UNIVERSITY OF DELAWARE

College of Earth, Ocean, and Environment

Hugh R. Sharp Campus

700 Pilottown Road
Lewes, DE 19958 USA

Matthew J. Oliver
Assistant Professor
Phone: 302-645-4079
Fax: 302-645-4028
e-mail: moliver@udel.edu
http://www.ceoe.udel.edu/people/moliver

Marlene H. Dortch
Office of the Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

RE: Public Notice and ET Docket No. 10-123

June 9, 2010

Dear Madame Secretary:

I am writing you on behalf of The University of Delaware, to strongly urge you against the reallocation of the 1675-1710 MHz frequency band from meteorological to broadband use.

The University of Delaware uses the 1675-1710 MHz band to receive the NOAA-15, NOAA-18, and NOAA-19 satellites. We collect and process sea-surface temperature over much of the East coast of the United States at resolutions not provided by government agencies and distributes it in real time to our public users. MOST SIGNIFICANTLY WE ARE ACTIVELY SUPPORTING THE CLEAN UP EFFORTS IN THE GULF OF MEXICO BY PROVIDING REAL-TIME HIGH-RESOLUTION SEA SURFACE TEMPERATURE MAPS TO ALL OPERATORS IN THE AREA. REALLOCATION OF THIS FREQUENCY BAND WOULD BE EXTREMELY DETRIMENTAL TO THE OBSERVATION AND ANALYSIS OF THE BP OIL SPILL. We receive the data, and send it to users through a Google earth file found here: http://modata.ceoe.udel.edu/kmls/Cloud_Filtered_Real_Time_Sea_Surface_Temperature.kmz TO OUR KNOWLEDGE, NO OTHER AGENCY OR COMPANY DOES NOT PUBLICALLY PROVIDE THESE SERVICES.

In the 1675-1710 MHz band range, the following frequencies are used by L-Band direct reception ground stations:

1685.7 ± 3 MHz
1691.0 ± 256 KHz
1698.0 ± 1.5 MHz
1702.5 ± 1.5 MHz
1707.0 ± 1.5 MHz

because broadband wireless equipment has poor filtering, and will therefore increase noise harmonics that will spill over into the satellite data range that is needed, rendering the data noisy and useless to us and our peers.

Due to the public's daily use of software such as Google Earth, and websites provided by agencies such as NASA and NOAA, there is a perception that all Earth Science satellite data can be received online. This is unfortunately not true, and a dangerous misconception. Data received via the internet has the following drawbacks:

1. It is not "real-time." Real-time data is defined as data that is received as close to simultaneously as is possible to when the satellite images an area. A Direct Broadcast satellite transmits the "picture" it sees immediately after it sees it. Data received from NOAA and NASA via the internet may not be available for hours, sometimes days, after it is received. This makes it useless for operational applications.
2. All data products may not be available. Each satellite takes multiple bands of data. It is then processed into different resolutions and end products using scientific algorithms. Data available via the Internet is usually already processed to certain end-points, which may or may not fit the user's needs, and currently NOAA does not disseminate all possible products. By receiving the raw data directly from the satellites, users can customize products, even create their own products. This kind of decentralized approach is essential to the scientific process, and is continuously driving innovation in the field.
3. Internet data transmission required huge amounts of bandwidth, not only by the user, but by the organization serving the data. We cannot speak with authority on NOAA's ability to provide thousands of large data sets daily to hundreds of users, but we do not think it currently exists, and would require a huge infusion of capital investment for upgraded IT infrastructure.
4. Internet data is not dependable during times of crisis, when operational agencies (research, government, and military) need it the most. A direct reception ground station can provide continuous data coverage in the absence of internet connectivity and grid power. In an emergency such as fire, flood, earthquake, or war, a direct reception ground station is essential, which is why agencies with operational missions across the globe continue to purchase such stations.

The 1675-1710 MHz frequency band is critical to our mission. If the frequency is transferred to the broadband community, irreparable damage will be done to the U.S. Direct Reception community.

Respectfully,

Matthew J. Oliver
Assistant Professor

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