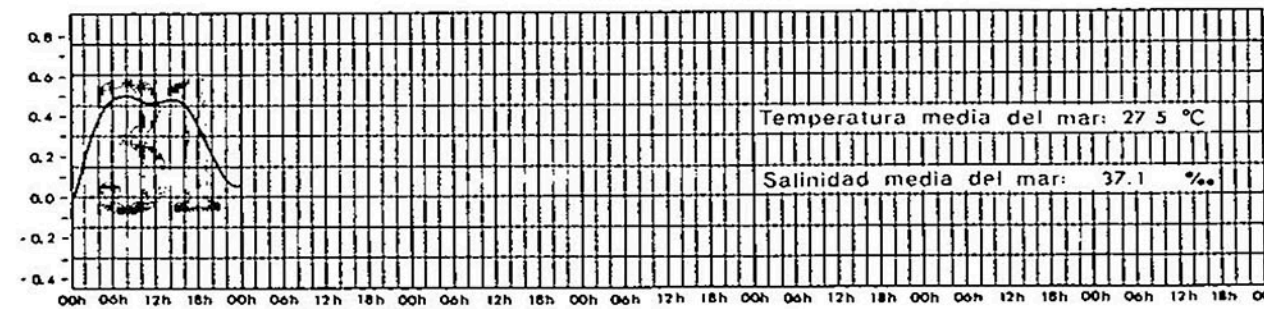
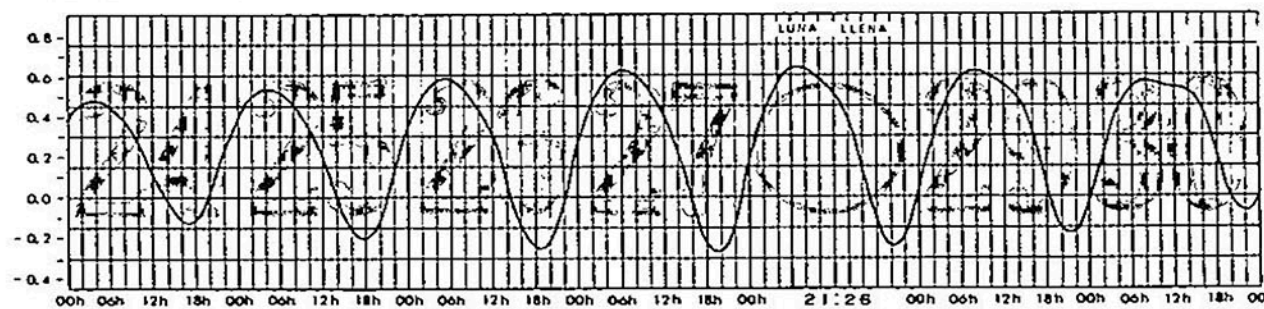
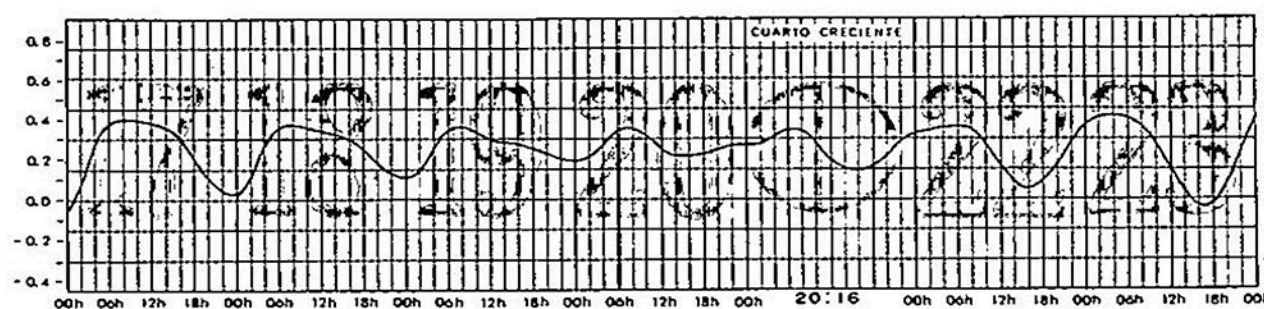
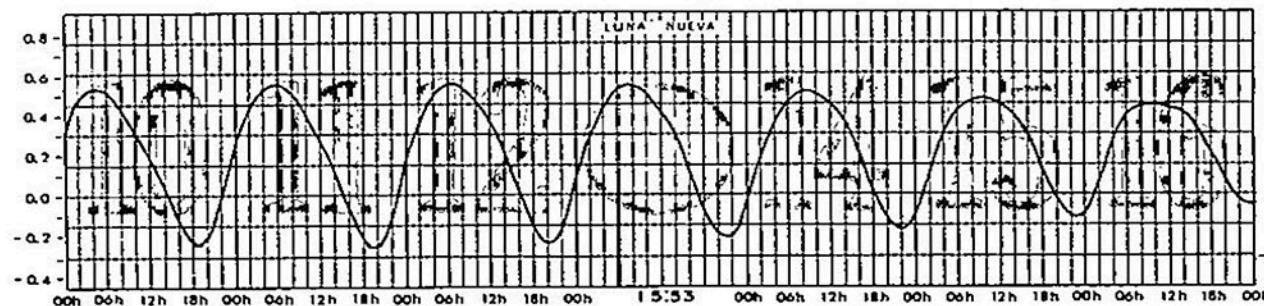
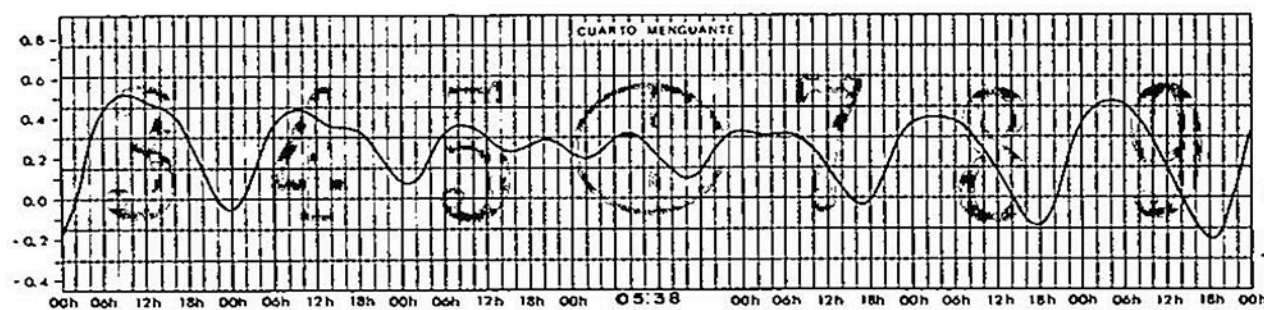
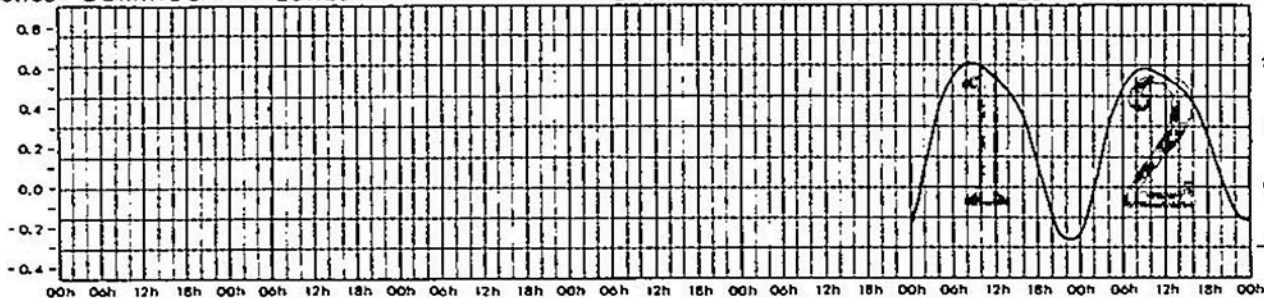


JULIO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO - YUKALPETEN, YUC.

