

INSTITUTO DE GEOFISICA

**Calendario Gráfico
de Mareas 1989**



Océano Pacífico



Cabo San Lucas, B.C.S.

Mazatlán, Sin.

Pto. Vallarta, Jal.

Pto. Peñasco, Son.

Guaymas, Son.

Topolobampo, Sin.

Pto. Angel, Oax.

Salina Cruz, Oax.

Pto. Madero, Chis.

CALENDARIO GRAFICO DE MAREAS 1989

Océano Pacífico

El pronóstico de mareas de Salina Cruz, Oax., prácticamente puede ser utilizado en todos los lugares de la costa comprendidos desde Salina Cruz hasta Balboa, Panamá, mediante la aplicación de ciertas correcciones al tiempo y a la altura de las pleamares y bajamares (puntos máximos y mínimos de la gráfica de mareas). El progreso total de la marea se dirige hacia el Sur aumentando de amplitud rápidamente hasta alcanzar su valor máximo en el Golfo de Panamá, en cambio la fase varía muy lentamente, o sea que las horas de las pleamares y bajamares en toda esta zona casi ocurre simultáneamente.

DIFERENCIAS:

Las diferencias en tiempo y altura se aplicarán según su signo a las pleamares y bajamares de la gráfica de Salina Cruz, para obtener las del lugar deseado. Las horas encontradas estarán referidas al meridiano en uso del lugar.

DIFERENCIAS DE TIEMPO

ESTACIONES	PLEAMAR SUP.		PLEAMAR INF.		BAJAMAR INF.		BAJAMAR SUP.	
	Hora	Min.	Hora	Min.	Hora	Min.	Hora	Min.
Champerico, Guatemala	00	00	00	00	00	00	00	00
San José, Guatemala	00	00	00	00	00	00	00	00
La Unión, El Salvador	+ 00	20	+ 00	30	00	00	+ 00	20
Puntarenas, Costa Rica	+ 00	20	00	00	-00	10	+ 00	10
Balboa, Zona del Canal de Panamá	+ 01	20	+ 01	00	+ 01	00	+ 01	30

DIFERENCIAS DE ALTURA

ESTACIONES	PLEAMAR SUP.		PLEAMAR INF.		BAJAMAR INF.		BAJAMAR SUP.	
	Pies	m	Pies	m	Pies	m	Pies	m
Champerico, Guatemala	+ 1.1	+ 0.34	+ 1.1	+ 0.34	0.0	0.00	0.0	0.00
San José, Guatemala	+ 1.6	+ 0.49	+ 1.7	+ 0.52	+ 0.1	+ 0.03	+ 0.1	+ 0.03
La Unión, El Salvador	+ 5.0	+ 1.52	+ 5.1	+ 1.55	0.0	0.00	+ 0.4	+ 0.12
Puntaneras, Costa Rica	+ 4.4	+ 1.34	+ 4.5	+ 1.37	-0.1	-0.03	+ 0.3	+ 0.09
Balboa, Zona del Canal de Panamá	+ 10.5	+ 3.20	+ 10.4	+ 3.17	+ 0.4	+ 0.12	+ 1.2	+ 0.36

Dr. Ismael Herrera-Revilla
Director

Instituto de Geofísica

Francisco Graffé Schmit
Responsable editorial

Ing. Francisco Grivel Piña
Jefe del Servicio Mareográfico
Instituto de Geofísica de la U.N.A.M.

Circuito Exterior, Ciudad Universitaria.
04510 México, D.F.
Teléfono: 550-52-15 Ext. 4362.



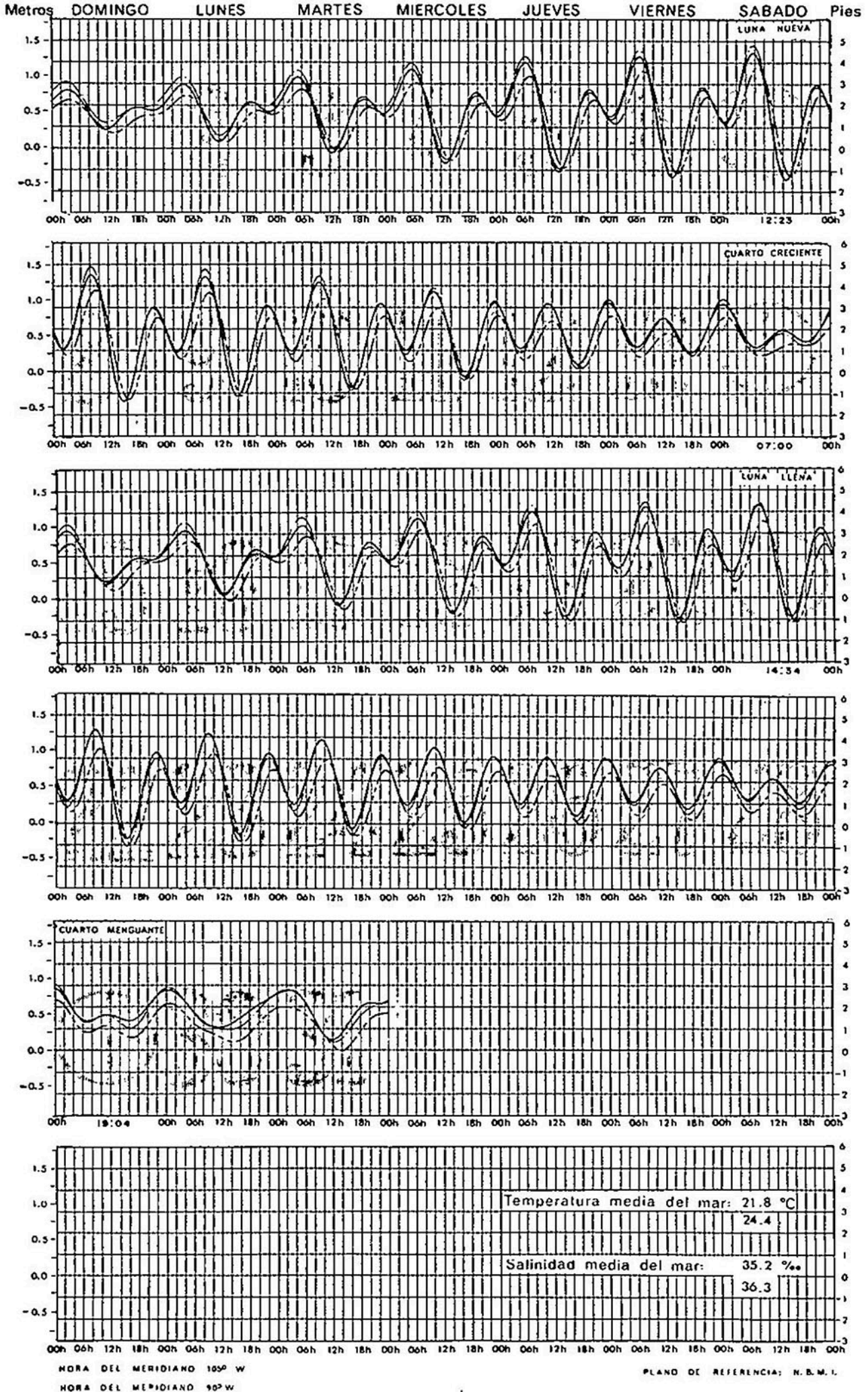
ENERI

1989

CABO SN. LUCAS, B.C.S.
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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



DAJE 44

HORA DEL MERIDIANO 105° W
HORA DEL MERIDIANO 90° W

PLANO DE REFERENCIA: N.B.M.L.

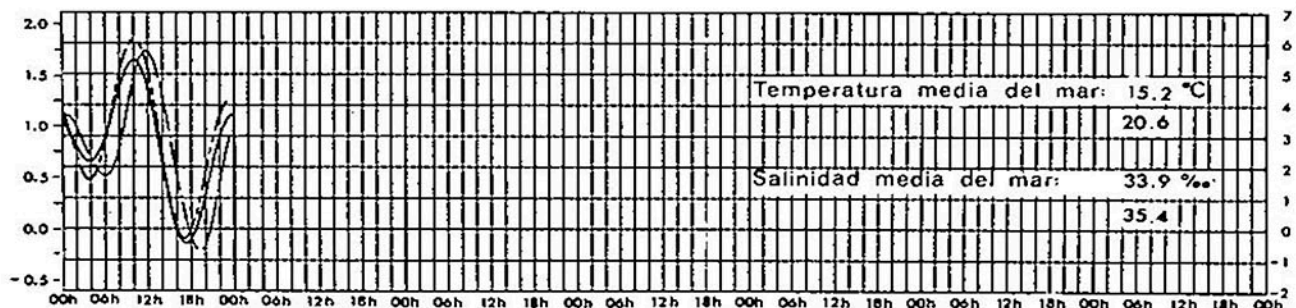
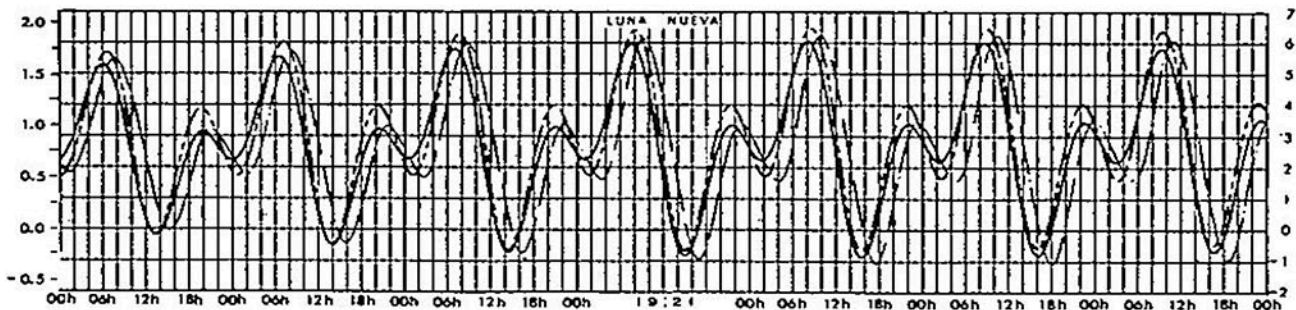
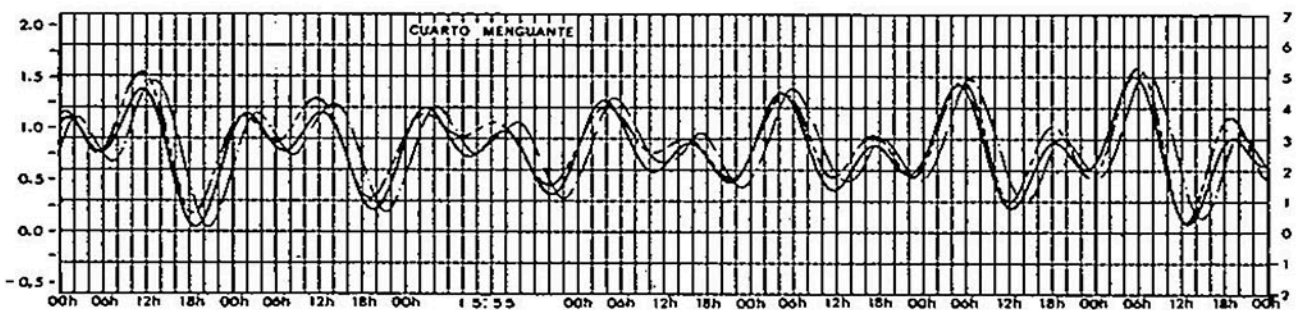
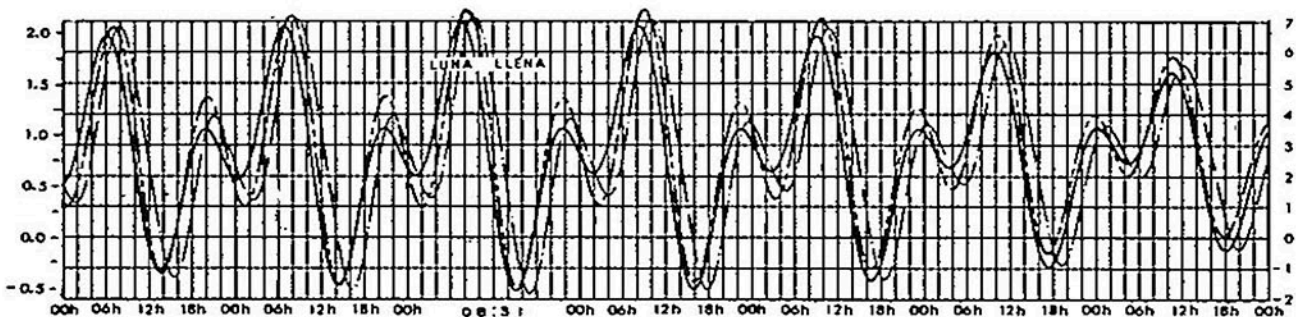
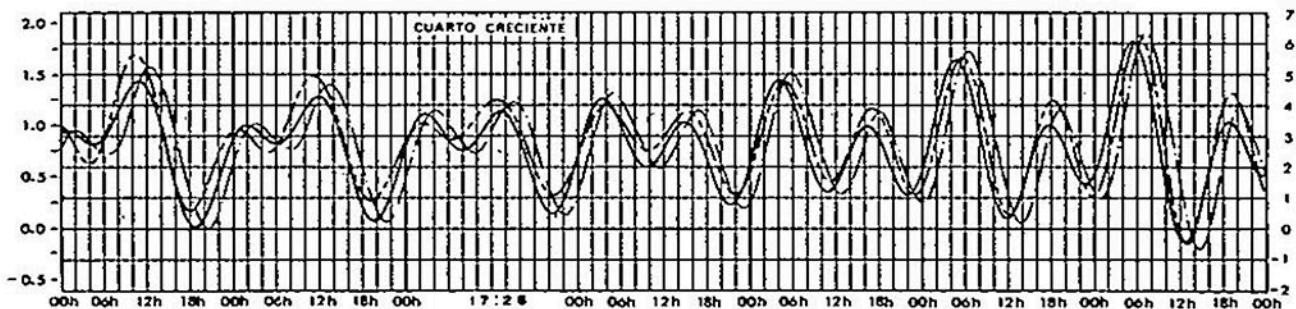
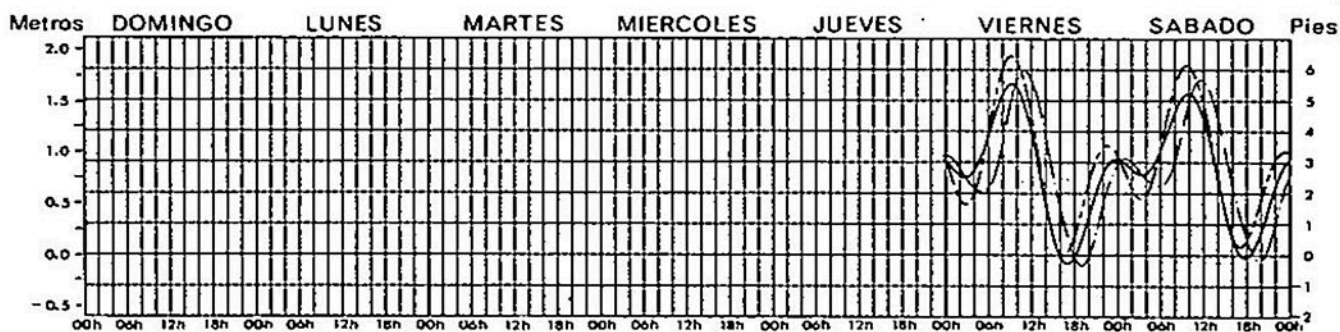


DICIEMBRE 1939

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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



HORA DEL MERIDIANO 120° W

HORA DEL MERIDIANO 105° W

PLANO DE REFERENCIA: N. E. M. I.



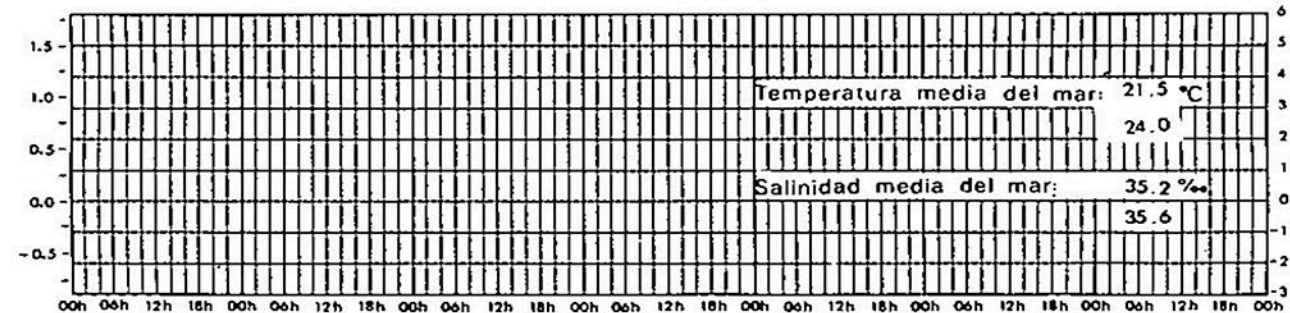
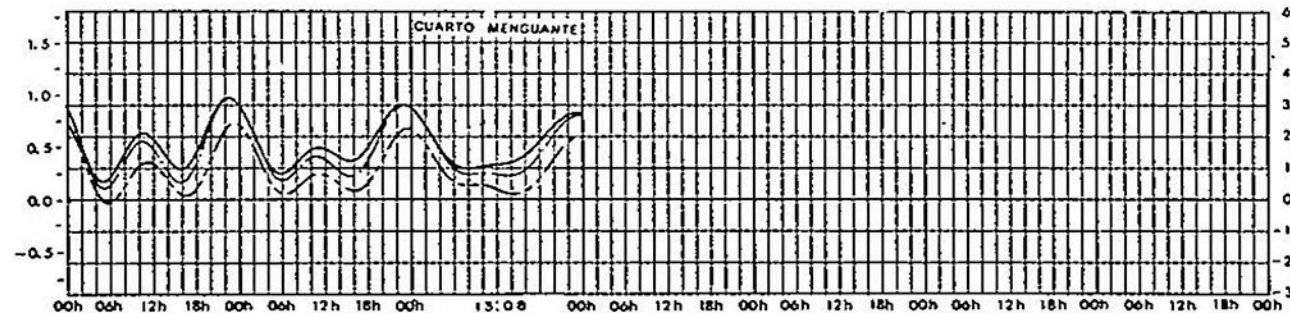
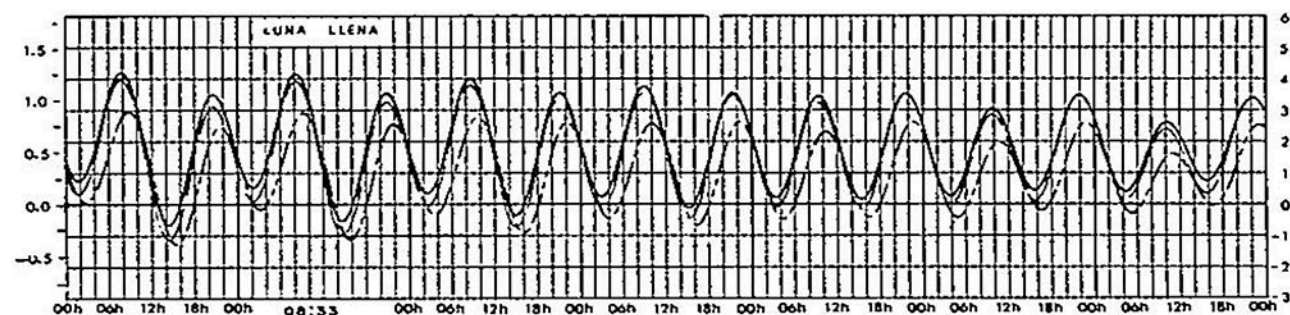
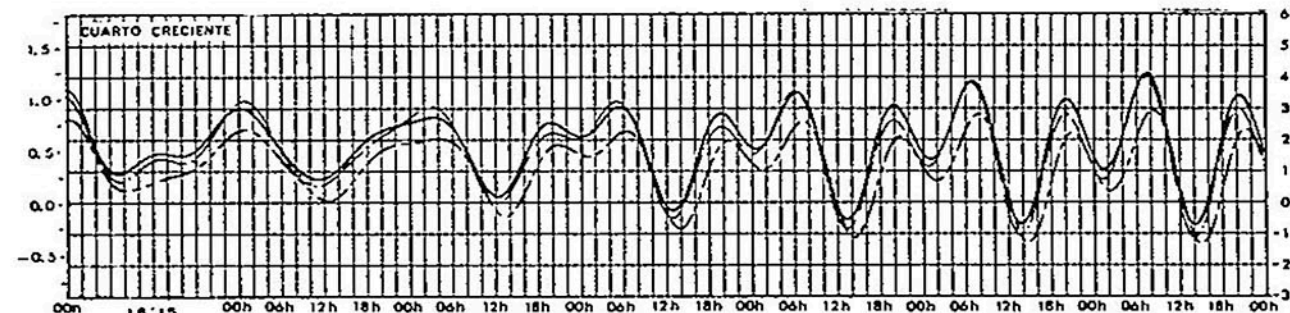
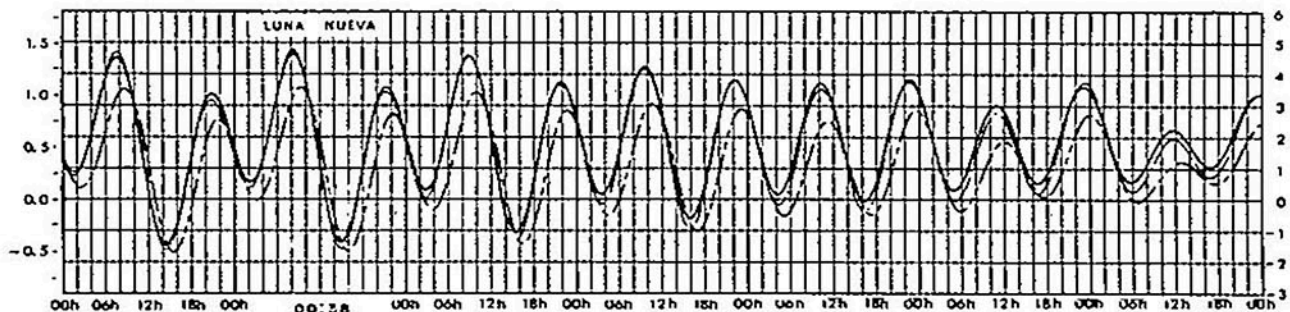
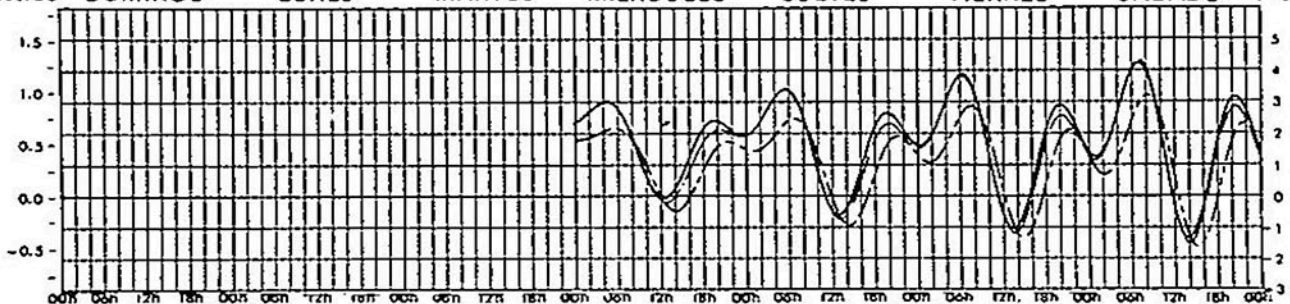
FEBRERO 1989

CABO SN. LUCAS, B.C.S
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



HORA DEL MERIDIANO 105° W

HORA DEL MERIDIANO 90° W

PLANO DE REFERENCIA: N.B.M.I.

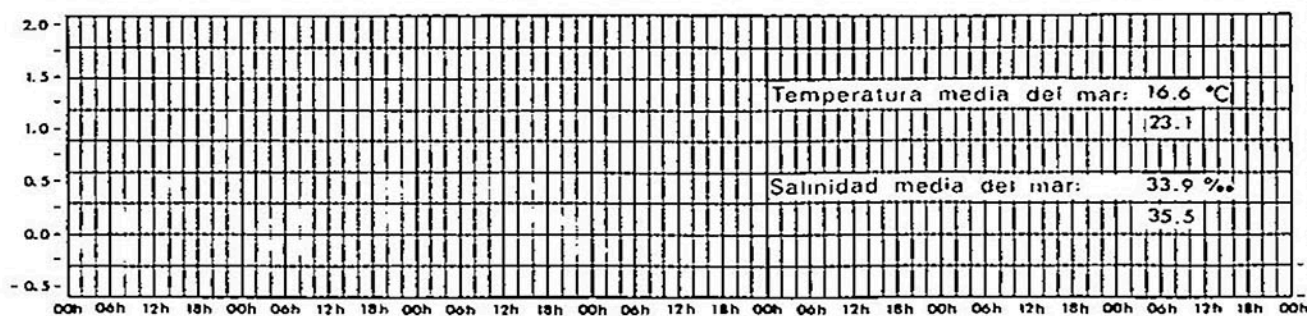
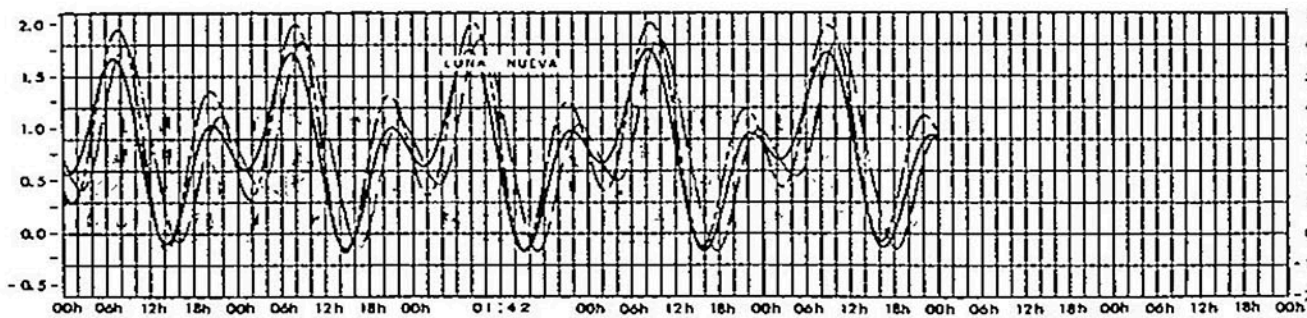
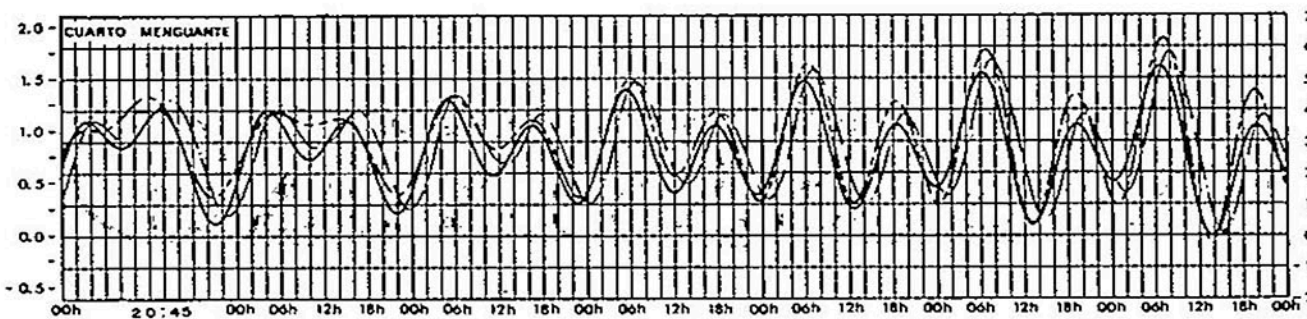
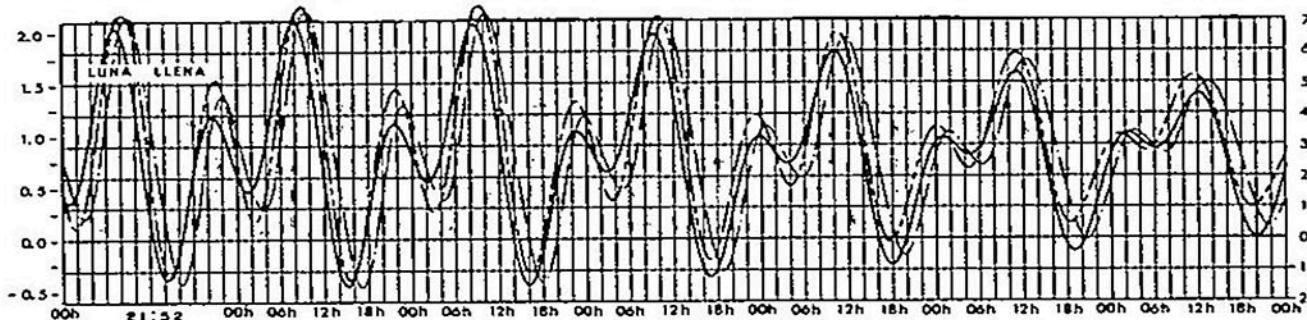
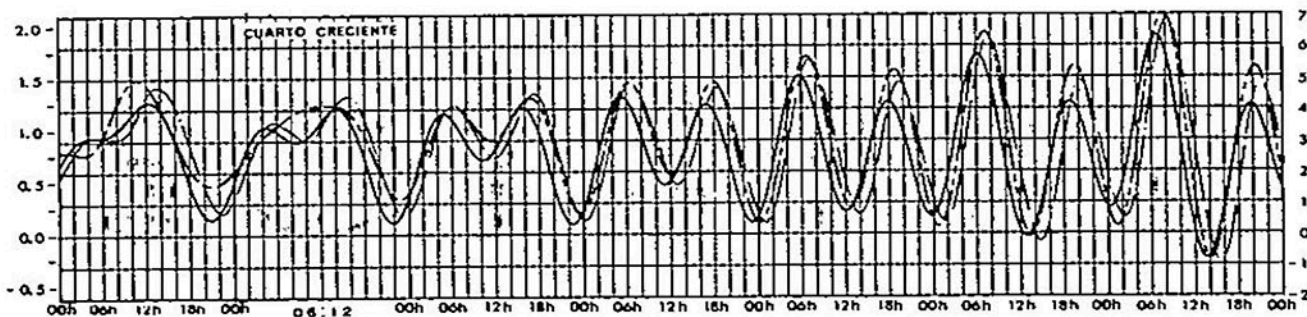
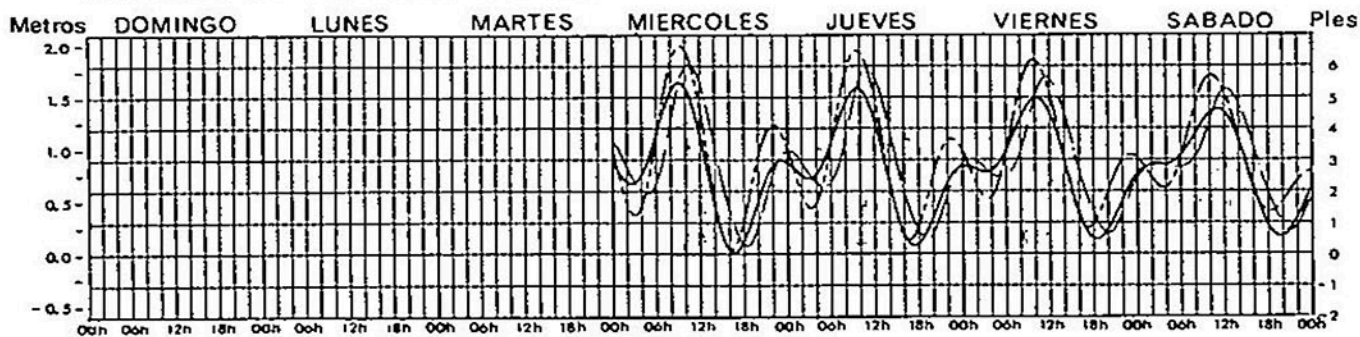


NOVIEMBRE 1989

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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



HORA DEL MERIDIANO 129° W

HORA DEL MERIDIANO 105° W

PLANO DE REFERENCIA: N.B.M.C.



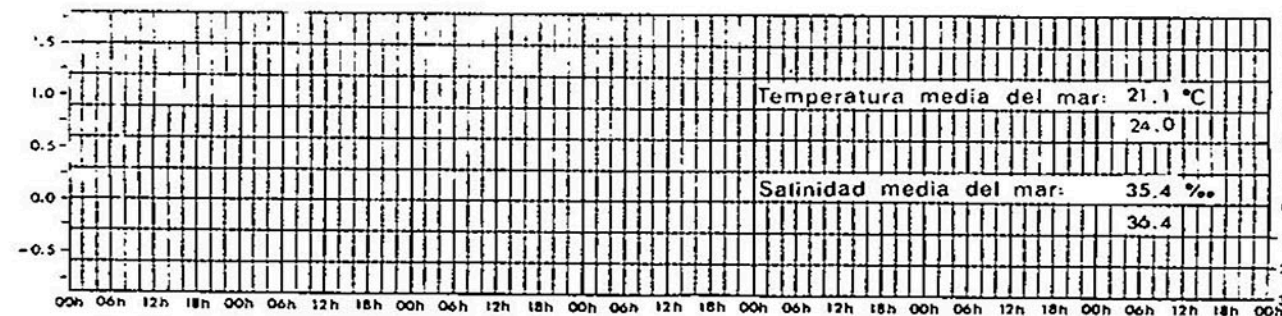
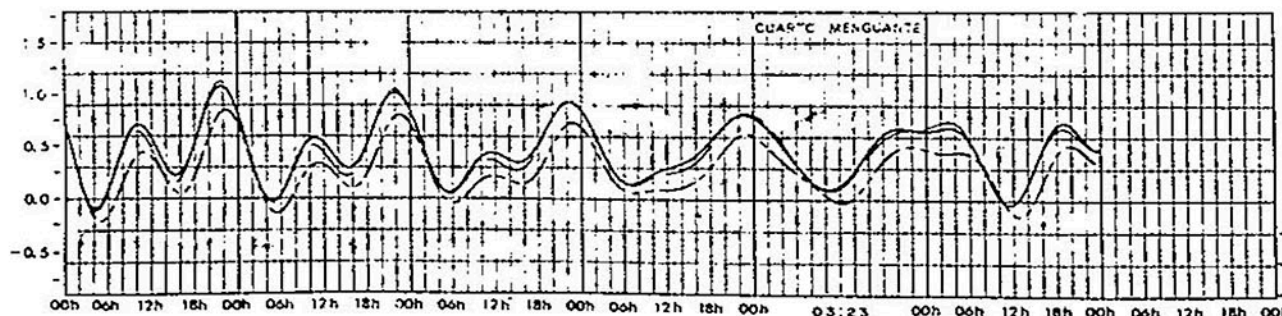
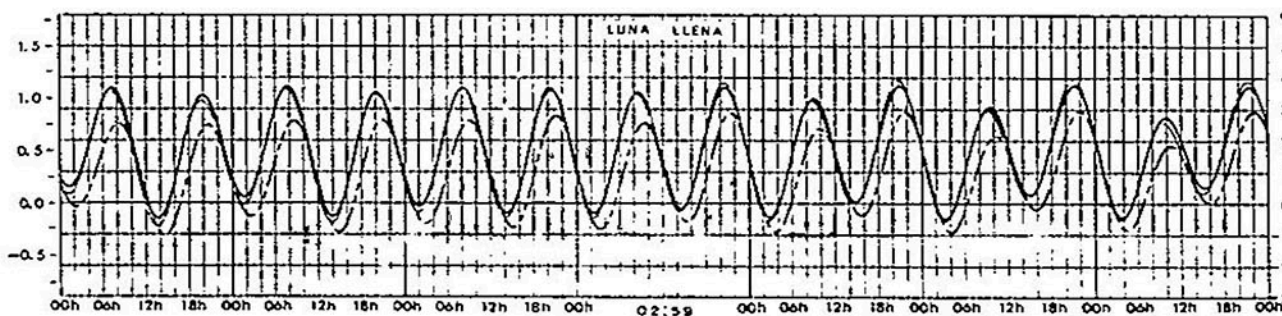
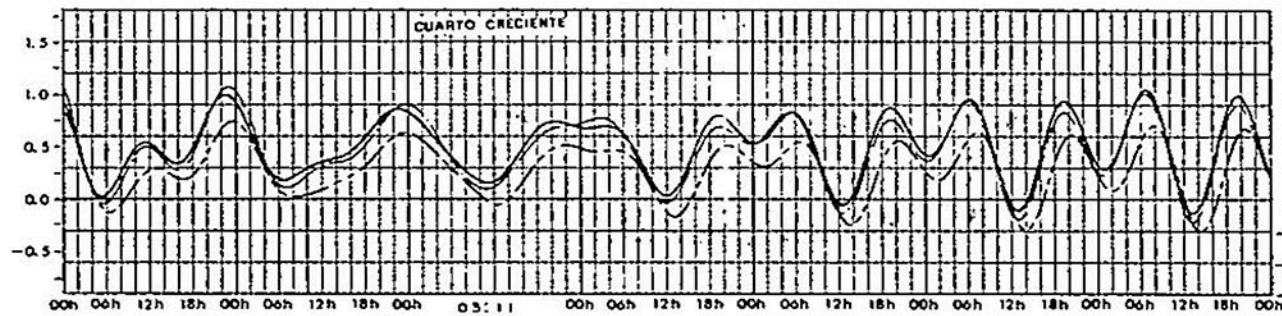
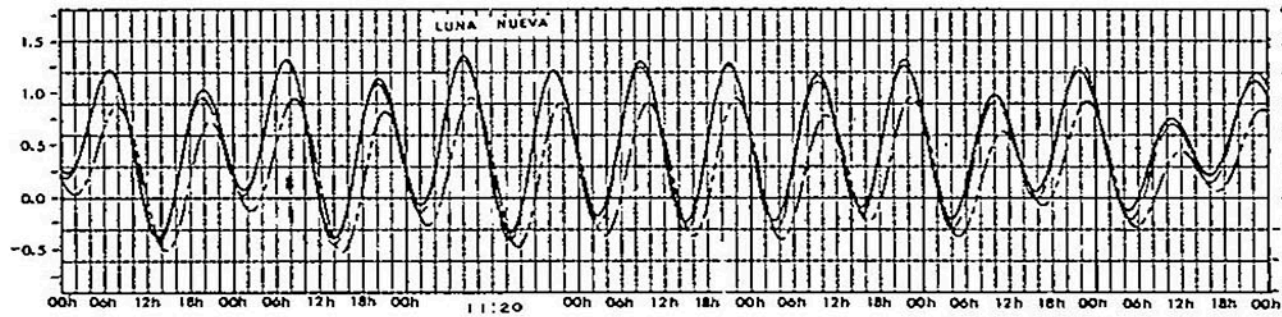
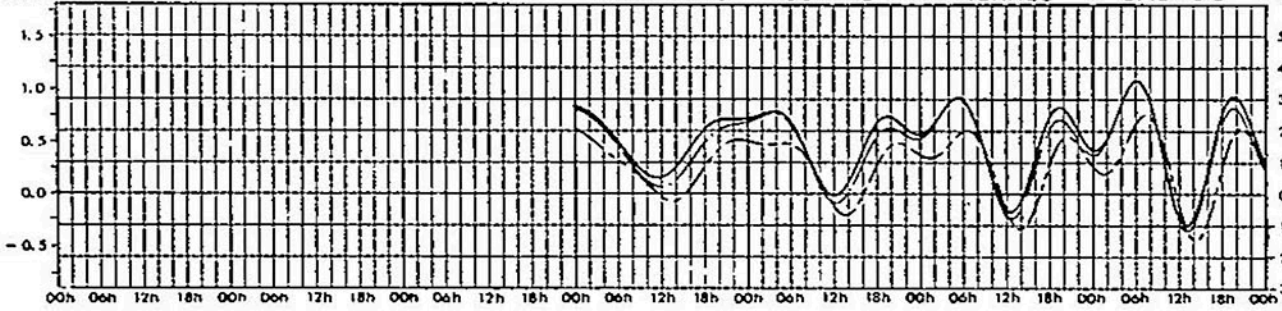
MARZO 1989

CABO SAN LUCAS, B.C.S.
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



HORA DEL MERIDIANO 105° W

PLANO DE REFERENCIA: N.B.M.L.

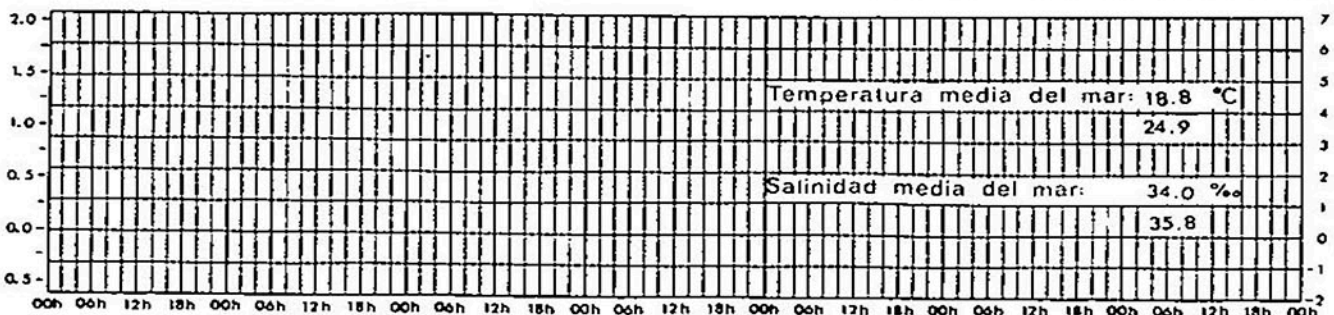
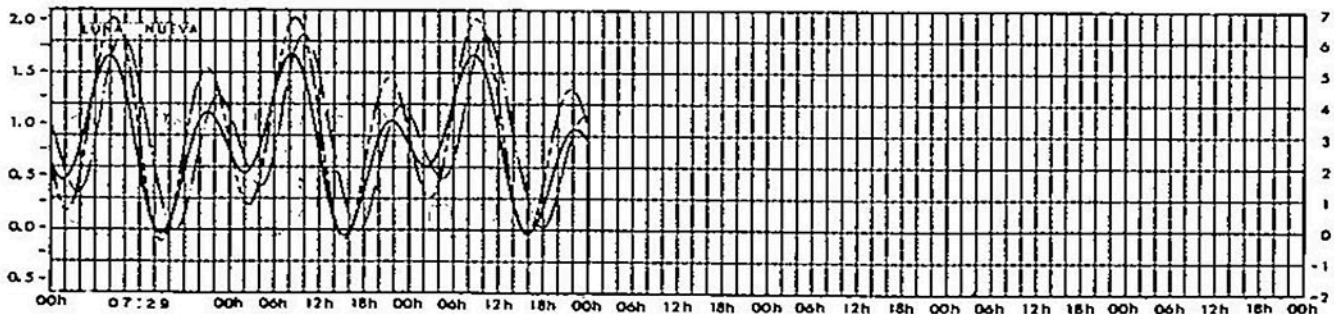
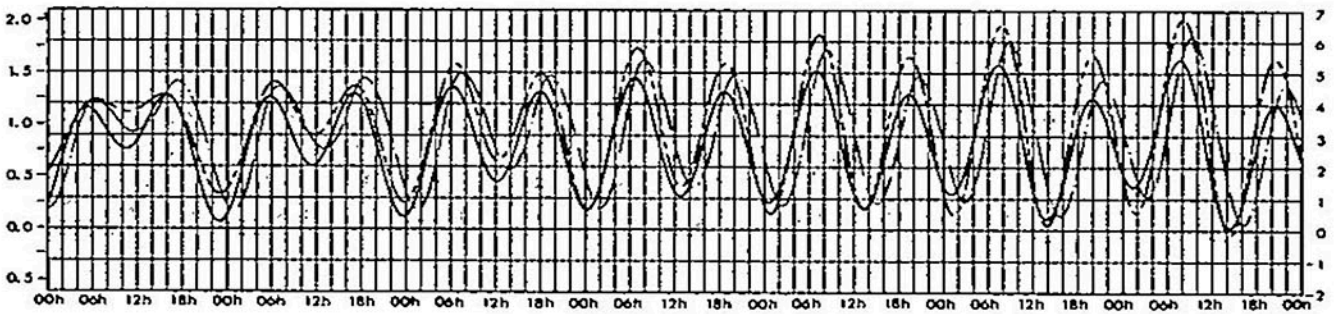
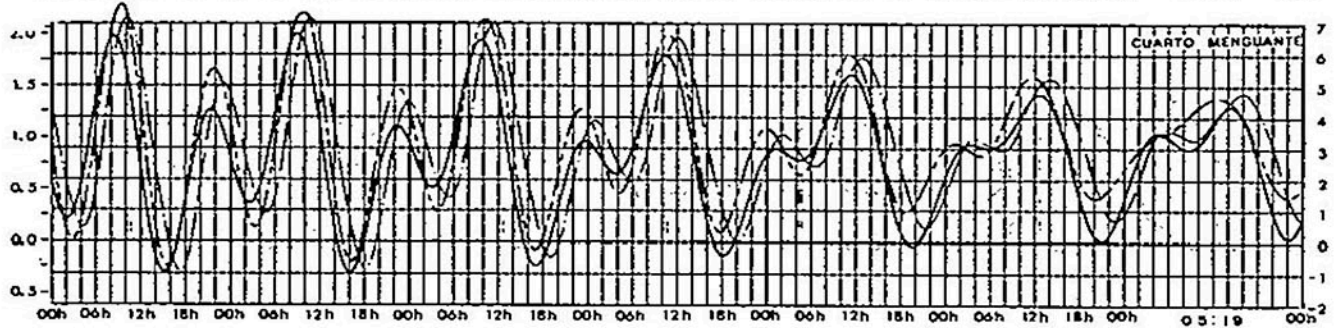
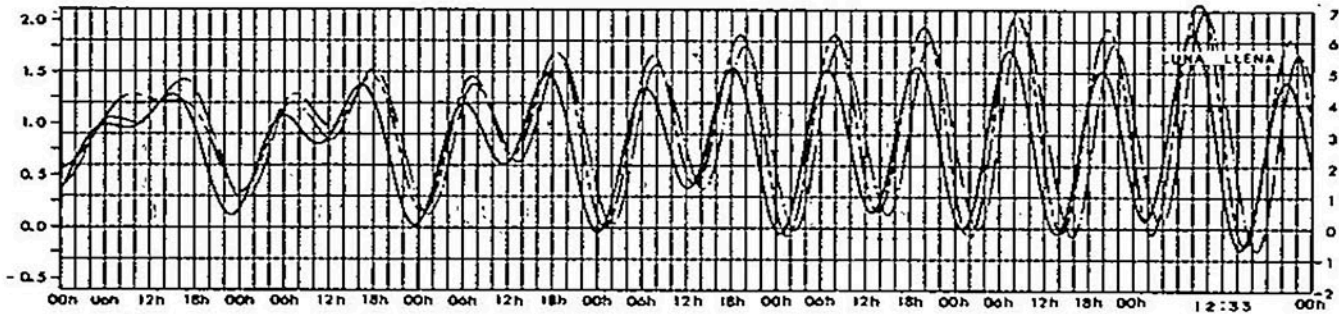
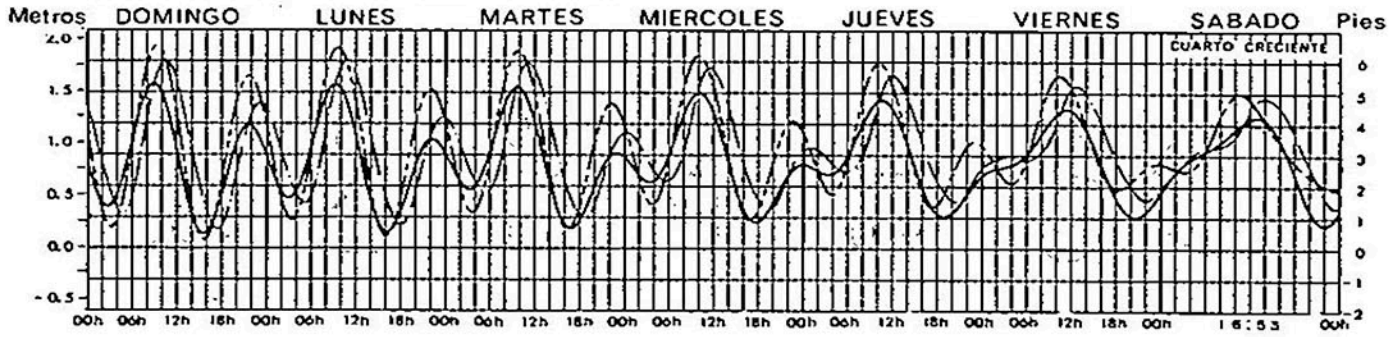


OCTUBRE 1989

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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



HORA DEL MERIDIANO 120° W

PLANO DE REFERENCIA: N.B.M.1

HORA DEL MERIDIANO 105° W



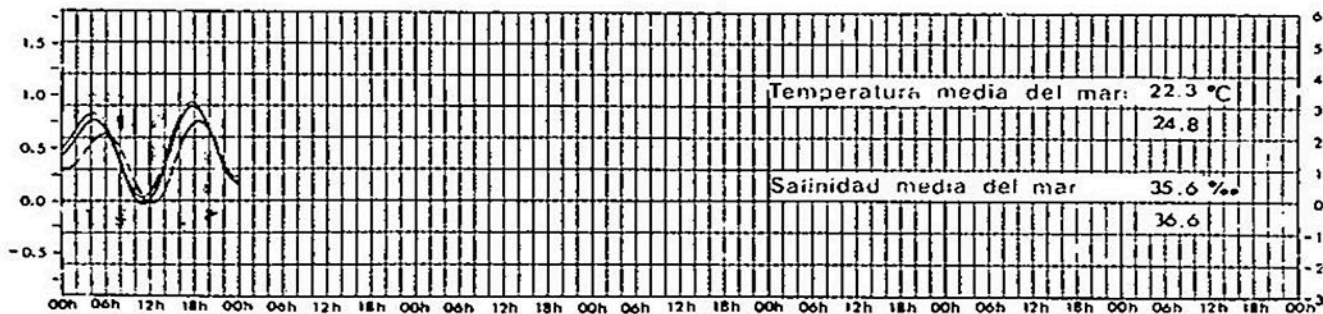
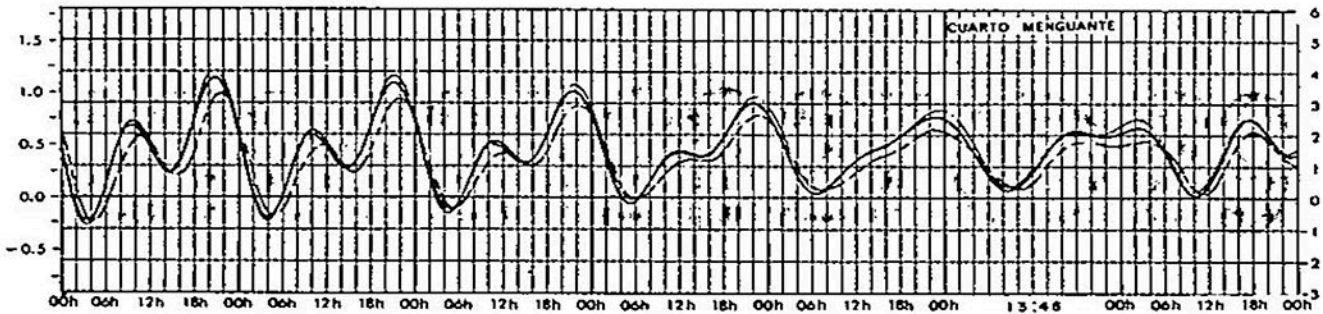
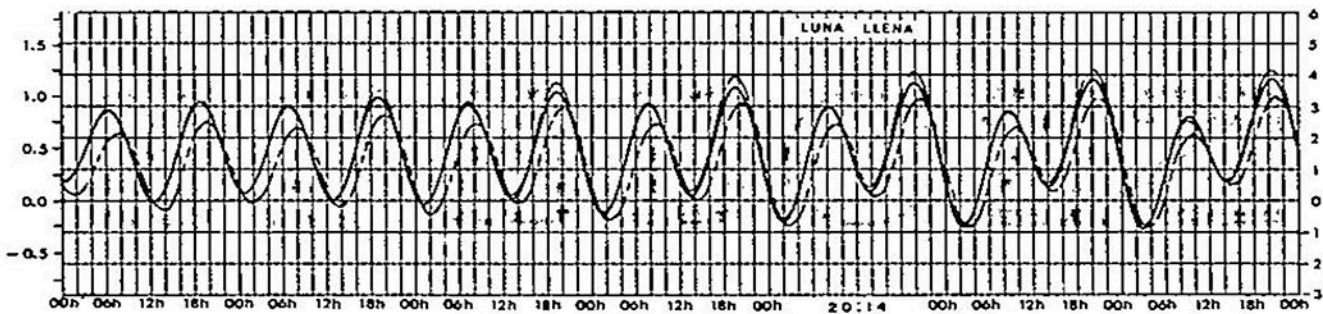
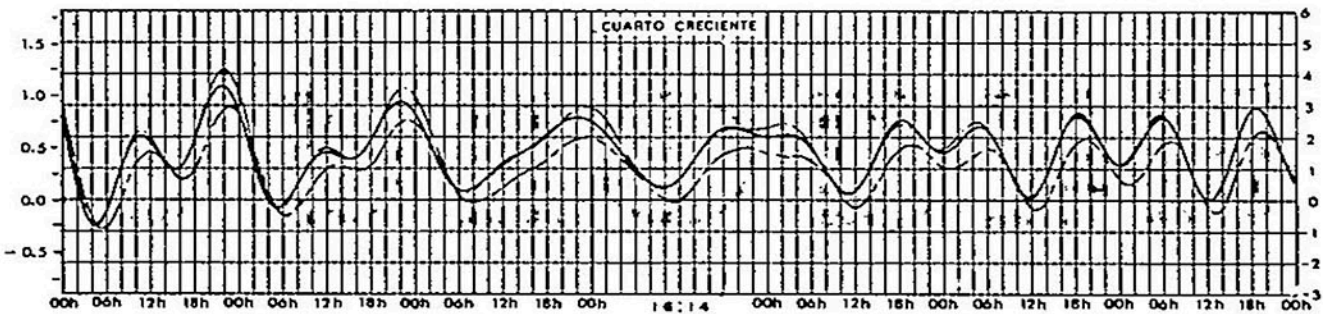
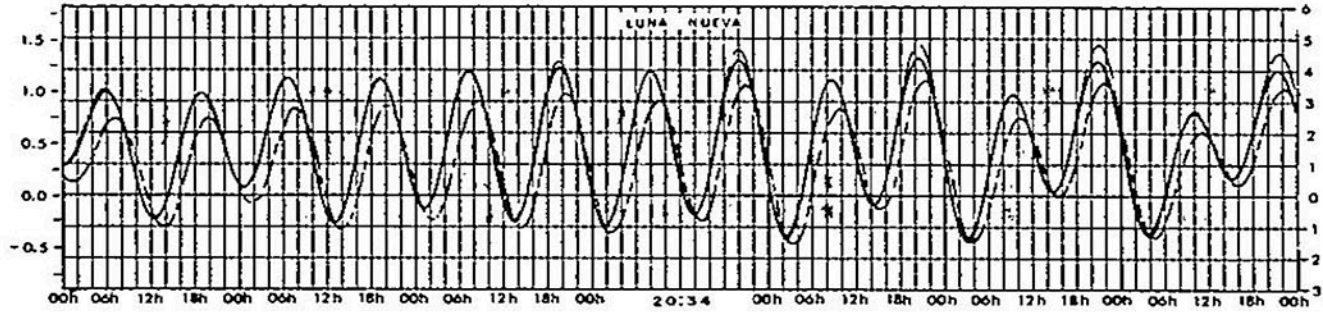
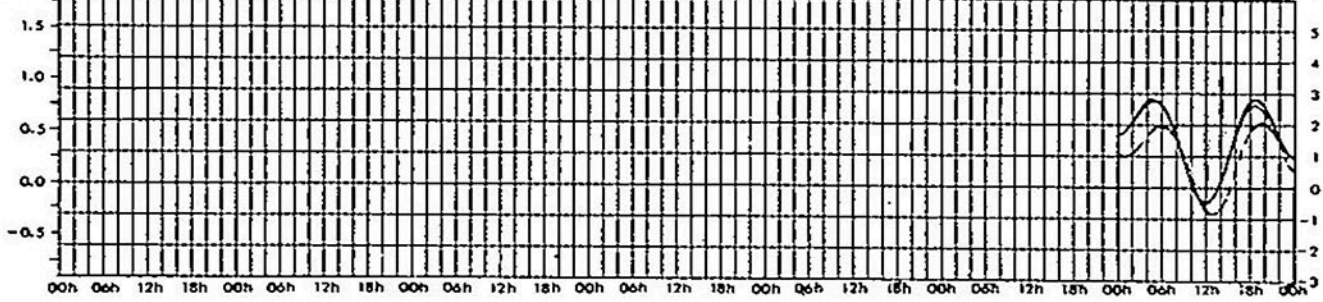
ABRIL 1989

CABO SN. LUCAS, B.C.S.
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



HORA DEL MERIDIANO 105° W
HORA DEL MERIDIANO 5 ° W

PLANO DE REFERENCIA N.B.M.L.



SEPTIEMBRE

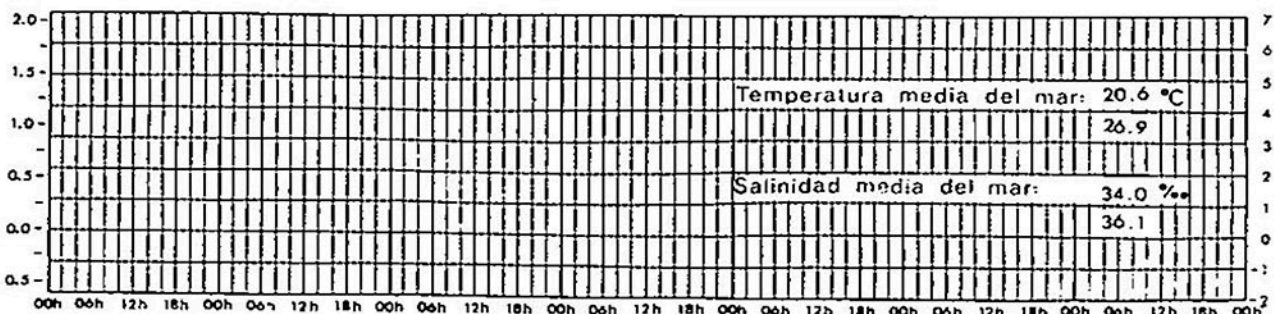
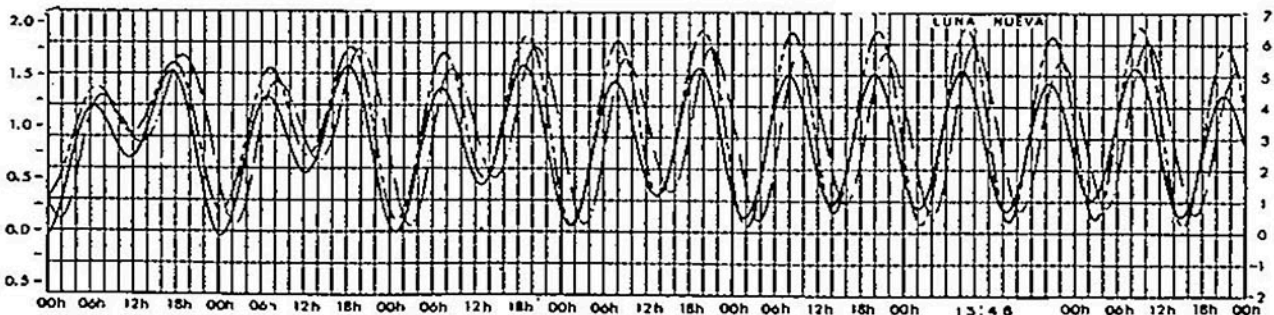
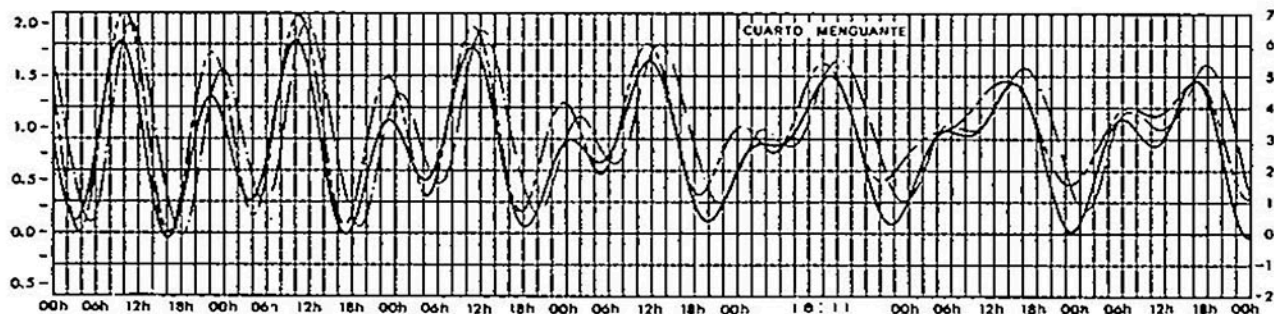
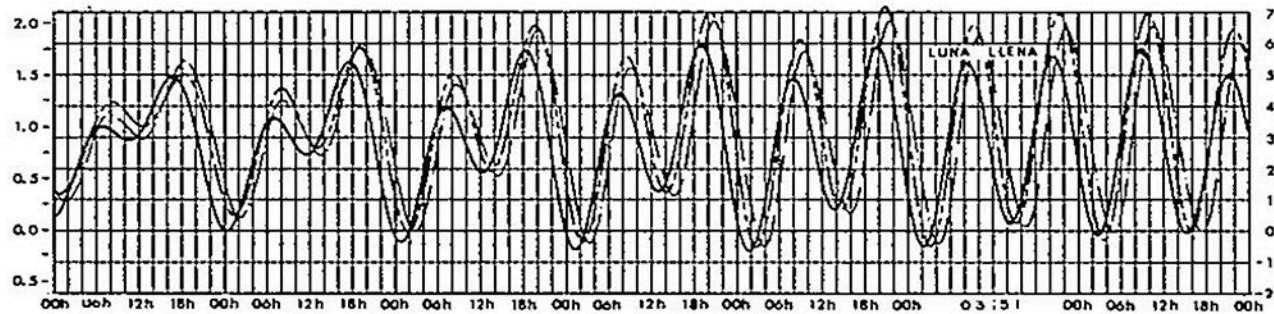
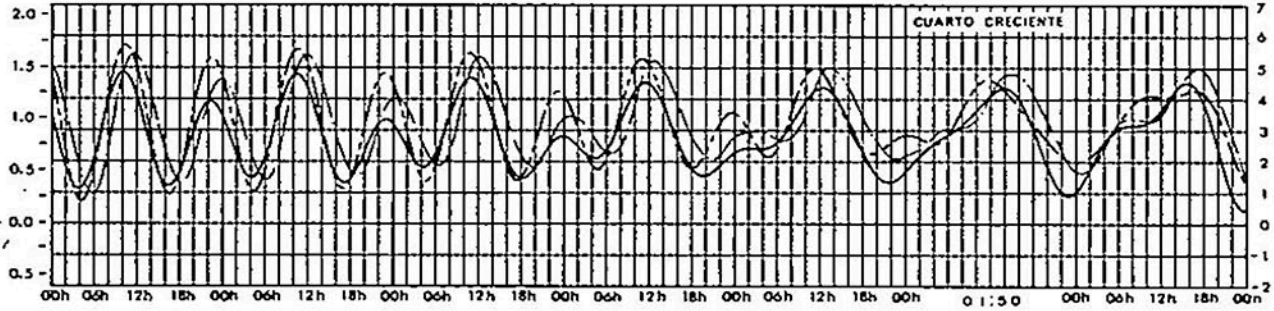
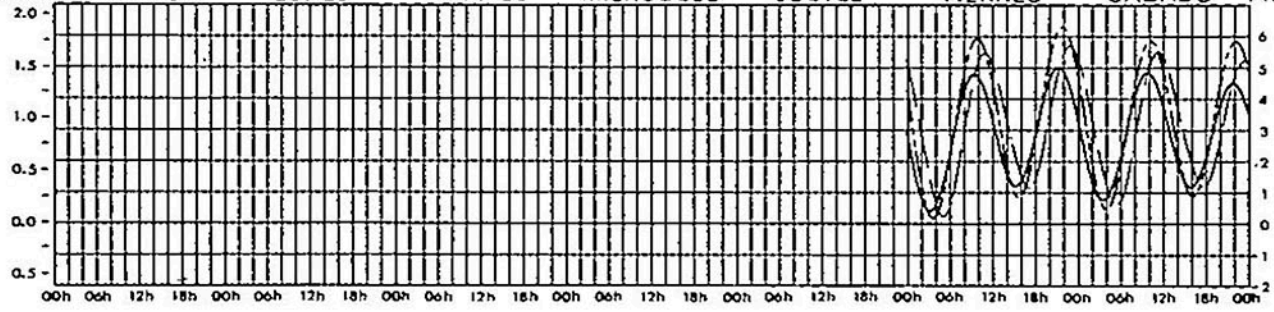
1989

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



HORA DEL MERIDIANO 120° W

HORA DEL MERIDIANO 105° W

PLANO DE REFERENCIA N.E.M.L.



