

Description of physical measurements at [Feresjön – Floating Platform]

Asa Research Station



Picture: Feresjön. Photo: Holger Villwock.

Location and lake information

Sampling point	Feresjön, Floating platform
Coordinates	57.177427°N, 14.80762°E
Altitude	195 m a.s.l.
Lake area	0.52 km ²
Lake depth	Mean: 4.1 m, Max.: 13.5 m
Mixing Type	Dimictic
Trophic status	Oligotrophic
Catchment area	21.2 km ²

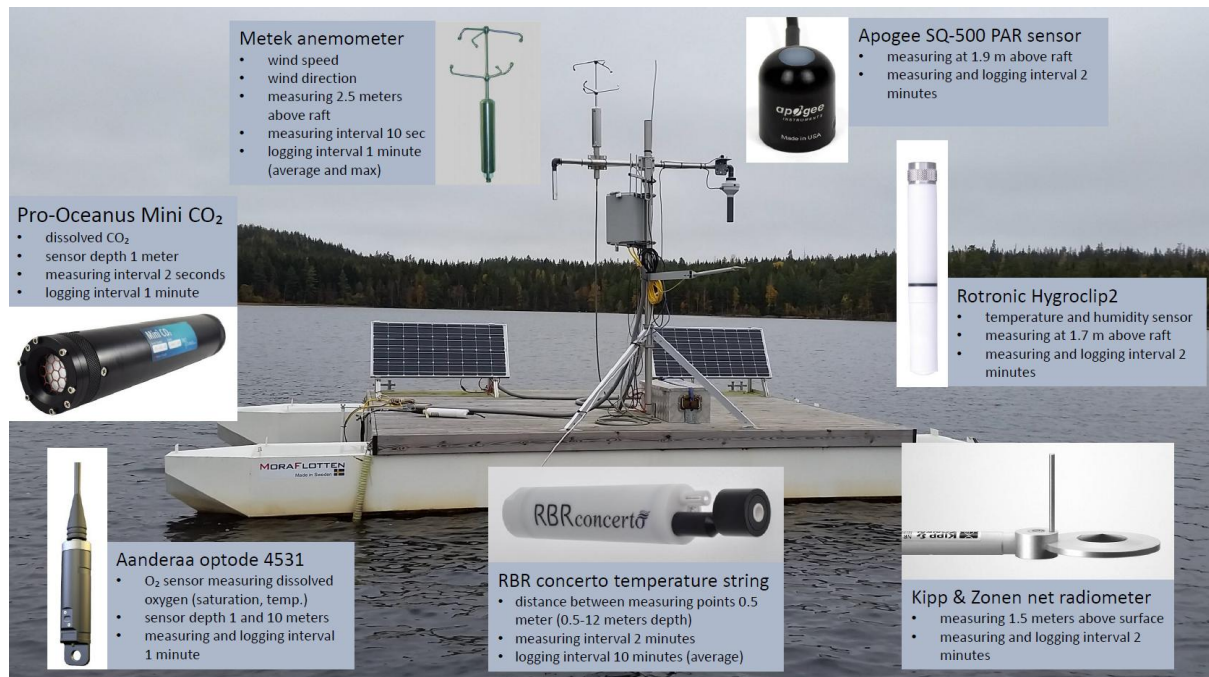
The Floating Platform at Feresjön is the position of an automatic data acquisition station on the lake collecting data from sensors in the water column and the atmosphere above. This is also the position where water samples are collected for chemical analysis in surface (0.5 m) and bottom waters (9 m).

Feresjön is situated in the hemi-boreal zone in Southern Sweden. The catchment area is dominated by coniferous forest with some elements of agricultural land use. In general, the lake has a stable stratification during the summer and is mixed or weakly stratified the rest of the year. Ice cover occurs during most winters but is often thin and inconsistent with multiple melt and refreezing events.

