

# FIRST BOAT

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## Leap Day Reflections on GPS

*Threats to boaters and their GPS, including Solar Flares and LightSquared. Don't say you weren't warned...*



This aurora image was taken over Muonio, Finland before sunrise yesterday. Image Courtesy of NASA/Thomas Kast.

Over the past few years, Vin Pica has warned us all here on the Daily Boater about issues that may affect the ability of recreational boaters (and everybody else) to depend on GPS for navigation. These issues have included disruptions by solar flares and interference from new, unproven technology.

If you boat and you're not doing so already, you need to start listening to Vin Pica. Today.

Here's an example of a little before-and-after...

### **GPS and the Sun**

First, in February of 2011, Vin warned us about [increases in solar flare activity](#) that could disrupt our planet's telecommunications systems.

Fast forward to 2012. From February 23 through February 24 our sun produced an astonishing five solar eruptions, launched from the top, bottom, left and right sides of the solar disk. Four of those eruptions

came in just a 24 hour period. (source: [nasa.gov](http://nasa.gov)). Two days later, we experienced sensational aurora (pictured above), as the resulting coronal mass ejections (CME) impacted Earth's magnetic field.

And here's what it looked like on the sun:

<http://youtu.be/aJ7h1RFzO5c>

### **LightSquared and You**

Vin warned us, [right here on the Daily Boater](#), that as a result of a proposal by a company called LightSquared to use radio frequency bandwidth right next to the existing GPS bandwidth, the future reliability of the GPS system across the United States may be an issue. Vin pointed out how an unusual conditional waiver had been granted to LightSquared by the FCC to permit the dramatic expansion of land-based use of mobile satellite spectrum. This spectrum, or frequency bandwidth, is directly adjacent to the frequencies used for Global Positioning System (GPS) communications. The company has proposed to build 40,000 ground stations. LightSquared's high-powered ground-based transmissions from these stations have shown to cause interference in hundreds of millions of GPS receivers across a wide range of uses, including aviation, marine, emergency response and industrial users such as delivery and trucking companies.

The implementation of LightSquared's plans seemed inevitable, despite a report by the FCC that stated, "all phases of the LightSquared deployment plan will result in widespread harmful interference to GPS signals and service and that mitigation is not possible."

Fast forward to today for these headlines:

The FCC ruled this month that LightSquared would not be able to move ahead with the commercial network it had proposed. The FCC also suggested "indefinitely suspending" the company's authority to transmit land-based signals and scrapping the conditional waiver that enabled LightSquared's business model. "NTIA, the federal agency that coordinates spectrum uses for the military and other federal government entities, has now concluded that there is no practical way to mitigate potential interference at this time," Tammy Sun, an agency spokeswoman, said in a statement. "Consequently, the commission will not lift the prohibition on LightSquared."

I guess it does pay to fight City Hall, and it pays to listen to Vin Pica.

But the Boat Owners Association of The United States (BoatUS) says we aren't out of the woods just yet. It is urging boat owners to continue to submit comments to the FCC by a Thursday, March 1 deadline to ensure the nation's system of global positioning devices keeps boaters safely on course.

"Despite the great news last week that the FCC has acknowledged interference issues with the LightSquared proposal, we're not ready to declare a victory," said BoatUS President Margaret Podlich. "Given this company's tenacity over the last year, we want to make sure that boaters' needs are remembered as the FCC makes their final decision."

Here is how to file comments to the FCC through their online comment form:

Click on this link for the FCC's Electronic Comments Filing System: <http://apps.fcc.gov/ecfs/hotdocket/list>

- Select "Proceeding Number 11-109."
- Enter contact information.
- Write something in the box that says "Type in or paste your brief comments."

BoatUS has even provided some ideas to get you thinking about what to write in the comment box:  
*Explain how you use GPS in your life - on the water, on land or in the air.*

*What would happen to your business/personal life if GPS became unavailable or unreliable? Wireless broadband service is important, but it should not come at the expense of GPS.*

*All the studies show that LightSquared's proposed network would cause interference and that there are no remedies.*

*Tell the FCC that you rely on them to protect the integrity of the GPS signal and that you support their recommendation to stop LightSquared's current proposal.*

- Click "Continue."
- If the review page is correct, click "Confirm." Done!

If you have any trouble, you may contact the FCC ECFS Helpdesk at 202-418-0193 or email at [ecfshelp@fcc.gov](mailto:ecfshelp@fcc.gov).

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