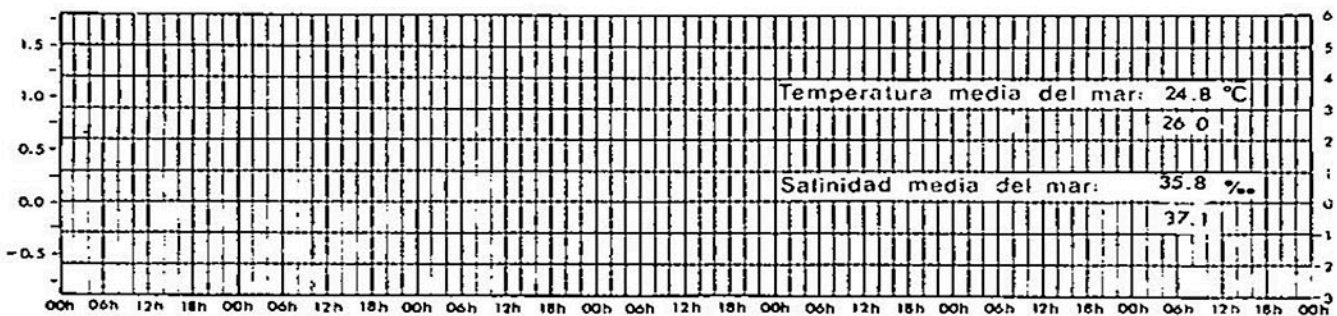
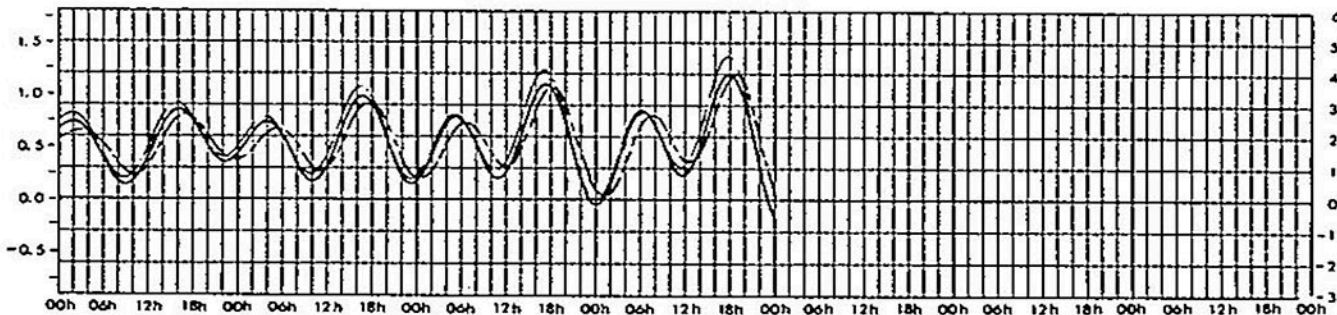
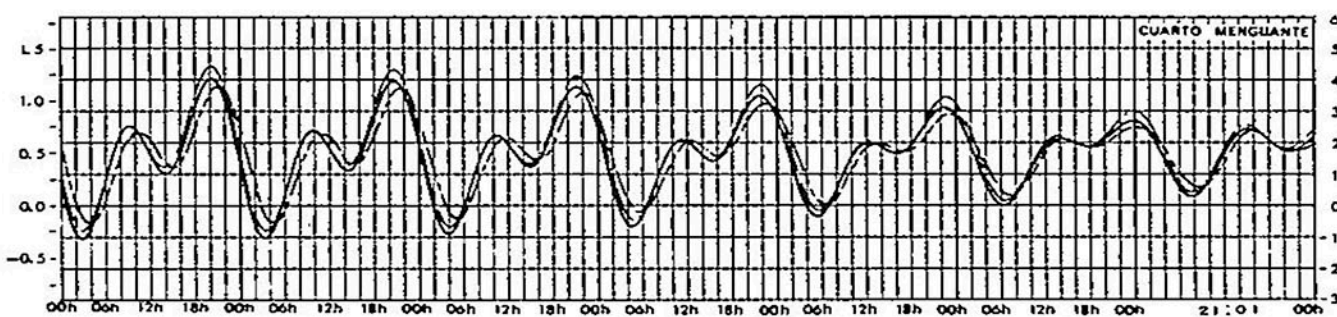
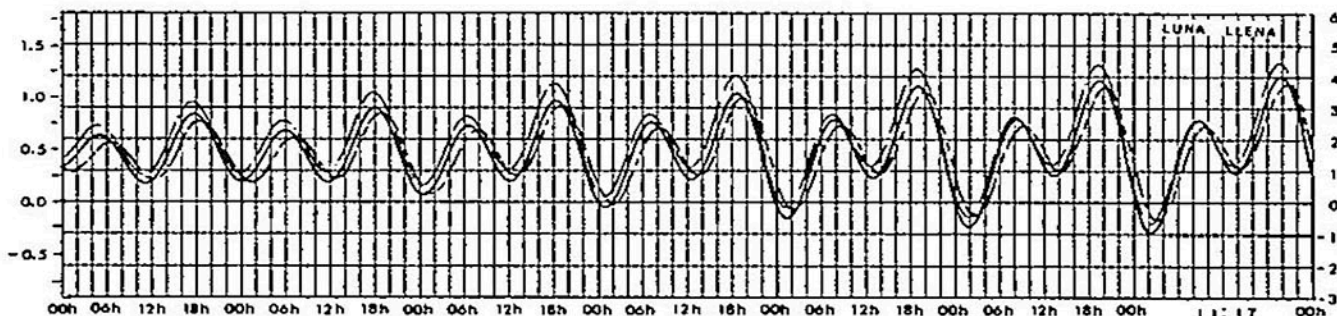
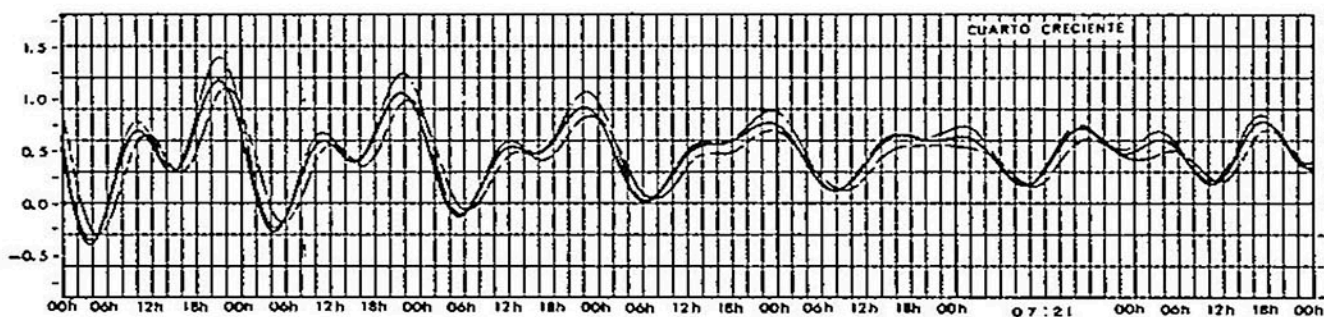
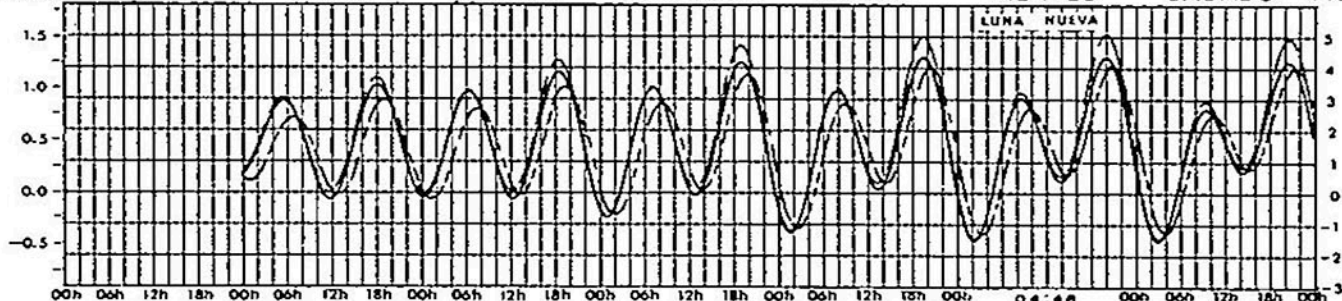
MAYO 1989

CABO SN. LUCAS, B.C.S
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



HORA DEL MERIDIANO 185° W
HORA DEL MERIDIANO 180° W

PLANO DE REFERENCIA N.B.M.1

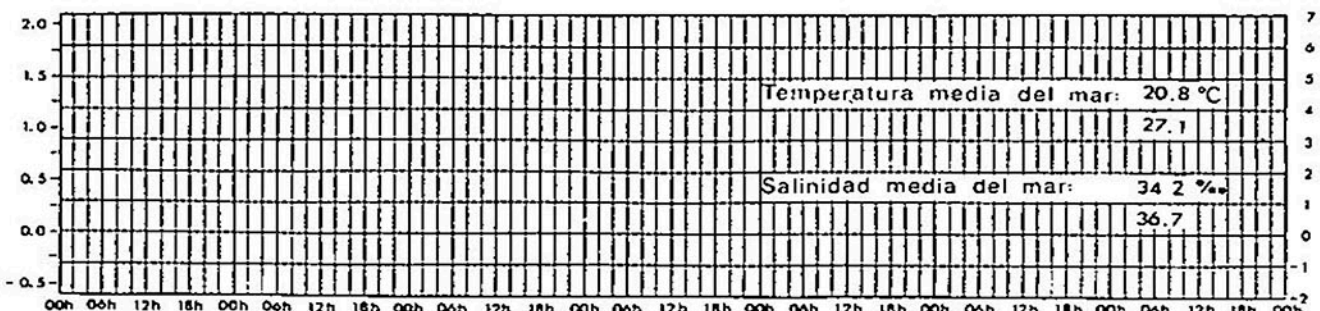
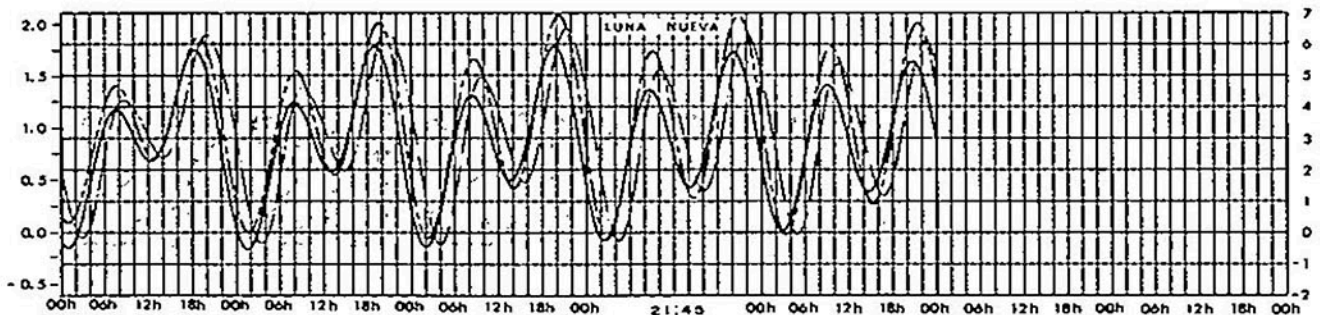
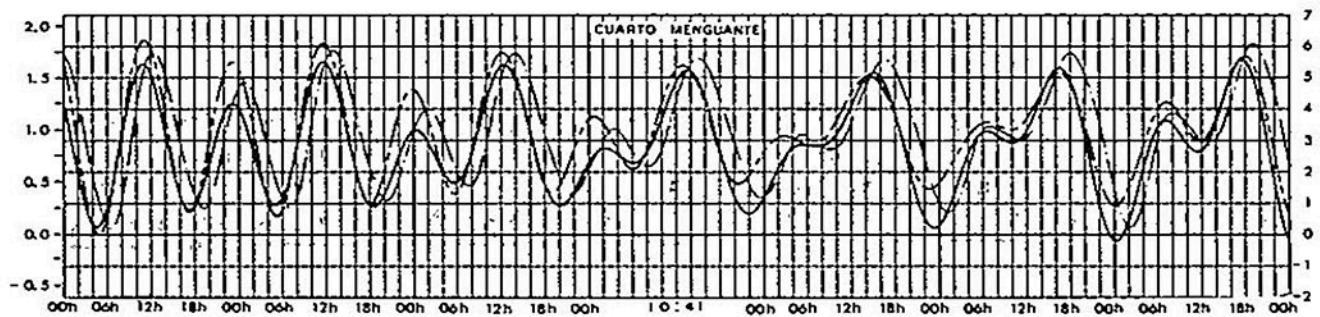
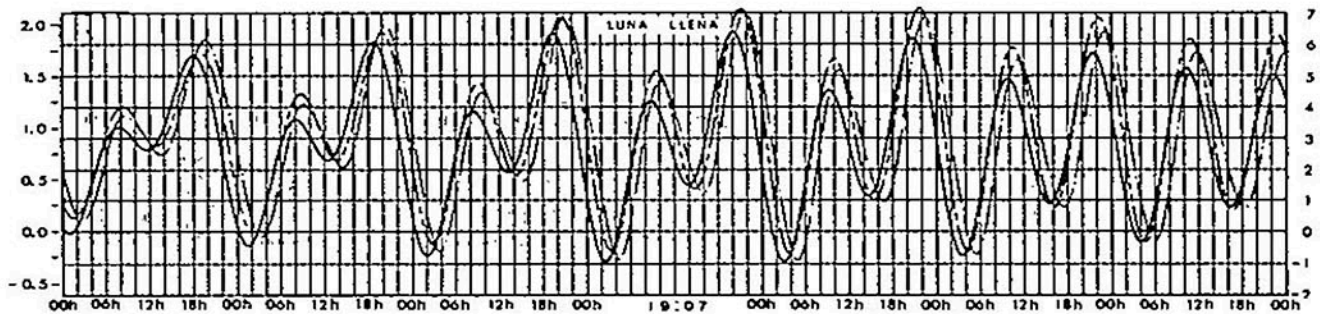
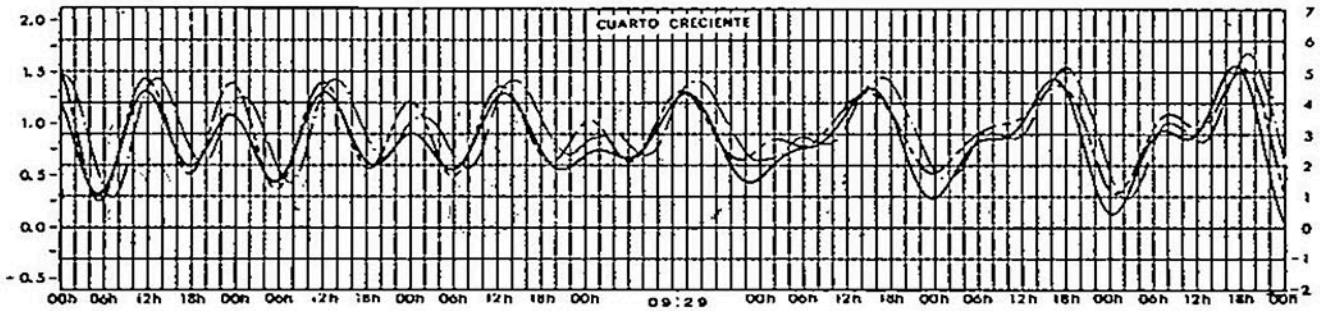
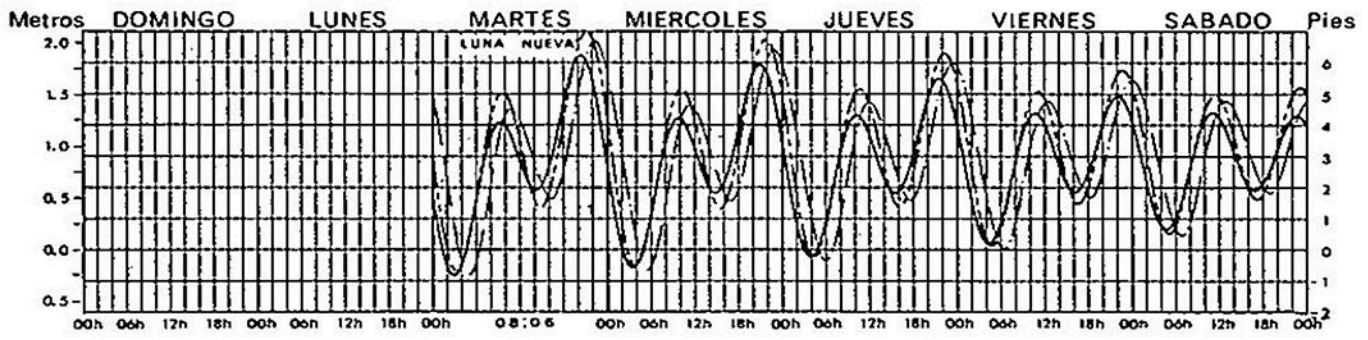


AGOSTO 1989

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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



HORA DEL MERIDIANO 120° W

HORA DEL MERIDIANO 105° W

PLANO DE REFERENCIA: N. B. M. L.



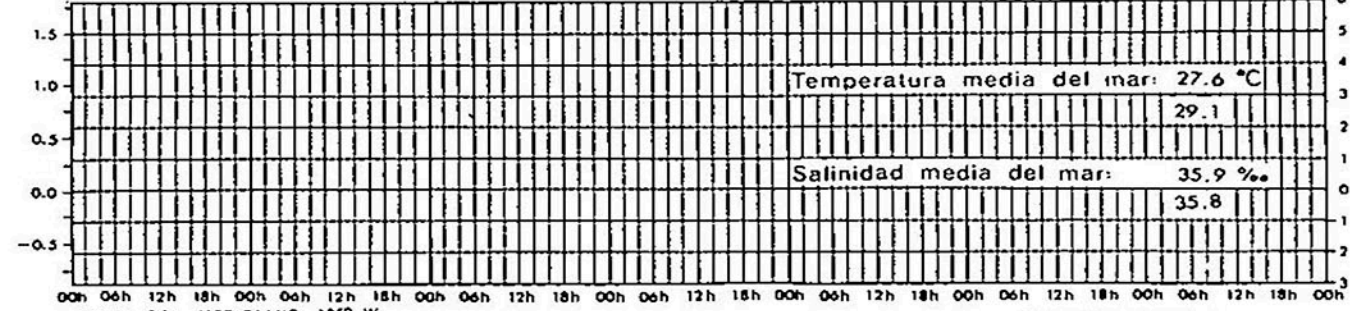
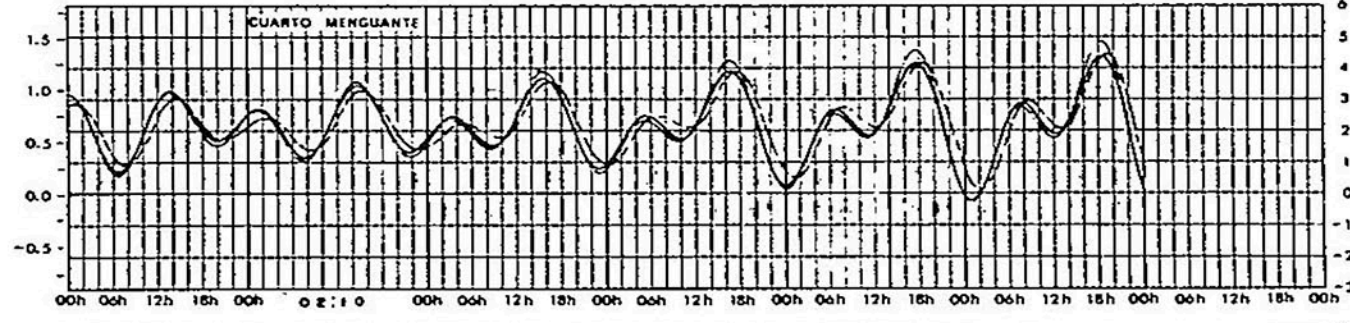
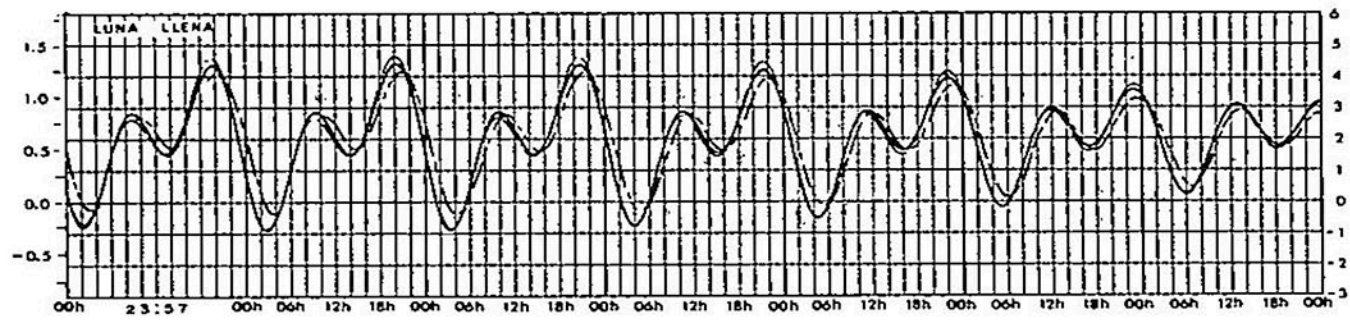
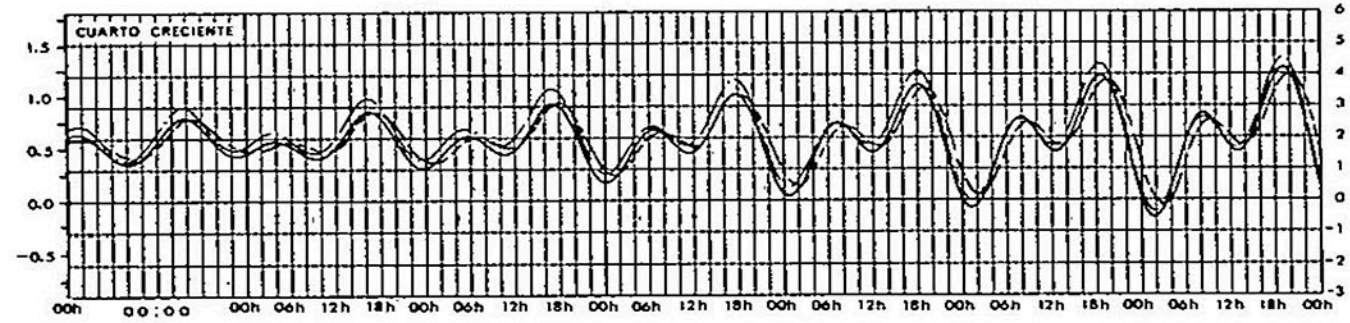
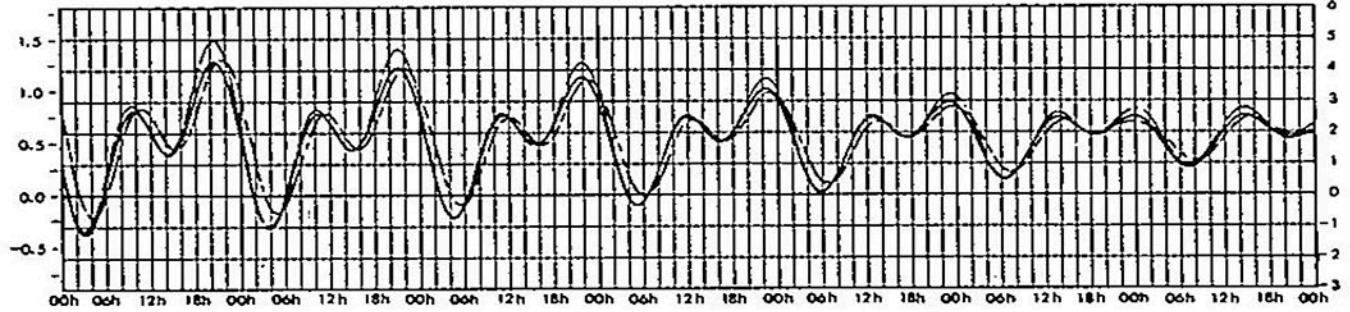
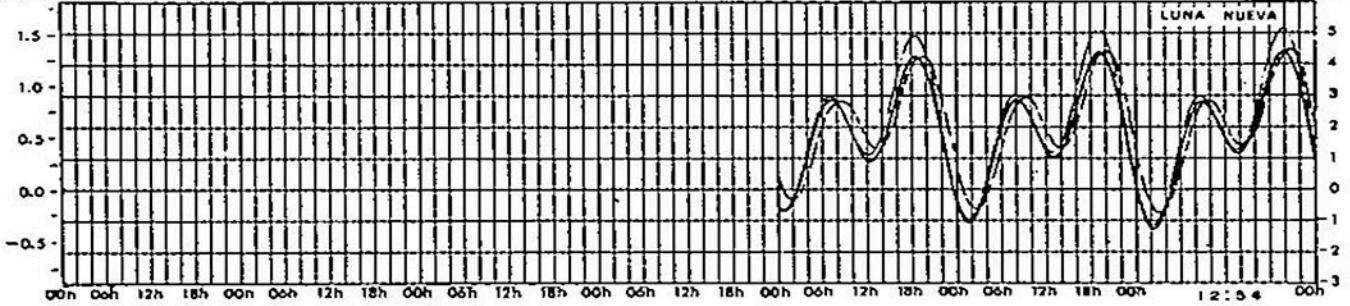
JUNIO 1989

CABO SN. LUCAS, B.C.S
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



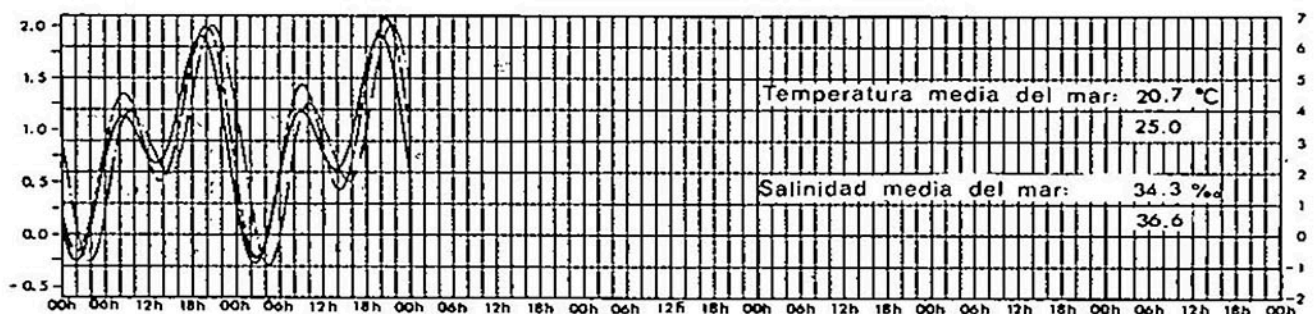
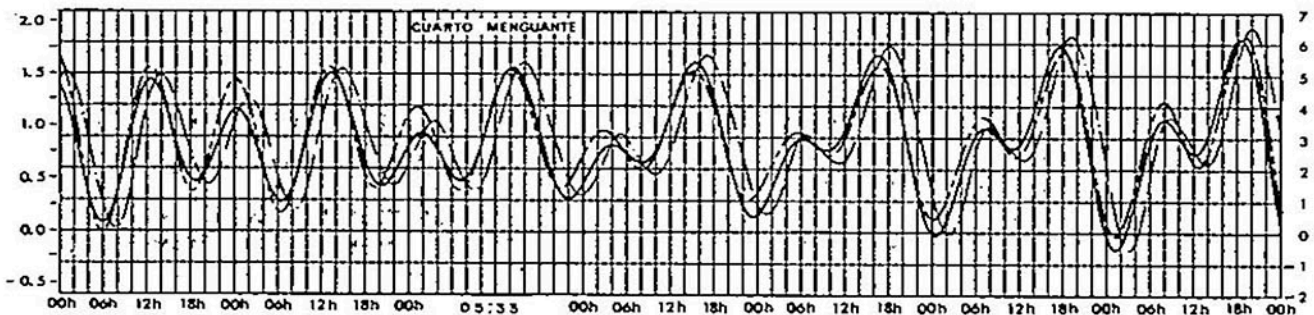
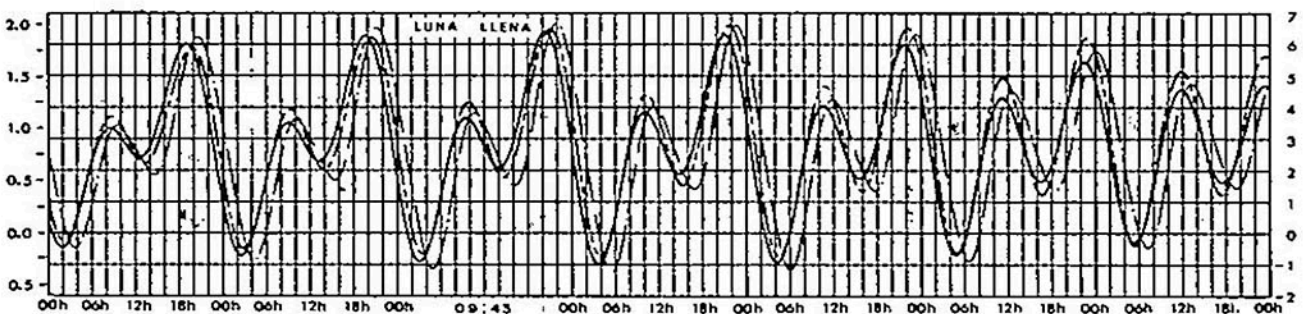
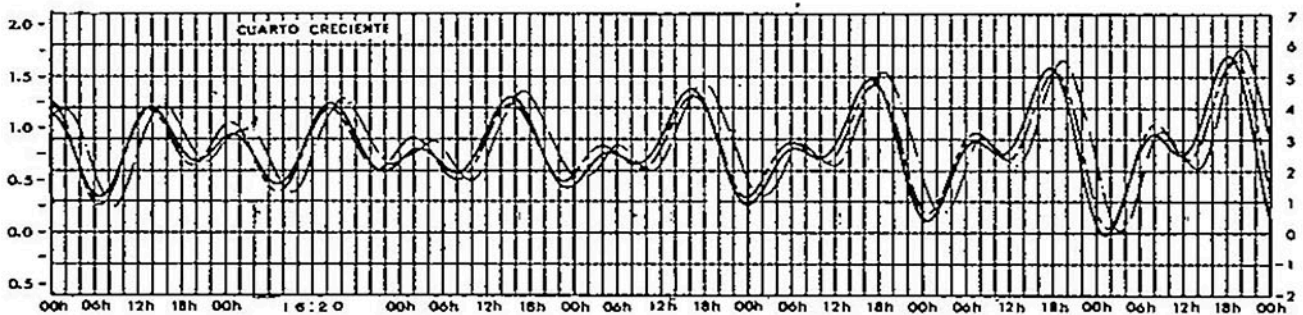
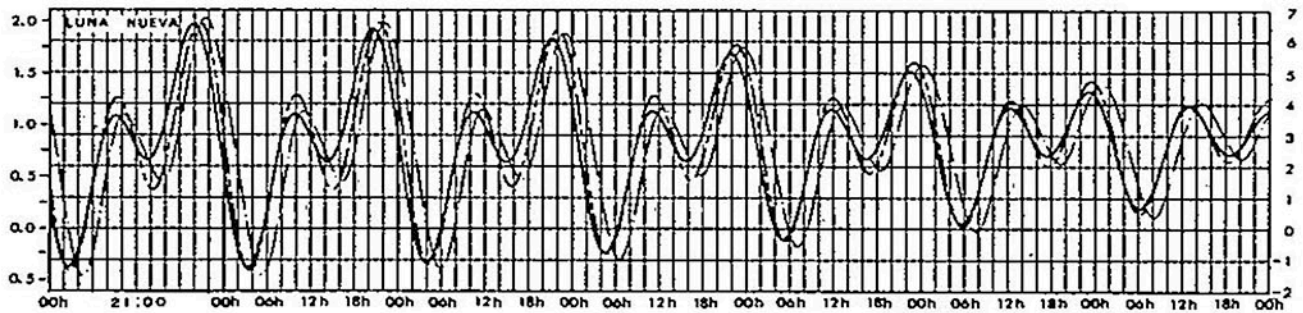
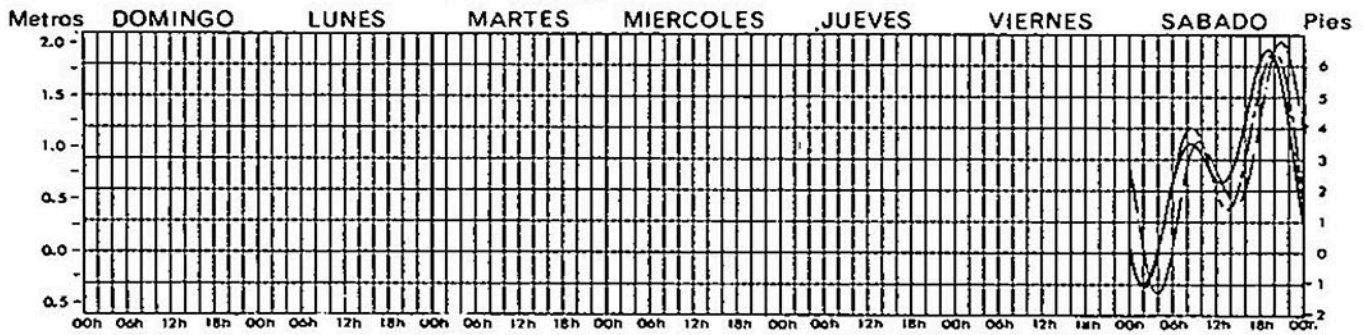


JULIO 1989

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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



HORA DEL MERIDIANO 180° W

PLANO DE REFERENCIA: N.B.M.I.

HORA DEL MERIDIANO 105° W



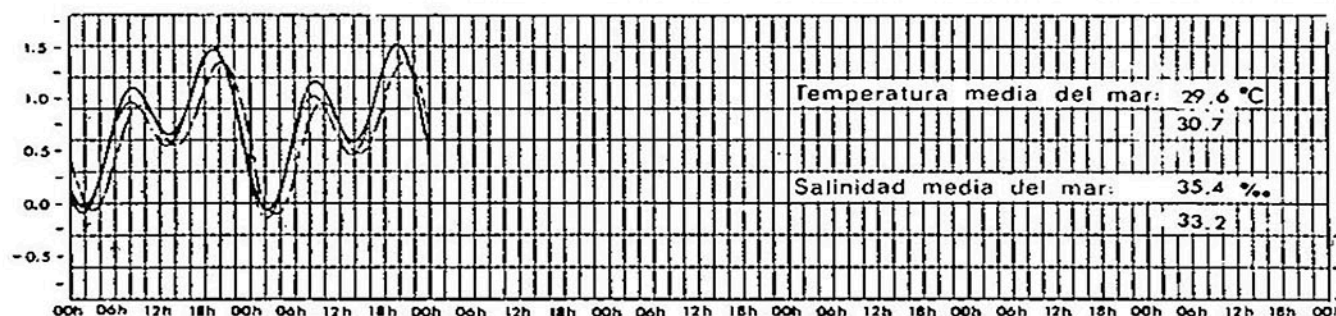
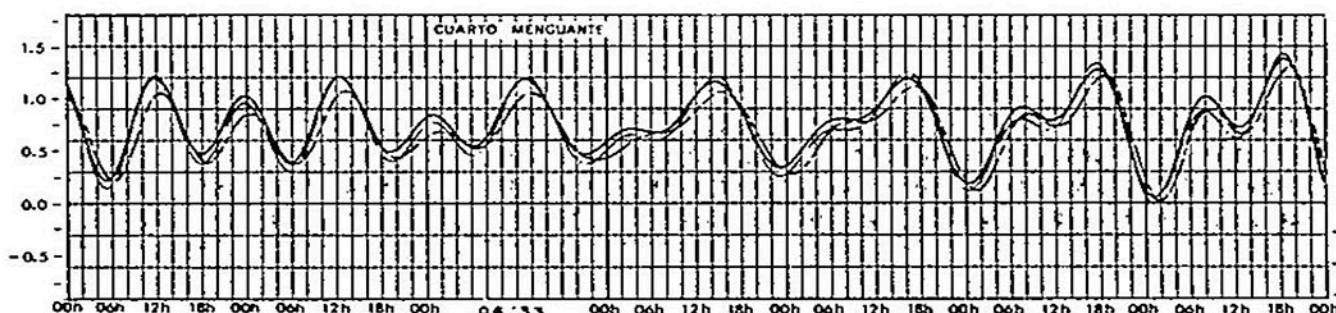
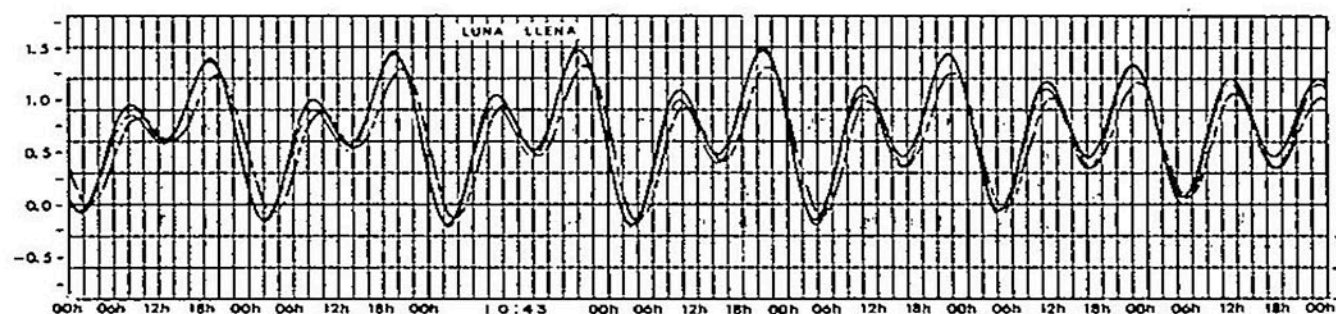
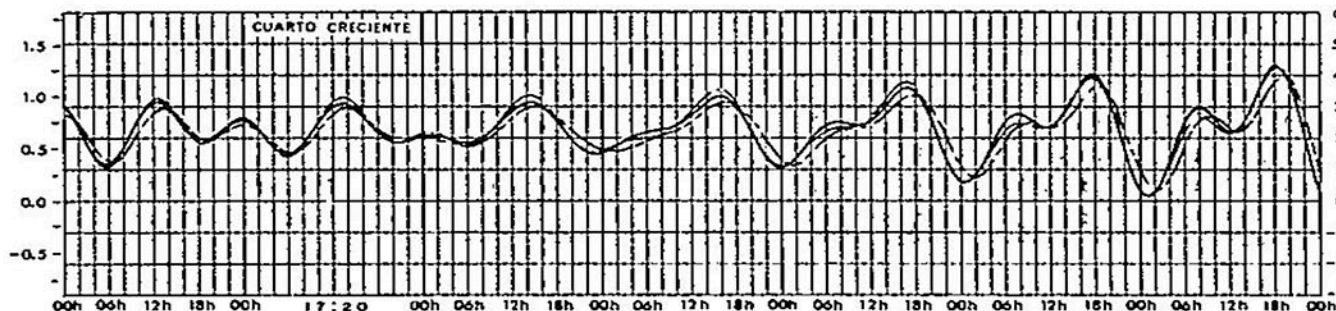
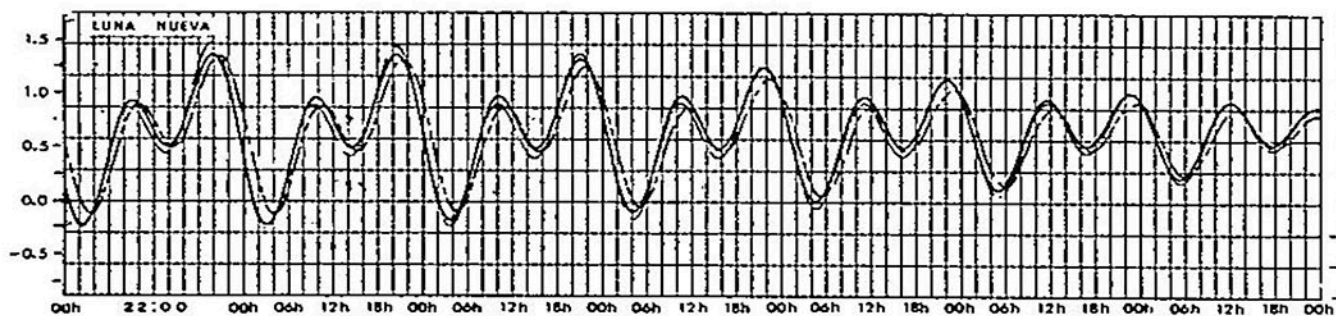
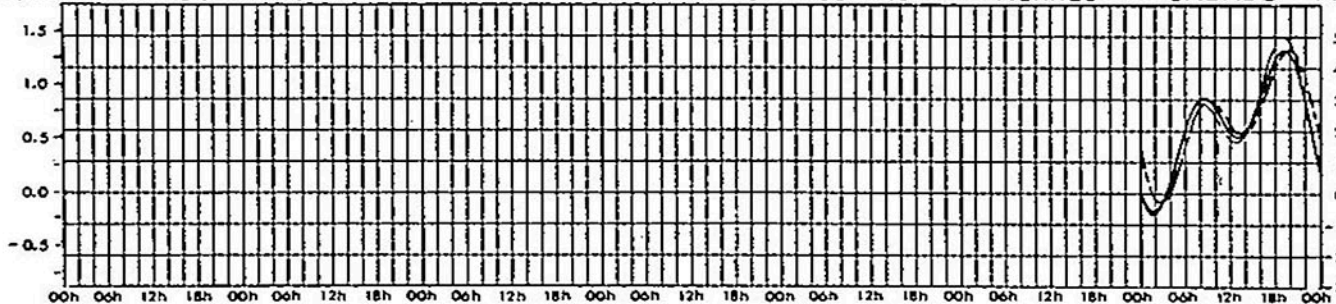
JULIO 1989

CABO SN. LUCAS, B.C.S.
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 29.6 °C

30.7

Salinidad media del mar: 35.4 ‰

33.2

HORA DEL MERIDIANO 105° W

HORA DEL MERIDIANO 90° W

PLANO DE REFERENCIA: N. S. M. L.

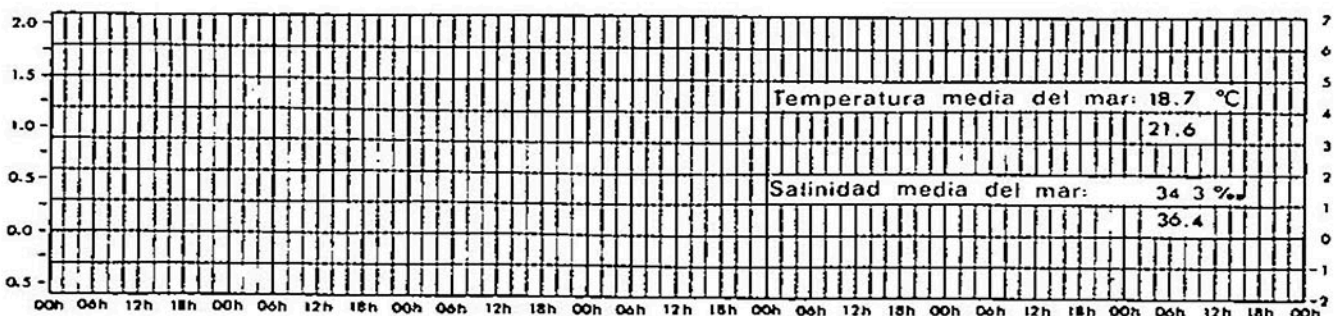
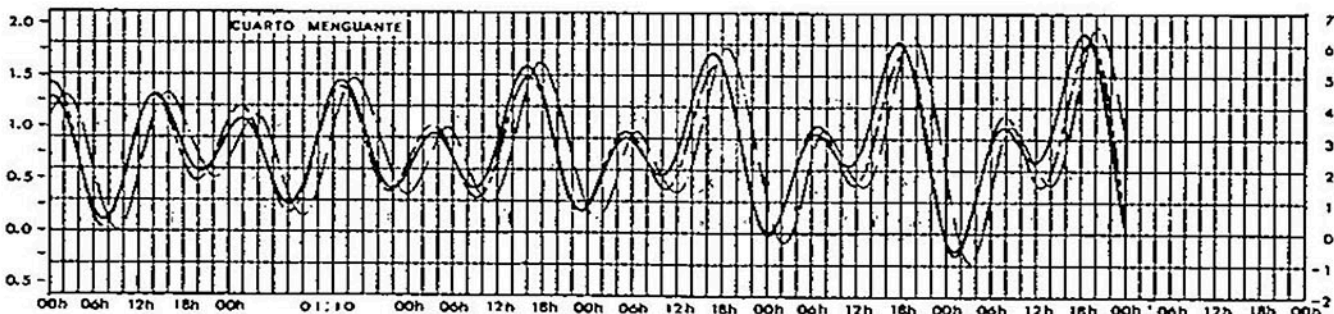
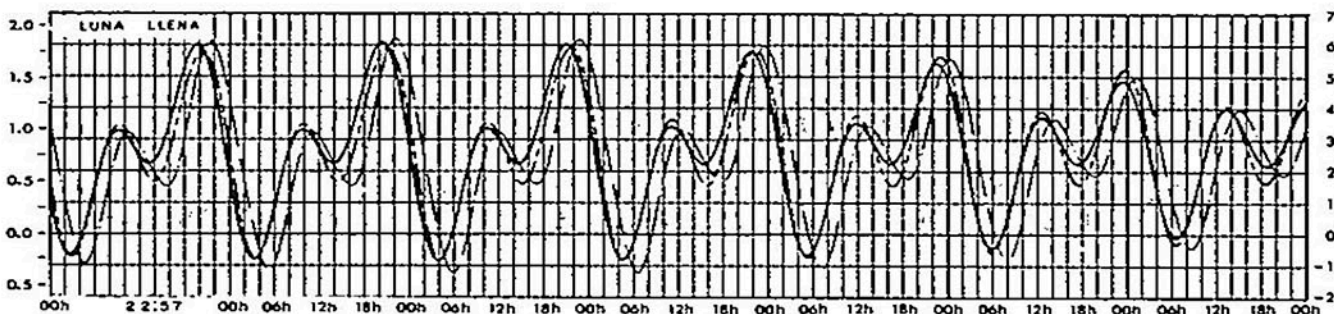
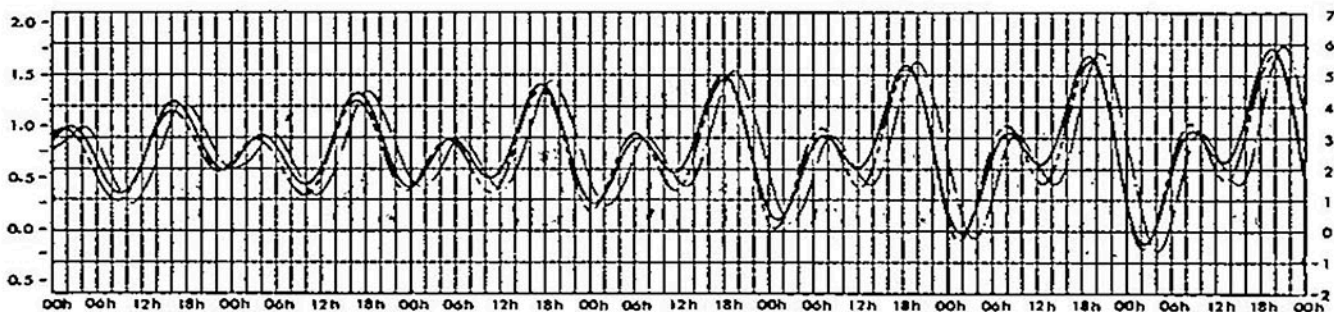
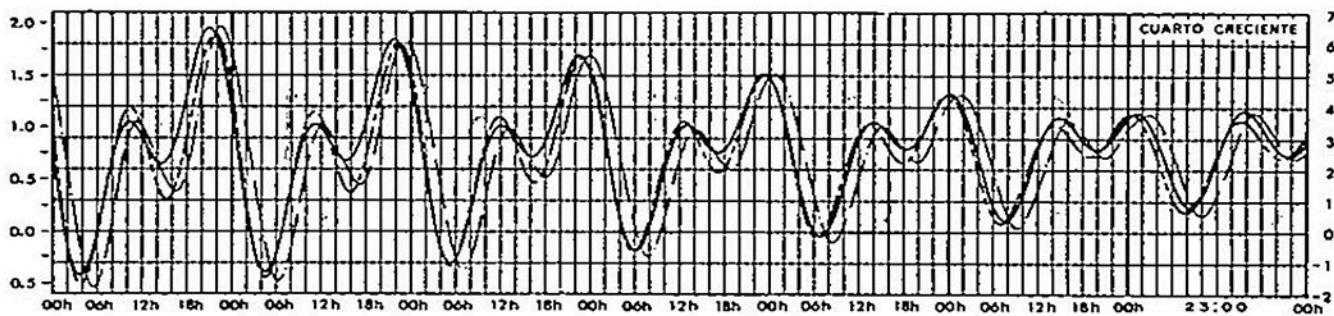
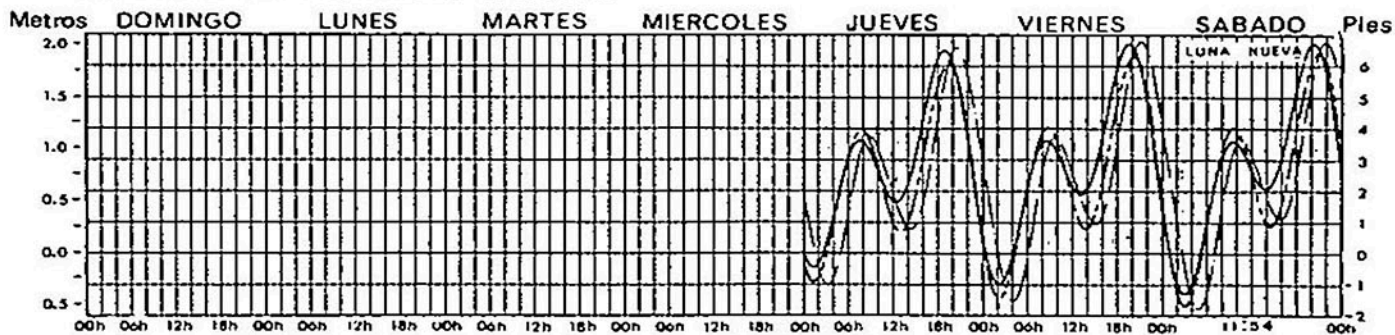


JUNIO 1989

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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



HORA DEL MERIDIANO 100° W

HORA DEL MERIDIANO 105° W

PLANO DE REFERENCIA: N.B.M.L.

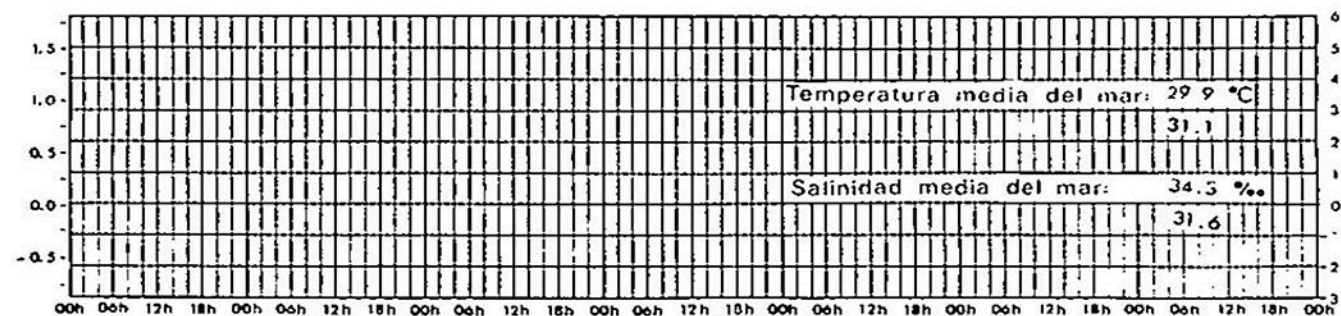
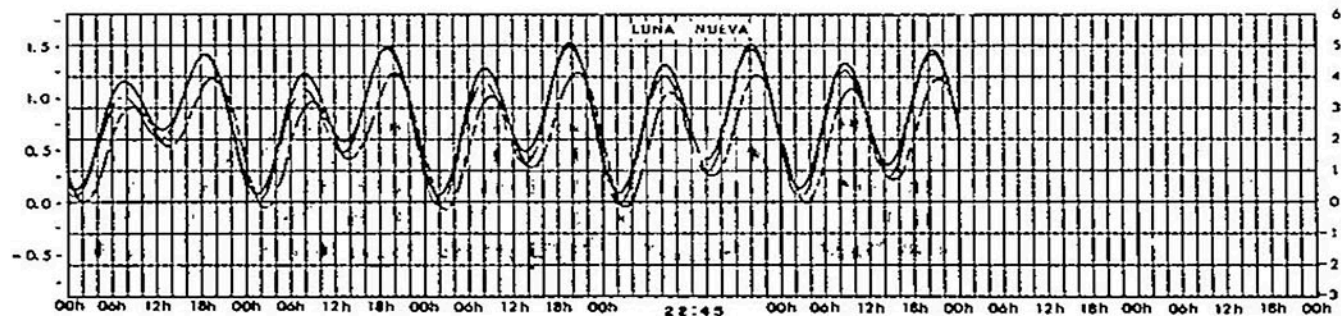
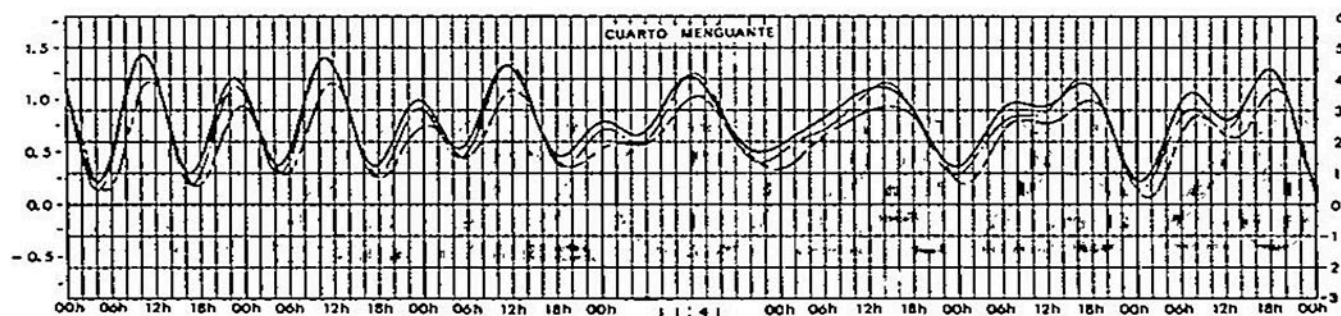
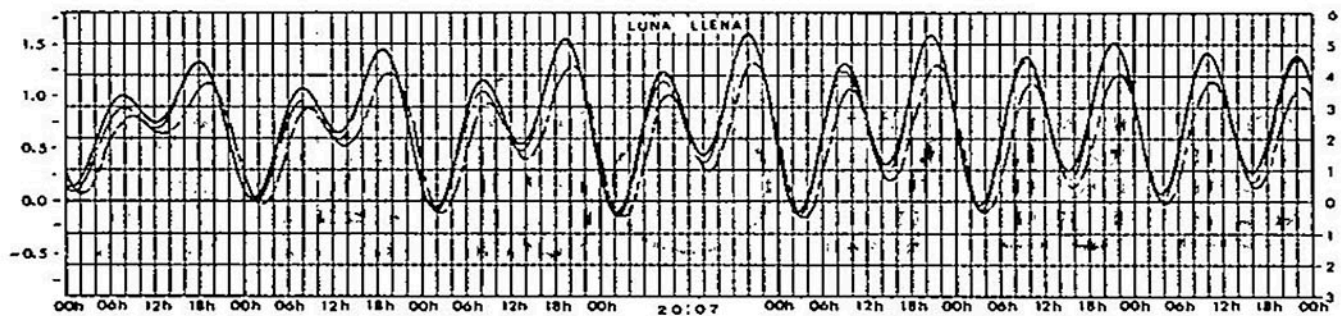
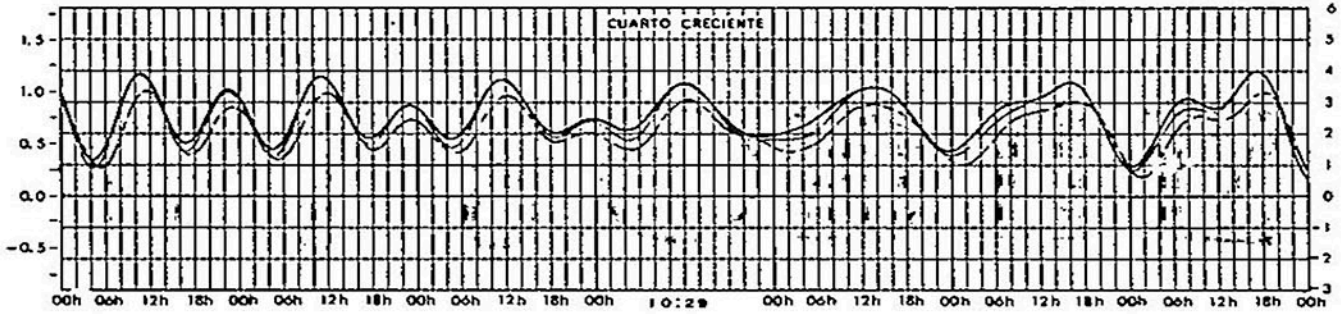
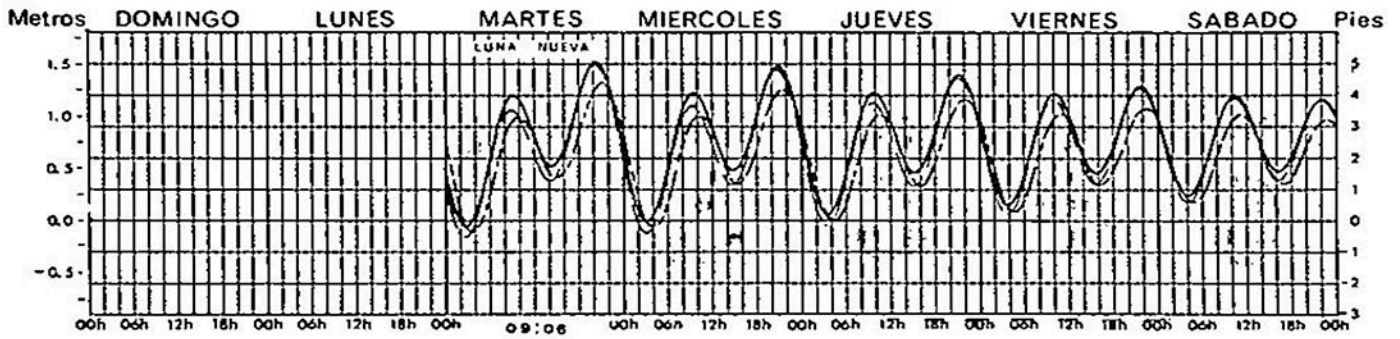


AUGUSTO 1989

CABO SAN LUCAS, B.C.S.
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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



HORA DEL MERIDIANO 103° W
HORA DEL MERIDIANO 90° W

PLANO DE REFERENCIA N.B.M.

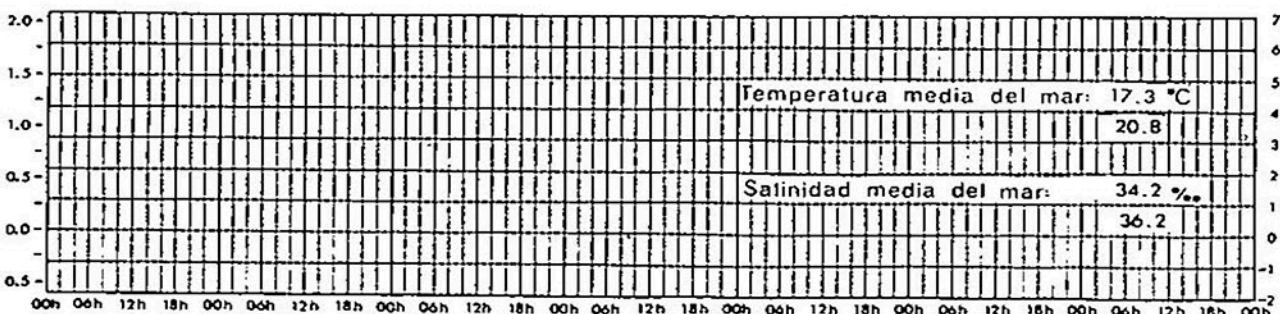
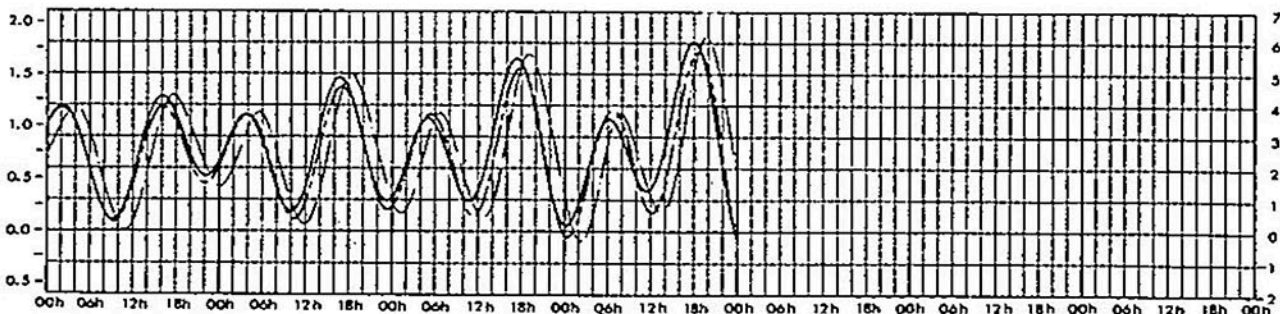
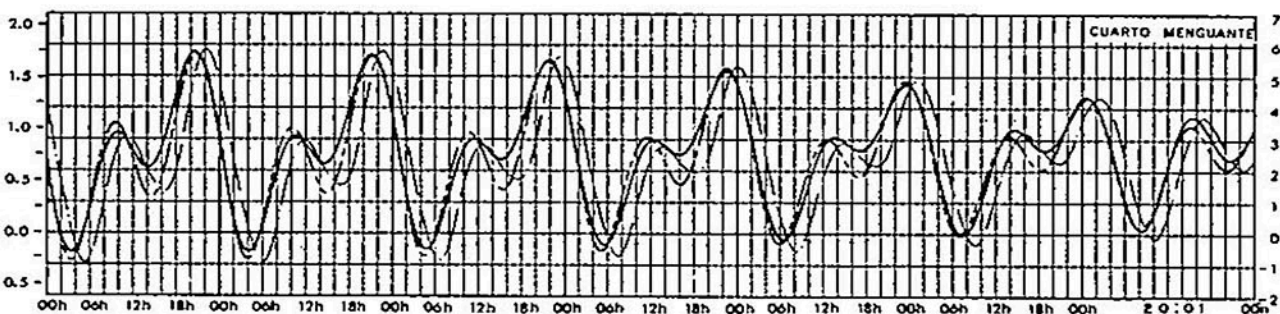
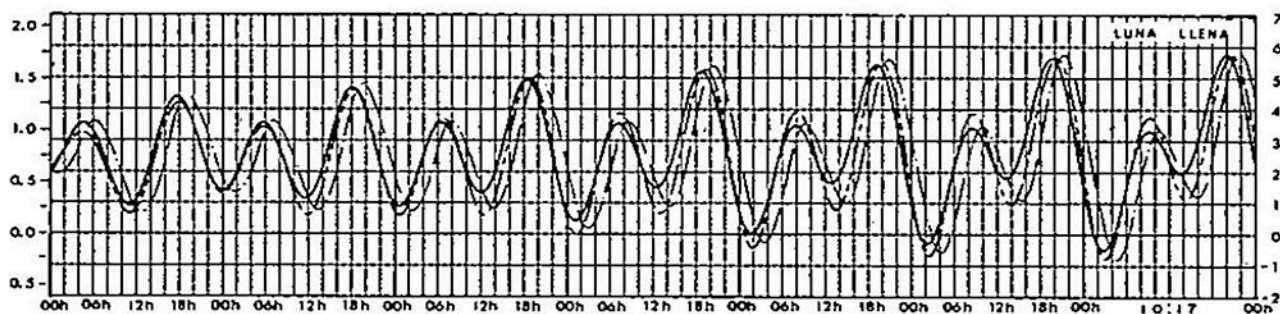
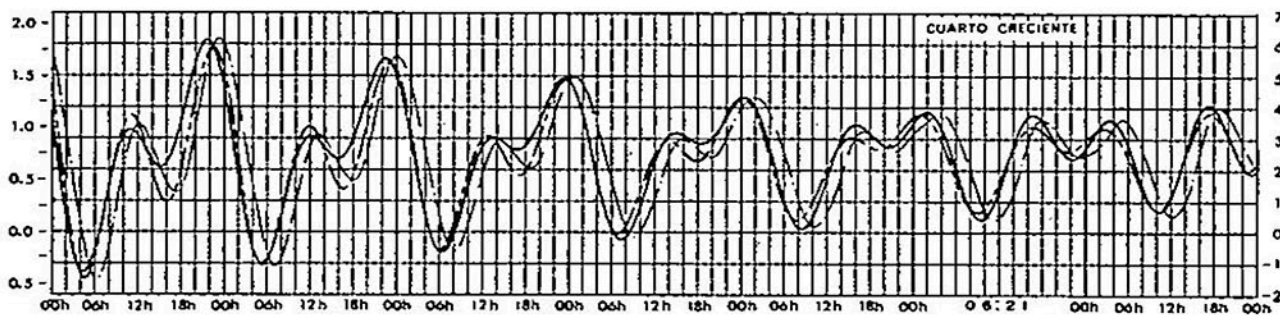
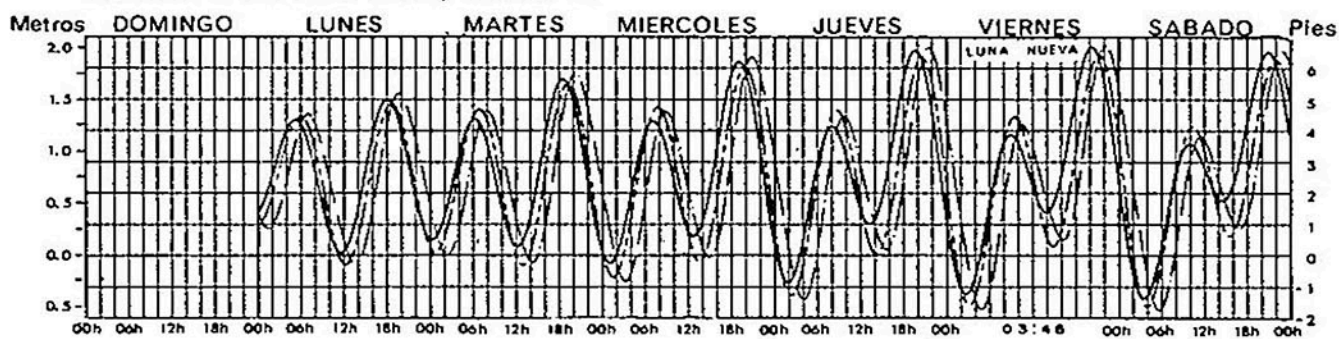


MAYO 1989

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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



HORA DEL MERIDIANO 120° W

HORA DEL MERIDIANO 105° W

PLANO DE REFERENCIA: N. B. M. L



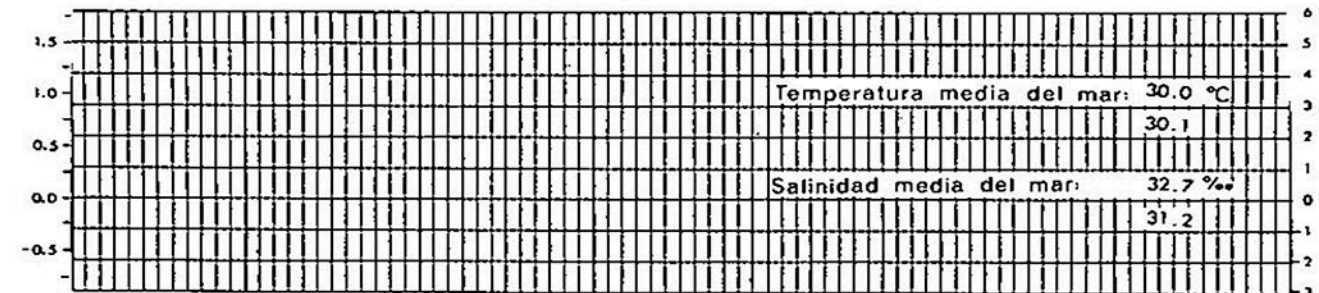
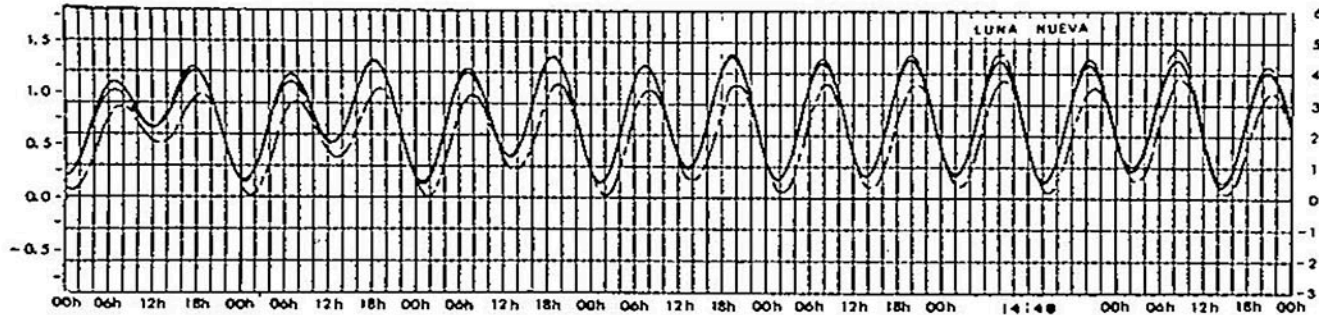
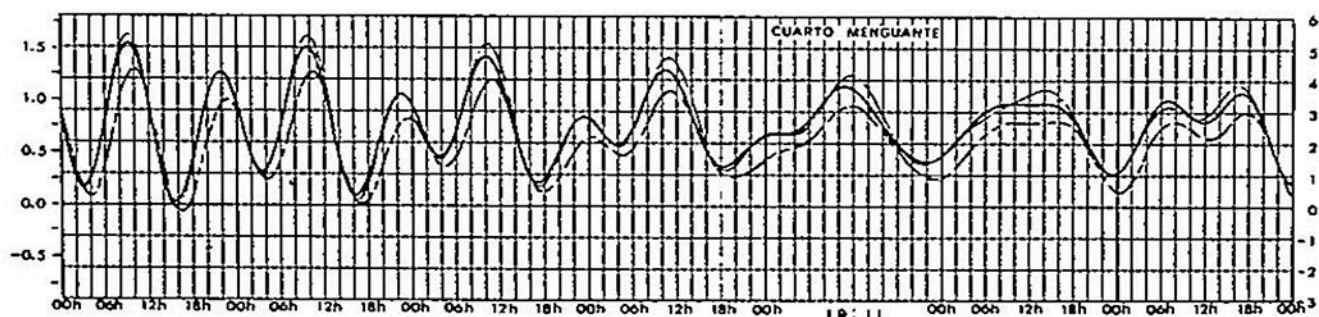
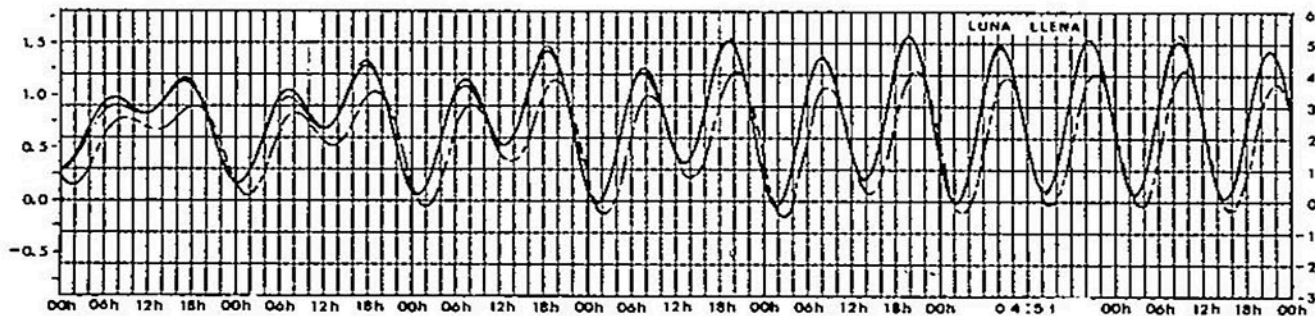
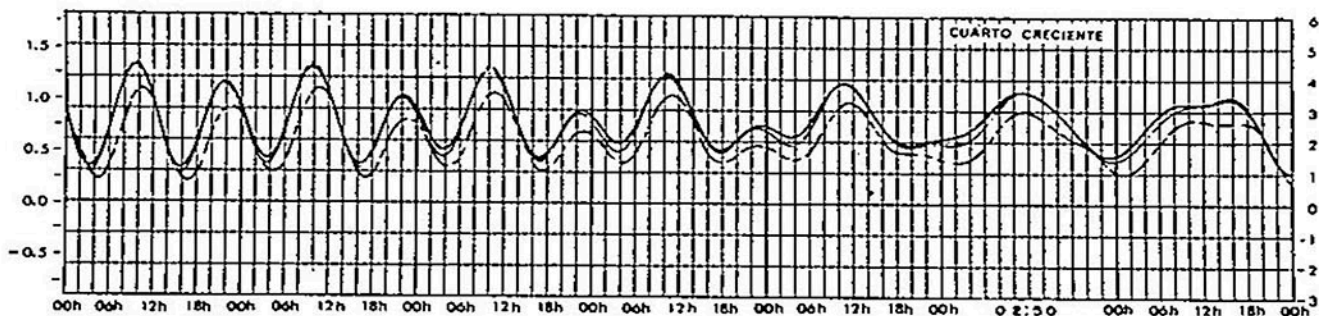
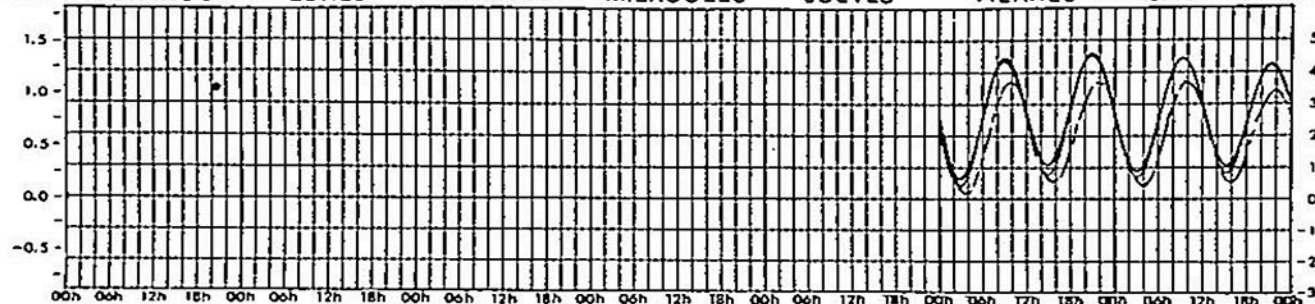
SEPTIEMBRE 1989

CABO SN. LUCAS, B.C.S.
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



HORA DEL MERIDIANO 109°
HORA DEL MERIDIANO 90° W

PLANO DE REFERENCIA: N. D. M. L.