General set-up

The automated monitoring system, including both meteorological and limnic measurements, is set up on an anchored platform, positioned at the northern deepest point of the lake. The meteorological system is mounted on a mast on the platform, and the sensors that measure in the water are attached to the side of the raft (see appendix - Floating Platform Set-up). The automated monitoring system is powered by solar panels, which limits the measuring period to between the beginning of April to the end of October when there is enough sunlight. The *in-situ* water temperature profile system runs on internal power and thus measures water temperature in the lake the entire year. The automated monitoring system on the lake is complemented with manual lake profile measurements throughout the year and data from the meteorological station located on the land nearby.

Sensors



Physical variables measured in the lake - temperature profile and additional logger system

Measurement	Sensor Make/Model	Depth(s)	Logging interval	Dates in use*
Oxygen (O ₂)	Ananderaa optode	1, 10 m	1 min	2017-present, April - October
Water Temperature (Temp)	RBR concerto temperature string	Every 0.5 m (0.5-12 m depth)	10 min (avg. 2 min measurements)	2017-present, Year round
Carbon Dioxide (CO ₂)	Pro-Oceanus Mini CO ₂	1 m	1 min (2 sec measurements)	2024-present, April - October

* See data metadata for exact dates as gaps in the dates may exist (e.g. sensor is being serviced)

Meteorological measurements made on the lake mounted on a raft

Measurement	Sensor Make/Model	Height	Logging interval	Dates in use
Wind	Metek anemometer	2.5 m	1 min (avg. 10 sec measurements)	2017-present, April - October
Photosynthetically Active Radiation (PAR)	Apogee	1.9 m	2 mins	2017-present, April - October
Temperature (Temp) / Relative Humidity (RH)	Rotronic Hygroclip2	1.7 m	2 mins	2017-present, April - October
Net Radiation (Net Rad)	Klipp & Zonen	1.5 m	2 mins	2017-present, April - October

* See data metadata for exact dates as gaps in the dates may exist (e.g. sensor is being serviced)

Data

SITES Water Datasets Overview

Data linked to the SITES Water Thematic Program, can be found on the [SITES Data Portal](#):

- **For SITES Water data** use Filter option: Thematic Programme = “SITES Water”
- **For station specific data** use Filter option: Station = “Asa Research Station”
- **For lake specific data** use Filter option: Location = “Feresjön”
- **For physical lake measurements** use Filter option: Data Type = “Physical Variables” – note there may be multiple data types (e.g. lake temp profile, lake profile additional logger)
- **For meteorological lake measurements** use Filter option: Data Type = “Meteorological data, SITES Water” – note there may be multiple data types (e.g. daily, sub-hourly)

Each dataset has a persistent identifier (PID) and specific citation, which is provided on the dataset metadata page. The PID will always lead you back to the metadata page where you are able to download the data object again and/or check for updates.

SITES Water Data Collections

[SITES Water- Layer 1, Background Information – Lake sediments](#)

[SITES Water – Layer 6, Greenhouse Gas Flux Program - Lake methane flux](#)

[SITES Water – Layer 6, Greenhouse Gas Flux Program – Lake GHG Concentration](#)

Station based background maps and GIS layers

[ASA background information](#) – PID: 11676.1/jHFlaQ0FK8mmtTyDAELsdlw1

Individual SITES Station based background maps and GIS layers are openly available for download. The material contains location and sampling point information, research areas and (sub-) catchments linked to SITES Water. Authority data includes altitude, bedrock, orthophotos, soil depth, moisture and type, land use, vegetation and lake bathymetry if applicable.

On the landing page click “View contents” to the right of Zip contents. You can then scroll through the list to see content and download the specific files of interest. If you want to download all files, select the download button in the upper right.

Data Acknowledgement

Data collected within SITES are freely available but must be [cited and acknowledged properly](#). Any publication using data from the SITES Water Program should include a statement in the acknowledgement, e.g. "This [study/report/etc.] uses [data / staff support / infrastructure] from SITES Water at [station(s)], which has been made possible by the Swedish Infrastructure for Ecosystem Science (SITES)."

