TidalMapper Owner’s Manual

Tide display with weather and radar Model: H.LL1 · Firmware 2.21

FIGURE 1: TidalMapper on its stand
Show: front view, device in the stand, Home page on screen, at a slight angle.
Callouts: none.
Style: photo.
Alt text: A small dark-blue screen on a stand shows a round tide dial, tide times and a wave-shaped tide curve.

Read before use and keep for future reference.

Contents

- Quick Start (separate document)
- About this manual
- 1. Important Safety Information
- 2. Getting to Know Your TidalMapper
- 3. Getting Started
- 4. Using Your TidalMapper
- 5. Changing Settings
- 6. Using the App
- 7. Care and Cleaning
- 8. Fix a Problem
- 9. Questions and Answers
- 10. Specifications
- 11. Warranty, Support and Legal
- Appendix: Glossary

About this manual

This manual explains how to set up, use and care for your TidalMapper. Start with Chapter 1, “Important Safety Information.” After that, go to the chapter you need.

How the chapters are organized

- Chapters 2 and 3 cover what’s in the box and first-time setup.
- Chapter 4 explains each page, starting with the ones you’ll use most.
- Chapter 5 covers settings you can change, such as brightness and your tide station.
- Chapters 7 to 9 cover cleaning, problems and common questions.

Symbols and text styles

You see	It means
⚠️ **WARNING**	A hazard that could cause death or serious injury if you don’t avoid it.
⚠️ **CAUTION**	A hazard that could cause minor or moderate injury if you don’t avoid it.
NOTICE	Something that could damage the device or your property. No risk of injury.

You see	It means
Bold text	A button or label exactly as it appears on the screen, such as **Wi-Fi** or **Done**.
→ *Italic text*	What you will see after a step, so you know it worked.
✅ **Done!**	The end of a task, and how to tell it worked.
Tip:	A shortcut or a helpful idea.
Having trouble?	Where to look if a task doesn’t work.
[FIGURE]	A picture that shows the step.

1. Important Safety Information

Read and save these instructions

Read all of these instructions before you use TidalMapper. Keep this manual for later. If you give TidalMapper to someone else, give them this manual too.

Safety words used in this manual

Word	What it means
⚠️ **DANGER**	A hazard that will cause death or serious injury. TidalMapper has no hazards at this level, so this manual does not use it.
⚠️ **WARNING**	A hazard that could cause death or serious injury.
⚠️ **CAUTION**	A hazard that could cause minor or moderate injury.
NOTICE	A risk of damage to the device or property only.

Intended use

TidalMapper is an indoor display. It shows NOAA tide predictions, sun and moon times, and National Weather Service (NWS) forecasts and radar for your area.

Use TidalMapper only:

- Indoors, in a dry place.
- With the USB-C cable that came with it, and a 5 V USB wall adapter rated at least 1 A.
- As a general guide to tides and weather.

Do not use TidalMapper:

- For navigation, boating, fishing, swimming or any decision where your safety depends on the tide.
- As your only source of weather warnings.
- Outdoors, in a bathroom, or anywhere it can get wet.
- As a toy.

⚠️ WARNING — Relying on tide predictions
Tide times and heights on TidalMapper are predictions. Wind, storms and river flow can make the real water level very different. If you rely on them for boating or wading, you could be stranded or drown.
Before you go on or near the water, check official sources and local conditions. Never use TidalMapper for navigation.

⚠️ WARNING — Missing a weather warning
TidalMapper downloads weather alerts only every 15 minutes, and only while it has Wi-Fi and power. You could miss an urgent warning.
Use a NOAA Weather Radio, local news or your phone's emergency alerts for severe weather.

Power and electrical safety

⚠️ WARNING — Fire and electric shock
A damaged, wet or low-quality power adapter can overheat, start a fire or give you a shock.
• Use a 5 V USB wall adapter rated at least 1 A, from a trusted brand.
• Choose an adapter with a safety mark from a testing lab, such as UL or ETL.
• Do not use an adapter or cable that is cracked, frayed, bent sharply or hot to the touch.
• Unplug the adapter by holding the plug, not the cable.
• Do not cover the device, adapter or cable with cloth, paper or bedding while plugged in.

- TidalMapper has no battery. It turns off when you unplug it. **[[ASSUMPTION: the board's battery connector is unused, and no battery is fitted]]**
- Unplug TidalMapper during lightning storms, or if you won't use it for a long time.
- If TidalMapper smells hot, makes smoke or makes an unusual sound, unplug it right away. Do not use it again. Contact support.

Water and moisture

⚠️ WARNING — Electric shock and fire
TidalMapper is not waterproof. Water inside it can cause a short circuit, a shock or a fire.
• Keep the device, cable and adapter away from sinks, bathtubs, plants you water, aquariums and open windows.
• Never touch the adapter or plug with wet hands.
• If liquid gets on or into TidalMapper, unplug the adapter from the wall first. Then dry the outside. Do not use it again until it is completely dry.

Heat and sunlight

NOTICE
The case is made of plastic. Heat can warp it and damage the screen.
• Keep TidalMapper out of direct sunlight.
• Keep it away from heaters, stoves, fireplaces and car dashboards.
• Use it at normal room temperature.

The glass screen

⚠️ **CAUTION — Cuts from broken glass**
The screen is glass. If it breaks, sharp pieces can cut you.
• Do not press hard on the screen or drop the device.
• If the screen cracks, unplug TidalMapper and stop using it. Do not touch the broken glass with bare hands.

NOTICE
Tap the screen with a fingertip or the stylus that came with it. Pens, keys and other hard or sharp objects can scratch or crack the screen.

Children and pets

⚠️ **WARNING — Choking hazard**
The stylus is a small part. A young child could choke on it.
Keep the stylus away from children under 3 years old. Store it in a safe place when you're not using it.

⚠️ **WARNING — Strangulation hazard**
A child could get the power cable wrapped around their neck.
Keep the cable out of reach of young children. Do not place TidalMapper in or near a crib, playpen or child's bed.

- Keep the cable where pets can't chew it. A chewed cable can cause a shock or fire.
- TidalMapper is not a toy. Children should use it only with an adult watching.

Placement

⚠️ **CAUTION — Falling device**
If TidalMapper falls from a high shelf, it can hurt someone and the glass can break.
• Place it on a flat, steady surface, such as a table, counter or desk.
• Route the cable so no one can trip on it or pull the device off the surface.

Do not open or change the device

NOTICE
There are no parts inside that you can repair. Opening the case can damage the screen and the electronics.
• Do not remove the screws or open the case.
• Do not try to load other software on TidalMapper.

Radio signals

TidalMapper uses Wi-Fi, which sends out low-power radio signals.

- Do you use a pacemaker or other implanted medical device? Ask your doctor or the device maker whether Wi-Fi devices are safe to keep nearby.
- Turn off or unplug TidalMapper where wireless devices are not allowed, such as some hospitals and aircraft.

2. Getting to Know Your TidalMapper

Check what's in the box

Make sure you have everything before you start.

- ☐ TidalMapper (model H.LL1), already in its case
- ☐ Stand
- ☐ USB-C cable
- ☐ Stylus

Not included:

- A USB wall adapter. Use a 5 V USB wall adapter rated at least 1 A.
- Printed instructions. Download the Quick Start and this manual from the TidalMapper website.

FIGURE 2: What's in the box
Show: the four items laid out flat from above: device, stand, coiled cable, stylus.
Callouts: 1 TidalMapper, 2 Stand, 3 USB-C cable, 4 Stylus.
Style: photo.
Alt text: The display, a low stand, a coiled cable and a slim pen-shaped stylus laid out on a table.

Something missing or damaged? Contact support before you plug it in. **[[VERIFY: support contact, to be decided]]**

Learn the parts of the device

FIGURE 3: Front of TidalMapper
Show: straight-on front view in landscape, Home page on screen.
Callouts: 1 Touchscreen, 2 Header bar, 3 Page area, 4 Tab bar, 5 USB-C end of the case.
Style: line drawing.
Alt text: A wide rectangular screen. A thin bar along the top, a large area in the middle and a row of page names along the bottom.

FIGURE 4: Back of TidalMapper
Show: back cover, with the USB-C end at one side.
Callouts: 1 **RST** hole (restart), 2 **BOOT** hole (touch recovery), 3 USB-C port, 4 Screws (do not remove).
Style: line drawing.
Alt text: The flat back of the case. Two small labeled holes near one end, a cable port on that end, and a screw in each corner.

#	Part	What it's for
1	Touchscreen	Shows your tides and weather. Tap and swipe it to use TidalMapper.

#	Part	What it’s for
2	USB-C port	Connects the power cable. TidalMapper has no battery, so it needs power at all times.
3	**RST** hole	Restarts TidalMapper. Press the button inside with the stylus tip.
4	**BOOT** hole	Fixes touch if taps land in the wrong place. See “Fix touch that doesn’t line up” in Chapter 8.
5	Stand	Holds TidalMapper upright, leaning back slightly.
6	Stylus	Taps the screen and presses the buttons inside the **RST** and **BOOT** holes.

TidalMapper has no power switch. It turns on when you plug it in and turns off when you unplug it.

Learn the controls

You control TidalMapper with the touchscreen.

To do this	Do this
Go to the next or previous page	Swipe left or right across the page.
Go to a page	Tap its name in the tab bar at the bottom.
Open Settings	Tap the header bar at the top of the screen.
Close Settings	Tap **Done**. Settings also closes after 2 minutes without a tap.
Go back one screen in Settings	Tap **< Back** at the top left.
Wake the screen when it’s dark or dim	Tap anywhere. The first tap only wakes the screen.
Restart TidalMapper	Press the button inside the **RST** hole, or unplug it for 5 seconds and plug it back in.
Fix touch that doesn’t line up	Press **RST**, then hold the button inside the **BOOT** hole while the startup screen shows. See Chapter 8.

