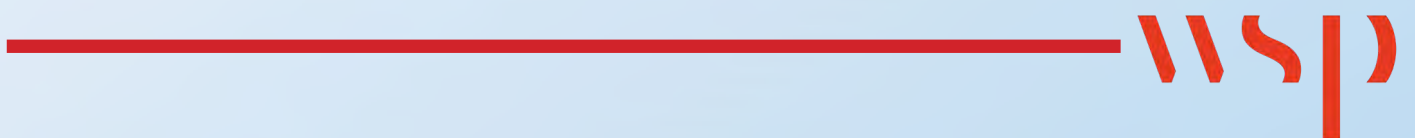


Appendix 1.11

Legislative Framework, Policy and Guidance



Appendix 11.1 - Legislative Framework, Policy and Guidance

Legislation and technical standards relevant to this Chapter are summarised in this section.

LEGISLATIVE FRAMEWORK

There is no specific national legislation or planning policy guidance dealing with wind microclimate in terms of pedestrian comfort. However, the Lawson Comfort Criteria (2001) are commonly used nationally to benchmark the pedestrian wind microclimate.

NATIONAL POLICY

National Planning Policy Framework

The National Planning Policy Framework was revised in July 2021 by the Department of Communities and Local Government. Paragraph 130 of the National Planning Policy Framework states that:

“Planning policies and decisions should ensure that developments:

- a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development.*
- b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping.*
- c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);*
- d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit.*
- e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and*
- f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.” In addition, this Chapter has been prepared in accordance with the Government’s National Planning Practice Guidance.”*

LOCAL POLICY

Core Strategy 2012-2027

The Core Strategy Development Plan Document, which is part of the Manchester’s Local Development Framework adopted on 11th July 2012 by the Manchester City Council in Policy EN 2 on Tall Buildings in Paragraph 12.14 states that:

“Tall buildings by their very nature can dominate the street scene and be highly visible over long distances. They can also have an impact on the local micro-climatic condi-

tions, for example, by creating wind tunnels. It is for these reasons that it is considered particularly important that they are designed to the highest quality, both in terms of appearance and their impact on the functioning of surrounding space.”

GUIDANCE

The following guidance documents have been used during the preparation of this Chapter.

The Lawson Criteria

The Lawson Criteria (Building aerodynamics, T. Lawson, Imperial College Press, 2001) are well-established in the UK for quantifying wind conditions in relation to build developments and, although not a UK ‘standard’, the criteria are recognised by local authorities as a suitable benchmark for wind assessments. The Lawson Criteria have been adopted for this assessment. This assessment is based on the London Docklands Development Corporation (LDDC) version of the Lawson criteria which represents industry best practice in the UK.

Best Practice Guidelines for Computational Fluid Dynamics Simulation of Flows in the Urban Environment

The Best Practice Guidelines for Computational Fluids Dynamics (CFD) Simulation of Flows in the Urban Environment (COST, 2007) have been used as a technical reference for this assessment. This is the most comprehensive set of technical guidance for the application of computer fluid dynamics for wind flows in the urban environment.

Historic England Advice Note 4, Tall Buildings (2015)

The Guidance on Tall Buildings (Historic England, 2015) updates previous guidance by English Heritage and the Commission for Architecture and Built Environment (CABE), produced in 2007. It seeks to guide people involved in planning for and designing tall buildings so that they may be delivered in a sustainable and successful way through the development plan and development management process.

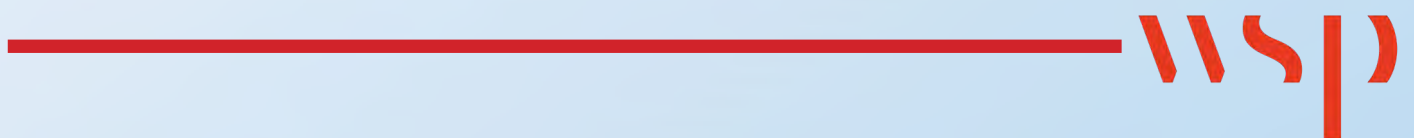
4.7 “Planning applications for tall buildings are likely to require an environmental impact assessment (EIA), which would be expected to address matters in respect of both the proposed building and its cumulative impact, including: ...

e. Other relevant environmental issues, particularly sustainability and environmental performance, e.g. the street level wind environment”

4.10 “...Consideration of the impact on the local environment is also important, including microclimate, overshadowing, night-time appearance, light pollution, vehicle movements, the environment and amenity of those in the vicinity of the building, and the impact on the pedestrian experience.”