Contact & Support



SITES

Swedish Infrastructure for Ecosystem Science

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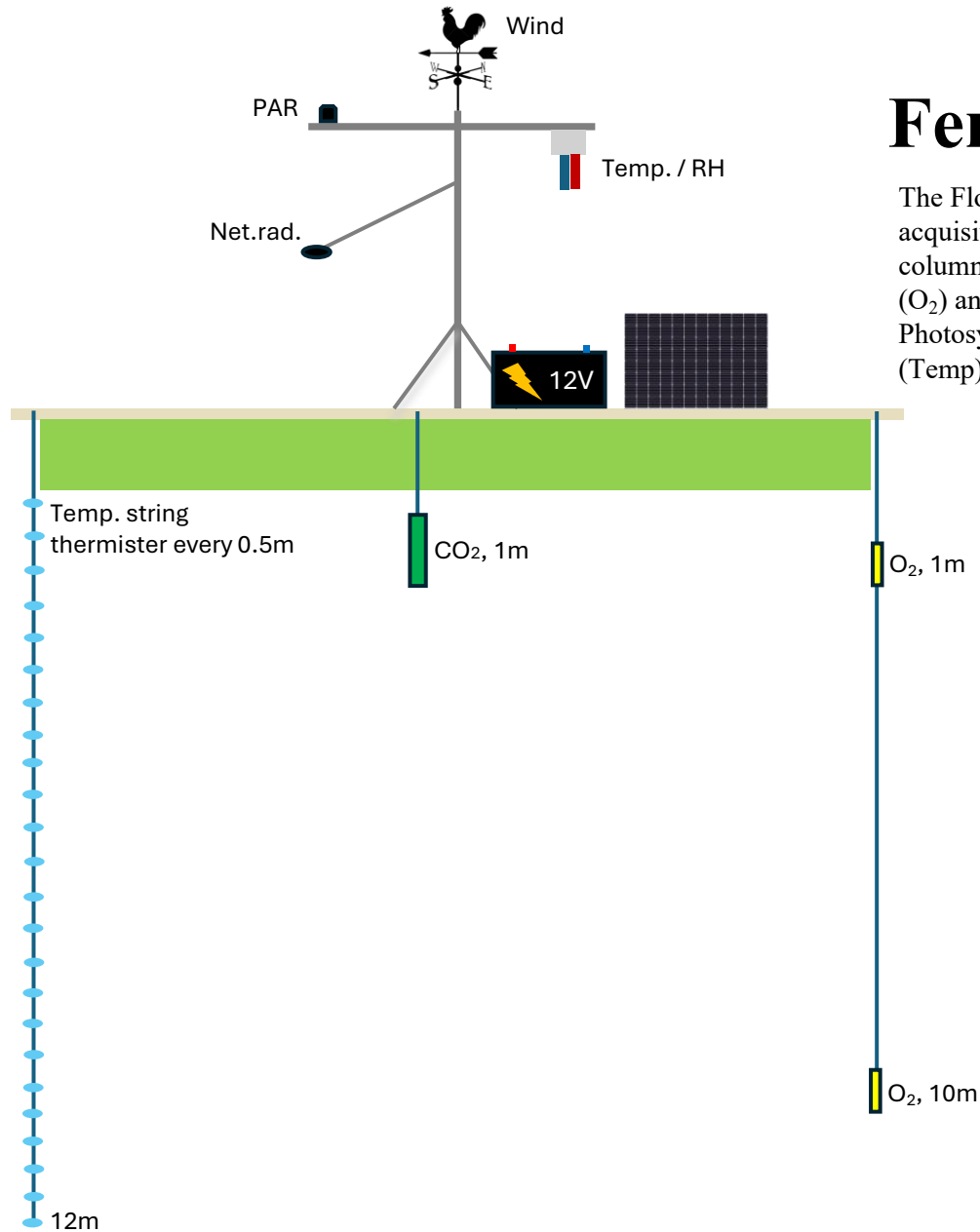