Tip: The screen senses pressure, not the warmth of your finger. A light, firm tap works best. The stylus gives the most accurate taps.

Learn the screen

FIGURE 5: The parts of the screen
Show: screenshot of any page with three shaded zones and the header items called out.
Callouts: 1 Station name, 2 Last update time, 3 Date, 4 Clock, 5 Wi-Fi signal, 6 Page area, 7 Tab bar.
Style: screenshot.
Alt text: A screen divided into a thin top bar with the station name, update time, date, clock and signal bars; a large middle area; and a bottom row of seven page names.

Every page has the same three parts:

- **Header bar (top):** your station's name, when data last updated (for example "Upd 9:41 PM"), the date, the time and the Wi-Fi signal. Tap it to open Settings.
- **Page area (middle):** the page you picked.
- **Tab bar (bottom):** the seven pages: **Home**, **Today**, **3-Day**, **Next**, **Moon**, **Weather** and **Radar**. Chapter 4 explains each one.

Understand the signs on the screen

TidalMapper has no lights or sounds that you need to watch. It shows everything on the screen.

Sign	What it looks like	What it means	What to do
Wi-Fi signal	4 bars in the top-right corner, filled from left to right	Wi-Fi is connected. More filled bars means a stronger signal: 4 strong, 3 good, 2 weak, 1 very weak.	Nothing.
Very weak Wi-Fi	1 filled bar, shown in orange	The signal is very weak. Downloads may fail.	Move TidalMapper closer to your Wi-Fi router.
No Wi-Fi	Empty bars with a red **X** across them	TidalMapper is not connected to Wi-Fi. Data can't update.	Wait 1 minute. If the **X** stays, see "Wi-Fi and data problems" in Chapter 8.
Last update time	"Upd" and a time in the header, for example "Upd 9:41 PM"	The last time TidalMapper downloaded new data.	Nothing.
Old update time	The update time turns orange and is more than 2 hours old	Nothing has updated for 2 hours. The screen still shows the last good data.	Check the Wi-Fi signal. See Chapter 8.

Sign	What it looks like	What it means	What to do
“Updating…”	Shown in the header instead of a time	TidalMapper hasn’t finished its first download yet.	Wait a few minutes.
Weather alert	A red dot on the **Weather** tab	The National Weather Service has an active alert for your area.	Open the **Weather** page to read it.
Radar updating	“Updating radar 12/37 - tap to stop” above the tab bar	The forecast radar is downloading (about 1 minute). The screen doesn’t respond to other taps until it finishes.	Wait, or tap to stop. TidalMapper keeps the radar frames it already has.
Startup messages	Text in the bottom-right corner of the startup screen, such as “Downloading tides from NOAA”	TidalMapper is starting up and downloading data.	Wait. Leave it plugged in.
Restart message	Orange text on the startup screen beginning “Last restart:”	TidalMapper restarted after a problem, such as a power dip.	If you see it often, see “Power and startup problems” in Chapter 8.

3. Getting Started

Choose a good place

TidalMapper needs a wall outlet and a Wi-Fi signal. Pick a spot that is:

- On a flat, steady surface, such as a table, counter, desk or shelf.
- Within reach of a wall outlet with the cable that came with it.
- Within range of your Wi-Fi router. Close to the router is best.
- Dry and away from sinks, aquariums, plants you water and open windows.
- Out of direct sunlight and away from heaters.

FIGURE 6: A good place for TidalMapper
Show: TidalMapper on its stand on a side table, cable running neatly to a wall outlet behind the table. A window with sun is on the far side of the room.
Callouts: 1 Flat surface, 2 Cable along the back edge, 3 Wall outlet.
Style: line drawing.
Alt text: The display stands on a small table. Its cable runs along the back of the table to an outlet. A sunny window is across the room, away from the display.

⚠️ **CAUTION — Falling device**
A device that falls can hurt someone, and its glass can break. Route the cable so no one can trip on it or pull TidalMapper off the surface.

Connect the power

TidalMapper has no battery. It needs power from a wall outlet at all times.

You'll need: a 5 V USB wall adapter rated at least 1 A, with a USB-A port (the larger, rectangular USB port). The cable has a USB-A plug on one end and a USB-C plug on the other.

1. Set TidalMapper in its stand. Rest the long edge of the case in the stand, screen facing you.

   FIGURE 7: Device in the stand
   Show: side view of the case sitting in the stand, leaning back. The USB-C end hangs past the end of the stand.
   Callouts: 1 Stand, 2 USB-C end, 3 Cable leaving to the side.
   Style: line drawing.
   Alt text: Side view. The display leans back slightly in a low stand. The cable comes out of the end of the case, to the side.

2. Push the small, oval USB-C plug into the port on the end of the case. It fits either way up.
   → *The plug goes in all the way and sits flat.*

3. Push the larger, rectangular USB-A plug into your USB wall adapter. It fits only one way up. If it doesn't go in, turn it over.
4. Plug the adapter into a wall outlet. → *The screen lights up within a few seconds.*

✅ **Done!** The startup screen shows **TidalMapper** and **See the Seas**.

Avoid these power sources. They often can't supply steady power, which can make TidalMapper restart or freeze:

- USB ports on computers, TVs, monitors and power strips
- Phone chargers rated under 1 A
- Portable battery packs. Many switch off by themselves when the device uses little power.

Having trouble? See "Power and startup problems" in Chapter 8.

Know what happens at startup

Each time you plug TidalMapper in, or press **RST**, it shows the startup screen.

FIGURE 8: The startup screen
Show: screenshot of the startup screen.
Callouts: 1 **TidalMapper** title, 2 **See the Seas**, 3 Wave drawing, 4 Version number (bottom left), 5 Status messages (bottom right).
Style: screenshot.
Alt text: A dark screen with the word TidalMapper in large letters, See the Seas below it, a small wave drawing, and short status text in the bottom-right corner.

- For about 2 seconds, the corner shows "Starting - hold BOOT to recalibrate touch." You only need this if touch stops working. See "Fix touch that doesn't line up" in Chapter 8.
- The first time you plug it in, the setup screens open. See the next section.
- The corner shows what TidalMapper is doing, for example:
  - "Connecting to Wi-Fi" and your network's name
  - "Syncing clock"
  - "Downloading tides from NOAA"
  - "Radar forecast 5 / 37 Tap to skip"
  - "Downloading weather forecast (NWS)"
- When the downloads finish, the startup screen closes, and the page you used last opens.

Startup takes 2 to 4 minutes. The radar forecast step takes about 1 minute of that. Tap the screen during that step to skip it. The radar keeps downloading later.

Note: Any other tap on the startup screen opens Settings. Tap **Done** to go back to the startup screen.

Set up TidalMapper the first time

The first time you plug in TidalMapper, it asks you for three things: your Wi-Fi, your tide station and your date and time. You only do this once. TidalMapper saves your choices, even when you unplug it.

You'll also see these screens again after a factory reset (see Chapter 8).

You'll need:

- Your Wi-Fi network name and password. TidalMapper works only with 2.4 GHz Wi-Fi.
- Your tide station's 7-digit ID, if you don't live near Safety Harbor, Florida. See "Find your tide station ID" below.

Tip: The setup screens wait for you. They don't close by themselves. Tap **< Back** at the top left to return to the step before.

Step 1: Connect to your Wi-Fi

1. Read the **Welcome** message and tap **OK**. → *"Scanning for Wi-Fi" shows, then a list titled **Choose Wi-Fi (2.4 GHz)**.*

> **FIGURE 9: The Wi-Fi list**
> *Show:* screenshot of the network list.
> *Callouts:* 1 Network name, 2 Signal strength (strong, good, weak, very weak), 3 **Next >** (more networks), 4 **Scan again**, 5 **Skip for now**.
> *Style:* screenshot.
> *Alt text:* A list of Wi-Fi network names, each with a word for its signal strength on the right. Options at the end of the list say Other / hidden network, Scan again and Skip for now.

2. Tap your network's name. The strongest networks are at the top. → *A keyboard opens.*
   - Not in the list? Tap **Next >** to see more, or tap **Scan again**.
   - Hidden network? Tap **Other / hidden network…** and type its exact name. Names are case-sensitive.
   - Networks marked "open" have no password, so the keyboard doesn't open.
3. Type your password. Tap **ABC** for capital letters and **#+=** for symbols. Tap **Del** to erase a character. Tap **Show** to check what you typed. → *Each letter appears in the box as you tap it.*

> **FIGURE 10: The on-screen keyboard**
> *Show:* screenshot of the password screen.
> *Callouts:* 1 Password box, 2 **Show**, 3 **ABC** (capitals), 4 **#+=** (symbols), 5 **space**, 6 **Del**, 7 **OK**, 8 **Cancel**.
> *Style:* screenshot.
> *Alt text:* A password box across the top with a Show button, four rows of keys, and a bottom row with ABC, #+=, space, Del and OK.

4. Tap **OK**. → *"Connecting" shows for up to 20 seconds, then **Connected** and your network's name.*

5. Tap **OK**. → *The **Tide station** screen opens.*

Saw “Couldn’t connect”? The password may have a typing mistake, or the network may be 5 GHz only.

- Tap **Try again** and check the password.
- Tap **Save anyway** only if you know the details are right, for example if your router is off right now. TidalMapper keeps trying in the background.

