# Redo (Albedo for only EP difference(can you see a difference) )

|  |  |
| --- | --- |
| Solar Absorptance |  |
| 0.5 |  |
| 0.85 |  |

# BUBBLE Ue1

## Key Features

|  |  |  |
| --- | --- | --- |
| Albedo/Solar Absorptance | TypeWall | TypeRoof |
| Only EP | Solar Absorptance = 0.5 | Solar Absorptance = 0.5 |
| Only VCWG | Albedo = 0.15 | Albedo = 0.15 |
| Bypass | [UWG]Albedo = 0.15  [IDF]Solar Absorptance = 0.5 | [UWG]Albedo = 0.15  [IDF]Solar Absorptance = 0.5 |

## Performance

|  |  |  |  |
| --- | --- | --- | --- |
| CVRMSE (%) | OnlyEP | OnlyVCWG | Bypass |
| 2.6m Direct | 9.61 | 10.32 | 7.71 |
| 2.6m Real P0 |  | 9.71 | 9.45 |
| 2.6m Real EPW |  | 10.02 | 7.49 |
| 13.9m Direct | 9.61 | 11.43 | 7.68 |
| 13.9m Real P0 |  | 12.22 | 11.19 |
| 13.9m Real EPW |  | 11.06 | 7.56 |

# BUBBLE Ue2

## Key Features

|  |  |  |
| --- | --- | --- |
| Albedo/Solar Absorptance | TypeWall | TypeRoof |
| Only EP | Solar Absorptance = 0.5 | Solar Absorptance = 0.5 |
| Only VCWG | Albedo = 0.15 | Albedo = 0.15 |
| Bypass | [UWG]Albedo = 0.15  [IDF]Solar Absorptance = 0.5 | [UWG]Albedo = 0.15  [IDF]Solar Absorptance = 0.5 |

## Performance

|  |  |  |  |
| --- | --- | --- | --- |
| CVRMSE (%) | OnlyEP | OnlyVCWG | Bypass |
| 3m Direct | 6.79 | 14.21 | 10.63 |
| 3m Real P0 |  | 10.73 | 8.71 |
| 3m Real EPW |  | 13.87 | 10.32 |
| 15.8m Direct | 6.79 | 14.18 | 9.9 |
| 15.8m Real P0 |  | 13.04 | 10.74 |
| 15.8m Real EPW |  | 13.63 | 9.47 |

Chart, histogram

Description automatically generated

# CAPITOUL

## Key Features

|  |  |  |
| --- | --- | --- |
|  | TypeWall | TypeRoof |
| OnlyVCWG | SteelFrame  Emissivity: 0.9  Albedo: 0.5 | IEAD  Emissivity: 0.94  Albedo: 0.5 |
| Bypass | Steel Frame Non-res Ext Wall  Thermal absorptance: 0.9  Solar absorptance: 0.5  Visible absorptance: 0.5 | IEAD Non-res Roof  Thermal absorptance: 0.94  Solar absorptance: 0.5  Visible absorptance: 0.5 |

## Performance

CVRMSE (%), (OnlyEP, OnlyVCWG, Bypass)

2m, direct: [ 7.32 17.44 18.24]

2m, real\_p0: [ nan 18.64 19.53]

2m, real\_epw: [ nan 15.97 16.64] [12-31 24:00] Patm

6m, direct: [ 7.32 16.51 17.04]

6m, real\_p0: [ nan 17.51 18.13]

6m, real\_epw: [ nan 15.02 15.37]

20m, direct: [ 6.29 17.59 16.91]

20m, real\_p0: [ nan 18.02 17.42]

20m, real\_epw: [ nan 16.18 15.21]

2m, direct: [ 7.32 17.44 18.24]

2m, real\_p0: [ nan 18.64 19.53]

2m, real\_epw: [ nan 20.03 21.05] [Real time Patm]

6m, direct: [ 7.32 16.51 17.04]

6m, real\_p0: [ nan 17.51 18.13]

6m, real\_epw: [ nan 18.84 19.61]

20m, direct: [ 6.29 17.59 16.91]

20m, real\_p0: [ nan 18.02 17.42]

20m, real\_epw: [ nan 19.05 18.65]

Chart, histogram

Description automatically generated

# Vancouver TopForcing

Key Features

## Performance

CVRMSE (%), (OnlyEP, OnlyVCWG, Bypass)

1.2m, direct: [12.03 8.99 9.3 ]

1.2m, real\_p0: [ nan 9.48 9.27]

1.2m, real\_epw: [ nan 9.24 9.48]

26m, direct: [12.03 6.96 6.96]

26m, real\_p0: [ nan 7.52 7.52]

26m, real\_epw: [ nan 7.38 7.38]

Chart, histogram

Description automatically generated

# Vancouver RuralModel

## Key Features

1. CAN\_BC\_Vancouver.718920\_CWEC
2. IntegratedSurfaceDataset\_Vancouver\_INT\_Airport\_2008
3. Dry bulb air temperature, dew point temperature, relative humidity, sea level pressure
4. The dated ISD measurement is actually 8 hours later than the actual time

## Suggestions

1. Use the ERA5 data for rural station
2. Instead of TopForcing method, do simulation with Rural\_ERA5 weather data.

## Performance

CVRMSE (%), (OnlyEP, OnlyVCWG, Bypass) [Without postpone correction]

1.2m, direct: [30.94 31.11 28.88]

1.2m, real\_p0: [ nan 33.45 31.81]

1.2m, real\_epw: [ nan 31.13 28.8 ]

26m, direct: [30.94 36.77 36.77]

26m, real\_p0: [ nan 37.46 37.46]

26m, real\_epw: [ nan 37.01 37.01]

CVRMSE (%), (OnlyEP, OnlyVCWG, Bypass) [With postpone correction]

1.2m, direct: [ 8.3 13.85 17.41]

1.2m, real\_p0: [ nan 18.23 21.74]

1.2m, real\_epw: [ nan 13.36 16.84]

26m, direct: [ 8.3 21.14 21.14]

26m, real\_p0: [ nan 22.08 22.08]

26m, real\_epw: [ nan 21.21 21.21]

Chart, line chart, histogram

Description automatically generated