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through

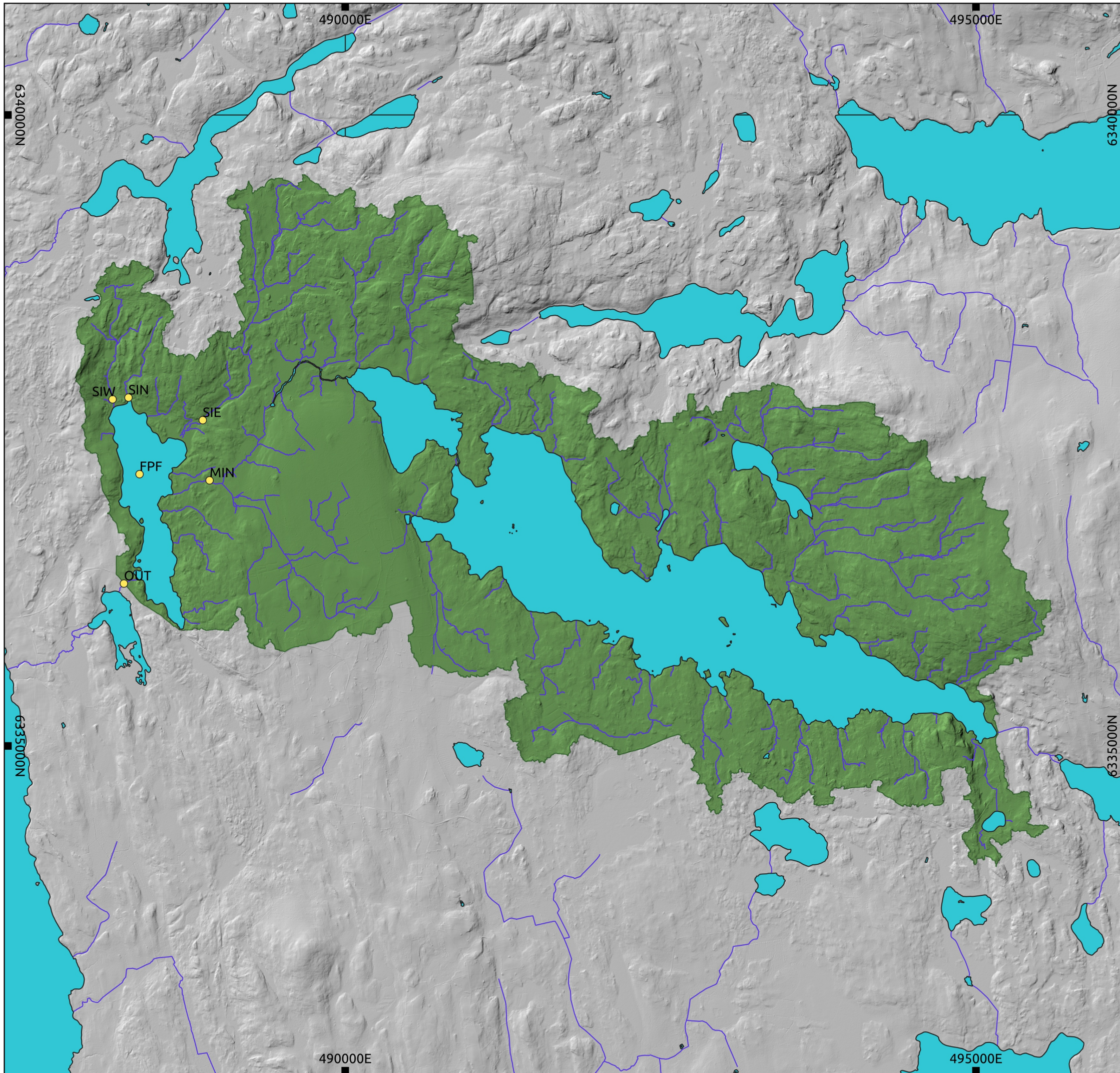
Asa Research Station

<https://meta.fieldsites.se/resources/stations/Asa>



Feresjön, Asa

The Floating Platform at Feresjön is the position of an automatic data acquisition station on the lake collecting data from sensors in the water column (Temperature (Temp), Carbon Dioxide (CO₂) and Oxygen (O₂) and the atmosphere above (Net Radiation (Net Rad), Photosynthetically Active Radiation (PAR), Wind, Temperature (Temp) and Relative Humidity (RH)).



