

NETLAKE Guidelines for automated monitoring system development

009 Sensor considerations

Objective

In this factsheet, we give an overview what sensors are available for high frequency measurements and which are mostly used by NETLAKE monitoring platforms.

NB! This fact sheet contains certain trade names or commercial products only as examples. This should not be considered as an endorsement of any particular product.

Sensors on NETLAKE platforms

The following table gives you an overview about sensors which are currently in use on different NETLAKE platforms. Information has been taken from NETLAKE site posters. We have tried to group sensors under descriptive parameter names.

Weather measurements

Wind speed and direction

Sentry (Campbell, Young)
 Combined Wind Sensor Classic (ThiesClima)
 Model 05103-5 (RM Young)
 Wind Monitor (RM Young)
 Wind Sentry (RM Young)

Solar radiation

Star pyranometer (H.I.M.)
 Pyranometer (Kipp&Zonen)
 Li-200 (Licor)
 Starpyranometer 8101 (Logotronic)
 Albedometer CMA6 (Kipp&Zonen)
 SP-212 (Apogee)

Air temperature and humidity

MP-408 F/T-R (Rotronic)
 CD215 (Campbell Scientific)

Air pressure

Micro switch PK8763 (Honeywell / Sommer)

Pecipitation

T-200B (Geonor)

Multi-Weather stations

WXT520 (Vaisala)
 MetPak (Gill)
 Meteorological station (NESA)
 WS-501 (Lufft)

Underwater measurements**Multisonde or CTD**

6600V2 (YSI)
 6600V2-4 (YSI)
 660 OMS V2 (YSI)
 RBR Maestro (RBR)
 EXO-1 (YSI)
 EXO-2 (YSI)
 6600V2-M (YSI)
 WQM (WetLabs)
 DataSonde 5x (Hydrolab)
 Ocean seven 316Plus (Idronaut)
 DS5X sondes (OTT Hydrometry)
 600XLM (YSI)
 XR420 (RBR)

Dissolved oxygen

LDO (HACH)
 Digital OPTOD (Ponsel)
 miniDOT (PME)
 D-opto (ENVCO Global)
 DO probe (AtlasScientific)
 HOBO U26-001 (Onset)
 Optode 4175 (Aanderaa)

Fluorescence

MicroFlu (Trios)
 FluoroProbe (BBE Moldaenke)
 TriLux (Chelsea)

CO₂

Optical CO₂ (AMT Analysenmesstechnik GmbH)
 CO₂-sensor (Vaisala)

pH

Industrial pH probe (AtlasScientific)
 Durafet II (Honeywell)

Water level

HOBO U20 (Onset)

Underwater light

LI-193 (LiCor)
 LI-190 (Licor)

Water temp and Thermistors

Semi-conductor 592 C (Sommer)
 PT100 2M Thermocouple Probe
 HOBO Pendant (Onset)
 Minilog (Vemco)
 DS1922L (Ibutton)
 Thermistor probe (Tiny-Tag)
 HOBO TidbiT (Onset)
 PT-1000 (AtlasScientific)
 Thermocouple
 Pt100, RTD (TempCon)

cDOM

InSitu Spektralanalysator (GO Systemelectronics)
 cDOM fluorometer (Seapoint)
 Microflu-cDOM (TriOs)
 cDOM fluorometer (WetLabs)

Turbidity

ECO NTU (WetLabs)
 UniLux (Chelsea)
 Transmissometer (WetLabs)

Conductivity

Conductivity probe K 0.1 probe (AtlasScientific)
 Graphite electrode (Honeywell)

Color

RGB Color detector (AtlasScientific)

UV absorbson

ProPS (TriOS)

NETLAKE metadatabase

To get more information which sensors are being used for high frequency monitoring, visit the NETLAKE metadatabase at www.netlake.org

More information

<http://www.act-us.info/>

The Alliance for Coastal Technologies (ACT) is a partnership of research institutions, resource managers, and private sector companies dedicated to fostering the development and adoption of effective and reliable sensors and platforms. ACT hosts a web page where you can find good overviews about different sensors which are used for marine and ocean platforms. Most of them would also be suitable for freshwater research.

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