Skip for now: You can tap **Skip for now** and set up Wi-Fi later in Settings. TidalMapper can’t show tides or weather until it connects.

Step 2: Choose your tide station

TidalMapper starts with the NOAA station at Safety Harbor, Old Tampa Bay, Florida (ID 8726738).

FIGURE 11: The Tide station screen
Show: screenshot of the Tide station screen.
Callouts: 1 Station name, 2 Area, 3 Station ID, 4 **Use this station**, 5 **Choose another**.
Style: screenshot.
Alt text: The station name, area and ID listed on the left, with two large buttons at the bottom: Use this station and Choose another.

- **To keep Safety Harbor:** tap **Use this station**. → *The **Date & time** screen opens.*
- **To use a different station:**
  1. Tap **Choose another**. → *A keyboard opens.*
  2. Type your station’s 7-digit ID and tap **OK**. → *“Looking up station” shows, then the station’s name and area.*
  3. Check that it’s the right place, then tap **Use it**.

     FIGURE 12: Confirming a station
     Show: screenshot of the station check screen.
     Callouts: 1 Station name, 2 Area and state, 3 Station ID, 4 **Back**, 5 **Use it**.
     Style: screenshot.
     Alt text: A station name in large letters, the area and ID below it, the question “Use this station?” and two buttons: Back and Use it.

  4. Tap **Switch** if TidalMapper offers to change the time zone. → *The **Date & time** screen opens.*

Saw “Station not usable”? That ID doesn’t have tide predictions. Some NOAA stations measure only currents or weather. Tap **OK** and try a different station nearby.

Find your tide station ID

1. On a phone or computer, go to **tidesandcurrents.noaa.gov/tide_predictions.html** (the NOAA Tide Predictions page).

2. Tap your state, or type the name of a nearby town in the search box. → *A list of stations appears, each with its ID.*
3. Pick the station closest to where you check the water.
4. Write down its ID, for example 8726738.

Note: TidalMapper accepts station IDs made of 7 digits. Most NOAA tide stations use this kind of ID. If your nearest station's ID has letters in it, choose the next closest one.

Step 3: Check the date and time

FIGURE 13: The Date & time screen
Show: screenshot of the Date & time screen during setup.
Callouts: 1 Date, 2 Time, 3 Time zone, 4 Clock source, 5 **Time zone** button, 6 **Use 24-hour** button, 7 **Set manually**, 8 **Next >**.
Style: screenshot.
Alt text: The date, time, time zone and clock source listed on the left, buttons below them, and a Next button at the top right.

1. Check the time zone. If it's wrong, tap **Time zone** and tap yours. → *The list includes the US time zones, Arizona, Alaska, Hawaii, Puerto Rico and the US Virgin Islands, Guam, American Samoa and UTC.*
2. Optional: tap **Use 24-hour** for a 24-hour clock (13:00). Tap **Use 12-hour** to go back (1:00 PM).
3. Tap **Next >** at the top right. → ***All set*** *shows for a moment, then the startup screen.*
   – If "Clock not set yet" appears, tap **Continue**. The clock sets itself from the internet within a minute or two.

✅ **Done!** After the downloads finish, your pages open. The header shows your station's name, the date and the time.

Tip: Leave the clock source as "Internet (NTP)." The clock then stays right by itself, even after a power cut. To set the clock by hand instead, see "Set the clock by hand" in Chapter 5.

Know what happens after a power cut

TidalMapper saves all your settings in its memory. When the power comes back, it starts up, downloads fresh data and opens the page you used last. You don't need to set it up again.

- **Internet time (the usual setting):** the clock sets itself as soon as Wi-Fi reconnects.
- **Clock set by hand:** TidalMapper has no clock battery. It saves the time every 15 minutes and goes back to that time when power returns. The Home page then says "Clock restored after power loss." Check the time, and correct it in Settings if needed. See Chapter 5.

4. Using Your TidalMapper

TidalMapper has seven pages. This chapter explains each one, starting with the pages most people use every day. Swipe left or right, or tap a page name in the tab bar, to change pages.

All pages update by themselves. You don’t need to refresh them. The clock and the tide numbers change every minute.

Check the tide right now (Home page)

The **Home** page shows the tide at this moment and when it turns next. Tap **Home** in the tab bar.

FIGURE 14: The Home page
Show: screenshot of the Home page on a rising tide, with numbered callouts.
Callouts: 1 Tide clock dial, 2 Clock hand, 3 Current height, 4 RISING or FALLING with arrow, 5 Rate of change, 6 NEXT HIGH row, 7 NEXT LOW row, 8 Tide curve, 9 “Now” line, 10 High and low labels.
Style: screenshot.
Alt text: On the left, a round dial with HIGH at the top, LOW at the bottom, flood on the left and ebb on the right, partly filled with water. On the right, a large number in feet, the word RISING, and the next high and low times. Across the bottom, a wave-shaped curve with a dashed line marking now.

The tide clock dial (left)

- **HIGH** is at the top and **LOW** is at the bottom.
- The hand moves around the dial between tides. After a high tide, it moves down the right side (**ebb**, falling) to **LOW**. After a low tide, it moves up the left side (**flood**, rising) to **HIGH**.
- The water inside the dial rises and falls with the tide. A full dial means the water is near high tide.

The numbers (right)

- **NOW (ft above MLLW, predicted):** the predicted water height right now, in feet. See “Understand tide heights” at the end of this chapter.
- **RISING** with an up arrow, or **FALLING** with a down arrow: which way the tide is going.
- **ft/hr:** how fast the water is rising (+) or falling (−), in feet per hour.
- **NEXT HIGH** and **NEXT LOW:** the time, the height and how long until each one (for example “in 2h 15m”).

The tide curve (bottom)

- The curve shows the tide from 6 hours ago to 18 hours ahead.
- The dashed line and the dot show now. The curve to the left of it is past, and to the right is future.
- Each high and low has a dot and a label with its time and height (for example “2:14 PM 2.3 ft”).

- The numbers along the left edge are heights in feet. The times along the bottom are every 3 hours (“3p” means 3 PM).

Tip: Use the curve to plan your day. A walk on the beach is best near the low tide label. A boat launch is often easiest near high tide. Always check local conditions too.

Having trouble? “Waiting for NOAA tide data” means the tides haven’t downloaded yet. See “Wi-Fi and data problems” in Chapter 8.

Find out when the tide turns (Next page)

The **Next** page shows the next high or low tide in large print, so you can read it from across the room. Tap **Next** in the tab bar.

FIGURE 15: The Next page
Show: screenshot of the Next page, with numbered callouts.
Callouts: 1 **HIGH TIDE** or **LOW TIDE**, 2 Time, in large numbers, 3 **IN** (countdown), 4 **HEIGHT**, 5 Progress bar, 6 Previous tide, 7 Next tide, 8 **THEN** (the tide after).
Style: screenshot.
Alt text: The words LOW TIDE and a large time across the top left. A countdown and a height on the right. A long bar across the middle, partly filled. Below it, the tide after that.

- **NEXT TIDE:** whether the next tide is **HIGH TIDE** or **LOW TIDE**, and its time.
- **IN:** how long until it happens.
- **HEIGHT:** its predicted height.
- **Progress bar:** how far the tide has moved from the last tide (left) to the next one (right). The middle shows the percentage and the height now.
- **THEN:** the tide after the next one, with its time, height and countdown.

See today’s tides and daylight (Today page)

The **Today** page lists every high and low for today, with sunrise, sunset, moonrise and moonset. Tap **Today** in the tab bar.

FIGURE 16: The Today page
Show: screenshot of the Today page, with numbered callouts.
Callouts: 1 **TODAY’S TIDES** list, 2 A past tide (grey), 3 The next tide (in a box), 4 Tomorrow’s first tide, 5 **RANGE TODAY**, 6 **SUNRISE** and **SUNSET**, 7 **MOONRISE** and **MOONSET**.
Style: screenshot.
Alt text: A list of today’s high and low tides on the left, one of them inside a box. On the right, a column with today’s range, sunrise, sunset, moonrise and moonset times.

- **TODAY’S TIDES:** each high and low today, with its time and height.
  - Tides that already happened are grey and come before the next tide in the list.
  - The next tide has a box around it.
- **Tomorrow:** the first tide after midnight.

- **RANGE TODAY:** the difference between today's highest high and lowest low. A big range means more water moves in and out.
- **SUNRISE, SUNSET, MOONRISE, MOONSET:** today's times for your station's location. Some days have no moonrise or no moonset. That's normal.

Plan the next three days (3-Day page)

The **3-Day** page shows tomorrow and the two days after it, side by side. Tap **3-Day** in the tab bar.

FIGURE 17: The 3-Day page
Show: screenshot of the 3-Day page, with callouts on the first card.
Callouts: 1 Day name (Tomorrow, then weekday names), 2 Date, 3 Tidal range, 4 Daylight shading, 5 Tide curve, 6 High (H) and low (L) list.
Style: screenshot.
Alt text: Three tall cards side by side. Each has a day name and date at the top, a small wave-shaped curve with lighter shading in the middle, and a list of tide times at the bottom.

Each card shows one day:

- The day name, the date and the **range** in feet.
- A small tide curve from midnight to midnight. The lighter background shows daylight hours. All three curves use the same height scale, so you can compare days.
- Each high (**H**) and low (**L**) with its time and height in feet.

Tip: Looking for the lowest tide in daylight for tide pooling? Find an **L** with a low number that falls in the lighter part of the curve.

