



# CNMI Tide Calendar

Featuring Marine Debris: From Trash to Art



Image by: Nicole Schafer

Kodap Uludang (advisor), Frank Je Rabauliman, Josifynn "Peachy" Rasa, Laurese Mattoo, Jezza Guerrero, Evert Van Der Moas, Harrison Smith



ENRO Club Kid Names



NMC Photo

Image by: Nicole Schafer

NMC Name of kids



Image by: Polly Omechelang

4-H Polly Omechelang (advisor)

Special Thanks to the students that came together and created amazing CNMI wildlife from marine debris and recyclables.



V. Mendiola 6th grade class & E. Mendiola 3rd grade class

Special thanks to Mr. Barry D. Smith for producing the tide charts featured in this calendar.

All daily tide predictions in this calendar are copyrighted by Mr. Barry D. Smith.

Special thanks to CRM staff and to those that donated their pictures.



To see more pictures of their art work friend Primo on facebook [www.facebook.com/primo.crm](http://www.facebook.com/primo.crm)

# Putting A Stop To Marine Debris!

## What is marine debris?

Marine debris is any man-made object that is disposed of or abandoned in a marine or coastal environment.

## Supplies for a clean up!

Trash bags

Gloves

Sunscreen

Water

Volunteers



## How you can help!

Get involved, help clean up!

Dispose of trash properly!

Reuse items!

Recycle!

Adopt a beach!

Remember that trash on land can end up in the water.



**Location: Pau Pau Beach, Saipan**  
**Artist: ENRO Club, NMC**

# January

Sunday

Monday

Tuesday

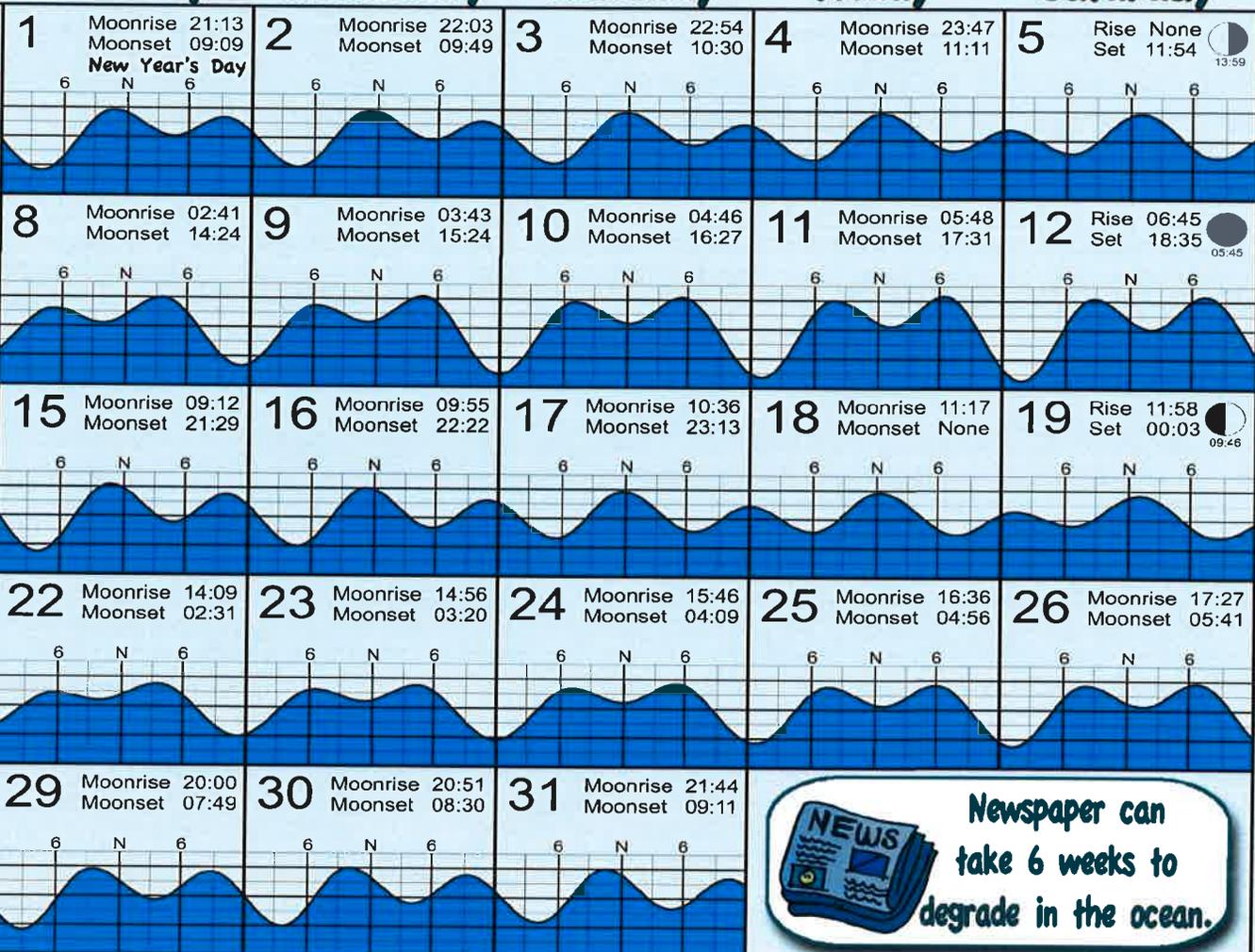
Wednesday

Thursday

Friday

Saturday

-  New Moon
-  First Quarter
-  Full Moon
-  Last Quarter



 **Newspaper can take 6 weeks to degrade in the ocean.**

**The Yellow-Crowned Butterfly fish is found only in the CNMI.**

Some debris is Ocean-Based. It comes from boats or platforms in the ocean.