Asa Research Station (ASA)

 Feresjön Catchment

SITES Water Sampling points

-  FPF - Floating platform
-  MIN - Main inlet
-  OUT - Outlet
-  SIE - Secondary inlet NE
-  SIN - Secondary inlet N
-  SIW - Secondary inlet NW

 Streams

 Water

BW Altitude Hillshade

0 0,5 1 1,5 2 km



Map: ASA-FER Water Sampling Points

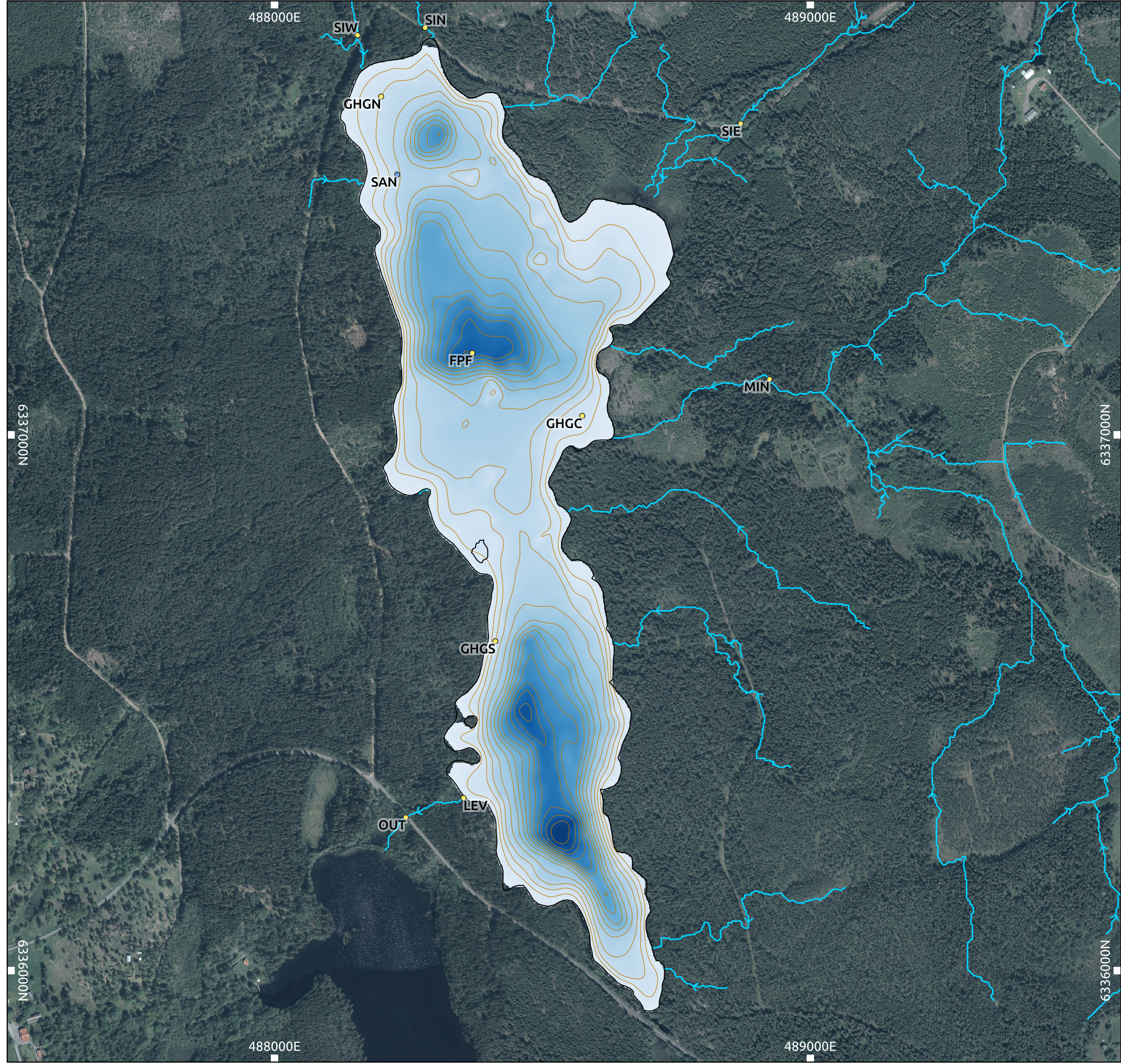
Station:	Asa Research Station
Layout format:	A3
Scale:	1:30 000
Grid:	2x2m
Projection:	SWEREF99 TM (EPSG:3006)
Base map hillshade:	Lantmäteriet, Höjddata2m 2019
Catchments and streams:	Mikael Andersson
Author:	Haldor Lorimer-Olsson
Map date:	2021-06-15



