UTAHVIEW 2022 - 2023

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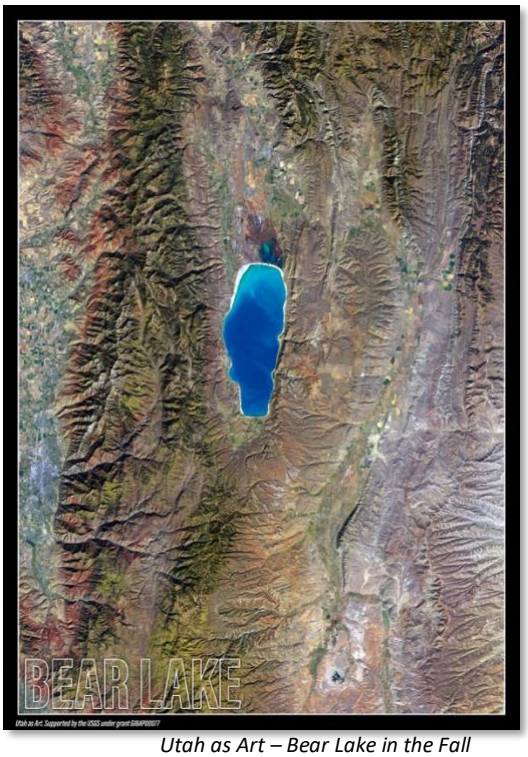
UTAHVIEW 2022 - 2023 ACTIVITIES

UtahView is hosted by the Remote Sensing/GIS Laboratory in the Quinney College of Natural Resources at Utah State University in Logan, Utah. Dr. R. Douglas Ramsey is the UtahView Principal Investigator. During GY22, UtahView lost its State Coordinator, Ellie Leydsman McGinty to a position with Science Systems and Applications, inc. (SSAI) under contract by NASA as a Senior Outreach Coordinator and Landsat Science Writer. We wish her well in this new adventure. As a result, UtahView redirected its high impact activity for GY22 to focus on issues related to the Great Salt Lake, Utah. We continue, however, to promote and enhance the Utah as Art effort and its use as an outreach tool.

Over the GY22 period we have produced: 1) Two additional Utah as Art Objects focusing on northern Utah's Bear Lake region as well as the newly designated Bear's Ears National Monument. 2) Participated in the Quinney College of Natural Resources (QCNR) opening social on August 30, 2023 to orient new QCNR students and entice transfer students to educational and research programs within the college. 3) Developed Google Earth Engine scripts to visualize temporal fluctuations of water levels on the Great Salt Lake and Lake Powell, UT. 4) Map temporal fluxes of Chlorophyll – a on the Great Salt Lake to help in the management of lake effluent from the surrounding urbanized area as well as help manage populations of brine shrimp to support harvest operations. The Great Salt Lake is one of the largest global producers and exporter of brine shrimp in support of aquaculture operations globally.

Christopher McGinty representing AmericaView at the Quinney College of Natural Resources opening social held on August 30, 2023.



Utah as Art – Bear Lake in the Fall

Ellie Leydsman McGinty partnering with UtahView to promote Landsat and remote sensing in general at the Quinney College of Natural Resources opening social held on August 30, 2023.

UtahView is a member of the AmericaView Consortium, a nationally coordinated network of academic, agency, non-profit, and industry partners and cooperators that share the vision of promoting and supporting the use of remote sensing data and technology within each state. AmericaView is funded by USGS grant agreement G18AP00077.