Appendix 11.2

Contour Wind Plots - Pedestrian Safety
Assessment



Results for Annual safety

Baseline



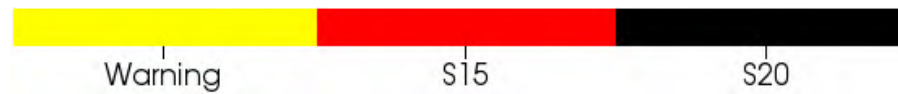
Proposed



Cumulative



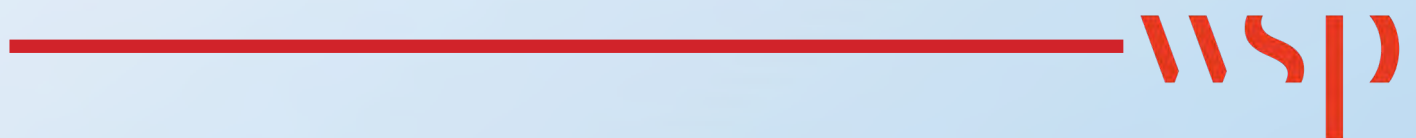
Project:
Echo Street, Manchester



Created by: georgequixley
Date: 2023-04-20

Appendix 11.3

Contour Wind Plots - Pedestrian Comfort
Assessment



Results for Allyear comfort

Baseline



Proposed



Cumulative



Project:
Echo Street, Manchester



Created by: georgequixley
Date: 2023-04-20

Results for Autumn comfort

Baseline



Proposed



Cumulative



Project:
Echo Street, Manchester



Created by: georgequixley
Date: 2023-04-20

Results for Spring comfort

Baseline



Proposed



Cumulative



Project:
Echo Street, Manchester



Created by: georgequixley
Date: 2023-04-20

Results for Summer comfort

Baseline



Proposed



Cumulative



Project:
Echo Street, Manchester



Created by: georgequixley
Date: 2023-04-20

Results for Winter comfort

Baseline



Proposed



Cumulative



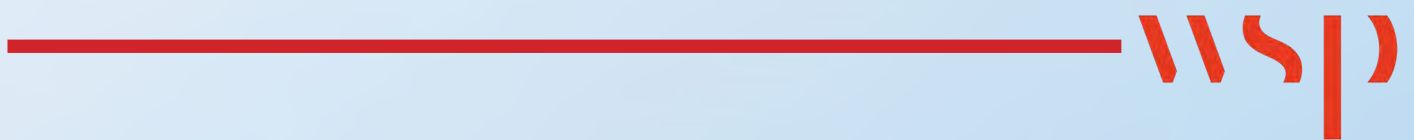
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Echo Street, Manchester