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 27.5 °C

Salinidad media del mar: 37.1 ‰

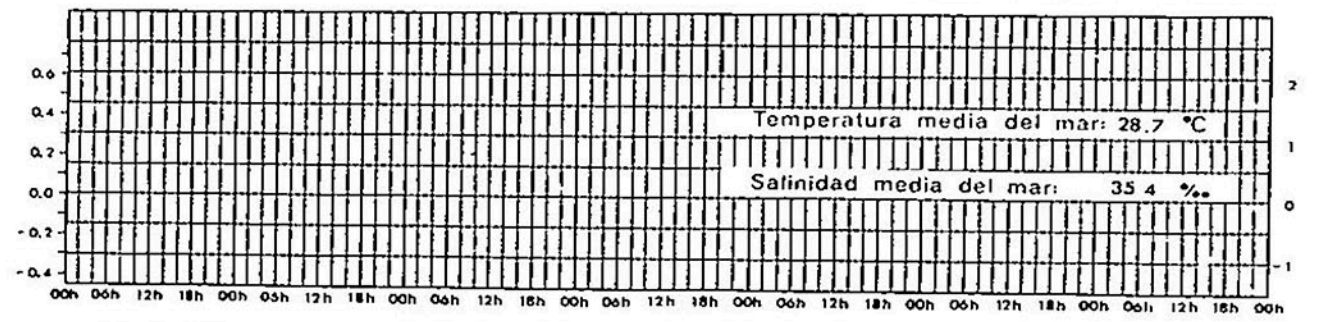
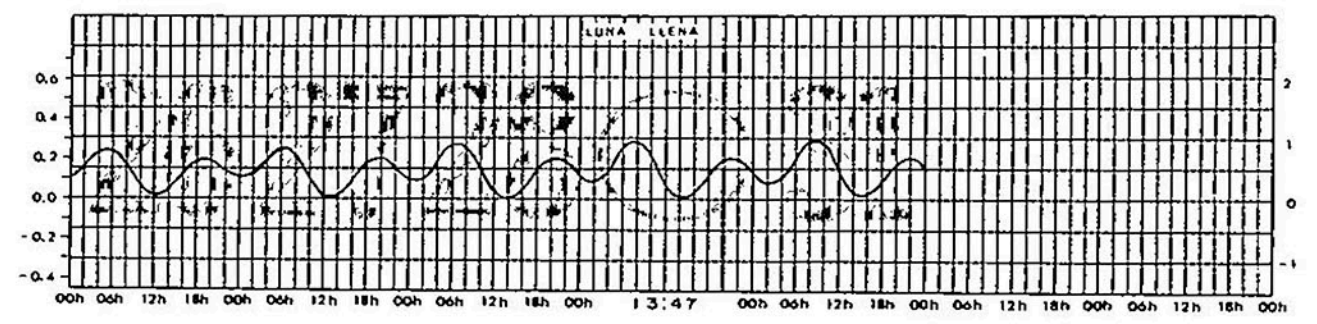
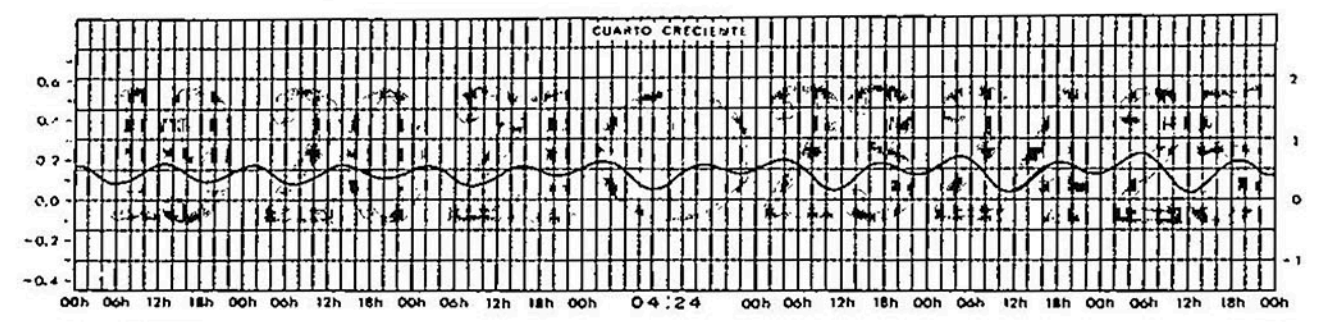
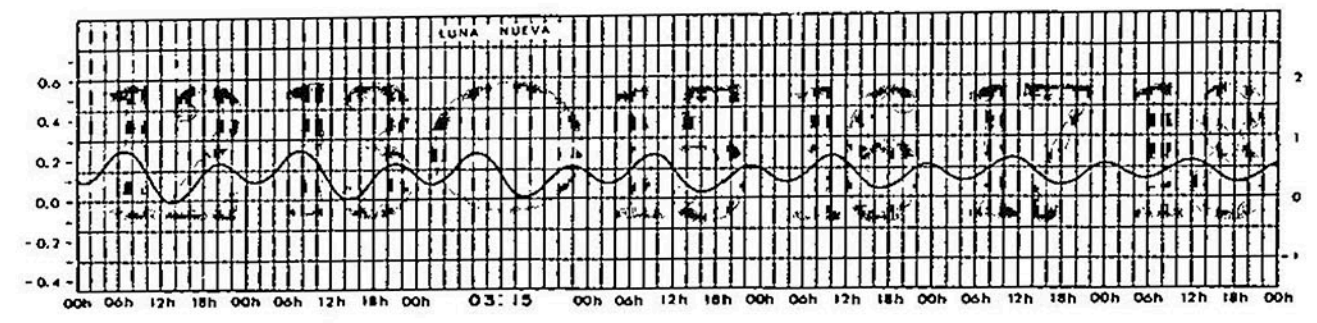
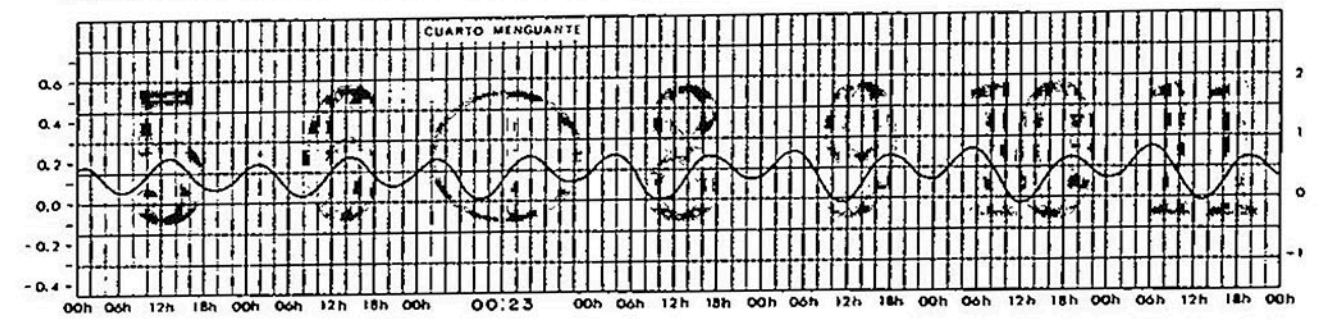
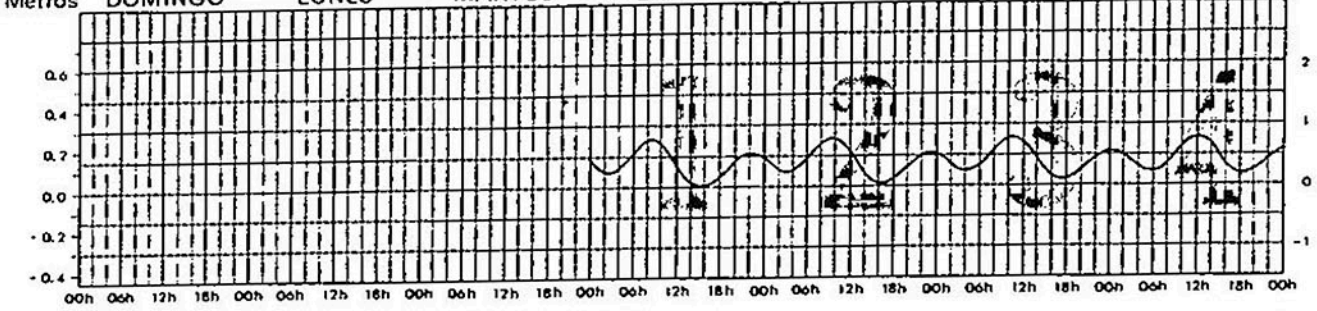


JUNIO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



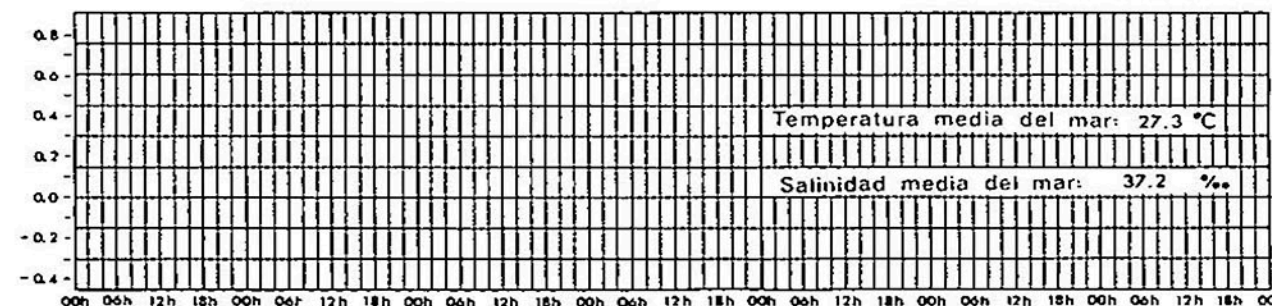
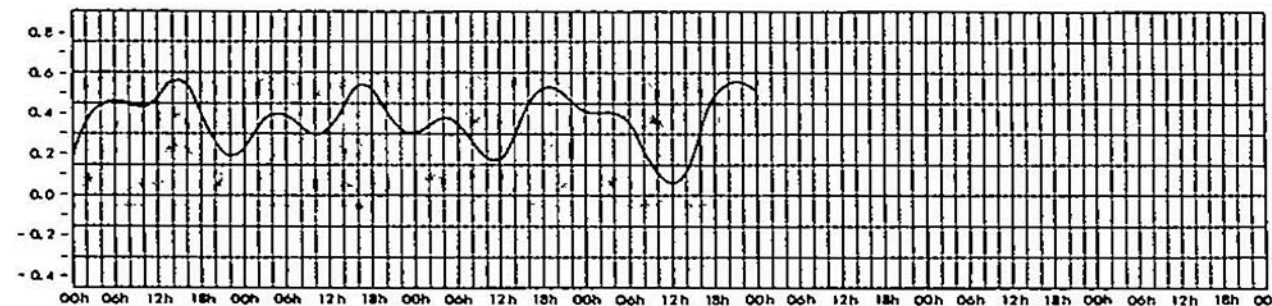
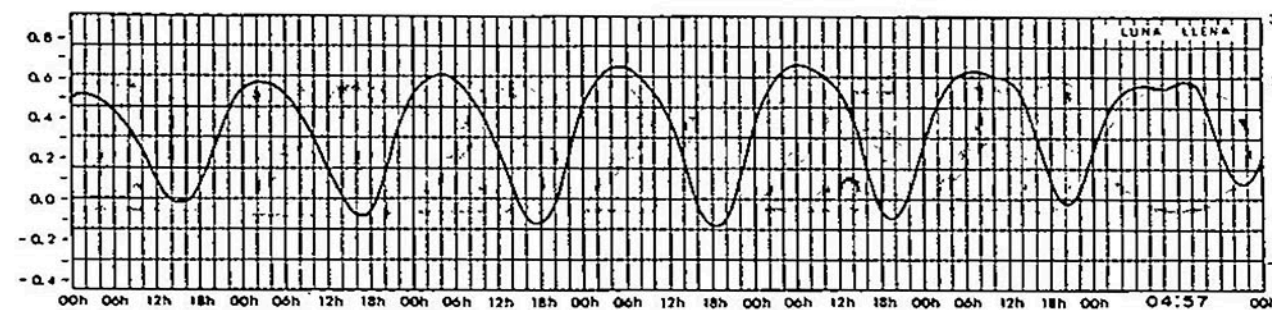
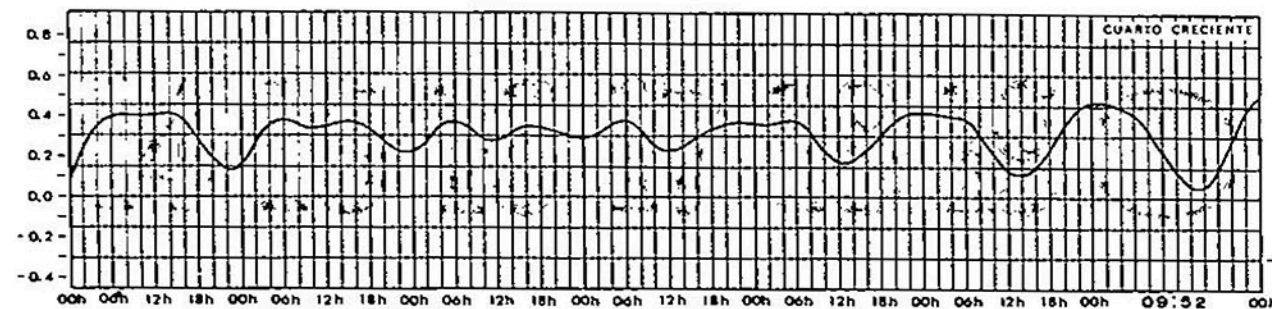
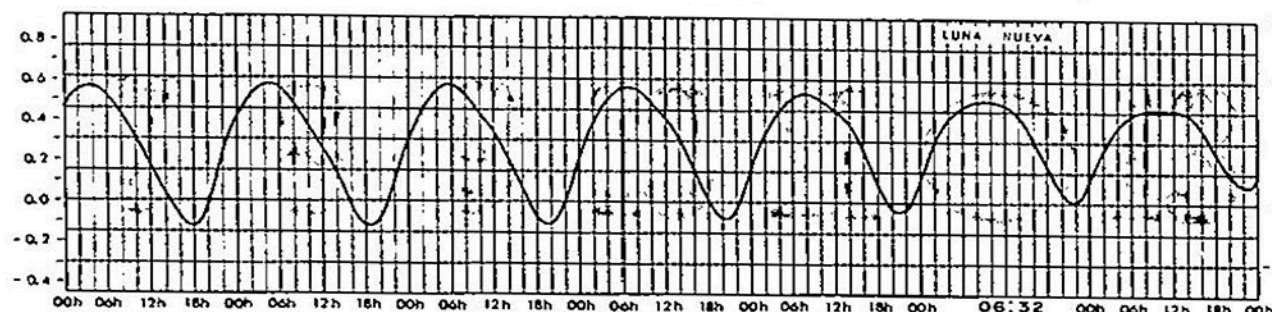
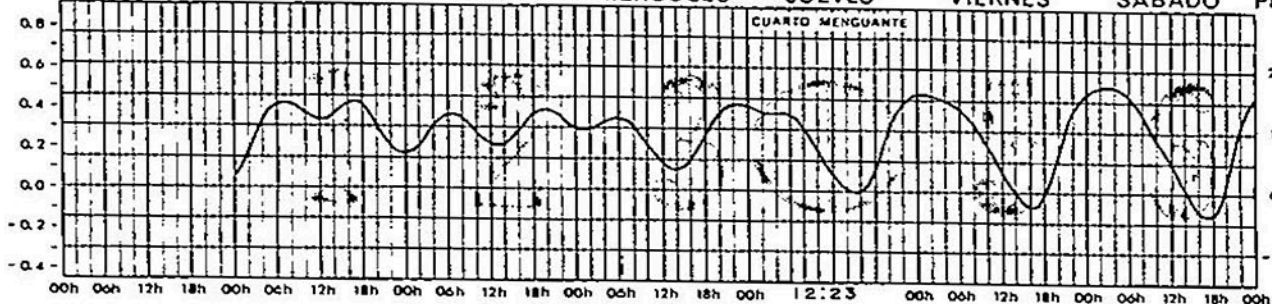


AGUJO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO-YUKALPETEN, YUC.