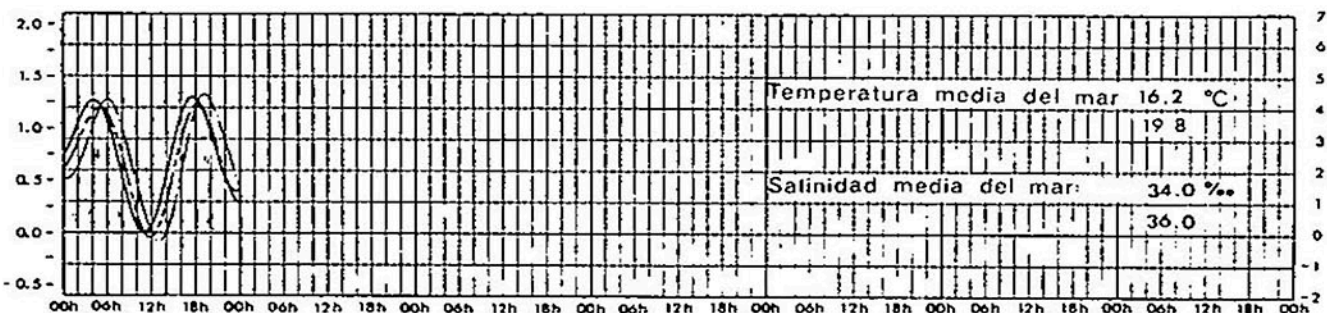
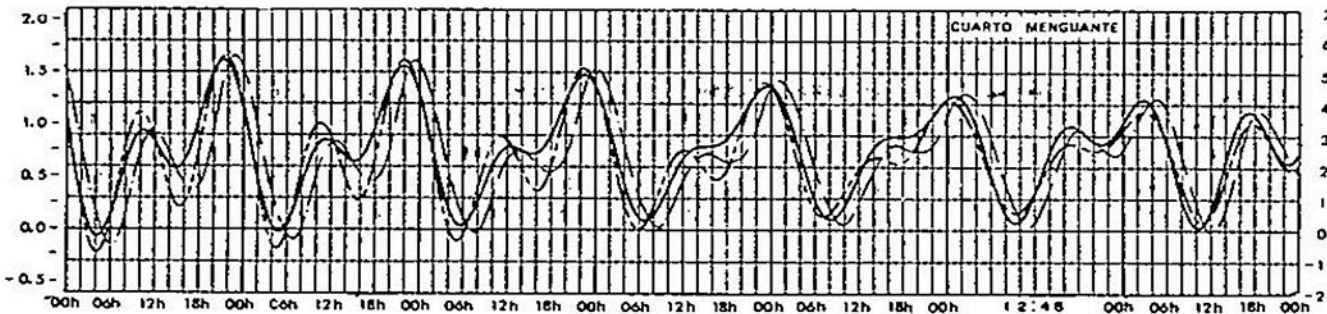
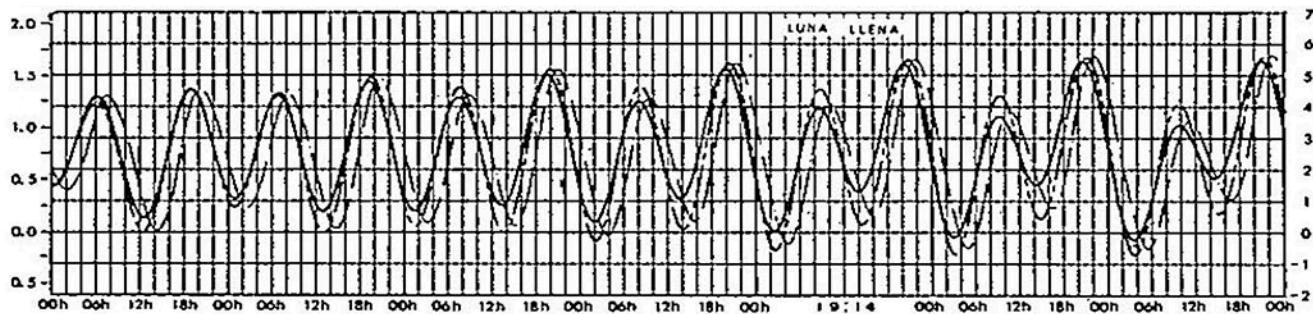
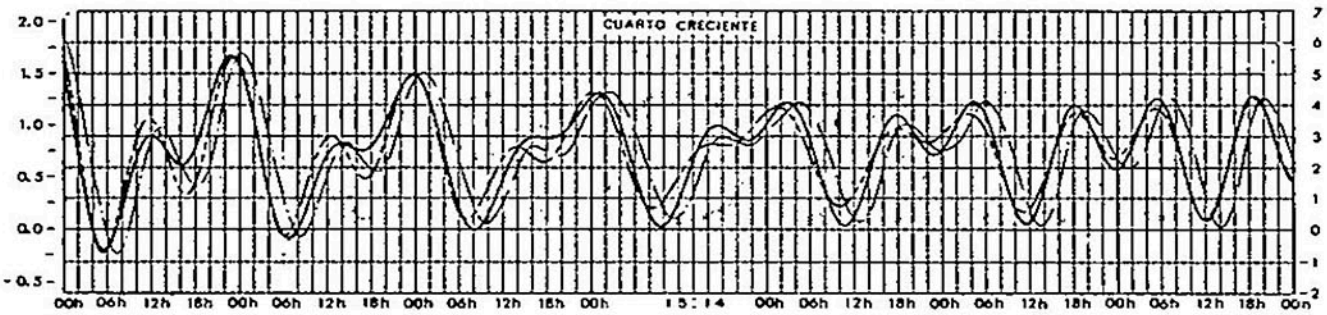
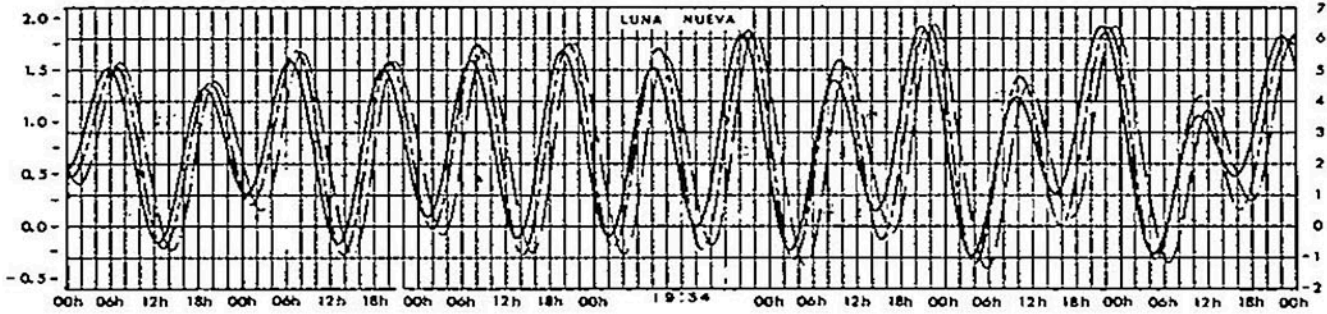
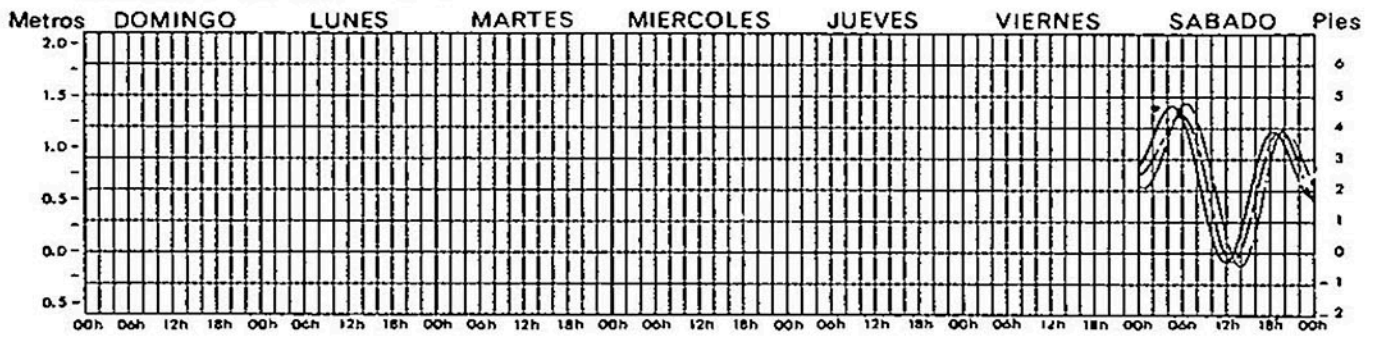


ABRIL 1989

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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



Temperatura media del mar 16.2 °C

19.8

Salinidad media del mar: 34.0 ‰

36.0

HORA DEL MERIDIANO 120° W

PLANO DE REFERENCIA: N. B. M. I.

HORA DEL MERIDIANO 108° W



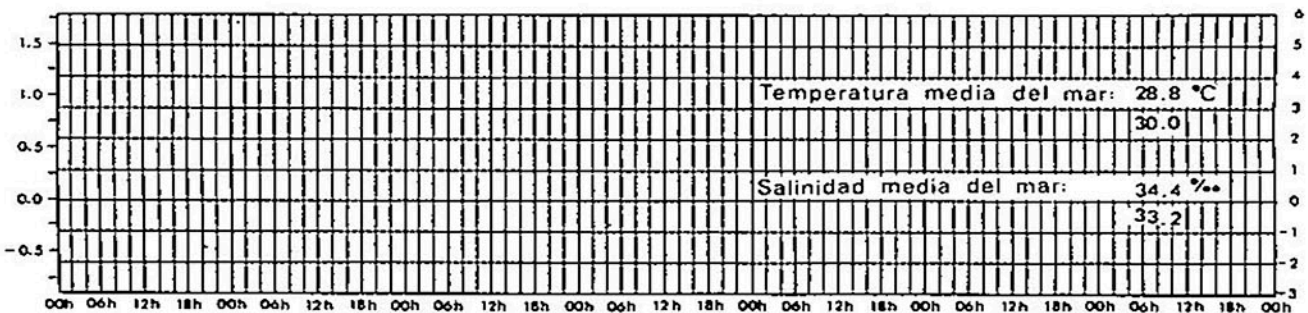
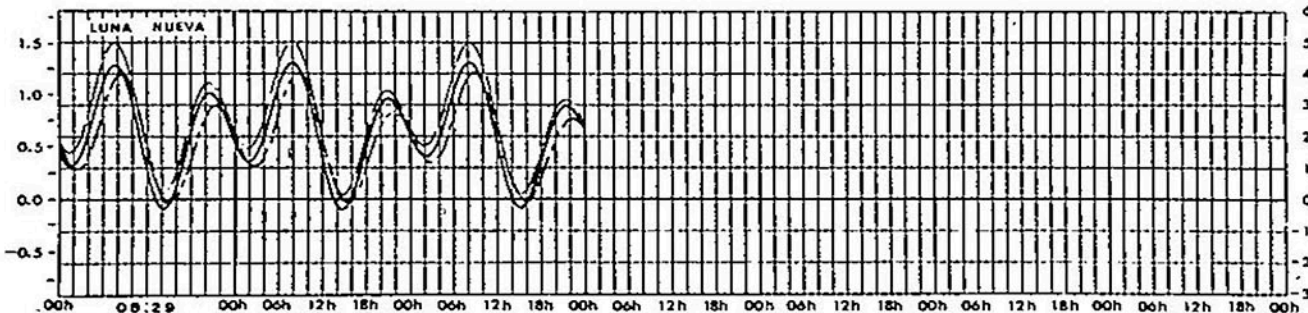
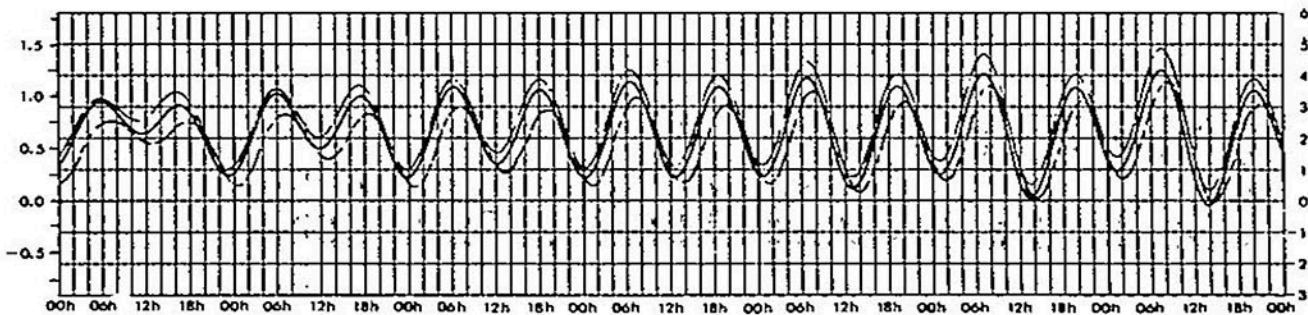
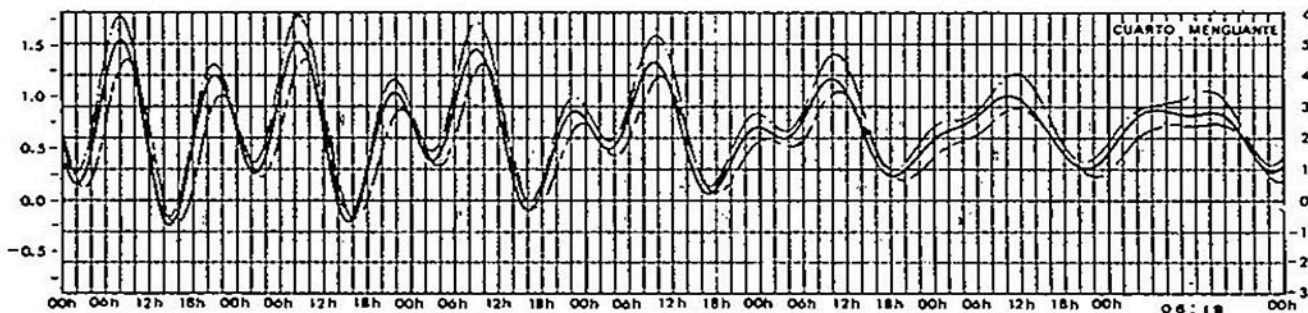
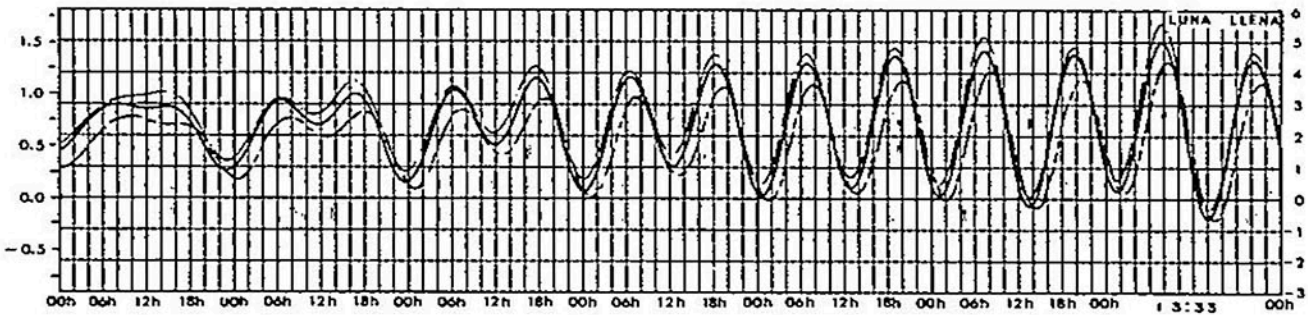
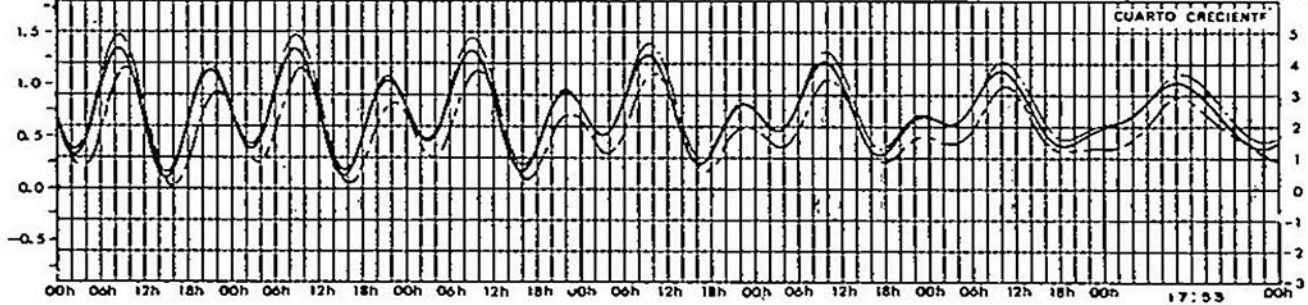
OCTUBRE 1989

CABO SN. LUCAS, B.C.S
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 28.8 °C

30.0

Salinidad media del mar: 34.4 ‰

33.2

HORA DEL MERIDIANO 105° W
HORA DEL MERIDIANO 90° W

PLANO DE REFERENCIA: N. B. M. I.



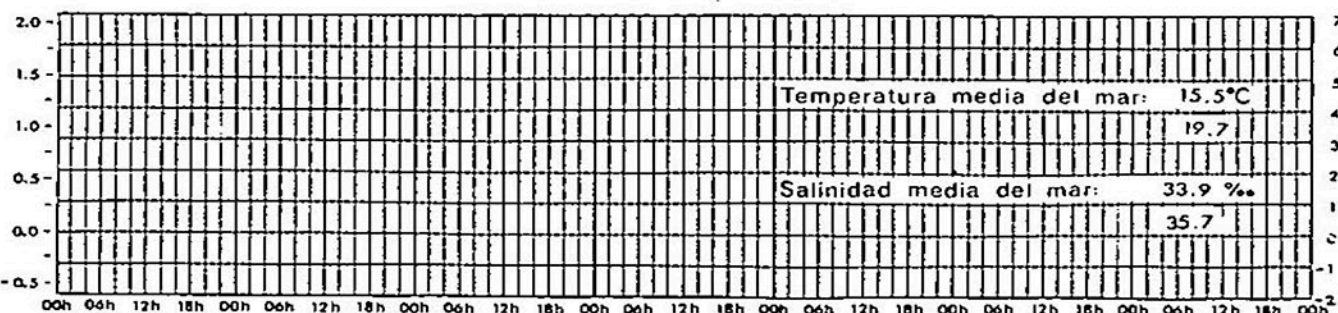
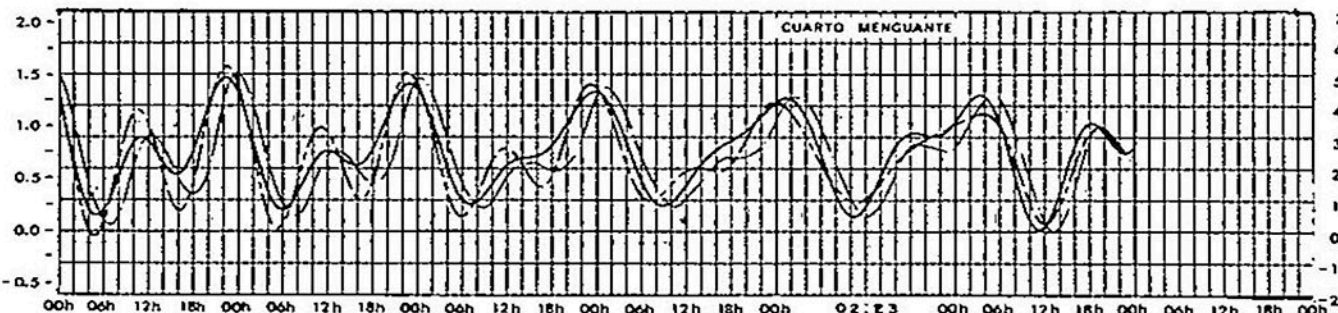
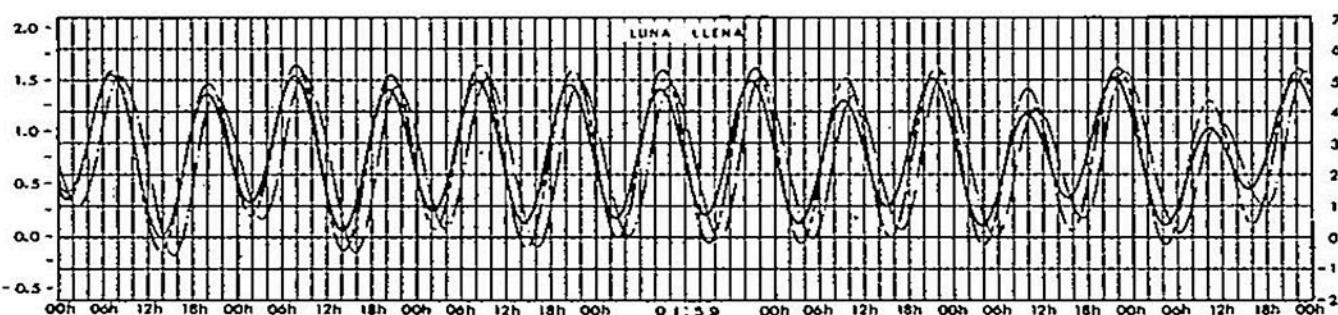
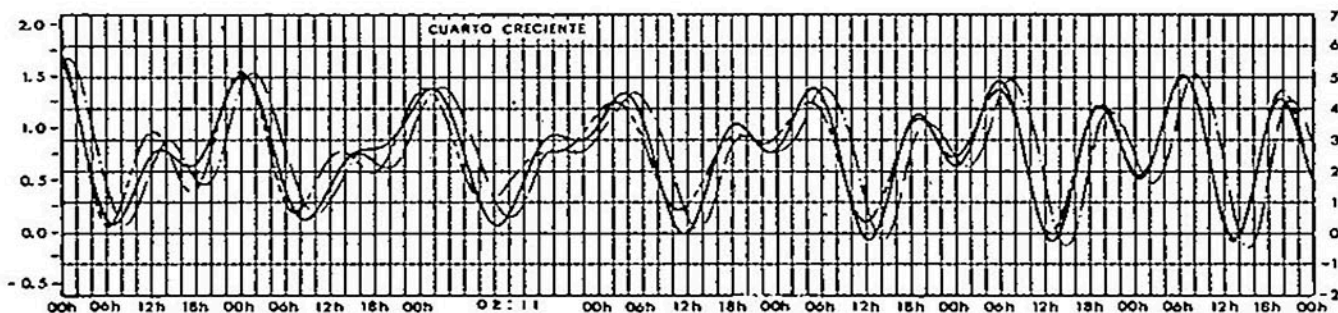
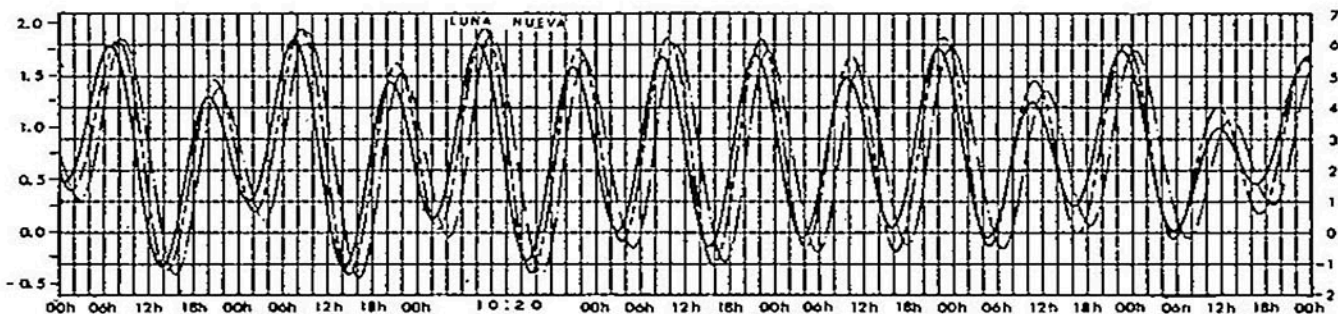
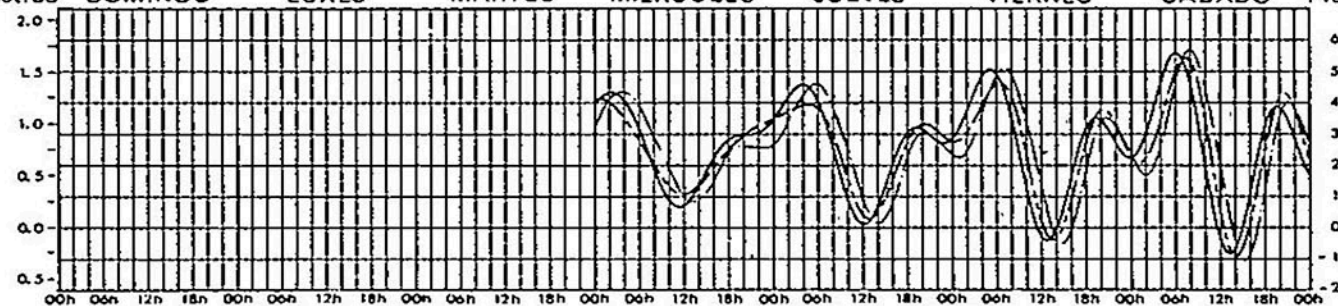
MARZO 1989

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



HORA DEL MERIDIANO 120° W

PLANO DE REFERENCIA: N. G. M. I

HORA DEL MERIDIANO 105° W



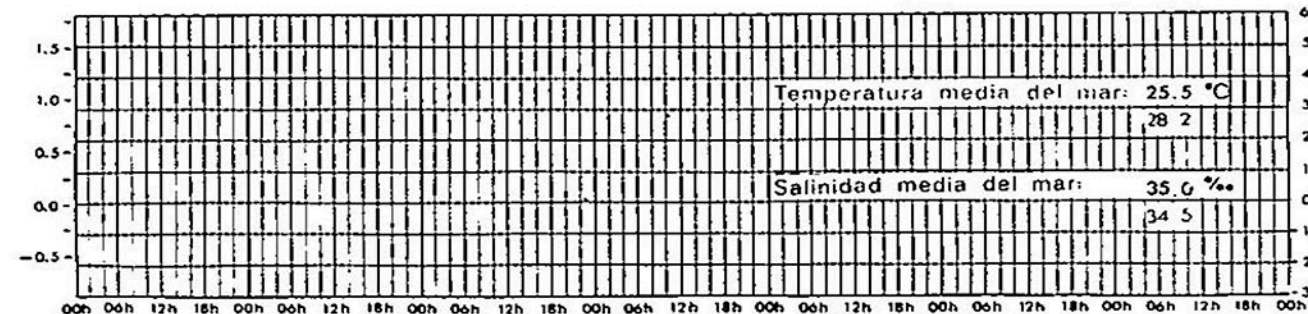
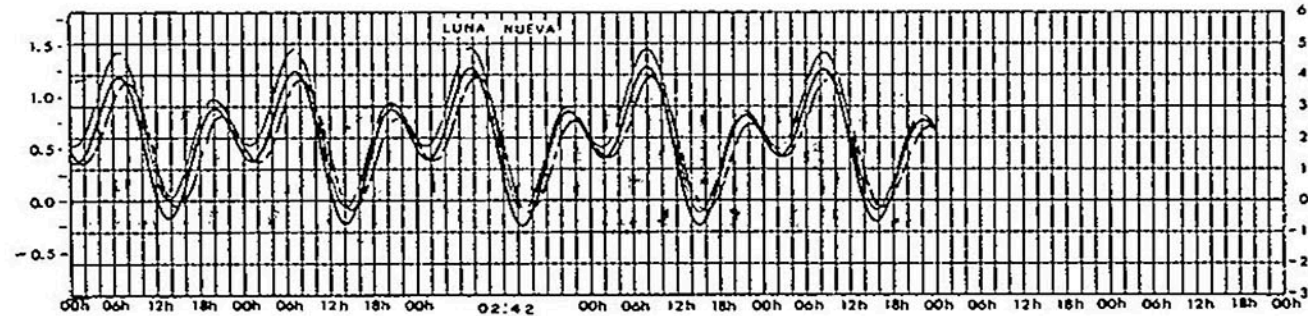
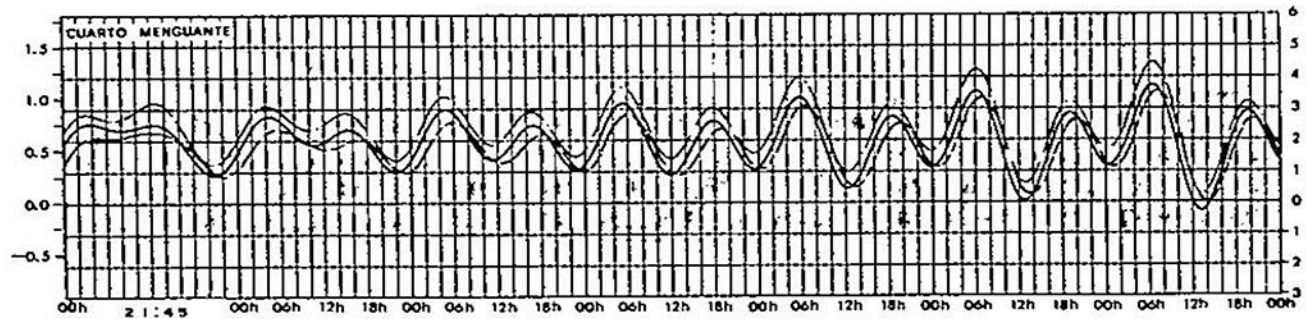
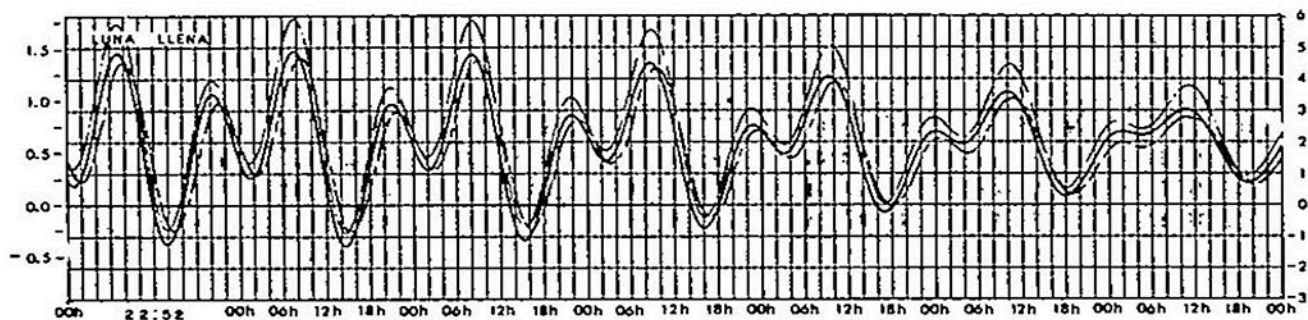
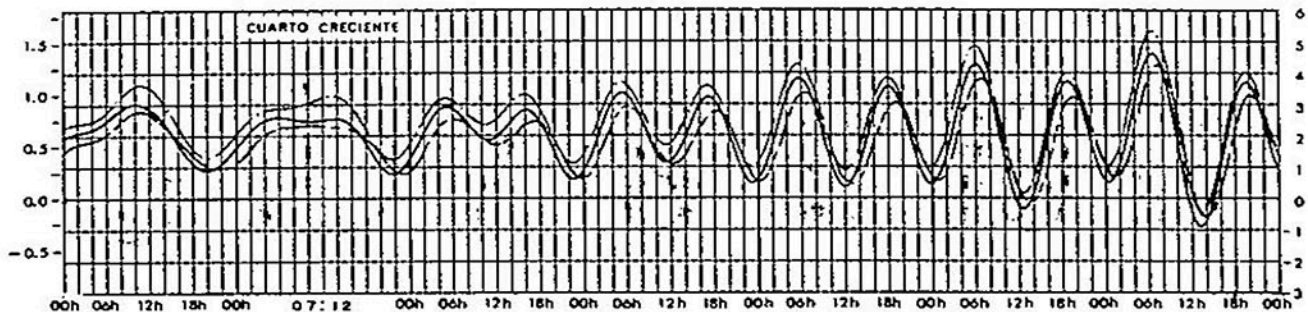
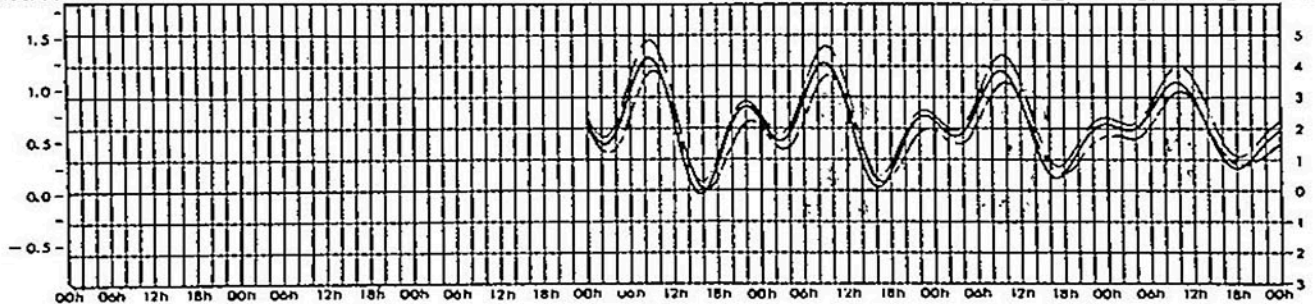
NOVIEMBRE 1989

CABO SN. LUCAS, B.C.S
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



HORA DEL MERIDIANO 105° W
HORA DEL MERIDIANO 90° W

PLANO DE REFERENCIA: N.B.M.1



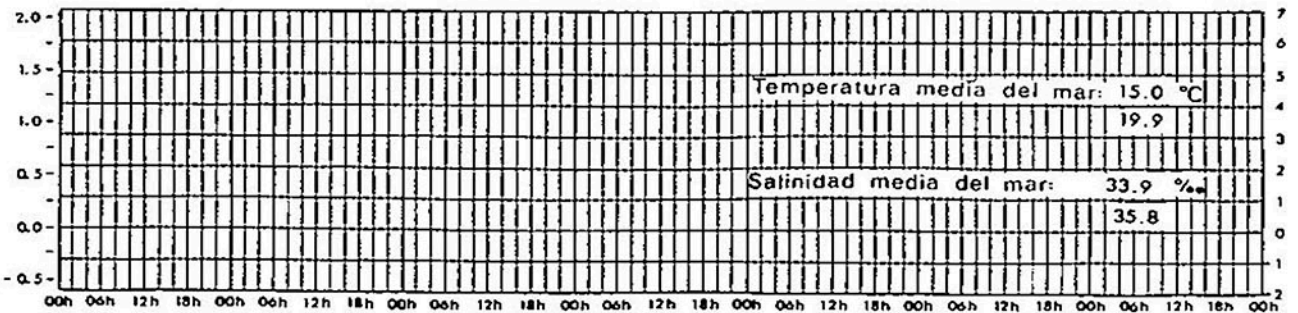
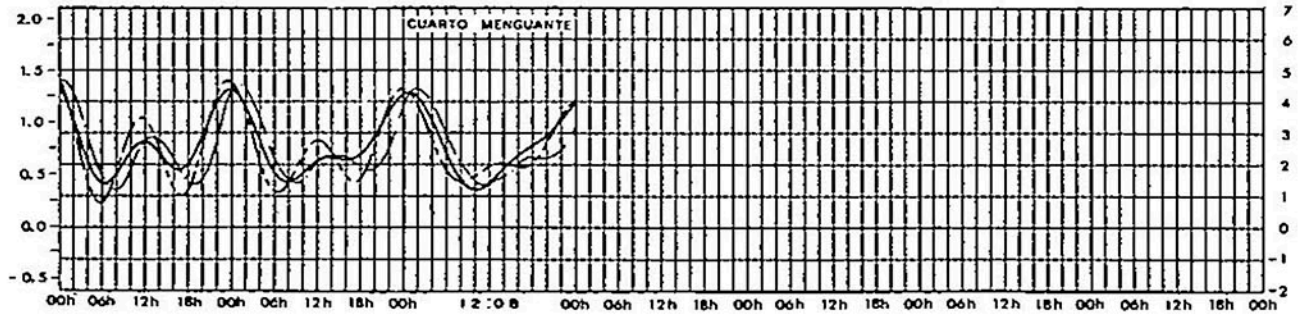
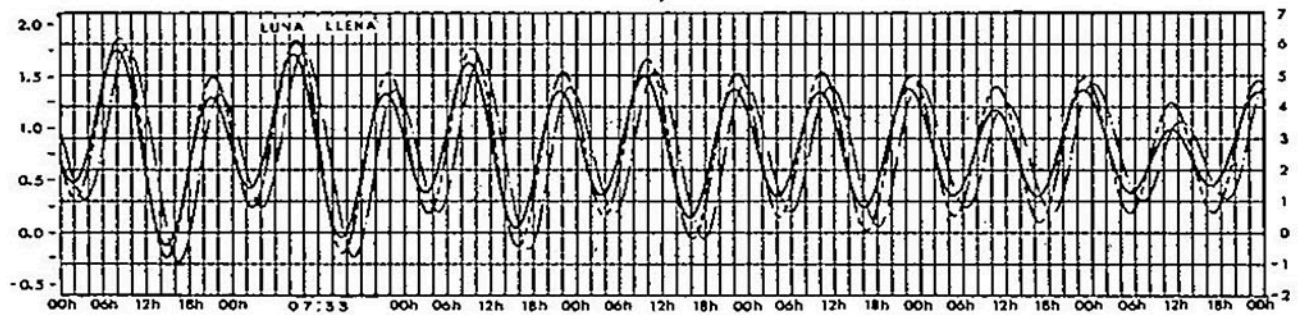
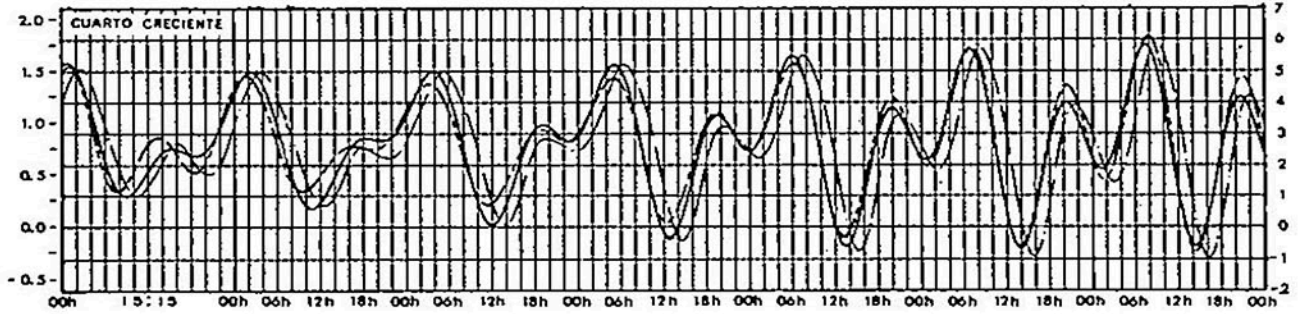
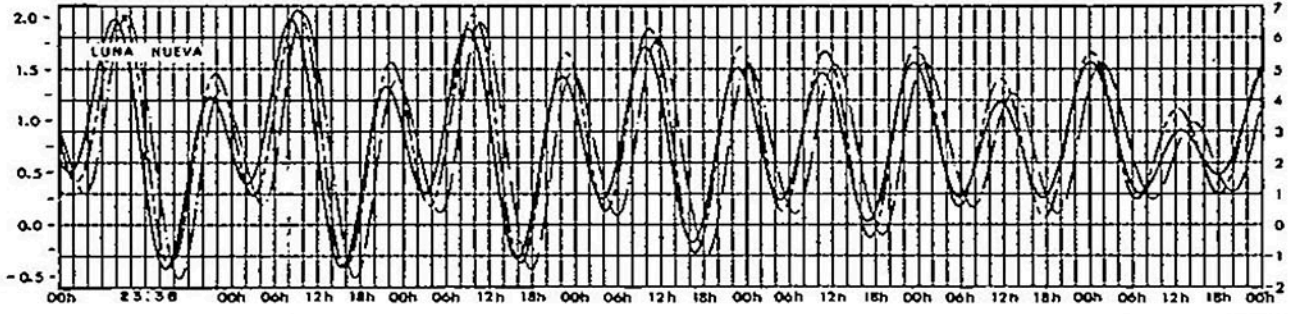
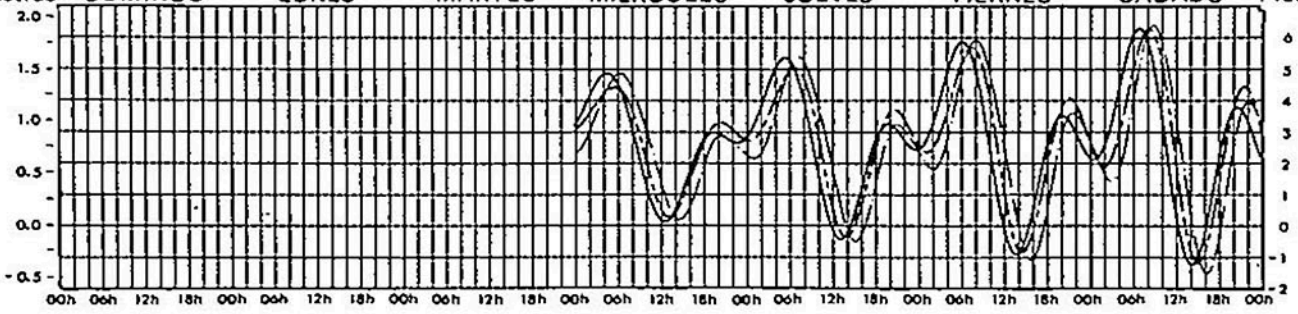
FEBREKU 1989

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



HORA DEL MERIDIANO 120° W

PLANO DE REFERENCIA: N.B.M.L

HORA DEL MERIDIANO 105° W



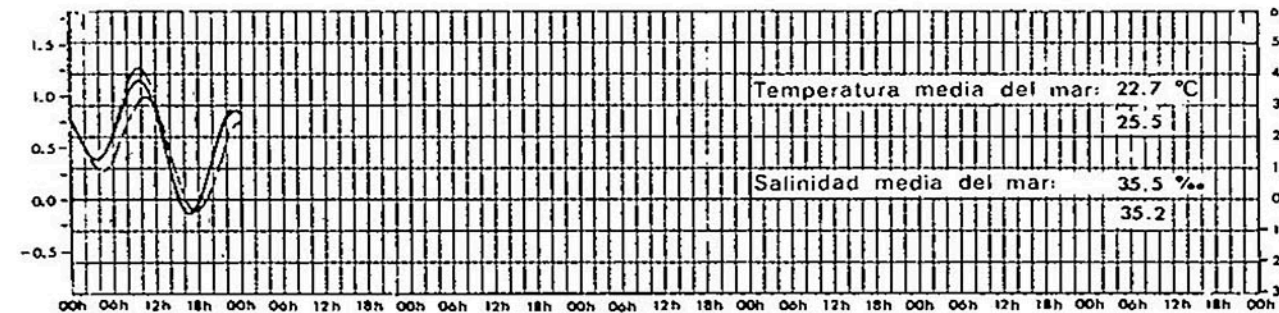
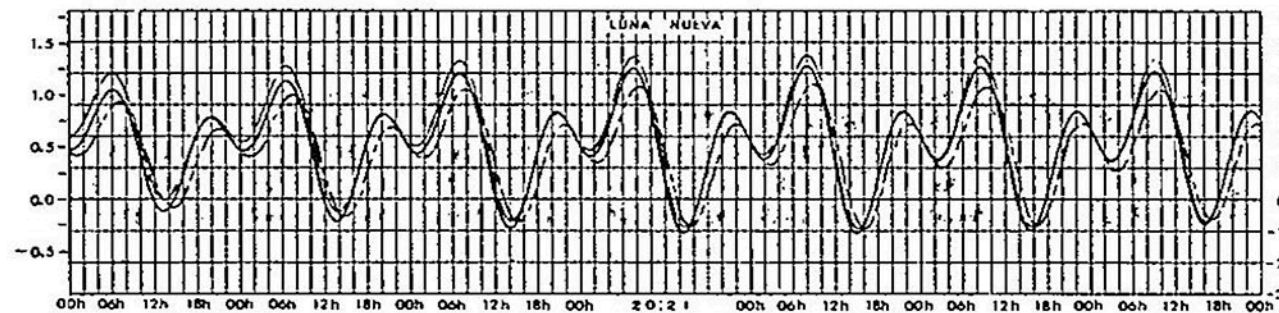
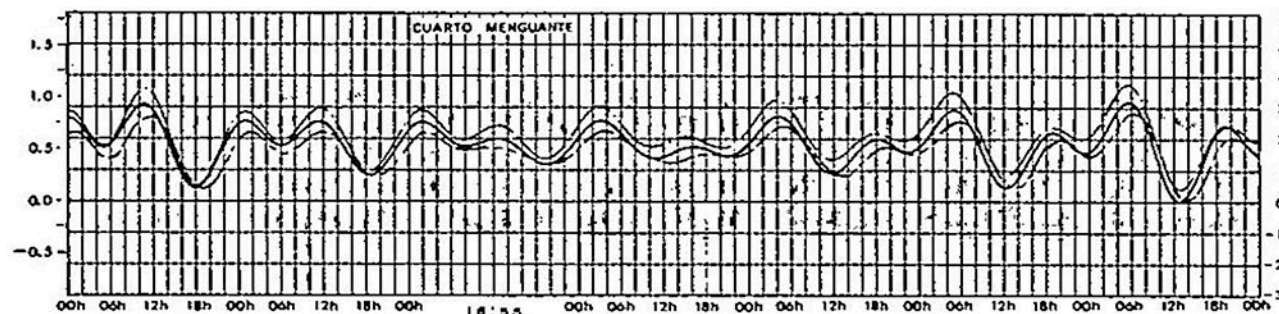
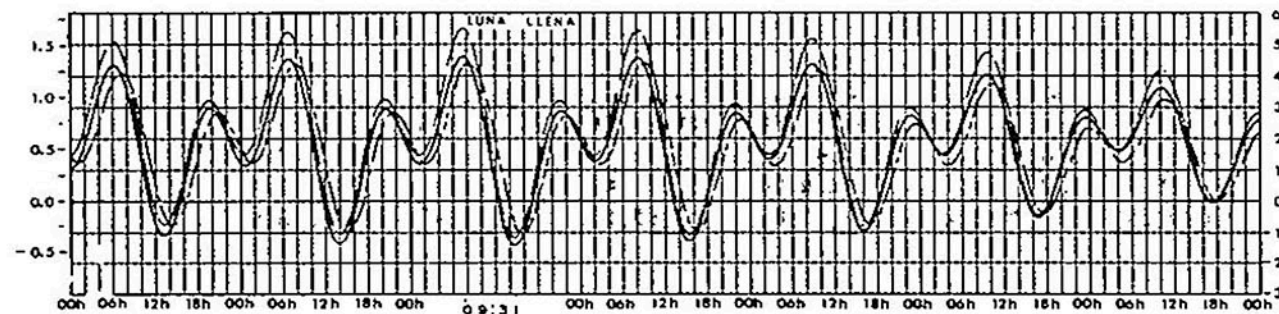
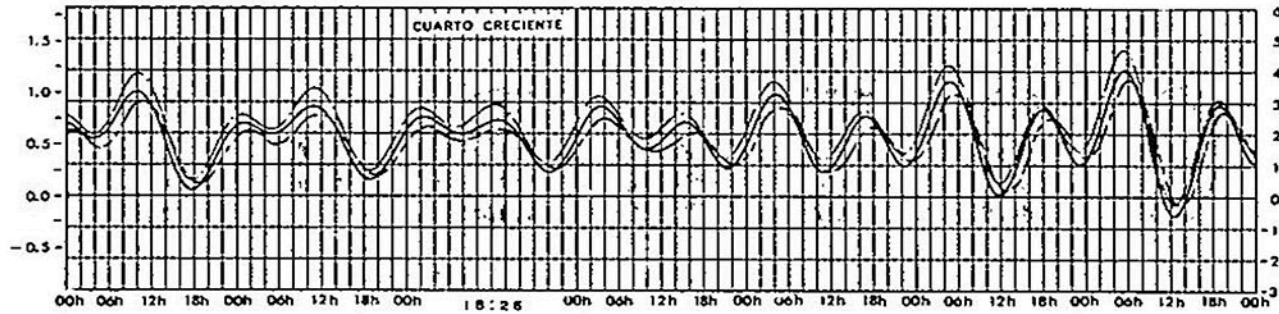
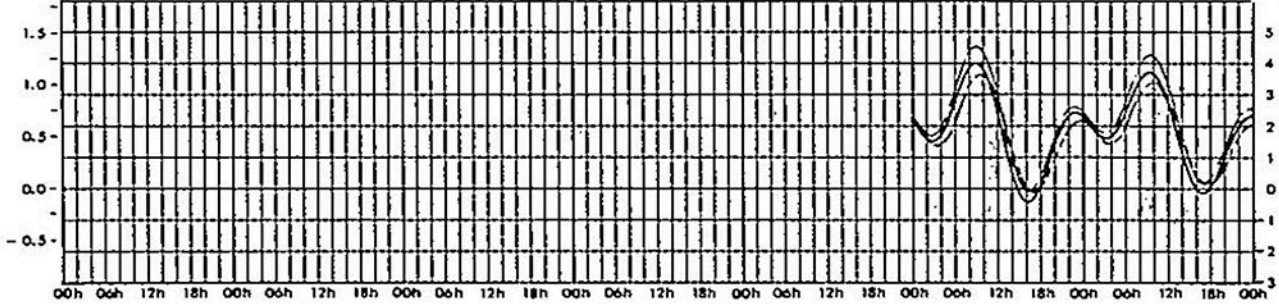
DICIEMBRE 1989

CABO SN. LUCAS, B.C.S.
MAZATLAN, SIN.
PTO. VALLARTA, JAL.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



HORA DEL MERIDIANO 185° W
HORA DEL MERIDIANO 90° W

PLANO DE REFERENCIA: N.B.M.I

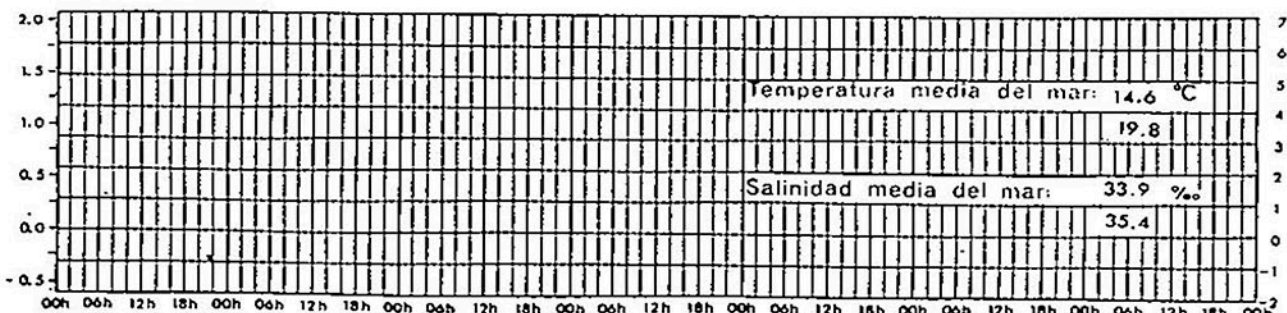
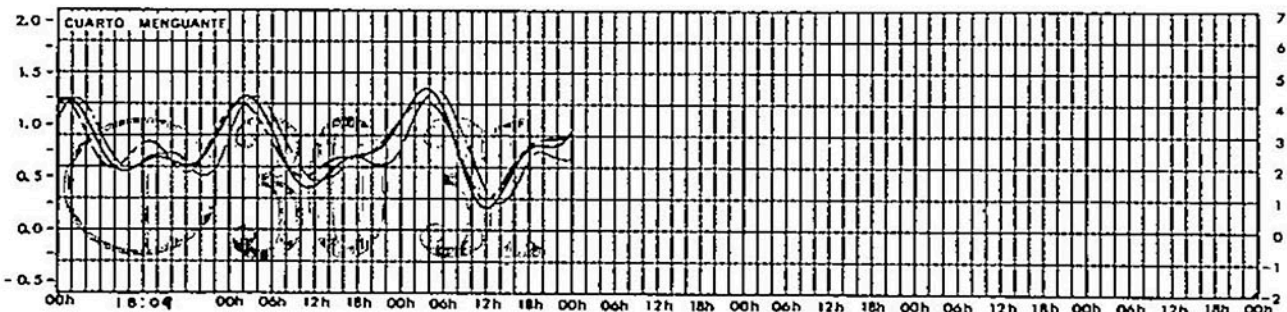
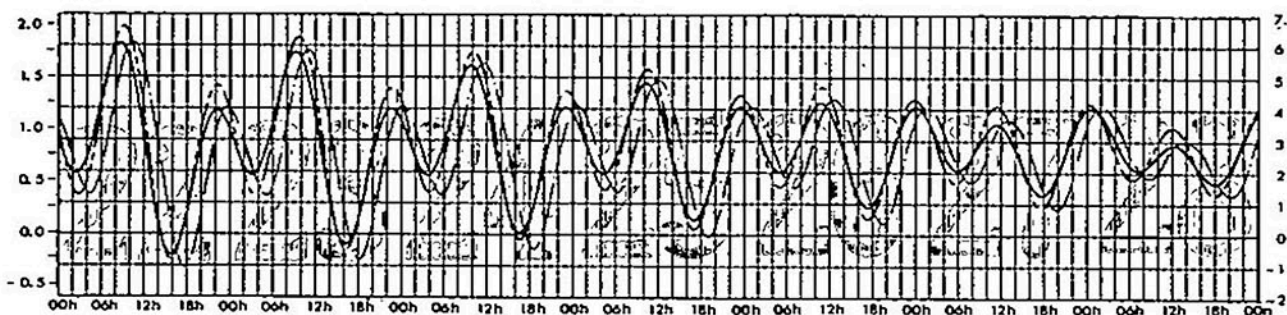
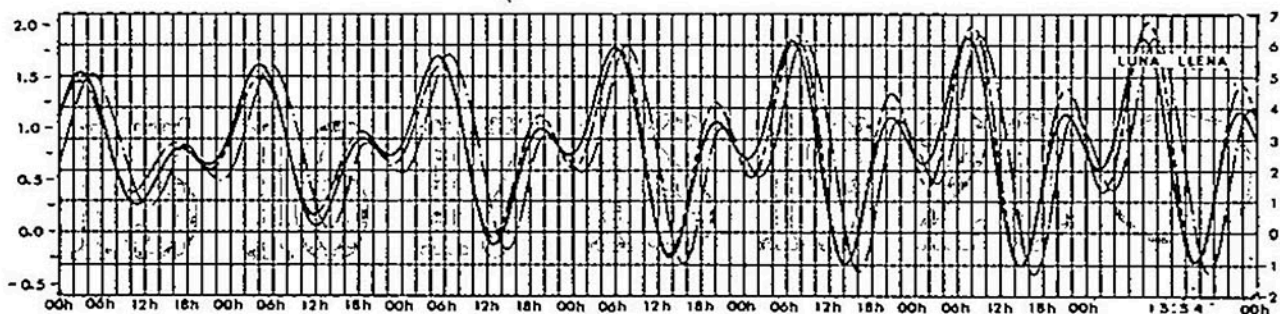
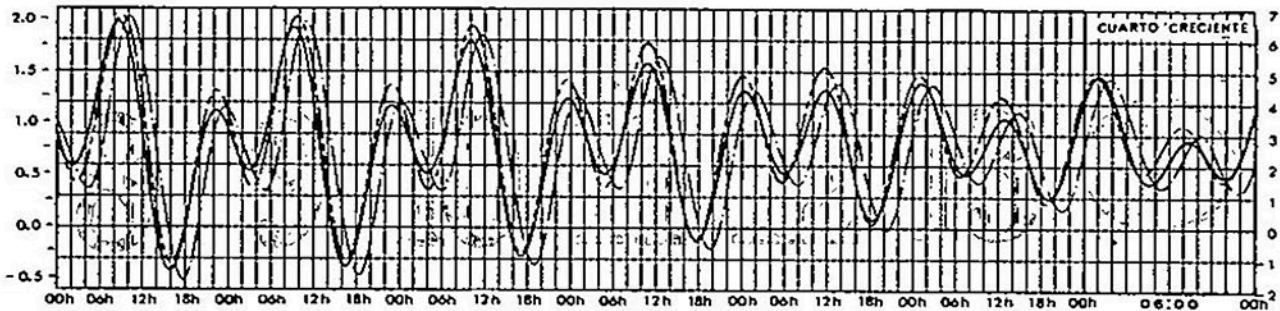
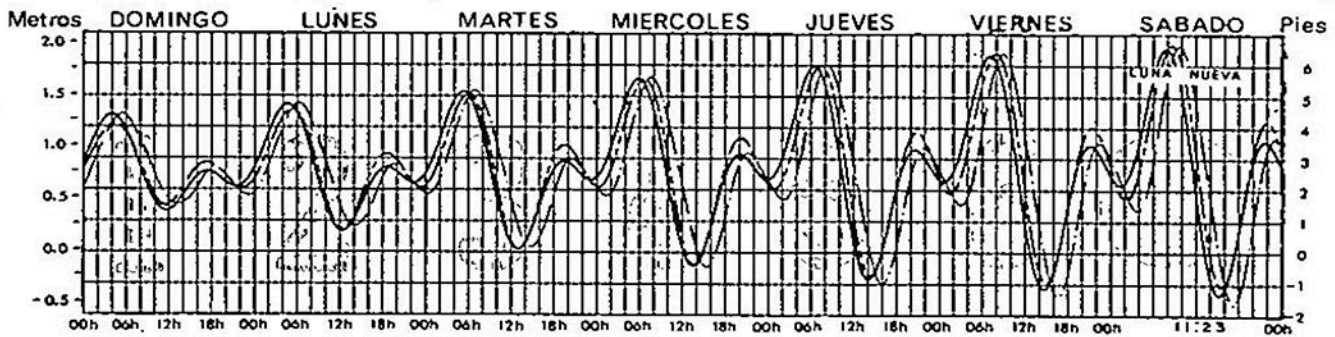


ENERO 1989

ENSENADA, B.C.
GRO. NEGRO, B.C.S.
SN. CARLOS, B.C.S.



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



Temperatura media del mar: 14.6 °C

19.8

Salinidad media del mar: 33.9 ‰

35.4

HORA DEL MERIDIANO 120° W
HORA DEL MERIDIANO 105° W

PLANO DE REFERENCIA: N. B. M. L.

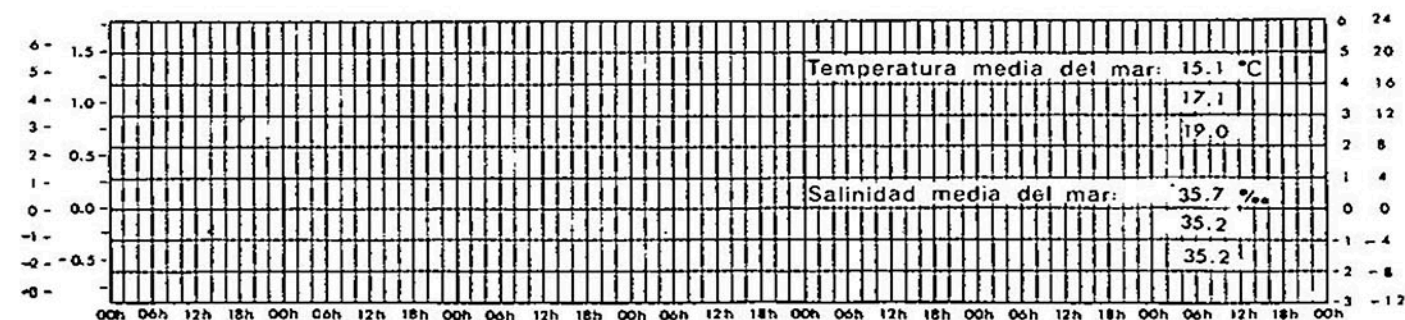
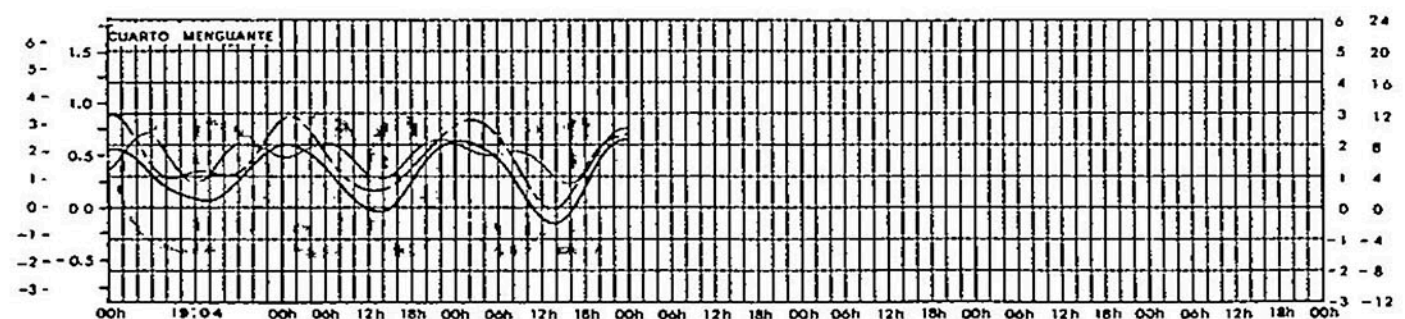
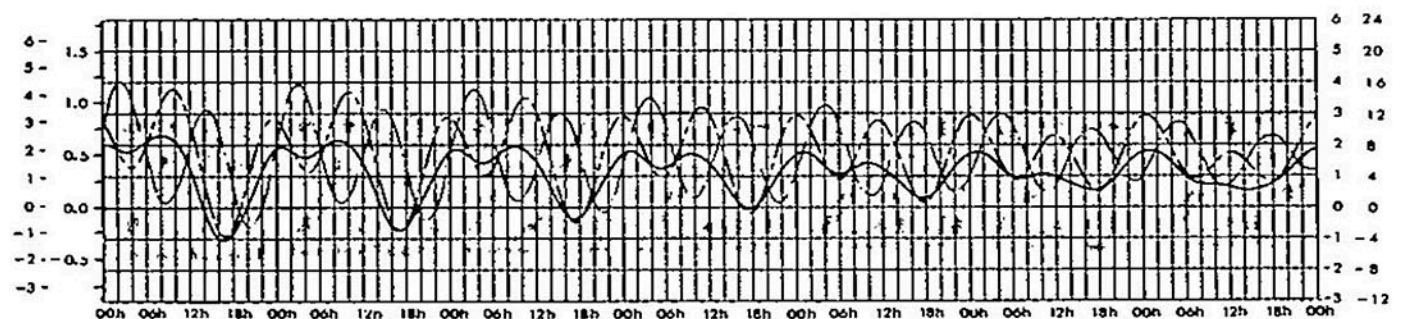
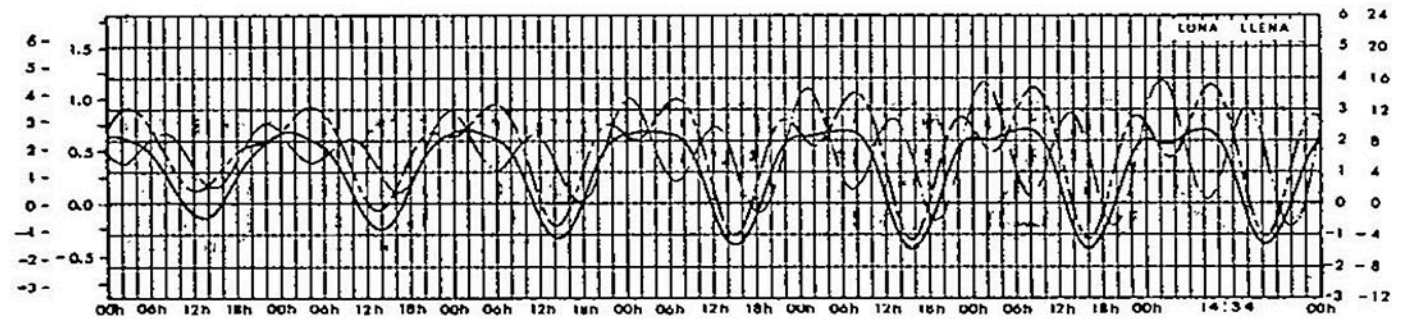
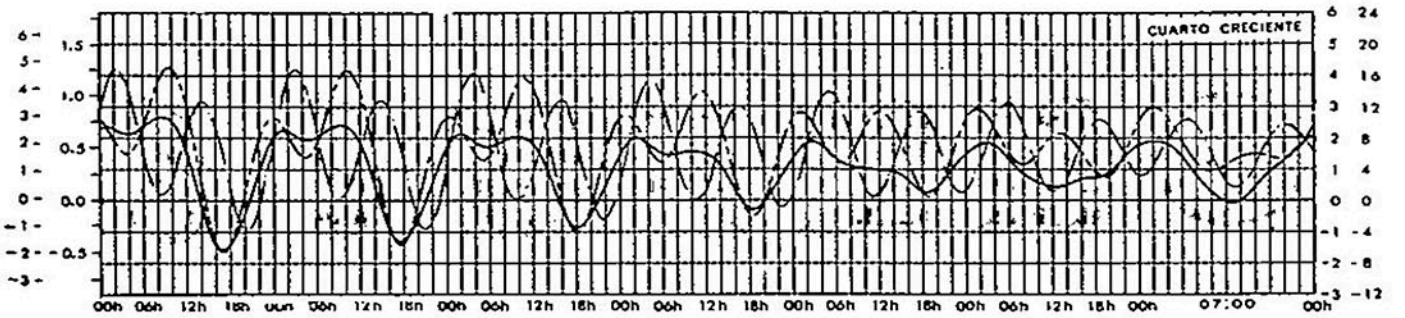
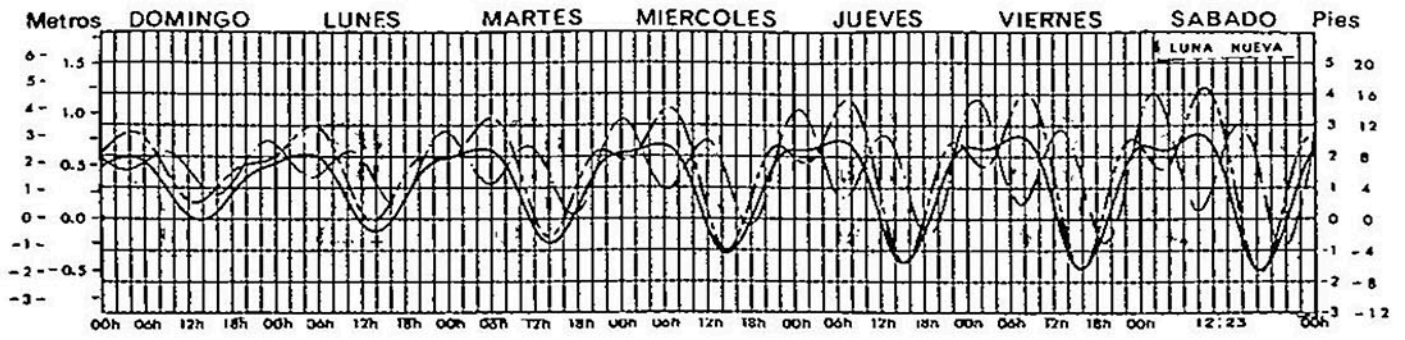


ENERG 1989

PTO. PEÑASCO, SON.
GUAYMAS, SON.
TOPOLOBAMPO, SIN.