**Location: Kilili Beach, Saipan**  
**Artist:**

# February

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

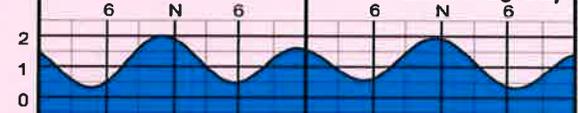
Saturday

F  
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T

- New Moon
- ◐ First Quarter
- Full Moon
- ◑ Last Quarter

1 Moonrise 22:38  
Moonset 09:54

2 Moonrise 23:34  
Moonset 10:38  
Groundhog Day



3 Rise None  
Set 11:26

4 Moonrise 00:32  
Moonset 12:17

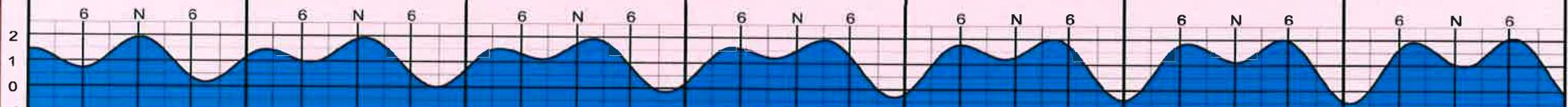
5 Moonrise 01:32  
Moonset 13:13

6 Moonrise 02:32  
Moonset 14:12

7 Moonrise 03:32  
Moonset 15:13

8 Moonrise 04:30  
Moonset 16:16

9 Moonrise 05:24  
Moonset 17:17



10 Rise 06:15  
Set 18:16  
Chinese New Year

11 Moonrise 07:02  
Moonset 19:13

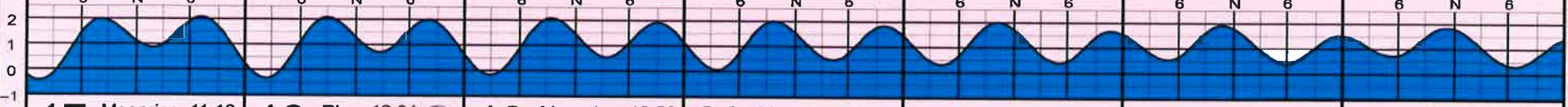
12 Moonrise 07:46  
Moonset 20:08

13 Moonrise 08:29  
Moonset 21:01  
Ash Wednesday

14 Moonrise 09:11  
Moonset 21:53  
Valentine's Day

15 Moonrise 09:52  
Moonset 22:43

16 Moonrise 10:35  
Moonset 23:34



17 Moonrise 11:18  
Moonset None

18 Rise 12:04  
Set 00:24  
Presidents Day

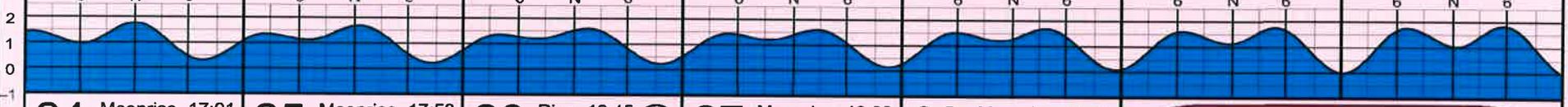
19 Moonrise 12:50  
Moonset 01:13

20 Moonrise 13:39  
Moonset 02:02

21 Moonrise 14:28  
Moonset 02:49

22 Moonrise 15:19  
Moonset 03:35

23 Moonrise 16:10  
Moonset 04:20



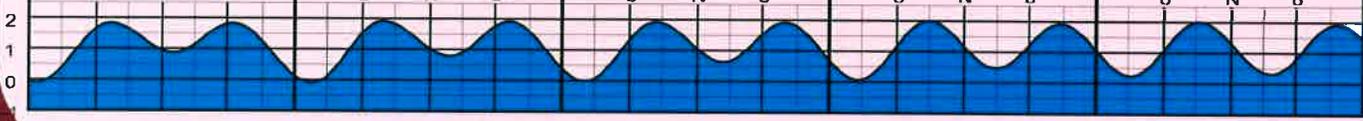
24 Moonrise 17:01  
Moonset 05:03

25 Moonrise 17:53  
Moonset 05:46

26 Rise 18:45  
Set 06:27

27 Moonrise 19:38  
Moonset 07:09

28 Moonrise 20:33  
Moonset 07:52




**Cardboard can take  
2 weeks to  
degrade in the ocean.**

When the ghost crab runs it uses only its 1st and 2nd pair of walking legs.

Some debris is Land-Based. It comes from roadways, storm drains, or water sources that deposit into the ocean.



**Location: Apansanmeena Beach, Pagan**  
**Image by: Steven McKagan**

# March

Sunday

Monday

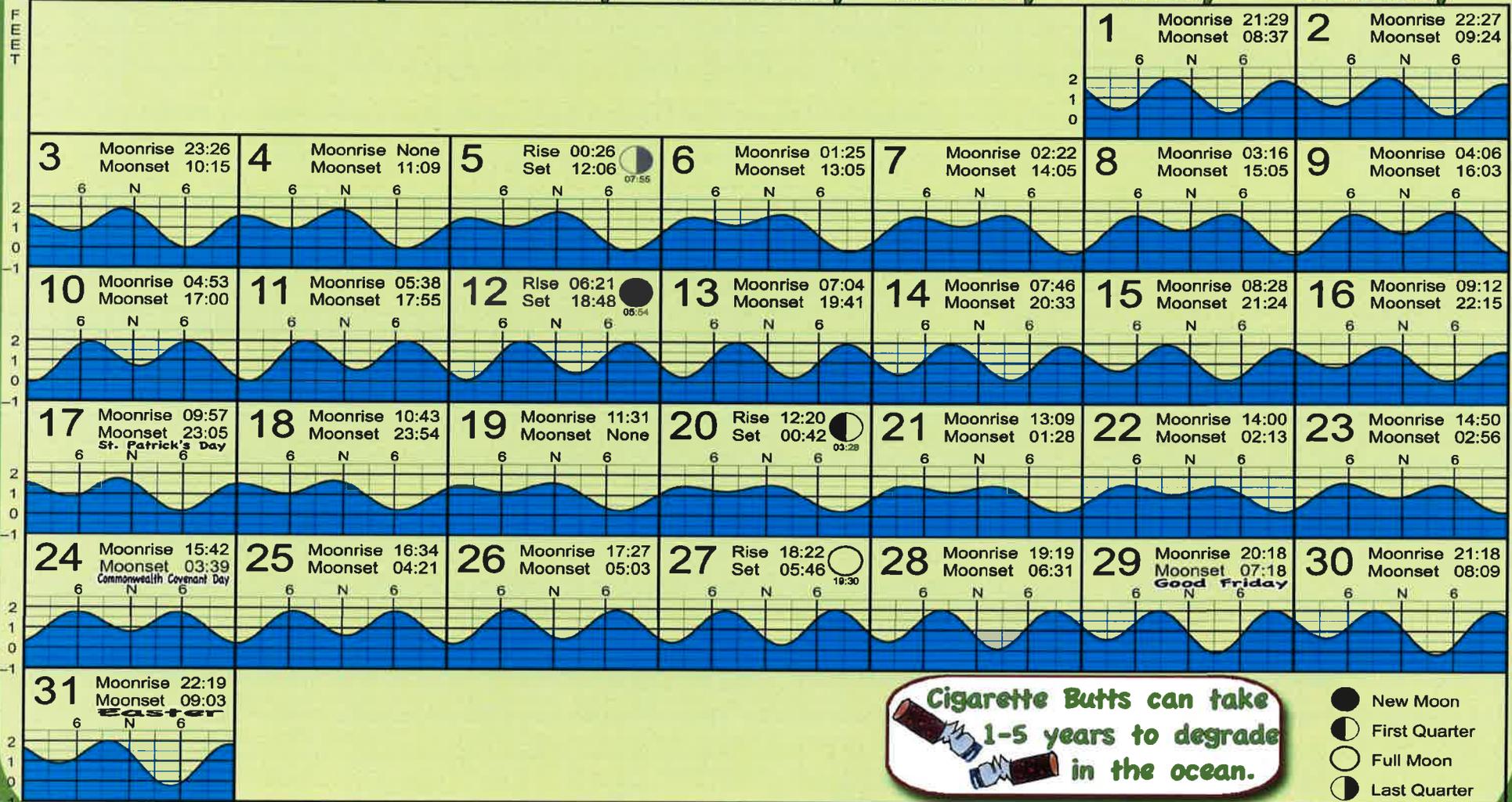
Tuesday

Wednesday

Thursday

Friday

Saturday



**Cigarette Butts can take 1-5 years to degrade in the ocean.**

-  New Moon
-  First Quarter
-  Full Moon
-  Last Quarter

Pagan is the 4th largest island in the CNMI consisting of 2 stratovolcanoes.

Marine debris can be an eyesore on beaches and ruin the aesthetics.