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



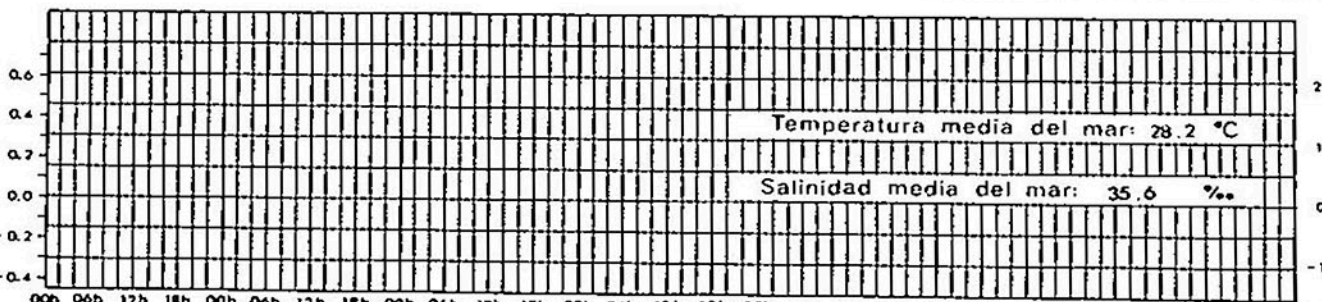
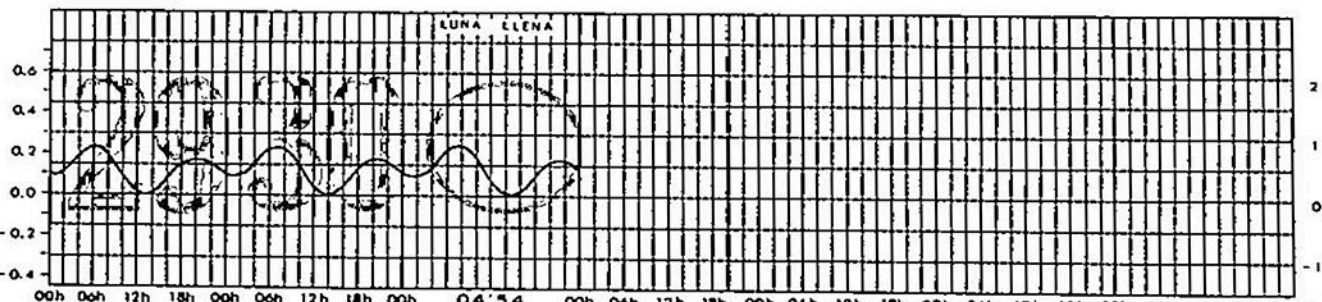
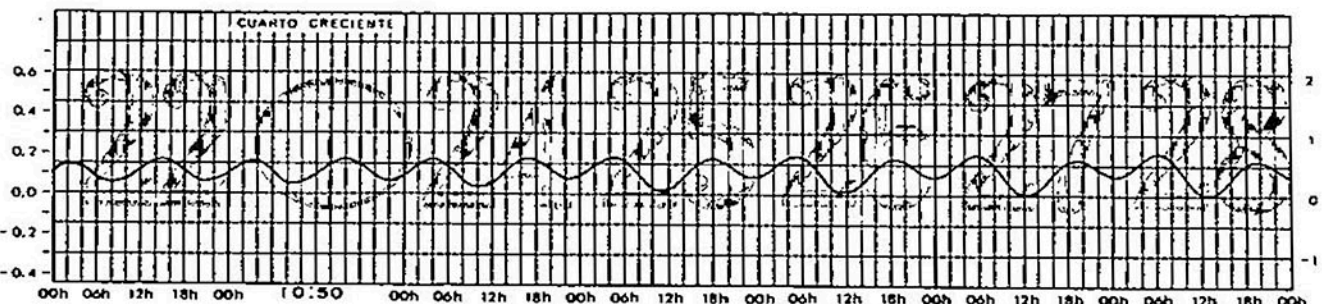
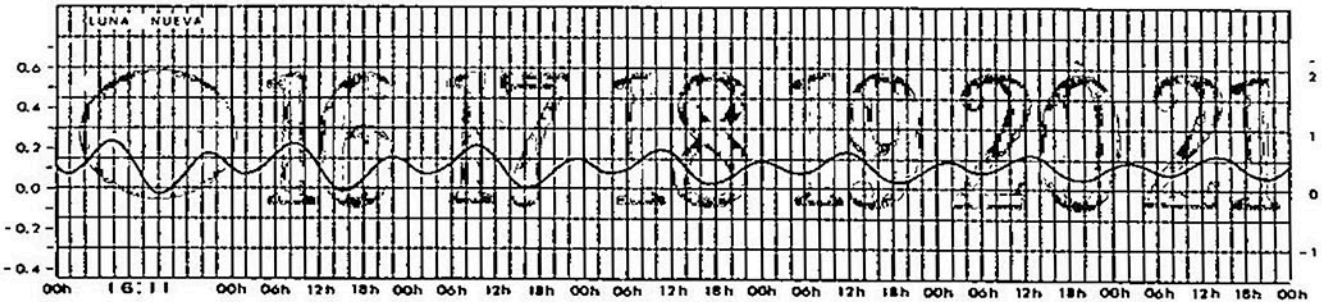
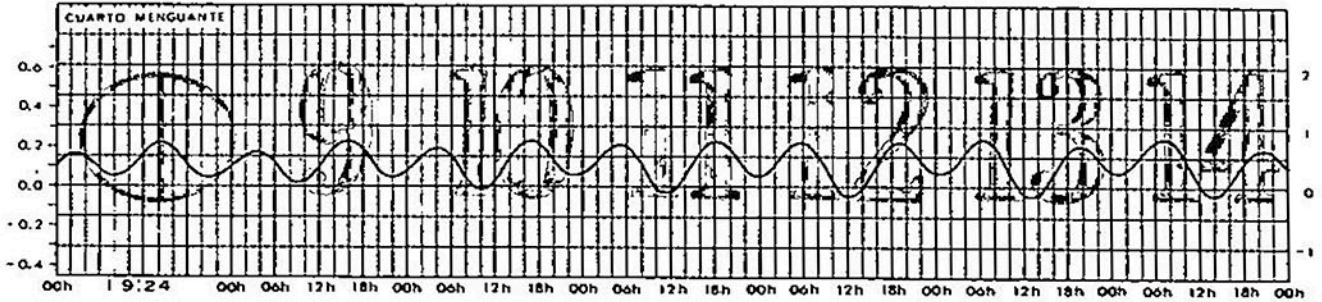
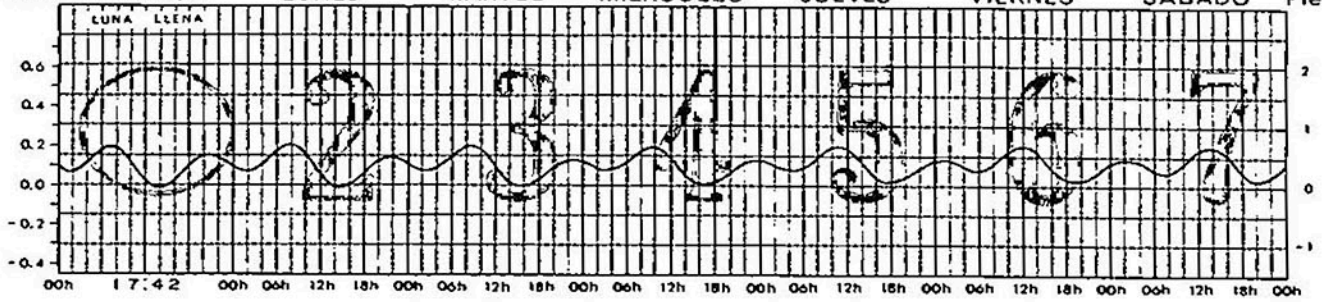


MAYO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 28.2 °C

Salinidad media del mar: 35.6 ‰

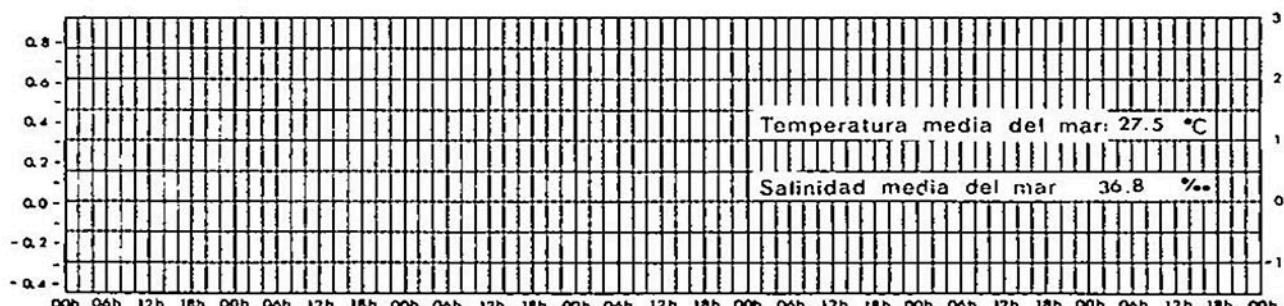
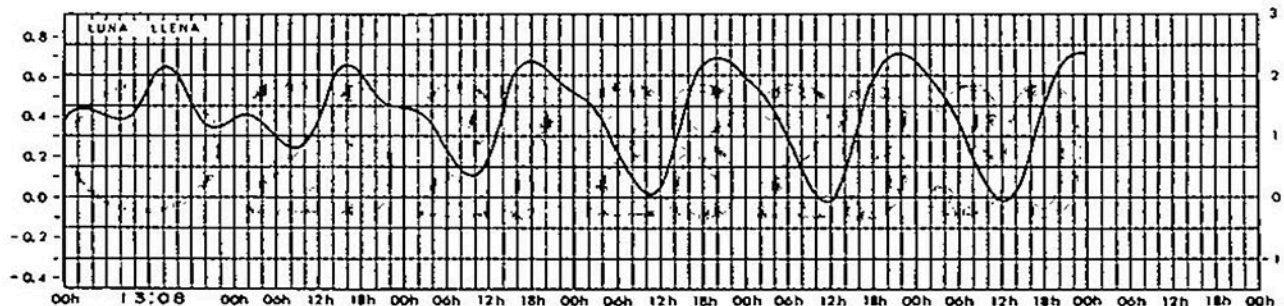
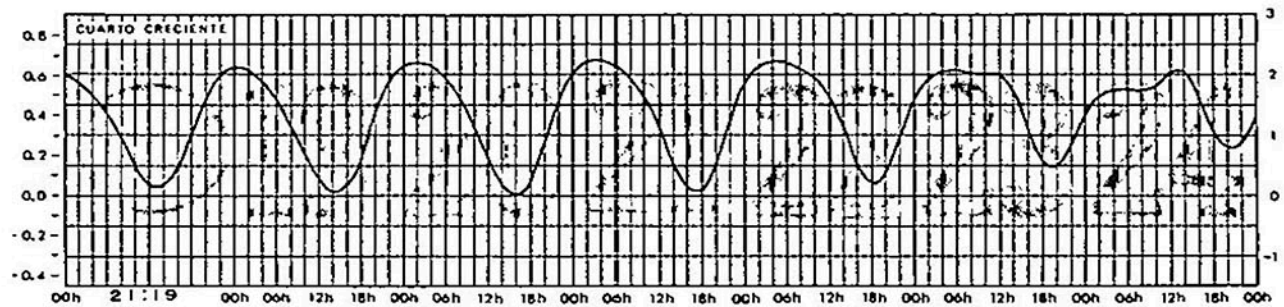
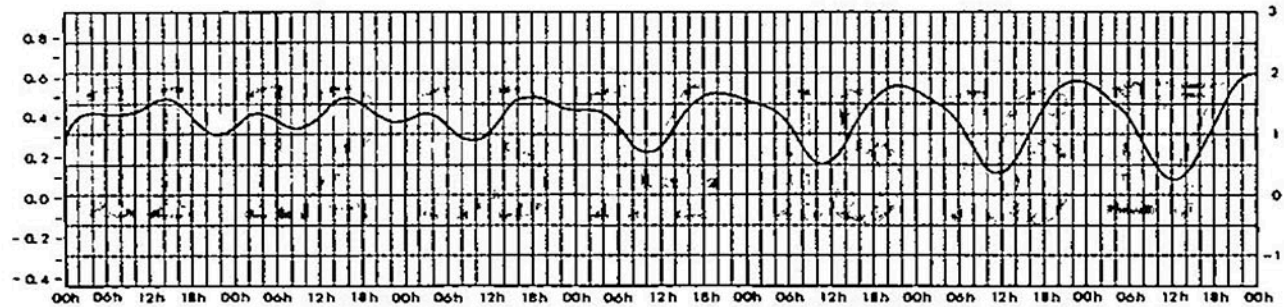
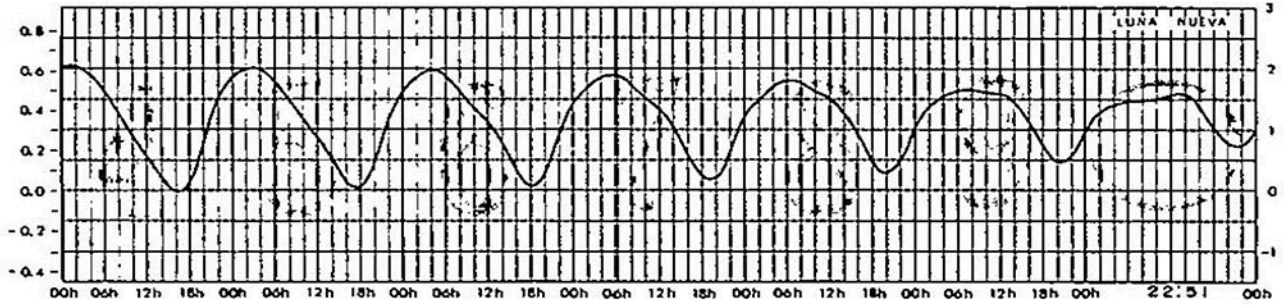
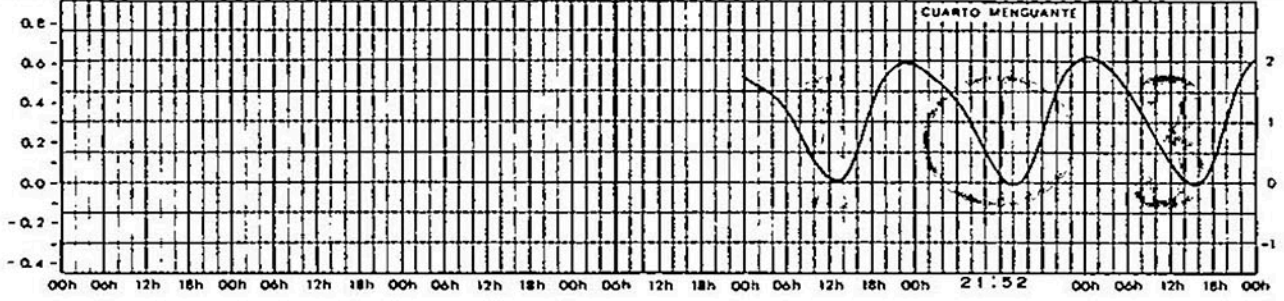