Check the weather forecast and alerts (Weather page)

The **Weather** page shows the National Weather Service (NWS) forecast for your station's area. Tap **Weather** in the tab bar.

FIGURE 18: The Weather page
Show: screenshot of the Weather page with an alert banner, with numbered callouts.
Callouts: 1 Forecast area (city and state), 2 Alert banner, 3 Forecast period (for example "Tonight"), 4 Weather icon, 5 Temperature, 6 Chance of rain, 7 Wind, 8 Short summary.
Style: screenshot.
Alt text: A red banner across the top with an alert name. Below it, six boxes in two rows. Each box has a time period, a small weather picture, a temperature, a chance of rain, the wind and a few words of forecast.

- The top line shows **NWS FORECAST** and the nearest city and state the NWS uses for your station.
- Six boxes cover the next 3 days, in 12-hour periods (day and night).
- Each box shows the period name, a weather picture, the temperature, the chance of rain, the wind and a short summary.
- Daytime temperatures are highs. Nighttime temperatures are lows.

Weather alerts

- When NWS has an active watch, warning or advisory for your area, a red dot appears on the **Weather** tab.
- On the Weather page, a red banner starting with **!** shows the alert's name, for example "! Coastal Flood Advisory." If there are more alerts, it says "(+1 more)."
- To read the full alert, visit **weather.gov** or check your local news.

> ⚠️ **WARNING — Missing a weather warning**
> TidalMapper checks for alerts every 15 minutes, and only while it has Wi-Fi and power. You could miss an urgent warning.
> Use a NOAA Weather Radio, local news or your phone's emergency alerts for severe weather.

Note: The forecast updates every hour. The Weather page works only for stations in the United States and its territories.

Watch the radar (Radar page)

The **Radar** page has two views:

- **Live:** the latest image from your nearest NWS weather radar. It shows where rain is now.
- **Forecast:** an animation of where rain may be over the next 18 hours, from a NOAA weather model called HRRR.

Tap **Radar** in the tab bar. → *The live view opens.*

FIGURE 19: The Radar page, live view
Show: screenshot of the live radar view, with numbered callouts on the control strip.
Callouts: 1 Radar image, 2 Caption with zoom level, 3 **Forecast** button, 4 **-** (zoom out), 5 **+** (zoom in), 6 **Reload**, 7 Radar station and time of the image.
Style: screenshot.
Alt text: A weather radar map with colored rain areas fills most of the screen. Below it, a row of buttons: Forecast, minus, plus and Reload, with the radar station name and a time on the right.

Use the live radar

- **Zoom in or out:** tap **+** or **-**. → *The image changes at once. The caption shows the zoom: 0.5x (whole image), 1x, 2x or 3x.* A button turns dim when you reach the limit.
- **Get the newest image:** tap **Reload**. → *"Downloading radar…" shows for a few seconds, then the new image.*
- The label on the right shows the radar station's code and when the image downloaded, for example "NWS KTBW, 9:41 PM."

TidalMapper downloads a new live image at startup and every 4 hours. Tap **Reload** any time you want the latest.

Watch the forecast radar

1. Tap **Forecast**. → *The forecast animation starts playing.*

> **FIGURE 20: The Radar page, forecast view**
> *Show:* screenshot of a forecast frame over the county map, with numbered callouts.
> *Callouts:* 1 Forecast rain over the map, 2 Your station's location mark, 3 Caption (model run time and map width), 4 **Live** button, 5 **<** (step back), 6 **||** (pause) or **Play**, 7 **>** (step forward), 8 **-** and **+**, 9 **Reload**, 10 Forecast time (for example "+3h30 Fri 2:30 AM"), 11 Position bar.
> *Style:* screenshot.
> *Alt text:* A map with county and state lines and patches of forecast rain. Below it, a row of buttons: Live, back, pause, forward, minus, plus and Reload. On the right, a time label and a short bar showing how far through the animation it is.

2. Watch the time label. → *"+3h30 Fri 2:30 AM" means this picture shows 3 hours 30 minutes from now, on Friday at 2:30 AM.*
3. To stop on one picture, tap **||**. Then tap **<** or **>** to step through the pictures one at a time.
4. To play again, tap **Play**.
5. To go back to the live radar, tap **Live**.

Change the forecast map size: tap **-** for a wider area or **+** for a closer view. The four sizes are about 1,880, 940, 470 and 235 km across (1,170, 580, 290 and 145 miles). The caption shows the current size. → *Each change downloads a new forecast. This takes about 1 minute.* To stop the download, tap the screen. TidalMapper plays the pictures it already has.

Get the newest forecast: tap **Reload**. → *A progress bar shows while it downloads (about 1 minute).*

Good to know:

- The forecast is a computer model, not a measurement. Storms can start earlier, later or in a different place.
- The pictures are 30 minutes apart.
- TidalMapper downloads a new forecast at startup and every 4 hours. While it does, "Updating radar" shows above the tab bar for about 1 minute.
- The forecast radar covers only the lower 48 United States. It doesn't work for stations in Alaska, Hawaii or Puerto Rico.
- The map size goes back to 470 km when TidalMapper restarts.

See the moon phase (Moon page)

The **Moon** page shows tonight's moon and when the next phases happen. Tap **Moon** in the tab bar.

FIGURE 21: The Moon page
Show: screenshot of the Moon page during a waxing gibbous phase, with numbered callouts.
Callouts: 1 Moon picture, 2 Phase name, 3 Percent lit and age, 4 Moonrise and moonset, 5 Sunrise and sunset, 6 **UPCOMING PHASES**, 7 Spring or neap tide note.
Style: screenshot.
Alt text: A realistic picture of the moon, mostly lit, on the left. On the right, the phase name, the percent lit, rise and set times, a list of the next four moon phases with dates, and a short note about spring tides.

- **Moon picture:** a real photo of the moon's surface, lit to match tonight's phase. It shows the moon as seen from the Northern Hemisphere. A growing moon is lit on the right.
- **Phase name,** such as "Waxing Gibbous," and how much of the moon is lit (for example "78% illuminated").
- **Age:** the number of days since the last new moon.
- **Moonrise** and **set**, **Sunrise** and **set:** today's times.
- **UPCOMING PHASES:** the dates and times of the next four main phases: new moon, first quarter, full moon and last quarter.

Spring and neap tides The moon's phase changes the size of the tides. The bottom of the page may show one of these notes:

- **"Spring tides: larger tidal range"** shows within about 2½ days of a new or full moon. Highs are higher and lows are lower than usual.
- **"Neap tides: smaller tidal range"** shows within about 2½ days of a first or last quarter moon. The water rises and falls less than usual.

"Spring" here has nothing to do with the season. Spring tides happen twice a month, all year.

Understand tide heights

TidalMapper shows heights in feet "above MLLW."

- **MLLW** means Mean Lower Low Water. It's the average height of the lowest tide each day, measured over many years. NOAA uses it as the zero point (0.0 ft) for tide heights.
- **A height of 0.0 ft** means the water is at that average low level.
- **A negative height,** such as −0.4 ft, means the water is lower than average. You may see more beach or tide pools than usual.
- **All heights and times are predictions.** NOAA calculates them from years of measurements at your station. Wind, air pressure, storms and river flow can make the real water higher or lower, and earlier or later.
- **Heights between high and low** are estimated from the predicted highs and lows. They follow a smooth curve, so the "NOW" height is a close estimate, not a measurement.
- **All times** are in the time zone set on TidalMapper. See "Change the time zone" in Chapter 5.

⚠️ **WARNING — Relying on tide predictions**
Real water levels can be very different from the predictions. Never use TidalMapper for navigation or to decide whether it’s safe to go on or near the water.

5. Changing Settings

You can change TidalMapper's Wi-Fi, location, clock and screen settings at any time. TidalMapper saves every change right away and keeps it when you unplug it.

Open and close Settings

1. Tap the header bar at the top of any page. → *The **Settings** menu opens.*

> **FIGURE 22: The Settings menu**
> *Show:* screenshot of the Settings menu.
> *Callouts:* 1 **Done**, 2 **Wi-Fi**, 3 **Location**, 4 **Date & time**, 5 **Display**, 6 **Screen off**, 7 **Device info**, 8 **Calibrate**, 9 **Factory reset**.
> *Style:* screenshot.
> *Alt text:* A screen titled Settings with a Done button at the top left and eight large buttons in two columns. The last button, Factory reset, is dark red.

2. Tap the setting you want. → *Its screen opens.*
3. Tap **< Back**. → *The Settings menu returns.*
4. Tap **Done**. → *Your pages return.*

Settings closes by itself after 2 minutes without a tap. Any change you made is already saved.

Settings at a glance

Setting	Where to find it	Choices	Starts as
Brightness	**Display**	5% to 100%	80%
Night mode	**Display**	Off (always on), Dim at night, Screen off at night	Off (always on)
Night hours	**Display**	Any start and end hour	10 PM to 7 AM
Night level	**Display**	1% to 100% (used by Dim at night)	10%
Page cycling	**Display**	Manual, or every 10, 20, 30 or 60 seconds	Manual
Tide station	**Location**	Any NOAA tide station with a 7-digit ID	Safety Harbor, FL (8726738)
Header name	**Location**	Your own text	The station's name

Setting	Where to find it	Choices	Starts as
Time zone	**Location** or **Date & time**	11 time zones (see below)	US Eastern
Clock style	**Date & time**	12-hour or 24-hour	12-hour
Clock source	**Date & time**	Internet time or set by hand	Internet time
Wi-Fi network	**Wi-Fi**	Any 2.4 GHz network	Set during setup

Change the brightness

Make the screen brighter or dimmer for the daytime.