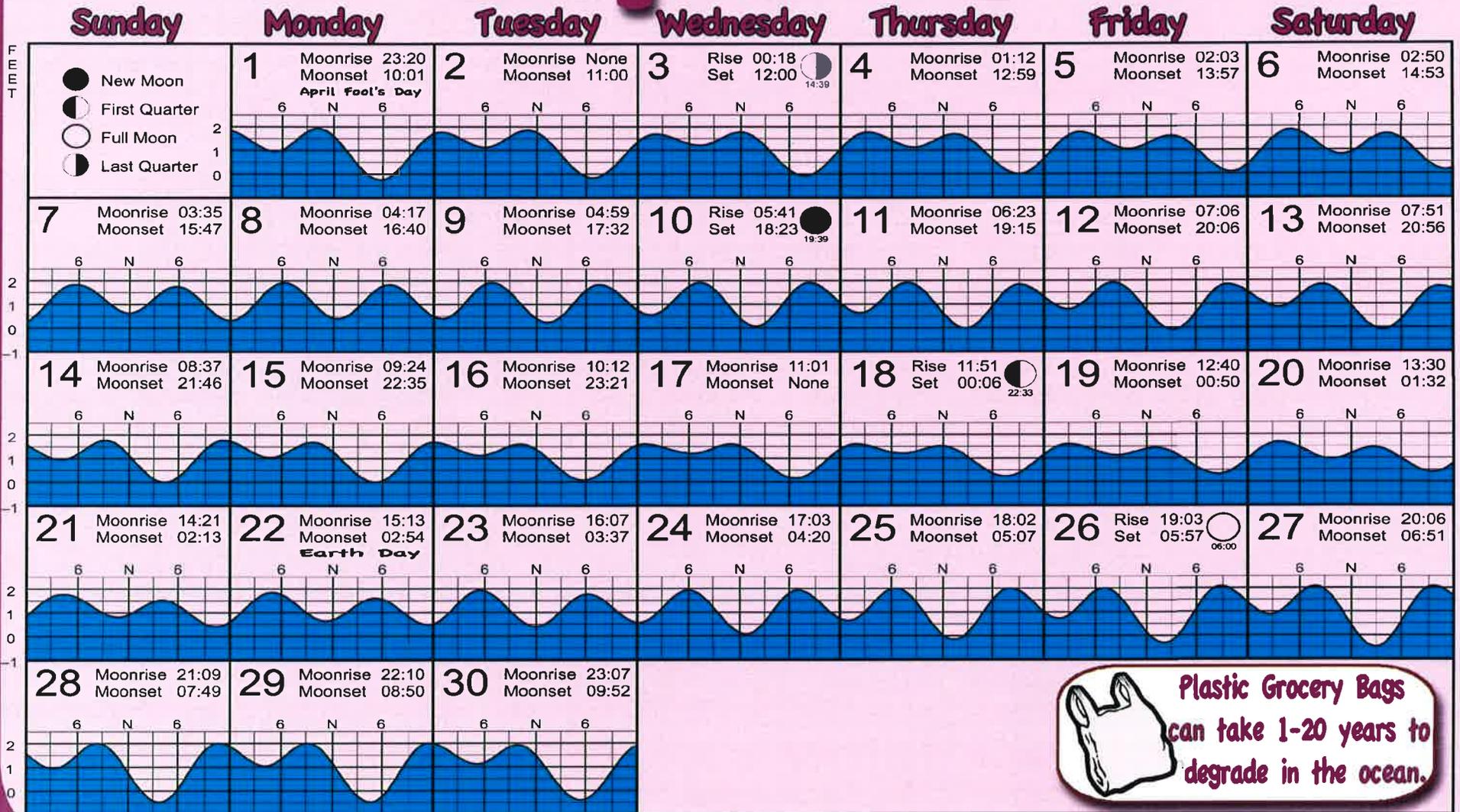
**GREEN SEA TURTLE NESTING BEACH**

- View turtles from a distance
- Do not disturb turtle nests
- Do not drive on beaches
- Do not shine lights on turtles
- It is illegal to hunt turtles or their eggs

U.S. Fish & Wildlife Service 200-1579

**Location: Laulau Bay, Saipan**  
**Artist: 4-H Summer Camp**

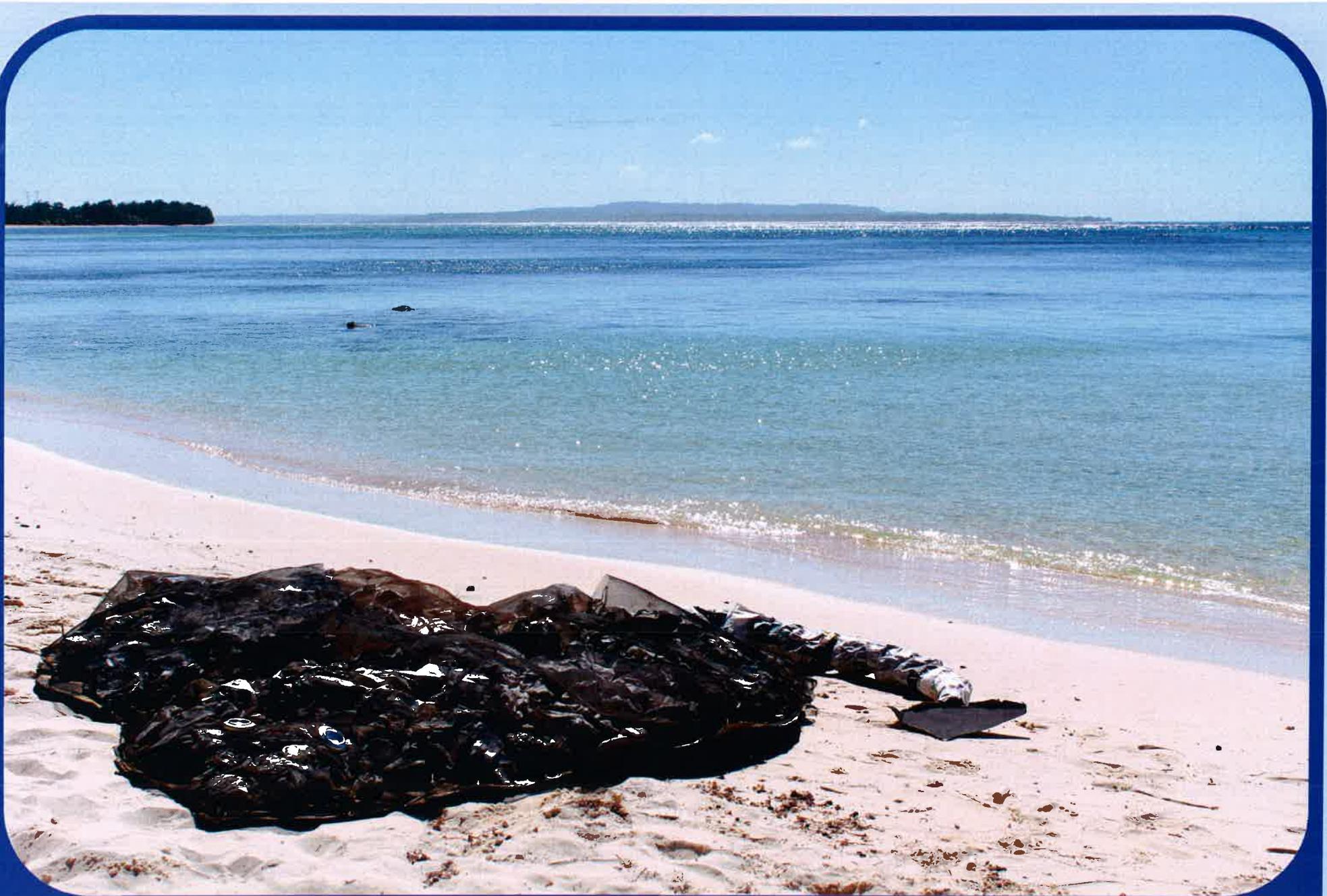
# April




**Plastic Grocery Bags**  
 can take 1-20 years to  
 degrade in the ocean.

The male green turtle is larger with a longer tail than the female.

Marine debris can be ingested by wildlife. Bags can look like jellyfish to turtles and sunfish.



**Location: Sugar Dock, Saipan**  
**Artist: Northern Marianas Academy**

# May

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday



Cotton Rope can take  
1 year to degrade  
in the ocean.