SEPTIEMBRE 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO - YUKALPETEN, YUC.

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



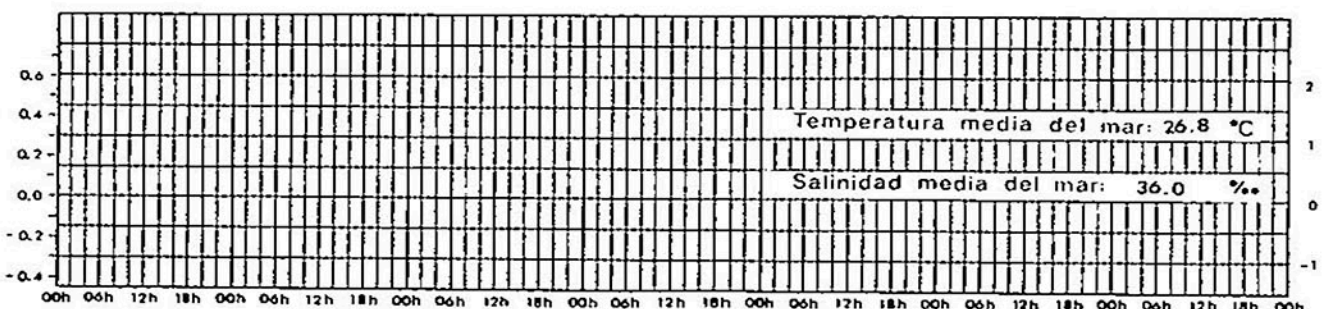
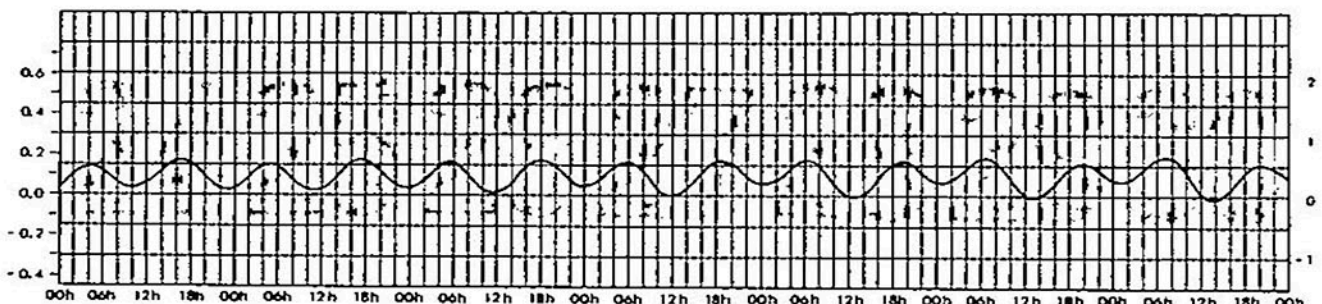
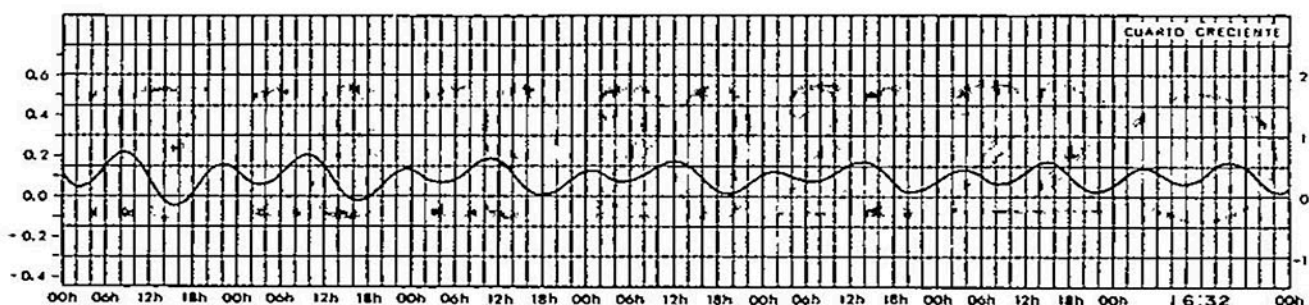
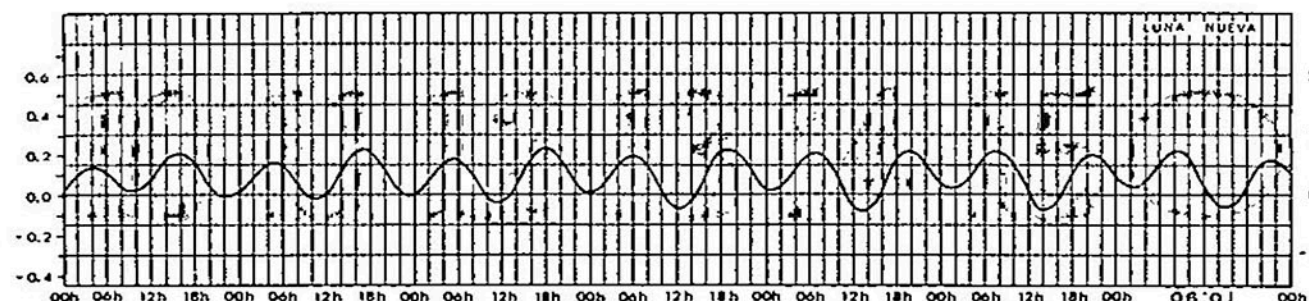
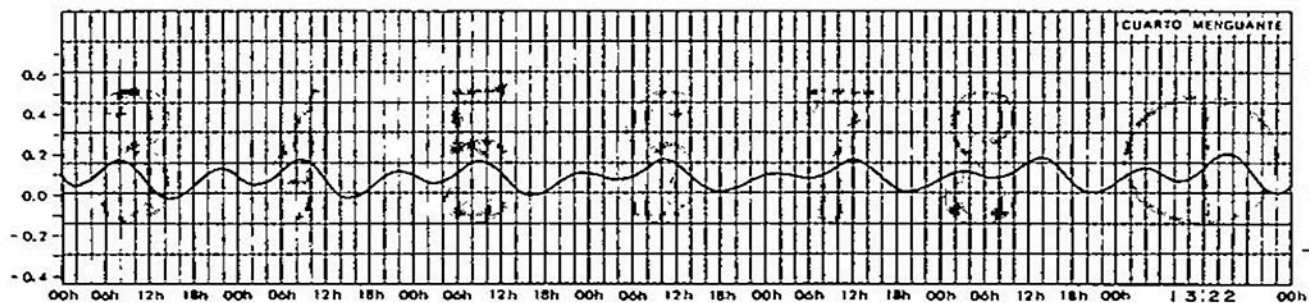
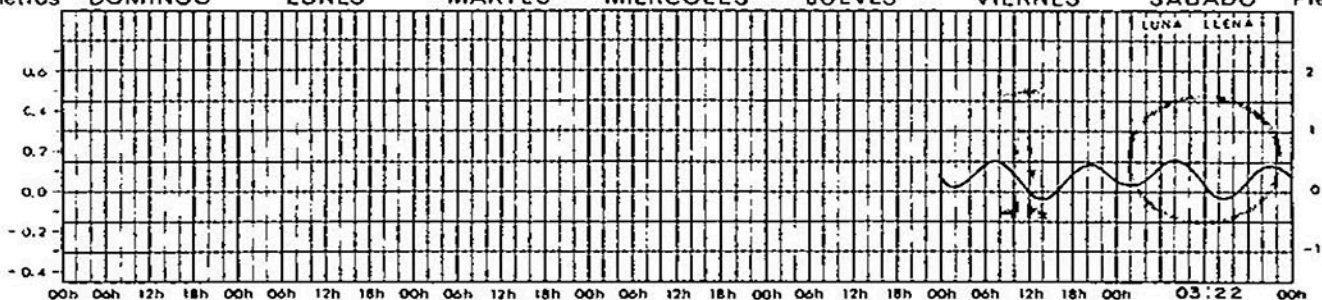