1. Open Settings and tap **Display**.

> **FIGURE 23: The Display screen**
> *Show:* screenshot of the Display settings screen.
> *Callouts:* 1 Brightness **-** and **+**, 2 Brightness bar, 3 **Night mode** button, 4 Night hours (start and end, each with **-** and **+**), 5 Night level **-** and **+**, 6 **Turn screen off now**, 7 **Pages** button (page cycling).
> *Style:* screenshot.
> *Alt text:* A settings screen with four rows: Brightness with a bar between minus and plus buttons, Night mode with one wide button, Night hours with two times and minus and plus buttons, and Night level with a bar. Two buttons along the bottom.

2. Tap **+** to brighten or **-** to dim. Hold the button to change it faster. → *The screen changes as you tap, and the bar shows the percentage.*
3. Tap **< Back**, then **Done**. → *Your pages return.*

Dim or turn off the screen at night

Night mode makes the screen dim or dark during the hours you choose, so it won't light up a bedroom.

1. Open Settings and tap **Display**.
2. Tap the **Night mode** button until it shows the choice you want. → *Each tap shows the next choice.*
   - **Off (always on):** the screen stays at your normal brightness all the time.
   - **Dim at night:** the screen dims during the night hours.
   - **Screen off at night:** the screen goes dark during the night hours.
3. Set the night hours. Under **Night hours**, use the first **-** and **+** for the start time and the second pair for the end time. → *The times change one hour per tap.*

4. For **Dim at night**, set how dim with **Night level -** and **+**. → *While you hold the button, the screen shows that level so you can see it.*
5. Tap **< Back**, then **Done**. → *Your pages return.*

✅ **Done!** At the start time, the screen dims or goes dark. At the end time, it returns to normal brightness.

To check the tide during the night: tap the screen. → *It lights up at normal brightness for 60 seconds.* The first tap only wakes the screen. Tap again to use it.

Good to know: TidalMapper keeps downloading data while the screen is dark. Night mode needs the clock to be set.

Turn the screen off now

Turn the screen dark until you tap it, for example during a movie.

1. Open Settings and tap **Screen off**. → *The screen goes dark at once.* You can also tap **Turn screen off now** on the **Display** screen.
2. To turn it back on, tap anywhere on the screen. → *The screen lights up. The first tap only wakes it.*

Cycle through the pages automatically

TidalMapper can move to the next page by itself every few seconds, like a slideshow.

1. Open Settings and tap **Display**.
2. Tap the **Pages** button until it shows the speed you want: **Pages: manual**, **Pages: every 10s**, **every 20s**, **every 30s** or **every 60s**. → *The button shows your choice.*
3. Tap **< Back**, then **Done**. → *After 2 minutes, the pages start to change.*

Good to know:

- Page cycling pauses for 2 minutes each time you touch the screen.
- Cycling also stops while the forecast radar is playing on the **Radar** page.
- To stop cycling, choose **Pages: manual**.

Change your tide station

Show tides for a different place, for example after you move.

You'll need: the new station's ID. See "Find your tide station ID" in Chapter 3.

1. Open Settings and tap **Location**. → *The current station, area, station ID and time zone appear.*

FIGURE 24: The Location screen
Show: screenshot of the Location settings screen.
Callouts: 1 Station name, 2 Area, 3 Station ID, 4 Time zone, 5 **Change station**, 6 **Rename**, 7 **Time zone** button.
Style: screenshot.
Alt text: The station name, area, station ID and time zone listed down the left, a short note about finding station IDs, and three buttons along the bottom: Change station, Rename and Time zone.

2. Tap **Change station**. → *A keyboard opens with the current ID.*
3. Tap **Del** to erase the old ID. Type the new 7-digit ID and tap **OK**. → *"Looking up station" shows, then the station's name and area.*
4. Check that it's the right place, then tap **Use it**. → *If the station is in a different time zone, TidalMapper asks whether to switch the clock.*
5. Tap **Switch** to use the station's time zone, or **Keep** to keep yours. → *The **Location** screen shows your choices.*
6. Tap **< Back**, then **Done**. → *New tides, weather and radar download for the new place. This takes a few minutes.*

Saw "Check the ID"? The ID must be exactly 7 digits. **Saw "Station not usable"?** That station has no tide predictions. Try a different station nearby.

No Wi-Fi right now? TidalMapper asks whether to save the station anyway. Tap **Save** to keep it. The header shows "STATION" and the ID until Wi-Fi returns. Then the tides, the station's name and the weather fill in.

Rename the header

Change the name in the header bar, for example to "Our Beach House."

1. Open Settings and tap **Location**, then **Rename**. → *A keyboard opens, titled **Display name (line 1)**.*
2. Erase the old name with **Del**, then type the new one (up to 24 characters). Tap **OK**. → *A second keyboard opens, titled **Second line**.*
3. Type a second line, such as a town and state (up to 32 characters), or leave it as is. Tap **OK**. → *The **Location** screen shows the new name.*
4. Tap **< Back**, then **Done**. → *The header shows the new name.*

The second line shows on the **Location** screen. Renaming doesn't change which station TidalMapper uses.

Tip: Short names fit best. If the name is long, TidalMapper shortens the update time in the header to make room.

Change the time zone

1. Open Settings and tap **Date & time**, then **Time zone**. You can also tap **Location**, then **Time zone**.
2. Tap your time zone. Tap **Next >** to see more. → *The clock changes at once.*

> **FIGURE 25: The time zone list**
> *Show:* screenshot of the first page of the Time zone list, with US Eastern highlighted.
> *Callouts:* 1 Time zone name, 2 Offset from UTC, 3 Current choice (highlighted), 4 **Next >**, 5 Page number.
> *Style:* screenshot.
> *Alt text:* A list of five time zones, each with its UTC offset on the right. The first one is highlighted. Next and Prev buttons and “1 / 3” at the bottom.

3. Tap **< Back**, then **Done**. → *Your pages return.*

The choices are: US Eastern, US Central, US Mountain, Arizona (no DST), US Pacific, Alaska, Hawaii, Atlantic (PR, USVI), Guam / N. Marianas, American Samoa and UTC.

Daylight saving time changes by itself in the time zones that use it.

Switch between a 12-hour and 24-hour clock

1. Open Settings and tap **Date & time**.
2. Tap **Use 24-hour** for times like 13:30, or **Use 12-hour** for times like 1:30 PM. → *The **Time** line changes.*
3. Tap **< Back**, then **Done**. → *Your pages return.*

Set the clock by hand

TidalMapper normally sets its clock from the internet. Set it by hand only if your network blocks internet time.

1. Open Settings and tap **Date & time**, then **Set manually**. → *The **Set date & time** screen opens.*

> **FIGURE 26: The Set date & time screen**
> *Show:* screenshot of the date and time spinner.
> *Callouts:* 1 **Year**, 2 **Month**, 3 **Day**, 4 **Hour** (24-hour), 5 **Minute**, 6 **+** and **-** buttons, 7 **Save**, 8 **Cancel**.
> *Style:* screenshot.
> *Alt text:* Five columns labeled Year, Month, Day, Hour and Minute, each with a plus button above a number and a minus button below. A Save button at the bottom.

2. Tap **+** or **-** under each part to change it. Hold a button to change it faster. → *The number between the buttons changes.*
3. Set the hour in 24-hour time: 13 is 1 PM, and 0 is midnight.
4. Tap **Save**. → *The **Clock source** line says “Manual.”*

5. Tap **< Back**, then **Done**. → *Your pages return.*

Good to know:

- Check a clock set by hand now and then. Internet time keeps itself correct. **[[VERIFY: how accurate the hand-set clock stays over weeks, after longer testing]]**
- TidalMapper has no clock battery. After a power cut, it goes back to the last time it saved (up to 15 minutes earlier). The Home page then shows “Clock restored after power loss - tap the header to check it.”

To go back to internet time: open **Date & time** and tap **Use internet time**. → *The clock sets itself as soon as Wi-Fi connects.*

Connect to a different Wi-Fi network

Change networks when you get a new router, change your password or move.

1. Open Settings and tap **Wi-Fi**. → *Your network, its status, signal, IP address and password (hidden) appear.*

> **FIGURE 27: The Wi-Fi screen**
> *Show:* screenshot of the Wi-Fi settings screen while connected.
> *Callouts:* 1 **Network**, 2 **Status**, 3 **Signal**, 4 **IP address**, 5 **Password** with **Show**, 6 **Change network**, 7 **Forget network**.
> *Style:* screenshot.
> *Alt text:* Five lines of Wi-Fi details down the left: network, status, signal, IP address and a hidden password with a Show button. Two large buttons at the bottom: Change network and Forget network.

2. Tap **Change network**. → *“Scanning for Wi-Fi” shows, then the list **Choose Wi-Fi (2.4 GHz)**.*
3. Tap your network, type the password and tap **OK**. For details, see “Step 1: Connect to your Wi-Fi” in Chapter 3. → ***Connected** shows.*
4. Tap **OK**, then **< Back**, then **Done**. → *Your pages return.*

To see the saved password: on the **Wi-Fi** screen, tap **Show**. Tap **Hide** to cover it again.

To forget a network: on the **Wi-Fi** screen, tap **Forget network**, then **Forget**. → *The name and password are erased. Tides and weather stop updating until you connect to another network.*

View device information

The **Device info** screen lists TidalMapper’s details and the status of each download. It’s useful when something isn’t working, or if support asks for it.