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T

2

1

0

-1

2

1

0

-1

2

1

0

-1

2

1

0

-1

	1 Moonrise 00:00 Moonset 10:53	2 Rise None Set 11:52	3 Moonrise 00:49 Moonset 12:49	4 Moonrise 01:34 Moonset 13:43
5 Moonrise 02:17 Moonset 14:36 <i>Cinco de Mayo</i>	6 Moonrise 02:58 Moonset 15:27	7 Moonrise 03:39 Moonset 16:18	8 Moonrise 04:20 Moonset 17:09	9 Moonrise 05:03 Moonset 18:00
10 Rise 05:46 Set 18:50	11 Moonrise 06:32 Moonset 19:40	12 Moonrise 07:19 Moonset 20:29 <i>Mother's Day</i>	13 Moonrise 08:07 Moonset 21:17	14 Moonrise 08:56 Moonset 22:02
15 Moonrise 09:45 Moonset 22:46	16 Moonrise 10:34 Moonset 23:28	17 Moonrise 11:23 Moonset None	18 Rise 12:12 Set 00:09 <i>Armed Forces Day</i>	19 Moonrise 13:02 Moonset 00:49
20 Moonrise 13:53 Moonset 01:29	21 Moonrise 14:47 Moonset 02:11	22 Moonrise 15:43 Moonset 02:55	23 Moonrise 16:43 Moonset 03:43	24 Moonrise 17:45 Moonset 04:35
25 Rise 18:50 Set 05:31	26 Moonrise 19:53 Moonset 06:32	27 Moonrise 20:55 Moonset 07:36 <i>Memorial Day</i>	28 Moonrise 21:52 Moonset 08:40	29 Moonrise 22:44 Moonset 09:42
30 Moonrise 23:32 Moonset 10:42	31 Moonrise None Moonset 11:38	<ul style="list-style-type: none"> <li>● New Moon</li> <li>◐ First Quarter</li> <li>◑ Full Moon</li> <li>◌ Last Quarter</li> </ul>		

Stingrays cannot see their prey underneath  
them so they use electroreceptors to find it.

Marine debris can cause vessel  
damage, like a rope getting  
stuck in a boat propeller.



**Location: Chiget Beach, Tinian**  
**Image by: Rachel Volsteadt**

# June

Sunday

Monday

Tuesday

Wednesday

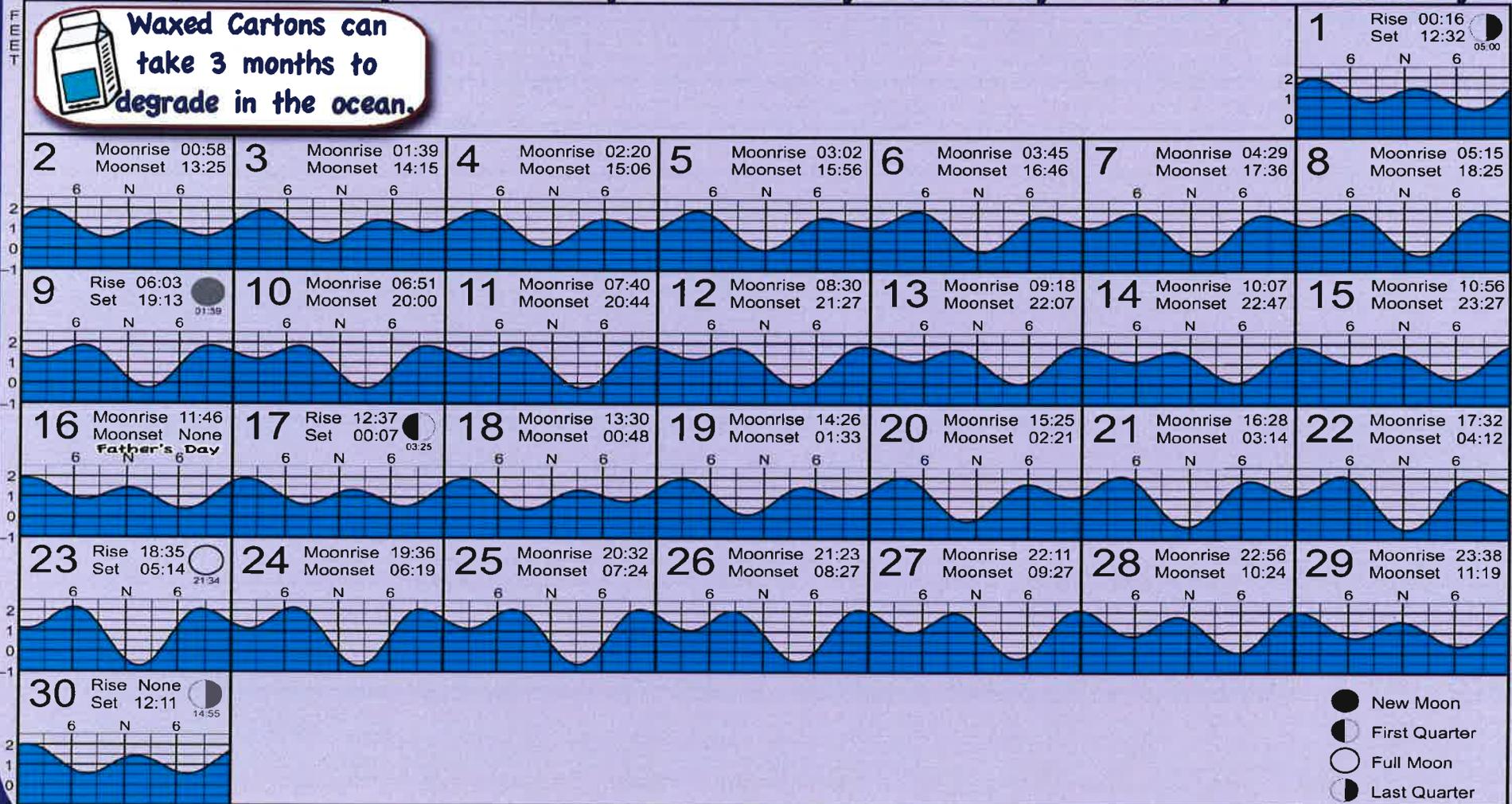
Thursday

Friday

Saturday



Waxed Cartons can take 3 months to degrade in the ocean.