ABRIL 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies

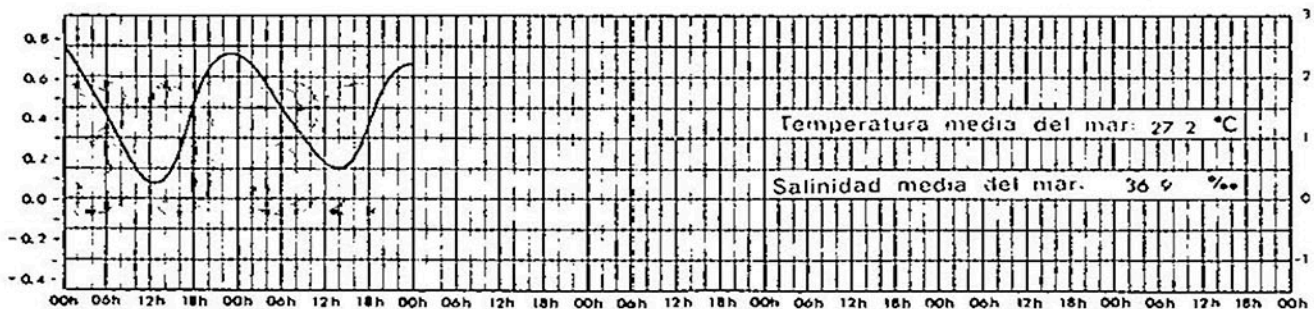
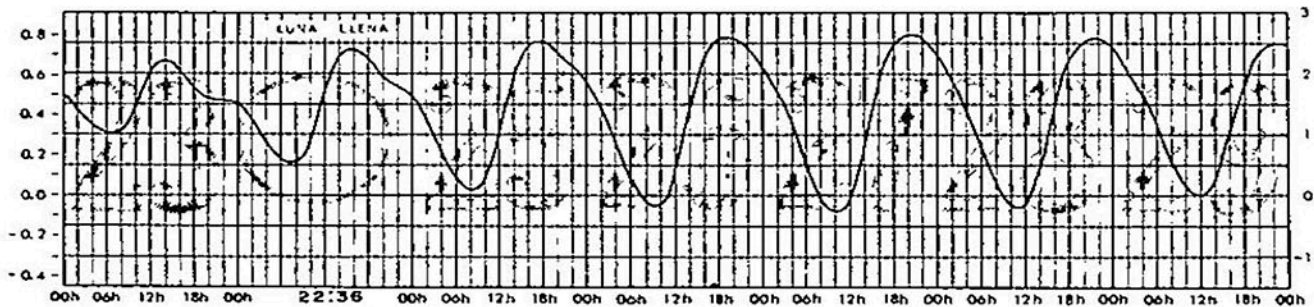
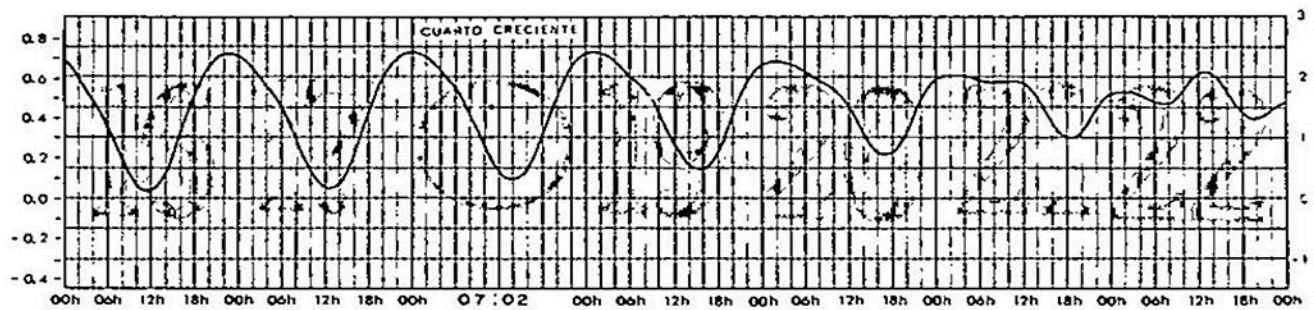
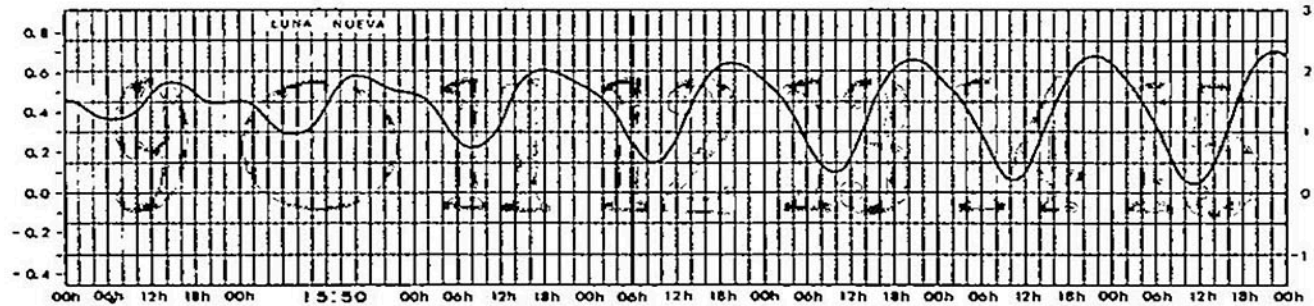
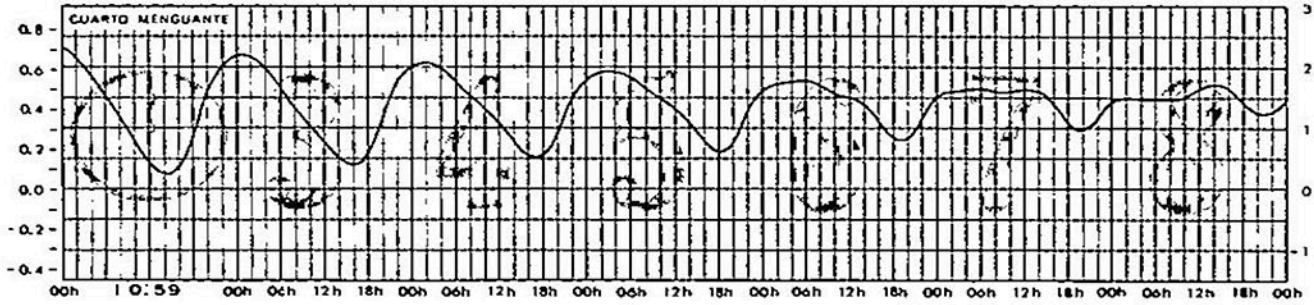
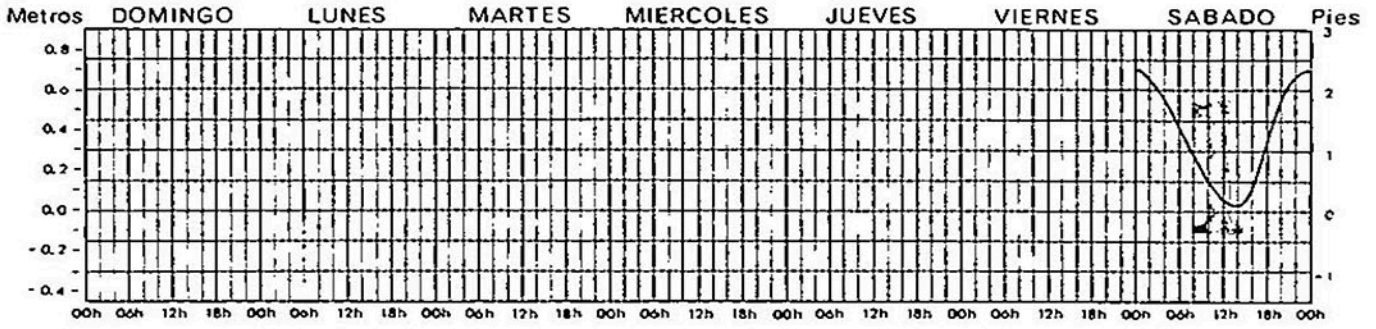




1 OCTUBRE 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO - YUKALPETEN, YUC.



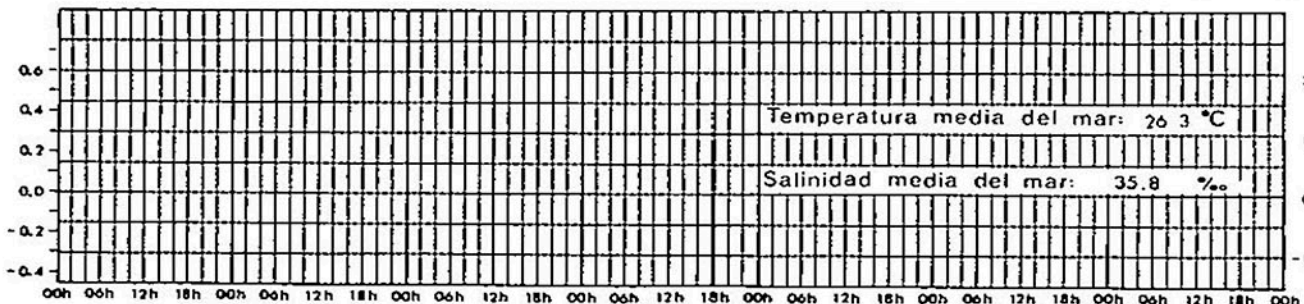
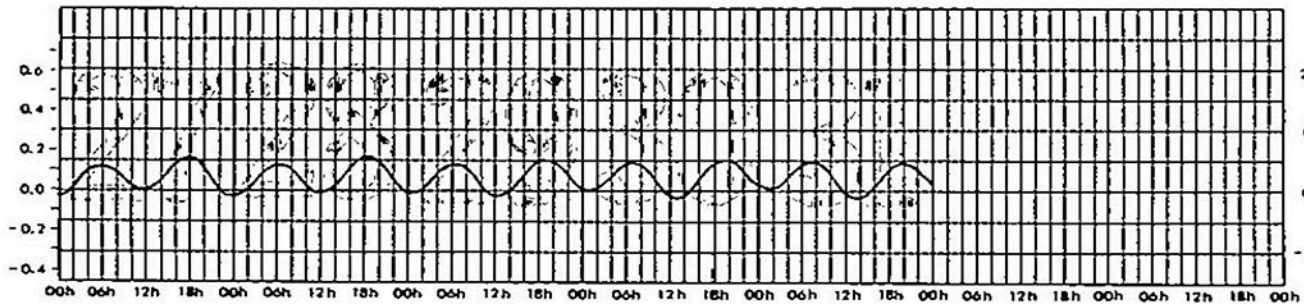
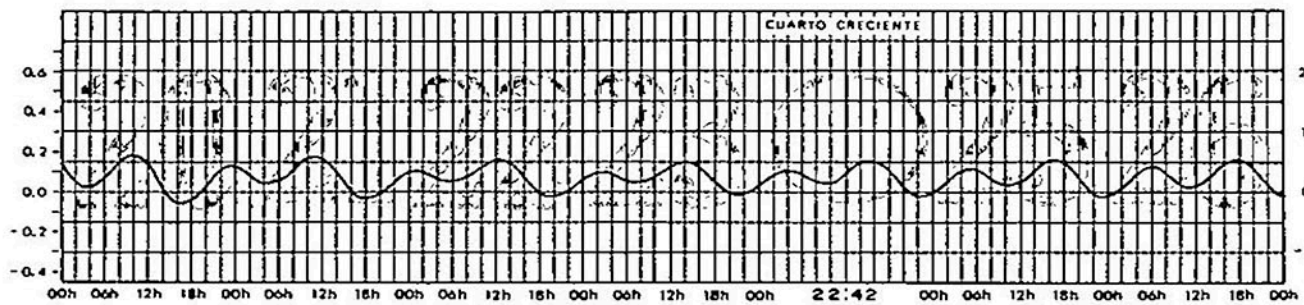
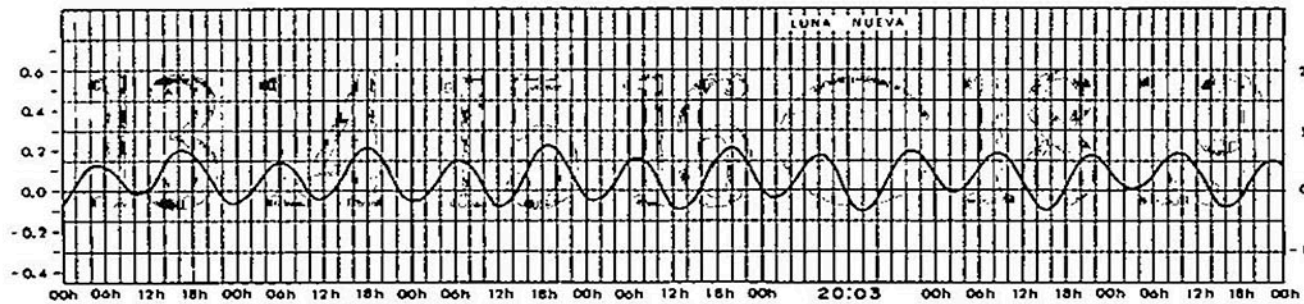
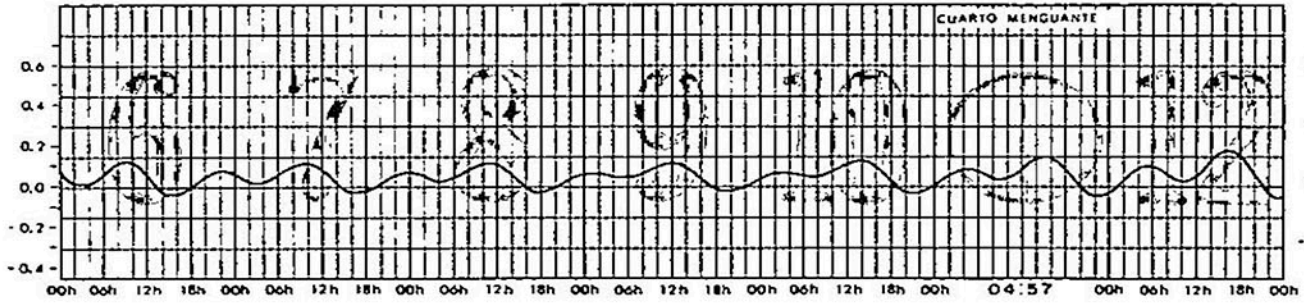
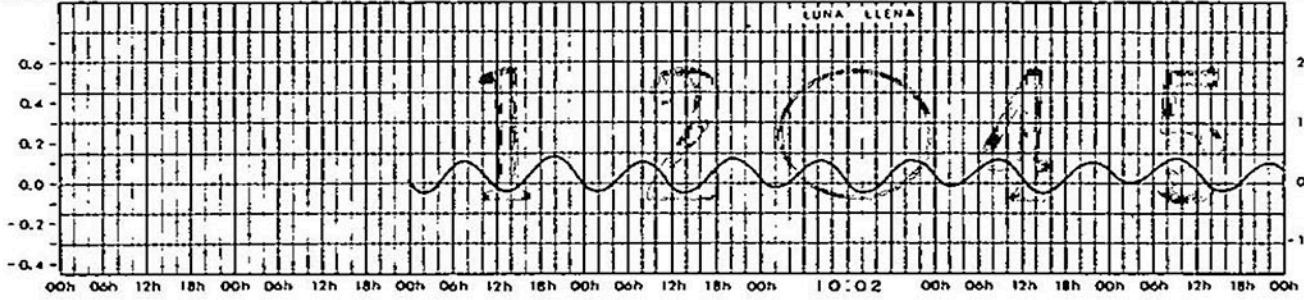