Created by: georgequixley
Date: 2023-04-20

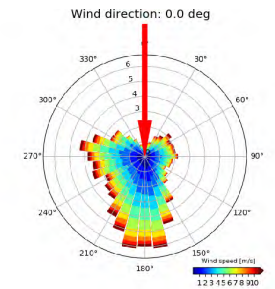
Appendix 11.4

Contour Plots for Individual Wind Directions

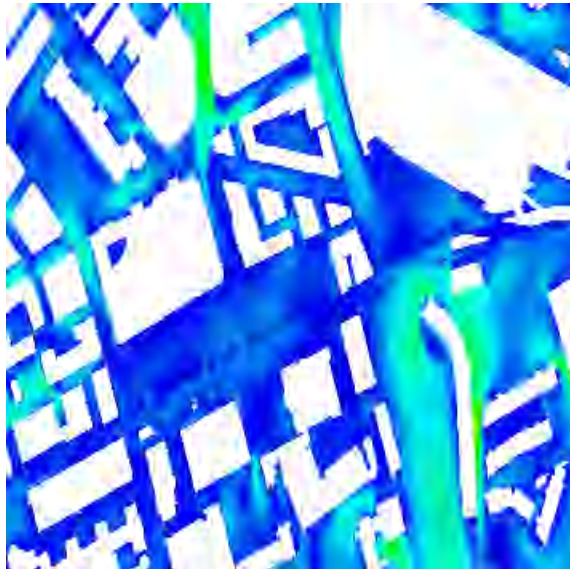


0deg: Velocity contours at 1.5m above ground

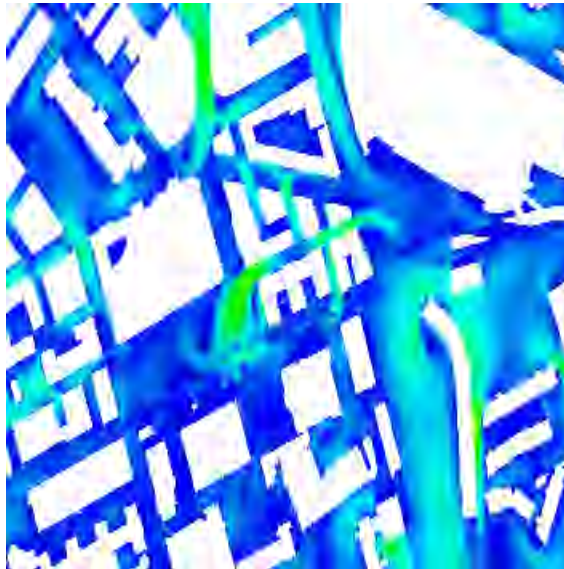
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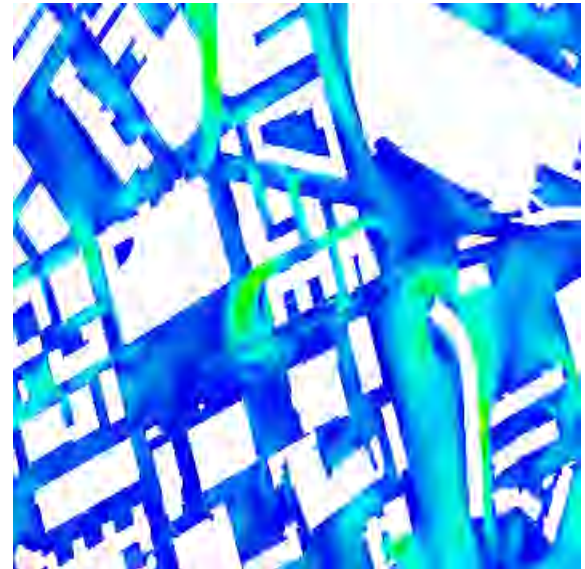
Baseline



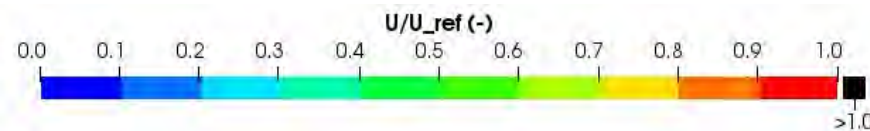
Proposed



Cumulative



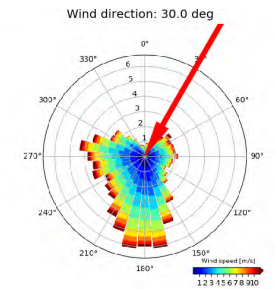
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Echo Street, Manchester



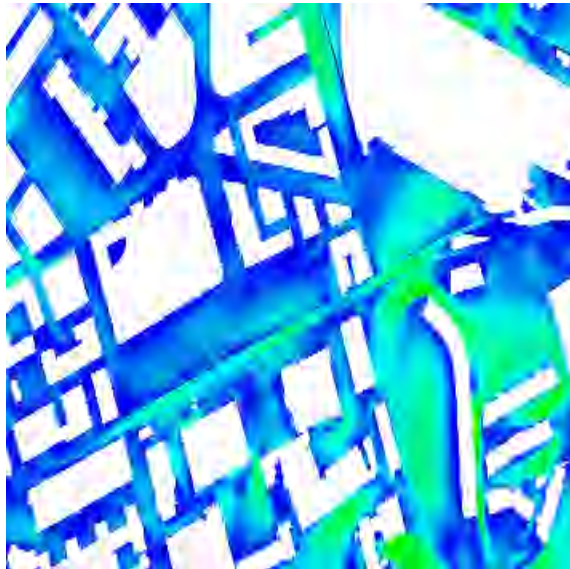
Created by: georgequixley
Date: 2023-04-20