- New Moon
- First Quarter
- Full Moon
- Last Quarter

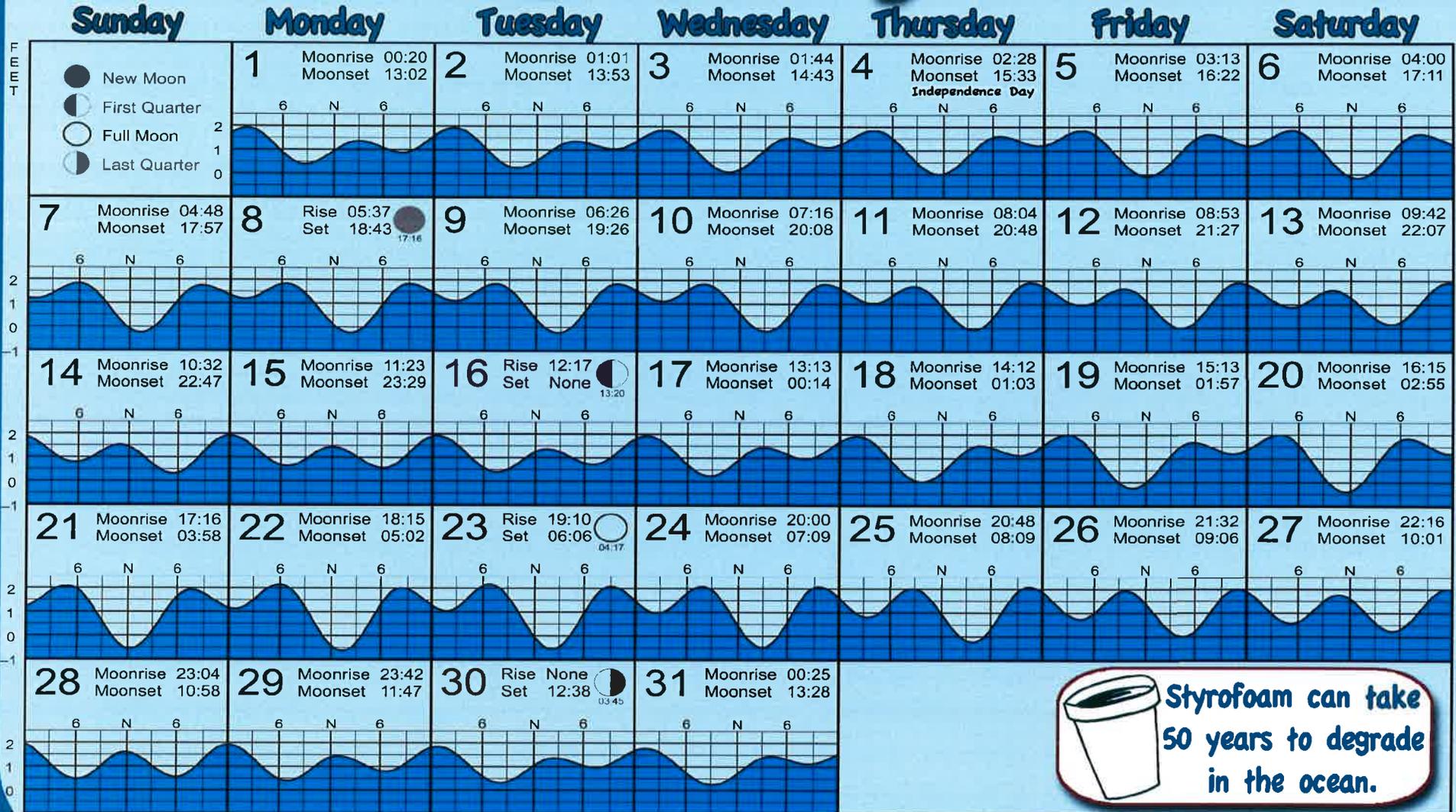
Tinian has one of the largest Latte stone structures in the Marianas.

Marine debris can impact human health and safety.



Location: Garapan Shoreline, Saipan  
Artist:

# July



**Styrofoam can take 50 years to degrade in the ocean.**

Garden eels live in burrows where most of their body remains hidden.

Marine debris can cause habitat damage.



**Location: Coral Ocean Point Beach, Saipan**  
**Artist: Koblerville Elementary School**

# August

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

FEET

- New Moon
- ◐ First Quarter
- Full Moon
- ◑ Last Quarter



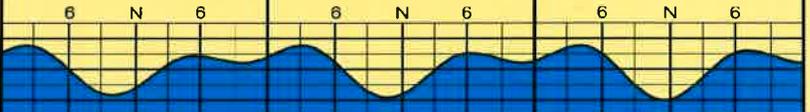
Glass can take  
a million years to  
degrade in the ocean.

(Glass degradation time is undetermined this is one possibility!)