MARZO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



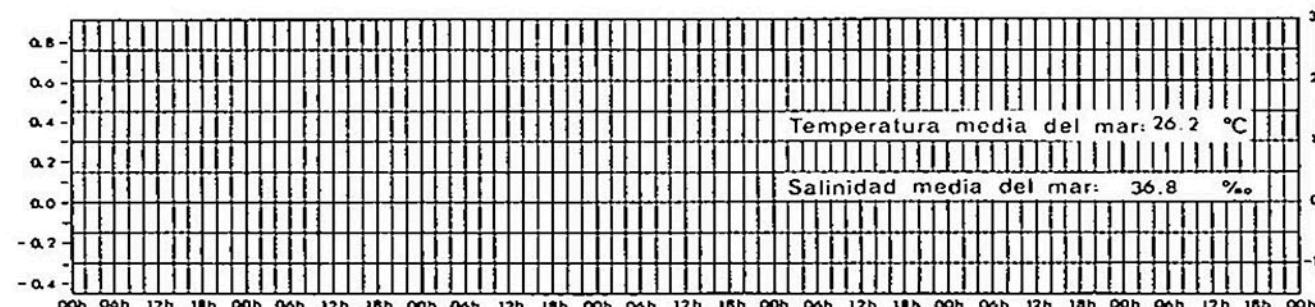
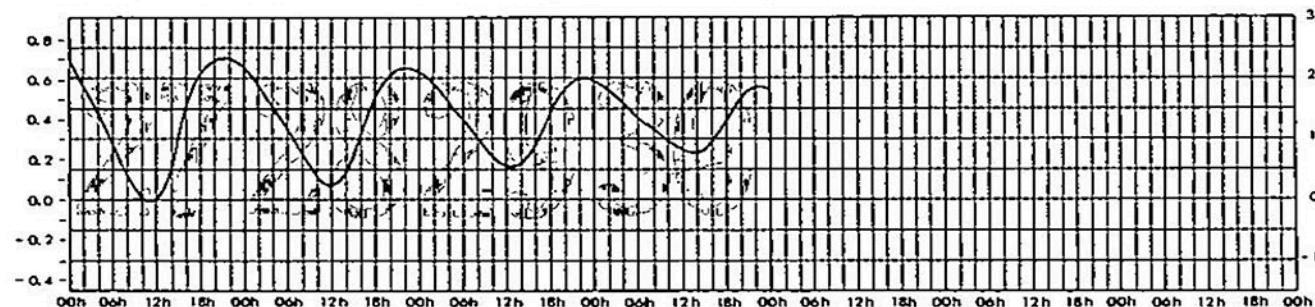
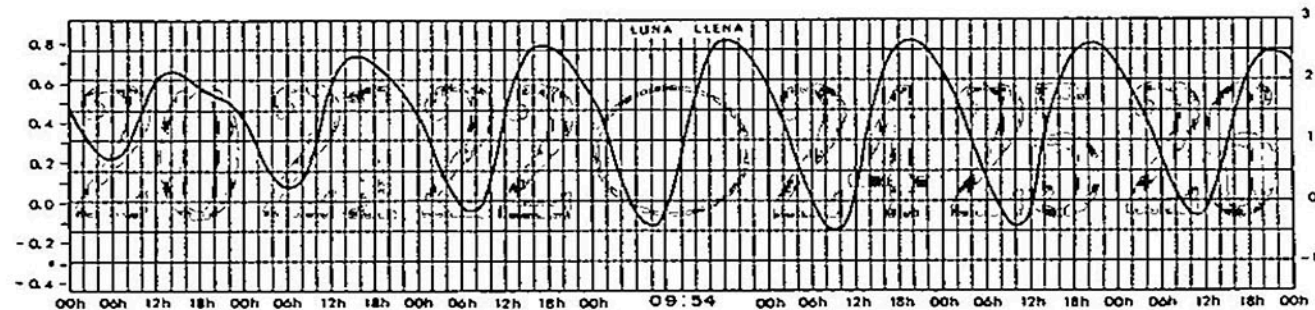
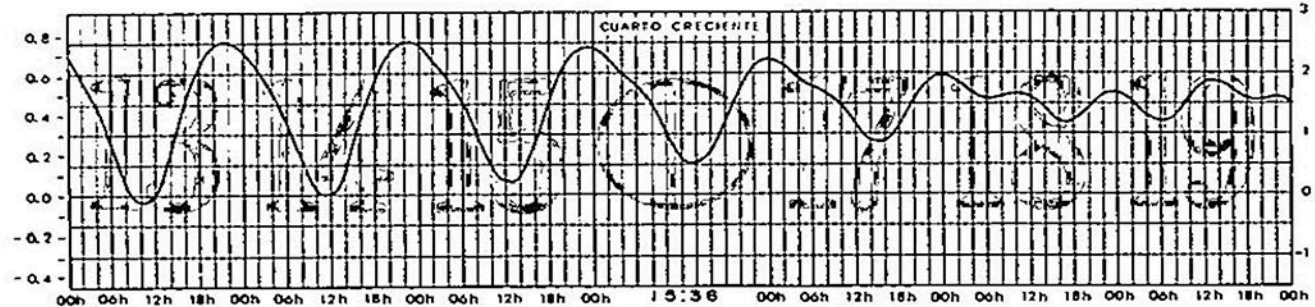
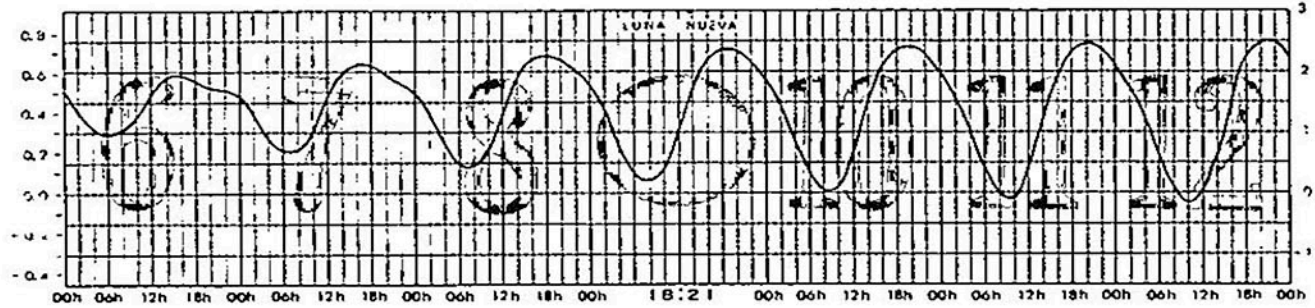
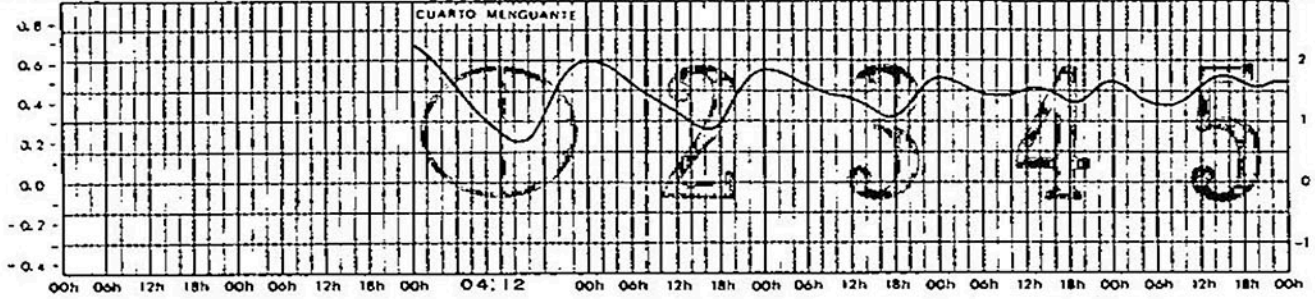


NOVIEMBRE 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO-YUKALPETEN, YUC.

