Tuesday, Dec. 13, research highlights
UAF Geophysical Institute at AGU 2022

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• PREDICTING SEASONAL LIGHTNING — As climate changes, so can the prevalence of lightning. In 2015 Alaska experienced one of the most extreme early fire seasons on record with 99% of acres burned attributable to lightning. The 2022 fire season is now the earliest on record to reach 1 million acres burned – again largely driven by lightning activity. A new tool under development in Alaska and applicable across the nation trains a computer model to predict the likelihood of lightning.

9 a.m.-12:30 p.m.; McCormick Place – Poster Hall, Hall A (South, Level 3)
Call for interview with graduate student researcher Joshua Hostler.

• CROP LAND MAPPING — Brazil’s Mato Grosso region is that nation’s leading producer of livestock and grains. It is also a region of extensive land cover change. Synthetic aperture radar time series data can be used to map rapid expansion of agriculture areas in dynamically changing environments such as Mato Grosso. Throughout the growing and harvesting season, agricultural areas experience changes in the moisture content and structure of the crops. This leads to higher values of variation from surrounding land cover types. Sentinel-1 satellite data from 2016 through 2020 shows that a SAR time series can provide timely updates on changes in cropland extent in the Mato Grosso region. This shows the potential to supplement existing crop mapping techniques elsewhere on the globe.

1:55-2:05 p.m.; online only (abstract GC24E-02)
Call for interview with graduate student researcher Brooke Kubby.

• FADING ANTARCTIC SEA ICE — Antarctic Ocean sea ice reached a record low extent on Feb. 25, 2022, and scientists have been working to understand the causes. Knowing the thickness of sea ice is essential for better understanding its response to wind and ocean forces and the mechanisms driving its variability. An analysis investigated many aspects of sea ice: extent, thickness, and snow depth, as well as their connections to storm activity and drift patterns. The study encompassed the period from the launch of NASA’s ICESat-2 satellite in late 2018 to the winter preceding the 2022 record low extent.

3:56-4:06 p.m.; McCormick Place – S505ab (South, Level 5)
Call for interview with Research Assistant Professor Melinda Webster.