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



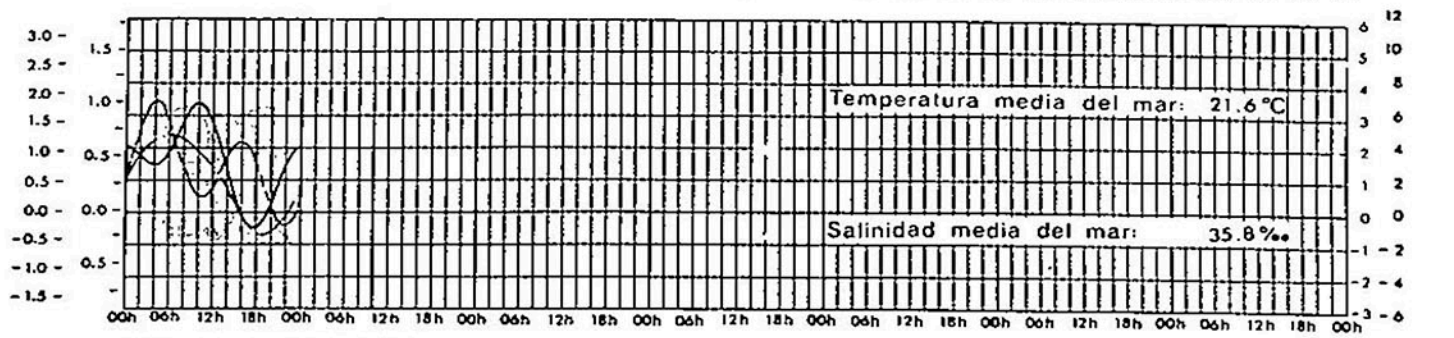
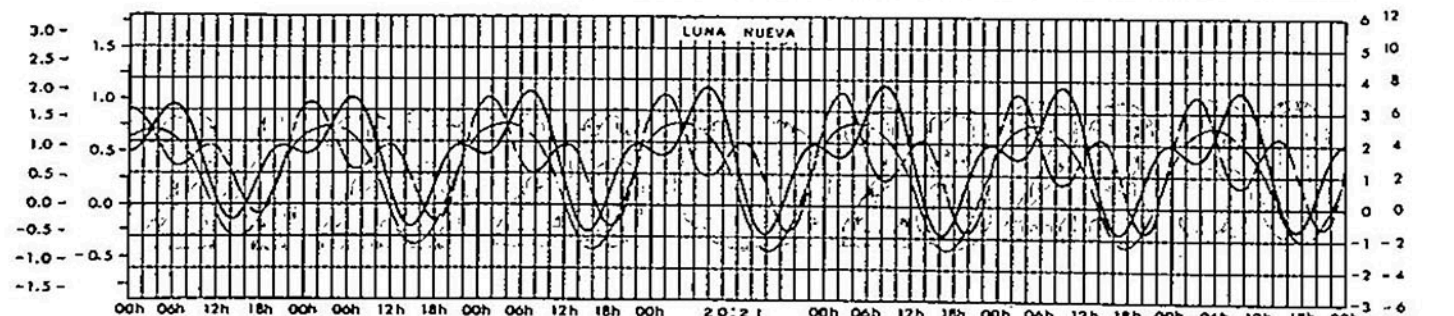
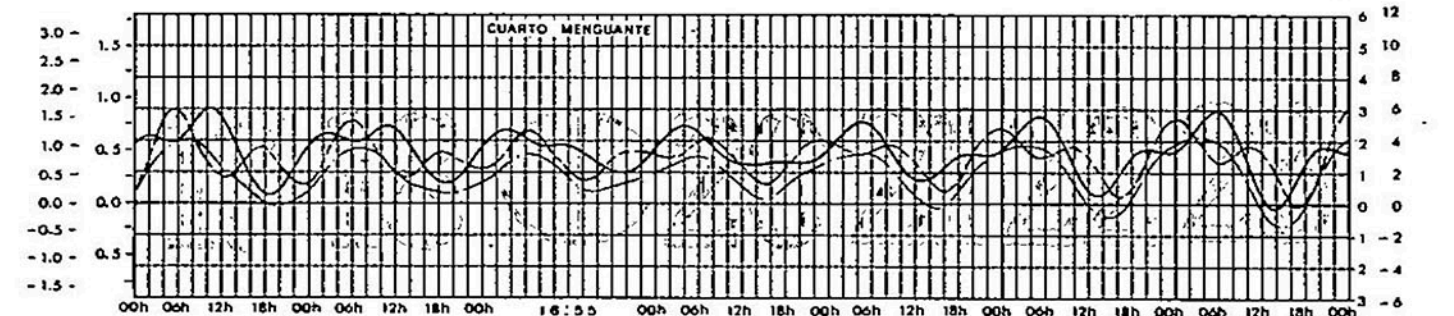
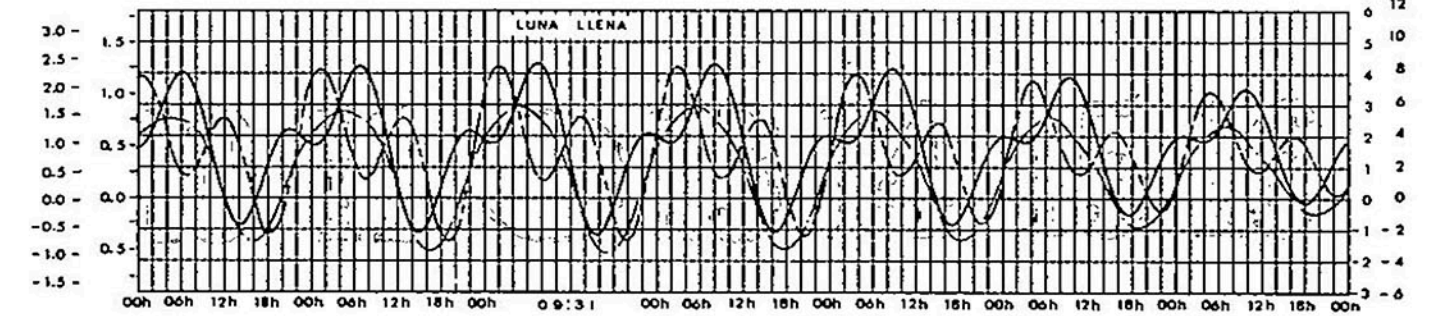
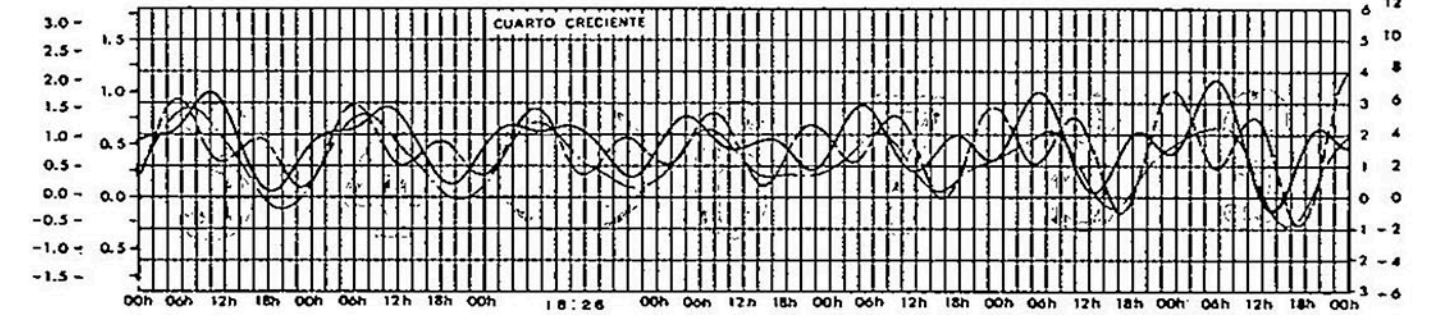
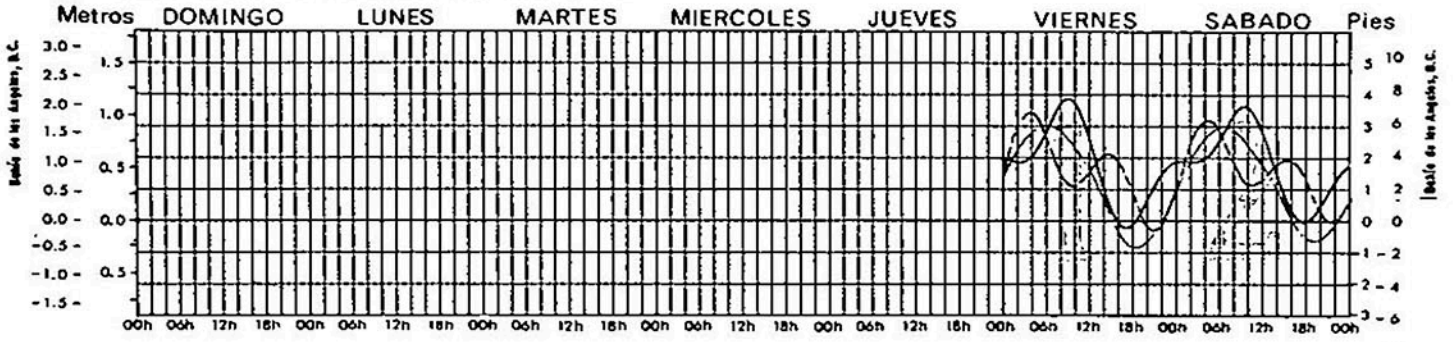


DICIEMBRE 1989

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



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



Temperatura media del mar: 21.6 °C

Salinidad media del mar: 35.8 ‰



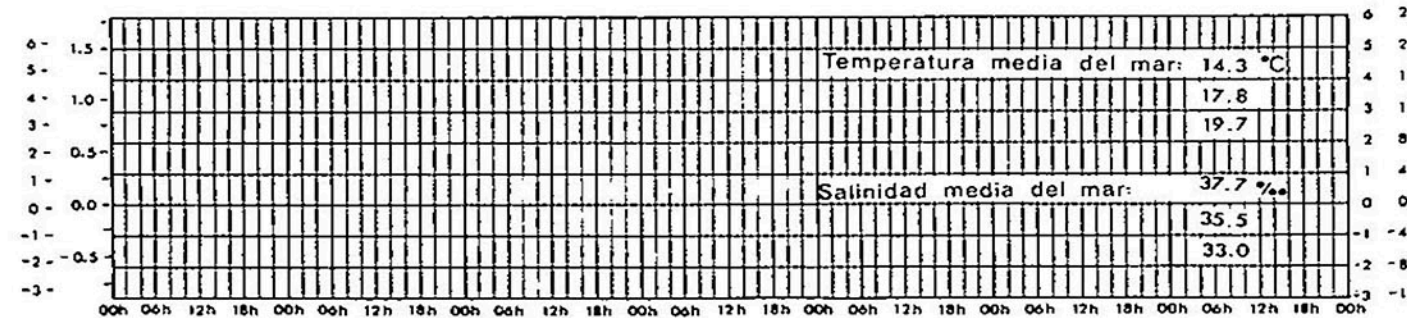
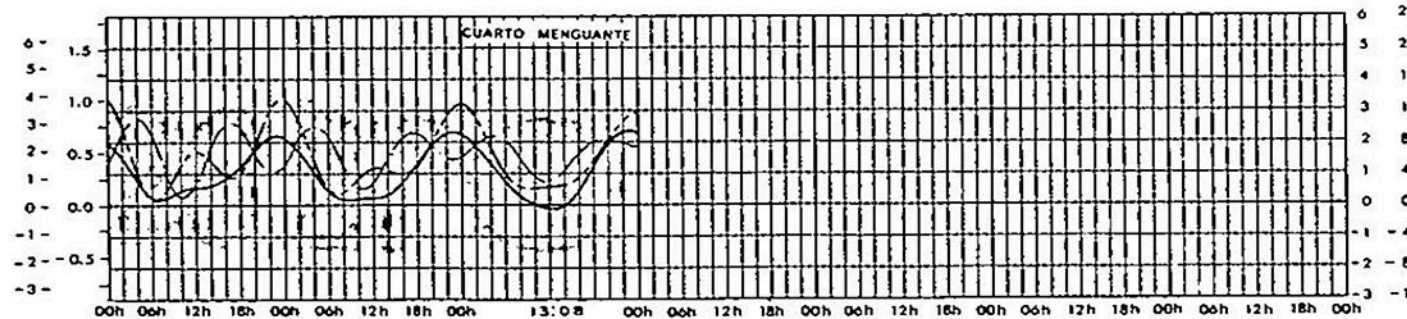
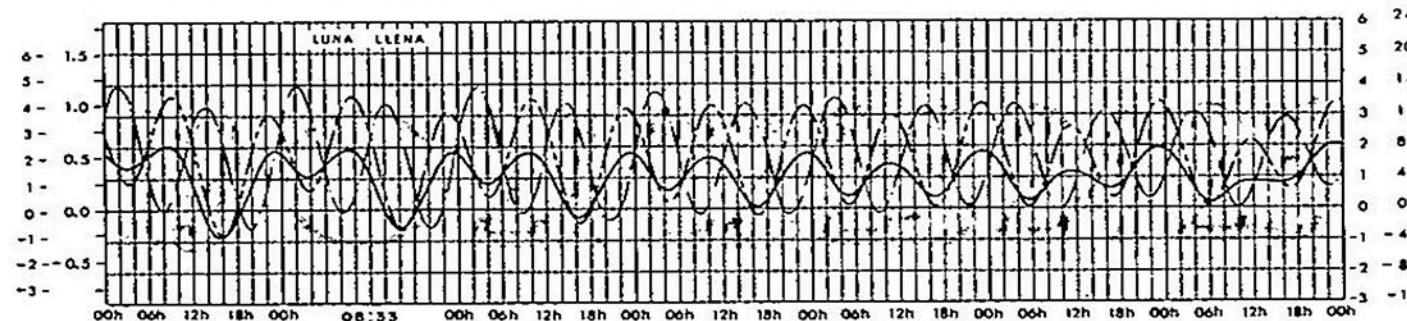
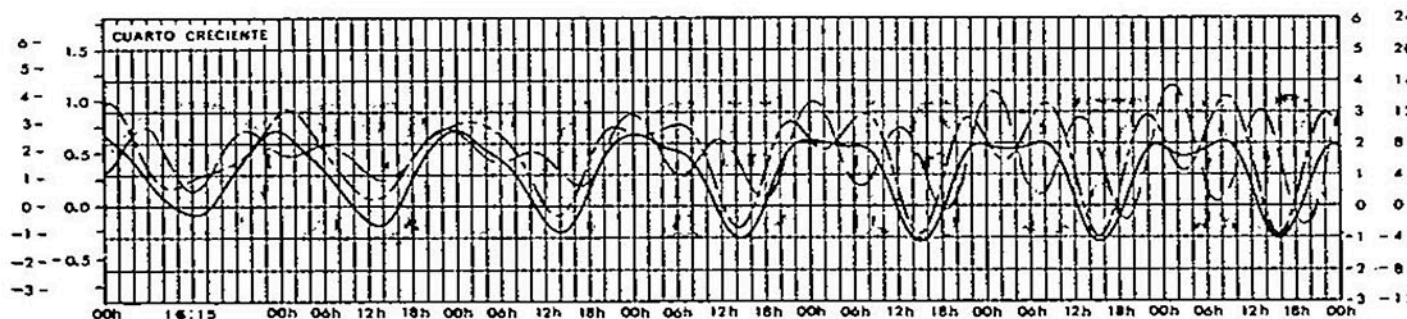
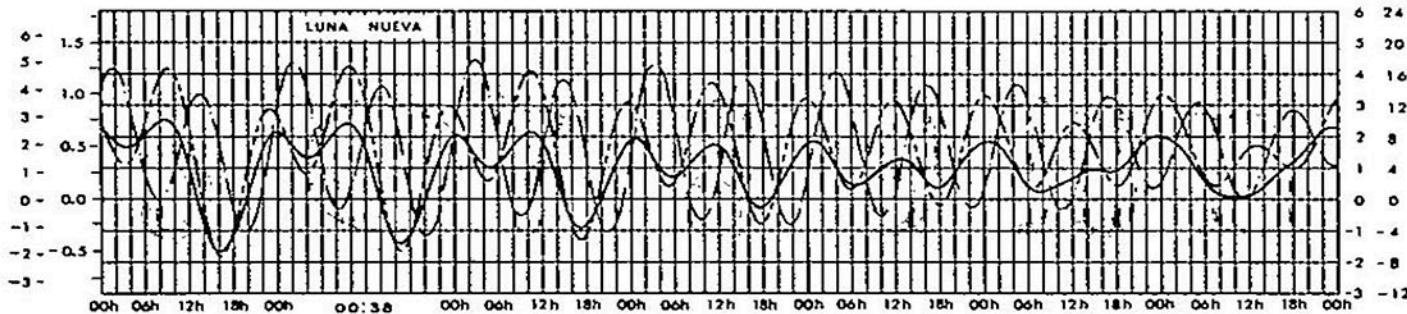
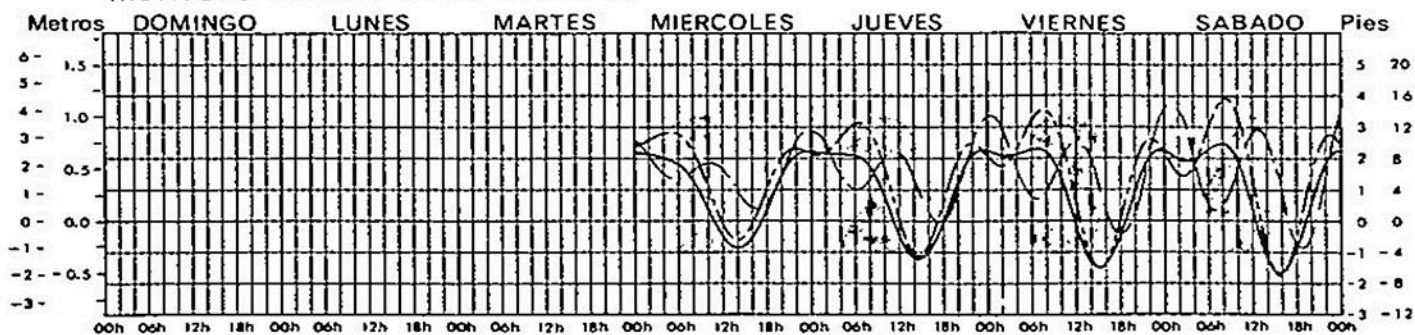
FEBRERO

1989

PTO. PEÑASCO, SON.
 GUAYMAS, SON.
 TOPOLOBAMPO, SIN.



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



HORA DEL MERIDIANO 185° W

PLANO DE REFERENCIA: N. B. M. S.

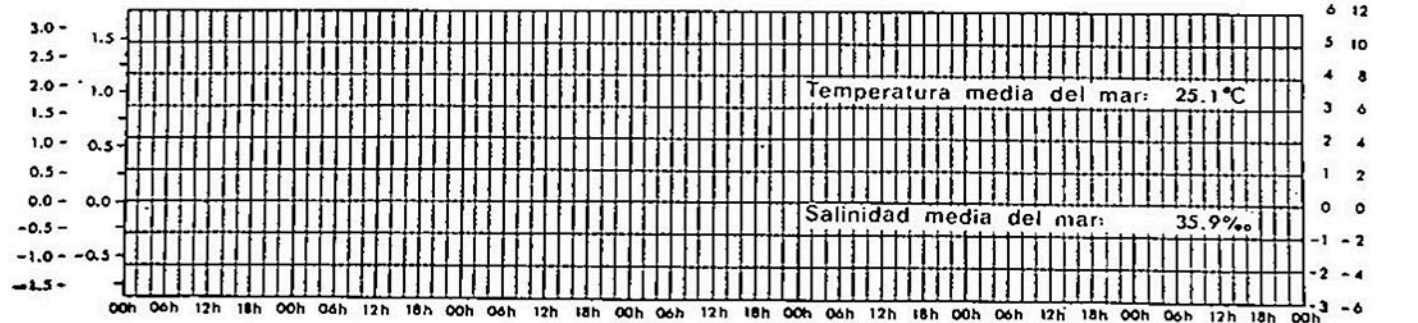
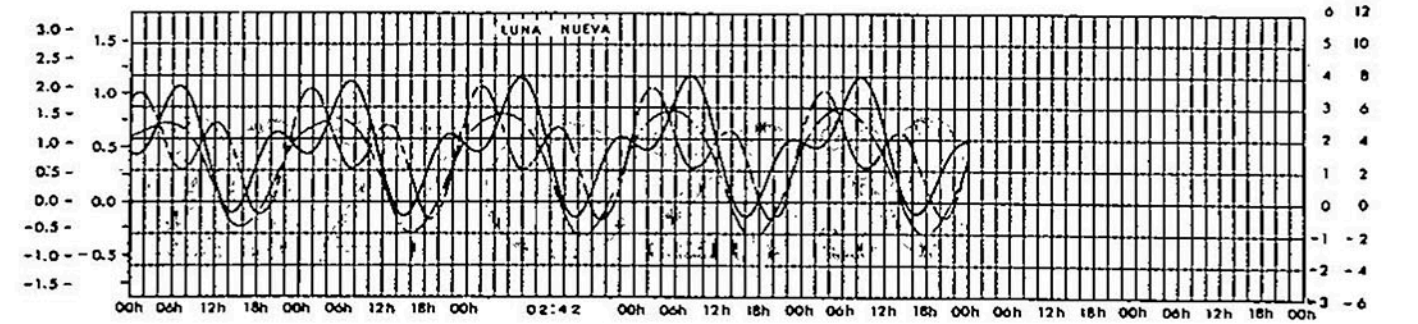
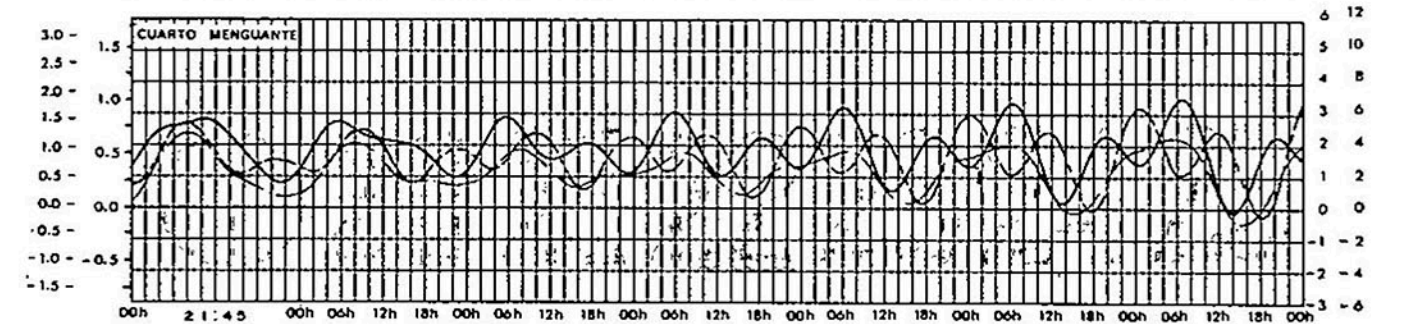
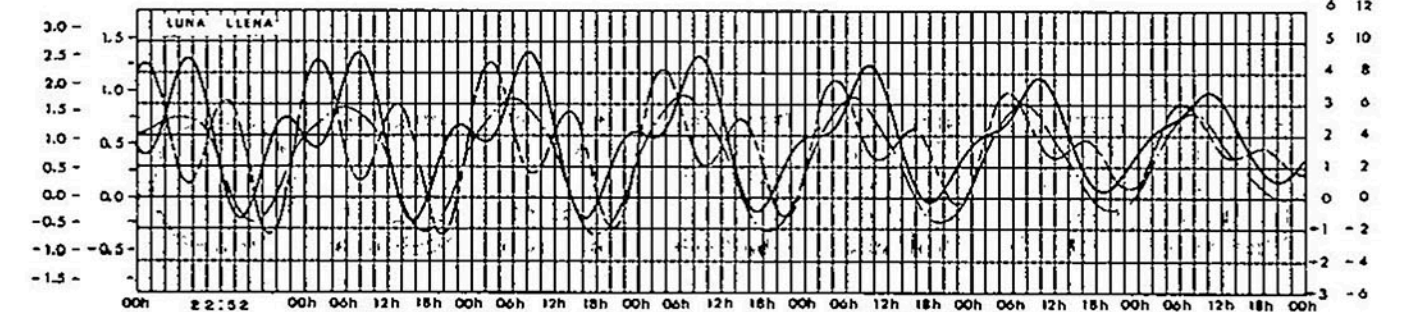
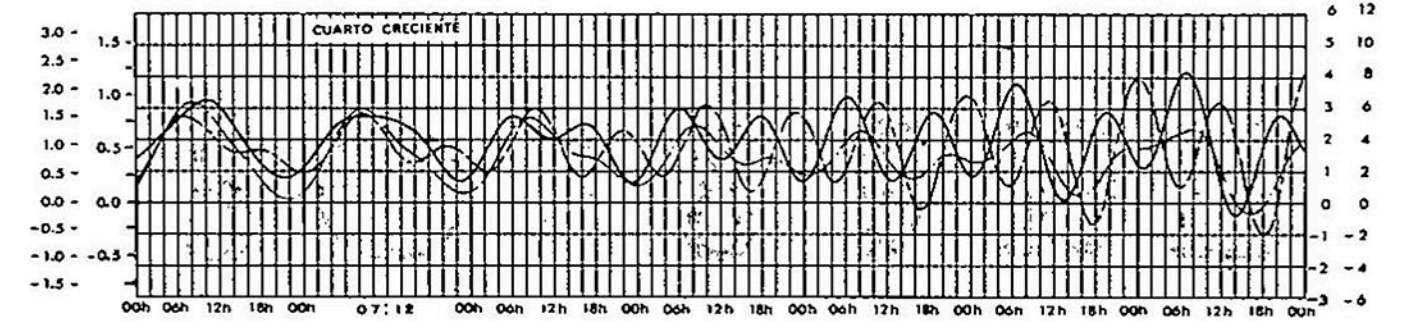
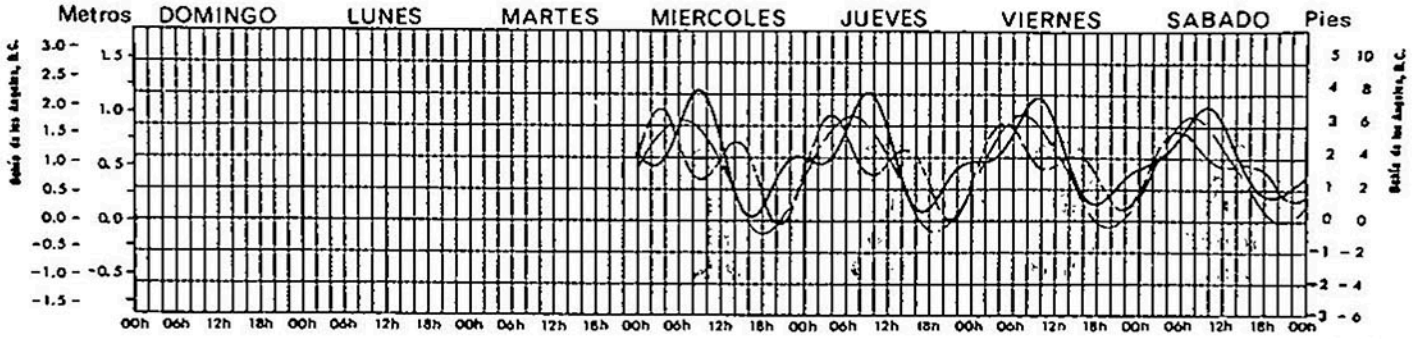


NOVIEMBRE 1989

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



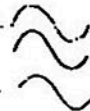
INSTITUTO DE GEOFISICA, U. N. A. M.



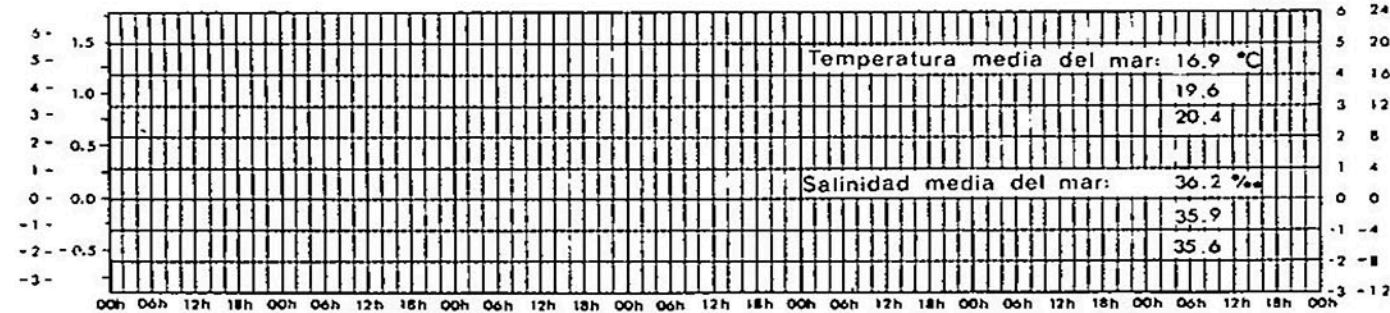
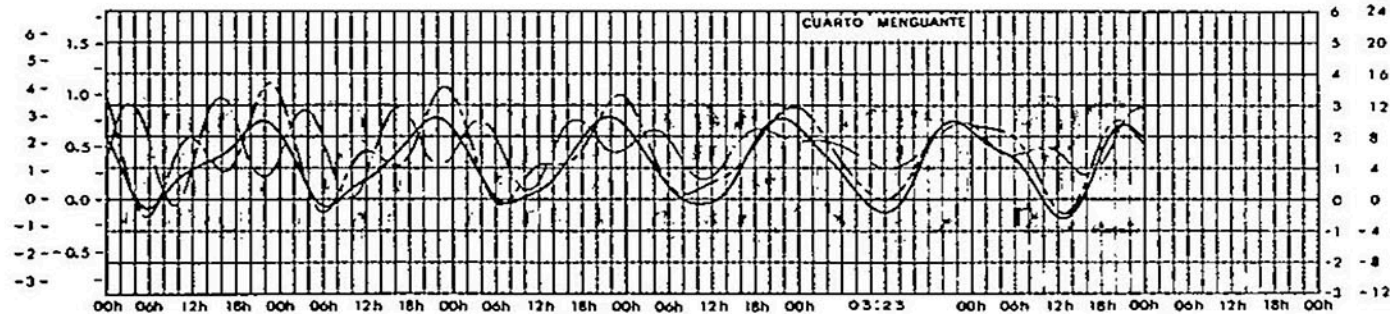
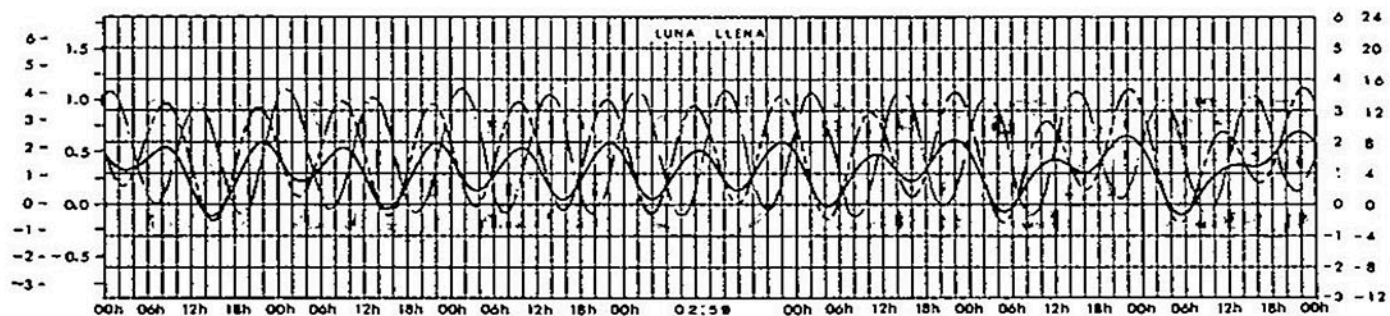
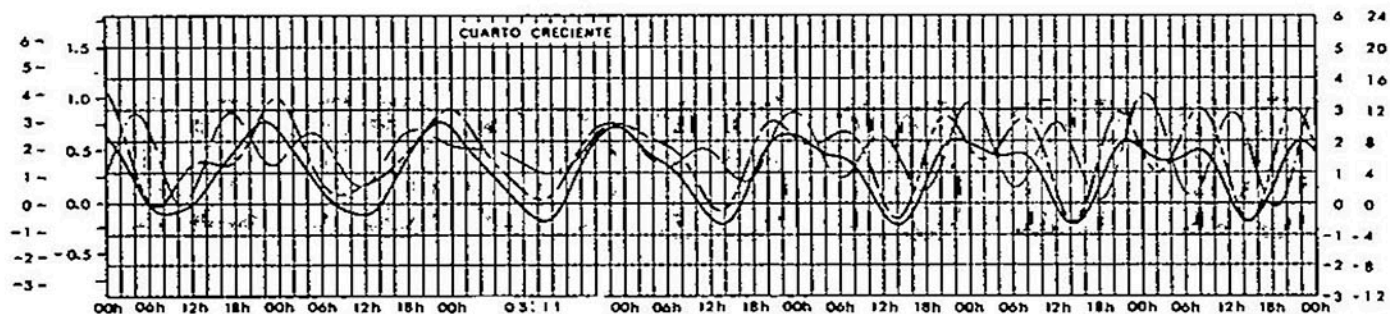
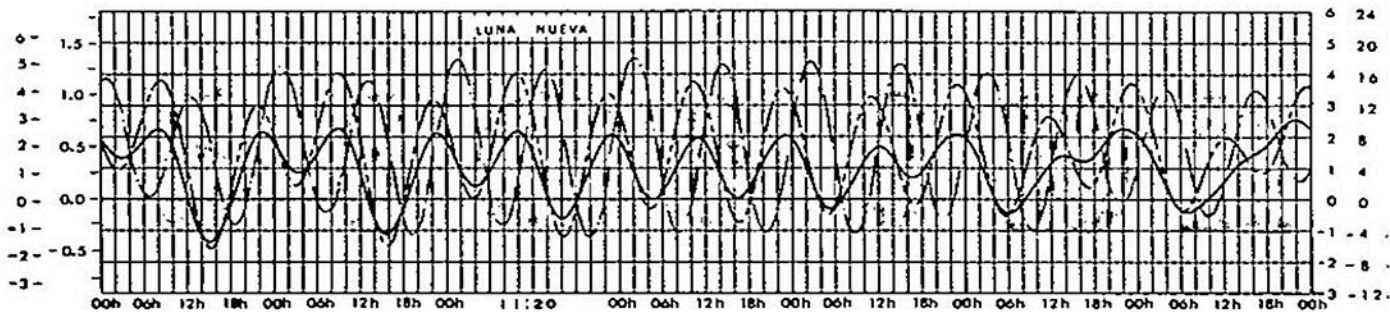
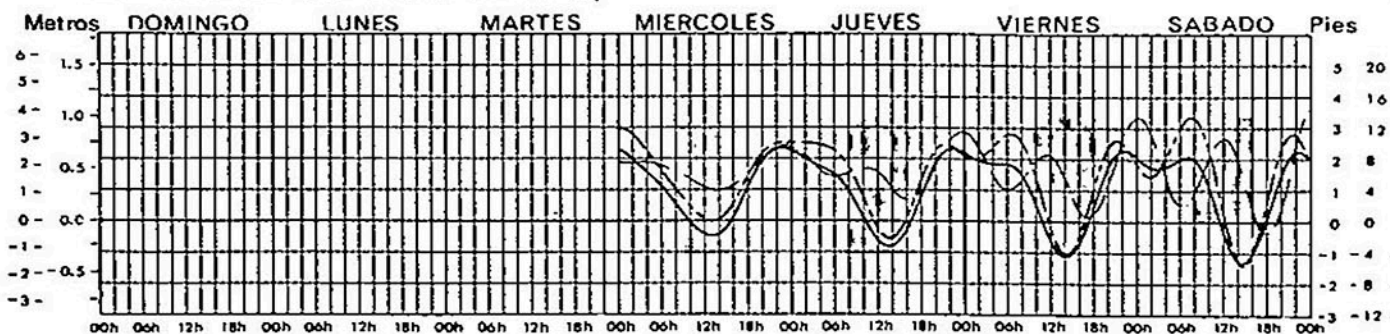


MARZO 1989

PTO. PEÑASCO, SON.
GUAYMAS, SON.
TOPOLOBAMPO, SIN.



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



HORA DEL MERIDIANO 109° W

PLANO DE REFERENCIA: N. B. M. L.

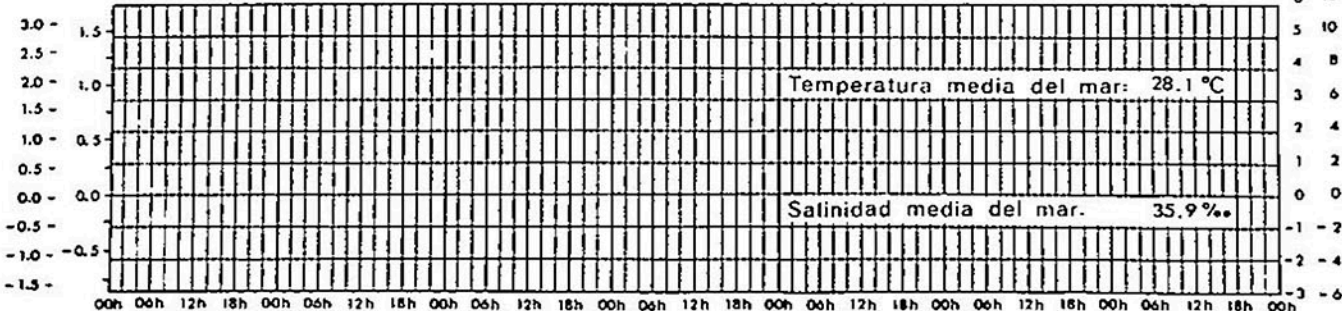
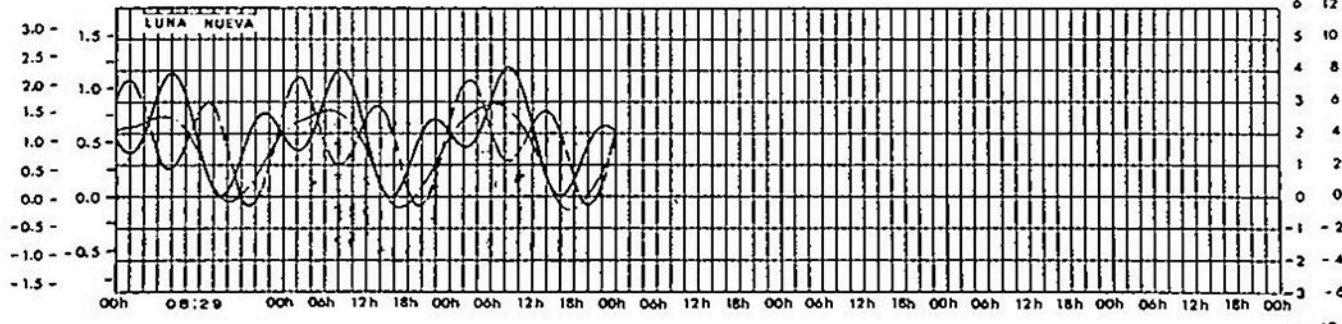
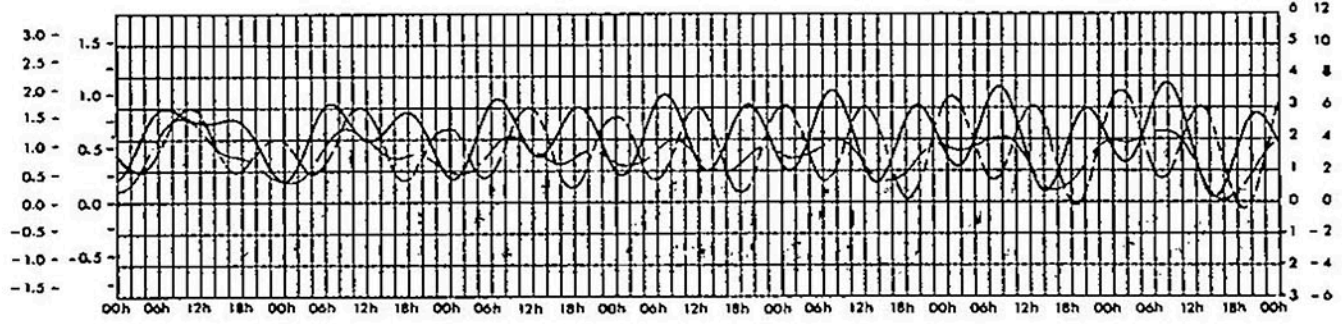
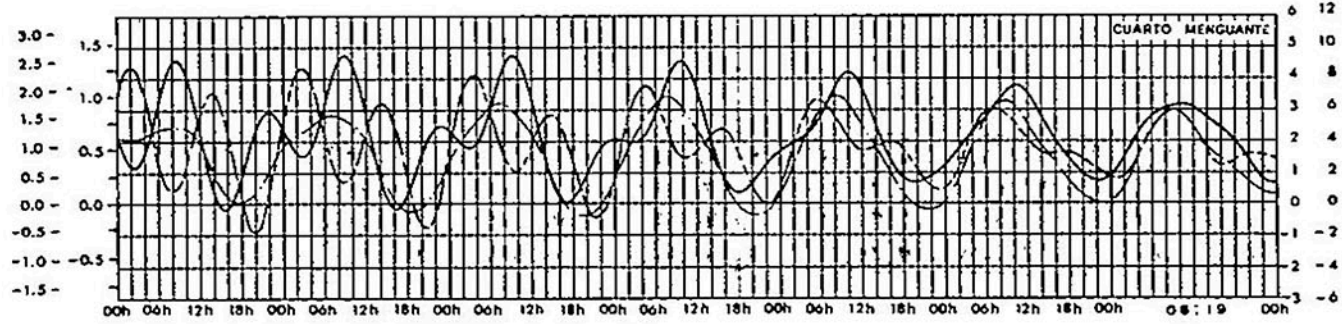
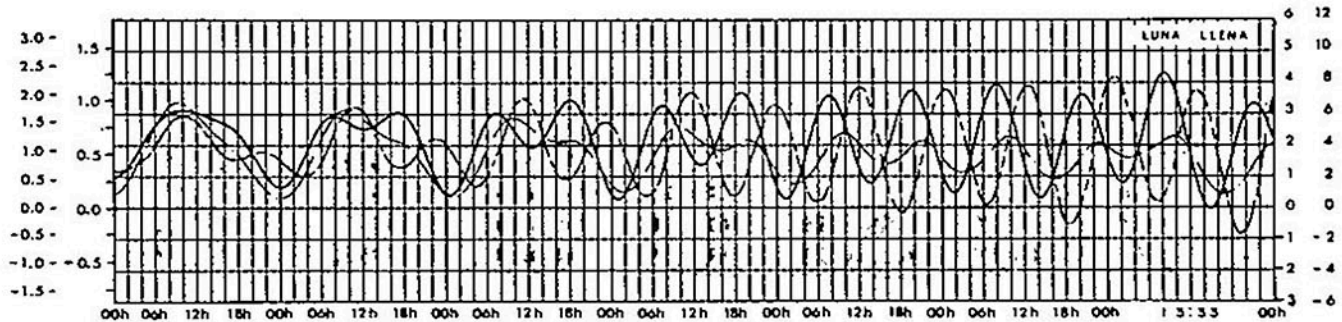
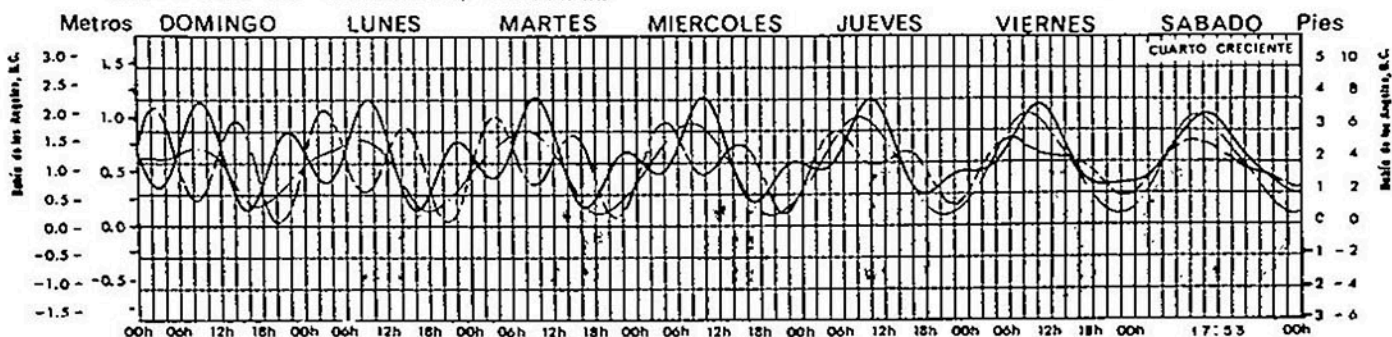


OCTUBRE 1989

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



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



Temperatura media del mar: 28.1 °C

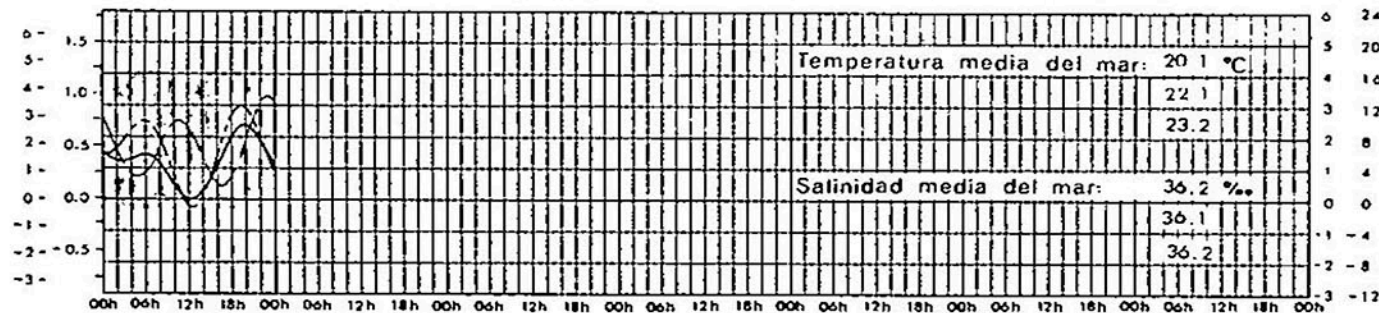
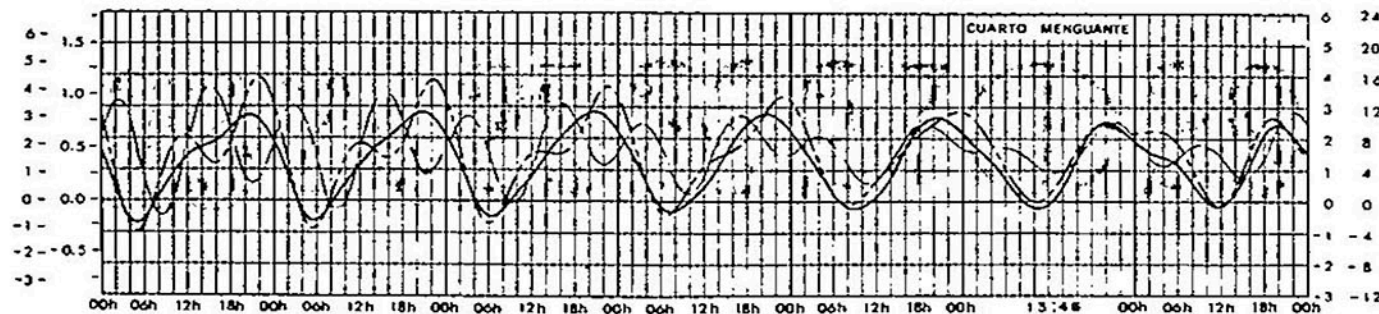
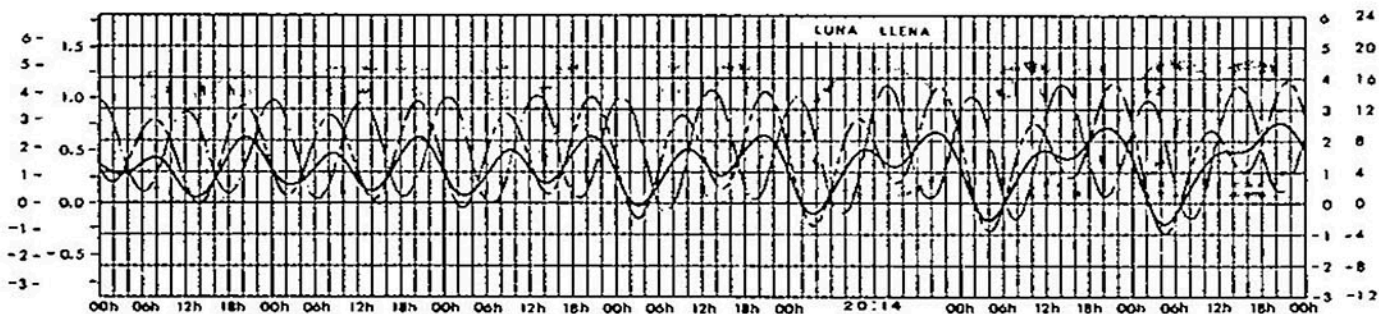
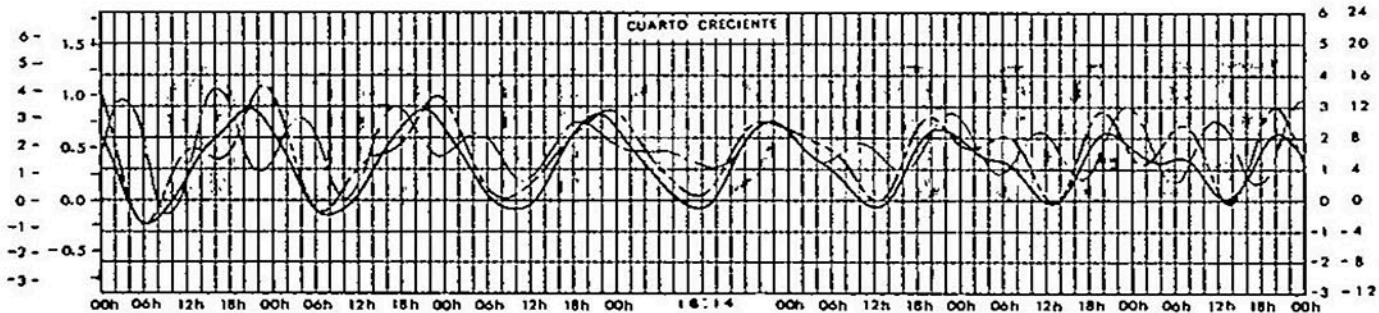
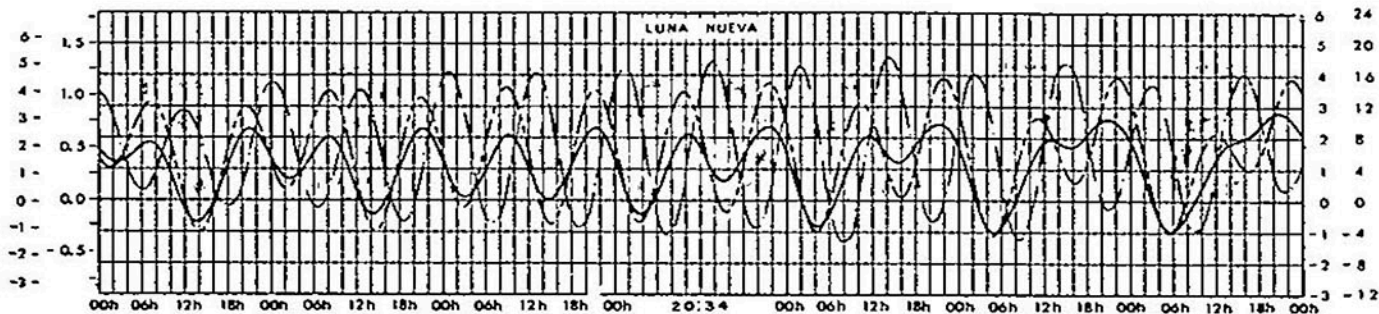
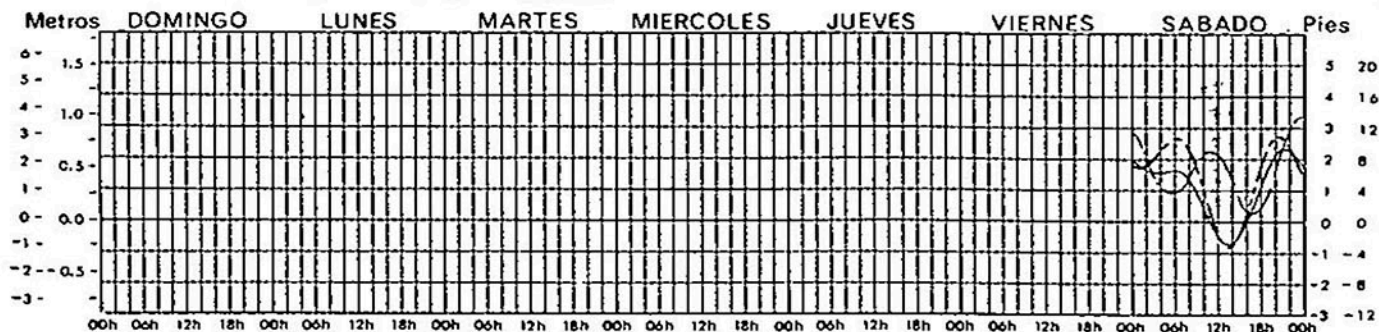
Salinidad media del mar: 35.9‰



ABRIL 1989

PTO. PEÑASCO, SON.
GUAYMAS, SON.
TOPOLOBAMPO, SIN.

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



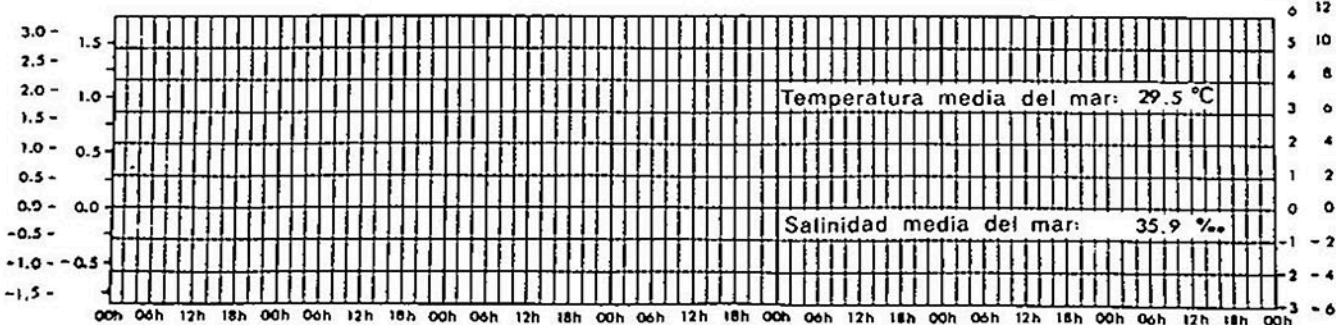
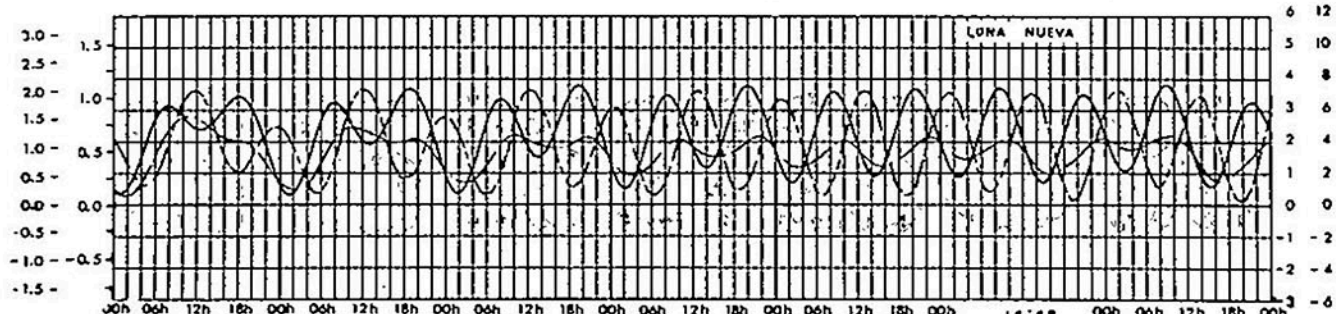
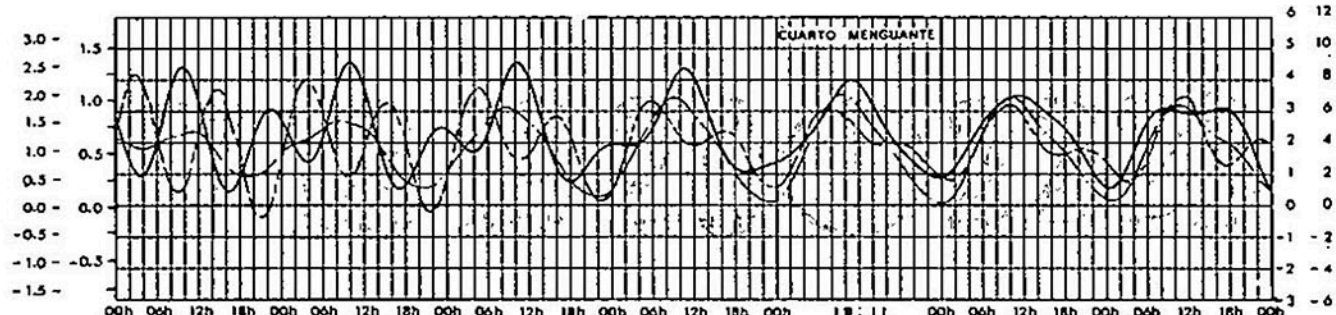
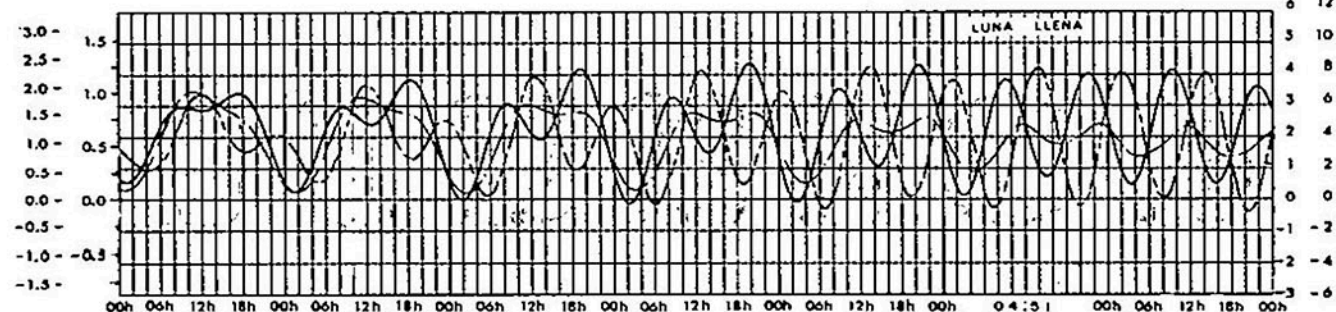
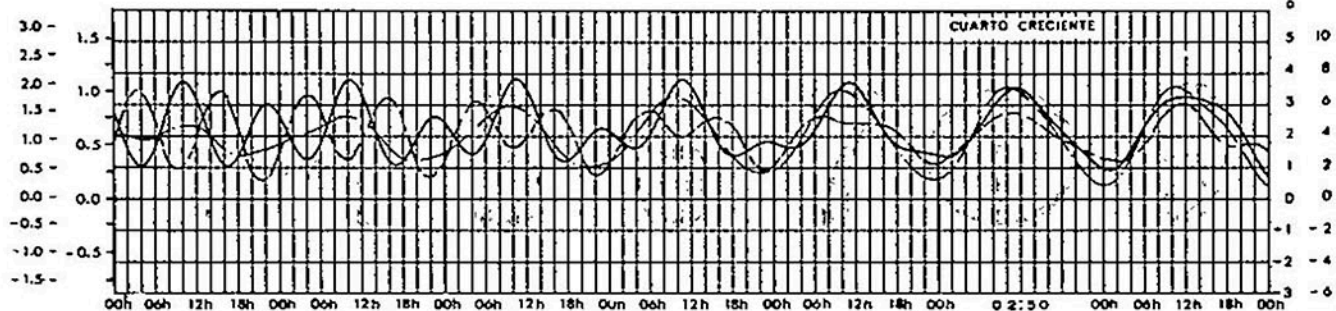
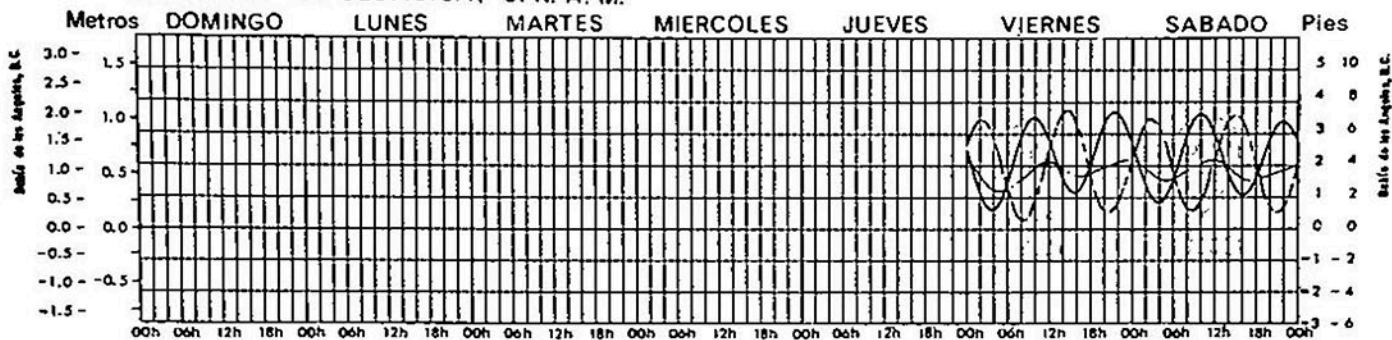


SEPTIEMBRE 1989

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



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



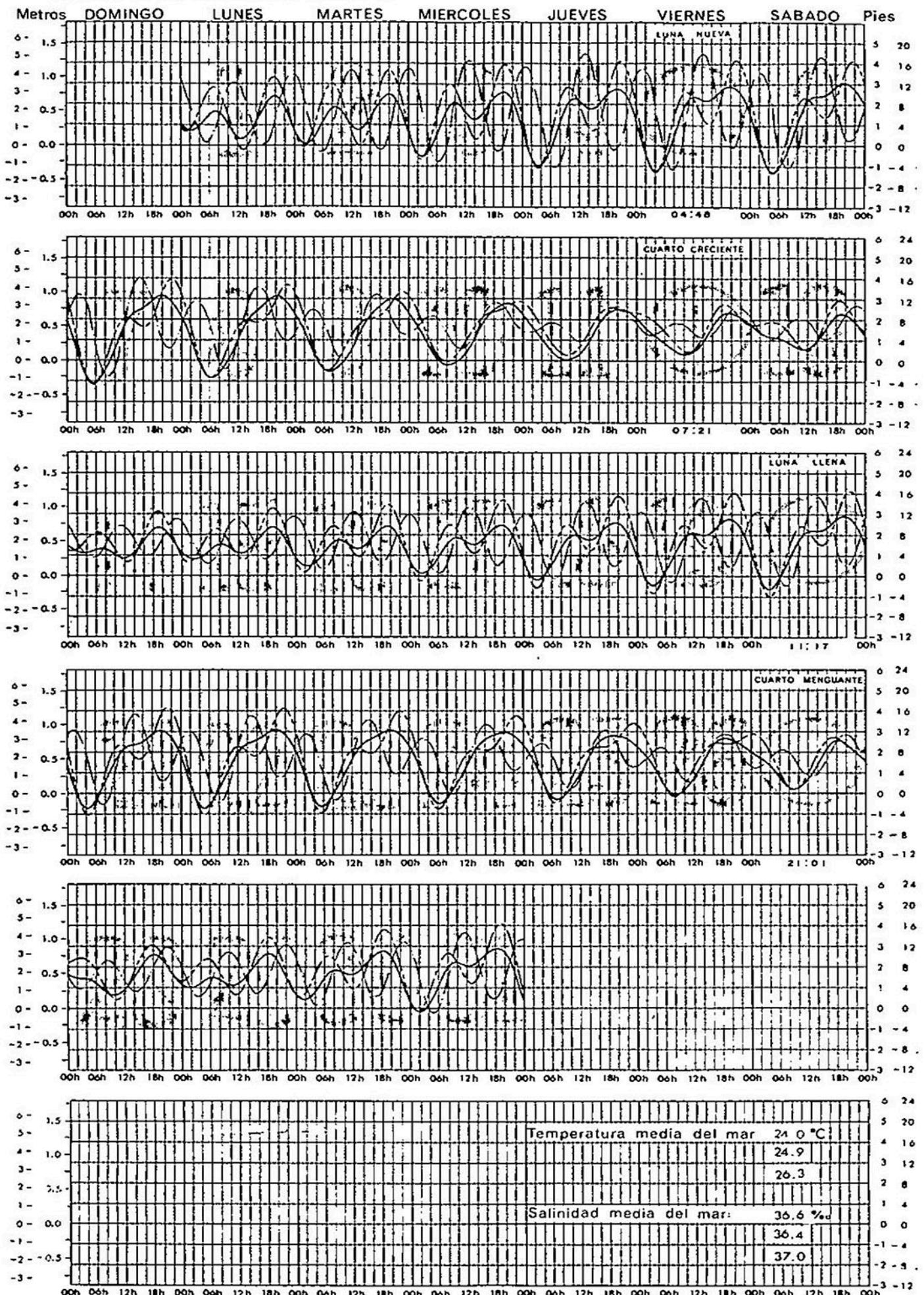


MAY 1989

PTO. PEÑASCO, SON.
GUAYMAS, SON.
TOPOLOBAMPO, SIN.



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



HORA DEL MERIDIANO 165° W

PLANO DE REFERENCIA: N. B. M. I.

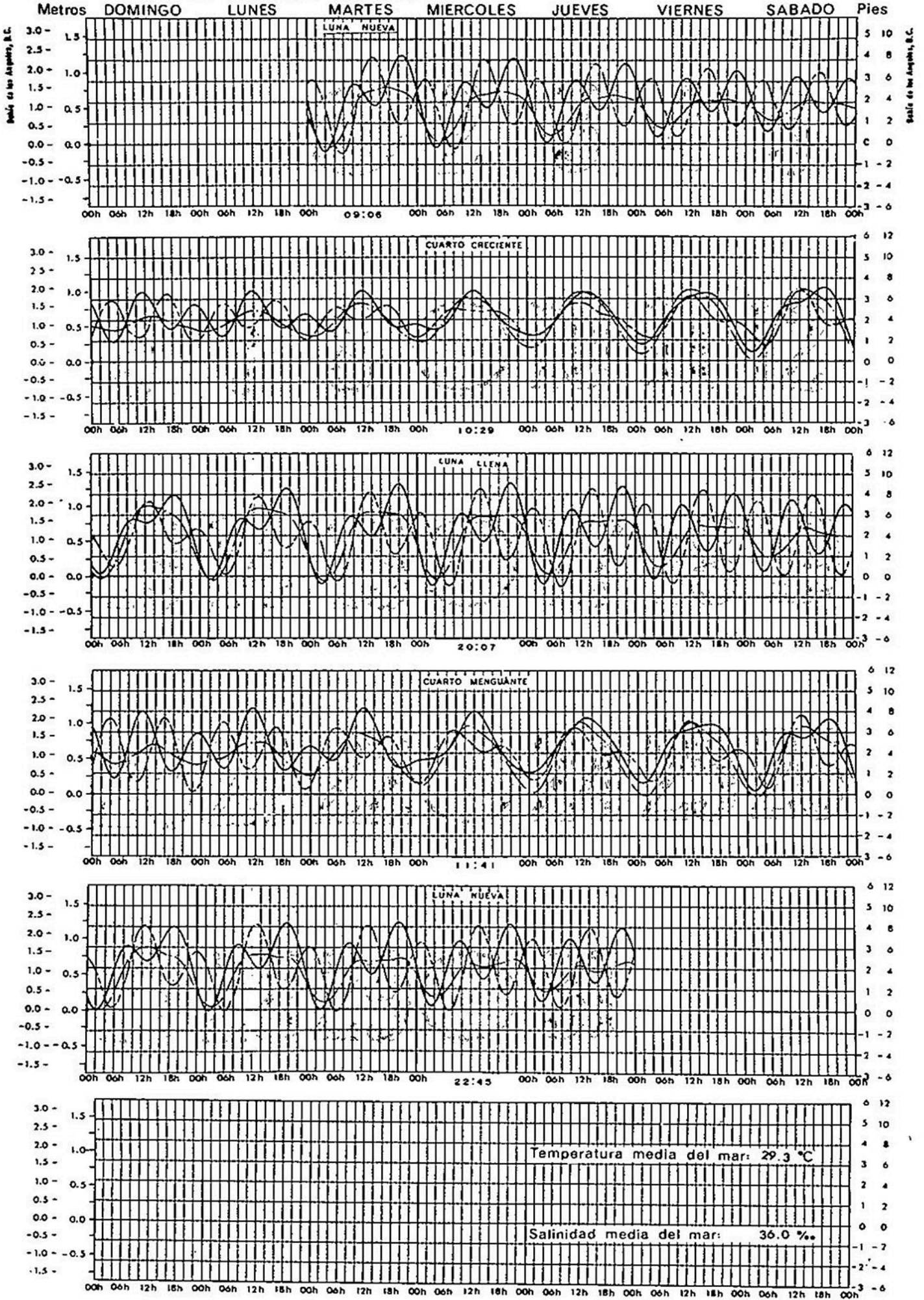


AGOSTO 1989

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



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



HORA DEL MERIDIANO 105° W

PLANO DE REFERENCIA: N.B.M.I.

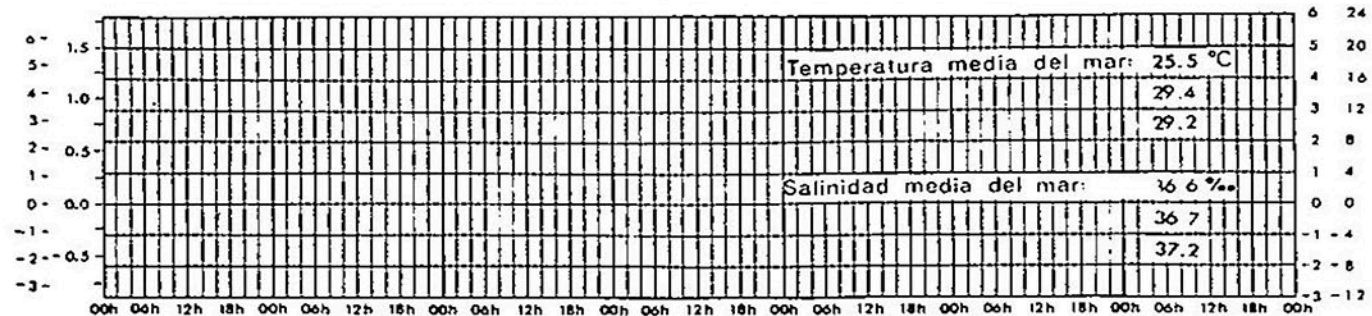
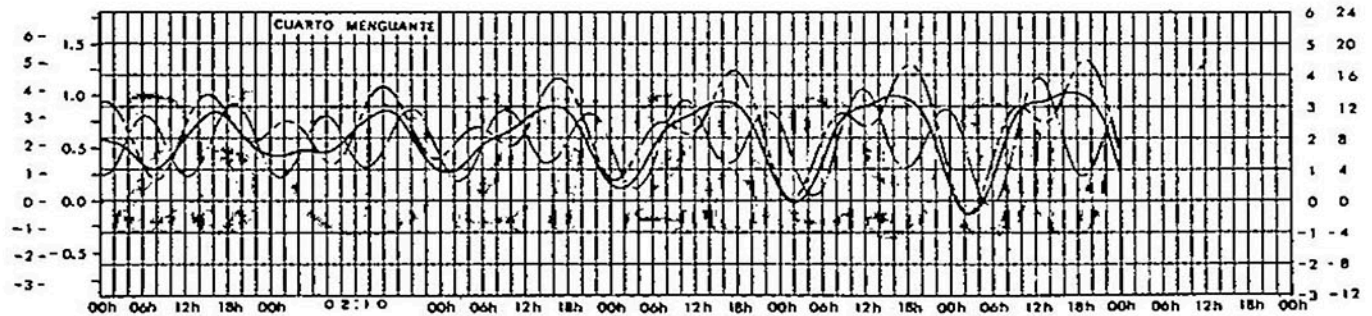
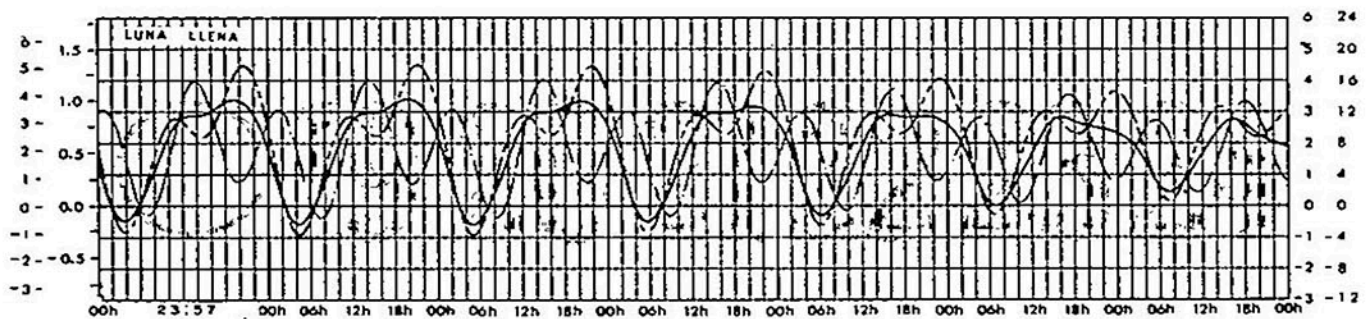
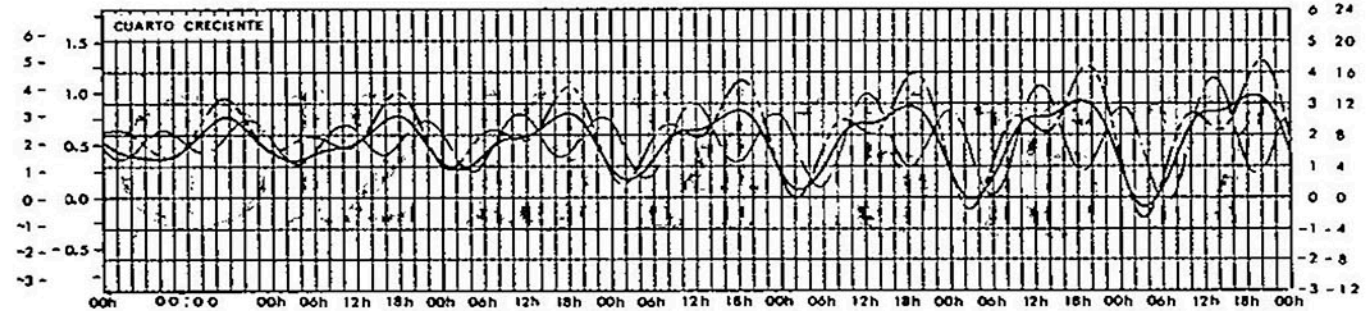
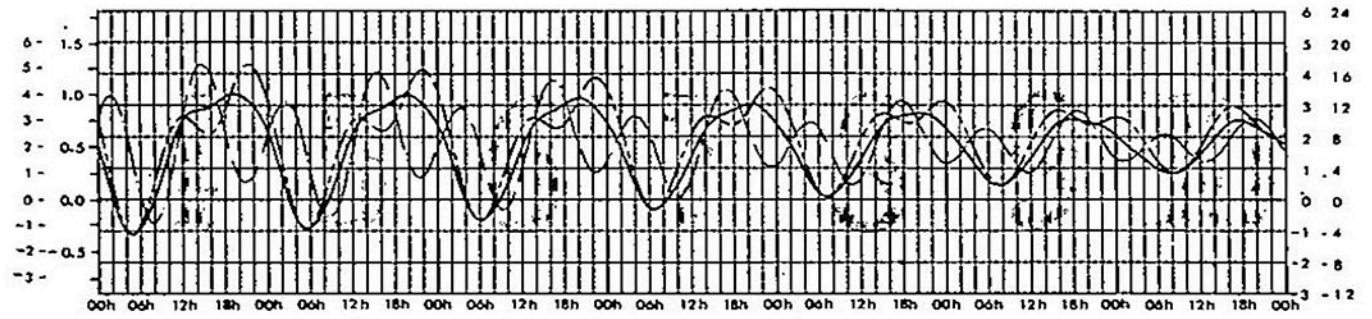
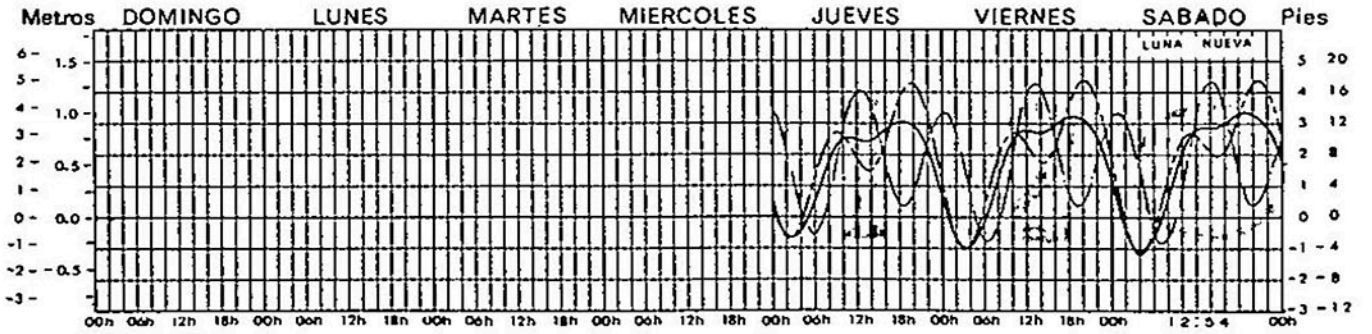


JUNIO 1989

PTO. PEÑASCO, SON.
GUAYMAS, SON.
TOPOLOBAMPO, SIN.