30deg: Velocity contours at 1.5m above ground

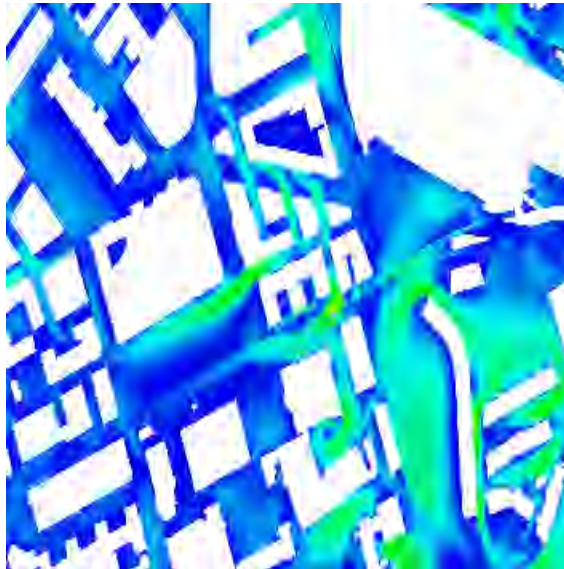
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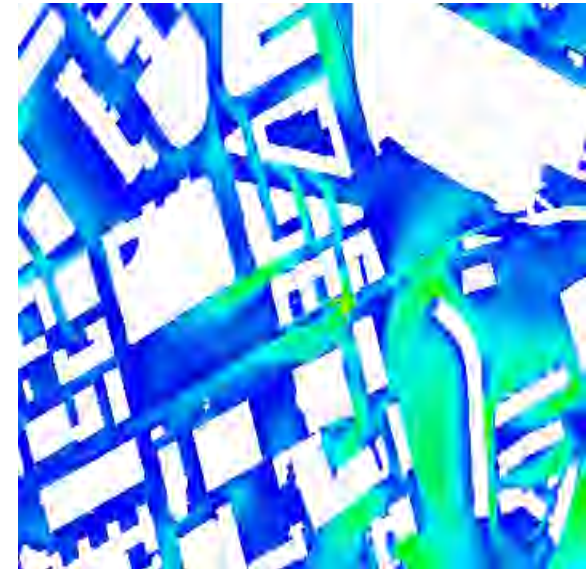
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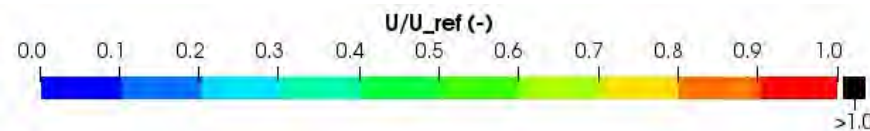
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Cumulative



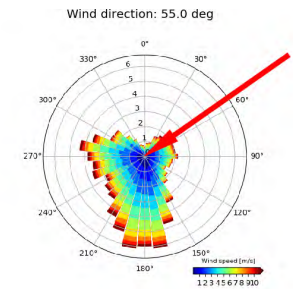
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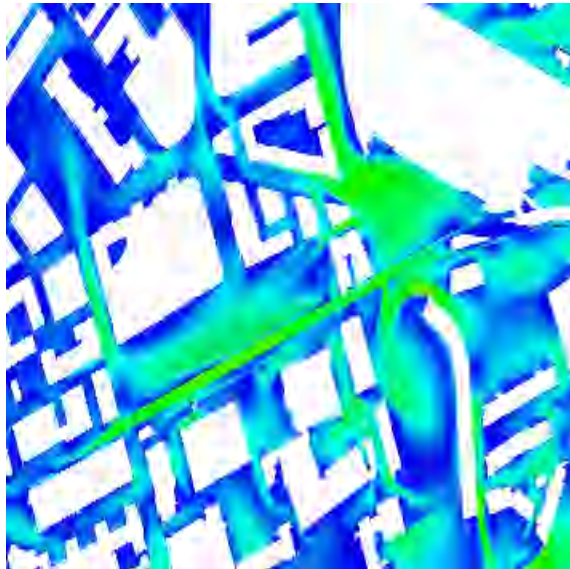
Created by: georgequixley
Date: 2023-04-20