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



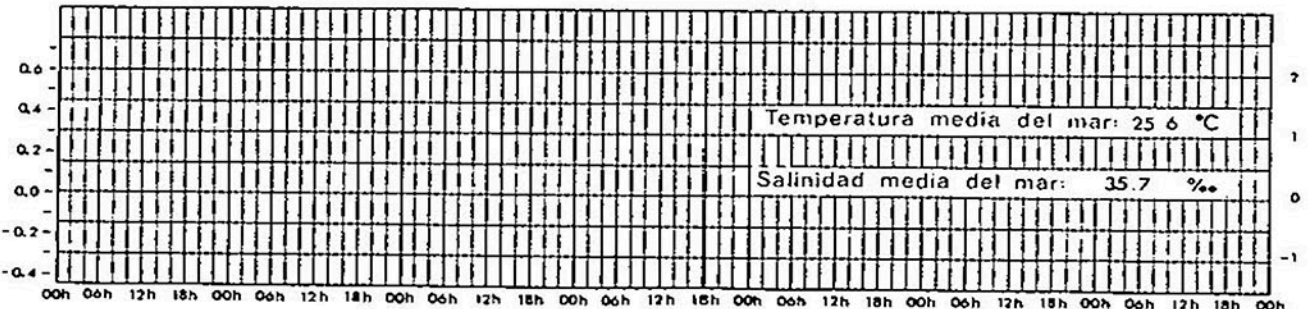
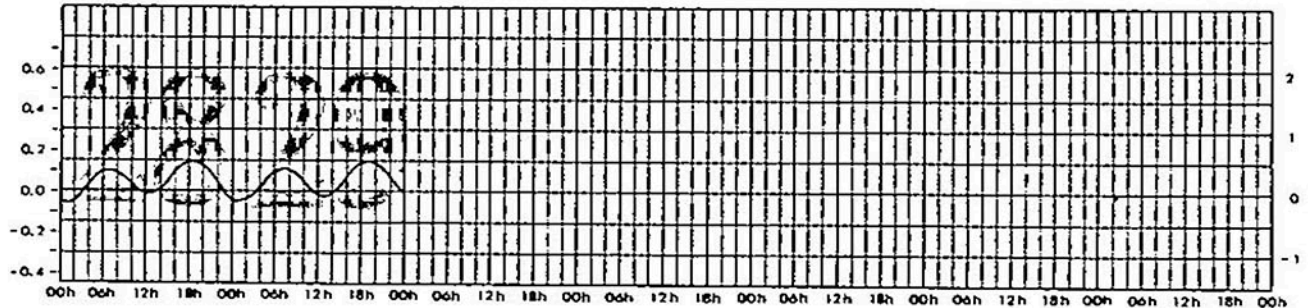
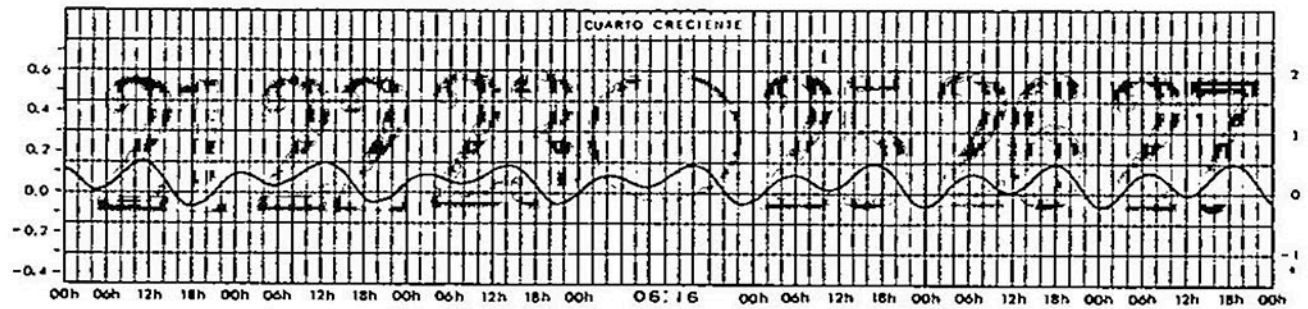
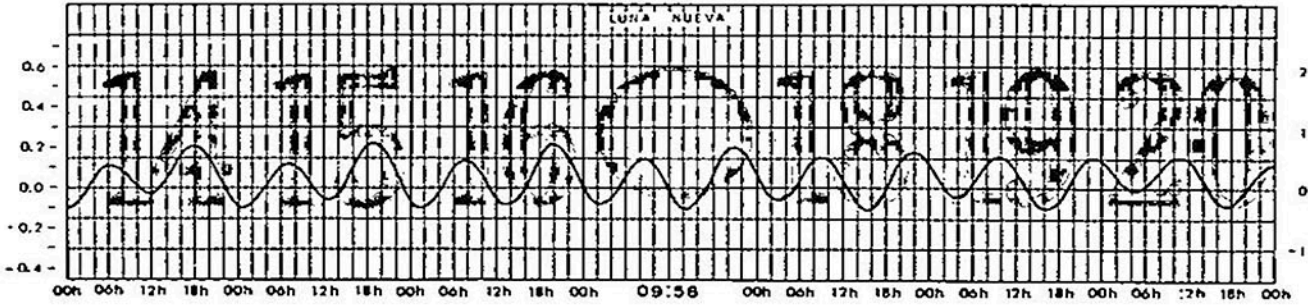
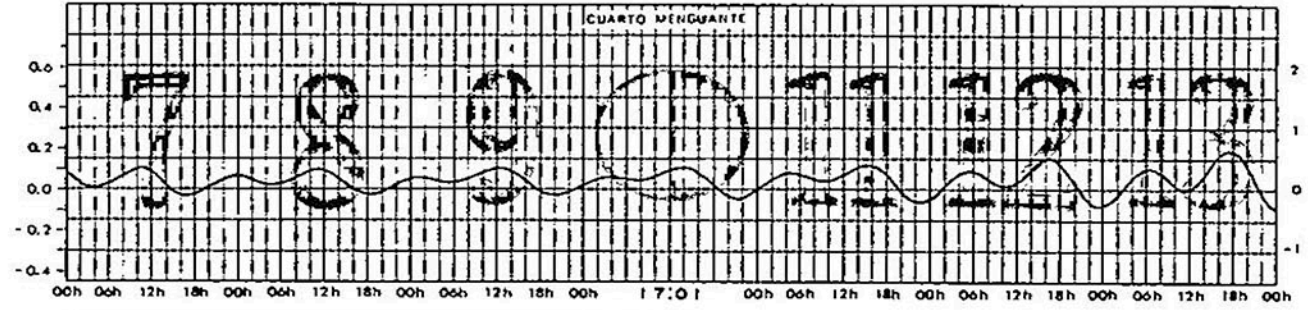
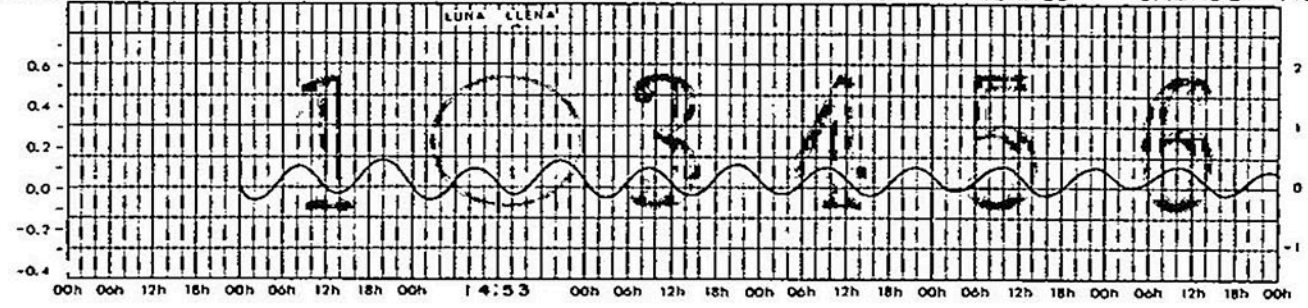


FEBRERO 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 25.6 °C
 Salinidad media del mar: 35.7 ‰

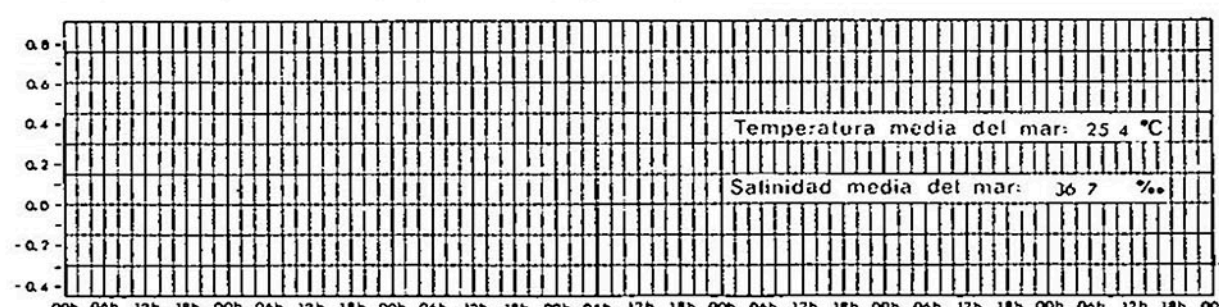
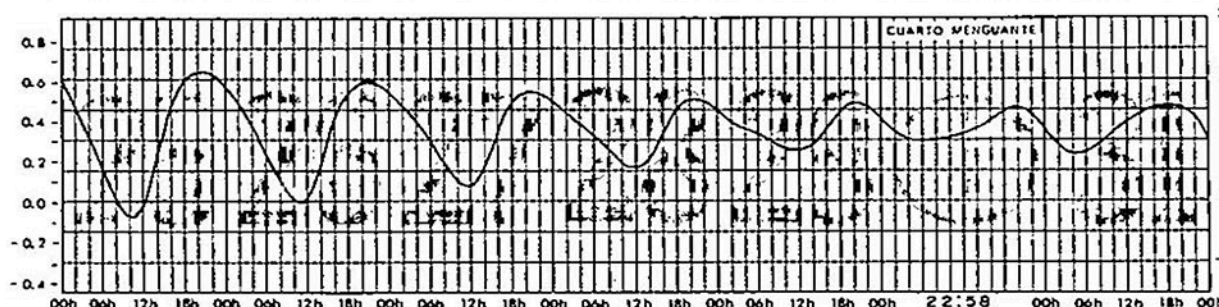
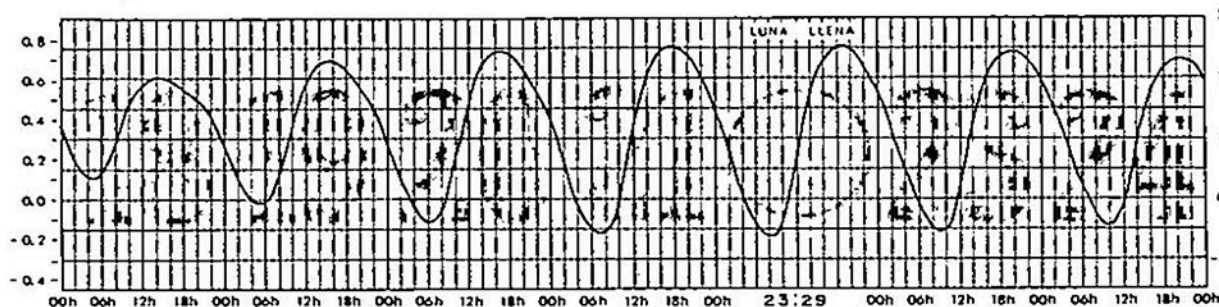
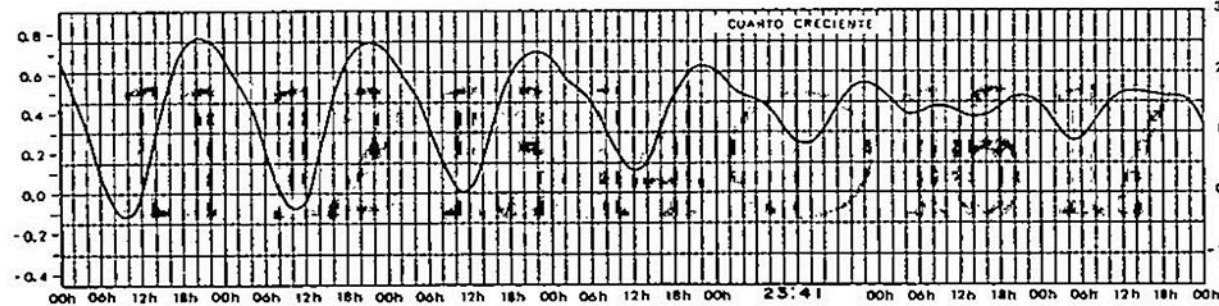
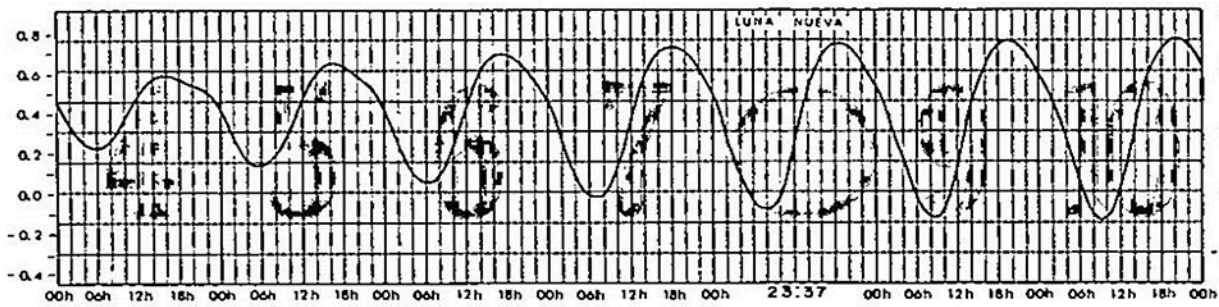
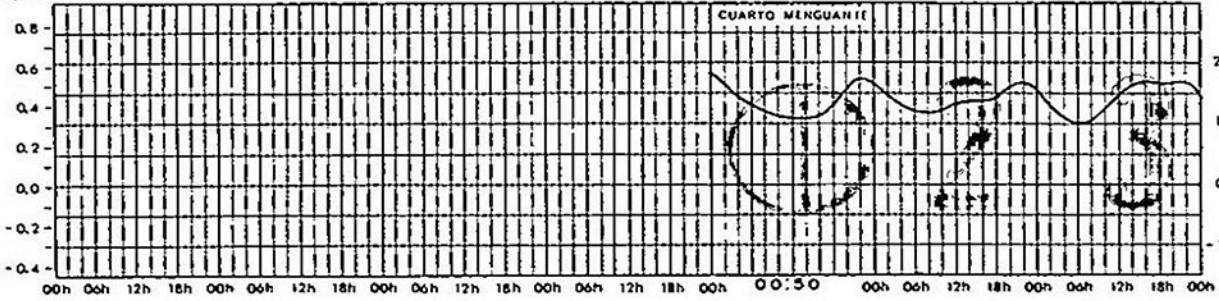


DICIEMBRE 1988

INSTITUTO DE GEOFISICA, U. N. A. M.

