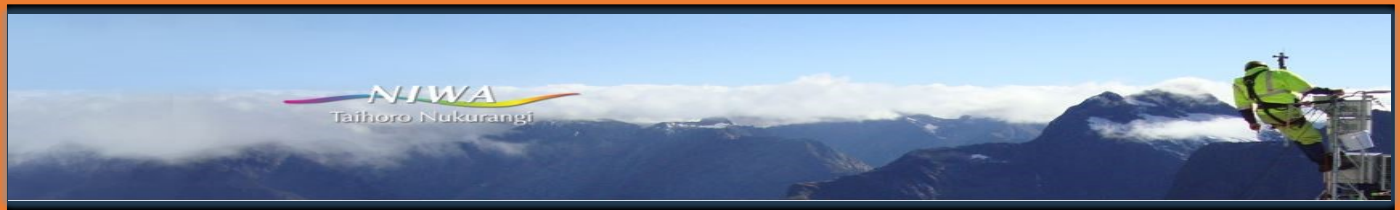


PROTECTING YOUR VALUABLE ASSETS FROM LIGHTNING STRIKES WITH ERICO SYSTEMS

High-altitude environmental monitoring stations are often in very exposed and hazardous places, putting them at risk from lightning strike. Lightning strikes can damage equipment and cause data loss. At Rose Ridge, 2000 m above sea level in Mt Cook National Park, we have installed a lightning protection system to protect the monitoring station.

Climate monitoring station, Rose Ridge

Assessing the risk

Lightning strikes happen far more often than many appreciate, with most events going unnoticed. The New Zealand Meteorological Service (NZMS) operates a Lightning Detection Network that records the location and magnitude of lightning strikes throughout New Zealand. The number of strikes can vary greatly from year to year and between regions.

Most lightning strikes are cloud-to-cloud, but on average one in ten discharges to ground. These are the strikes that can damage nearby unprotected electronic equipment. Many **NIWA** monitoring sites are in remote locations, often only accessible by helicopter, so site visits can be costly. Lightning-damaged equipment will also inevitably result in gaps in the data record.

NIWA trusted in Helios lightning protection systems

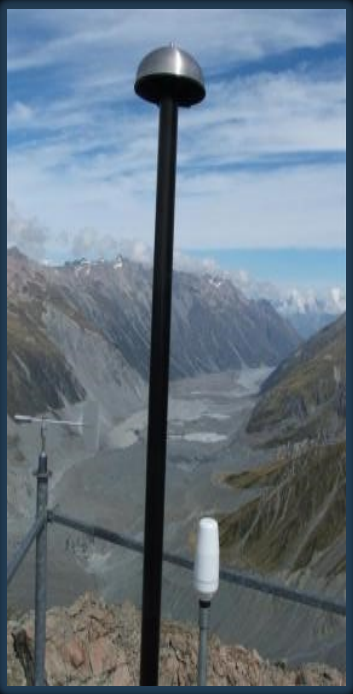
The National Institute of Water and Atmospheric assured the reliability and continuity of its monitoring station with ERICO System 3000 and Isolated Downconductor Systems. Nowadays our systems have been installed at ten different sites thereby warranting maximum protection of the equipment and facilities.

ERITECH SYSTEM 3000 includes the following elements:

- ERICO DYNASPHERE air terminal.
- ERICO ERICORE downconductor.
- Lightning event counter.
- Grounding system.

The DYNASPHERE air terminal is mounted on an insulated mast and is the highest point on the tower. It provides a target for lightning discharges that might otherwise strike, and damage, the instruments. But the DYNASPHERE is no passive lightning rod – it dynamically initiates an upward streamer during thunderstorm conditions to capture the lightning discharge. The discharge current is safely conveyed to ground through a specially designed insulated down-conductor that contains the lightning's energy within the cable as it flows to ground, within a few millionths of a second. A lightning event counter, installed on the down-conductor, automatically records lightning strikes.

To provide effective grounding in the rocky alpine environment the lower end of the down-conductor is terminated with copper ribbon.



The DYNASPHERE air terminal mounted at the top of an insulated mast through which the discharge current is safely conveyed to the ground.

Lightning does strike twice

Over the first five-year period after it had been installed, the lightning even counter showed two direct strikes with no equipment damage. The NIWA engineers have a peace of mind because they know its equipment and processes are wholly protected by the integral solution

BROCHURE ERICO SYSTEM 3000

ERICO

HELIOS IS PROUD TO BE THE EXCLUSIVE PARTNER OF ERICO IN NEW ZEALAND

HELIOS POWER SOLUTIONS

LIGHTNING GROUNDING AND SURGE PROTECTION CATEGORY