55deg: Velocity contours at 1.5m above ground

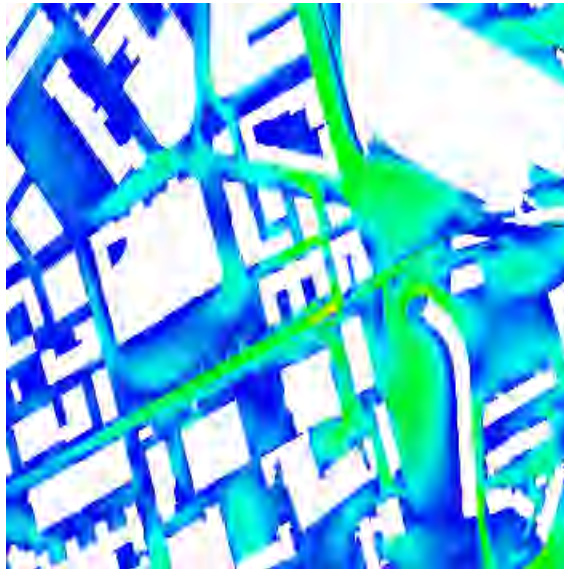
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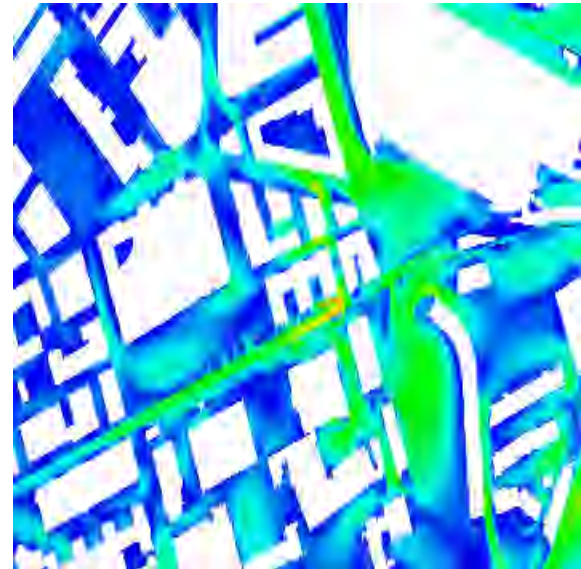
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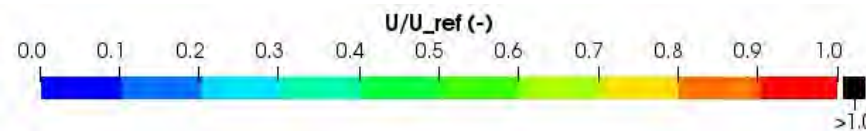
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Cumulative



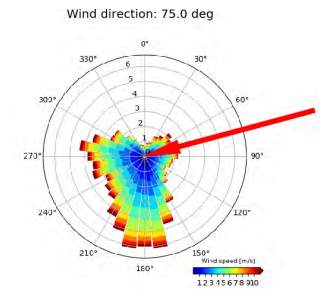
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Echo Street, Manchester



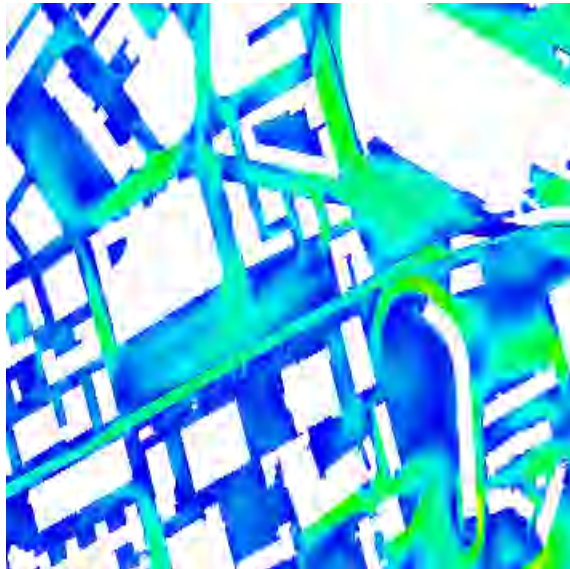
Created by: georgequixley
Date: 2023-04-20