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



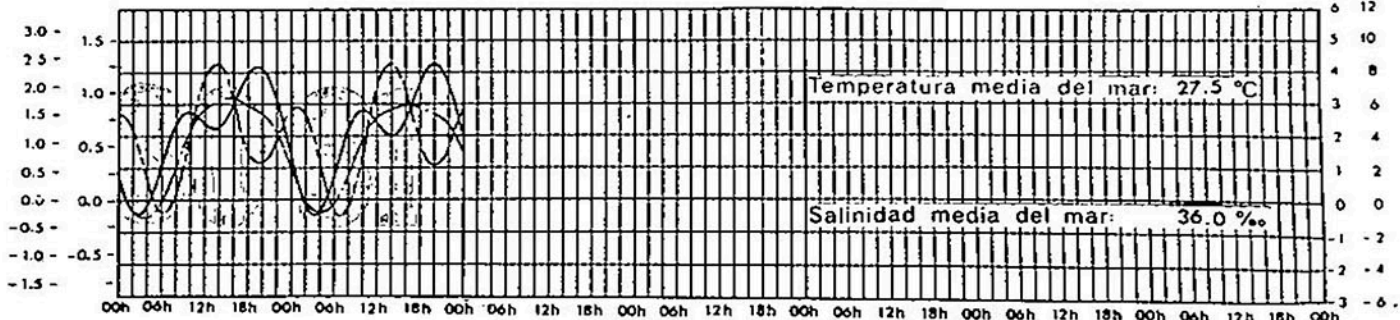
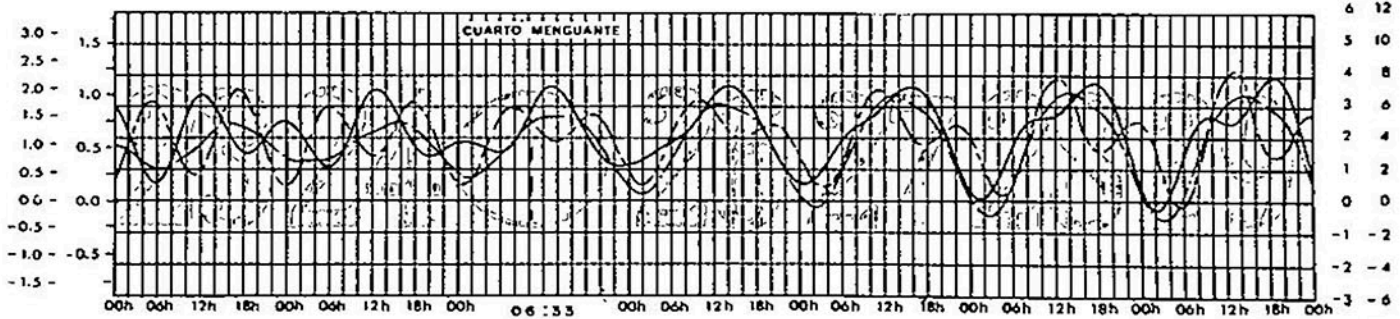
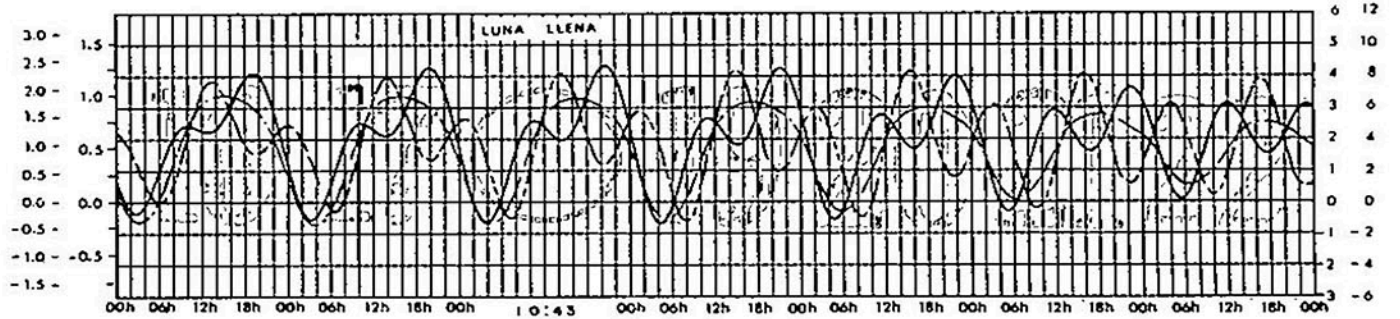
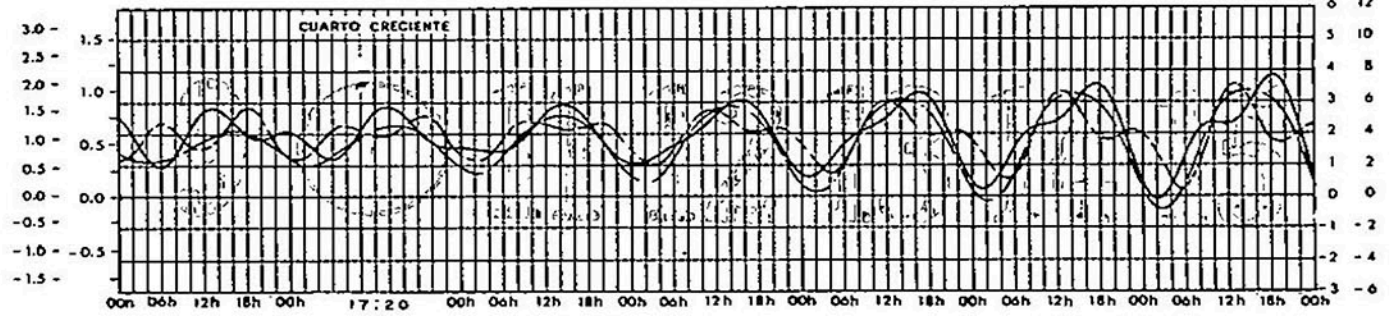
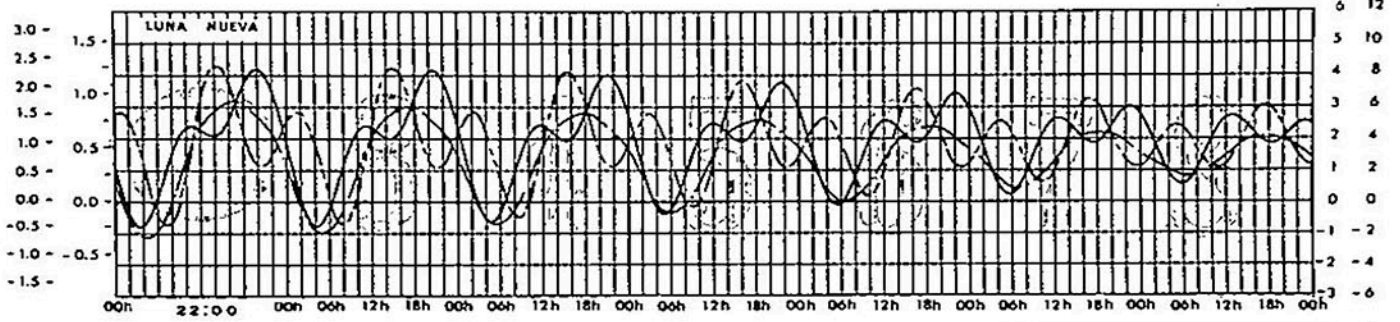
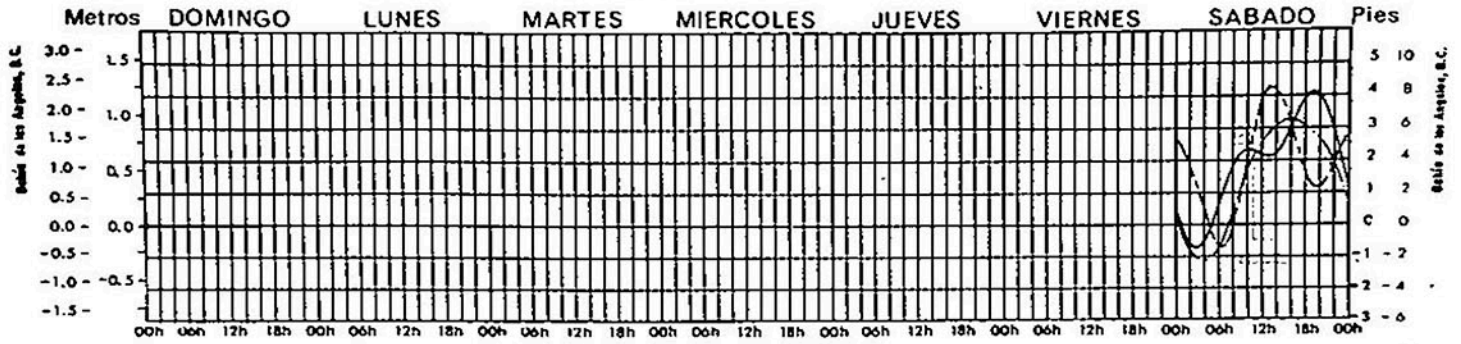


JULIO 1989

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



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



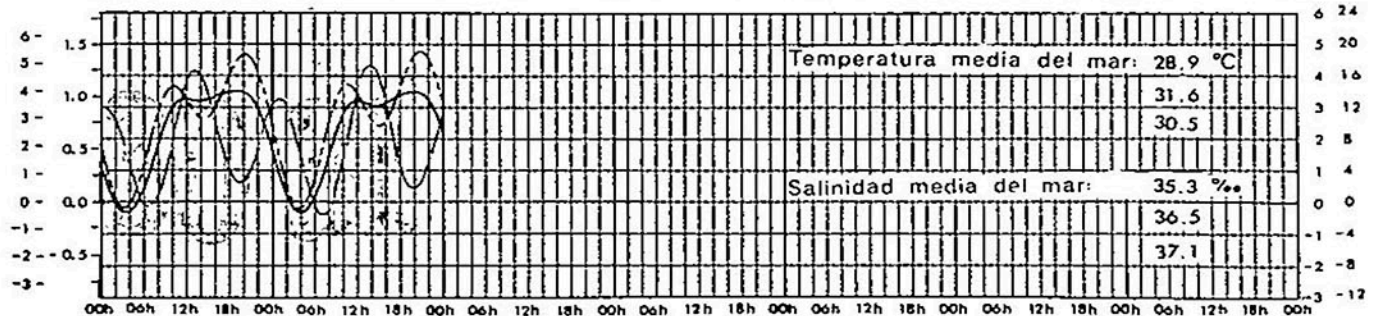
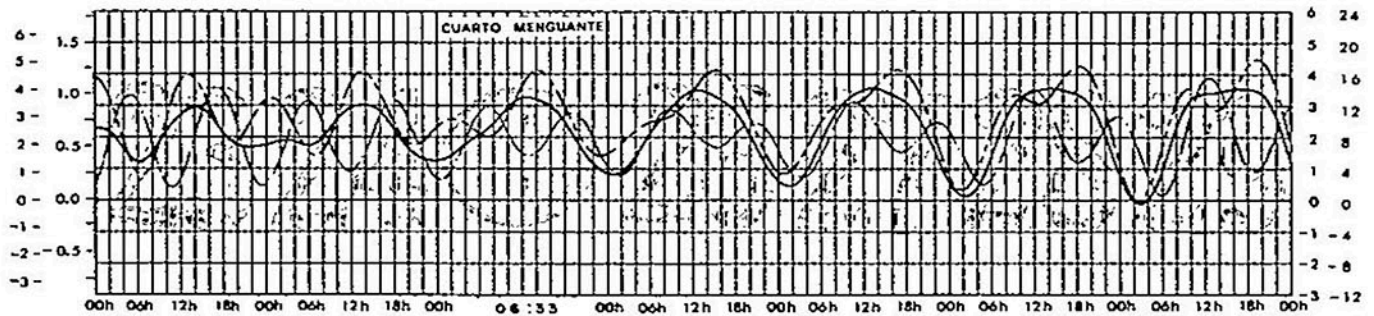
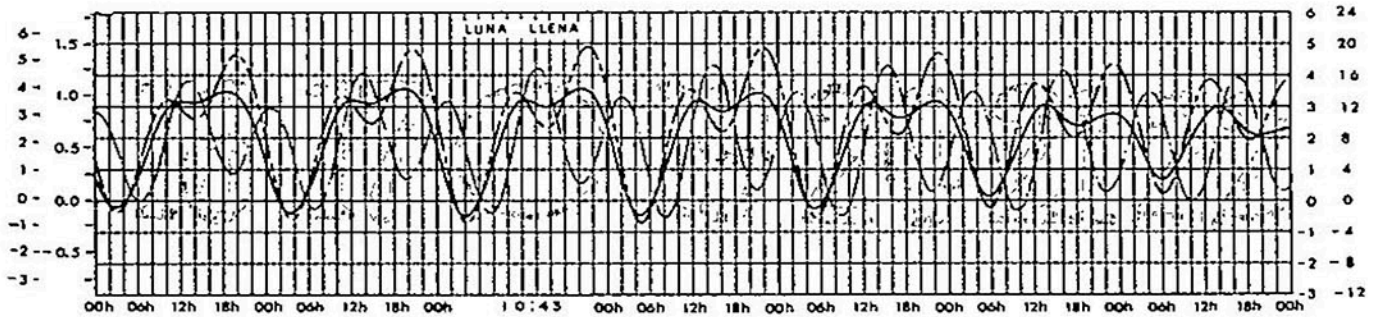
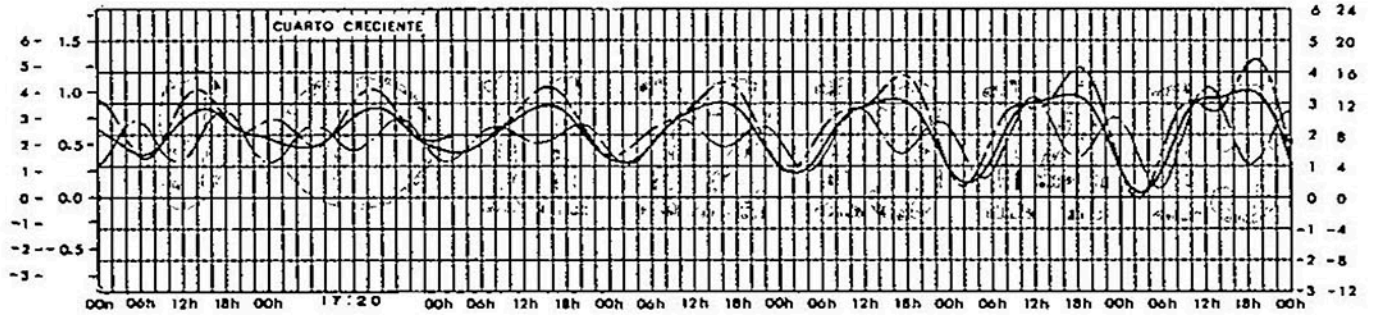
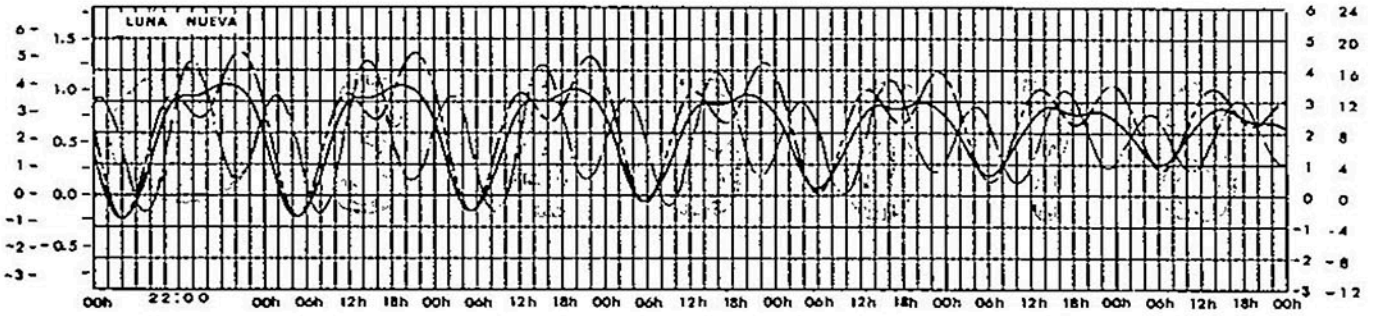
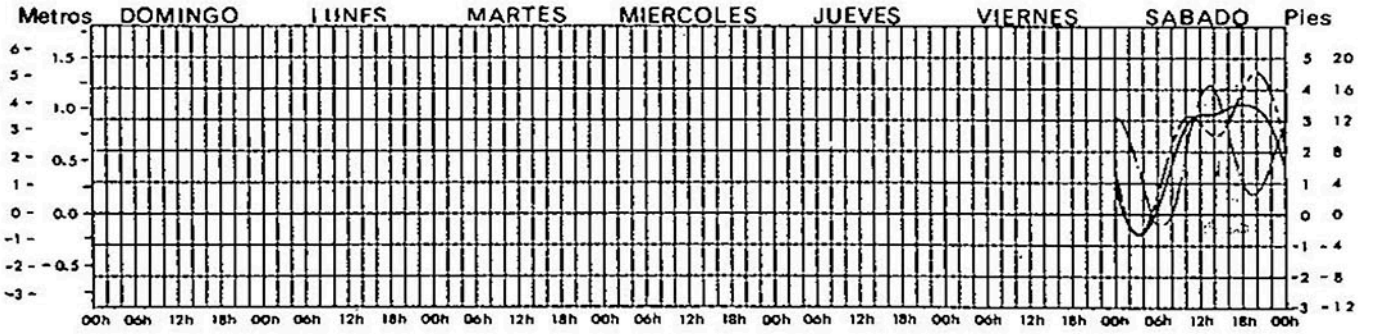


JULIO 1989

PTO. PEÑASCO, SON.
GUAYMAS, SON.
TOPOLOBAMPO, SIN.



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



HORA DEL MERIDIANO 105° W

PLANO DE REFERENCIA: N.B.M.L.

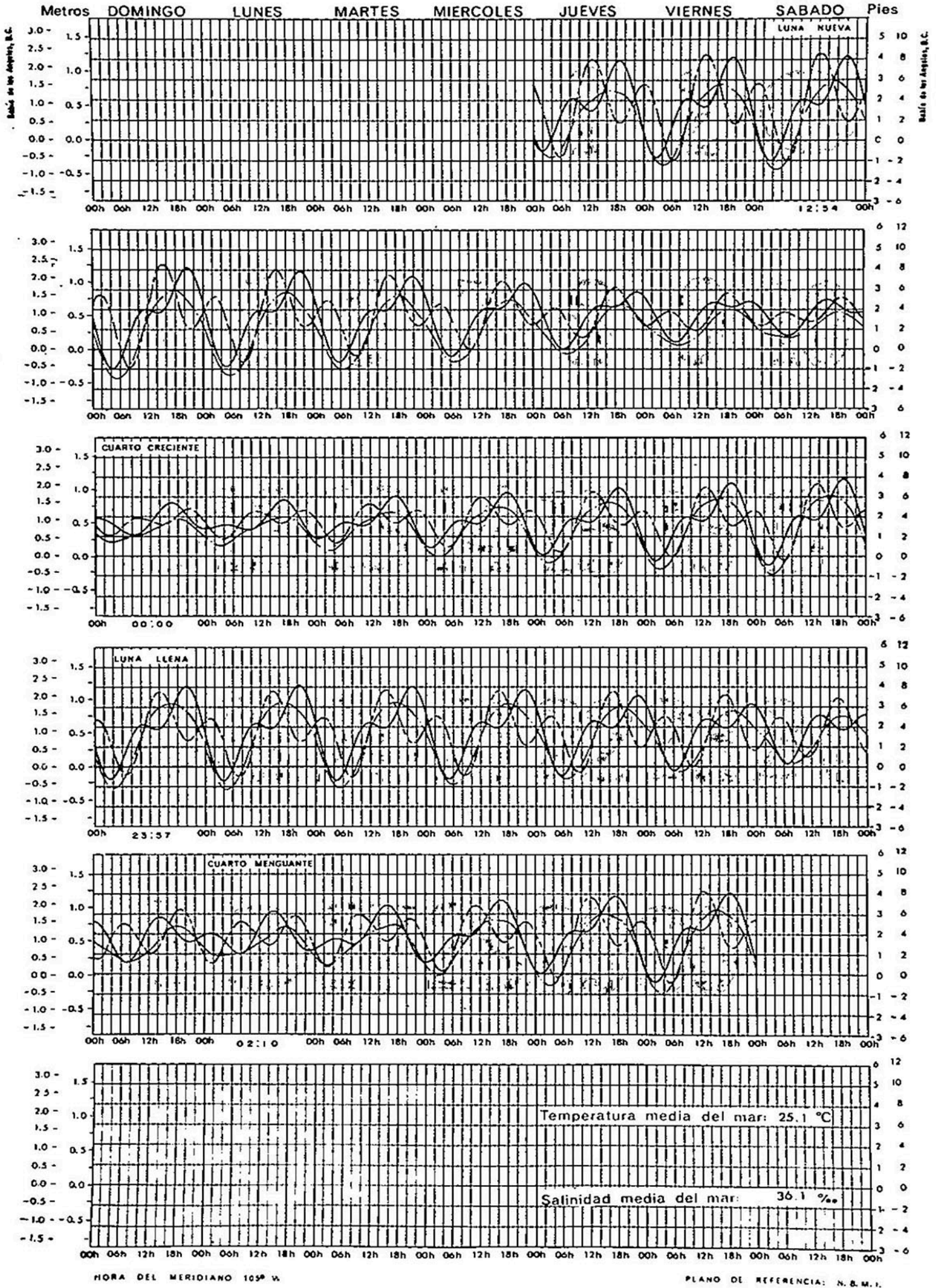


JUNIO 1989

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



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

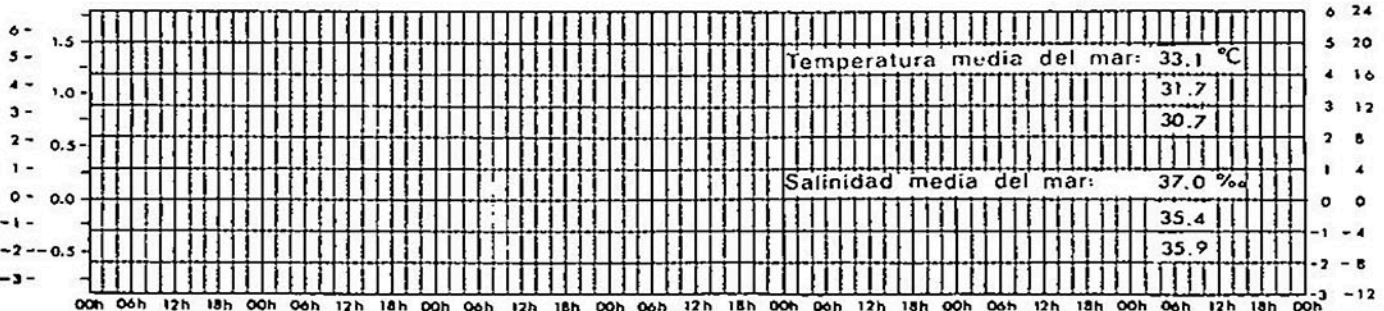
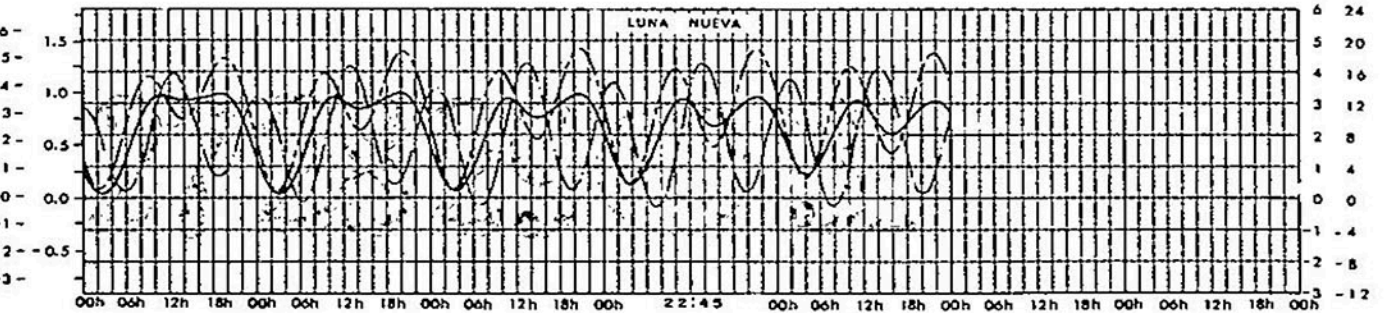
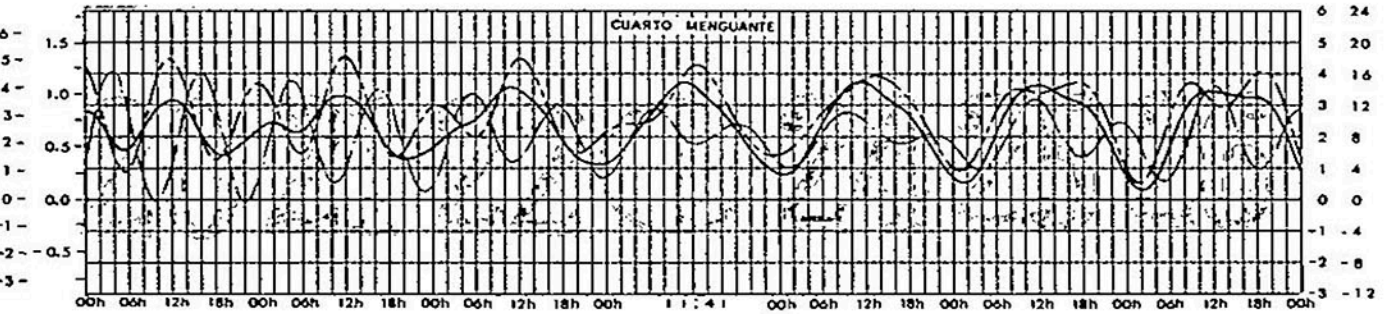
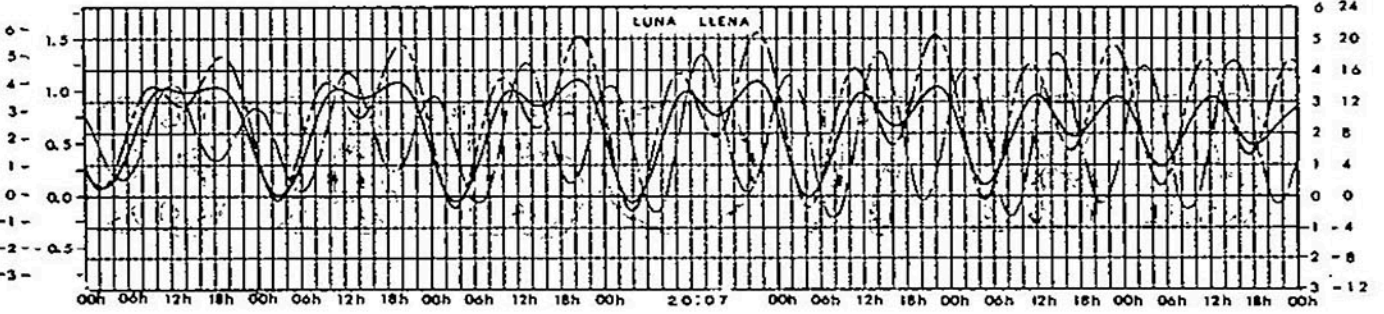
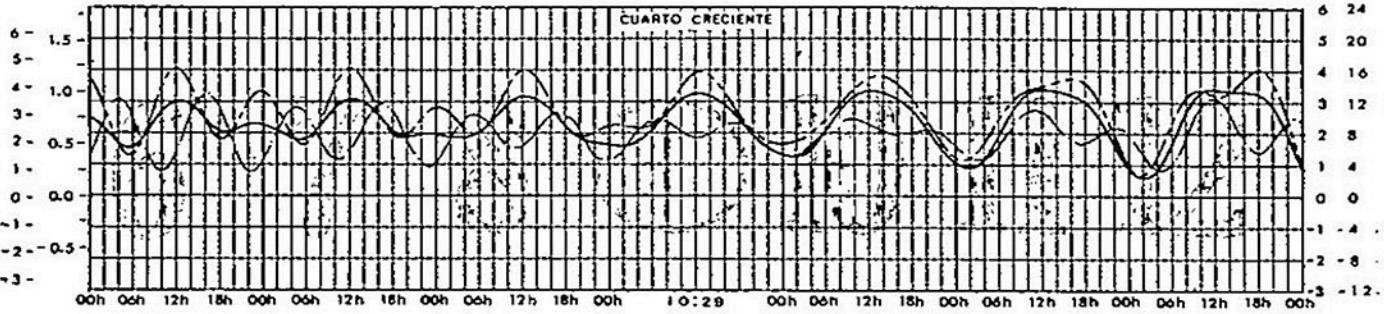
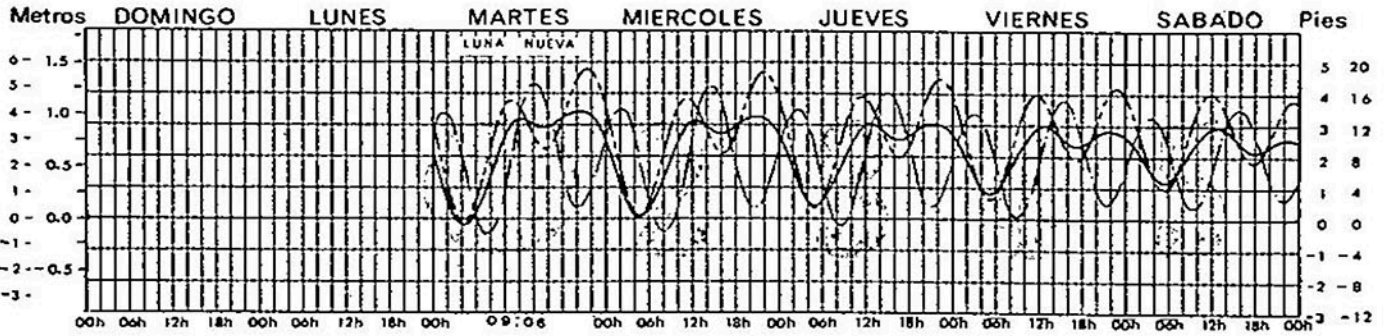




AGOSTO 1989

PTO. PEÑASCO, SON.
GUAYMAS, SON.
TOPOLOBAMPO, SIN.

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



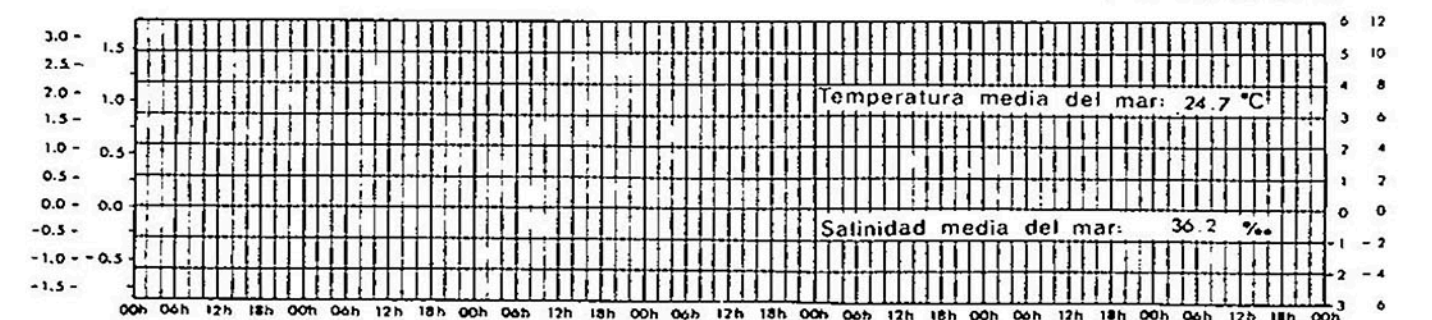
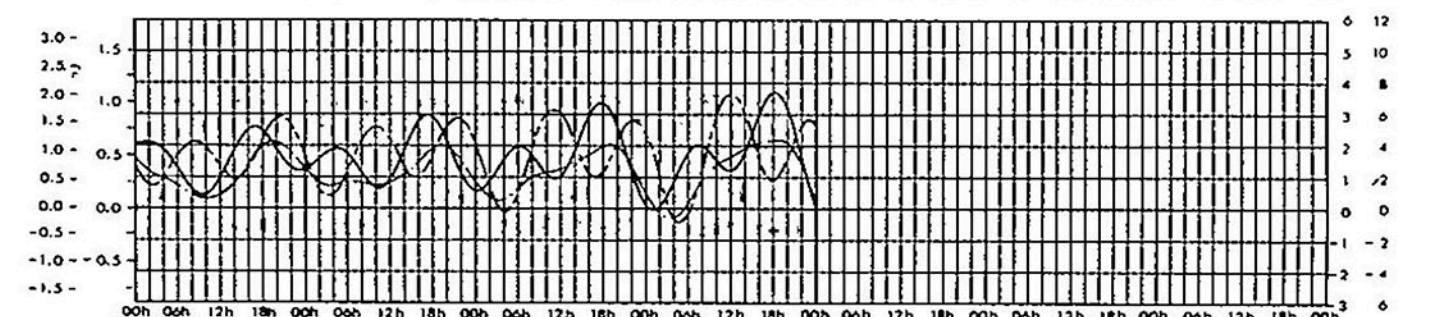
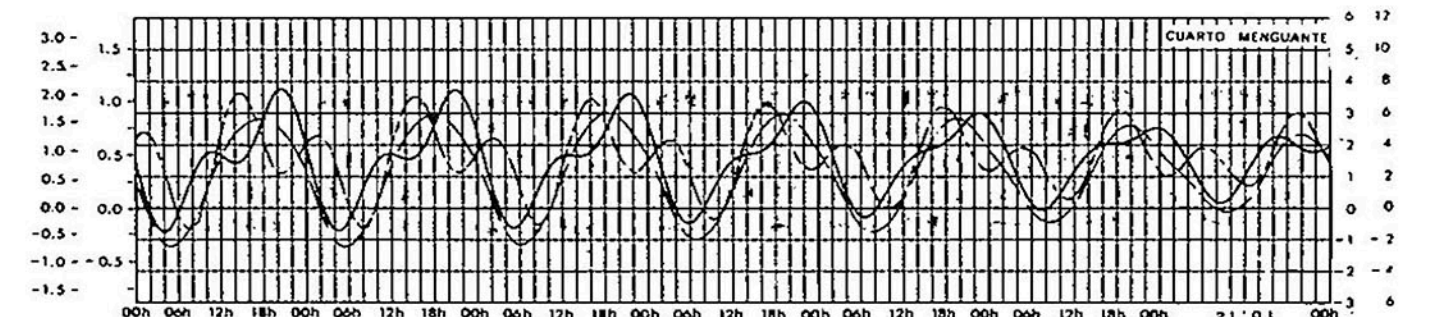
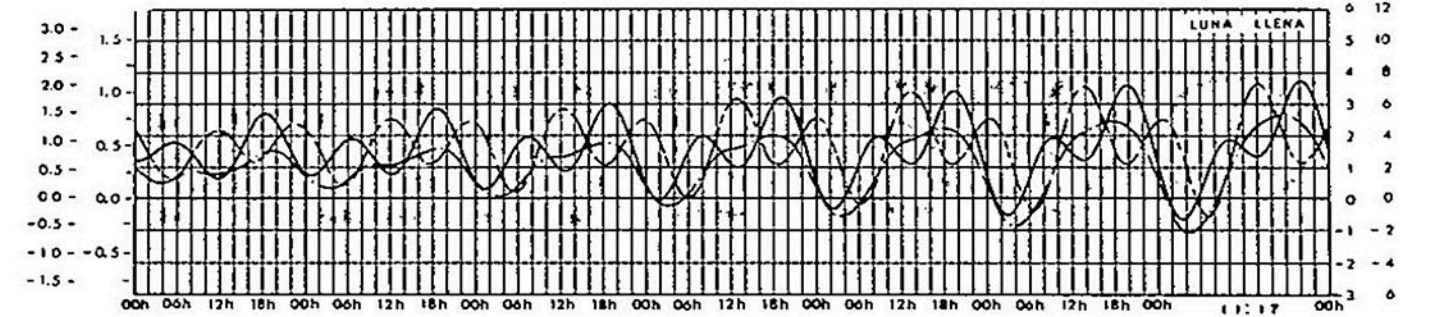
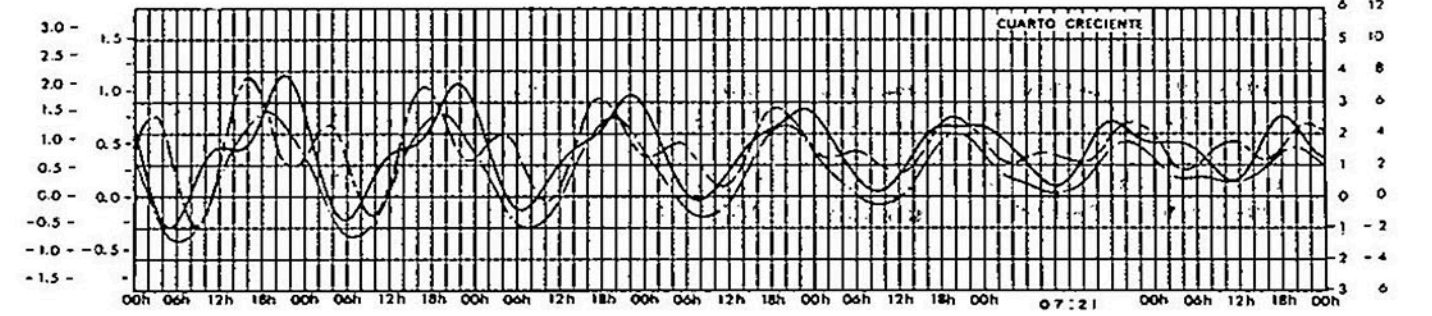
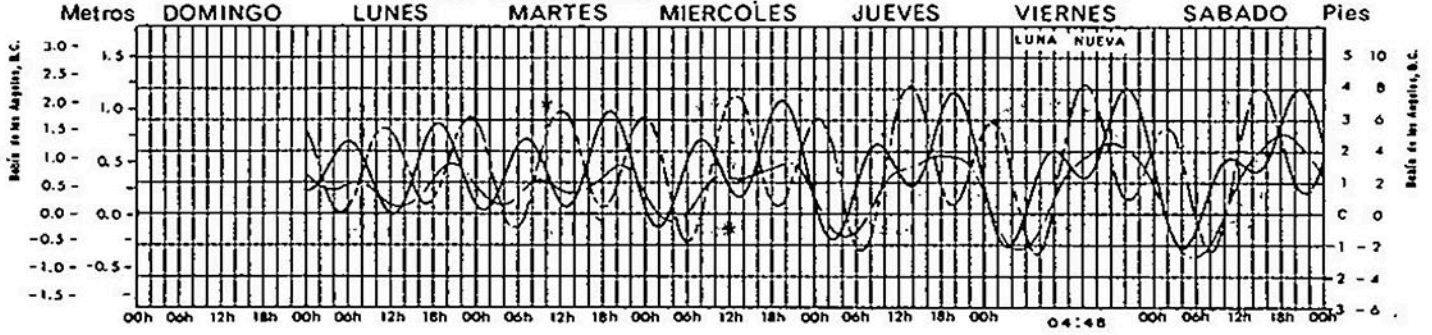


MAYO 1981

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



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





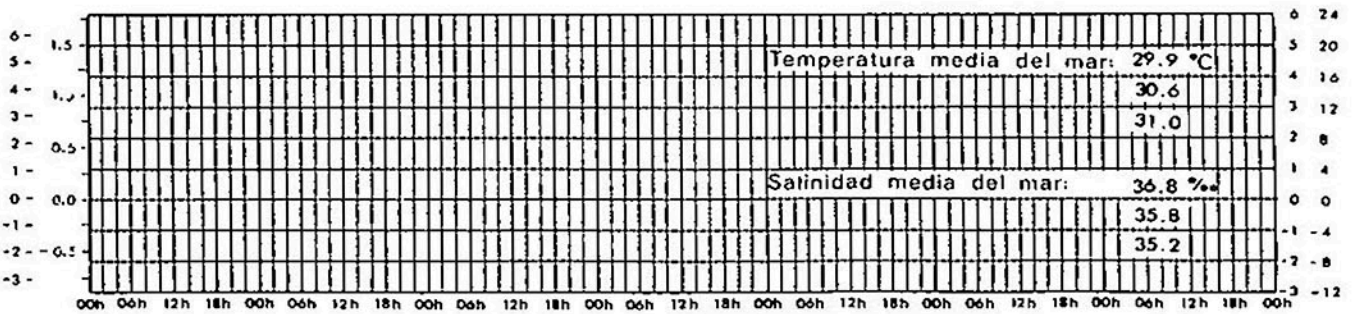
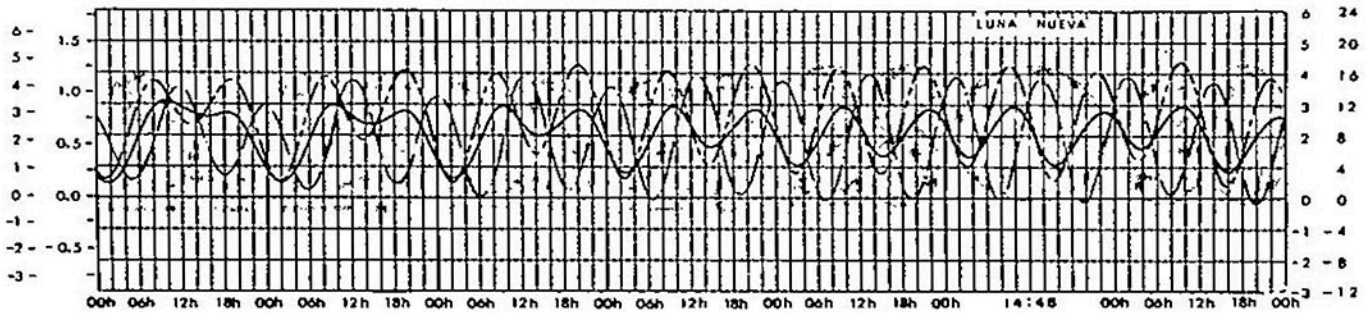
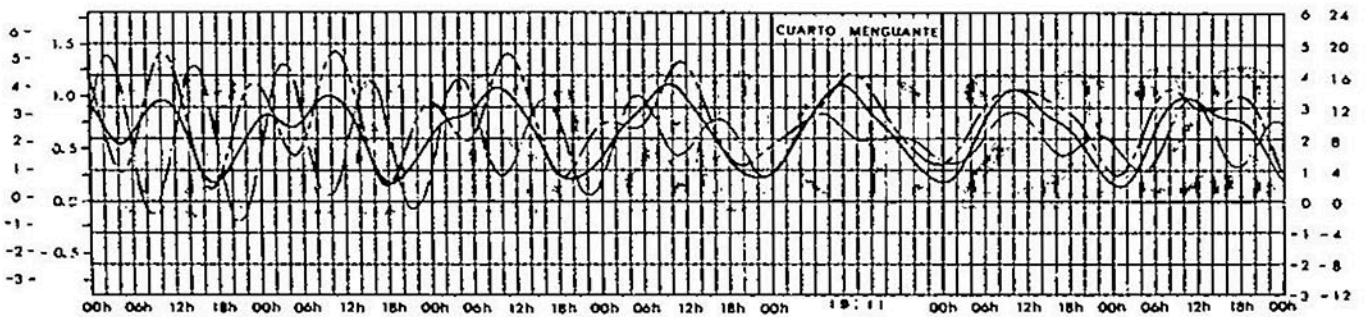
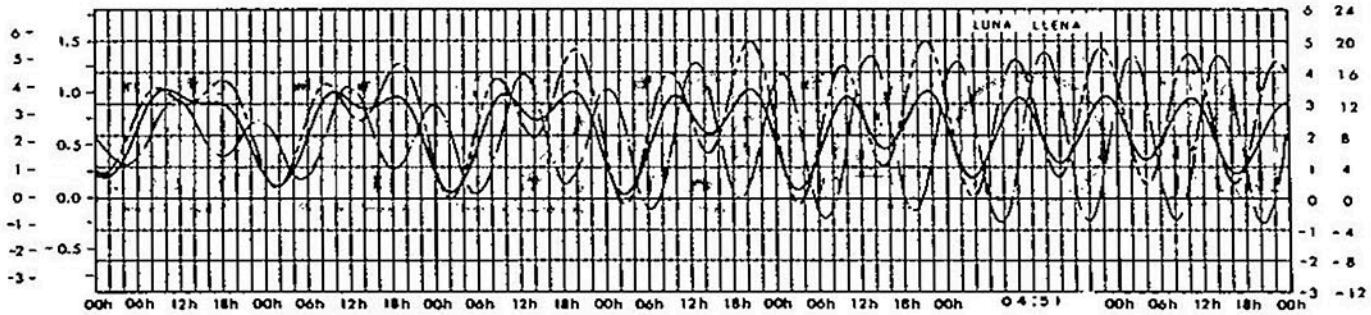
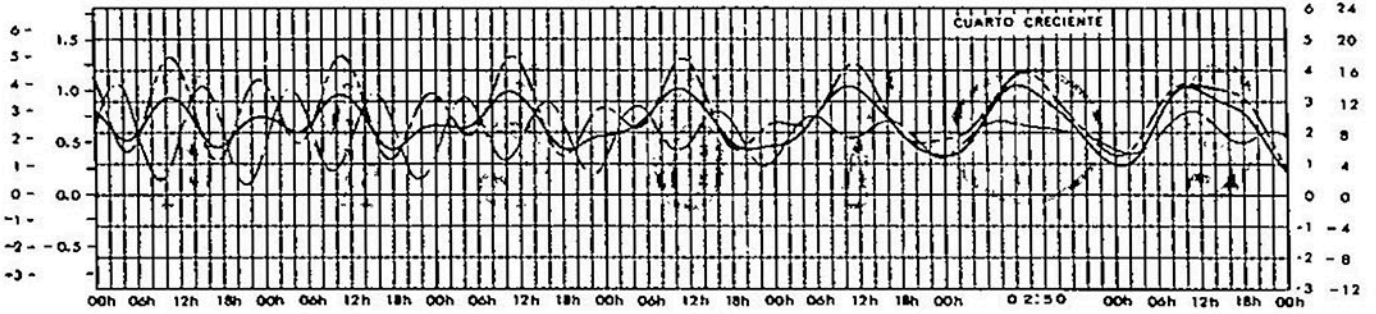
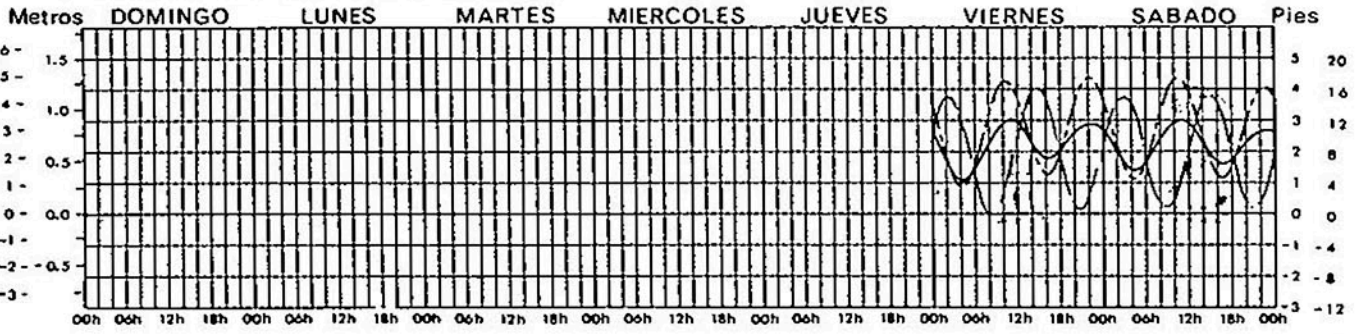
SEPTIEMBRE

1989

PTO. PEÑASCO, SON.
 GUAYMAS, SON.
 TOPOLOBAMPO, SIN.



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



HORA DEL MERIDIANO 185° W

PLANO DE REFERENCIA: N. S. M. L.

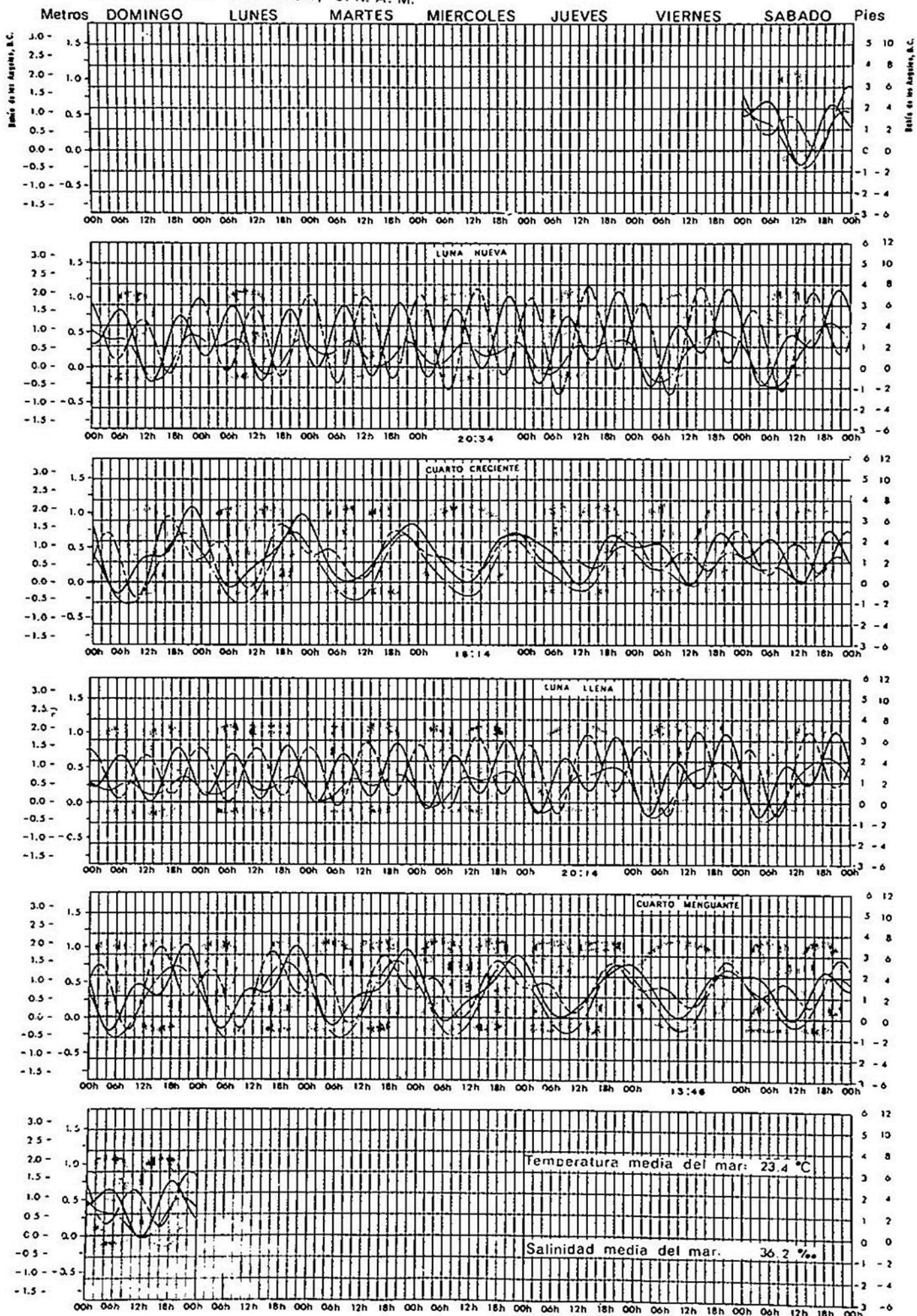


ABRIL 1989

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



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

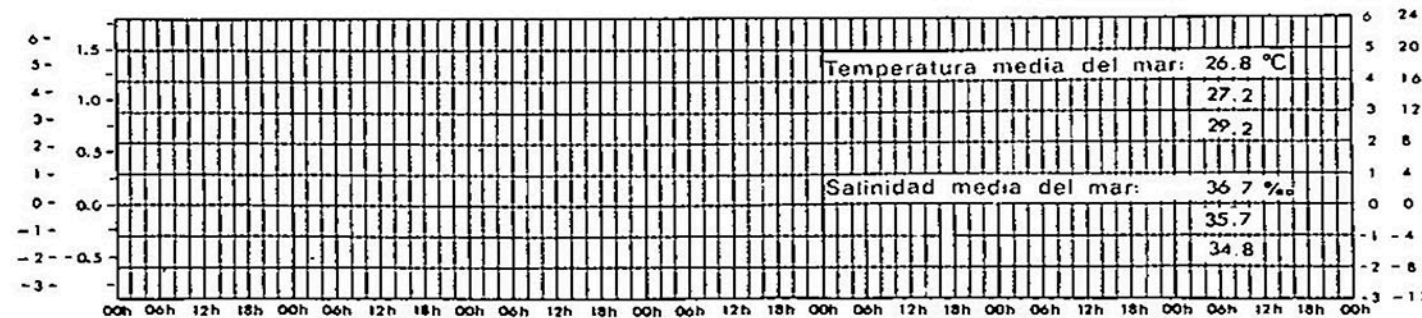
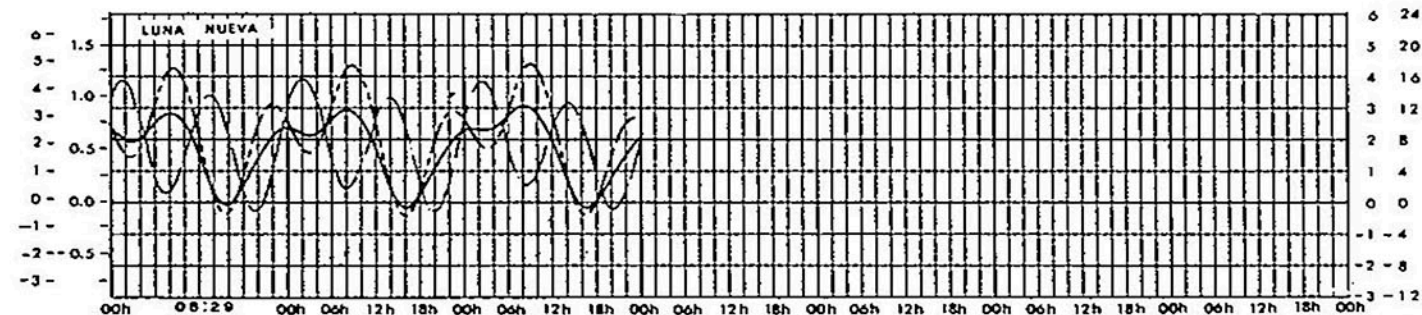
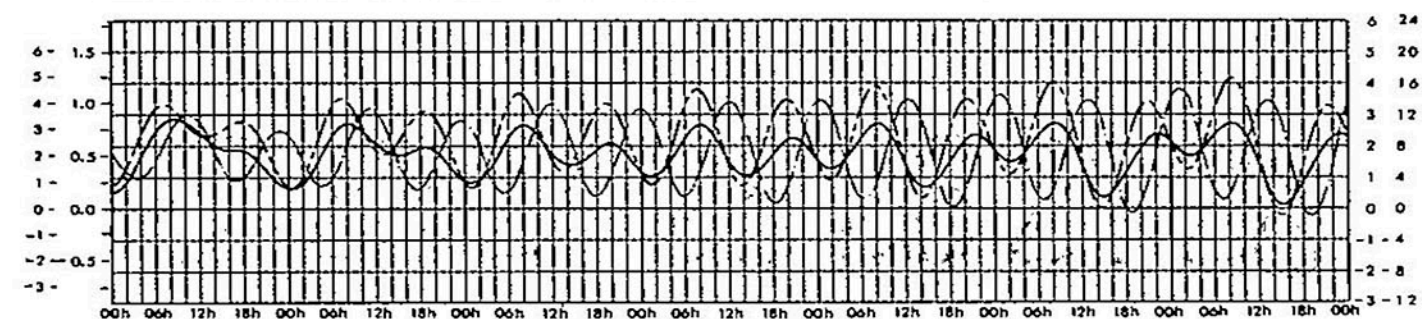
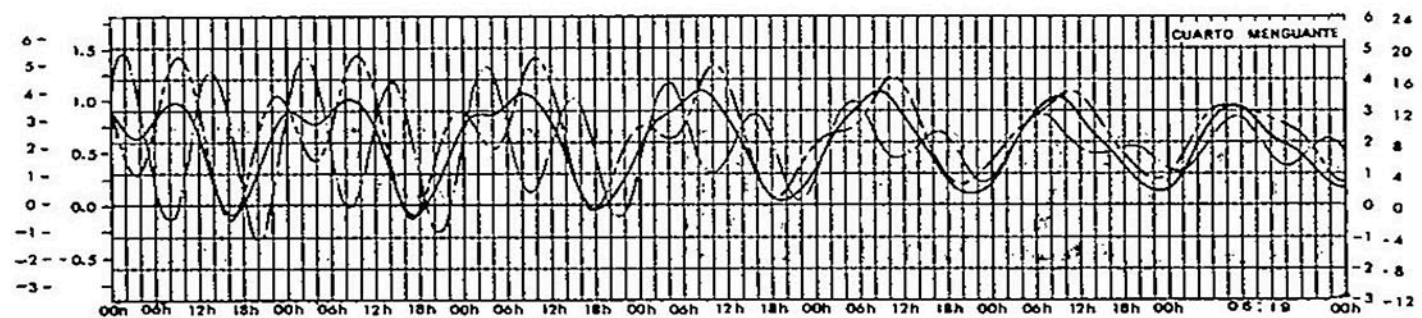
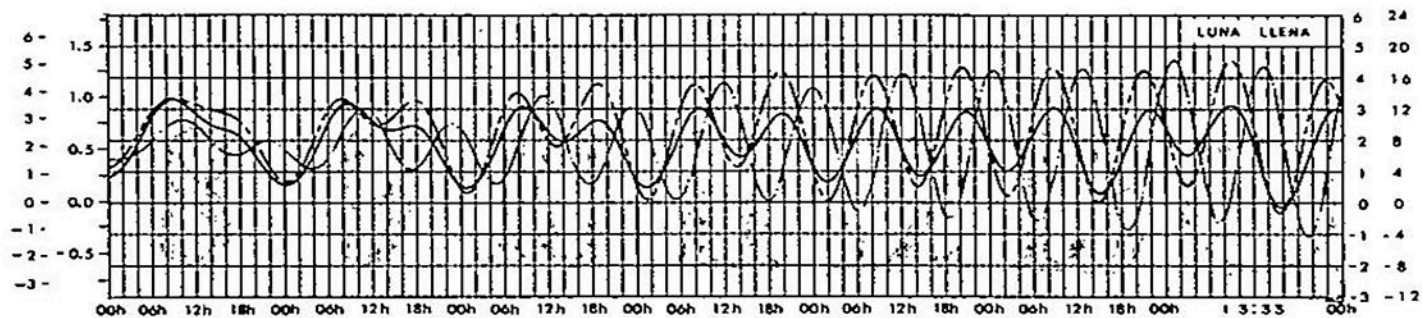
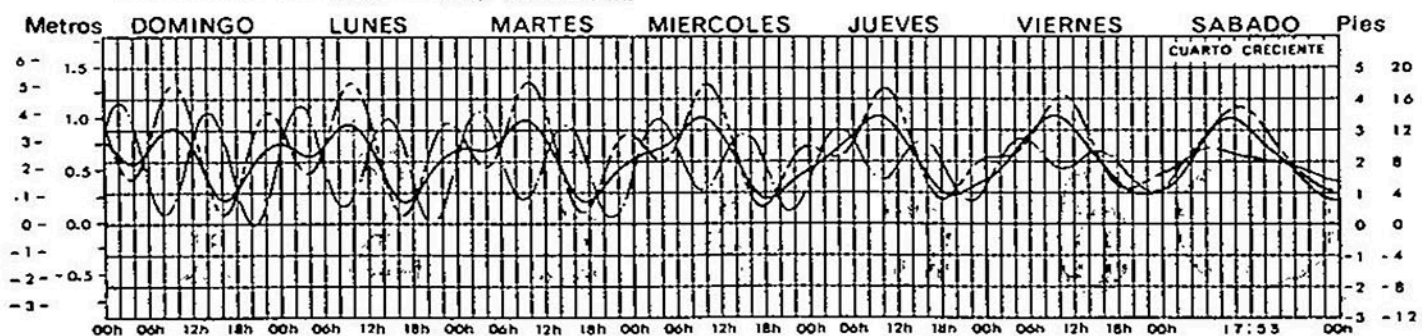




1 OCTUBRE 1989

PTO. PEÑASCO, SON.
GUAYMAS, SON.
TOPOLOBAMPO, SIN.