1 Moonrise 01:11 Moonset 14:18

2 Moonrise 01:57 Moonset 15:07

3 Moonrise 02:45 Moonset 15:54



4 Moonrise 03:33 Moonset 16:40

5 Moonrise 04:23 Moonset 17:24

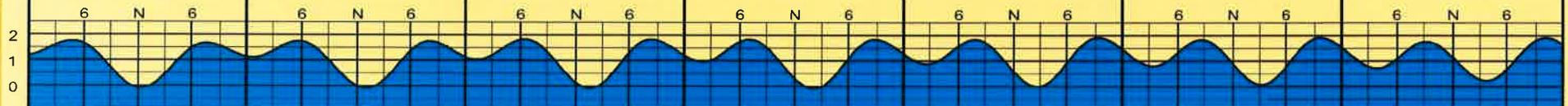
6 Moonrise 05:12 Moonset 18:07

7 Rise 06:01 Set 18:48

8 Moonrise 06:50 Moonset 19:28

9 Moonrise 07:40 Moonset 20:08

10 Moonrise 08:29 Moonset 20:48



11 Moonrise 09:20 Moonset 21:29

12 Moonrise 10:12 Moonset 22:13

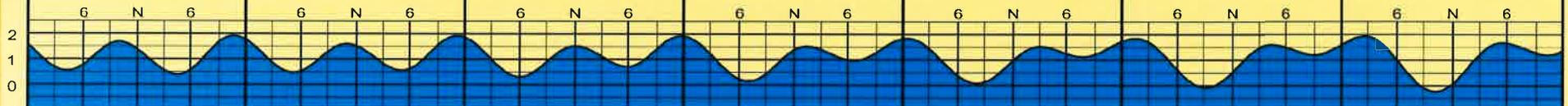
13 Moonrise 11:07 Moonset 22:59

14 Rise 12:03 Set 23:50

15 Moonrise 13:02 Moonset None

16 Moonrise 14:02 Moonset 00:45

17 Moonrise 15:01 Moonset 01:43



18 Moonrise 15:59 Moonset 02:45

19 Moonrise 16:55 Moonset 03:47

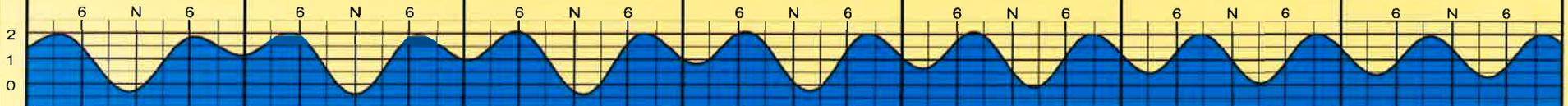
20 Moonrise 17:47 Moonset 04:50

21 Rise 18:36 Set 05:51

22 Moonrise 19:23 Moonset 06:50

23 Moonrise 20:08 Moonset 07:47

24 Moonrise 20:52 Moonset 08:42



25 Moonrise 21:36 Moonset 09:36

26 Moonrise 22:20 Moonset 10:29

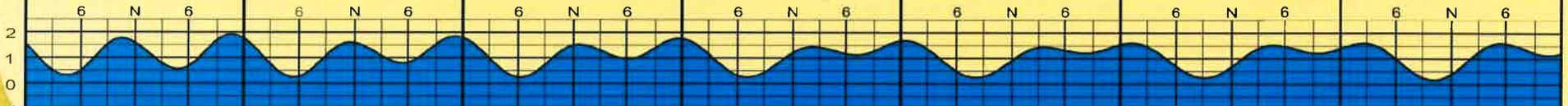
27 Moonrise 23:06 Moonset 11:21

28 Rise 23:52 Set 12:11

29 Moonrise None Moonset 13:01

30 Moonrise 00:40 Moonset 13:49

31 Moonrise 01:28 Moonset 14:36



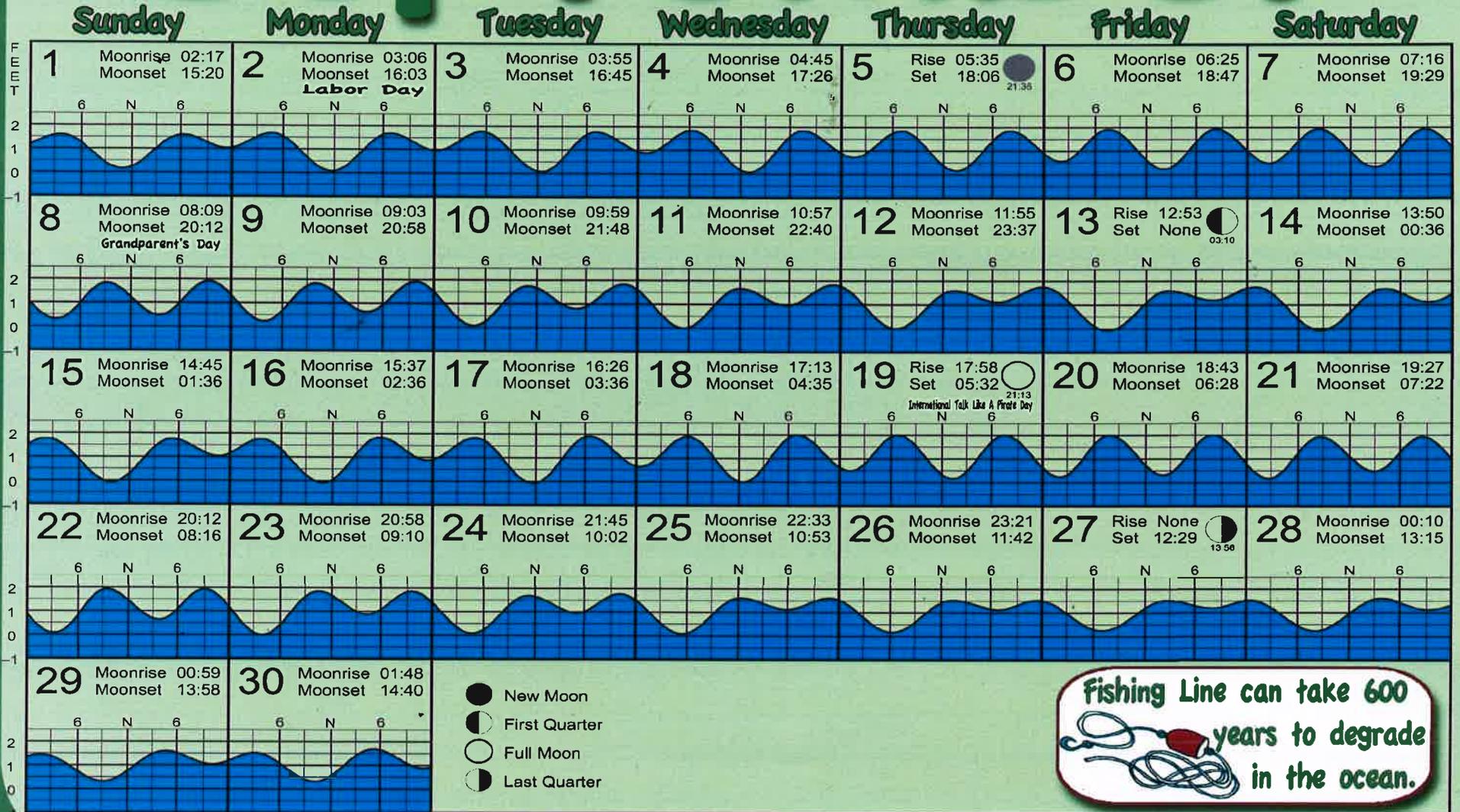
The Pacific Steephead Parrotfish uses its hard beak to eat corals, making them corallivores.

Marine debris can transport alien species of plants and animals.



**Location: Laulau Bay, Saipan**  
**Image by: Avra Heller**

# September



**Fishing Line can take 600 years to degrade in the ocean.**

**Saipan is the largest of CNMI's 15 islands, it was first inhabited around 2000 BC.**

Marine debris such as fishing line can still catch animals, this is called ghost fishing.



**Location: Smiling Cove, Saipan**  
**Artist:**

# October

Sunday

Monday

Tuesday

Wednesday

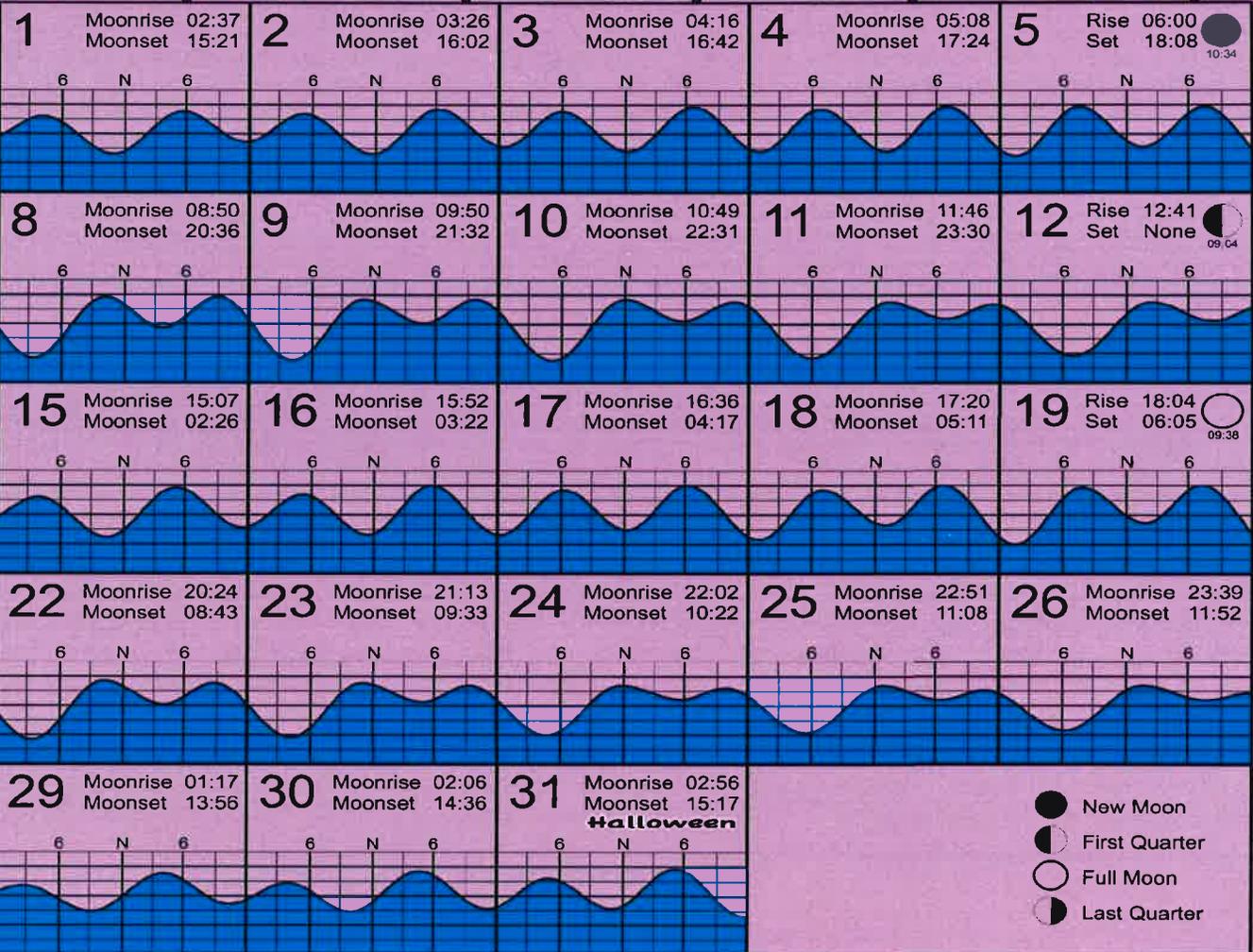
Thursday

Friday

Saturday



Disposable Diapers can take 400 years to degrade in the ocean.



- New Moon
- First Quarter
- Full Moon
- Last Quarter

Before sleeping some parrotfish make a mucus cocoon from their mouth.

Marine debris can cause economic impacts. Beaches covered in debris are not favored by tourists.