1. Open Settings and tap **Device info**.

FIGURE 28: The Device info screen
Show: screenshot of the Device info screen.
Callouts: 1 **Firmware** version, 2 **Wi-Fi**, 3 **Station** and **Position**, 4 **Clock**, 5 Data sources (NOAA tides to HRRR radar), 6 **System**.
Style: screenshot.
Alt text: A list of about 14 lines, each with a label on the left and details on the right, such as Firmware, Wi-Fi, Station, Clock and the names of the data sources with their last update times.

2. Read the lines you need:
   - **Firmware:** the software version, for example “Tidal Mapper v2.21.”
   - **Wi-Fi:** your network, its signal strength and IP address, or “not connected.”
   - **Station** and **Position:** your tide station and its map location.
   - **Clock:** your time zone, and whether the clock uses internet time or was set by hand.
   - **NOAA tides** to **HRRR radar:** each data source and when it last updated. A line starting with **!** shows a problem with that source. See Chapter 8.
   - **System:** how long TidalMapper has been running.
   - **Restart:** shown only if TidalMapper restarted after a problem.
3. Tap **< Back**, then **Done**. → *Your pages return.*

Recalibrate touch and factory reset

These settings fix problems:

- **Calibrate:** use it if taps land in the wrong place. See “Fix touch that doesn’t line up” in Chapter 8.
- **Factory reset:** erases your settings and starts setup again. See “Reset TidalMapper to factory settings” in Chapter 8.

6. Using the App

TidalMapper has no app. You set it up and use it on its own touchscreen. Chapter 5 explains every setting.

7. Care and Cleaning

Clean the screen

Clean the screen when it has fingerprints or dust.

You'll need: a soft, lint-free cloth, such as a microfiber cloth for glasses.

> ⚠️ **WARNING — Electric shock**
> Liquid that runs into the case can cause a shock or a short circuit.
> Unplug TidalMapper before you clean it. Never spray anything onto the screen or the case.

1. Unplug the cable from the wall adapter. → *The screen goes dark.*
2. Wipe the screen gently with the dry cloth. → *Dust and most fingerprints come off.*

> **FIGURE 29: Wiping the screen**
> *Show:* one hand holding the device steady at its edge, the other wiping the screen with a folded cloth in light, sweeping strokes. No pressure on the screen.
> *Callouts:* 1 Soft cloth, 2 Hand holding the case by its edge.
> *Style:* line drawing.
> *Alt text:* One hand holds the display by its edge while the other hand wipes the screen gently with a folded cloth.

3. For marks that stay, dampen a corner of the cloth with a little plain water. Squeeze it out until it's almost dry. Wipe again, then dry the screen with a dry part of the cloth.
4. Plug TidalMapper back in. → *The startup screen shows, and your pages open after a few minutes.*

> **NOTICE**
> Pressing hard on the screen can damage it or make it react to touches you didn't make.
> • Wipe lightly. Don't press or scrub.
> • Don't use glass cleaner, alcohol, ammonia, bleach, solvents, paper towels or rough cloths.

Clean the case and stand

1. Unplug TidalMapper. → *The screen goes dark.*
2. Wipe the case and stand with a dry, soft cloth.
3. For dirt that stays, use a cloth dampened with plain water and squeezed almost dry. Keep water away from the USB-C port and the **RST** and **BOOT** holes.
4. Let everything dry completely before you plug it back in.

NOTICE
The case and stand are plastic. Solvents such as nail polish remover, paint thinner and some household cleaners can soften or crack them. Use only plain water.

Take care of the cable and stylus

- Don’t bend the cable sharply or wrap it tightly around the device or adapter.
- Unplug the cable by holding the plug, not by pulling the cable.
- Keep the stylus near TidalMapper so you can find it, and out of reach of young children.
- Stop using a cable that is frayed, cracked or gets hot.

Replace the cable or stylus

- **Cable:** use a USB-A to USB-C cable from a trusted brand. The cable that comes with TidalMapper is 18 inches (46 cm) long. Short cables of good quality give the steadiest power.
- **Stylus:** use a stylus made for resistive touchscreens, which has a hard, smooth, rounded tip. Soft rubber-tip styluses made for phones may not work. Never use a pen or pencil.
- **Case or stand:** contact support. **[[VERIFY: support contact, to be decided]]**

Move or store TidalMapper

Before you move or store it:

1. Unplug the adapter from the wall, then unplug the cable from TidalMapper. → *The screen goes dark.*
2. Wrap TidalMapper in a soft cloth or bubble wrap so nothing presses on the screen.
3. Pack the stand, cable and stylus with it.
4. Store everything indoors at normal room temperature, in a dry place out of direct sunlight.

TidalMapper keeps all your settings while it’s unplugged, even for months.

When you set it up again in the same home: plug it in. → *It starts up, downloads new data and opens your last page.*

When you set it up in a new home: TidalMapper still remembers your old Wi-Fi network and tide station.

1. Plug it in. → *The startup screen says “Connecting to Wi-Fi” and the name of your old network. It stays on this message, because the old network isn’t there.*
2. Tap the screen. → *Settings opens.*
3. Tap **Wi-Fi**, then **Change network**, and connect to your new network. → ***Connected*** *shows.* See “Connect to a different Wi-Fi network” in Chapter 5.

4. Tap **< Back**, then **Location**, then **Change station** to choose your new tide station. → *The header shows the new station's name.* See "Change your tide station" in Chapter 5.
5. Tap **< Back**, then **Done**. → *The startup screen finishes, and your pages open with the new location.*

Tip: Moving TidalMapper to a friend? Use **Factory reset** first so your Wi-Fi password goes with you, not with the device. See Chapter 8.

8. Fix a Problem

Most problems clear up after a restart or once Wi-Fi reconnects. Start with “Try this first,” then find your problem in the tables below.

Try this first

1. **Wait a minute.** TidalMapper retries failed downloads every 2 minutes and reconnects to Wi-Fi every 30 seconds by itself.
2. **Check the Wi-Fi signal** in the top-right corner of the screen. If the bars have a red **X**, see “Wi-Fi and data problems.”
3. **Restart TidalMapper.** See the next section.

Restart TidalMapper

Restarting doesn’t erase your settings.

Option 1: Unplug the cable from TidalMapper, wait 5 seconds, then plug it back in.

Option 2: Gently push the stylus tip into the **RST** hole on the back until you feel a click, then let go.

FIGURE 30: Pressing RST
Show: back of the case, stylus tip entering the hole labeled RST.
Callouts: 1 **RST** hole, 2 **BOOT** hole, 3 Stylus.
Style: line drawing.
Alt text: The back of the display. A stylus tip presses into a small hole labeled RST. A second hole labeled BOOT is next to it.

→ The startup screen shows. Your pages open again after 2 to 4 minutes.

Power and startup problems

Problem	Possible cause	What to do
The screen stays black when I plug it in.	No power is reaching TidalMapper.	Check both ends of the cable. Try another wall outlet. Try another 5 V, 1 A (or higher) USB adapter.
	Night mode or **Screen off** is on.	Tap the screen. If it lights up, see “Dim or turn off the screen at night” in Chapter 5.

Problem	Possible cause	What to do
The screen turns white, then TidalMapper restarts. Or it keeps restarting.	The power supply can’t give steady power.	Use a wall adapter rated at least 1 A, not a computer or TV USB port. Try another cable.
The startup screen says “Last restart: power dip (brownout) - check the USB cable/supply.”	Power dropped for a moment.	Use a better adapter or cable, as above. TidalMapper uses less Wi-Fi power until its next restart to help.
The startup screen says “Last restart: crash” and a reason.	The software hit a problem and restarted itself.	Nothing, if it happens once. TidalMapper opens on the **Home** page and waits 30 minutes before trying radar again if radar caused it. If it happens often, note the message (also shown in **Device info**) and contact support.
The startup screen stays on “Connecting to Wi-Fi” and a network name.	That network is off, out of range, or not your network anymore (for example, after a move).	Check that your router is on. To change networks, tap the screen, then **Wi-Fi**, then **Change network**.
The startup screen says “No Wi-Fi set up - tap for settings.”	No Wi-Fi network is saved.	Tap the screen, then **Wi-Fi**, then **Change network**.
The startup screen says “Clock not set - tap for settings.”	The clock is set by hand and has no time saved.	Tap the screen, then **Date & time**. Set the time, or tap **Use internet time**.
Startup takes a long time.	Startup downloads tides, weather and radar. It normally takes 2 to 4 minutes.	Wait. During “Radar forecast,” tap the screen to skip that step.

Screen and touch problems

Problem	Possible cause	What to do
My taps land in the wrong place, or I have to tap beside a button.	Touch needs to be recalibrated.	See “Fix touch that doesn’t line up” below.

Problem	Possible cause	What to do
The screen reacts when no one touches it.	Something is pressing on the screen, or the screen needs cleaning or calibrating.	Make sure nothing rests on the screen or presses the case. Clean the screen (Chapter 7). Recalibrate touch.
The screen doesn’t respond to taps.	A radar update is running (“Updating radar” shows above the tab bar).	Wait about 1 minute, or tap once to stop it.
	TidalMapper is busy or stuck.	Restart TidalMapper.
My first tap does nothing.	The screen was dim or dark, and the first tap only wakes it.	Tap again.
The screen goes dark or dim at night.	Night mode is on.	This is normal. To change it, see “Dim or turn off the screen at night” in Chapter 5.
The screen is too dim or too bright.	The brightness setting.	Open **Display** and use **-** or **+**.
Parts of the screen flash briefly when numbers change.	TidalMapper redraws parts of the screen each minute.	This is normal and doesn’t harm the screen.
The pages change by themselves.	Page cycling is on.	Open **Display** and tap the **Pages** button until it says **Pages: manual**.
The pages don’t change by themselves, even though cycling is on.	Cycling pauses for 2 minutes after a touch, and while the forecast radar plays.	Wait 2 minutes without touching the screen. On the **Radar** page, tap **Live**.

