

(Adapted from the New York State Federation of Lakes, NYSFOLA, Summer 2021 *Waterworks*)

## From Above

At approximately 11:30 AM every 5 days Sentinel satellites pass over New York. These space craft take a variety of images as they sweep over Silver Lake and scientists are aiming to one day use these types of images to estimate chlorophyll (associated with algae) in lakes from space. If this were to come to fruition, it would be a dramatic new tool to more rapidly assess water quality.

In 2019 and 2020 CSLAP (Citizen Statewide Lake Assessment Program) volunteers helped in this effort by collecting water samples on dates that coincided with Sentinel satellite pass overs so scientists can better correlate satellite imagery with the actual field data.

If you would like to see Silver Lake from space visit the website <https://earthexplore.usgs.gov/>.

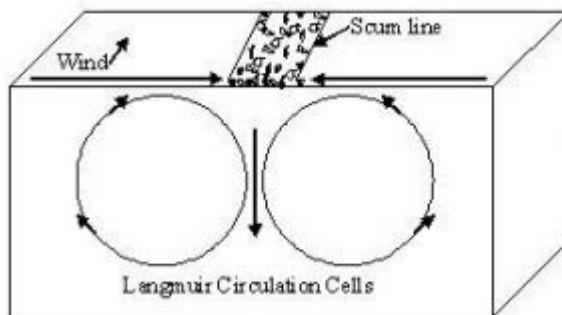
## Lake Stripes



*Example of lake stripes formed by Langmuir circulations (photo courtesy of Ideo.comumbia.edu).*

Under favorable conditions, at wind speeds above ~7 mph across the water surface wind interacts with water wave action to produce a set of rotating cells. These cells rotate within the lake surface area in opposite directions (i.e., the cells counter propagate) and they collect debris and scum to produce the stripes seen in the lake.

From time to time you might see one or more rows of stripes (often white in color) running down the longest part of a waterbody, including Silver Lake. This is not cause for concern. These stripes are caused by Langmuir convection cells (i.e., Langmuir circulations) and are a consequence of several interacting forces, but the major force is wind.



*Schematic showing a pair of Langmuir circulations generated by wind (image courtesy of blogs.ifas.ufl.edu).*