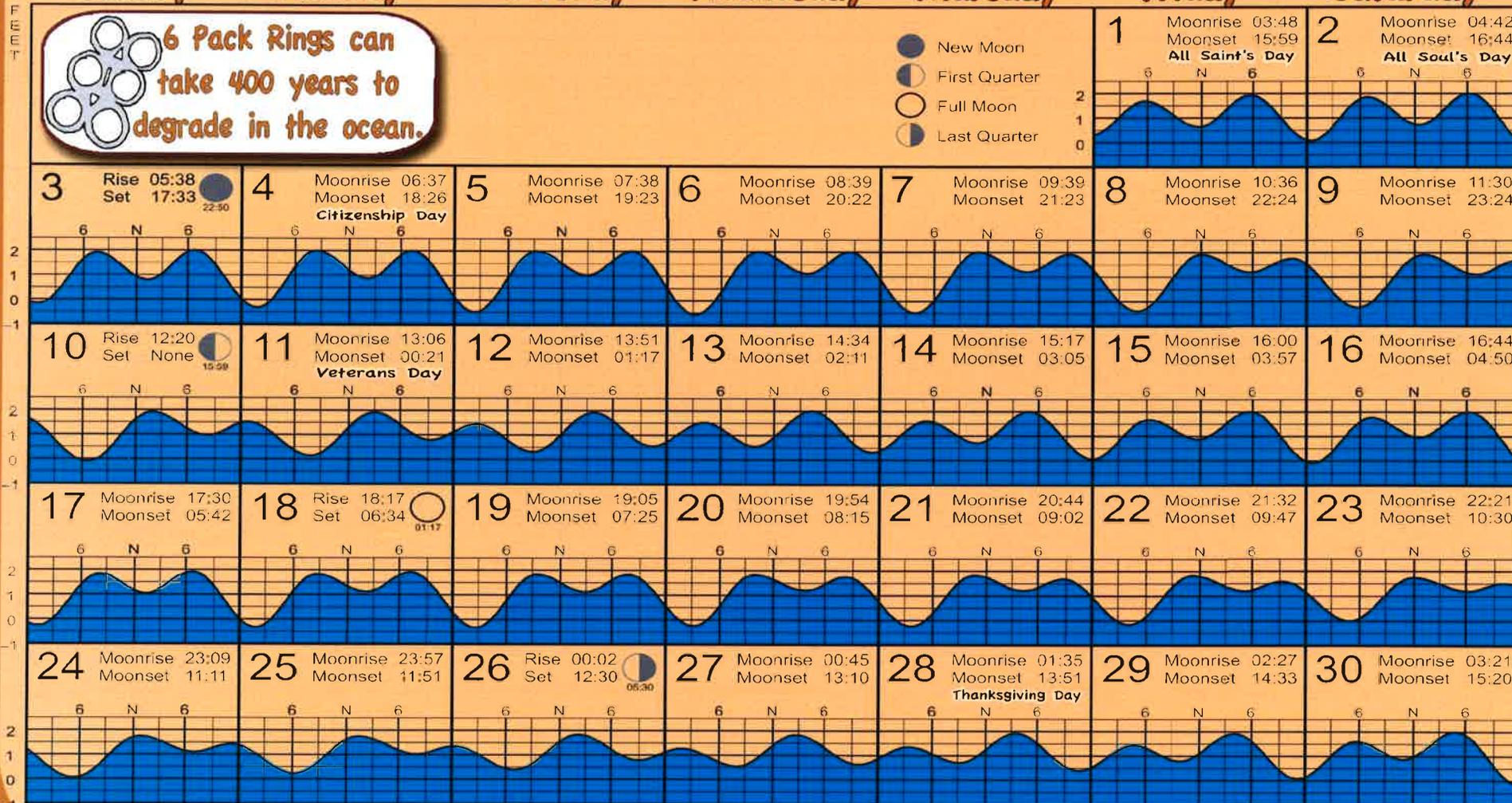
**Location: Micro Beach, Saipan**  
**Artist:**

# November

Sunday      Monday      Tuesday      Wednesday      Thursday      Friday      Saturday

 6 Pack Rings can take 400 years to degrade in the ocean.

-  New Moon
-  First Quarter
-  Full Moon
-  Last Quarter



When the blue sea star is attacked by a predator it self-amputates (aka autotomy).

Marine debris can cause wildlife entanglement.



**Location: Puntan Gagua Gahga, Rota**  
**Image by: Nicole Schafer**

# December

Sunday

Monday

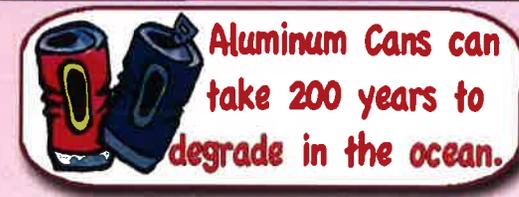
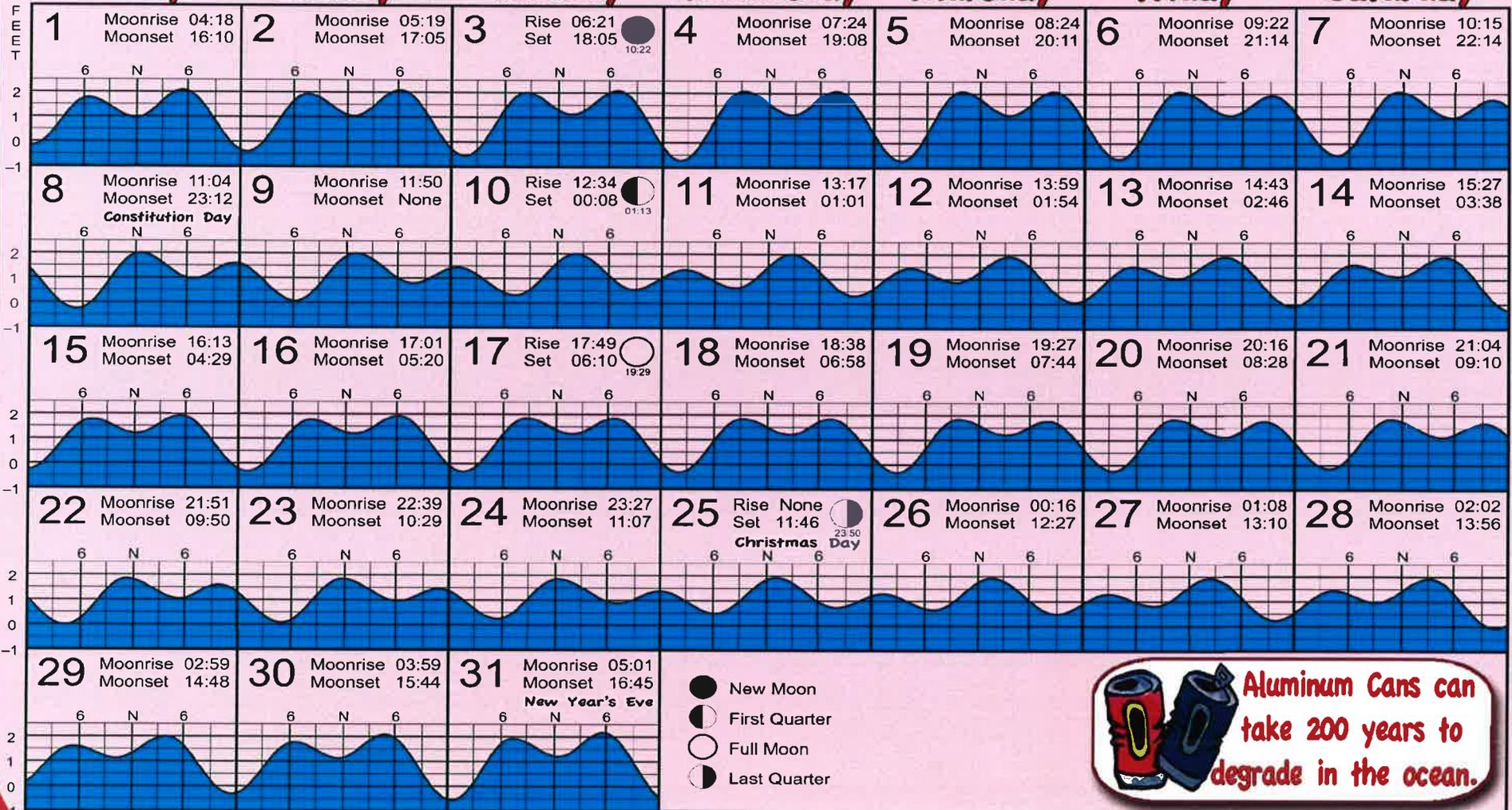
Tuesday