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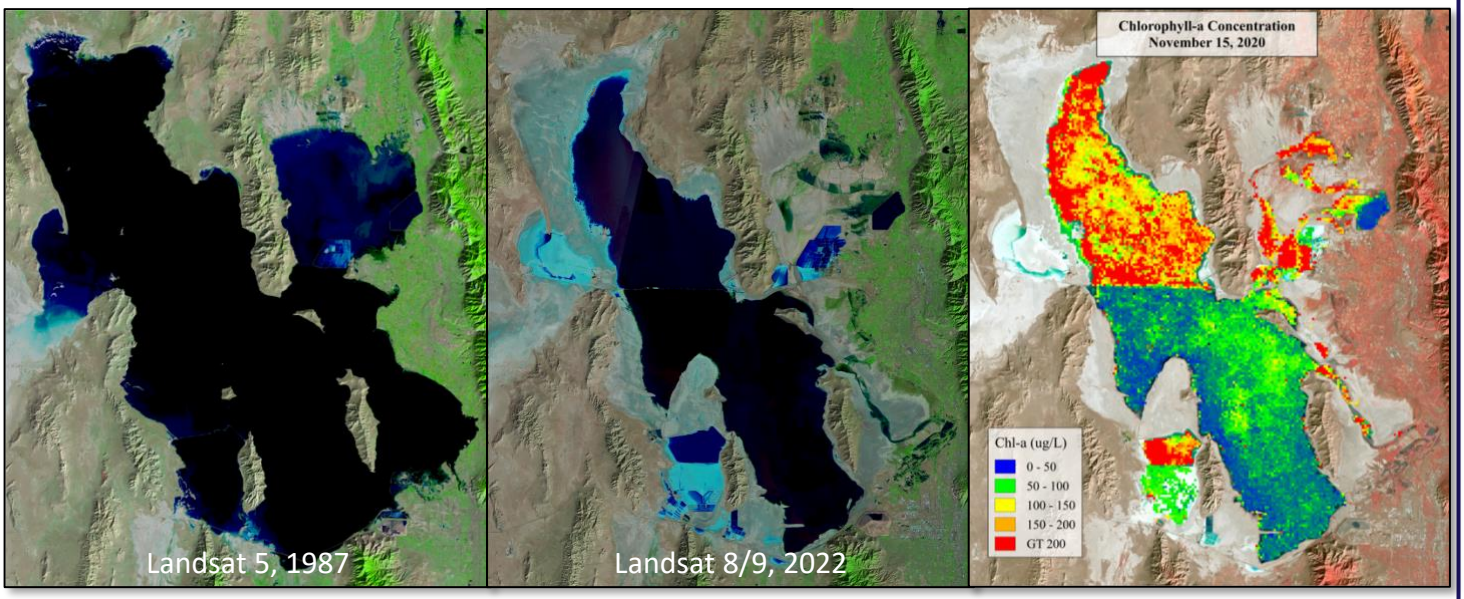
Benefits to Utah

The Great Salt Lake is symbolic of Utah. It is the largest body of water in Utah, the largest saltwater lake in the Western Hemisphere, supporting a host of ecosystem functions and services. The lake modifies climate along the Wasatch Front to its east, serves as a primary "rest-stop" for migrating waterfowl, and supports extractive industries to harvest salt as well as potash, lithium, and magnesium using evaporators.

A primary source of revenue for the state, which is completely dependent on the Great Salt Lake, is Brine Shrimp bringing between $10-$60 million in sales revenue depending on the harvest quantity and quality. The lake produces approximately 45% of the global supply of brine shrimp. The production of brine shrimp is dependent its primary food source, microscopic planktonic algae. To understand the flux of algae in the Great Salt Lake, UtahView partnered with Limnologists in the Quinney College of Natural Resources to map the distribution of chlorophyll-a (chl-a) primarily across the south section of the lake (Gilbert Bay) using the MODIS MCD43A4 data product. Using field derived measurements of chl-a to train MODIS derived spectral indices, we generated daily estimates of chl-a spanning a 23-year period from 2000 – 2023.



Great Salt Lake Levels as recorded by Landsat in 1987 and 2022, and modeled concentrations of Chlorophyll-a for November 15, 2020, derived from the MODIS MCD43A4 data product.

UtahView Consortium Membership

The UtahView consortium membership consists of Dr. R. Douglas Ramsey, Professor in the Quinney College of Natural Resources and Director of the Remote Sensing/GIS Laboratory at Utah State University; Dr. Phoebe McNeally, Research Associate Professor and Director of the DIGIT Laboratory at the University of Utah; Dr. Sowmya Selvarajan, Assistant Professor of Geomatics at Utah Valley University; and the Utah Geographic Information Council (UGIC). Collectively, these consortium members bring a wealth of scientific, outreach, and technical experience to the urban, rural, and wildland regions of Utah.

S.J. & Jessie E. Quinney College of Natural Resources, Utah State University — Remote Sensing/GIS Laboratory

The University of Utah

Utah Valley University

UGIC — Utah Geographic Information Council

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