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



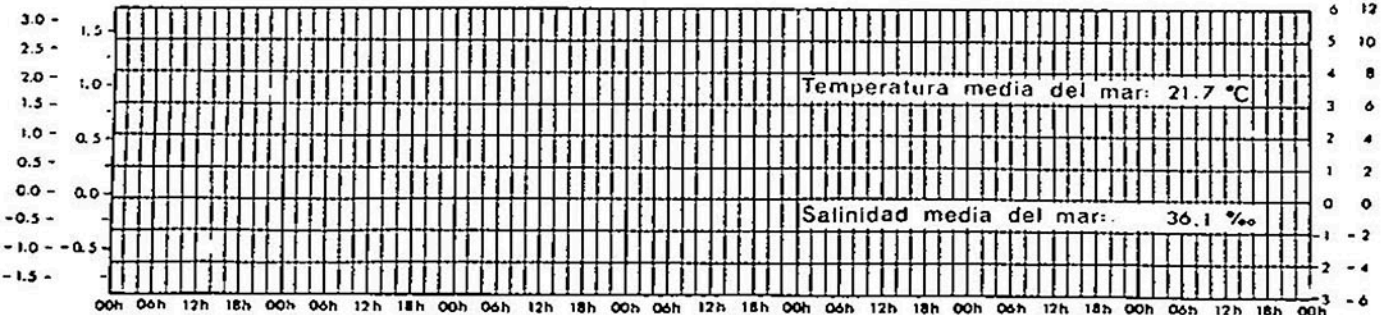
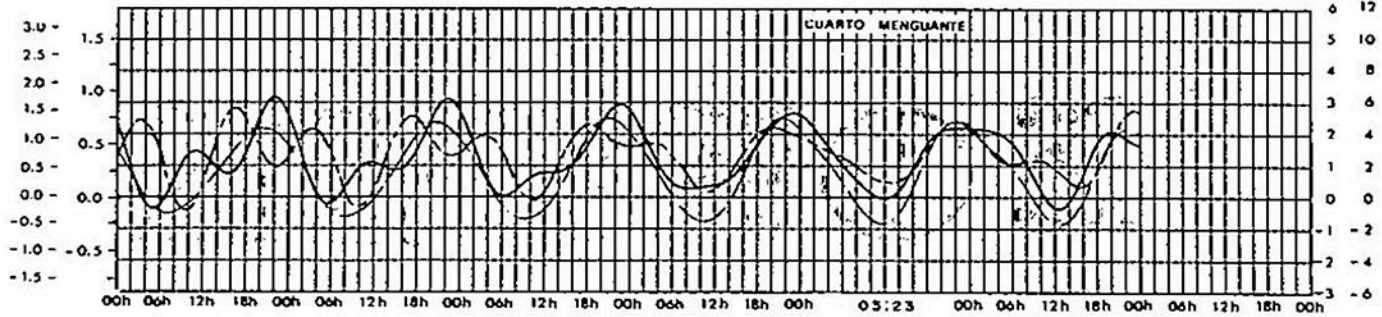
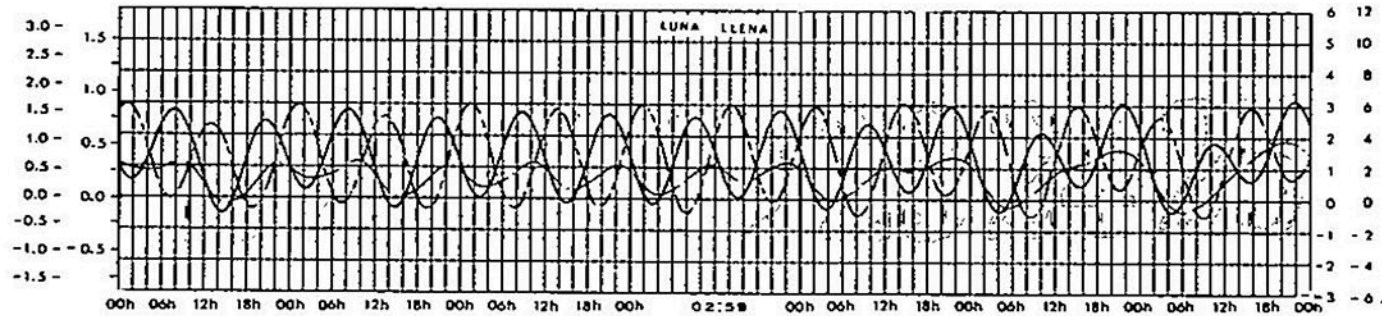
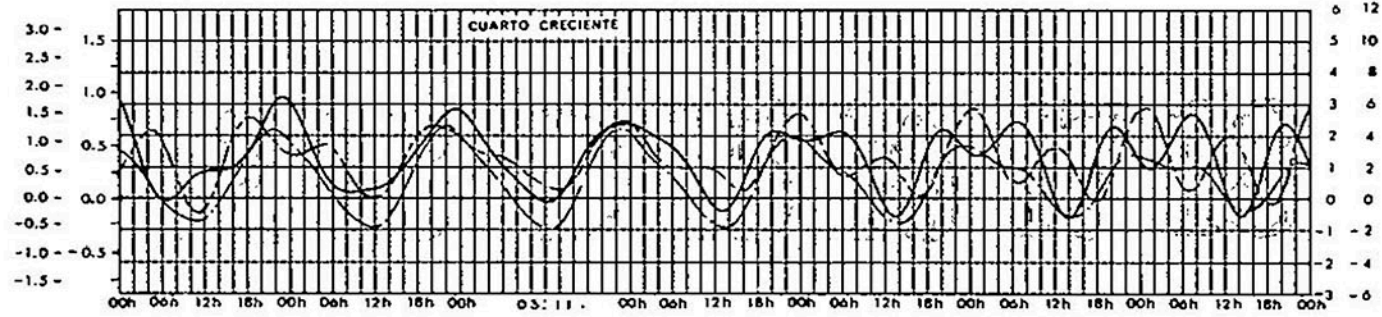
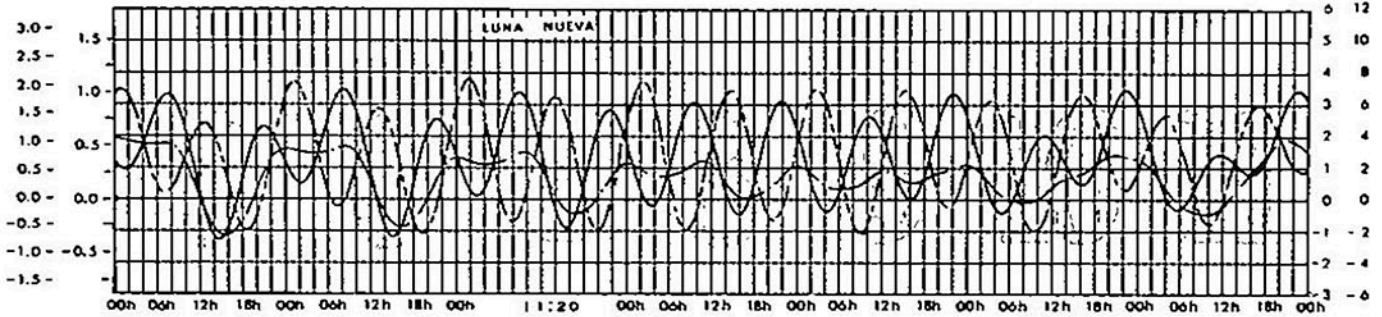
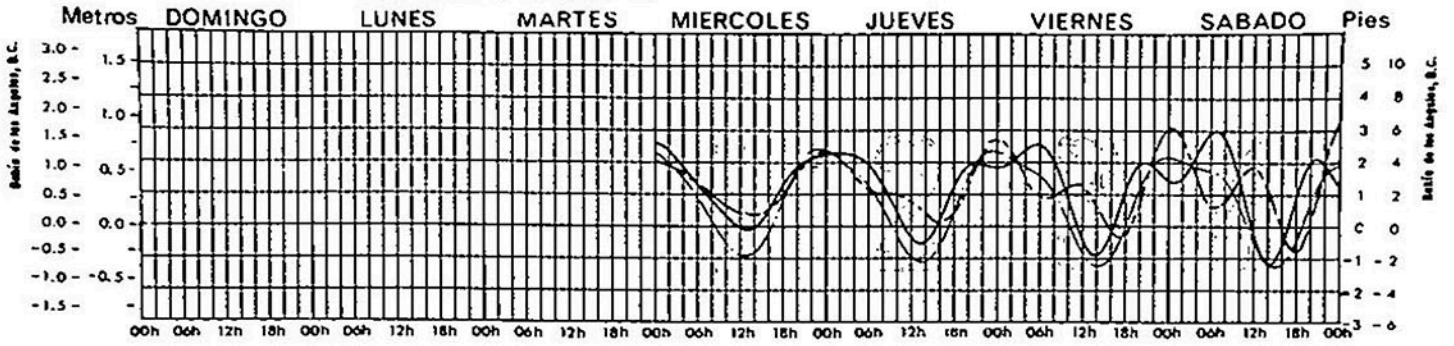


MARZO 1989

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



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

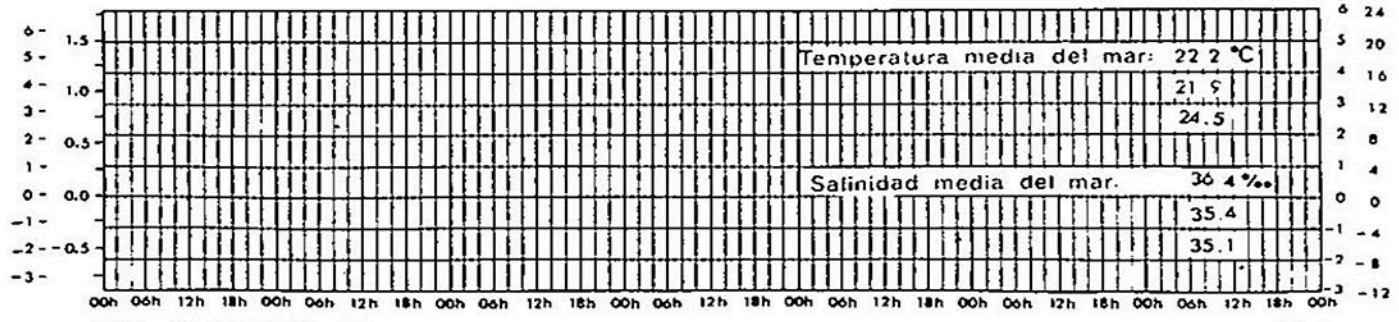
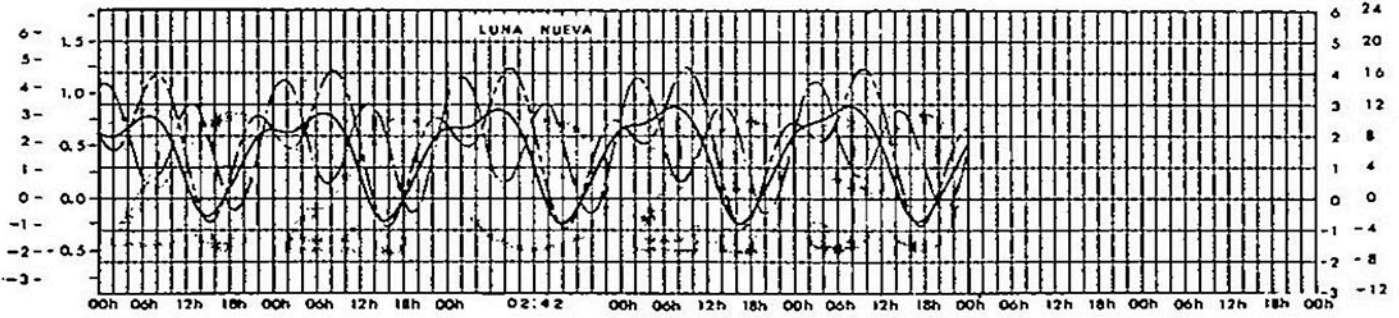
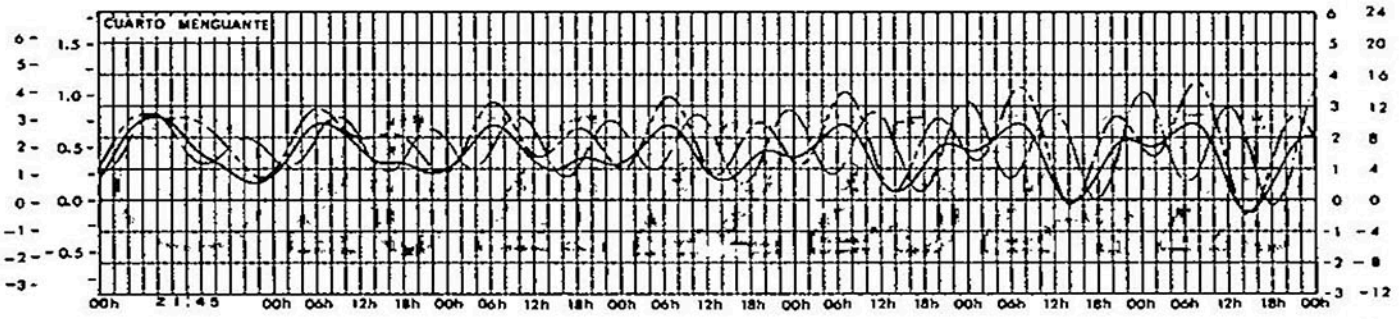
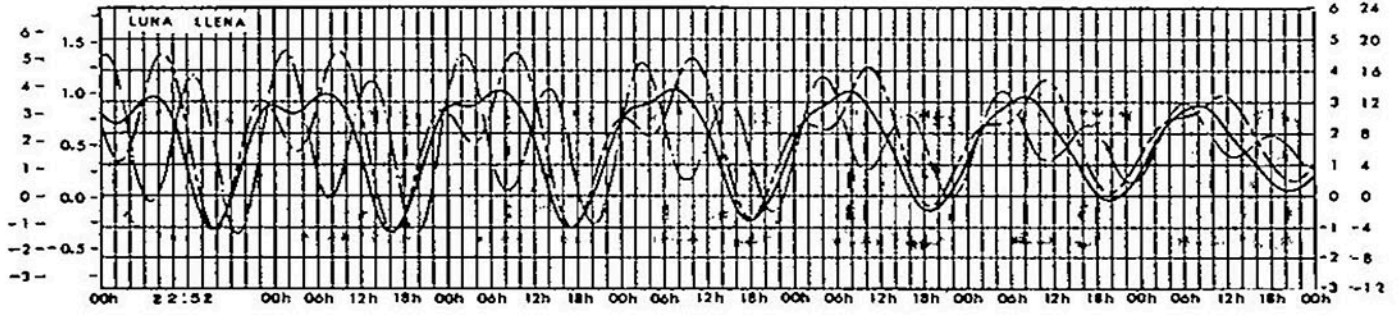
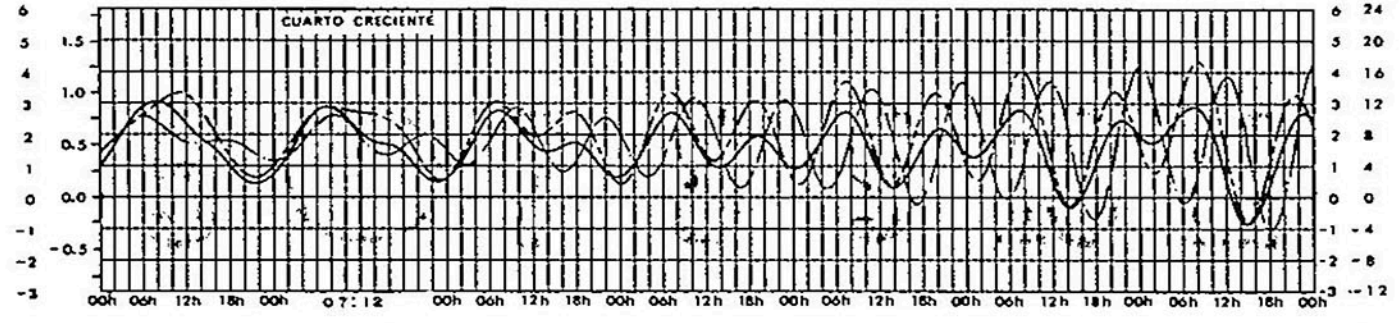
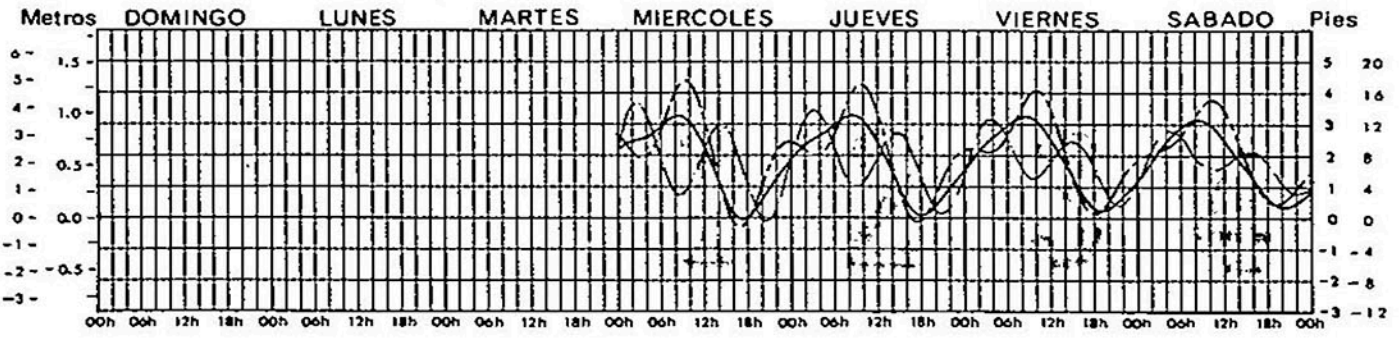




NOVIEMBRE 1989

PTO. PEÑASCO, SON.
GUAYMAS, SON.
TOPOLOBAMPO, SIN.

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



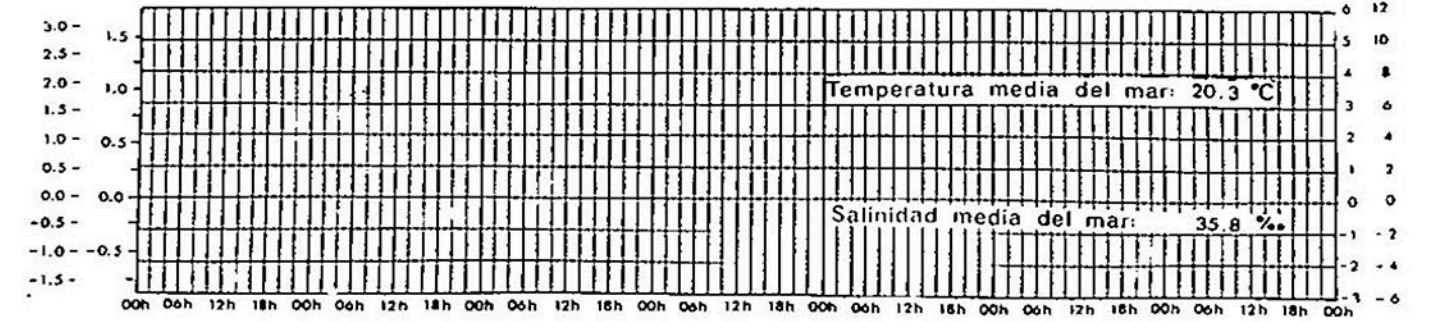
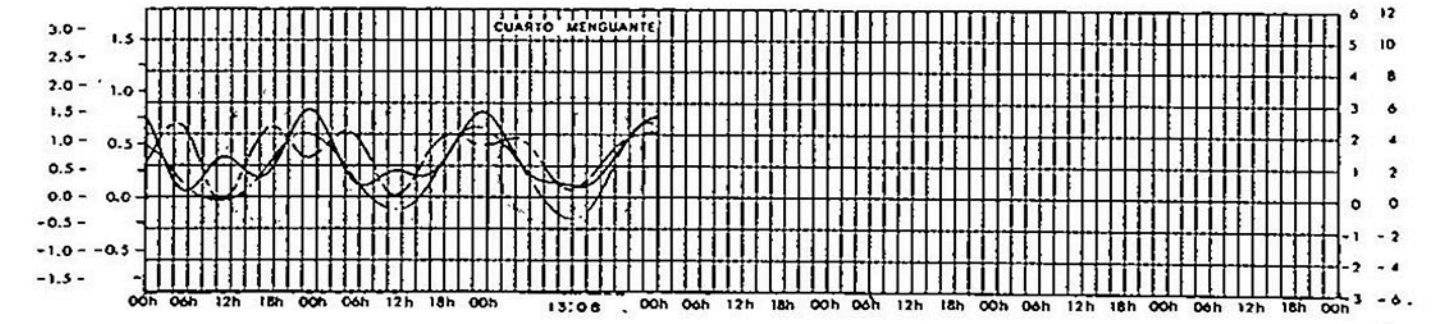
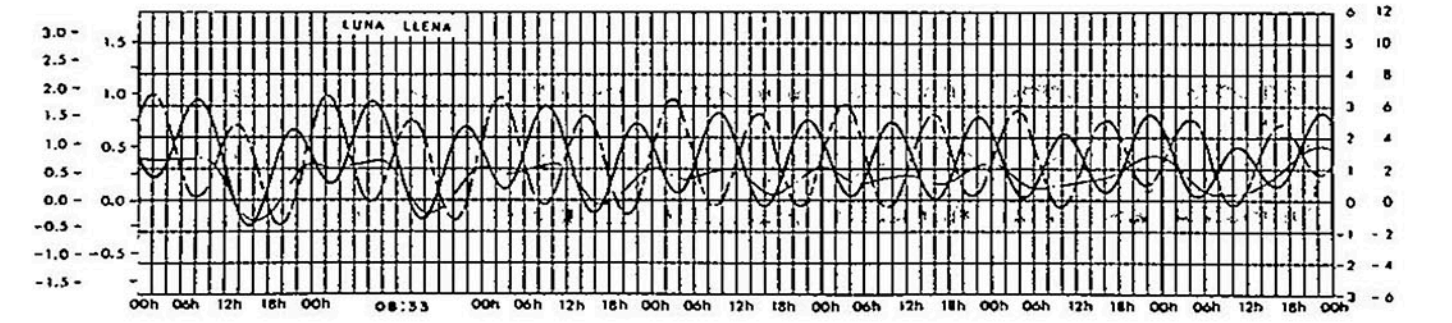
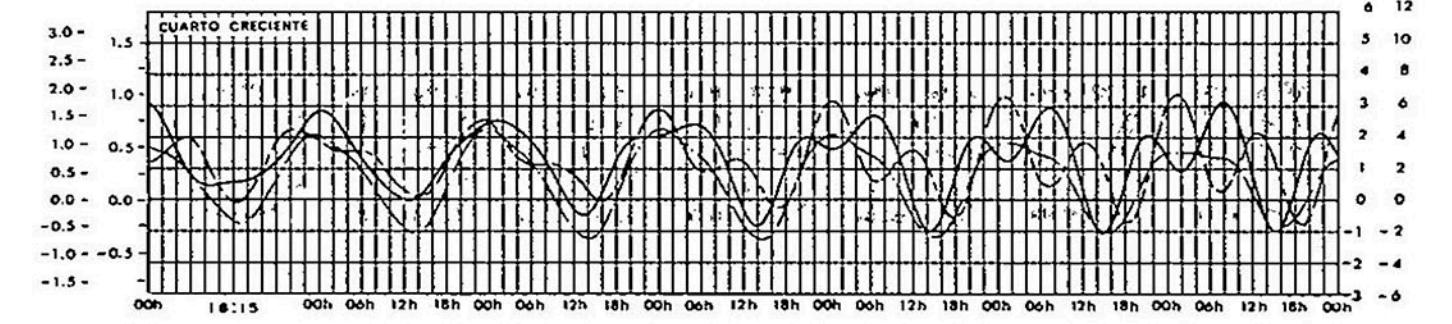
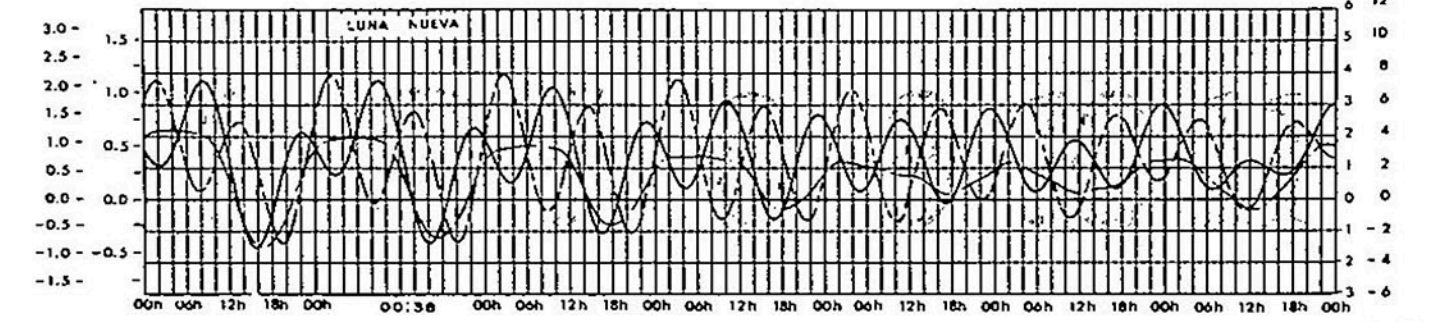
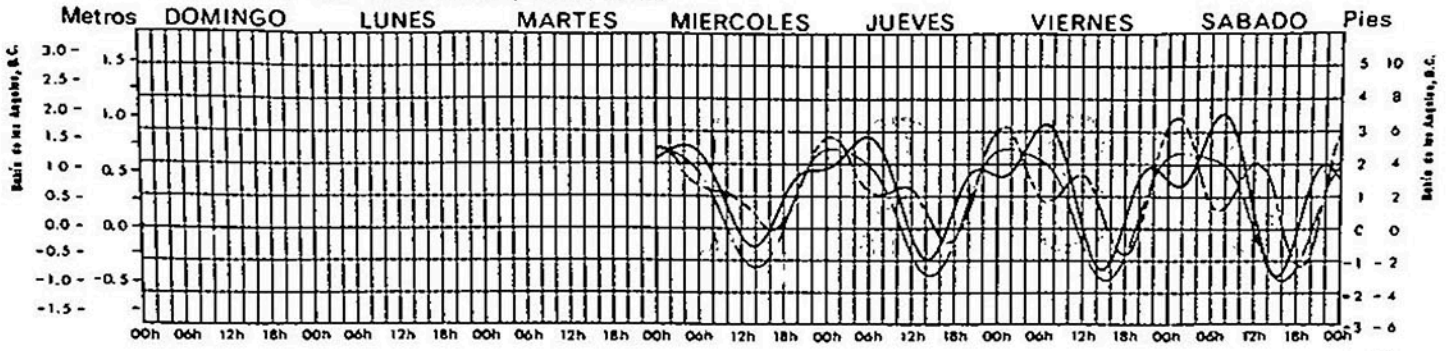


FEBRERO 1989

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



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



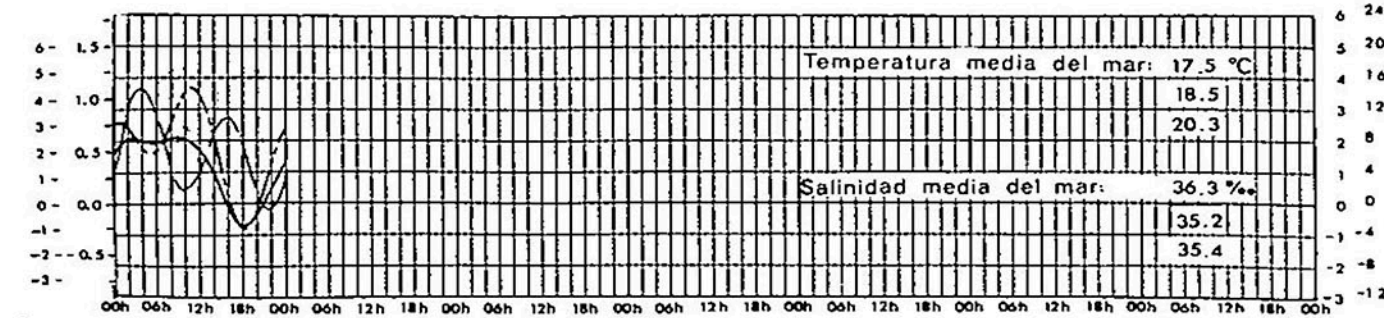
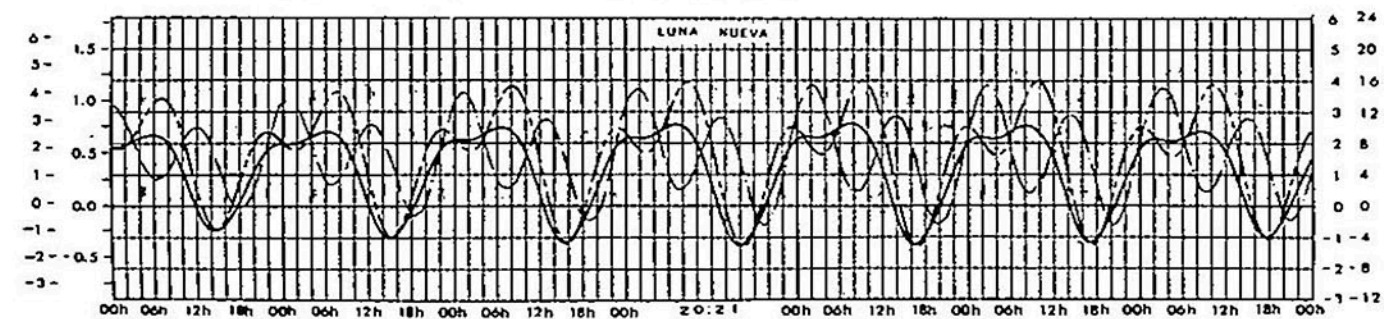
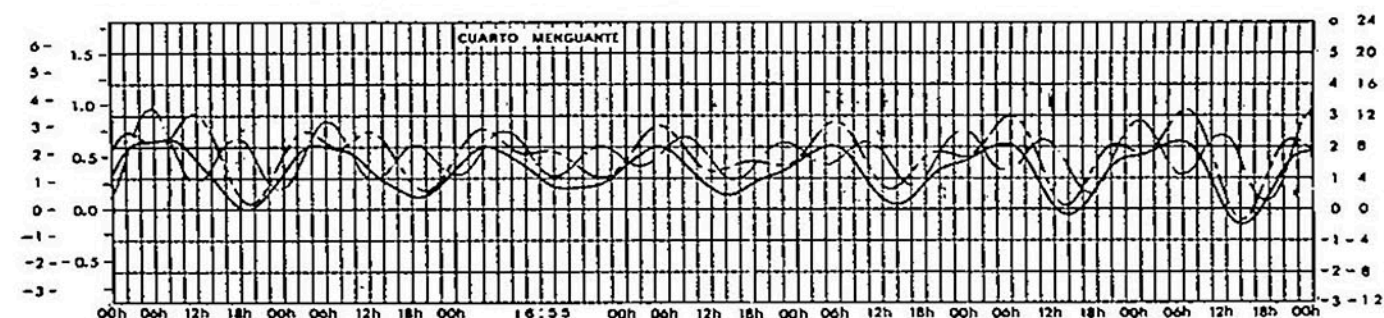
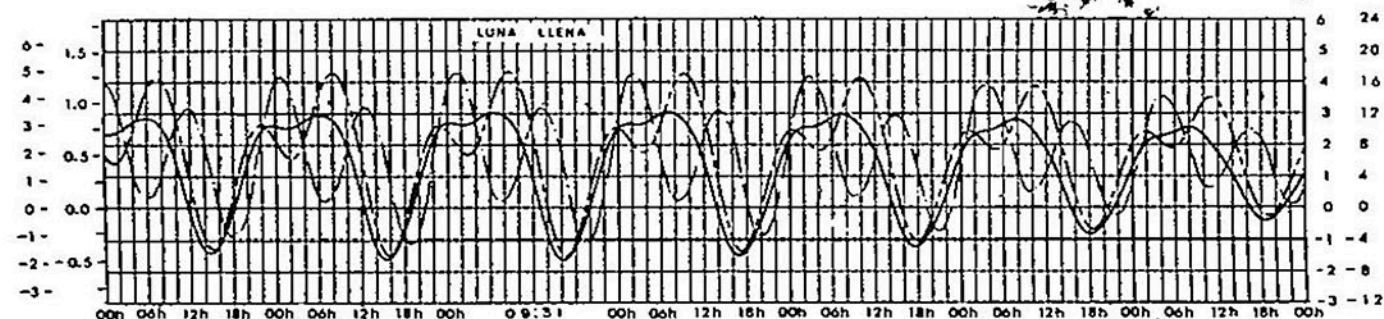
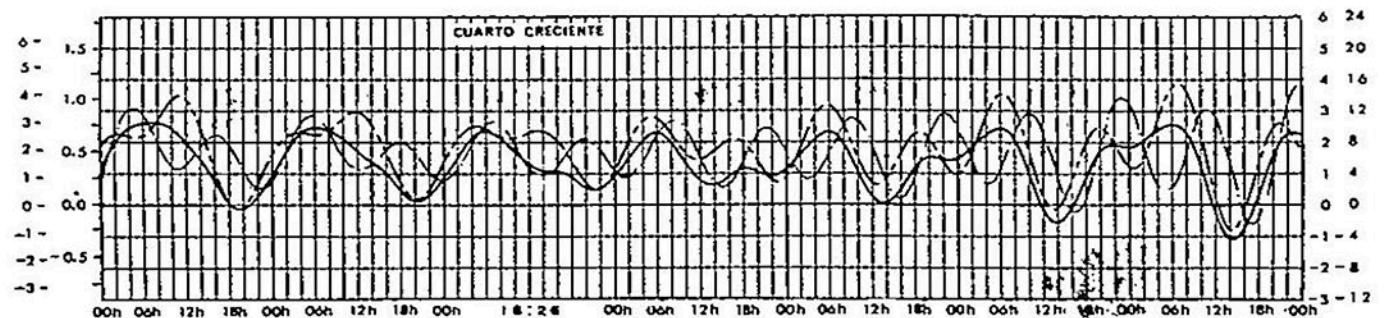
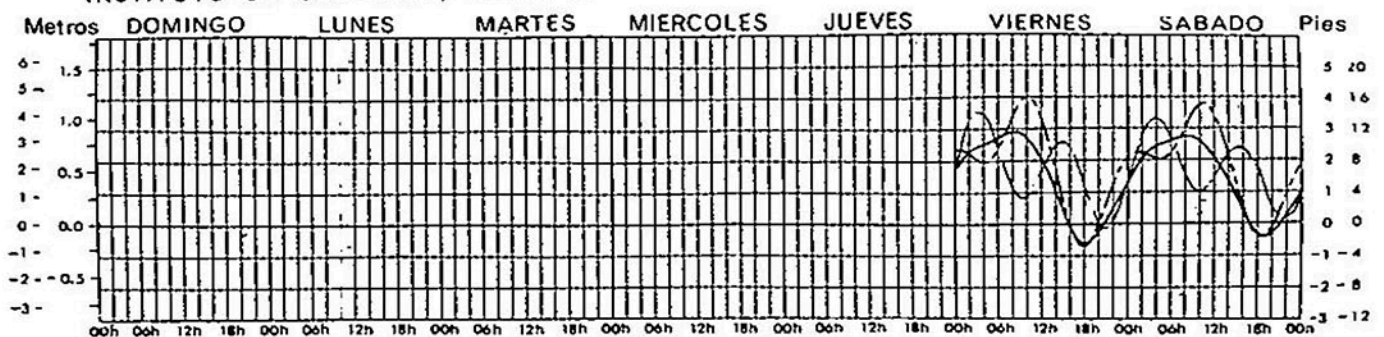


DICIEMBRE 1989

PTO. PEÑASCO, SON.
GUAYMAS, SON.
TOPOLOBAMPO, SIN.



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



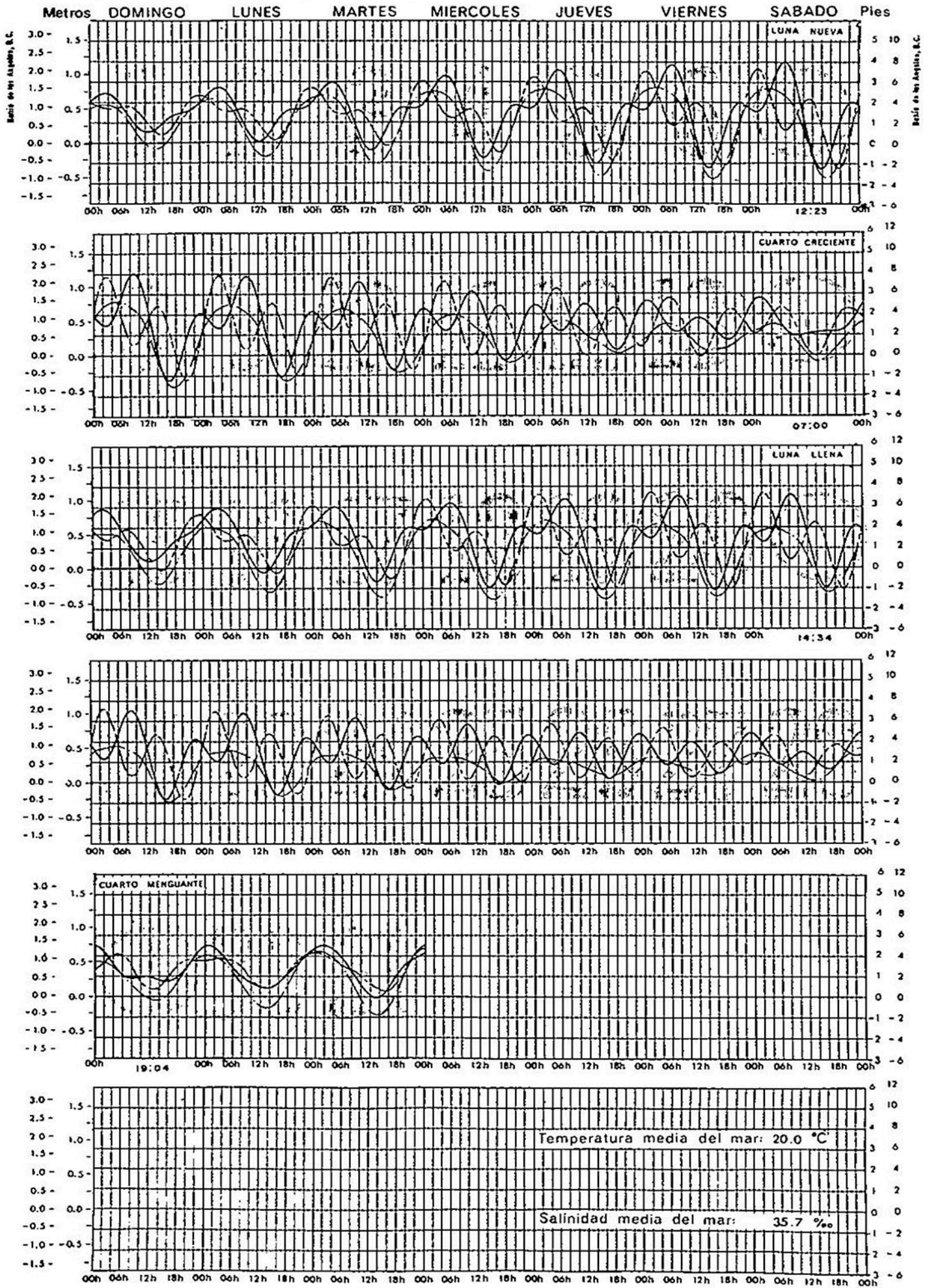


ENERO 1989

BAHIA DE LOS ANGELES, B.C.S.
STA. ROSALIA, B.C.S.
LA PAZ, B.C.S.



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



Temperatura media del mar: 20.0 °C

Salinidad media del mar: 35.7 ‰

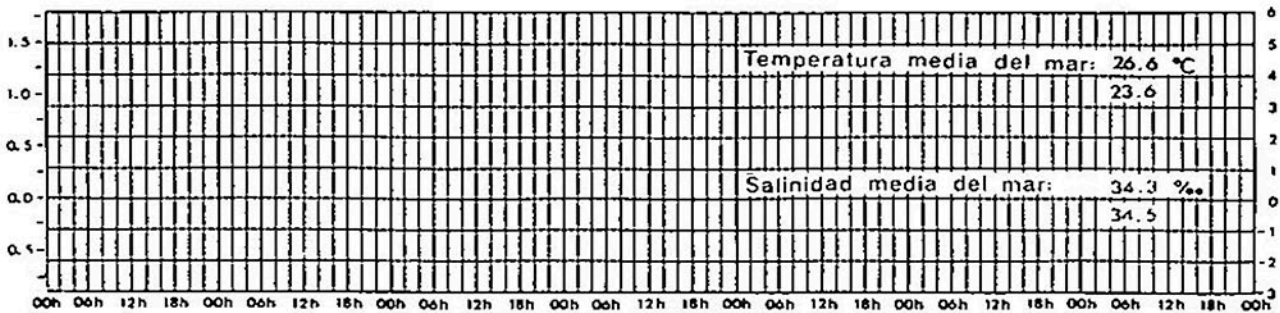
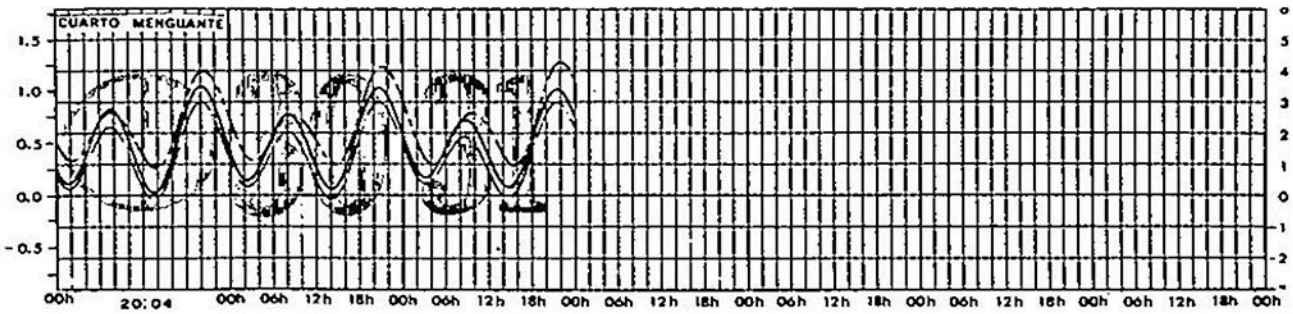
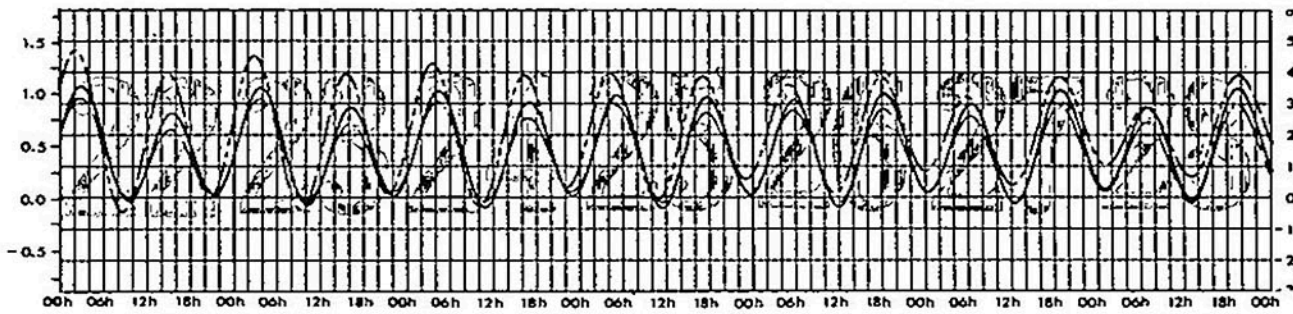
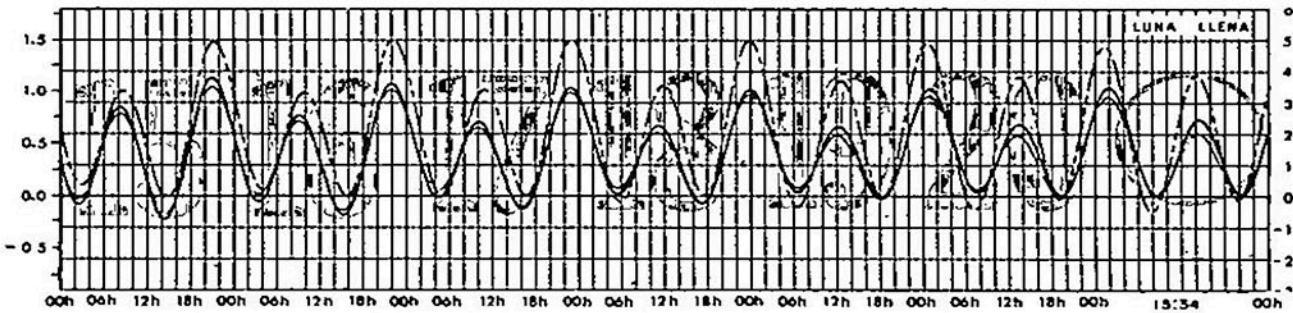
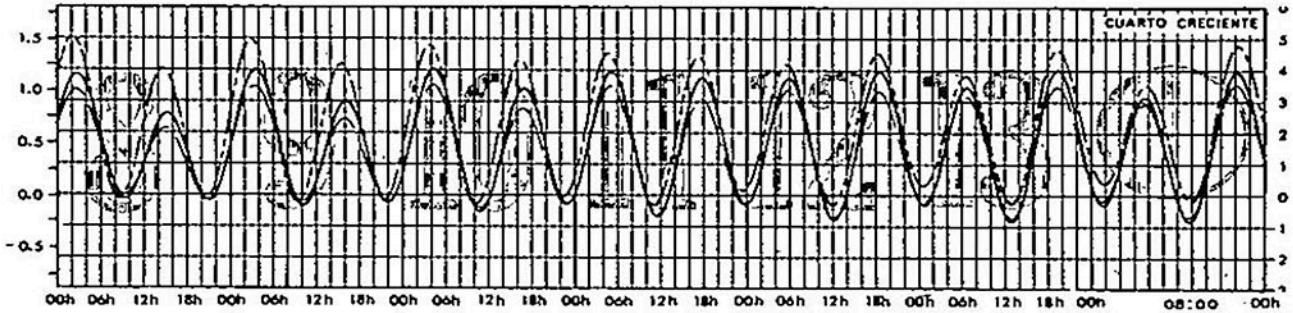
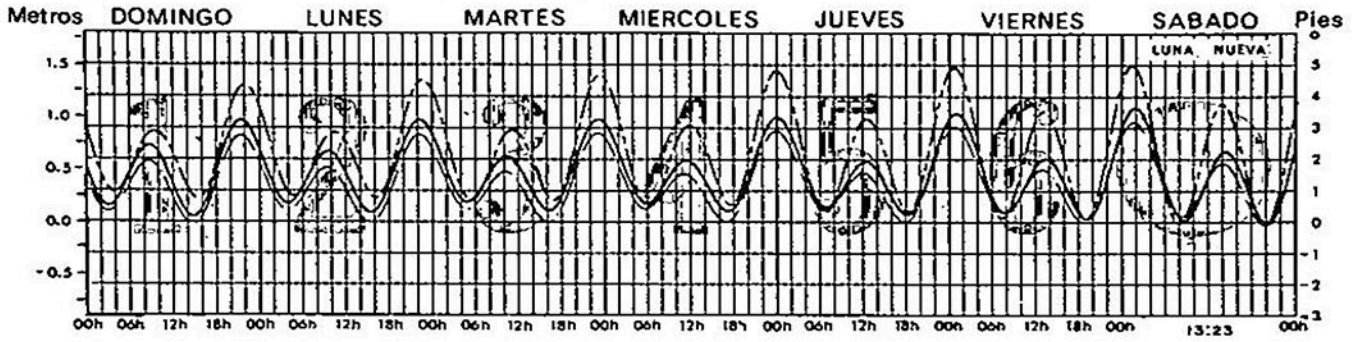


ENERO 1989

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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





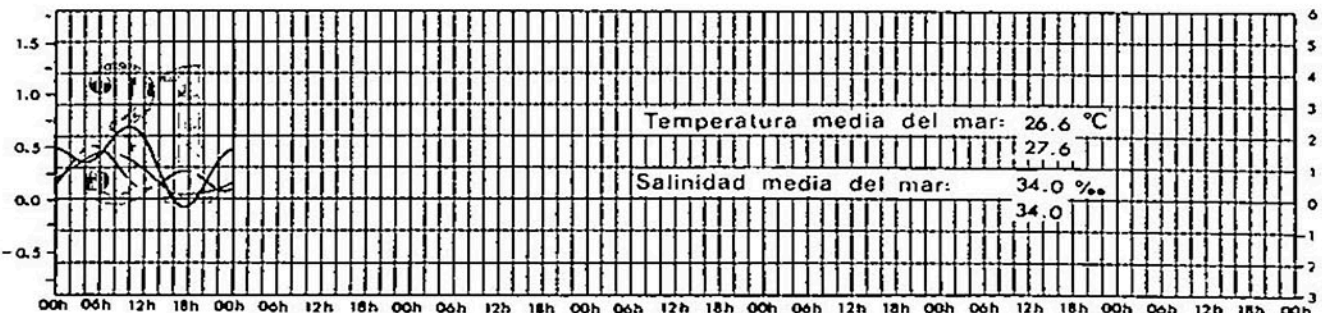
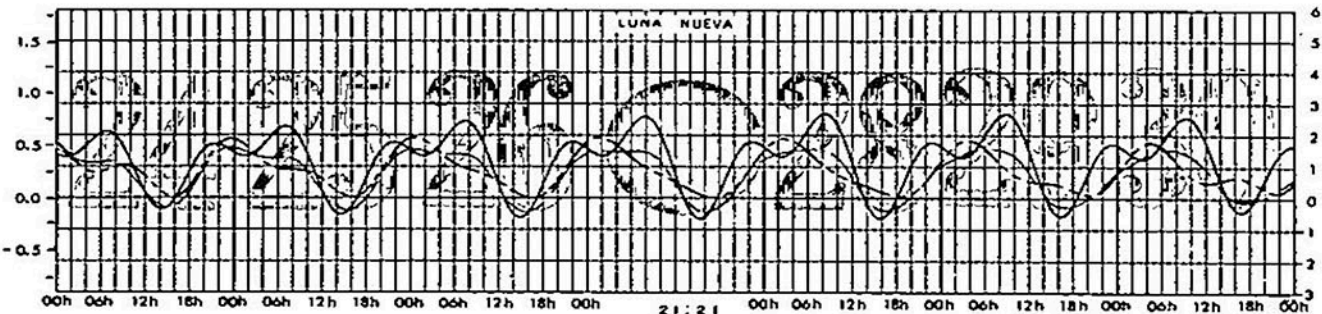
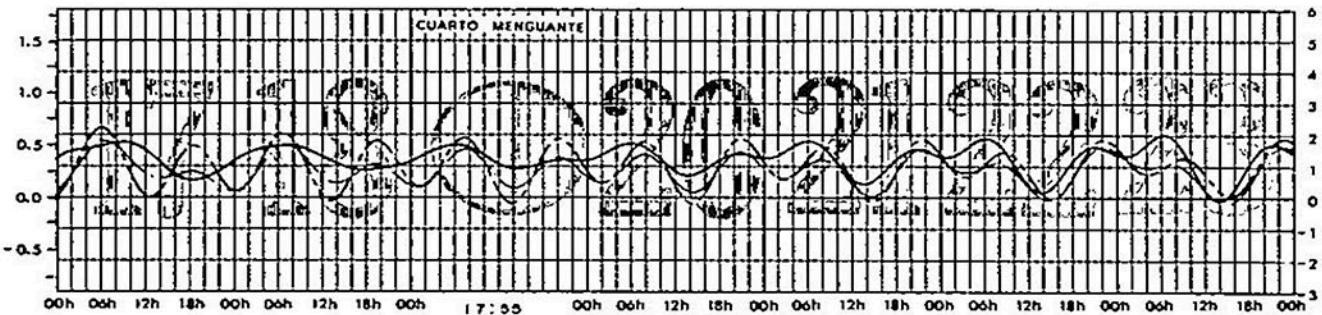
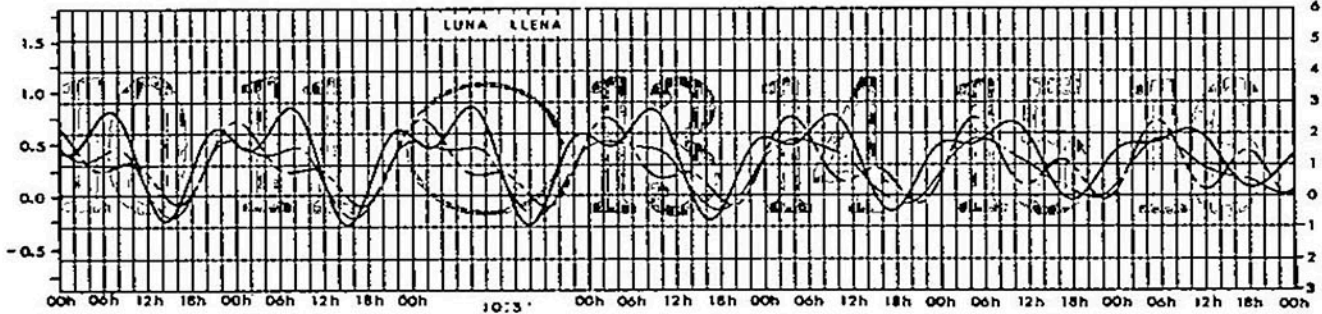
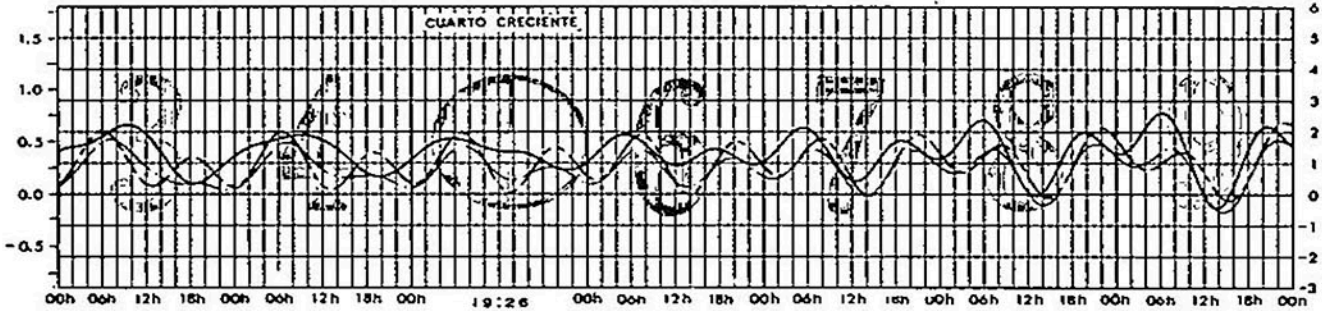
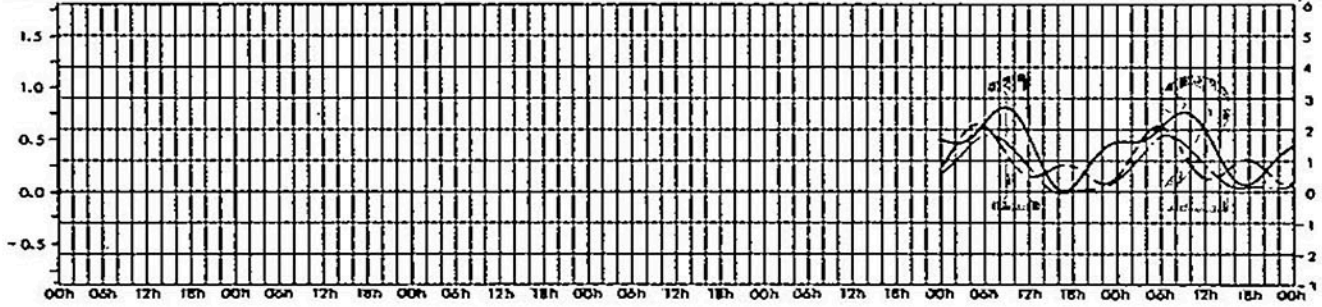
DICIEMBRE 1989

MANZANILLO, COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Ptes



Temperatura media del mar: 26.6 °C

27.6

Salinidad media del mar: 34.0 ‰

34.0



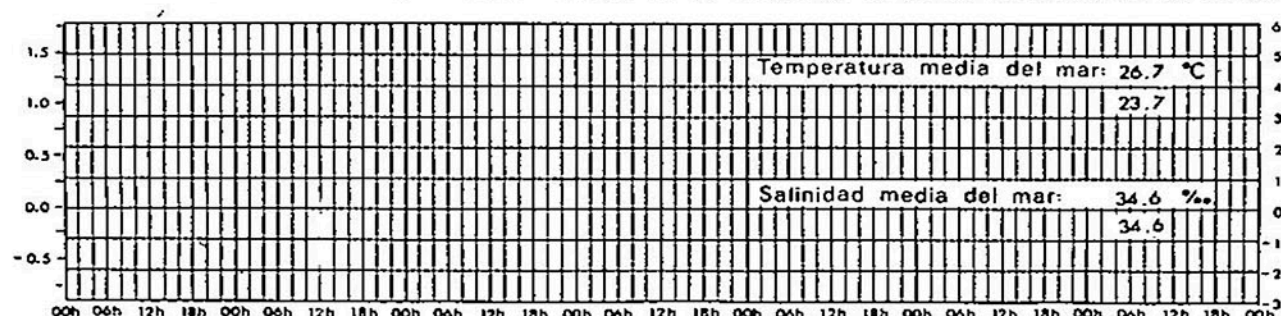
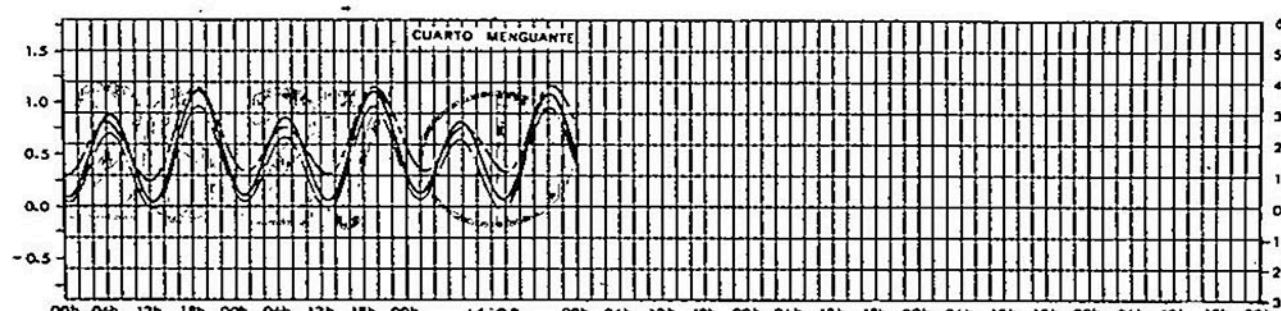
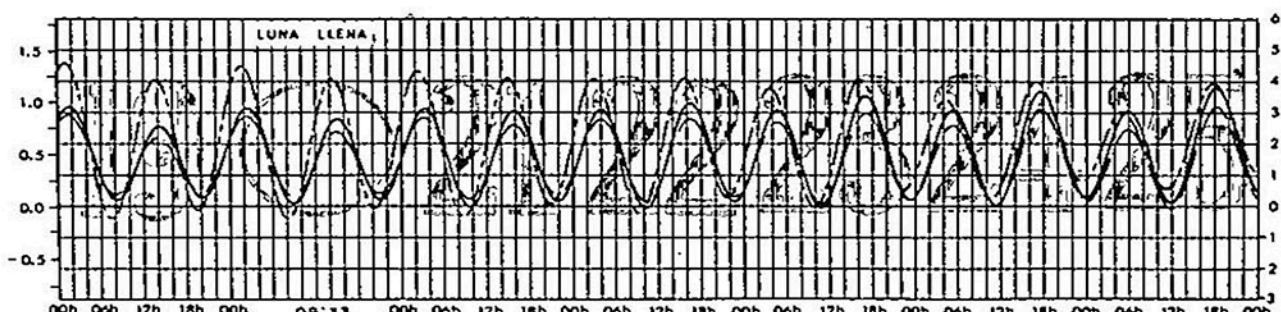
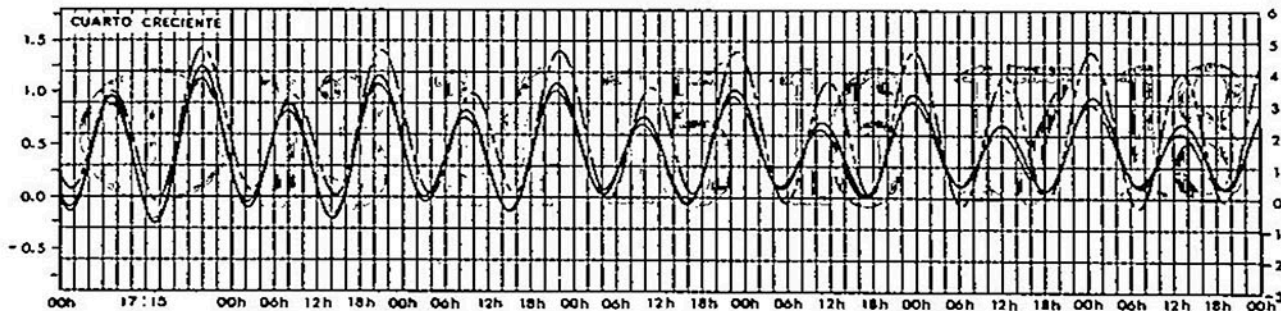
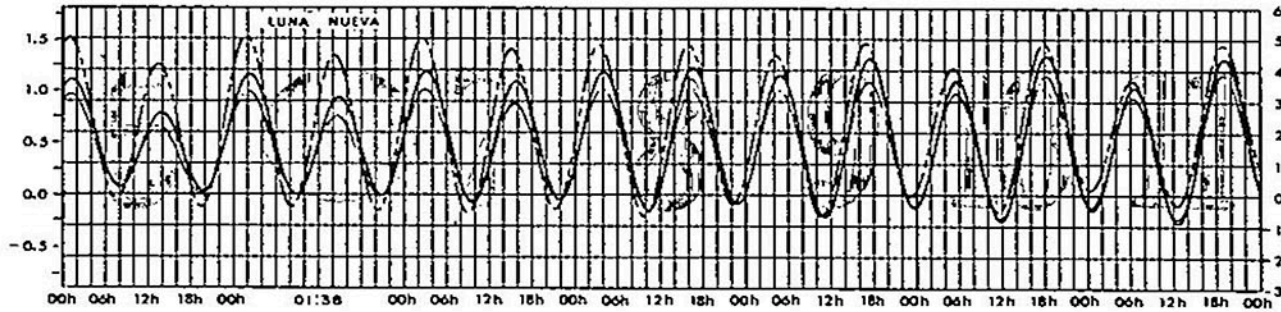
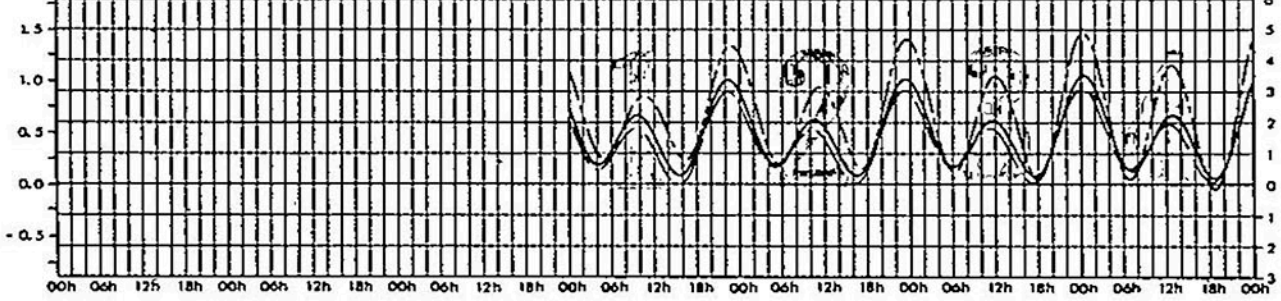
FEBRERO 1989

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies

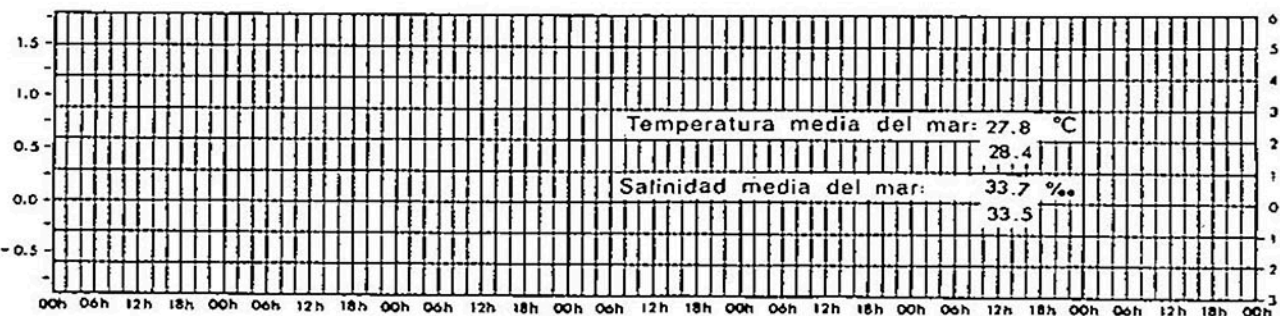
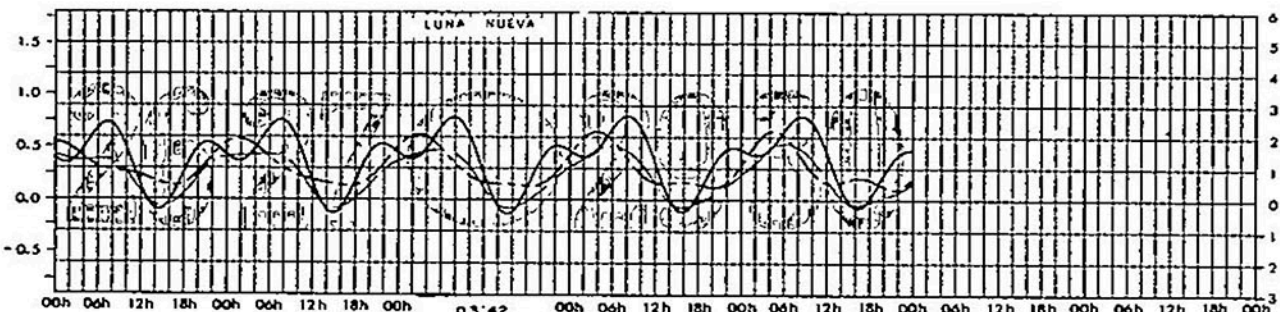
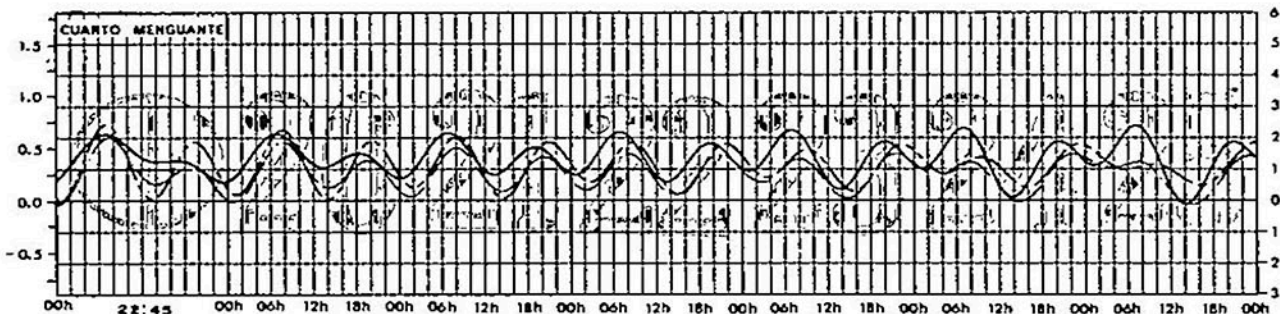
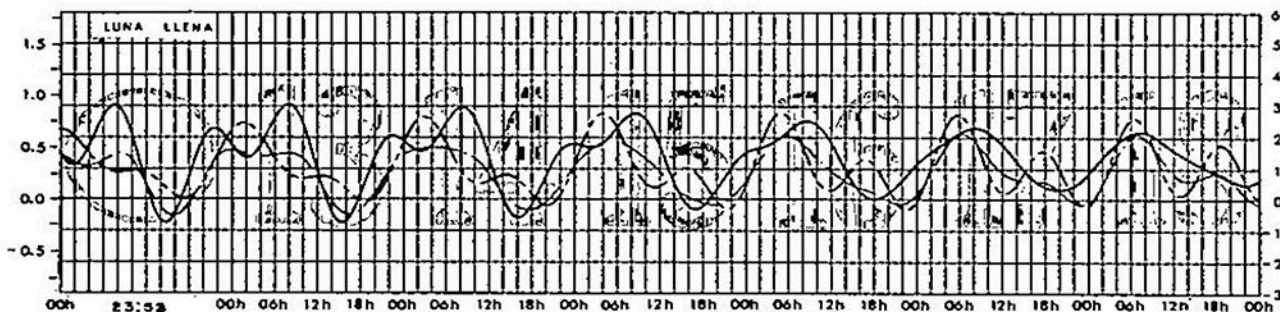
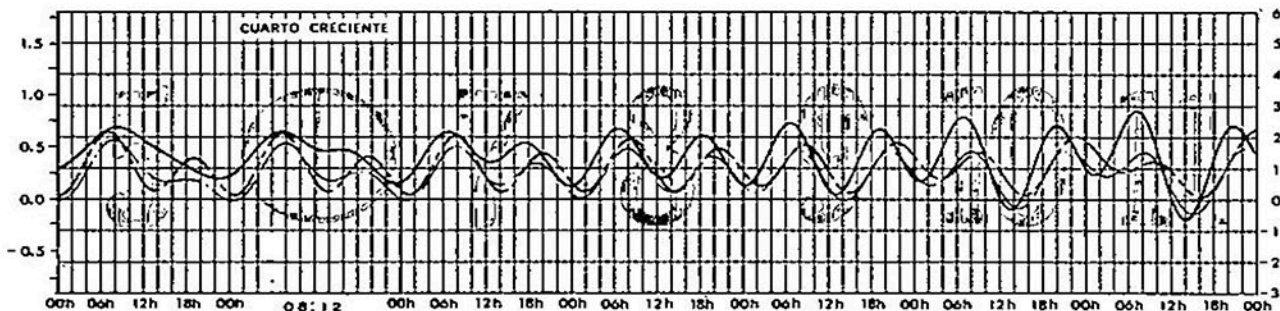
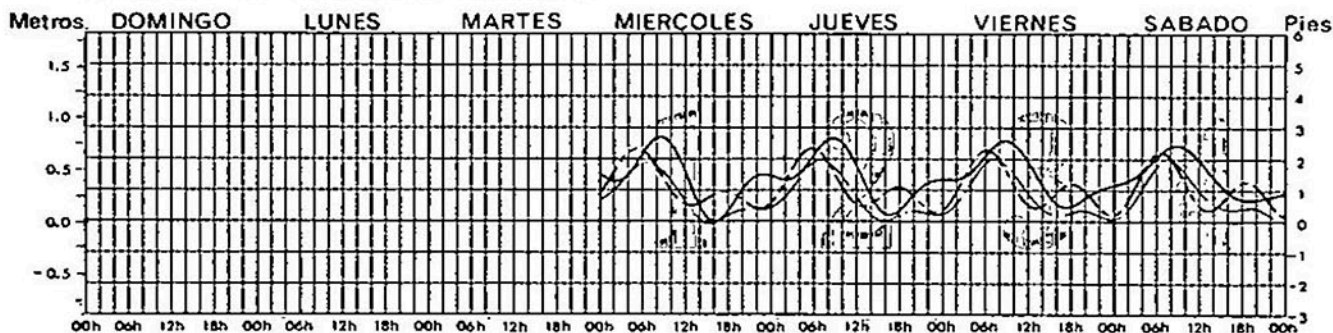




NOVIEMBRE 1989

INSTITUTO DE GEÓFISICA, U. N. A. M.

MANZANILLO, COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.