Wednesday

Thursday

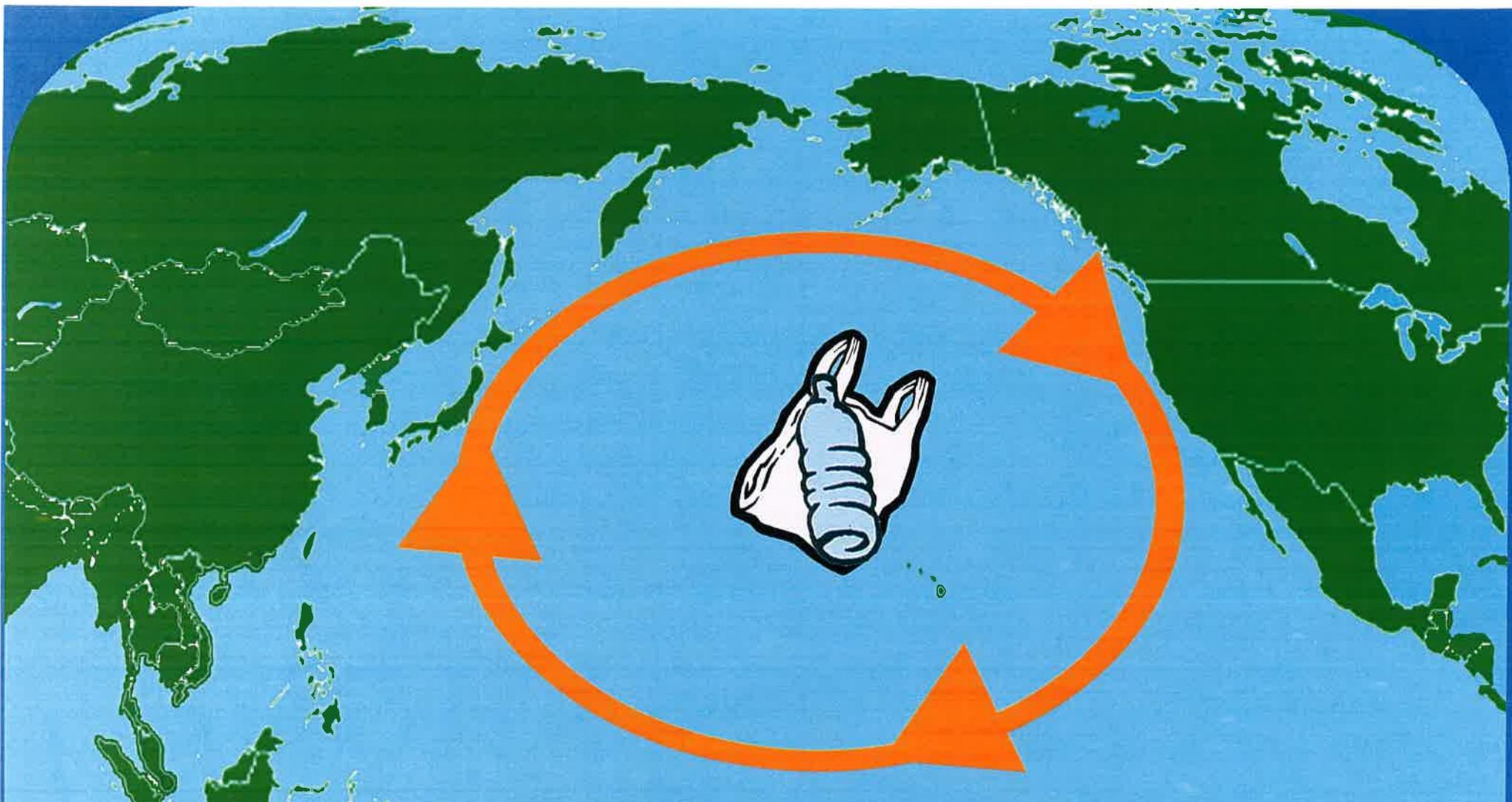
Friday

Saturday



The most southern island of CNMI is Rota also known as the peaceful island.

Marine debris is caused by humans. Do your part and dispose of trash properly.



The “Great Pacific Garbage Patch” or North Pacific subtropical gyre is an area between Hawaii and California with a high marine debris concentration. A gyre is formed by circular ocean currents. These currents can draw debris into the calm waters within the gyre. The gyre is full of plastics because plastics do not wear down, but simply become tinier and tinier pieces. These plastics can be very dangerous to turtles, marine mammals, and birds.



1-5 Years      200 Years      1 Year      450 Years  
 600 Years      400 Years      Undetermined      2 Weeks  
 6 Weeks      1-20 Years      50 Years      3 Months

## Marine Debris Timeline Game

Connect the marine debris to its timeline of degradation. Answers are in the calendar.



Executive Directive 235 established the Commonwealth of the Northern Marianas Coral Reef Initiative Program under the Office of the Governor with an interagency structure to coordinate coral reef issues. The agencies included are Coastal Resources Management, the Division of Fish and Wildlife and Division of Environmental Quality. The interagency group is tasked with protecting coral reefs and implementation of Local Action Strategies projects. Website: [www.cnmicoralreef.net](http://www.cnmicoralreef.net)



Coastal Resources Management Office provides technical assistance for the planning, management, and monitoring of coastal resources and ensuring their sustainable use and development.

Mailing Address: P.O. Box 10007 Saipan, MP 96950 Telephone: 670-664-8300 Facsimile: 670-664-8315 Website: [www.crmsaipan.com](http://www.crmsaipan.com)



The Division of Environmental Quality's mission is to protect public health and the environment. To this end, DEQ develops, implements, and maintains programs that eliminate or minimize threats to the CNMI's land, air, and water.

Mailing Address: P.O. Box 501304 Saipan, MP 96950 Telephone: 670-664-8500 Facsimile: 670-664-8540 Website: [www.deq.gov.mp](http://www.deq.gov.mp)



The Division of Fish and Wildlife was created in 1981 to conserve fish, game, and wildlife and to protect endangered and threatened species.

The Division does so through research, monitoring, regulation, enforcement, planning, and management.

Mailing Address: P.O. Box 10007 Saipan, MP 96950 Telephone: 670-664-6000 Facsimile: 670-664-6060 Website: [www.dfw.gov.mp](http://www.dfw.gov.mp)



Formed at the behest of DEQ in 1997 to address concerns over sediment erosion from illegal land clearing in Laolo Bay. The Marine Monitoring Team has expanded to surveys assessing and monitoring reef conditions throughout the Marianas. Actively supported by CRM and DEQ the MMT has had participation from DFW, NMC, and a number of volunteers since its inception. Website: <http://cnmimmt.blogspot.com> (as well as agency sites)



NOAA's mission is to understand and predict changes in Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs.

CNMI Field Office: PMB 582 Box 10003 Saipan, MP 96950 Telephone: 670-234-0004 Facsimile: 670-234-0003 Website: <http://coralreef.noaa.gov>

BLK



**Help us stop marine debris!**

PLEASE RECYCLE  
&  
NOT LITTER