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Website: www.purplesites.se

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Asa Research Station (ASA)

Water Depth (m)

2
14

Points

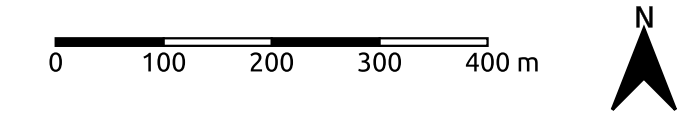
- SAN - Feresjön Aquanet
- Feresjön sampling points:
 - FPF - Floating platform
 - GHG - Greenhouse gas transect C
 - GHN - Greenhouse gas transect N
 - GHS - Greenhouse gas transect S
 - LEV - Lake level
 - MIN - Main inlet
 - OUT - Outlet
 - SIE - Secondary inlet NE
 - SIN - Secondary inlet N
 - SIW - Secondary inlet NW

→ Streams with flow direction

— Feresjön lake perimeter

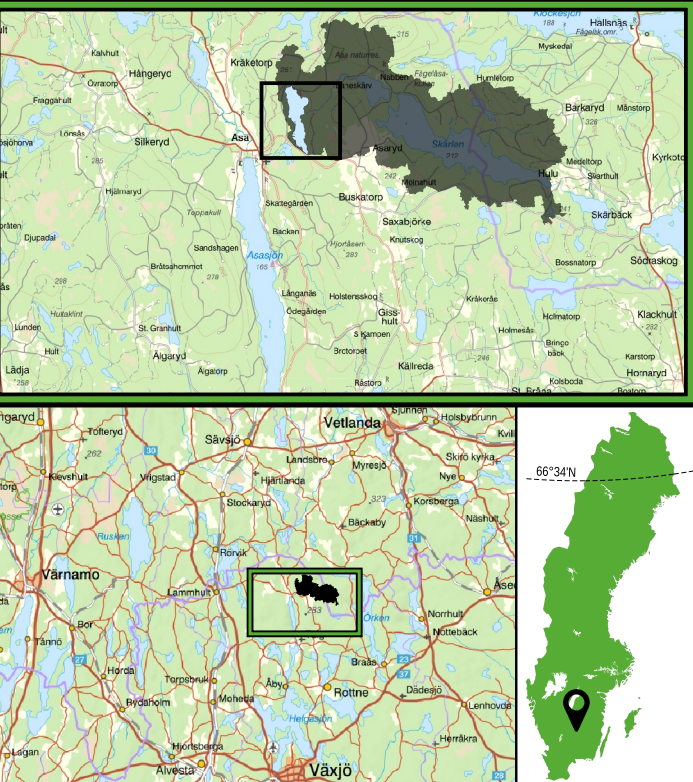
— Contour line equidistant 1m

RGB Orthophoto 2019



Map: ASA-FER Bathymetry-Smp 2015

Station:	Asa Research Station
Layout format:	A3
Scale:	1:7000
Grid:	1.36x1.36m
Projection:	SWEREF99 TM (EPSG:3006)
Data:	Länsstyrelsen Kronoberg, April 2015
Base map:	Lantmäteriet, OrtofotoRGB016-2019
Author:	Haldor Lorimer-Olsson
Map date:	2021-07-15



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