Wi-Fi and data problems

Problem	Possible cause	What to do
My network isn’t in the Wi-Fi list.	TidalMapper can’t use 5 GHz networks.	Use your router’s 2.4 GHz network. Many routers have both. Check your router’s settings or ask your internet provider.

Problem	Possible cause	What to do
	The network is hidden.	Tap **Other / hidden network…** and type the exact name.
	TidalMapper is too far from the router.	Move it closer, then tap **Scan again**.
The list says “Wi-Fi scan failed - tap Scan again.”	The scan didn’t finish.	Tap **Scan again**.
It says “Couldn’t connect.”	The password has a typing mistake. Passwords are case-sensitive.	Tap **Try again**. Use **Show** to check the password, and **ABC** for capitals.
	The network is 5 GHz only.	Use a 2.4 GHz network.
The Wi-Fi bars have a red **X**.	TidalMapper lost its Wi-Fi connection.	Wait 1 minute. Check that your router is on. Restart TidalMapper.
The Wi-Fi signal shows 1 bar in orange.	The signal is very weak.	Move TidalMapper closer to the router.
The update time in the header is orange.	Nothing has downloaded for 2 hours. The screen shows the last good data.	Check your Wi-Fi and internet. Open **Device info** to see which source has a problem (a line starting with **!**).
The Home page says “Waiting for NOAA tide data.”	Tides haven’t downloaded yet.	Wait a few minutes. Check Wi-Fi.
A message says “NOAA HTTP -1 (no connection)” or “HTTP -1.”	TidalMapper can’t reach the internet.	Check that other devices can get online. TidalMapper tries again every 2 minutes.
A message says “low memory.”	TidalMapper postponed a download.	Nothing. It tries again later. If it keeps happening, restart TidalMapper.
The Weather, Moon or Radar page is empty after I changed stations without Wi-Fi.	TidalMapper needs Wi-Fi to look up the new station’s location.	Connect to Wi-Fi. The pages fill in by themselves.

Tide problems

Problem	Possible cause	What to do
It says “Station not usable.”	That station has no tide predictions. Some stations measure only currents or weather.	Choose a different station nearby. See “Find your tide station ID” in Chapter 3.
It says “Check the ID.”	The ID isn’t exactly 7 digits.	Check the ID and type it again.
The tides don’t match what I see at the water.	All times and heights are predictions. Wind, storms and river flow change the real water level.	This is normal. Check that you chose the closest station. See “Understand tide heights” in Chapter 4.
All the times are off by one or more hours.	The time zone is wrong.	Change it in **Date & time** > **Time zone**.
A tide height is negative, such as −0.3 ft.	The water is predicted to be lower than average low water.	This is normal. See “Understand tide heights” in Chapter 4.
The Home page shows a red message starting with **!** above the curve.	The last tide download failed. TidalMapper keeps showing the last good data.	Check Wi-Fi. TidalMapper tries again every 2 minutes.

Weather and radar problems

Problem	Possible cause	What to do
The Weather page says “Waiting for NWS forecast.”	The forecast hasn’t downloaded yet.	Wait a few minutes.
A message says “NWS points HTTP 404” or “NWS: no forecast for this point.”	The NWS has no forecast for your station’s exact location.	Choose a tide station nearby on the mainland coast.
Weather and radar don’t work at all.	Your station is outside the United States and its territories.	The NWS covers only the US. Tides still work.
The forecast radar says it covers the lower 48 states only.	The forecast model doesn’t cover Alaska, Hawaii or Puerto Rico.	Use the **Live** view.

Problem	Possible cause	What to do
The forecast radar says “Stopped early: flash storage full.”	Large areas of rain make the forecast pictures bigger, and they didn’t all fit.	TidalMapper plays the pictures it saved. Try **Reload** later.
The live radar says “No radar site for this location.”	The NWS has no radar for your area.	Use the **Forecast** view, if your station is in the lower 48 states.
The radar picture is several hours old.	Radar downloads every 4 hours.	Tap **Reload** for the latest.
I tapped **-** or **+** in the forecast view, and the screen shows a progress bar.	Each map size needs a new download.	Wait about 1 minute, or tap the screen to stop.
The Weather tab has a red dot, but I can’t read the full alert.	TidalMapper shows only the alert’s name.	Read the full alert at weather.gov or on local news.

Clock problems

Problem	Possible cause	What to do
The clock is wrong.	The time zone is wrong.	Open **Date & time** and tap **Time zone**.
	The clock was set by hand.	Open **Date & time** and tap **Use internet time**.
The Home page says “Clock restored after power loss - tap the header to check it.”	The clock is set by hand, and the power went off. The time came back from the last save, up to 15 minutes earlier.	Open **Date & time** and check the time. Set it again if needed.
The clock didn’t change for daylight saving time.	You chose a time zone without daylight saving time, such as Arizona or UTC.	Choose the right time zone.

Fix touch that doesn’t line up

Recalibrate touch if your taps land in the wrong place. Choose the method that works for you.

If you can still open Settings

1. Tap the header bar, then **Calibrate**. → *“Touch calibration” shows.*
2. Tap the very tip of the arrow in the corner with the stylus. → *The next arrow appears in another corner.*

> **FIGURE 31: Touch calibration**
> *Show:* screenshot of a calibration arrow in a corner, and a stylus tip touching its point.
> *Callouts:* 1 Arrow, 2 Arrow tip (tap here), 3 Stylus.
> *Style:* screenshot with a drawn stylus.
> *Alt text:* A dark screen with a small arrow in the top-left corner. A stylus tip touches the point of the arrow.

3. Repeat for each corner. → *“Tap the centre of the circle” shows, with a target.*
4. Tap the center of the target. → *The target fills in, and Settings returns.*
   - If “Let’s try that again” shows, the tap missed. Start again at step 2.
5. Tap **Done**. → *Your pages return. Taps now land where you touch.*

If touch is too far off to use Settings

1. Restart TidalMapper (unplug and plug in again, or press **RST**).
2. Push the stylus tip into the **BOOT** hole and hold it while the startup screen says “Starting - hold BOOT to recalibrate touch.” You have about 2 seconds. → *“Touch calibration” shows.*
3. Let go of **BOOT**. Follow steps 2 to 4 above.
4. Tap **Keep** when TidalMapper asks “Erase all settings (Wi-Fi, station, time, display) and run first-time setup again?” This keeps your settings. → *Startup continues.*

Tip: Missed the 2 seconds? Restart and try again. Hold **BOOT** as soon as the startup screen appears.

Reset TidalMapper to factory settings

A factory reset erases your Wi-Fi network and password, tide station, time and display settings. Touch calibration is kept. Use it before you give TidalMapper away, or when nothing else helps.

1. Tap the header bar, then **Factory reset**. → *“Erase Wi-Fi, location, time and display settings, then restart into first-time setup?” shows.*
2. Tap **Erase**. To stop, tap **Cancel**.

> **FIGURE 32: Confirming a factory reset**
> *Show:* screenshot of the Factory reset question.
> *Callouts:* 1 The question, 2 **Cancel**, 3 **Erase**.
> *Style:* screenshot.
> *Alt text:* The title Factory reset, a sentence explaining what will be erased, and two buttons: Cancel and Erase. → *“Restarting…” shows, then the startup screen and the **Welcome** message.*

3. Set up TidalMapper again. See “Set up TidalMapper the first time” in Chapter 3. If you’re giving it away, unplug it now.

If touch doesn’t work well enough to reach Settings: use the **BOOT** method above, and tap **Erase** instead of **Keep** at step 4.

Still not working?

Contact support: **[[VERIFY: support contact, to be decided]]**

Have this ready:

- The firmware version, from **Device info** (for example “v2.21”).
- Any message on the screen, word for word.
- Any line in **Device info** that starts with **!**, and the **Restart** line if there is one.
- What you were doing when the problem started.

9. Questions and Answers

Why doesn't the tide on TidalMapper match what I see at the dock? TidalMapper shows NOAA's predictions, not live measurements. Wind, storms, air pressure and river flow can push the water higher or lower, and earlier or later. Also check that you chose the station closest to you. Tides can differ a lot between places only a few miles apart. See "Understand tide heights" in Chapter 4.

Can I use my 5 GHz Wi-Fi? No. TidalMapper works only with 2.4 GHz Wi-Fi. Most home routers offer both. If you only see a 5 GHz network, check your router's settings or ask your internet provider.

Does TidalMapper need an account or a subscription? No. There's nothing to sign up for and nothing to pay. All the data comes free from US government sources and Iowa State University.

Does it work outside the United States? Partly. Tides work for any NOAA tide station with a 7-digit ID. The weather forecast, alerts and live radar work only in the United States and its territories. The forecast radar works only in the lower 48 states.

What happens if my internet goes down? TidalMapper keeps showing the data it already has. Its tide predictions cover about the next 3 days, so the tide pages keep working. Weather and radar stay as they were when the internet went down. After 2 hours, the update time in the header turns orange. When the internet comes back, everything updates by itself.

Why does the screen go dark or dim at night? Night mode is on. Tap the screen to wake it for 60 seconds. To change night mode, see "Dim or turn off the screen at night" in Chapter 5.