PROGRESO-YUKALPETEN, YUC.

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies





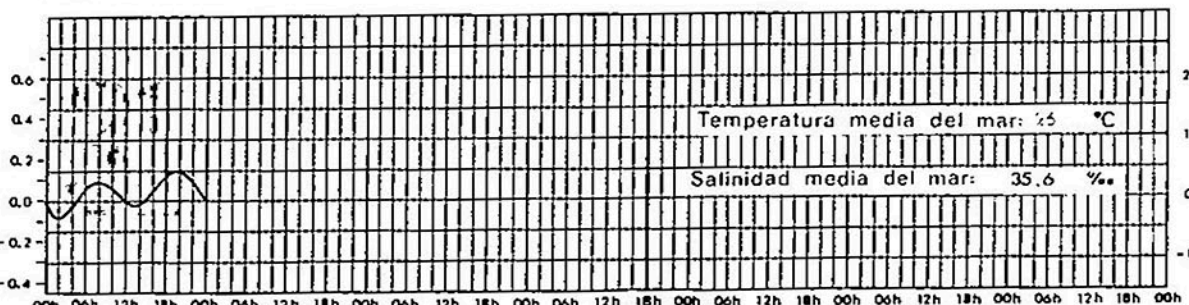
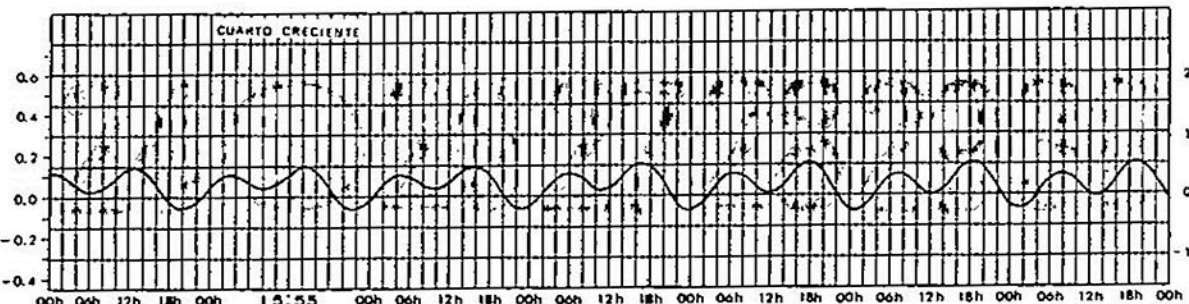
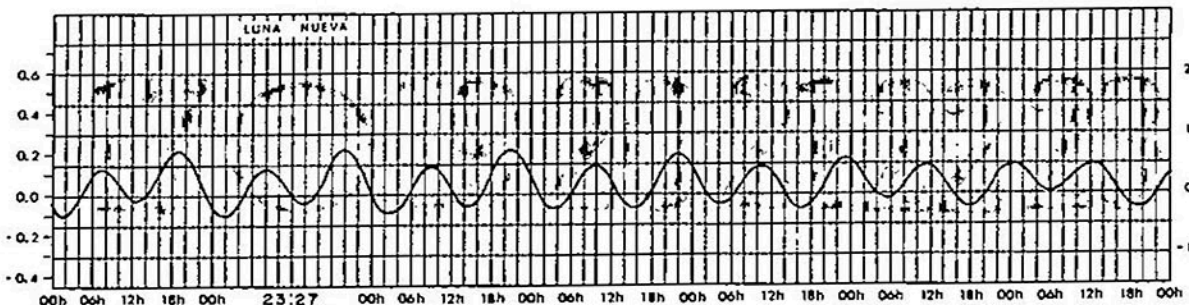
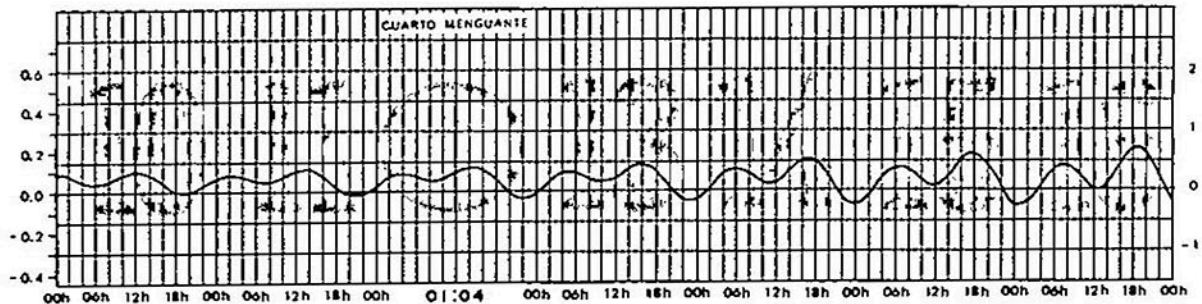
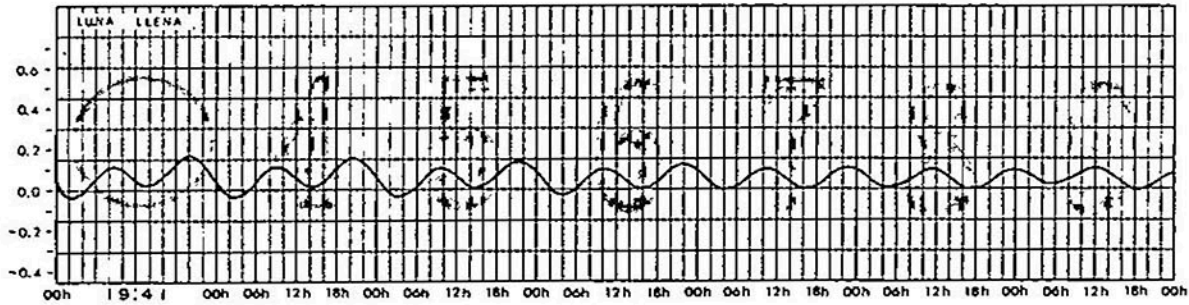
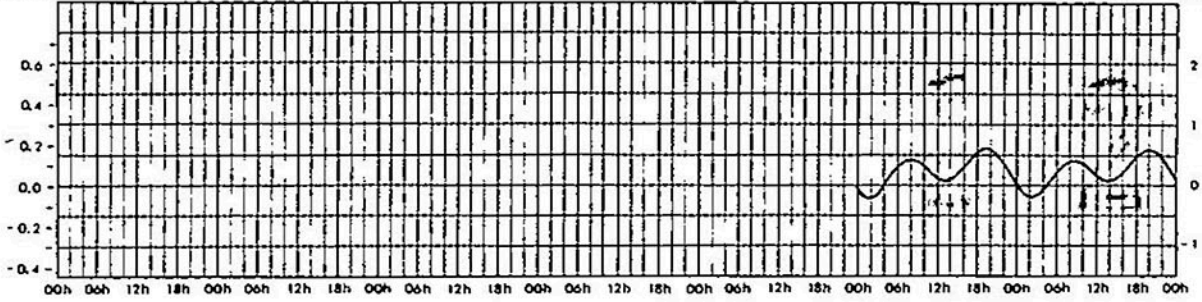
ENERO 1988

1899
2000

INSTITUTO DE GEOFISICA, U. N. A. M.

ISLA COZUMEL, Q. ROO

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 25 °C

Salinidad media del mar: 35.6 ‰

6.12 = 2.1
1/2

CALENDARIO GRAFICO DE MAREAS, 1988

COZUMEL - CANCUN, Q. ROO

Este Calendario Gráfico de Mareas puede ser utilizado para Isla Mujeres y toda la Costa Mexicana del Mar Caribe.

REGIMEN DE MAREAS:

Las mareas en la región del Mar Caribe Mexicano son semidiurnas, ocurren dos pleamares y dos bajamares en cada día de marea; las amplitudes son las más pequeñas de las Costas de México.

TIEMPO:

La hora usada para la predicción de mareas es la del Meridiano 90° W. Se cuentan desde las 00 horas que corresponden a la media noche.

PLANO DE REFERENCIA:

El plano de referencia que está bajo el nivel medio del mar, al cual están referidas las alturas, es el nivel de bajamar media inferior = 0.4 pies (0.12 m).

ISLA COZUMEL, Q. ROO - CANCUN, Q. ROO.

DIFERENCIAS DE TIEMPO

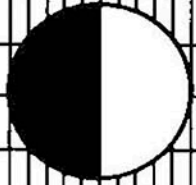
ESTACION	Pleamar Sup.		Pleamar Inf.		Bajamar Inf.		Bajamar Sup.	
	Hora	Min.	Hora	Min.	Hora	Min.	Hora	Min.
Cancún, Q. Roo	00	30	00	40	00	40	00	30

DIFERENCIAS DE ALTURA

ESTACION	Pleamar Sup.		Pleamar Inf.		Bajamar Inf.		Bajamar Sup.	
	Pies	m.	Pies	m.	Pies	m.	Pies	m.
Cancún, Q. Roo	0.0	0.00	0.0	0.00	0.0	0.00	-0.1	-0.03

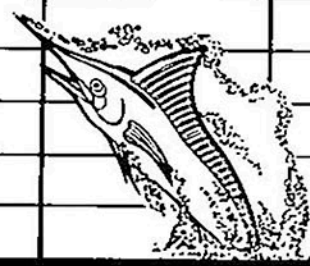
Ing. Fco. Grivel Piña
Instituto de Geofísica,
U.N.A.M.

INSTITUTO DE GEOFISICA

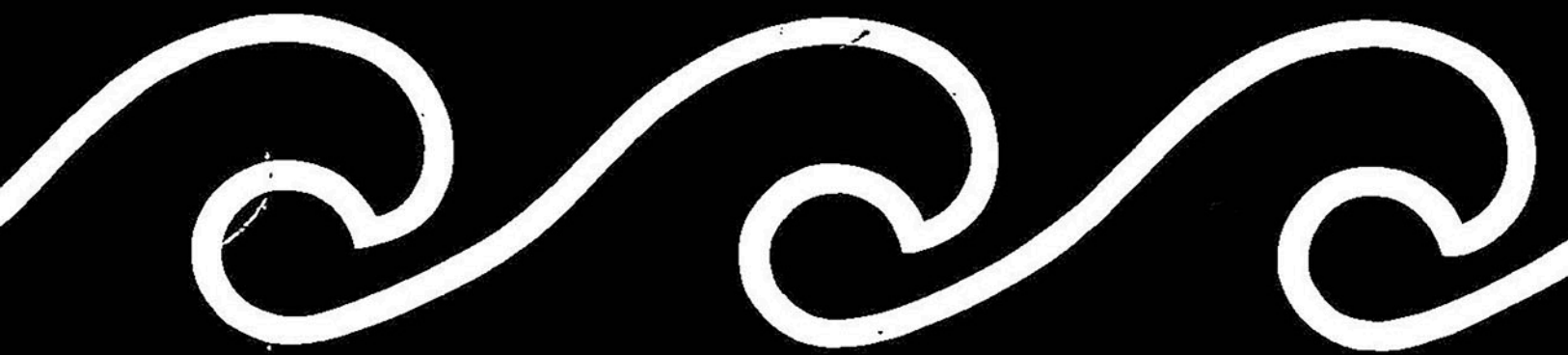


de

Calendario Gráfico
Mareas



1988



Cozumel - Can Cún, Q. Roo