

NETLAKE Guidelines for automated monitoring system development

014 Security

Objective

In this factsheet, we give an overview of some options for securing your system to avoid accidental loss or damage by storm, people or animals.

Separate NETLAKE guidelines are available on how to securely anchor your station (AMSD guideline 004), protect it from lightening (AMSD guideline 005) and from ice damage (AMSD guideline 013).

Options

Below are some measures you can use to reduce possible damage and data loss

GSM alarm – if your system moves out of your expected operating range, you will get a SMS alert from your system.

GPS tracking – this allows you to track the position of your buoy, and alert you if it has moved from its intended position.

Birds - Some bird protection devices are available with off the shelf weather stations (right). If you think you could have a bird problem at your site, you can also use homemade scarecrows, flashing objects hanging from a string (e.g. old CDs), or devices designed to scare birds from roosting on sail boats.



Human interference – you have two options here. Either try and hide the station as best you can (underwater, camouflage etc) or else make it very obvious, and appeal to the curious nature of people who may see it. In this case, you can use warning and information signs on the station (left), announcements in local or municipally newspapers and information on your institutional webpage (see below for links). An obvious webcam may act as a deterrent. Another option is to use padlocks to secure expensive items in strong boxes.



Open access to raw data – If you increase the availability of the data you are collecting with your system (line figures in user friendly graphs on your webpage for example), and people can see what parameters are being measured, that may reduce the risk of vandalism. Information signs about online data availability can be added to your platform.

Some examples of Lake data websites

<http://burrishoole.marine.ie/FeeaghLake.aspx>

<https://sites.google.com/a/fmach.it/lter-tovel/>

www.aquamonitor.no/langtjern

http://jarveveeb.emu.ee/index_en.html

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