75deg: Velocity contours at 1.5m above ground

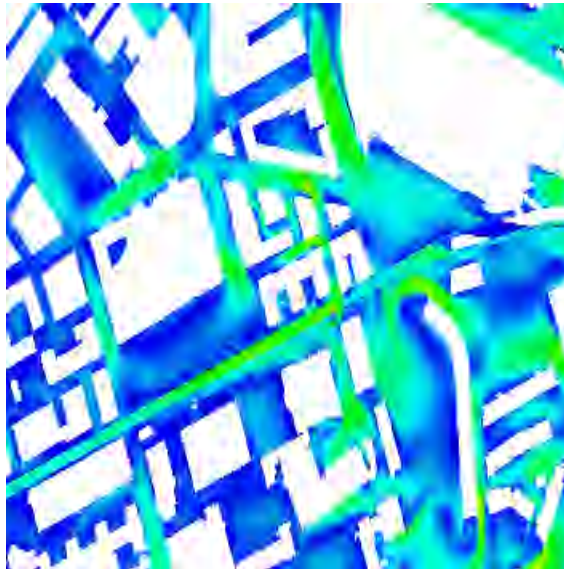
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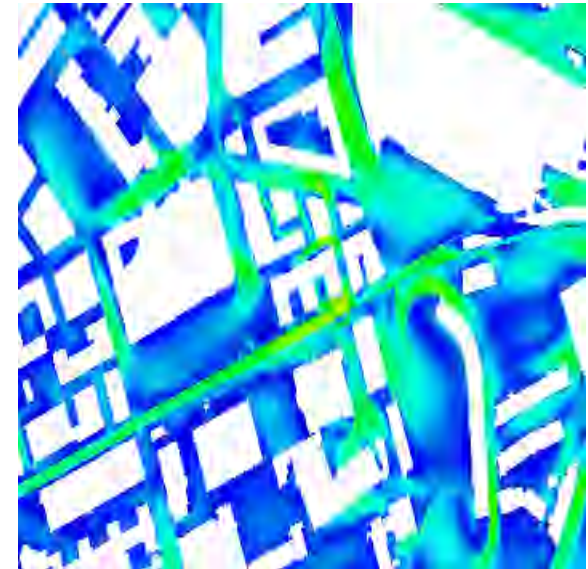
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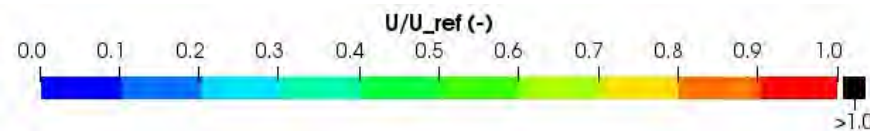
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Cumulative



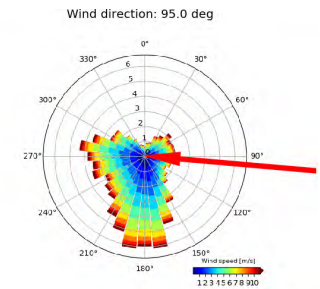
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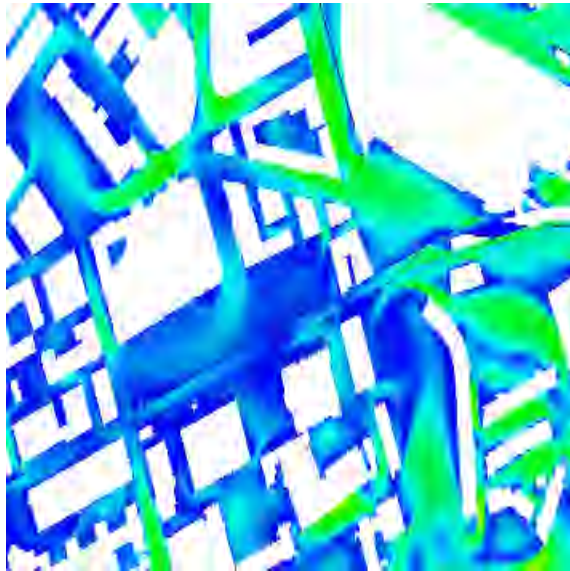
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95deg: Velocity contours at 1.5m above ground

