

# BSRN Station Description

## Station Manager

Mike Bradley

Station scientist currently in charge

Jonathan Tamlyn

## Station Location

Latitude: 060 08 20.1 North

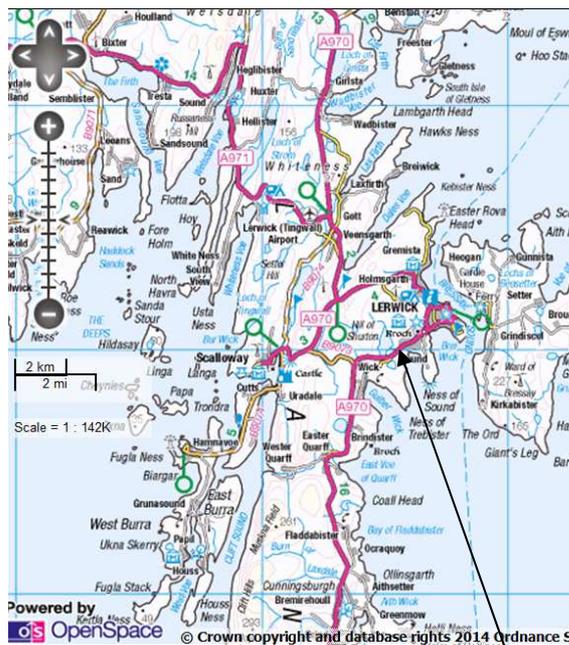
Longitude: 001 11 04.8 West

Elevation: 80 metres ASL

Lerwick, Shetland Island

Situated on a ridge of high ground  
Approximately 2 KM south west of the town  
centre of Lerwick adjoining the main road  
from Lerwick to the south.

Ground to E and SE rises slightly for about ¼  
mile then falls rapidly to sea level. To the SW  
there is a slight downward slope to a loch.  
There are hills to the North and West rising  
to 100M above the Observatory level.



Lerwick BSRN Site

# BSRN Station Description

Located in the grounds of the observatory above the town of Lerwick.

An open windswept site.



Surrounded by several meteorological instruments. Ground cover mostly grass and granite outcrops of rock.

Climate

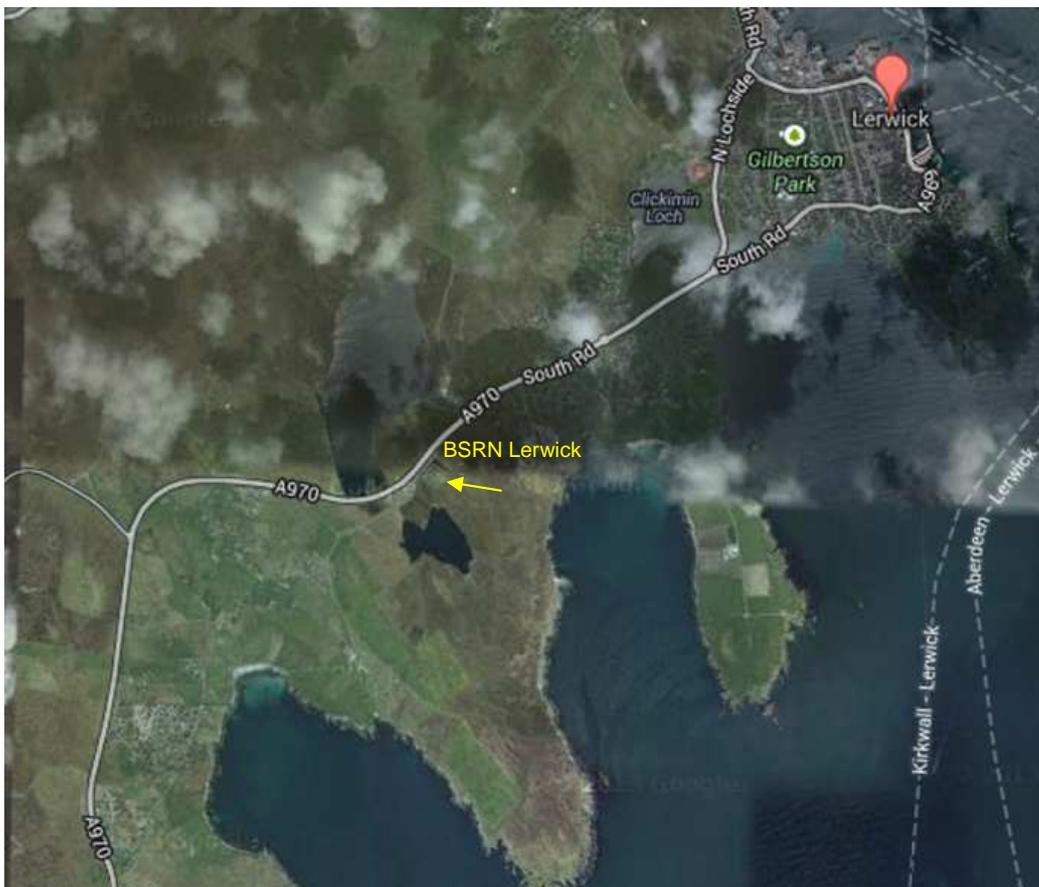
Temperate maritime

The islands are quite hilly, with many sheltered coastal coves

Rainfall averages 1,220mm a year. Average wind speed over the year is around Force 4 (15mph, or 24kph) in winter, speeds of hurricane force 12 are not unknown.