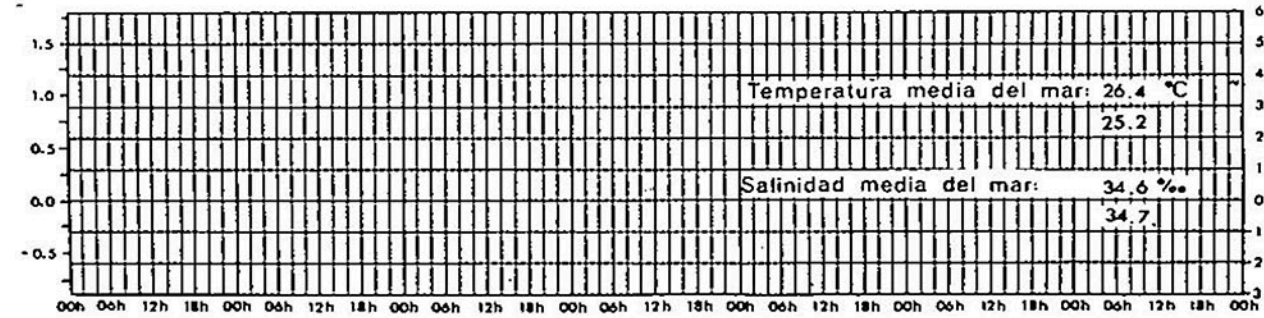
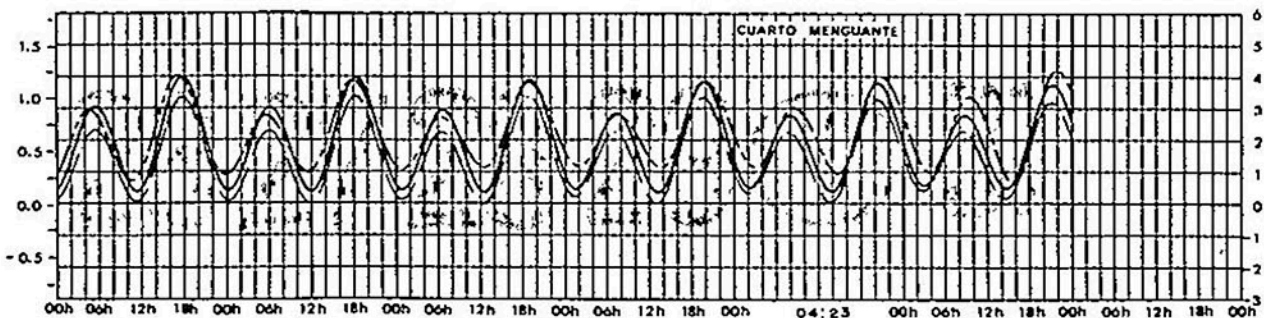
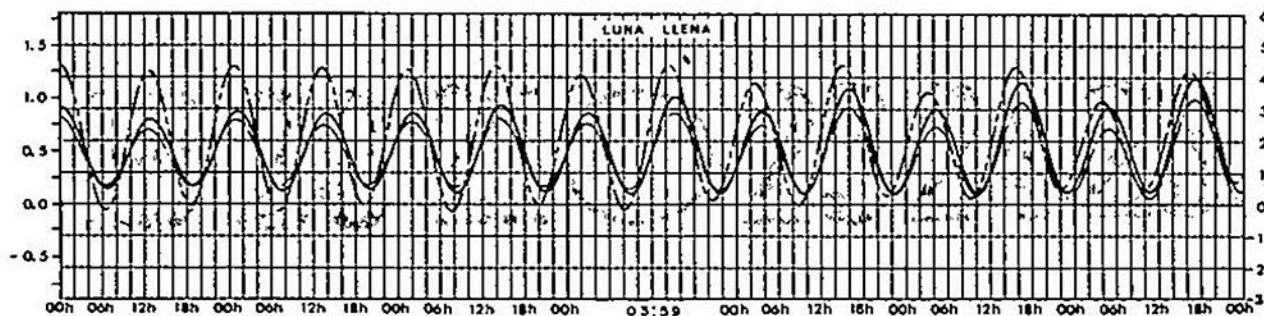
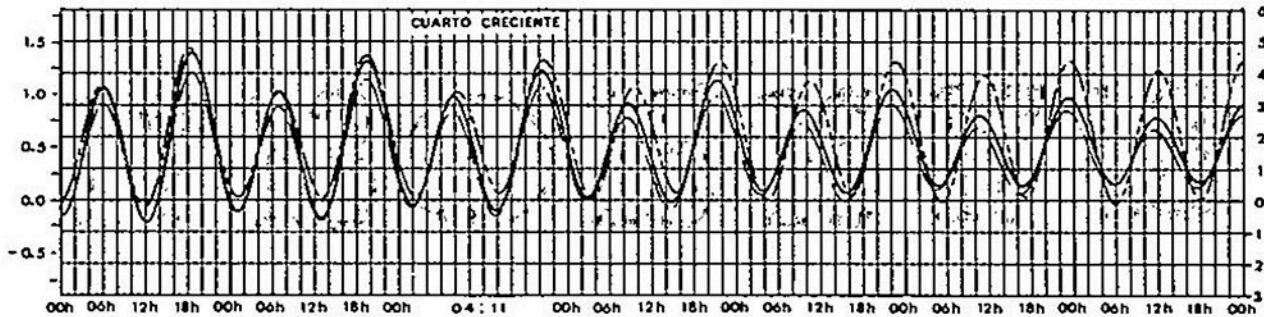
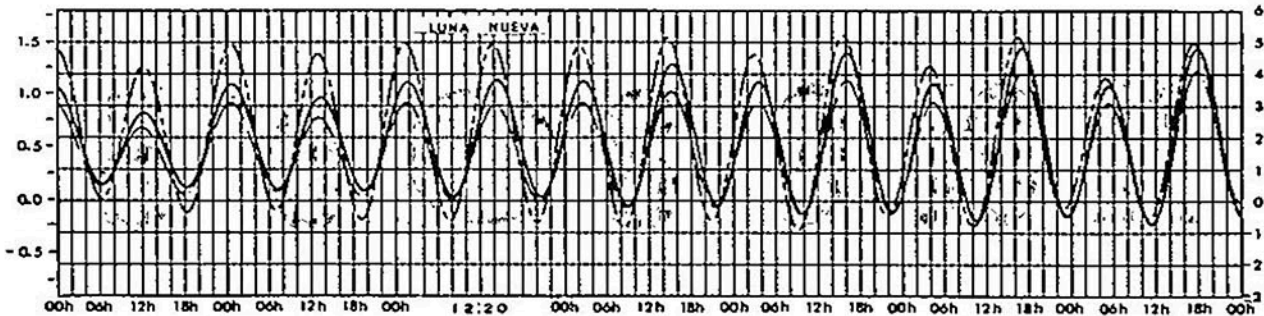
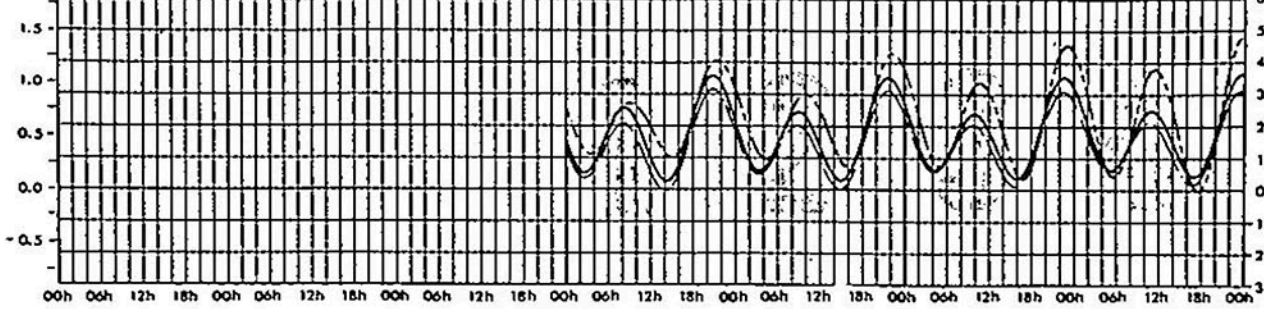
MARZO 1989

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pjes



Temperatura media del mar: 26.4 °C

25.2

Salinidad media del mar: 34.6 ‰

34.7

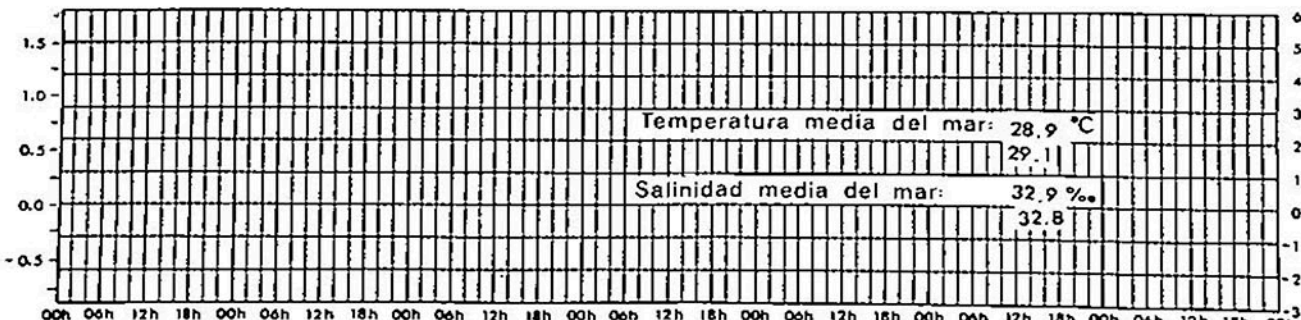
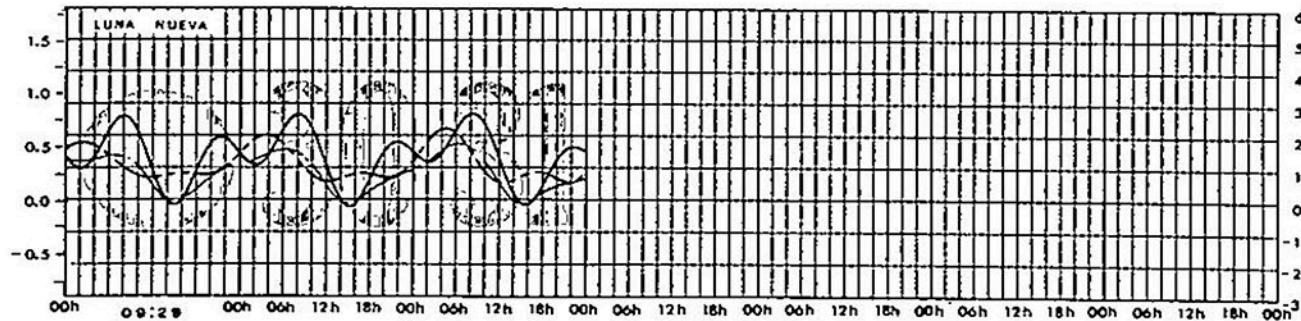
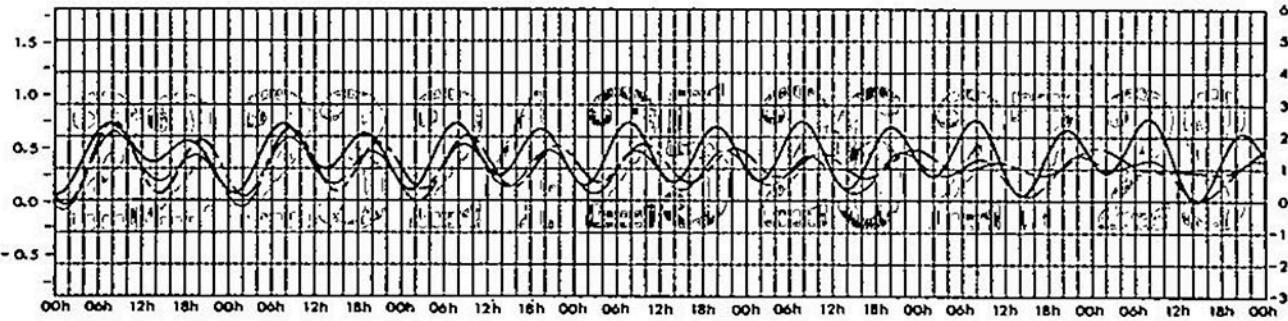
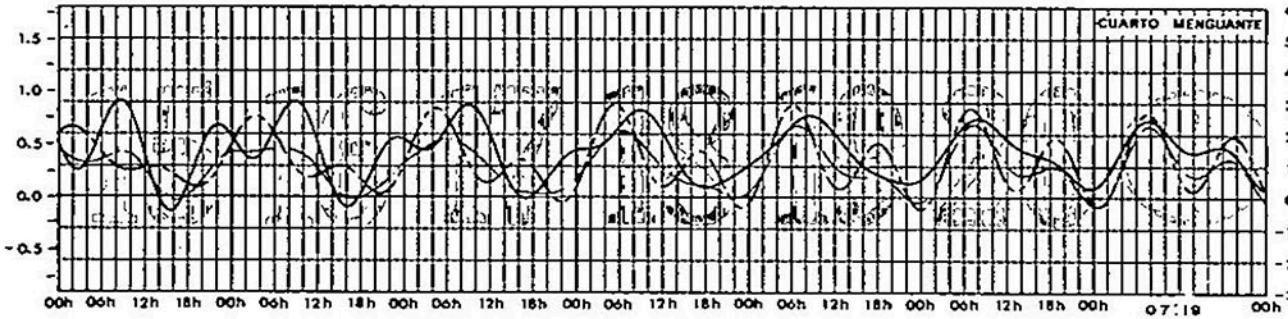
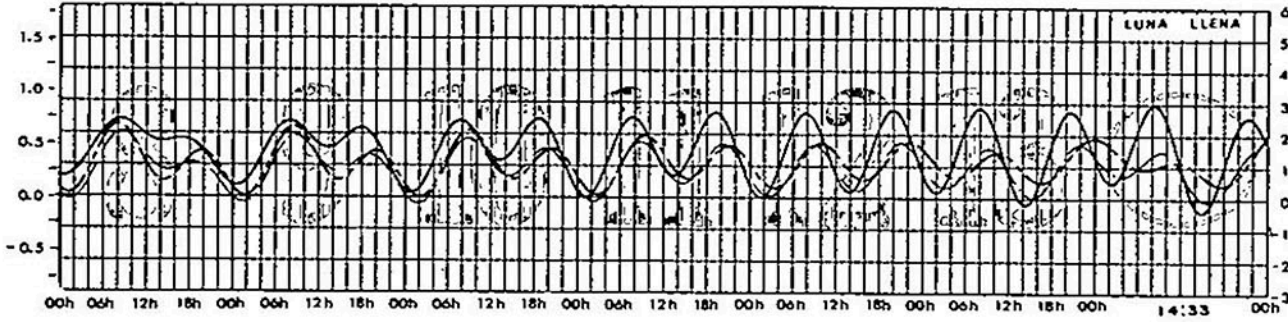
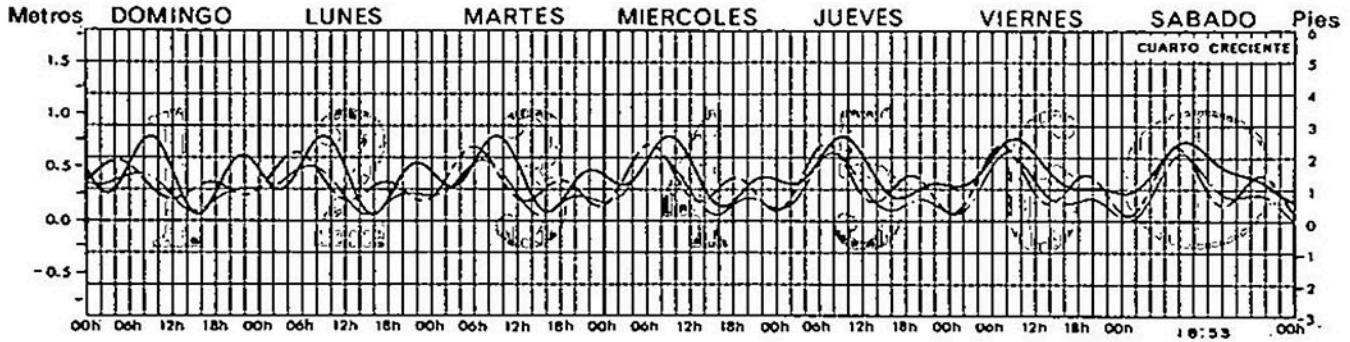


OTUBRE 1989

MANZANILLO, COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.



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



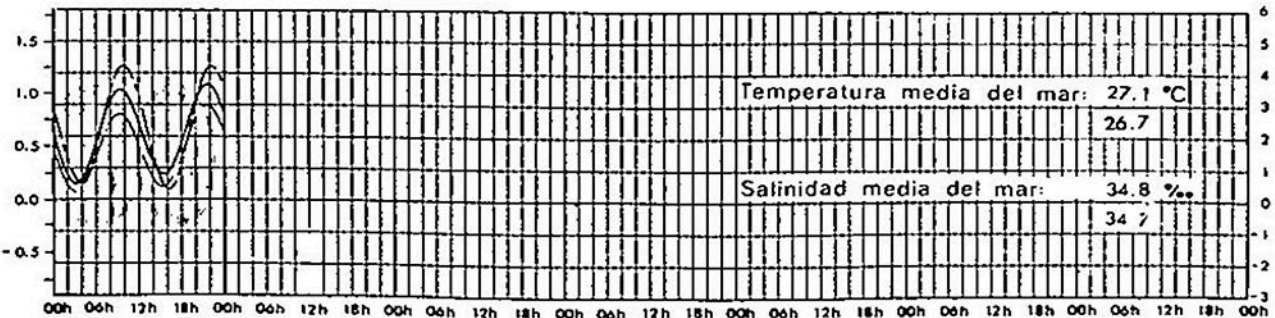
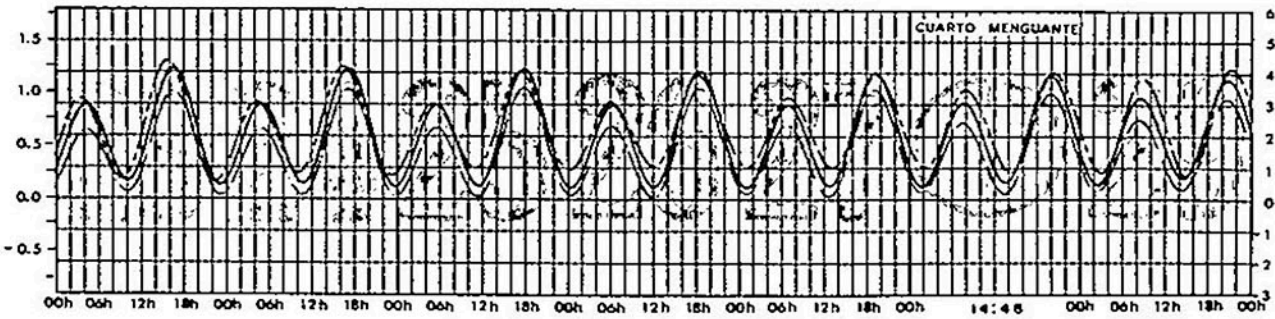
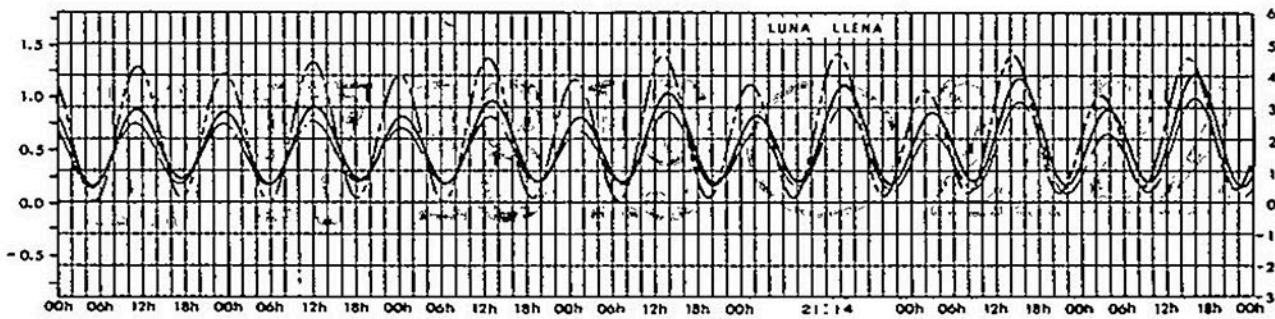
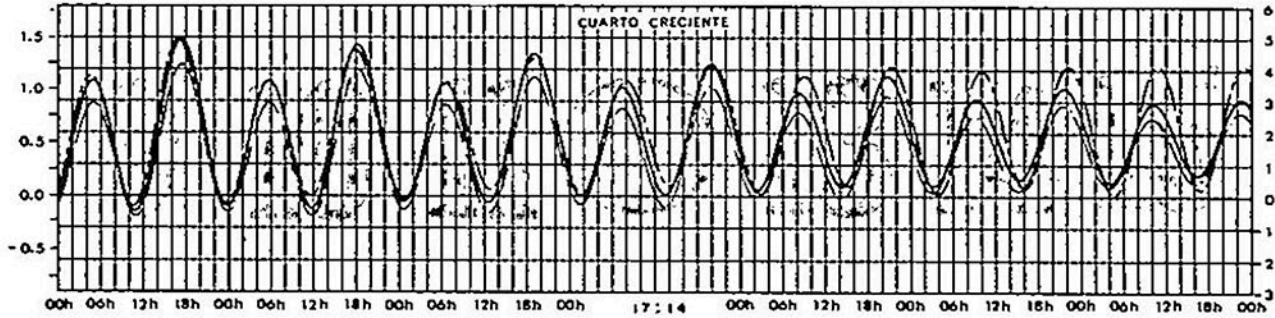
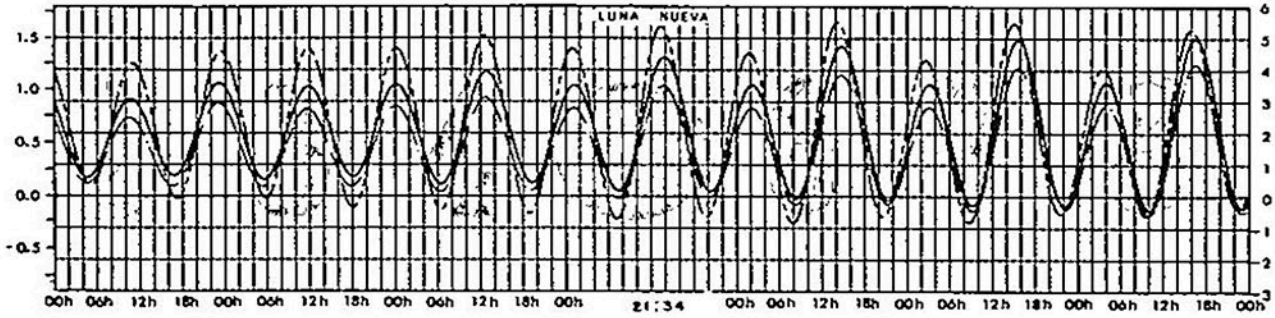
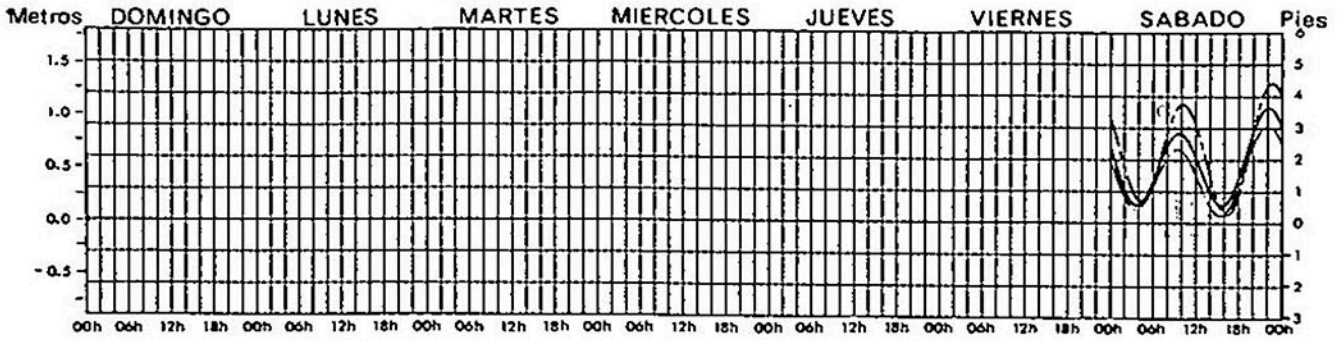


ABRIL 1989

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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



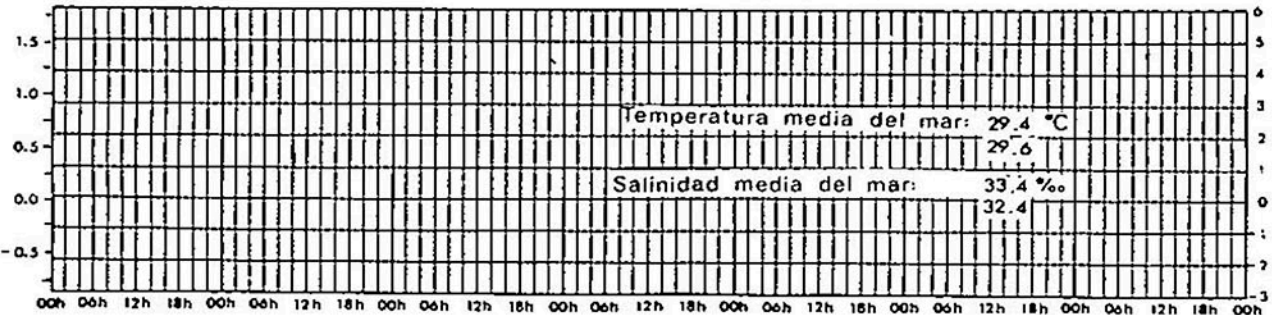
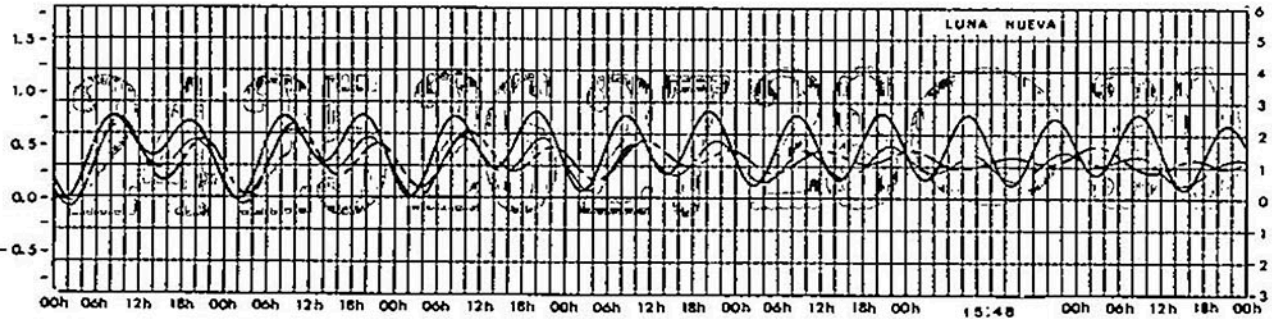
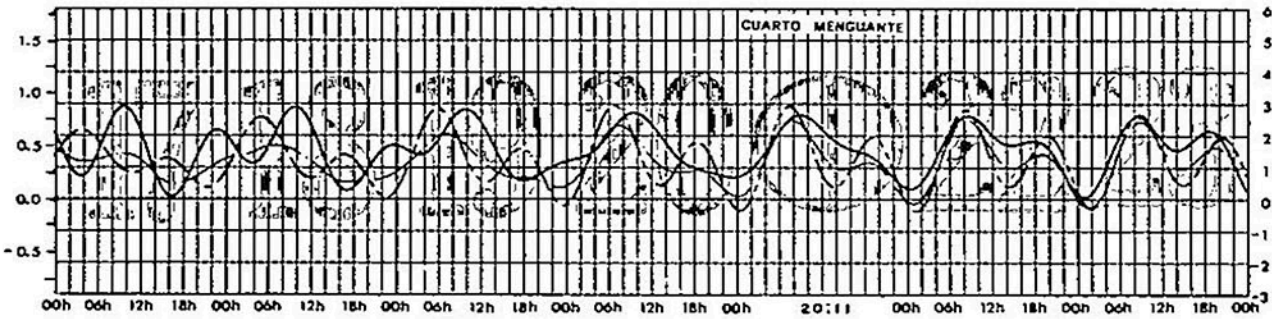
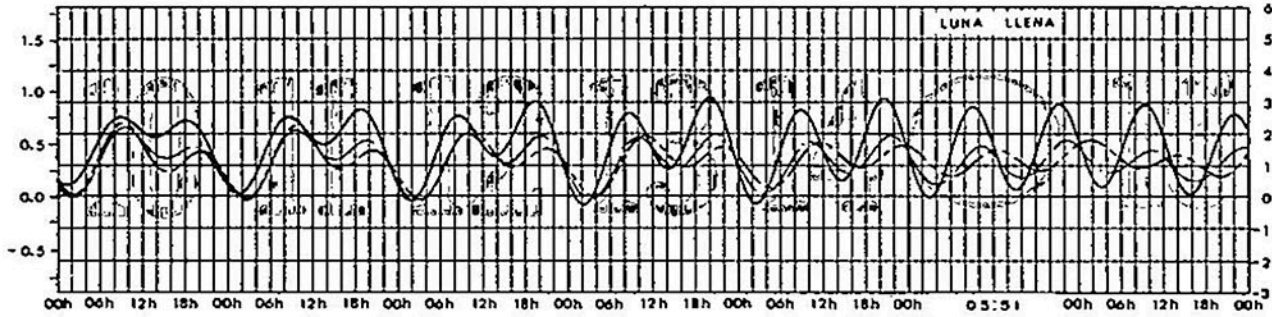
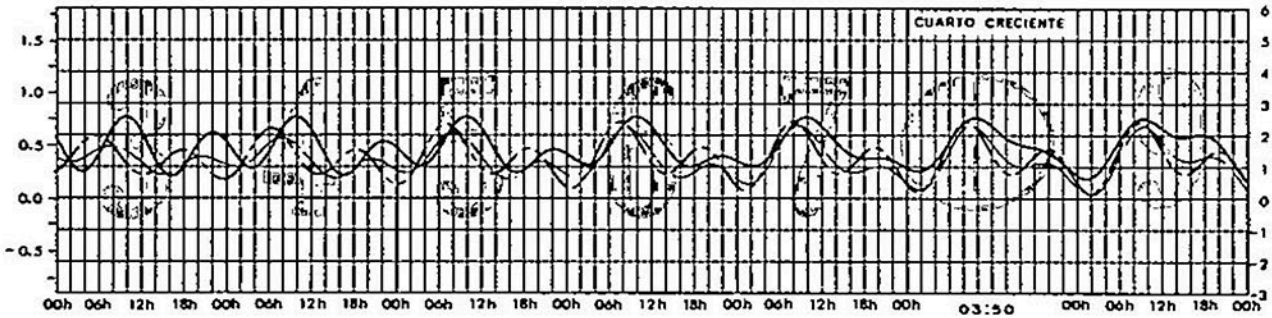
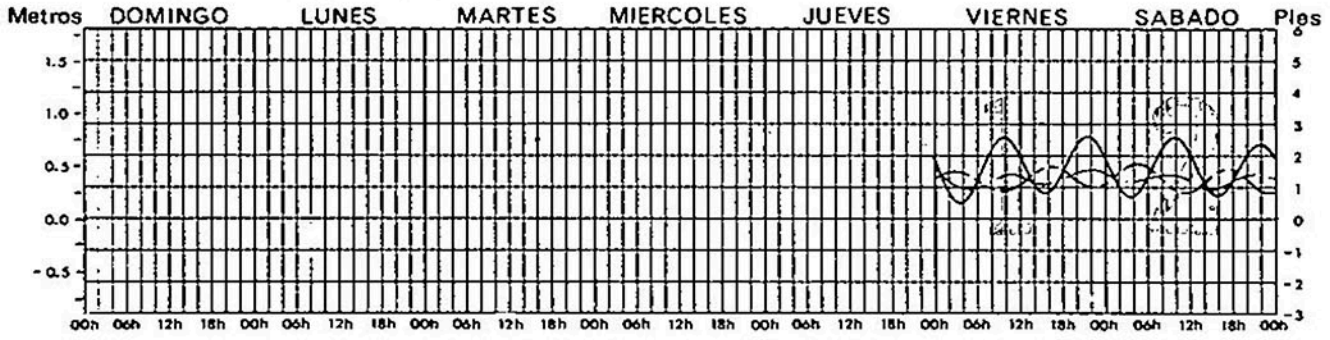


SEPTIEMBRE 1989

MANZANILLO, COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.



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





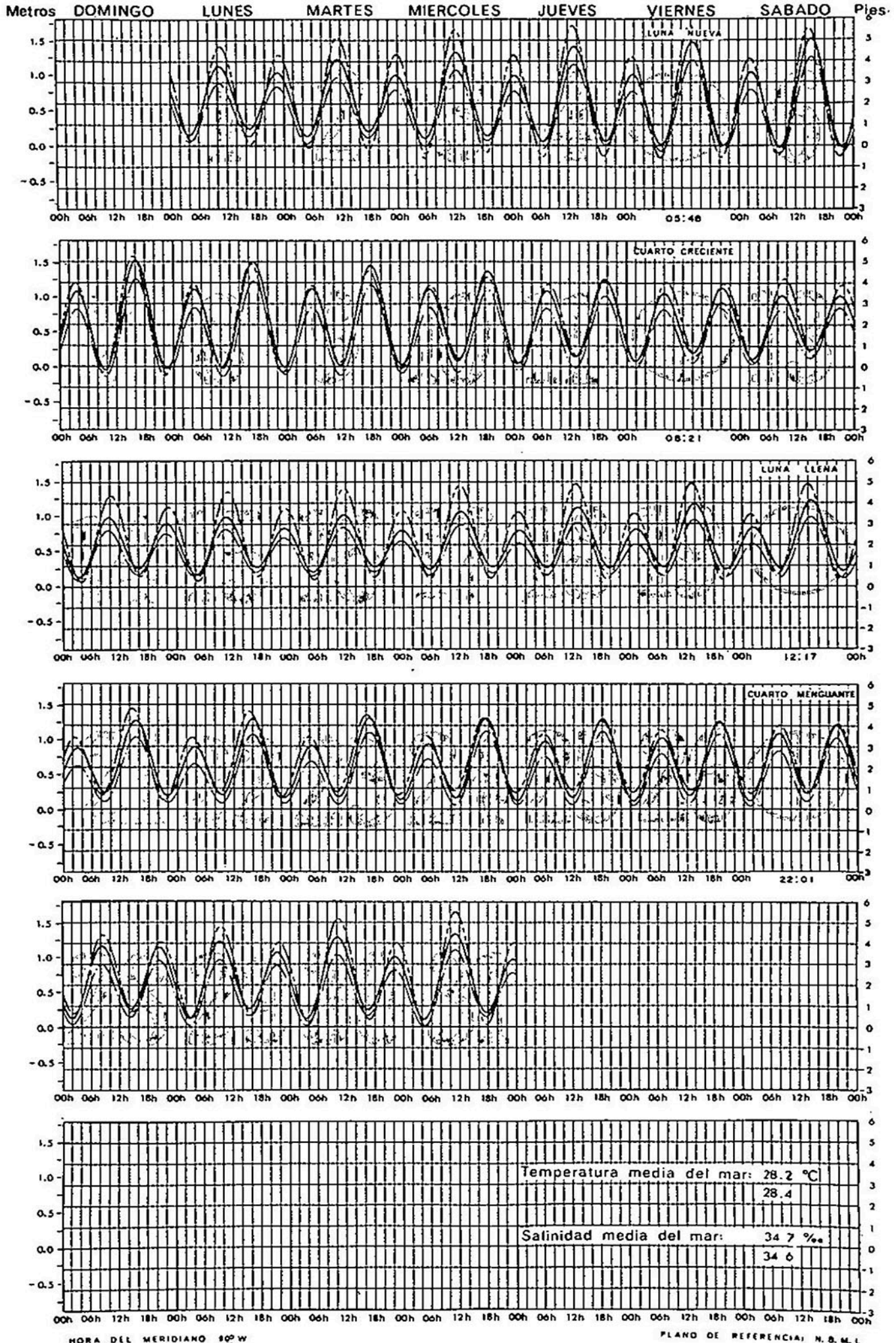
MAYO

1989

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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

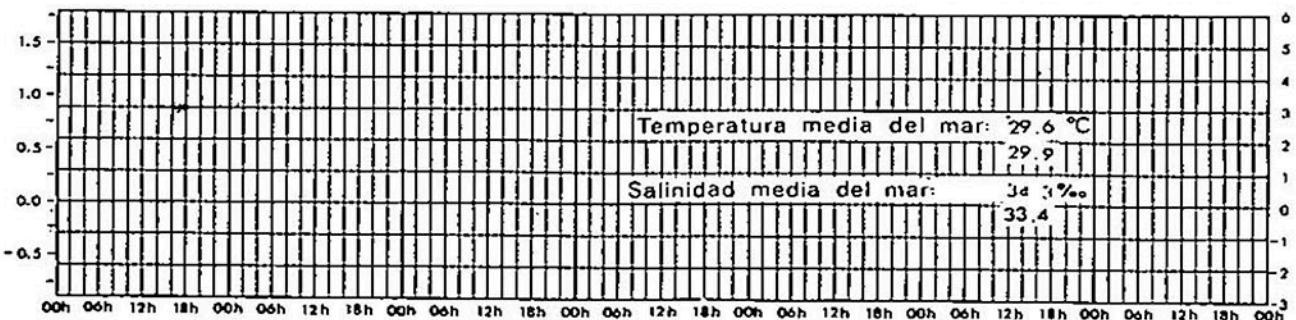
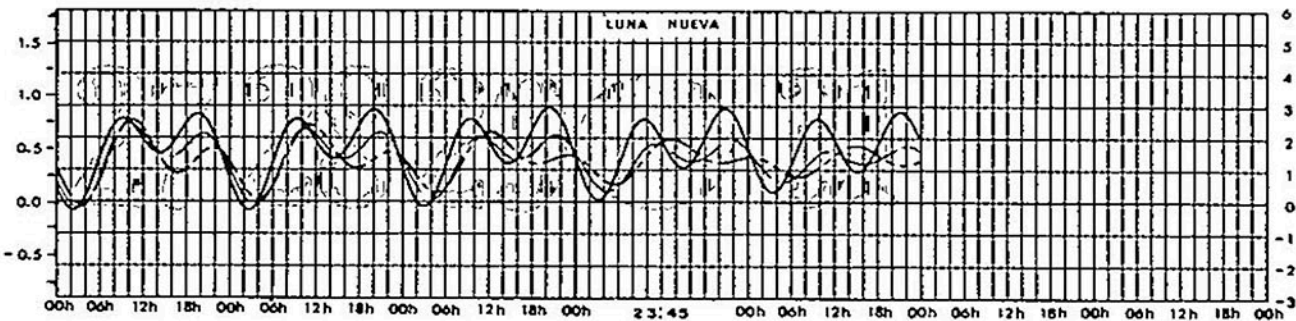
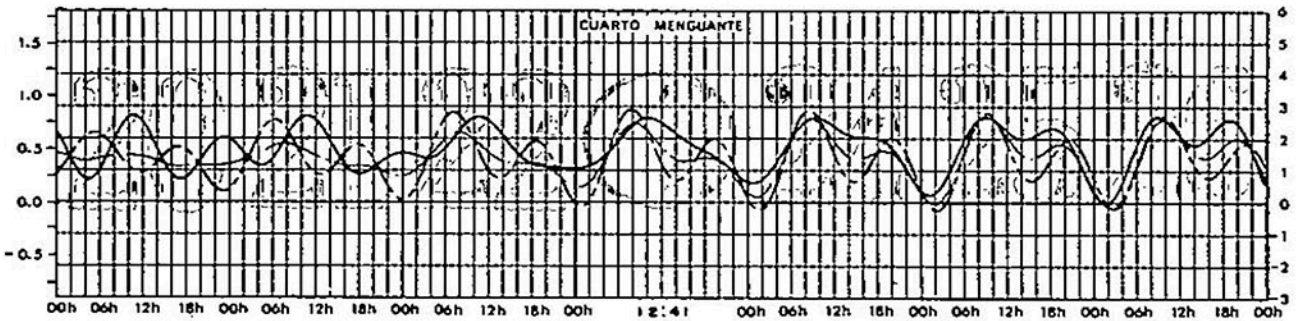
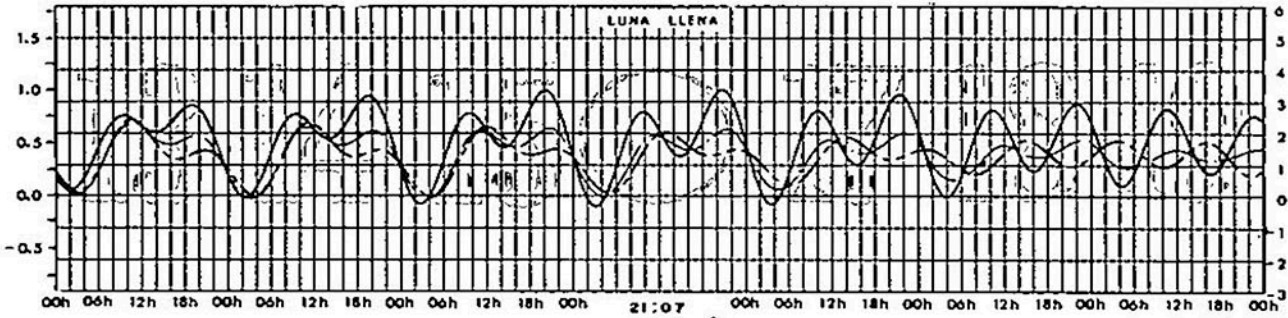
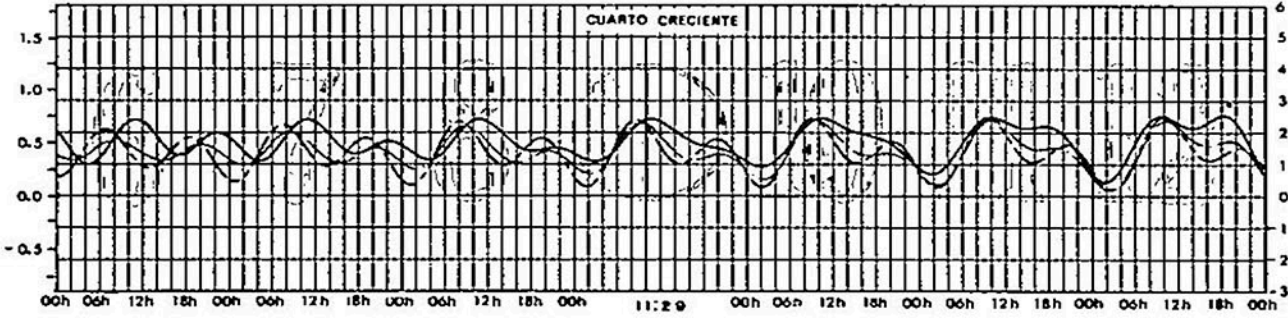
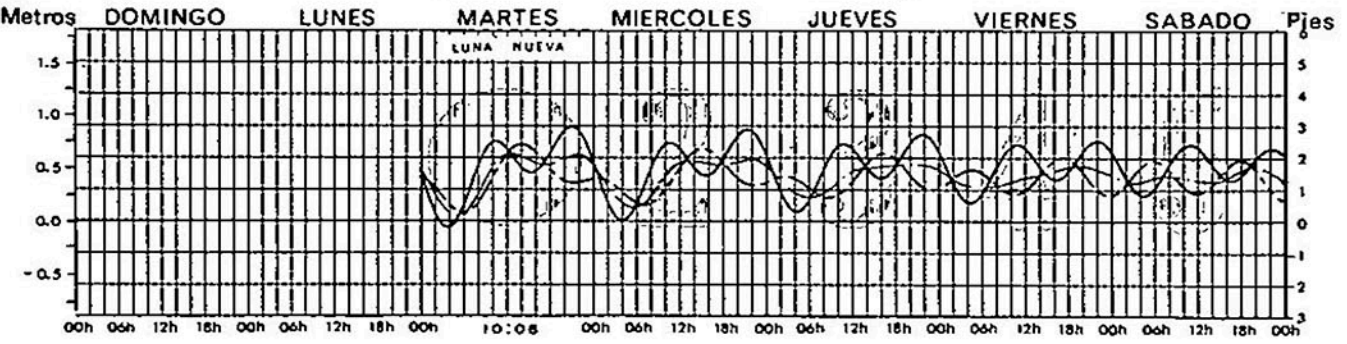




OSTO 1989

MANZANILLO, COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.

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



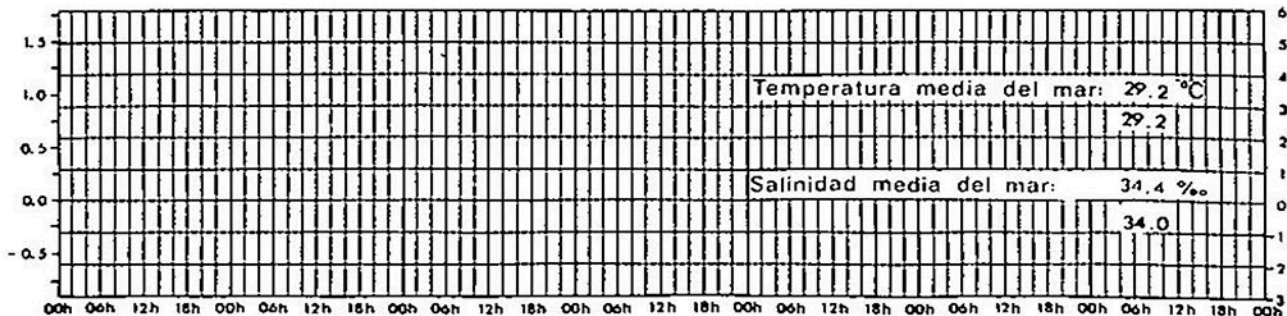
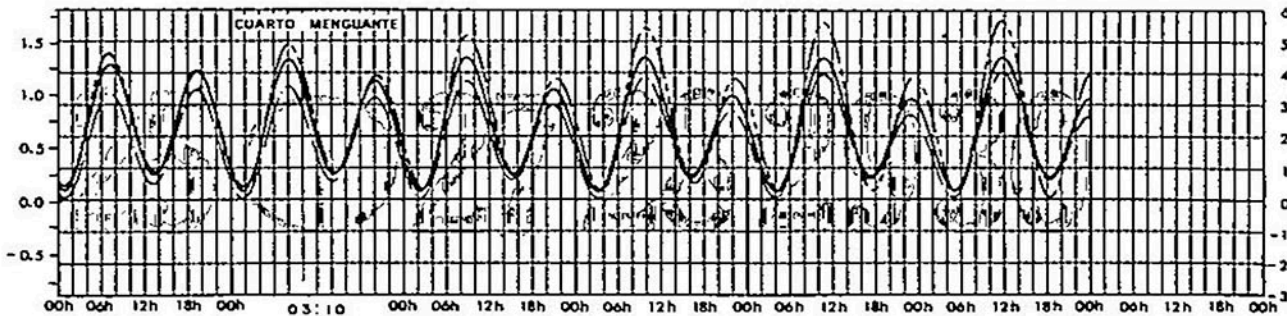
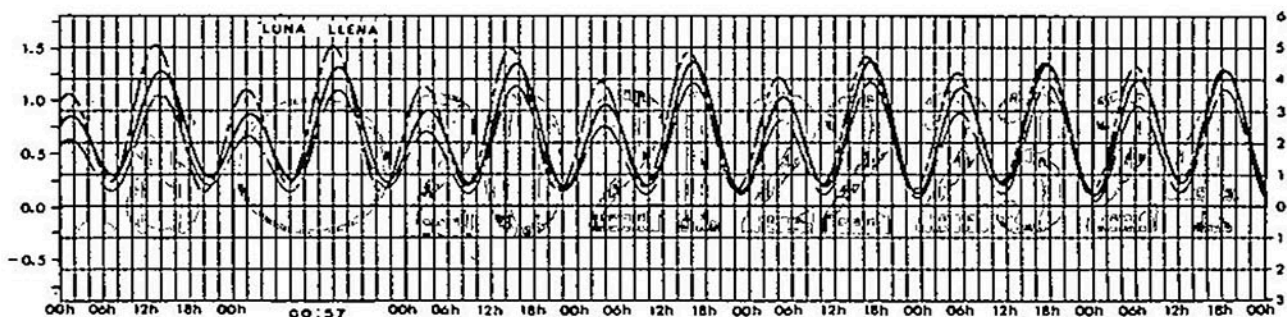
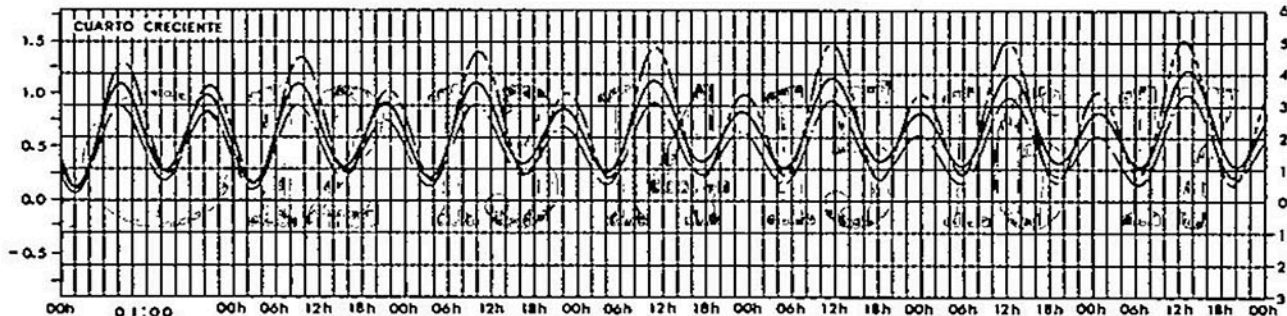
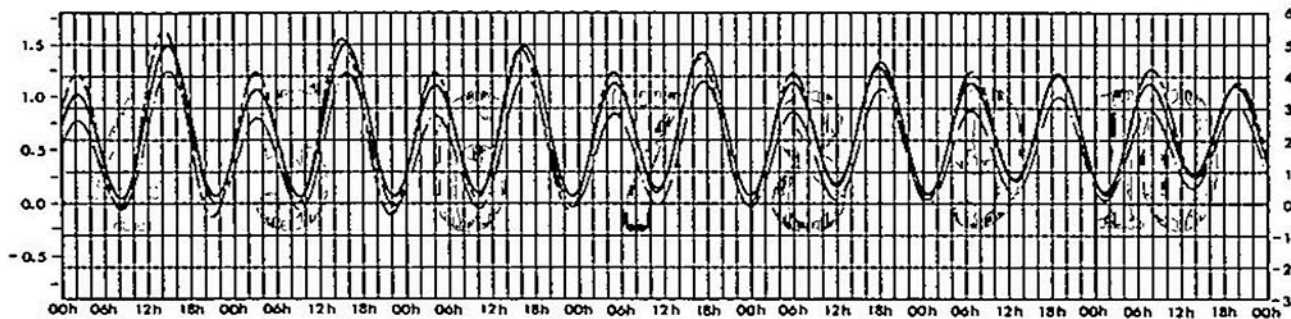
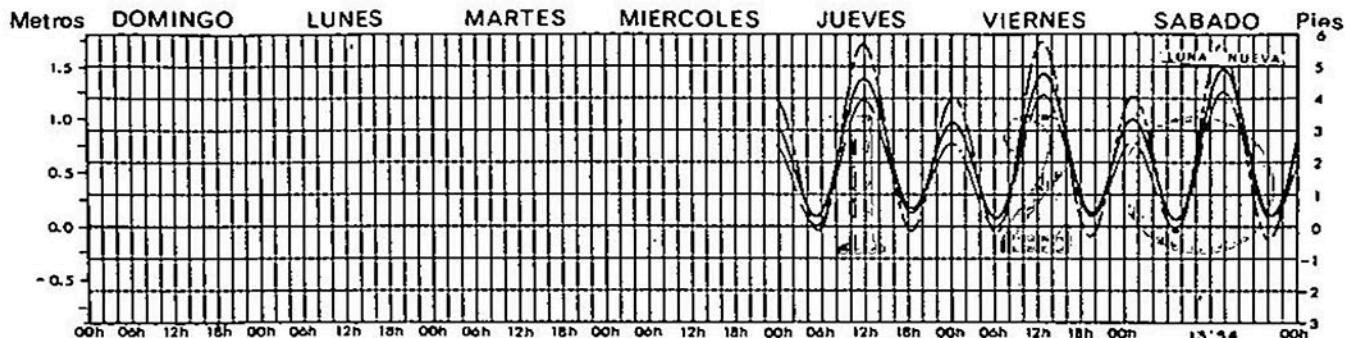


JUNIO 1989

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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





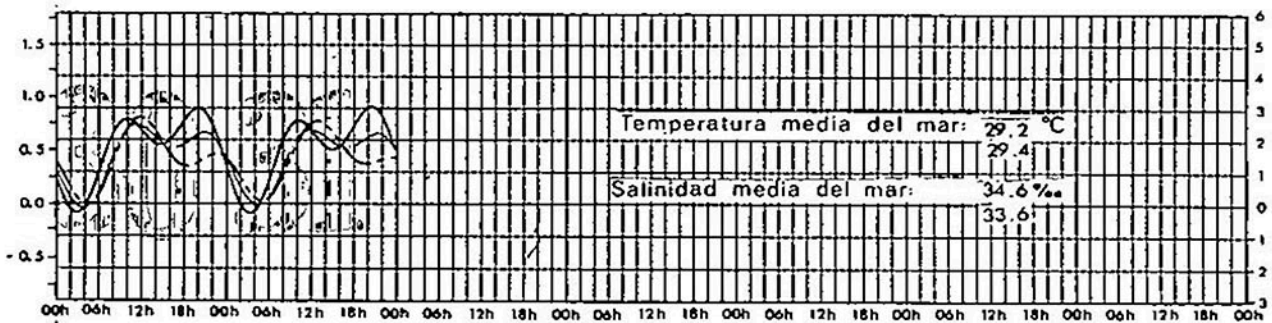
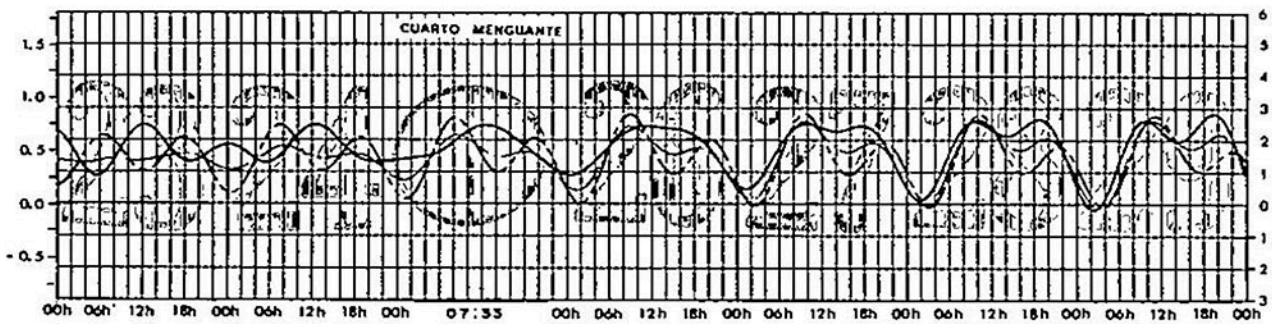
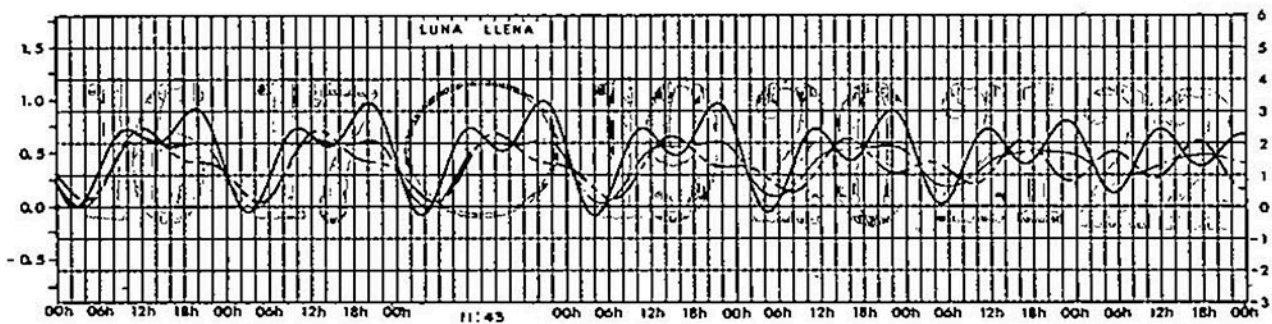
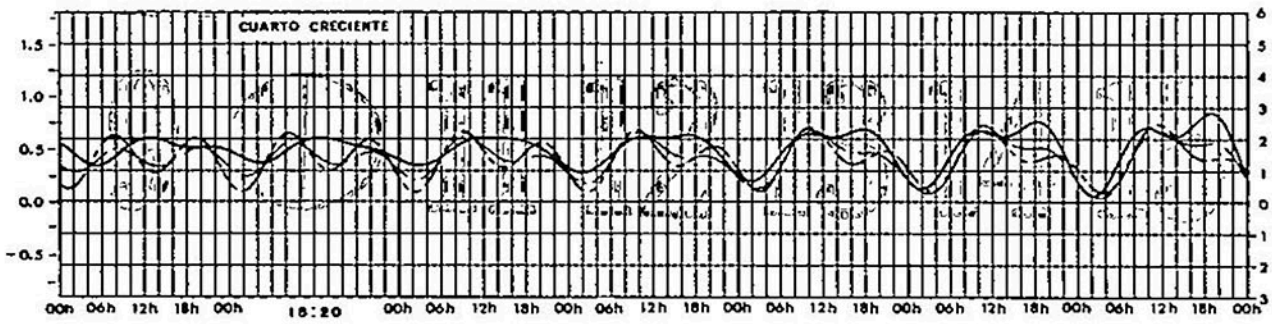
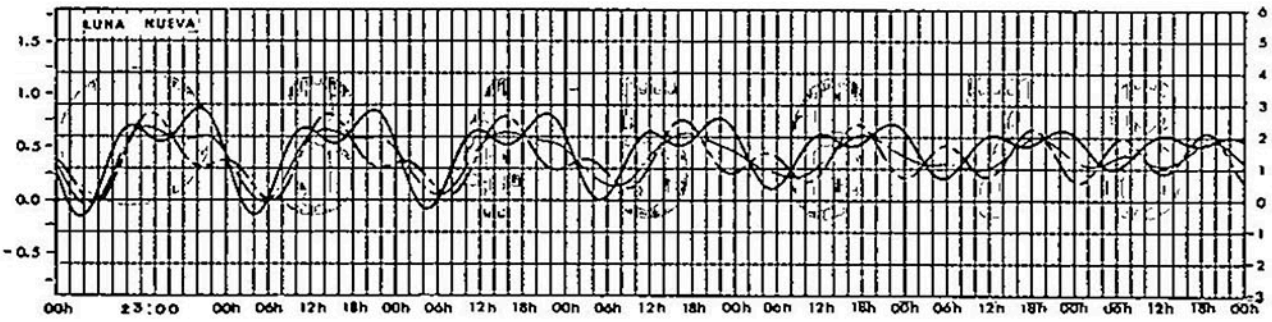
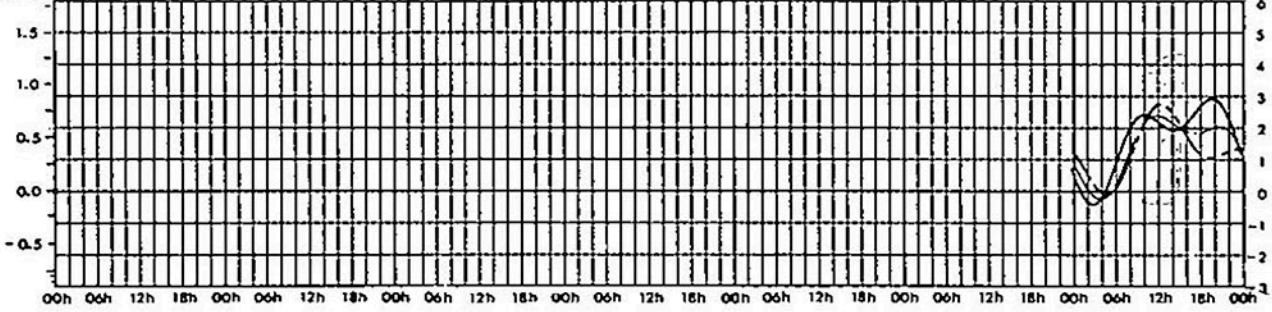
JULIO 1989

MANZANILLO COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 29.2 °C
 29.4
 Salinidad media del mar: 34.6 ‰
 33.6



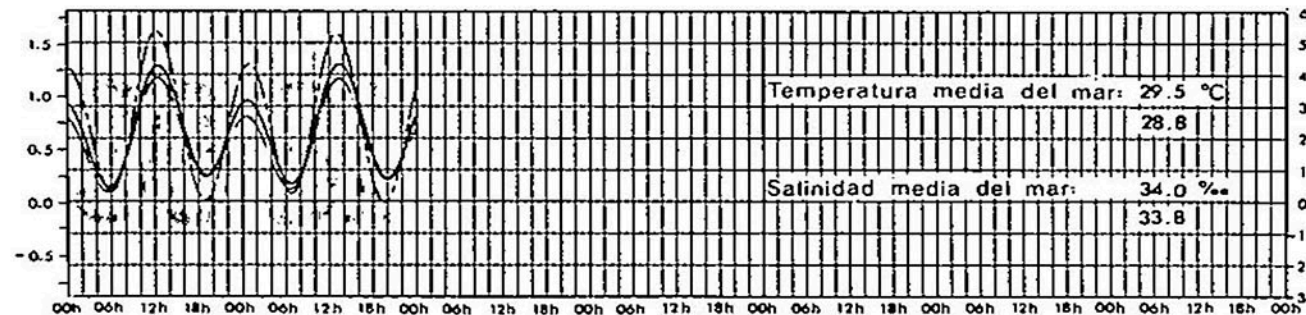
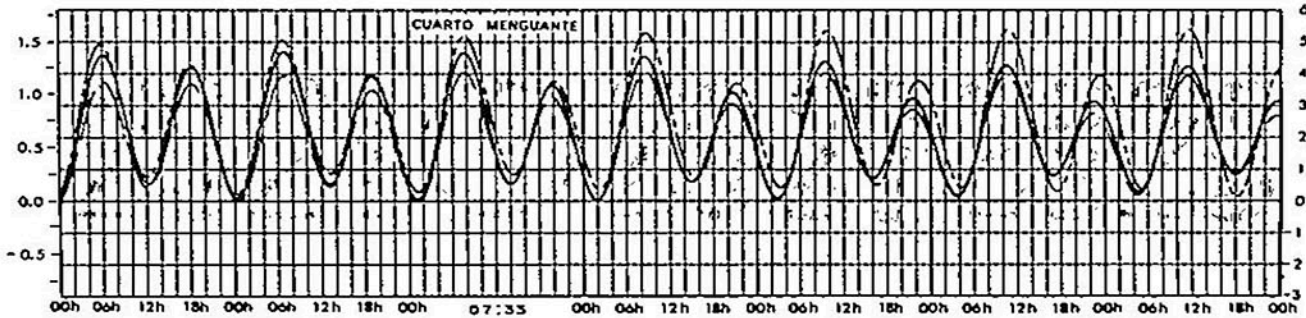
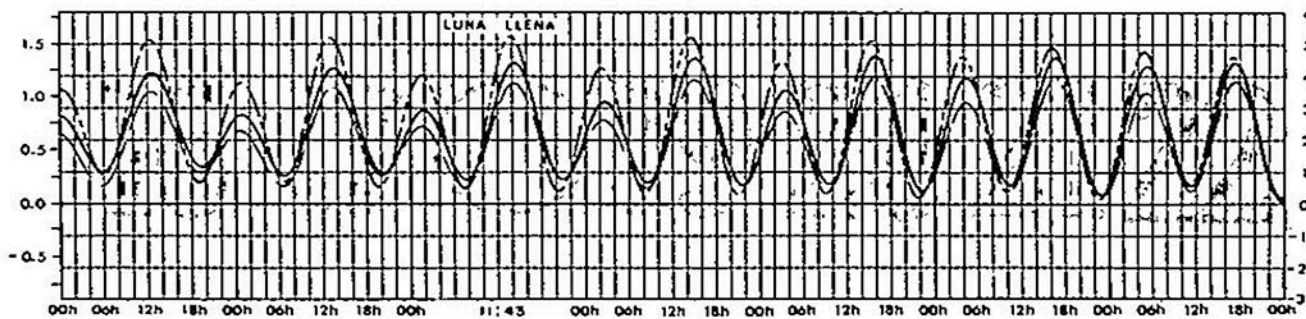
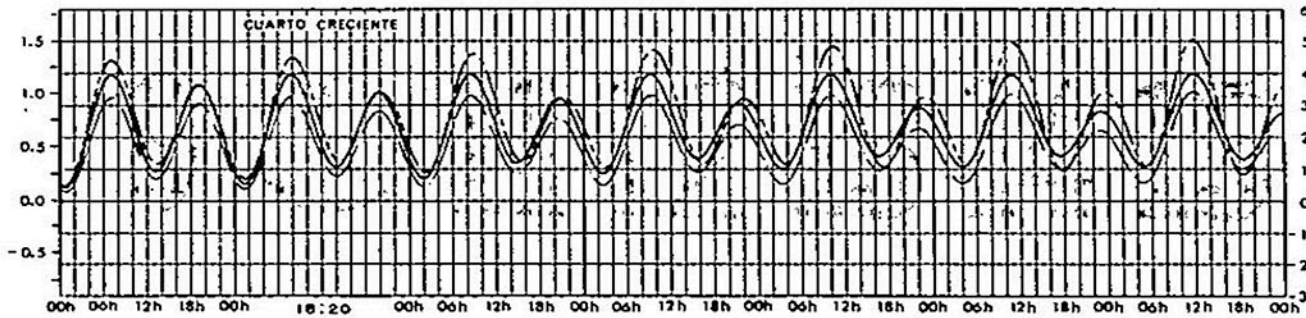
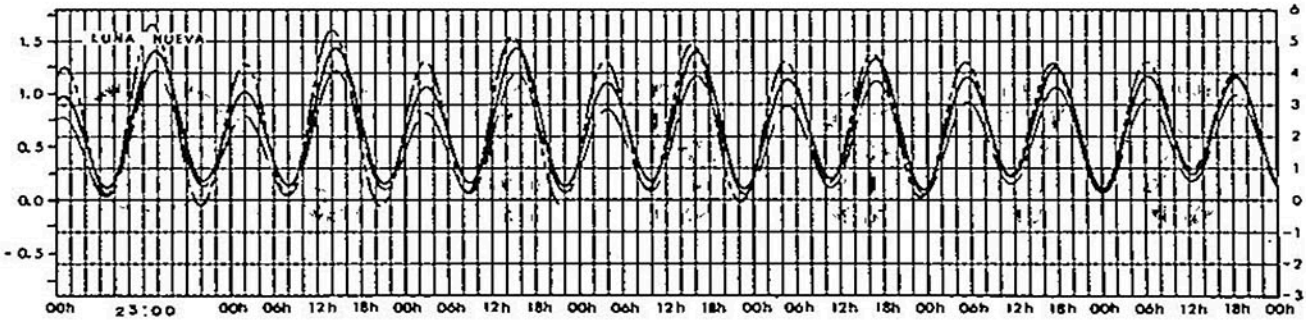
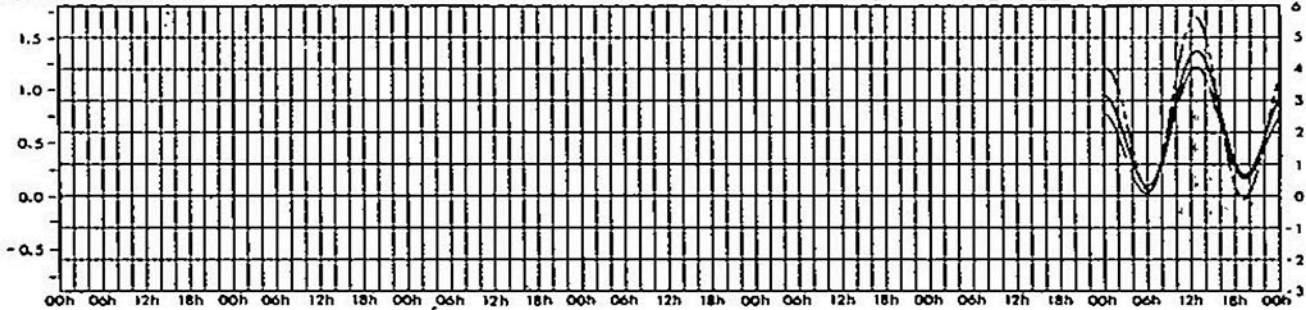
JULIO 1 89

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pies



Temperatura media del mar: 29.5 °C
28.8

Salinidad media del mar: 34.0 ‰
33.8

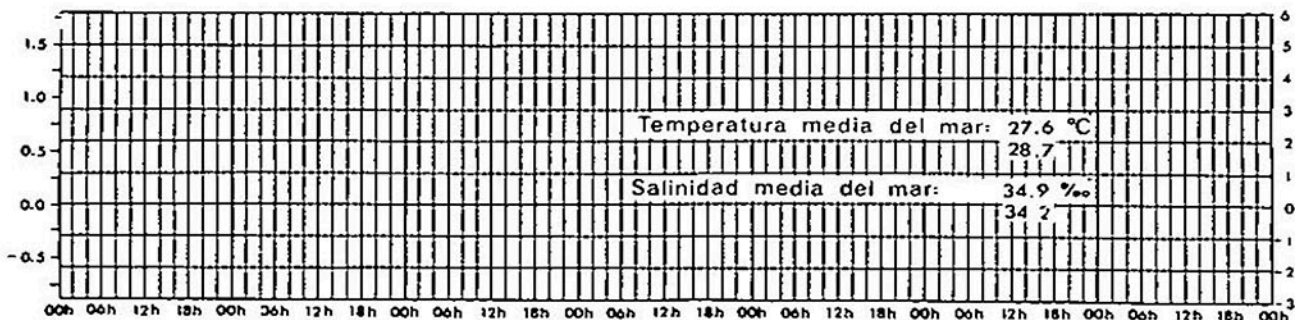
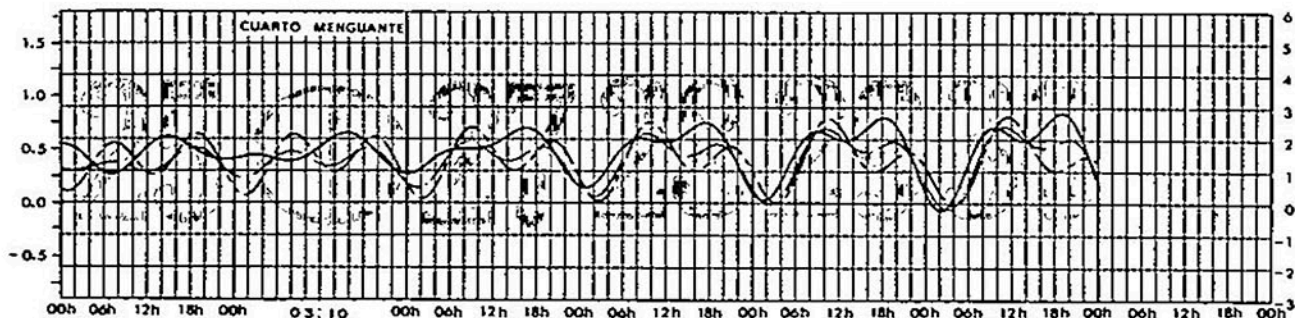
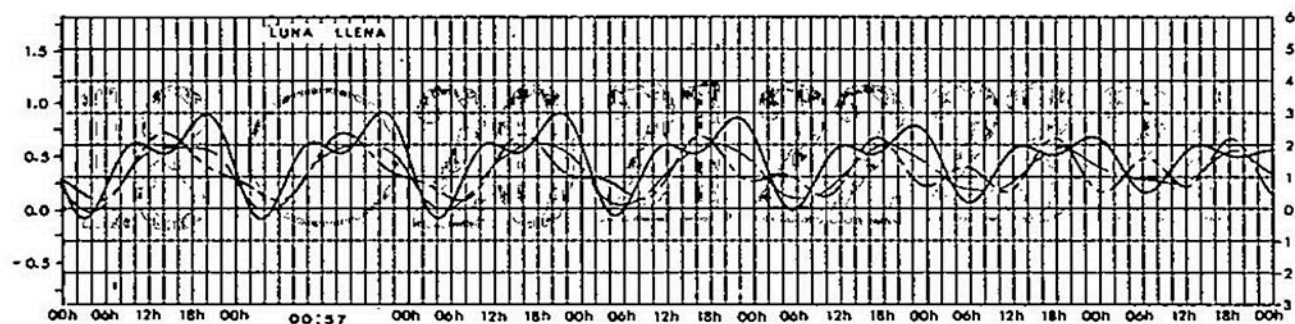
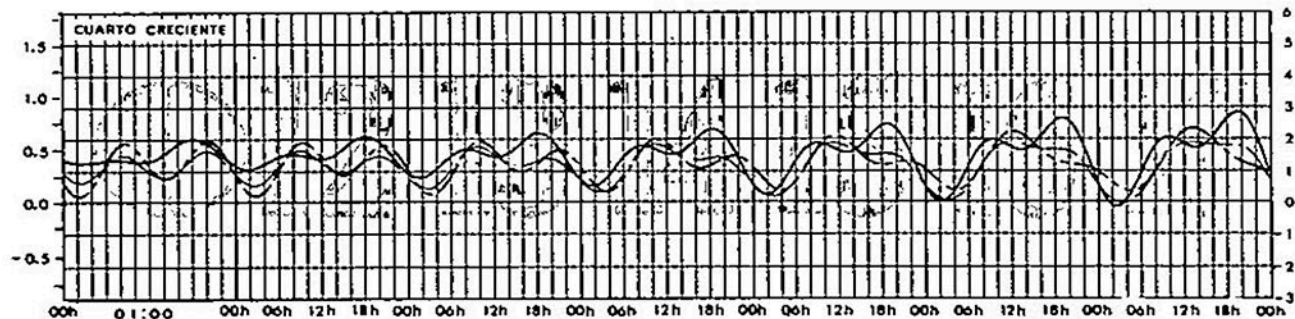
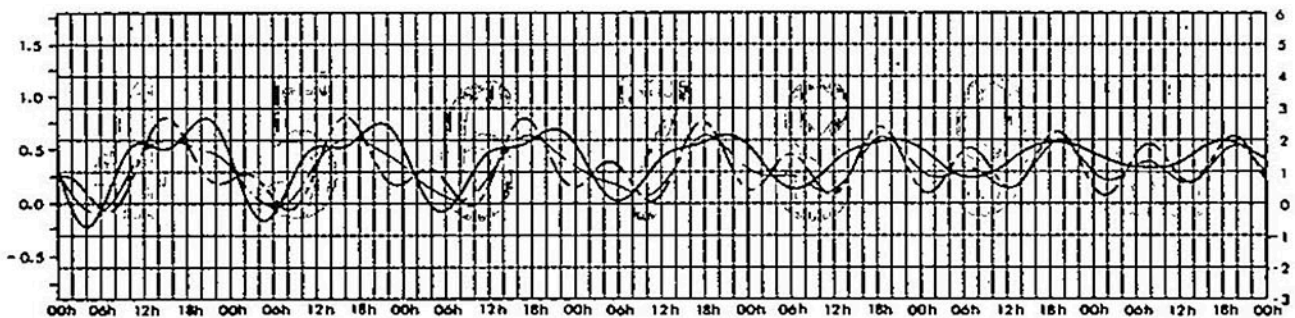
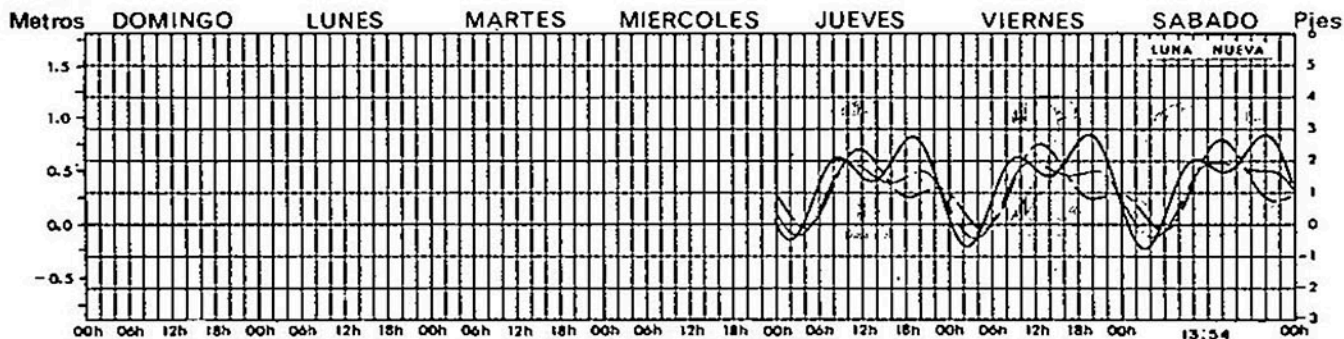


JUNIO 1989

MANZANILLO, COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.



