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| Geographical Info Systems  Assignment 3 – Report  Happy Valley Ski Area: Geographical Analysis | |
| Module code : CMPU4032: 2022-23 | |
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# Assignment Overview

## High Level Description

This document covers the design, implementation, and observations on all parts of the December 2022 CA(3) for the GIS module (TU060 – DS – Year 2).

The geographical focus of this report is on the…

# Maps and Data

## HVSA – Shaded Relief Map

The figure below is a relief map of the Happy Valley Ski Area, showing general elevation and key local tourist infrastructure.

Map

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***Figure – Happy Valley Ski Area***

## HVSA – Area Snow Depth Analysis

The map below shows the range of average snow depth across the Happy Valley Ski Area. The meteorological stations, which provide the measurements for snow fall, are included on the image to provide visual context.

This snowfall map can be compared to the relief map in Section 2.1 to better comprehend the snow depth patterns in the area. The map focus is slightly more on the immediate areas around the stations; hence the scale is slightly different.

A picture containing text, iPod

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***Figure – Mean Annual Snow Depth in Happy Valley Ski Area***

## HVSA – Avalanche Risk Analysis

The map below indicates those areas in the Happy Valley Ski Area at greatest risk of potential valance. This is based on the following criteria;

1. Areas with a slope between 20 and 45 degrees,
2. Facing towards the prevailing wind (west in this case)
3. Not in forested areas.

Map

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***Figure – Avalanche Risk Areas in Happy Valley Ski Area***

## HVSA – Potential Meteorological Station Locations

The map below indicates those areas in the Happy Valley Ski Area that are candidate locations for a new Meteorological Station. This is based on the following criteria;

1. New station must be at least 5Km from an existing met station,
2. New station must be within 3Km from any road or piste
3. New station must be in non-forested areas.

Map

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***Figure – Candidate Locations for Meteorological Stations in HVSA***