Can I power it from my computer, TV or a battery pack? It's best not to. Those often can't supply steady power, which can make TidalMapper restart. Many battery packs also switch off by themselves. Use a 5 V USB wall adapter rated at least 1 A.

How do I find my tide station? Go to tidesandcurrents.noaa.gov/tide_predictions.html, pick your state or search for a nearby town, and note the 7-digit ID. See "Find your tide station ID" in Chapter 3.

Can TidalMapper show two places at once? No. It shows one tide station at a time. You can change stations whenever you like in **Location**.

Can I see heights in meters, or temperatures in Celsius? No. TidalMapper shows tide heights in feet and temperatures in degrees Fahrenheit.

What do "flood" and "ebb" mean on the dial? "Flood" is a rising tide, when the water comes in. "Ebb" is a falling tide, when the water goes out.

What does "ft above MLLW" mean? Why is the height sometimes negative? MLLW is the average lowest tide of the day, used as zero. A negative height means the water is predicted to be lower than that average, so you may see more beach than usual. See "Understand tide heights" in Chapter 4.

What are spring tides and neap tides? Spring tides happen near a new or full moon. They have higher highs and lower lows. Neap tides happen near a half moon. The water rises and falls less. The **Moon** page tells you when each is happening.

Why does the forecast radar look different from the live radar? The live radar shows rain that is falling now. The forecast radar is a computer model's guess about the next 18 hours. Storms can form earlier, later or in a different place than the forecast shows.

Does TidalMapper make any sounds? No. Everything is shown on the screen.

Does TidalMapper show water temperature, currents or wind at the water? No. It shows tide predictions, sun and moon times, the weather forecast and radar.

Does TidalMapper update its own software? Yes. TidalMapper gets software updates automatically over Wi-Fi. You don't need to do anything. Your settings are kept. **[[CONFLICT: firmware 2.21 has no over-the-air update feature (partition scheme "Huge APP (3MB No OTA)"); automatic updates must be added before this is true]] [[VERIFY: what the user sees during an update (message, restart, how long), and whether settings are kept]]**

What information does TidalMapper send over the internet? To download data, TidalMapper sends your tide station's ID and its map location. It sends them only to NOAA, the National Weather Service, the US Naval Observatory and Iowa State University. It doesn't have an account, a camera or a microphone, and it doesn't send your Wi-Fi password anywhere except to your own router.

Is my Wi-Fi password stored on the device? Yes. TidalMapper keeps it so it can reconnect after a power cut. Anyone who opens **Settings** > **Wi-Fi** and taps **Show** can see it. Before you give TidalMapper away, use **Factory reset** (Chapter 8).

10. Specifications

Item	Specification
Model	H.LL1
Firmware	2.21
Screen	4.0 in (10 cm) color LCD, 480 × 320 pixels
Touch	Resistive touchscreen (responds to pressure; use a fingertip or the stylus)
Wi-Fi	2.4 GHz, 802.11 b/g/n
Power input	5 V through the USB-C port
Power adapter	5 V USB wall adapter with a USB-A port, rated at least 1 A (not included)
Power use	**[[VERIFY: typical and maximum power use, in watts]]**
Cable	USB-A to USB-C, 18 in (46 cm)
Battery	None. TidalMapper needs power at all times.
Size, in its case	4.56 × 2.58 × 0.56 in (115.7 × 65.5 × 14.3 mm)
Weight	**[[VERIFY: weight of the device, and of the device with the stand]]**
Stand	Holds the screen in landscape, leaning back 15°
Use and storage	Indoors, dry, at normal room temperature. Not waterproof.
Tide data	NOAA tide predictions for one station, in feet above MLLW. Updates every 6 hours.
Sun and moon data	US Naval Observatory. Updates daily.
Weather data	National Weather Service forecast (updates every hour) and alerts (every 15 minutes). US and territories only.
Radar	NWS live radar (every 4 hours, or on demand). HRRR forecast radar up to 18 hours ahead, from Iowa State University’s Iowa Environmental Mesonet (every 4 hours, or on demand). Forecast radar covers the lower 48 states only.
Language and units	English. Feet and degrees Fahrenheit. 12-hour or 24-hour clock.

11. Warranty, Support and Legal

Warranty

[[VERIFY: warranty terms, to be decided]]

Get support

[[VERIFY: support contact and hours, to be decided]]

Before you contact support, see Chapter 8, “Fix a Problem.” Have your firmware version (from **Device info**) and any message on the screen ready.

Download the manuals

The Quick Start and this Owner’s Manual are available to download from the TidalMapper website.

Important notice about tide and weather information

TidalMapper shows predictions and forecasts from public sources. They may be wrong, late or missing, and the real water level and weather can be very different. TidalMapper is not a navigation device and is not a replacement for official weather warnings. Always check official sources and local conditions before you go on or near the water.

Data sources

TidalMapper uses free public data from:

- **NOAA Center for Operational Oceanographic Products and Services (CO-OPS):** tide predictions and station information.
- **National Weather Service (NWS):** forecasts, alerts and live radar.
- **US Naval Observatory (USNO):** sunrise, sunset, moonrise, moonset and moon phases.
- **Iowa Environmental Mesonet, Iowa State University:** forecast radar images from the NOAA High-Resolution Rapid Refresh (HRRR) model, and the county map under them.

These organizations do not make, support or endorse TidalMapper. Their services can change or stop without notice, which may affect what TidalMapper can show.

Open-source notices

TidalMapper’s software includes the following open-source materials. Their licenses are available on the TidalMapper website.

- **Fonts:** Orbitron and IBM Plex Mono, used under the SIL Open Font License 1.1.

- **Moon image:** made from the Celestia Content moon textures, which use NASA Lunar Reconnaissance Orbiter images, the NASA CGI Moon Kit and USGS elevation data. Used under the GNU General Public License, version 2 or later.
- **Software libraries:** ESP32 Arduino core (GNU Lesser General Public License 2.1), TFT_eSPI, ArduinoJson (MIT License) and PNGdec (Apache License 2.0). **[[VERIFY: full list of libraries and their exact licenses in the shipped firmware, and any source-code offer the GPL and LGPL require]]**

Regulatory information

[[VERIFY: regulatory notices required before sale, such as FCC labeling for the Wi-Fi module and the finished device. A one-off build needs no notices, but a product for sale does.]]

Recycling and disposal

TidalMapper contains electronics. Do not put it in household trash.

- Take it to an electronics recycling center or a store that collects old electronics. Your city or county can tell you where.
- TidalMapper has no battery to remove.
- Recycle the stand and packaging with your local plastics and paper recycling, if accepted. **[[VERIFY: plastic type of the case and stand, for recycling]]**

Appendix: Glossary

Term	Meaning
2.4 GHz	One of the two radio bands home Wi-Fi uses. TidalMapper works only with 2.4 GHz Wi-Fi, not 5 GHz.
Alert	A watch, warning or advisory from the National Weather Service about dangerous weather.
Calibrate (touch)	To teach the screen where your taps land, by tapping targets in each corner.
Ebb	A falling tide, when the water goes out.
Factory reset	Erasing your settings so TidalMapper starts setup again, as it did when new.
Firmware	The software built into TidalMapper.
Flood	A rising tide, when the water comes in.
Header bar	The strip across the top of the screen with the station name, update time, date, clock and Wi-Fi signal. Tap it to open Settings.
High tide	The highest point the water reaches in one tide cycle.
HRRR	High-Resolution Rapid Refresh, a NOAA weather model that forecasts rain up to 18 hours ahead. TidalMapper uses it for the forecast radar.
Low tide	The lowest point the water reaches in one tide cycle.
MLLW	Mean Lower Low Water: the average height of the lowest tide each day. NOAA uses it as zero (0.0 ft) for tide heights.
Neap tide	A tide with a small difference between high and low water. It happens near a half moon.
NOAA	National Oceanic and Atmospheric Administration, the US agency that makes tide predictions.
NWS	National Weather Service, the US agency that makes weather forecasts, alerts and radar.

Term	Meaning
Prediction	A calculated time and height for a tide, based on years of measurements. Real water levels can differ.
Radar	A picture of where rain and storms are, made by weather radar stations.
Resistive touchscreen	A screen that senses pressure. A light, firm tap with a fingertip or stylus works best.
Spring tide	A tide with a large difference between high and low water. It happens near a new or full moon, all year round.
Stylus	The pen-shaped tool that comes with TidalMapper, for tapping the screen and pressing **RST** and **BOOT**.
Tab bar	The row of page names along the bottom of the screen.
Tidal range	The difference in height between a high tide and the low tide next to it.
Tide station	A place where NOAA has measured the tide. Each has a 7-digit ID.
USNO	US Naval Observatory, which provides sun and moon times.
UTC	Coordinated Universal Time, the world’s standard time, with no daylight saving time.
Waxing / waning	A waxing moon grows brighter each night, and a waning moon grows darker.

Index terms

2.4 GHz; adapter (power); alerts; battery (none); BOOT; brightness; brownout; calibrate; cleaning; clock (internet, manual, 12/24-hour); crash message; daylight saving time; Device info; disposal; ebb; factory reset; firmware; flood; forecast radar; Forget network; header bar; hidden network; Home page; HRRR; live radar; Location; MLLW; Moon page; moving; navigation warning; negative heights; neap tide; Next page; night mode; NOAA; NWS; page cycling; power cut; radar; Rename; restart; RST; safety; Screen off; setup; spring tide; startup screen; station ID; storing; stylus; tab bar; Today page; 3-Day page; time zone; touch problems; troubleshooting; update time; USNO; Weather page; Wi-Fi.