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



Temperatura media del mar: 27.6 °C

28.7

Salinidad media del mar: 34.9 ‰

34.2

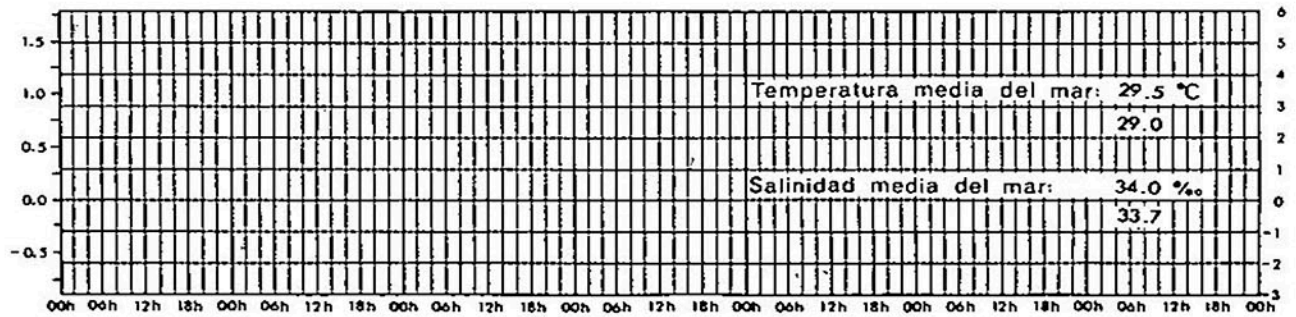
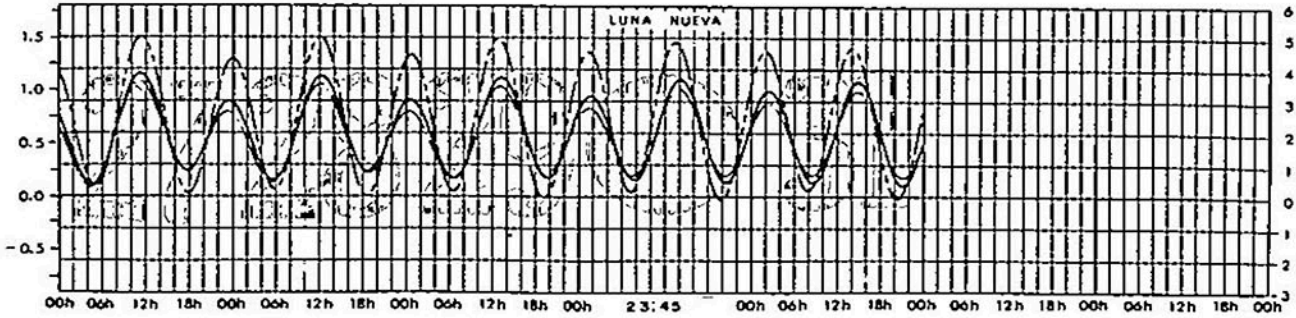
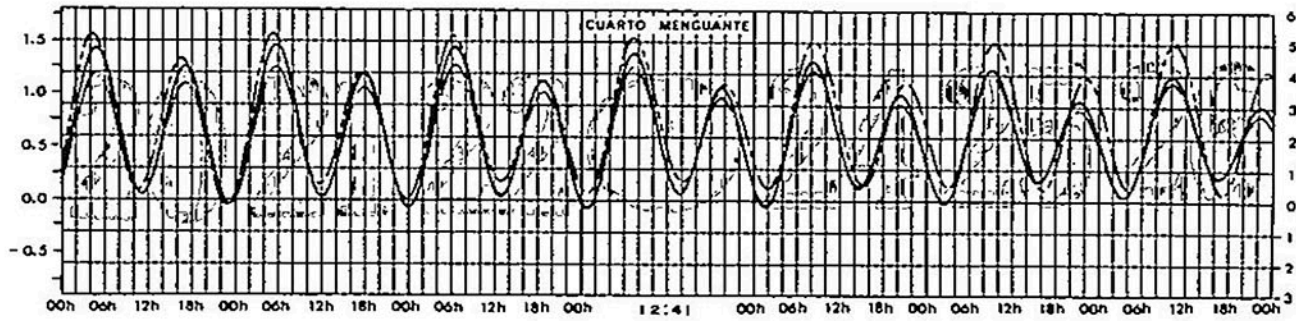
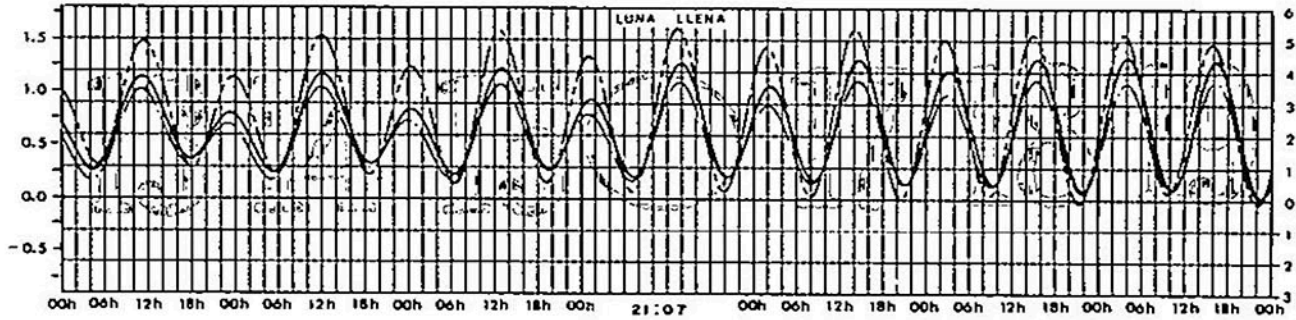
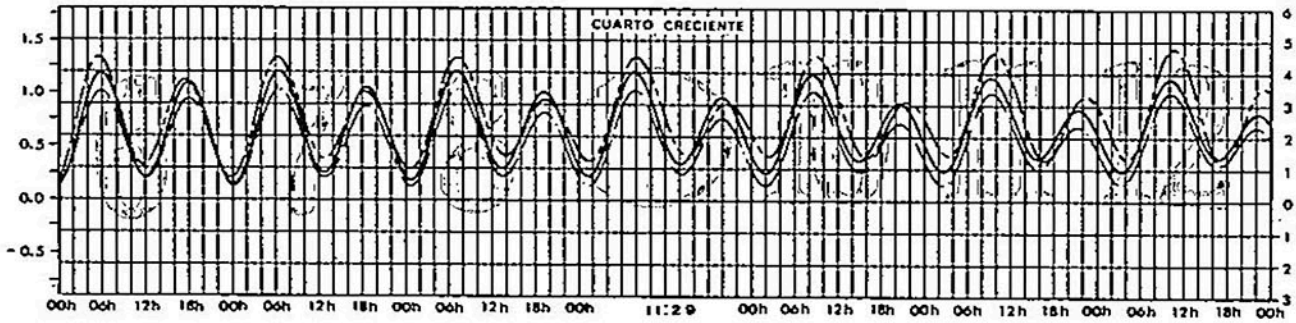
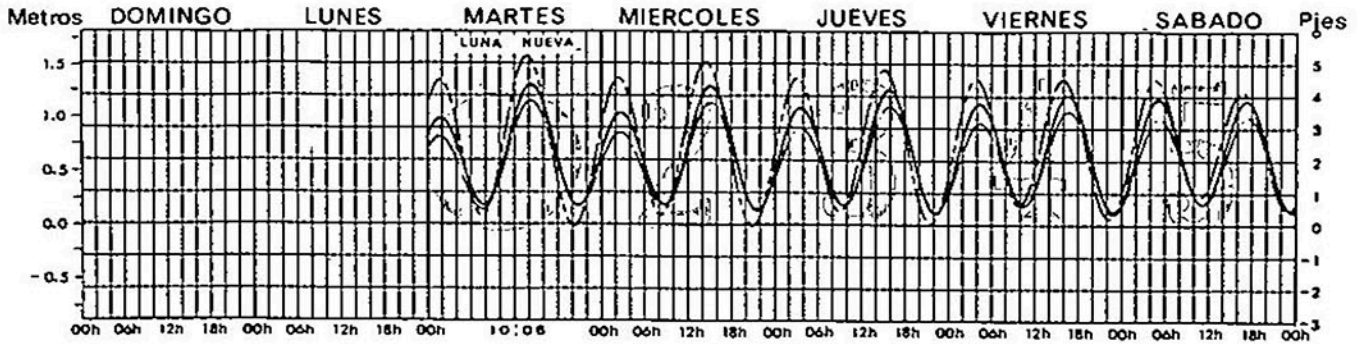


AGOSTO 1989

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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



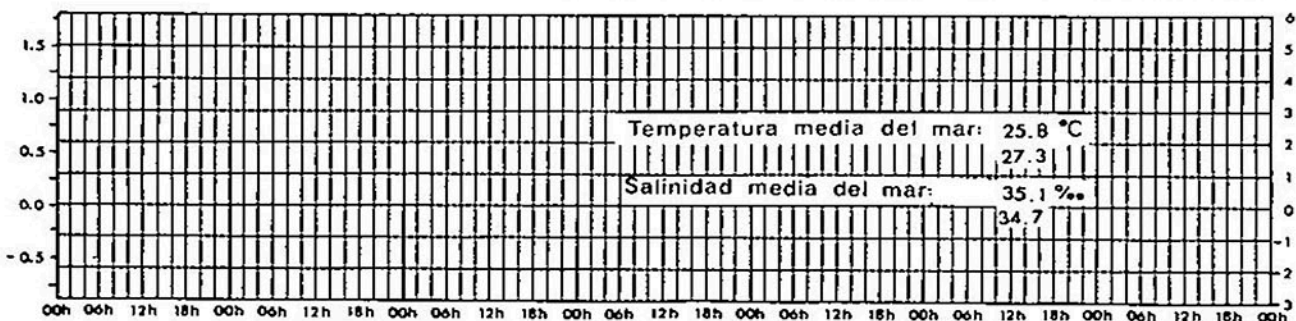
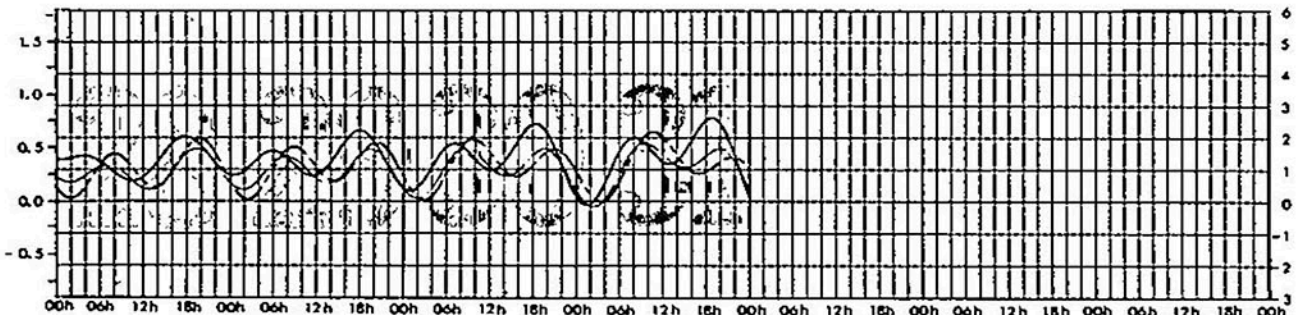
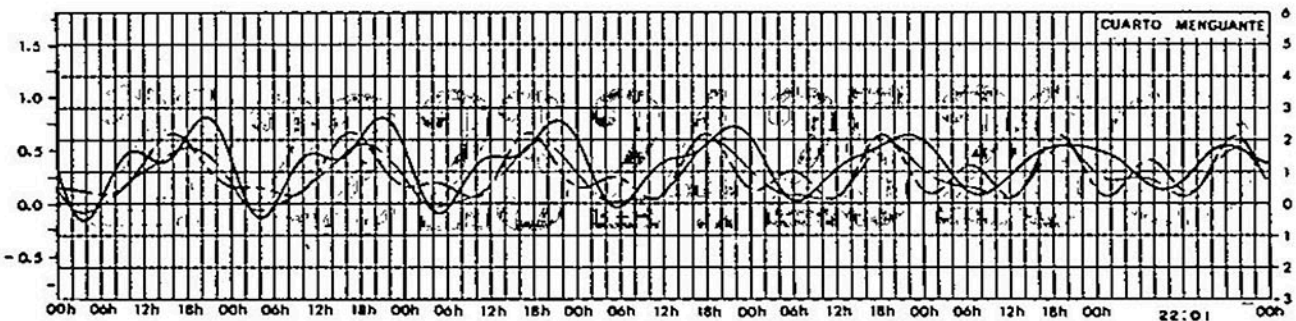
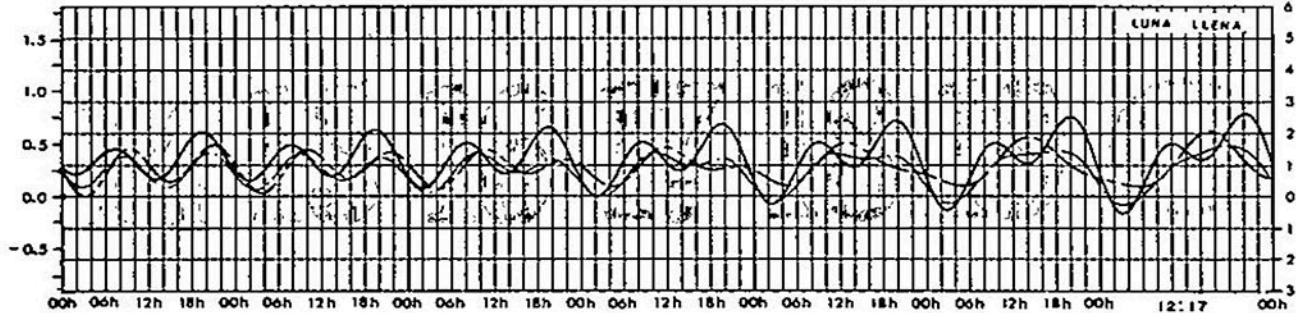
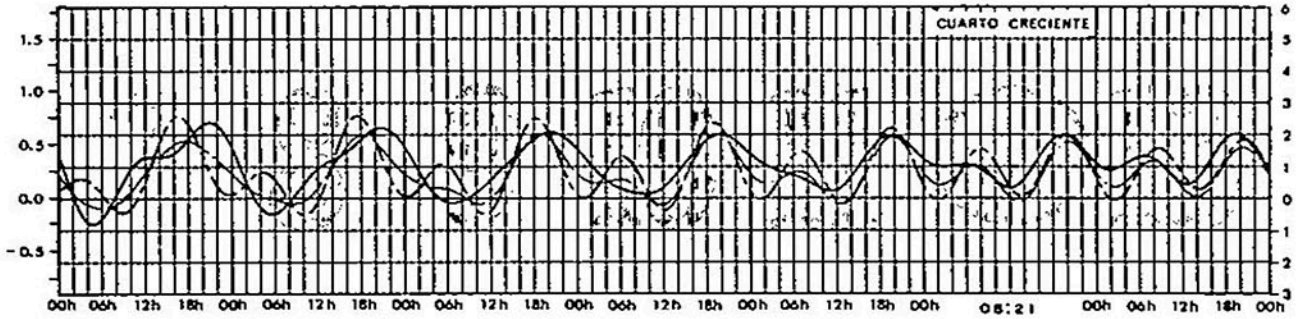
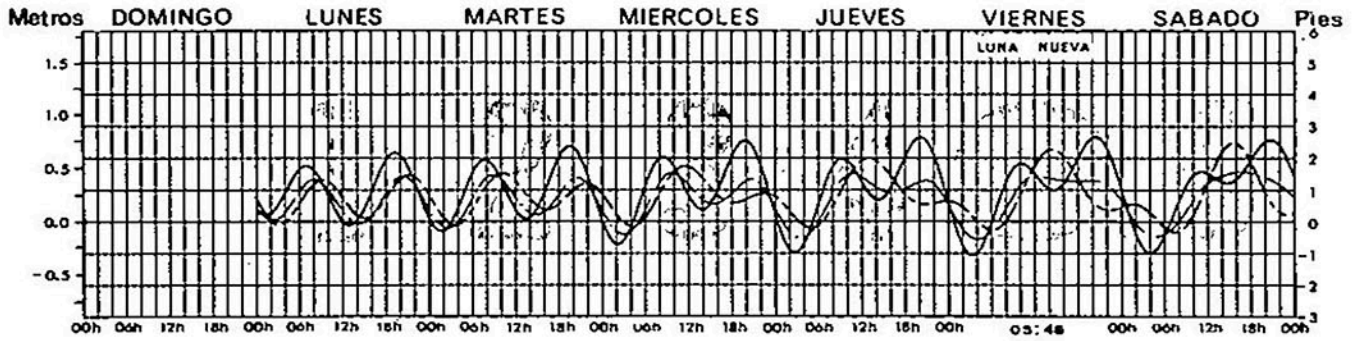


MAYO 1989

MANZANILLO, COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.



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



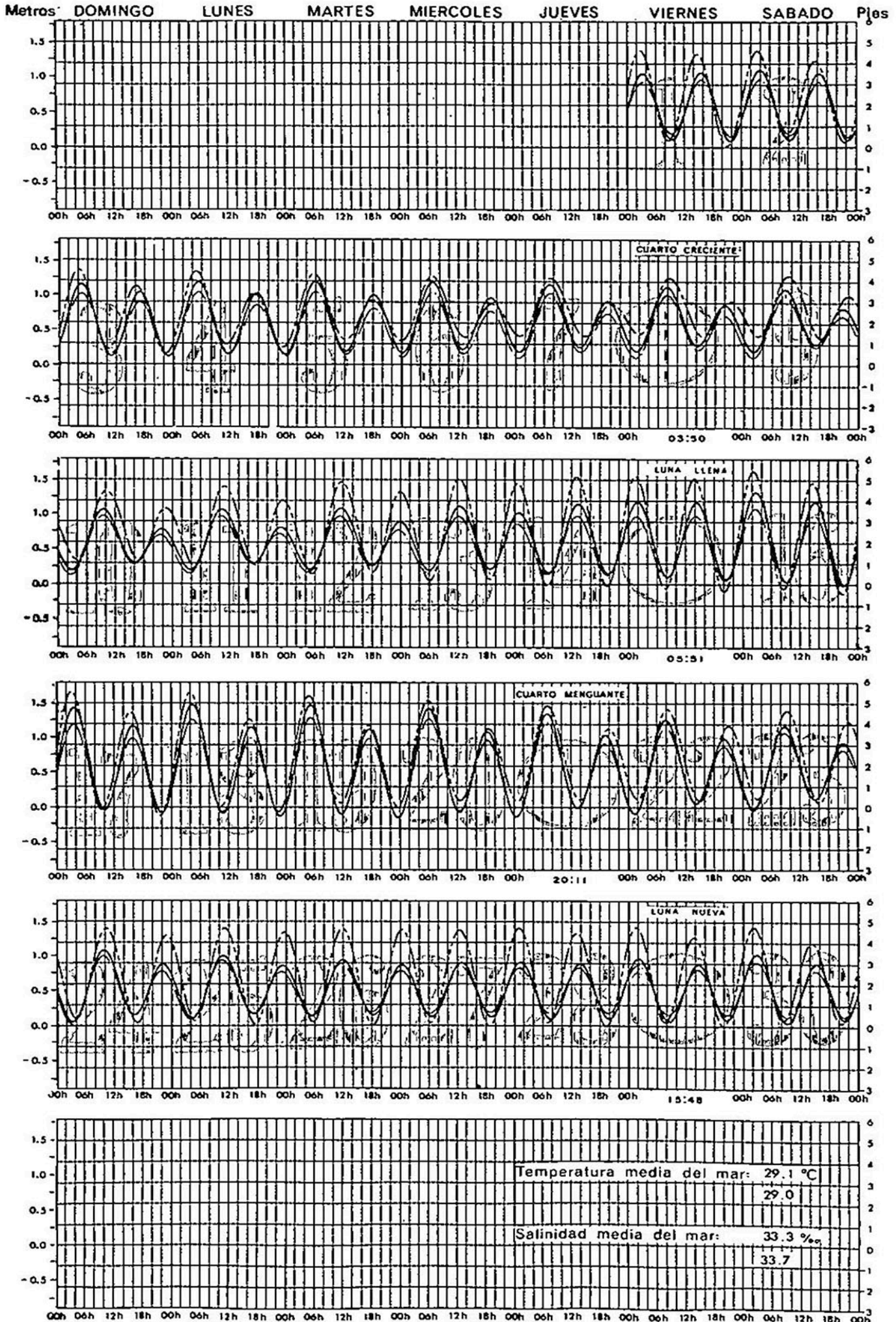


SEPTIEMBRE 1 89

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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



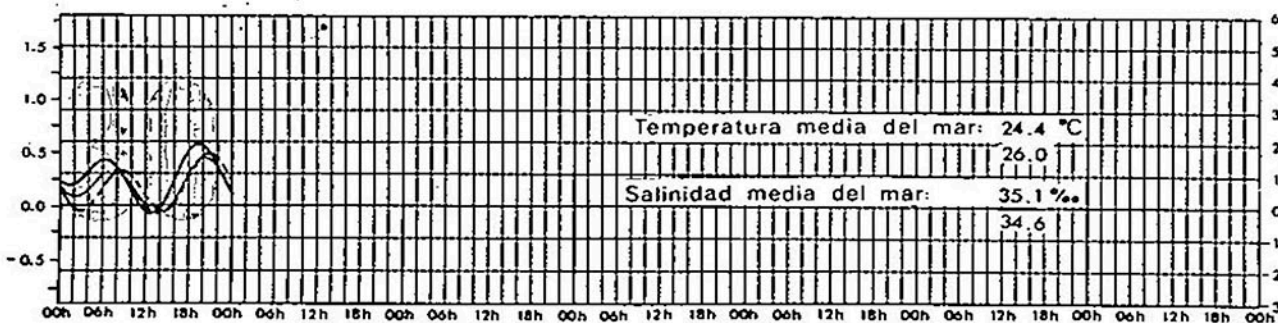
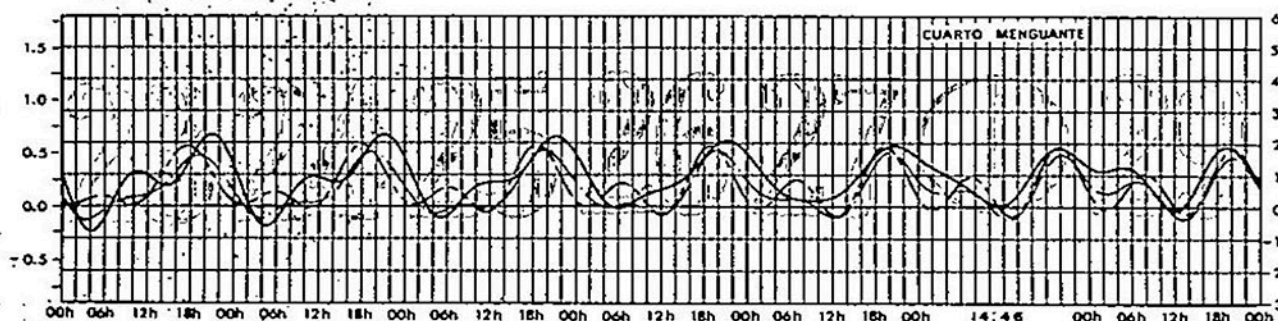
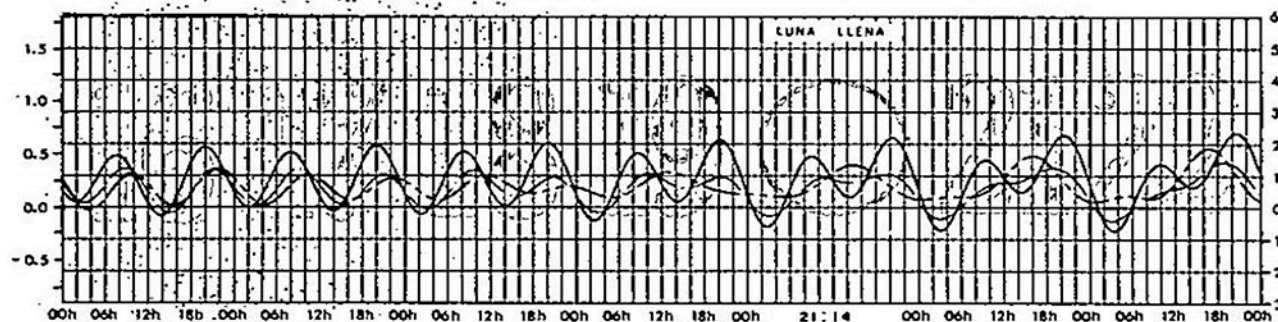
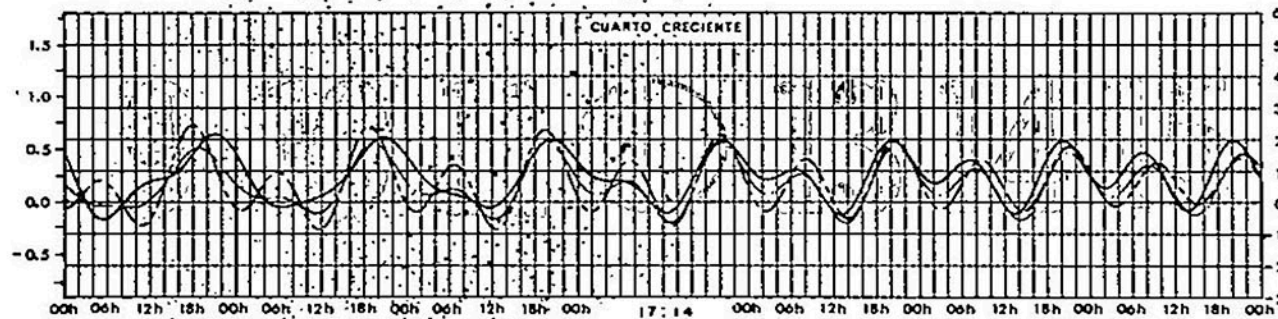
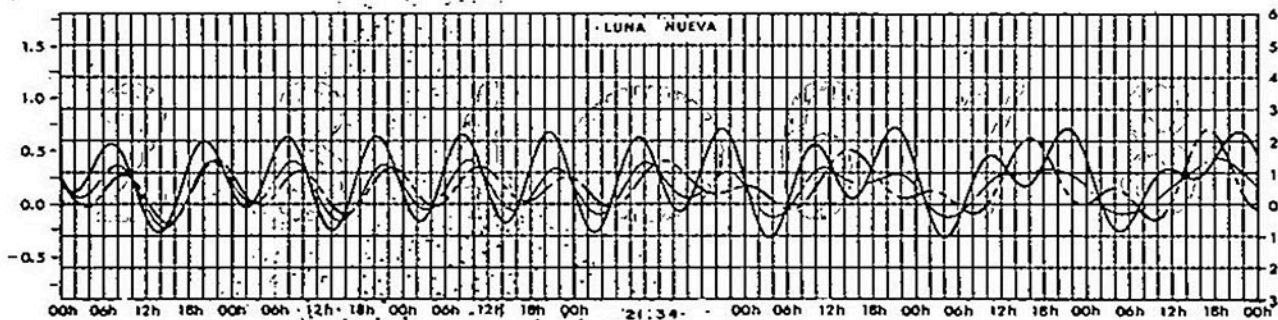
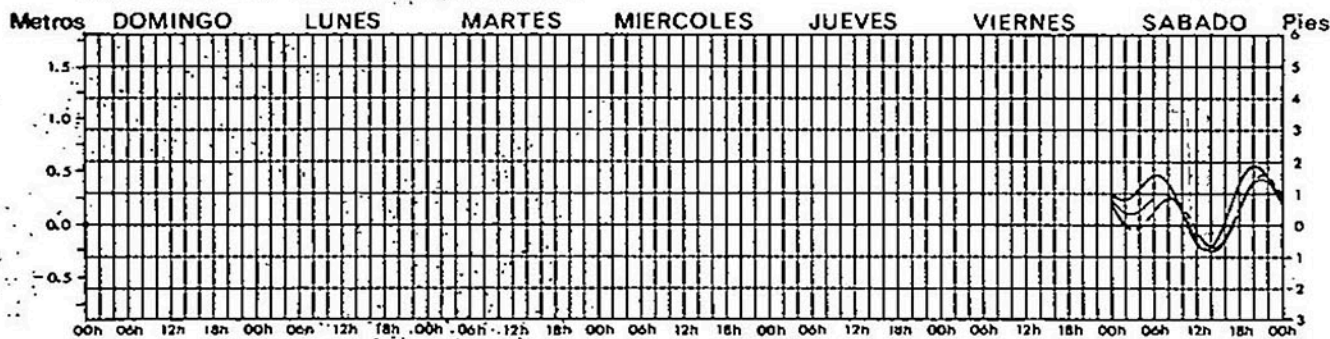


ABRIL 1989

MANZANILLO, COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.



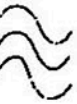
INSTITUTO DE GEOFISICA, U. N. A. M.



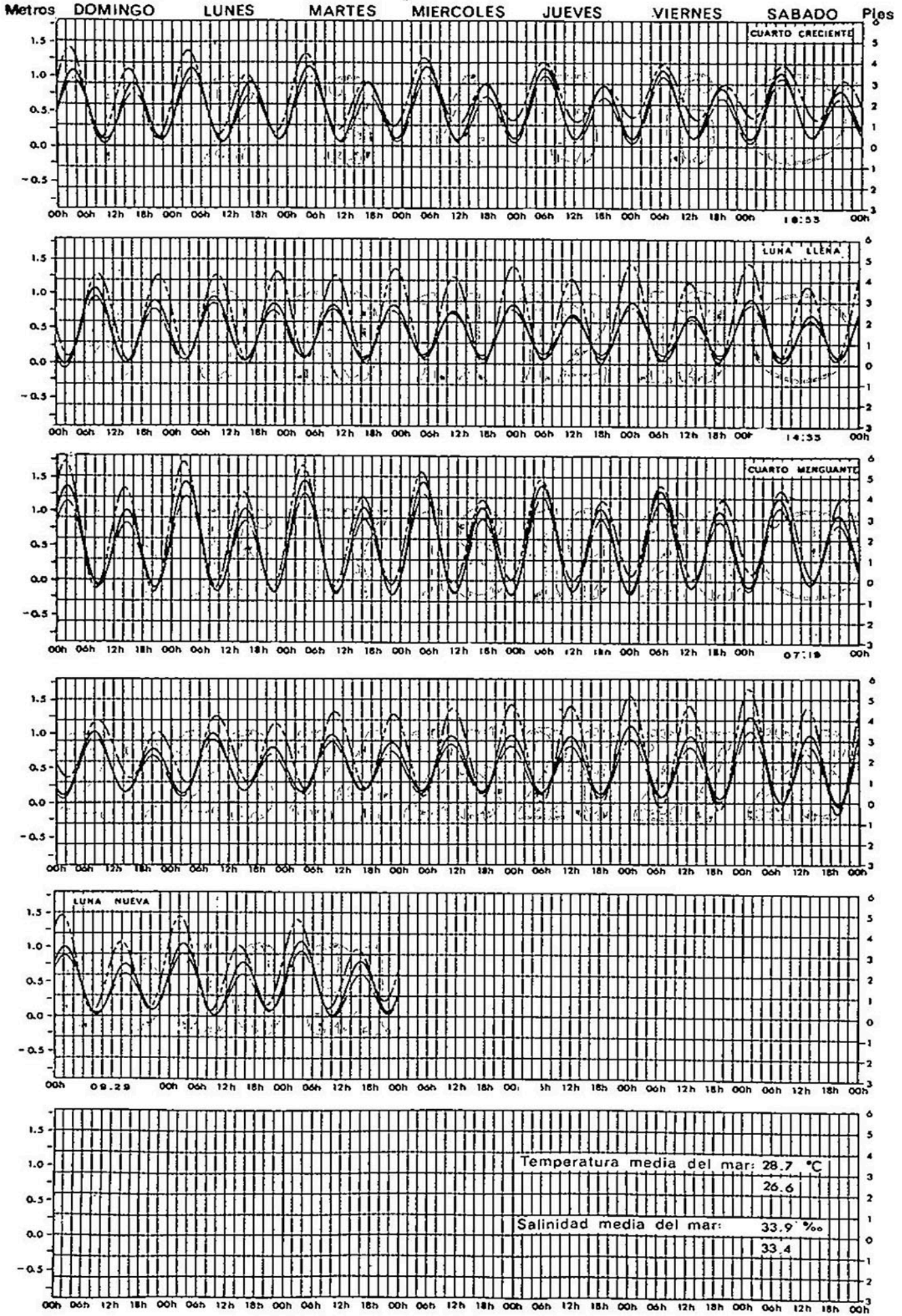


OCTUBRE 1989

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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



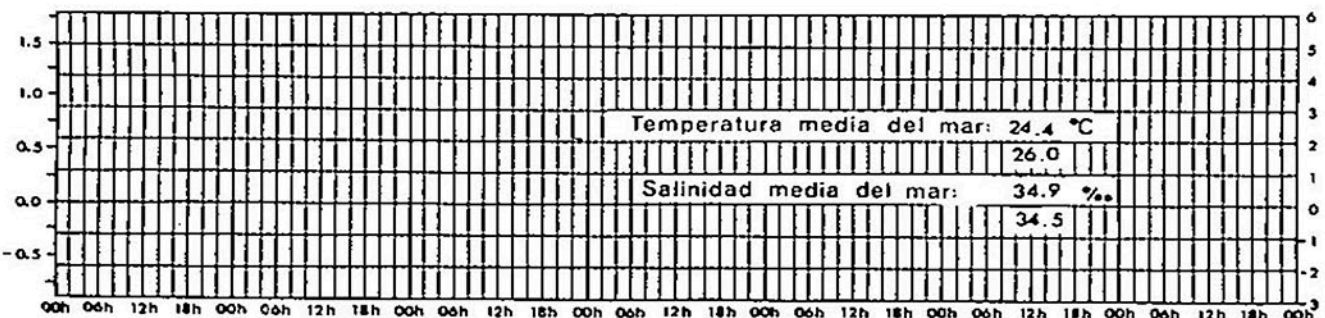
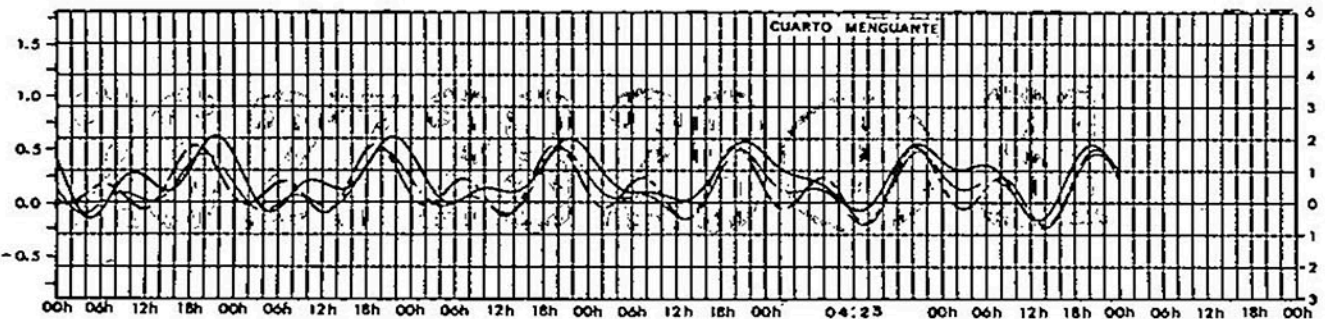
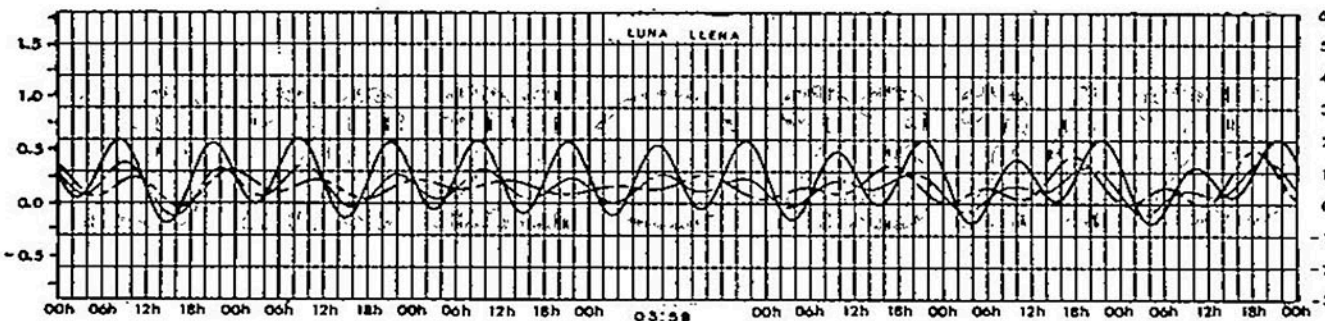
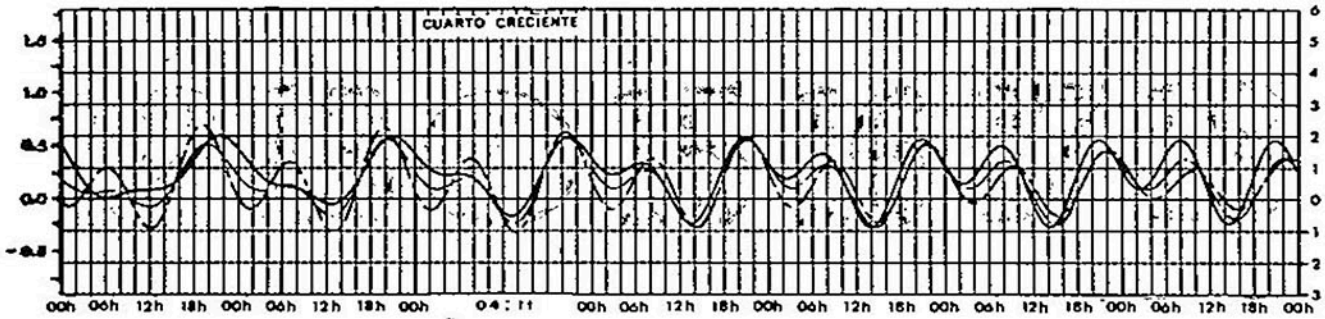
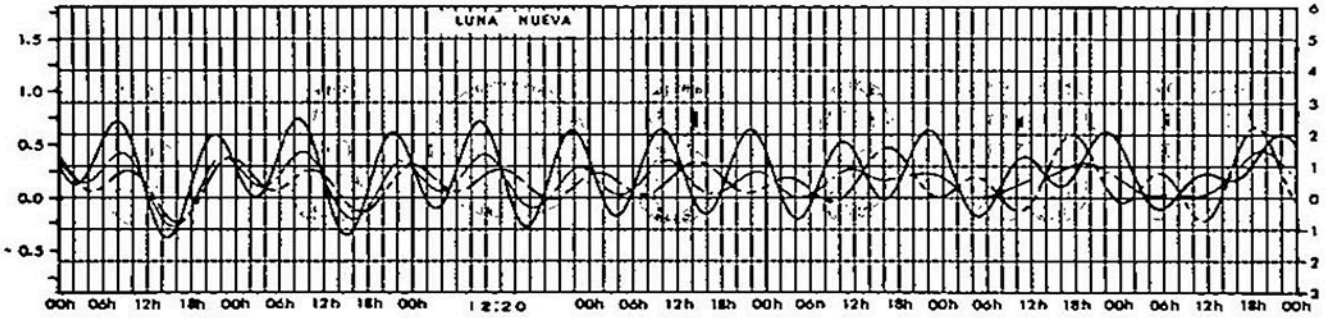
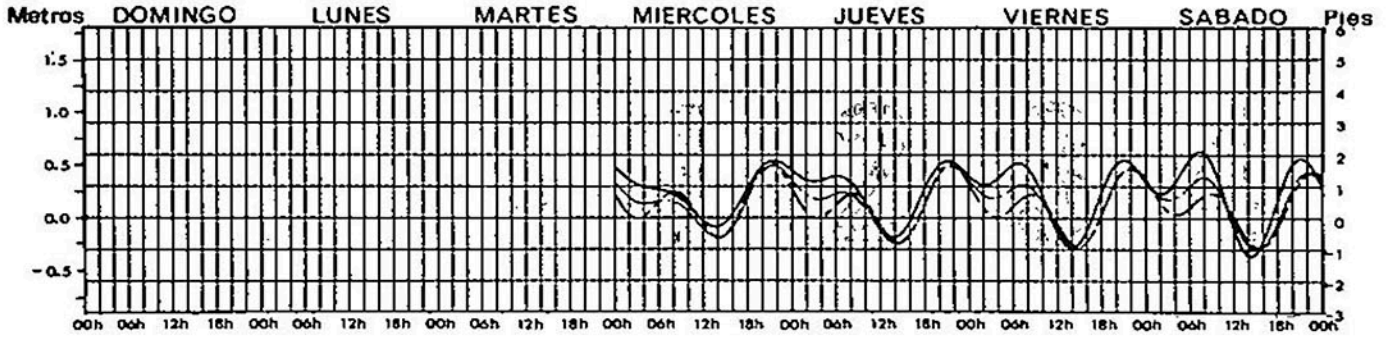


MARZO 1989

MANZANILLO, COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.



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



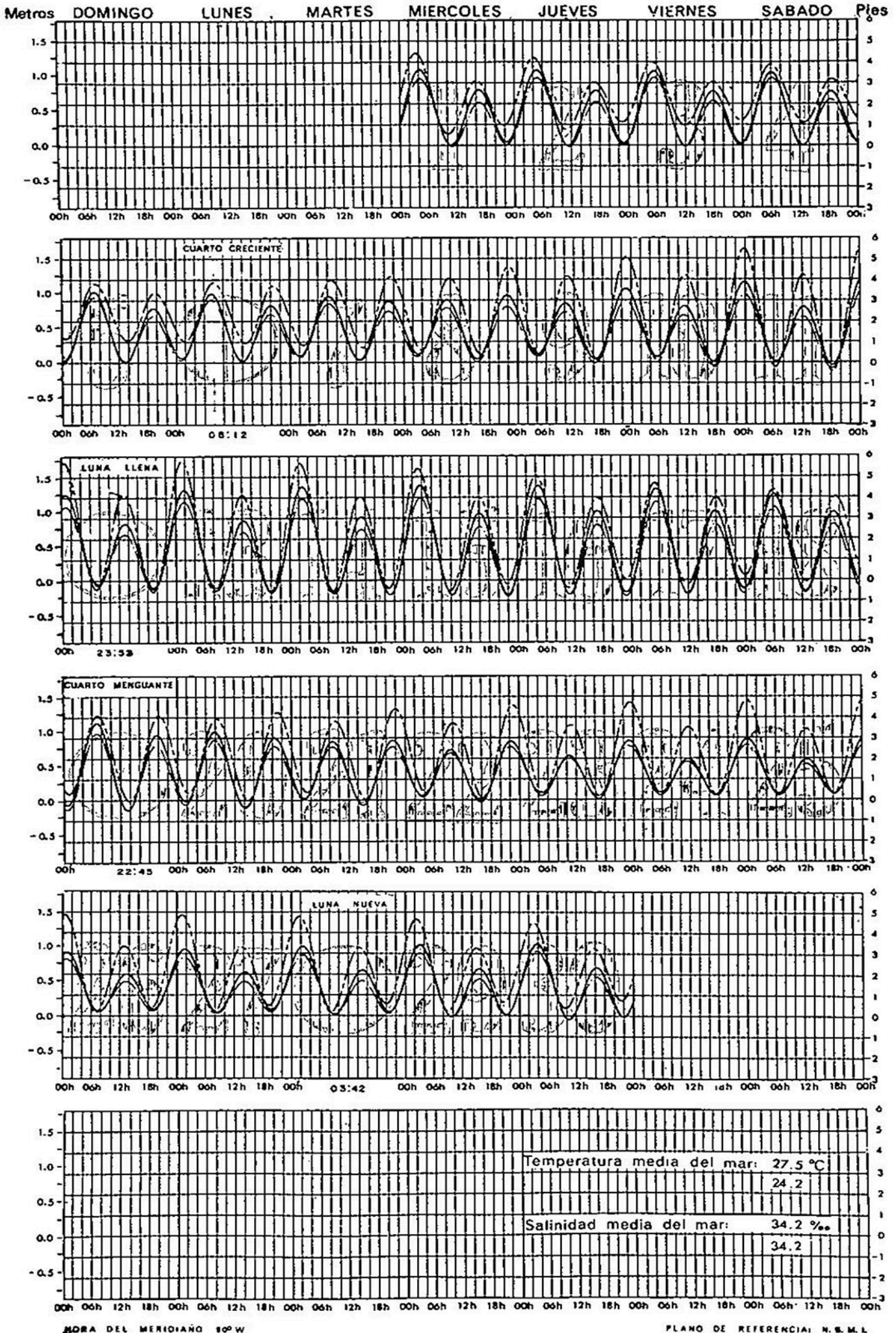


NOVIEMBRE 1989

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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



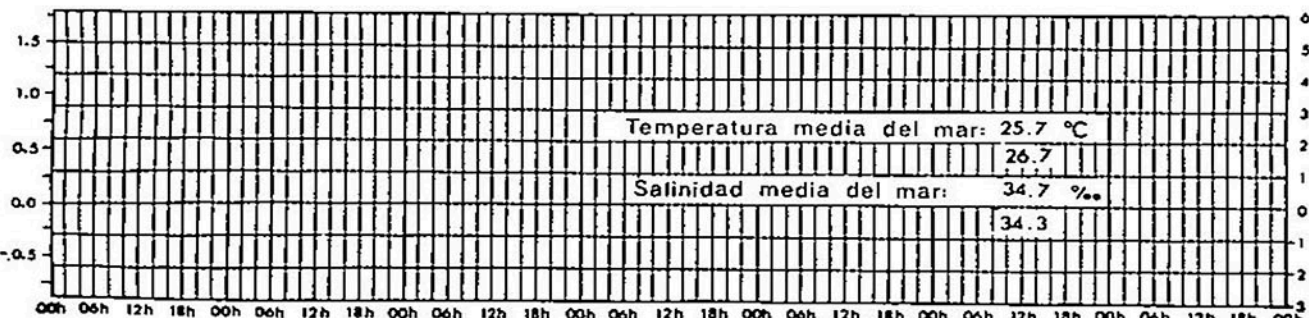
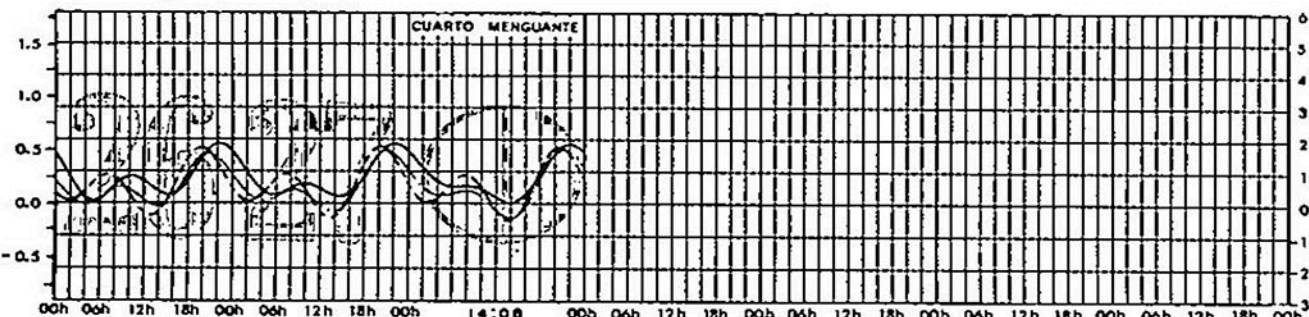
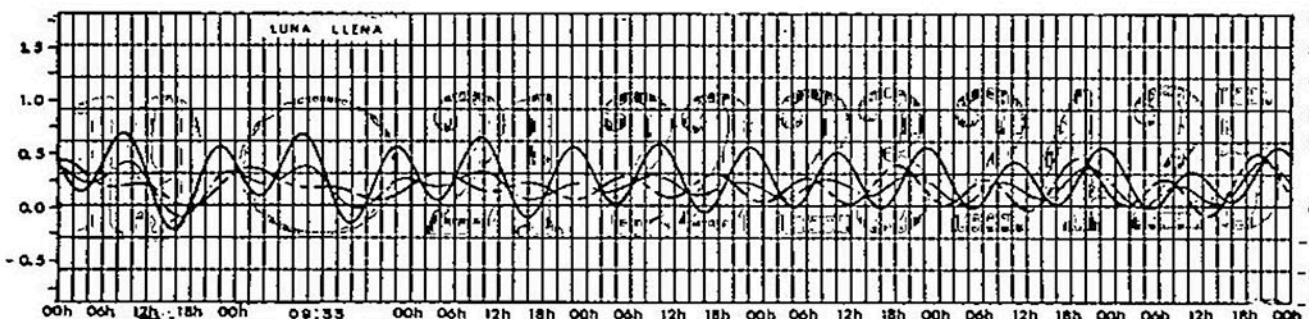
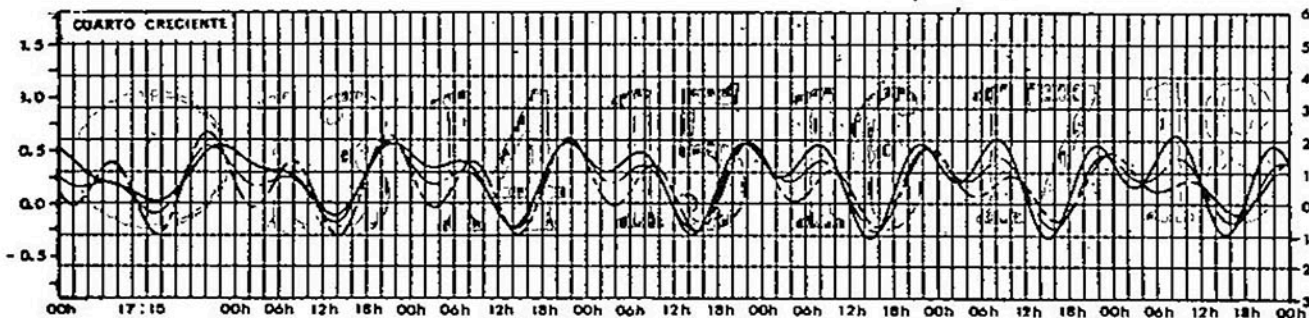
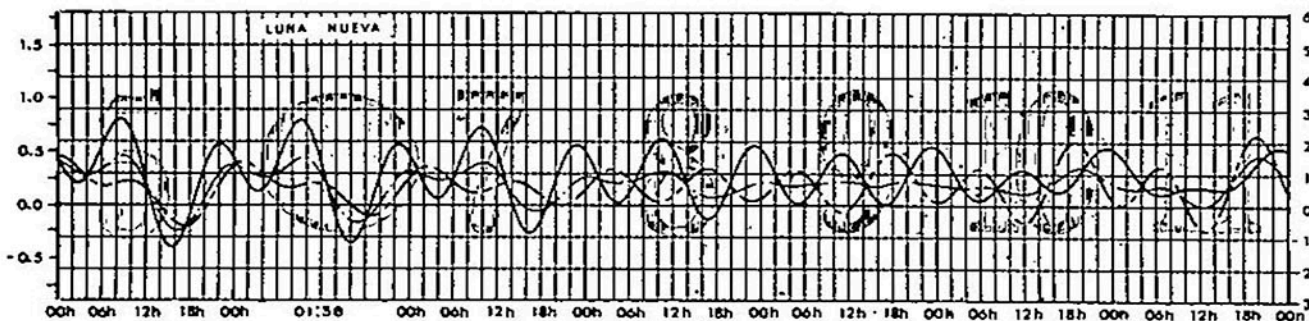
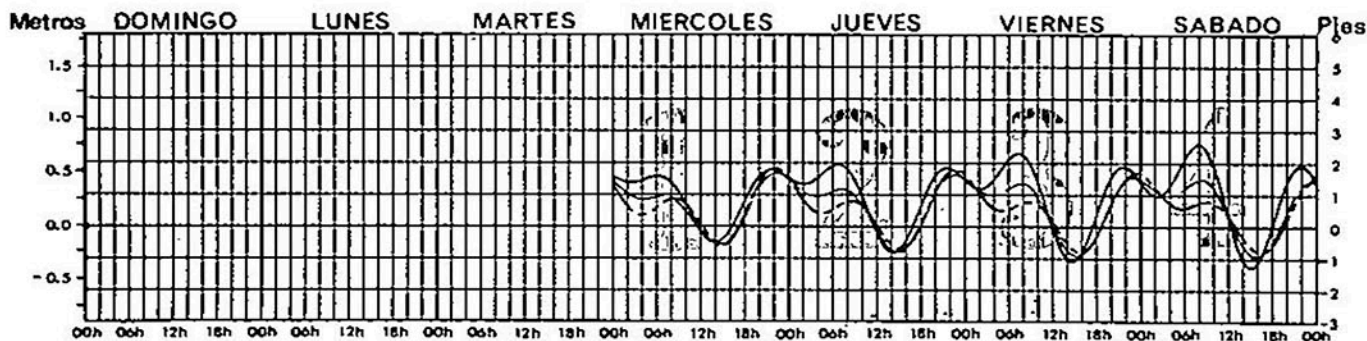


FEBREKU 1989

MANZANILLO, COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.



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



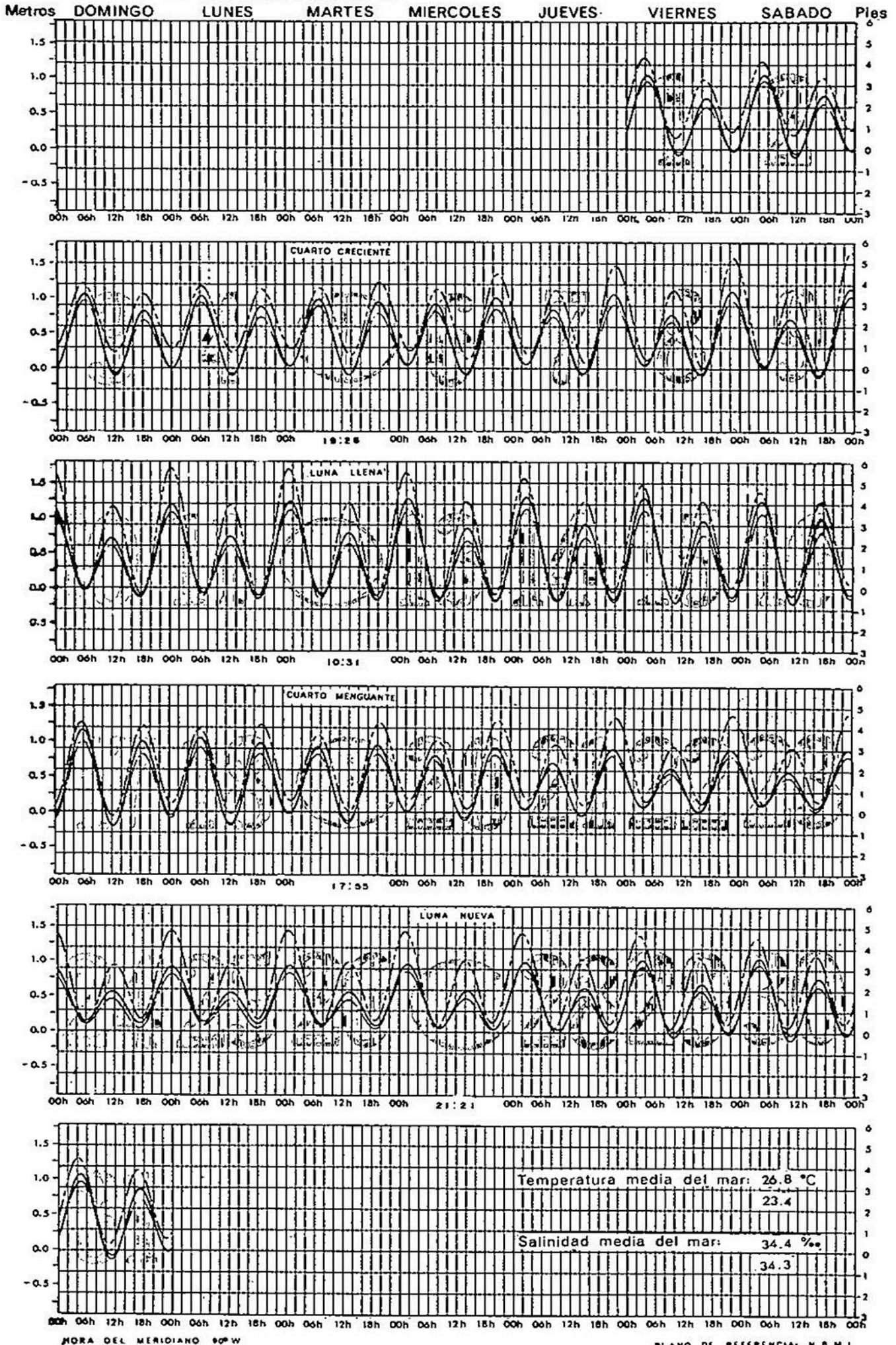


NOVIEMBRE 1989

PTO. ANGEL, OAX.
SALINA CRUZ, OAX.
PTO. MADERO, CHIS.



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





ENEKU 1989

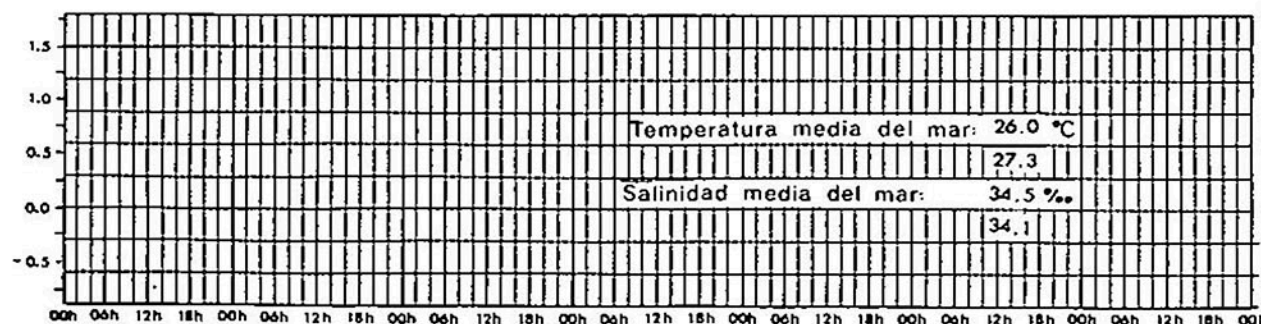
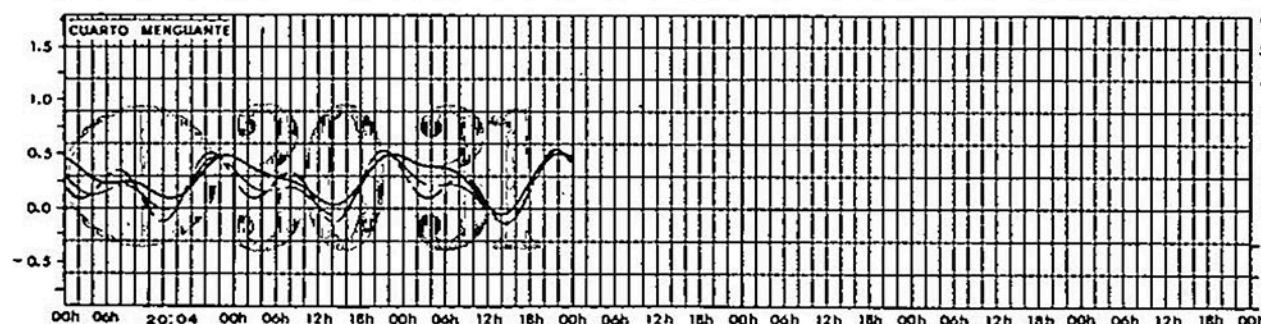
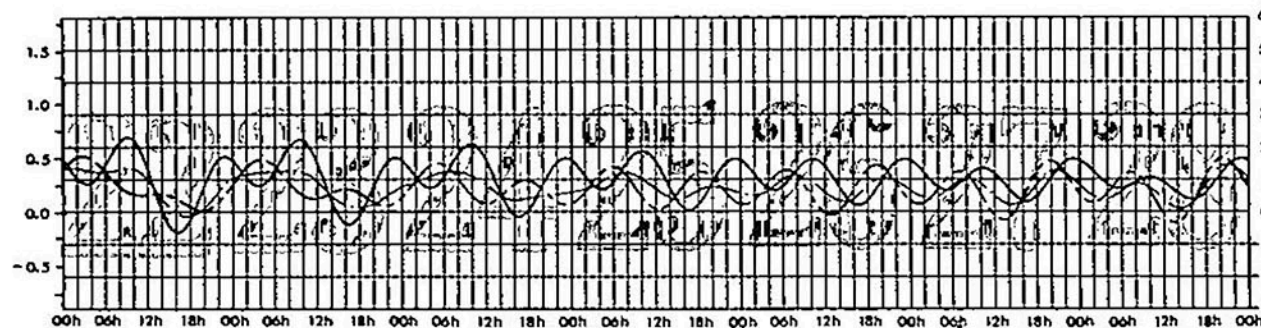
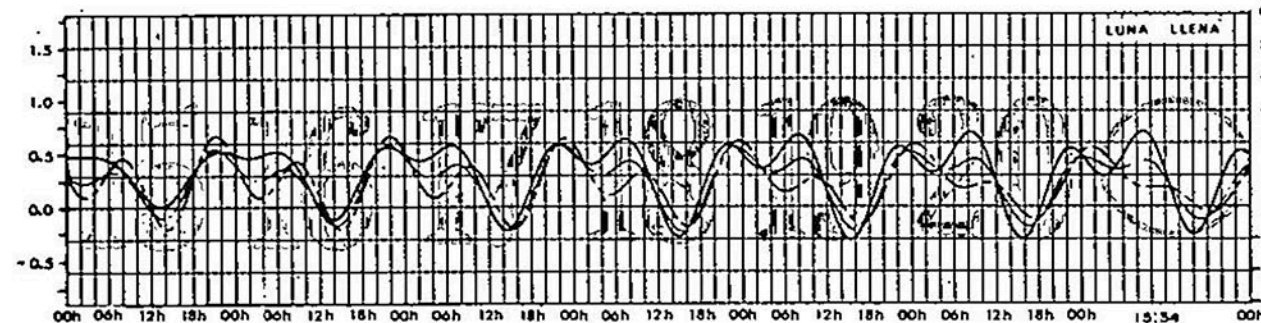
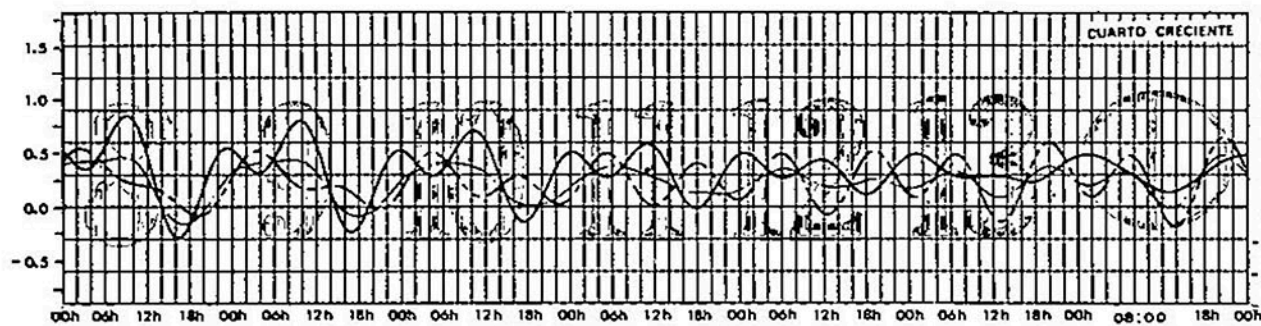
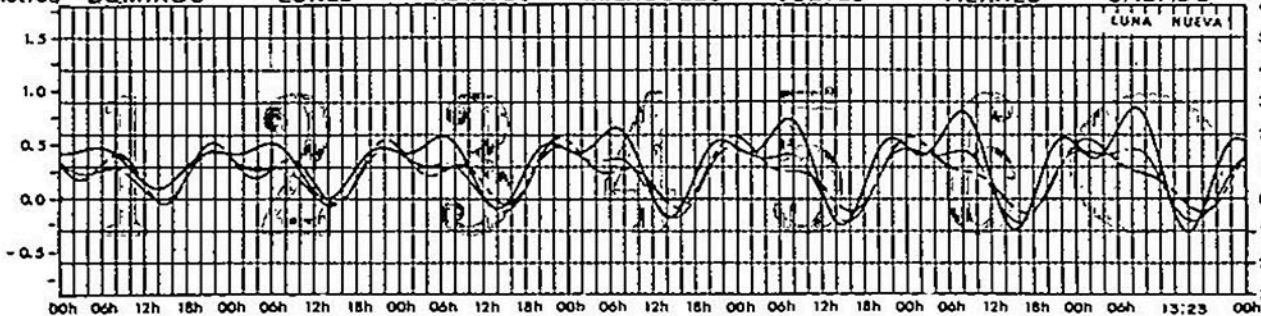
VK 770
C345

MANZANILLO, COL.
L. CARDENAS, MICH.
ACAPULCO, GRO.



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

Metros DOMINGO LUNES MARTES MIERCOLES JUEVES VIERNES SABADO Pjes



Temperatura media del mar: 26.0 °C
 27.3
 Salinidad media del mar: 34.5 ‰
 34.1

HORA DEL MERIDIANO 90° W

PLANO DE REFERENCIA: N.B.M.S.

203-44

2209
A2/13
30

CALENDARIO GRAFICO DE MAREAS 1989
Océano Pacífico

ESTACIONES	PLANO DE REFERENCIA BAJO EL NIVEL MEDIO DEL MAR		TIEMPO
REGION I			
Ensenada, B. C.	2.7 pies	0.82 m	120°W
Guerrero Negro, B.C.S.	2.7 pies	0.82 m	120°W
San Carlos, B.C.S.	2.9 pies	0.88 m	105°W
Cabo San Lucas, B.C.S.	2.1 pies	0.64 m	105°W
Mazatlán, Sin.	2.0 pies	0.61 m	105°W
Puerto Vallarta, Jal.	1.8 pies	0.55 m	90°W
REGION II			
Bahía de los Angeles, B.C.	3.3 pies	1.01 m	105°W
Santa Rosalia, B.C.S.	1.2 pies	0.36 m	105°W
La Paz, B.C.S.	1.7 pies	0.52 m	105°W
Puerto Peñasco, Son.	7.0 pies	2.13 m	105°W
Guaymas, Son.	1.5 pies	0.46 m	105°W
Topolobampo, Sin.	2.0 pies	0.61 m	105°W
REGION III			
Manzanillo, Col.	1.3 pies	0.40 m	90°W
Lázaro Cárdenas, Mich.	0.9 pies	0.27 m	90°W
Acapulco, Gro.	1.0 pies	0.30 m	90°W
Puerto Angel, Oax.	1.6 pies	0.49 m	90°W
Salina Cruz, Oax.	1.9 pies	0.58 m	90°W
Puerto Madero, Chis.	2.3 pies	0.70 m	90°W

Dr. Ismael Herrera-Revilla
Director

Instituto de Geofísica

Francisco Graffé Schmit
Responsable editorial

Ing. Francisco Grivel Piña
Jefe del Servicio Mareográfico
Instituto de Geofísica de la U.N.A.M.

Circuito Exterior, Ciudad Universitaria.
04510 México, D.F.
Teléfono: 550-52-15 Ext. 4362.

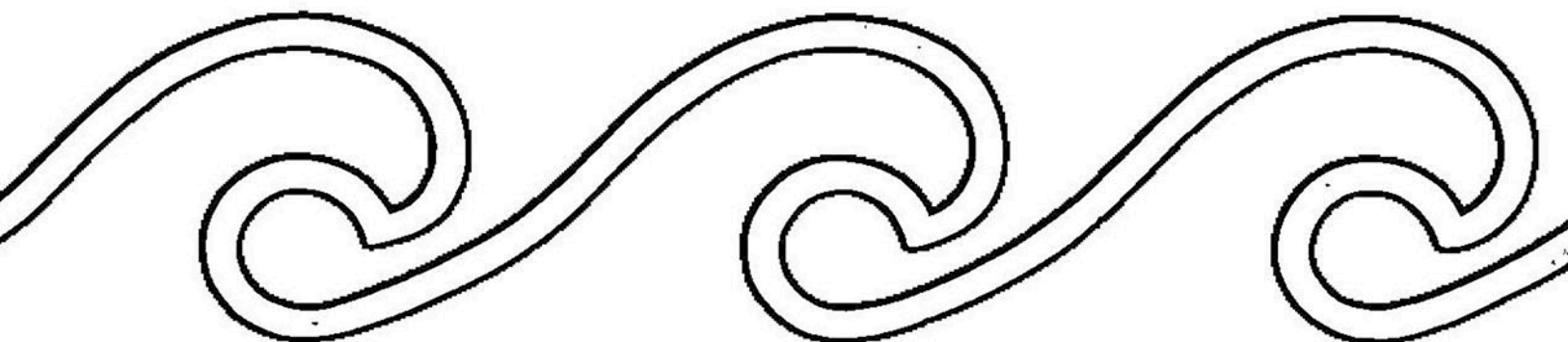
INSTITUTO DE GEOFISICA

0213-94

Calendario Gráfico de Mareas 1989



Océano Pacífico



Ensenada, B.C.

Guerrero Negro, B.C.N.

San Carlos, B.C.S.

Bahía de los Angeles, B.C.N.

Santa Rosalía, B.C.S.

La Paz, B.C.S.

Manzanillo, Col.

Lázaro Cárdenas, Mich.

Acapulco, Gro.