Daily average maximum temperatures 15 C in Summer 5.4 C in winter with frost on average 15 days per year.

Descriptive map of surrounding 2KM Radius (Google Maps)



Situated on a ridge of high ground Approximately 2 KM south west of the town centre of Lerwick adjoining the main road from Lerwick to the south.

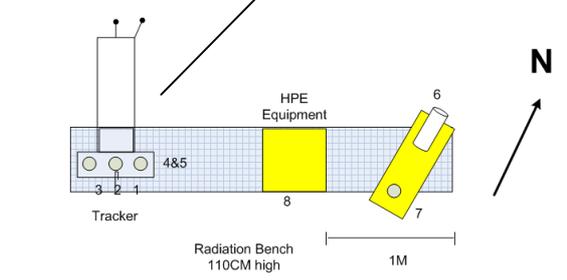
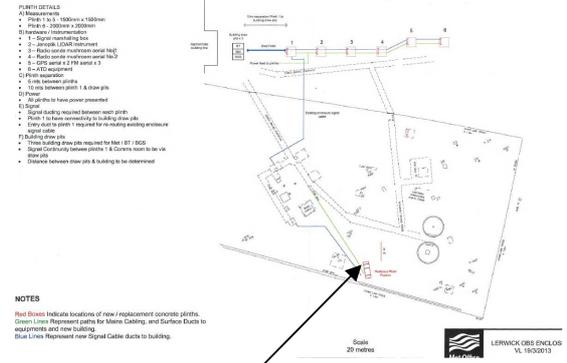
Ground to E and SE rises slightly for about ½ KM then falls rapidly to sea level. To the SW there is a slight downward slope to a loch. There are hills to the North and West rising to 100M above the Observatory level.

# BSRN Site Description

## Instrument Description

- 1 Kipp & Zonen CRG4 Shaded Pyrgeometer
- 2 Kipp & Zonen CM21 shaded pyranometer Diffuse Radiation
- 3 Kipp & Zonen CM21 pyranometer Global Radiation
- 4 Kipp & Zonen CHP1 Pyheliometer Direct Irridiance
- 5 Kipp & Zonen CHP1 Pyheliometer Direct Irridiance
- 6 Kipp & Zonen CSD3 Sunshine sensor (Synoptic)
- 7 Kipp & Zonen CMP11 Pyranometer Global radiation (Synoptic)
- 8 Health Protection Agency UV sensors.
- 9 Dobson Building

## Instrument Location Map



## Description of Meteorological Instruments



## Horizon Map of Central Instrument



North apex of new building 350 el 6.5



NorthEast Balloon shed 090 el 6.0



East



South wind mast 165 dea



West



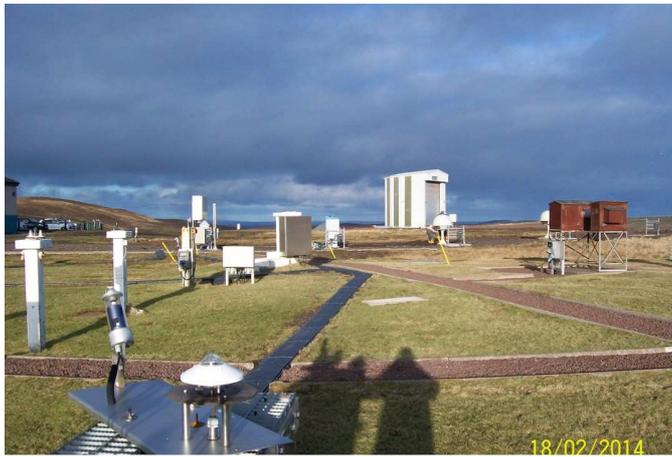
North West

# BSRN Station Views



North

Showing new building  
– max  $6.5^\circ$  Bearing  
 $350^\circ$  elevation apex of  
roof.



East



South

Max elevation  $3.5^\circ$ .  
10M Wind mast  
bearing  $165^\circ$   
approximately 20M  
from Radiation bench.



## West

Buildings and hills to the west and north west extending to 5.0° elevation with radio masts on top of hill bearing 296° & 305°

### Additional Observation Programmes

Airborne & rainborne radio-activity sampling for SEPA.

Surface Ozone monitoring for DEFRA via Bureau Veritas

Dobson spectrometer: columnar & direct sun ozone readings for Ricardo AEA.

Nitrous Oxide monitoring for DEFRA via Bureau Veritas

Rainwater collection for Sodium Di-oxide (acid rain) measurement for DEFRA via Ricardo-AEA

Nitrogen Dioxide for DEFRA via Ricardo-AEA

Ammonia for DEFRA via Centre for Ecology & Hydrology (CEH)

Rainwater collection for Sodium di-oxide (acid rain) measurement for SEPA and Shetland Isles Council via Ricardo-AEA

UV measurements for HPE (Scotland)

UK Heavy Metals Network monitoring for DEFRA via the National Physical Laboratory

Full Meteorological measurements.