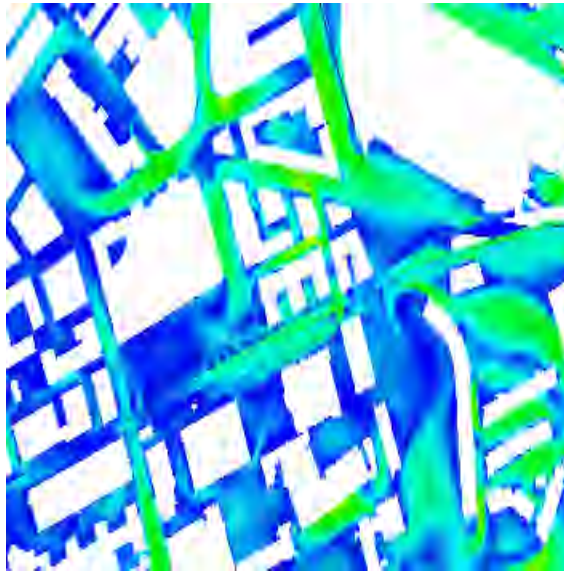
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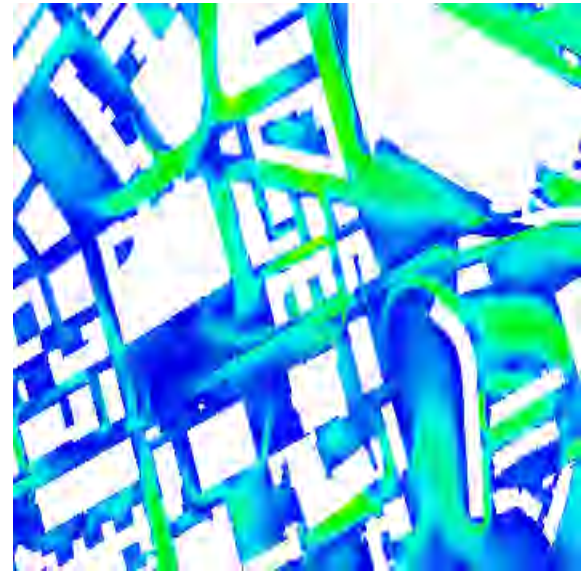
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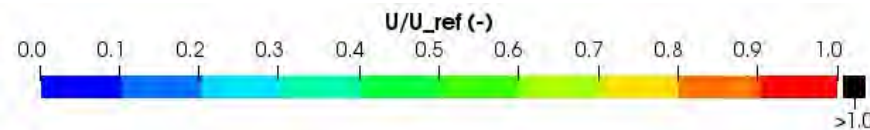
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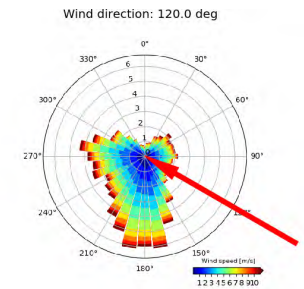
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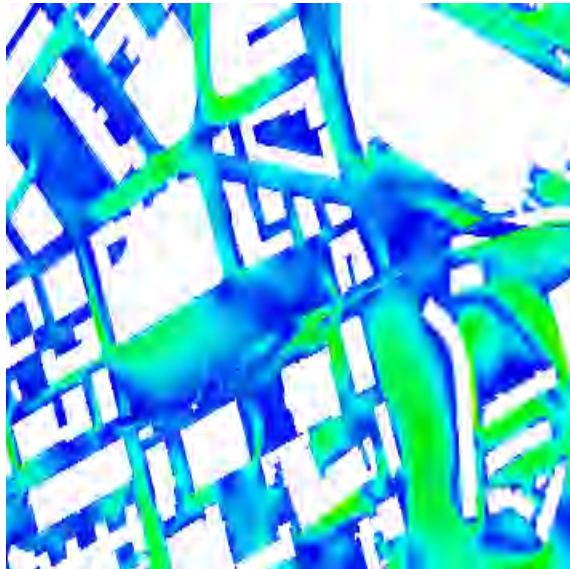
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Date: 2023-04-20

120deg: Velocity contours at 1.5m above ground

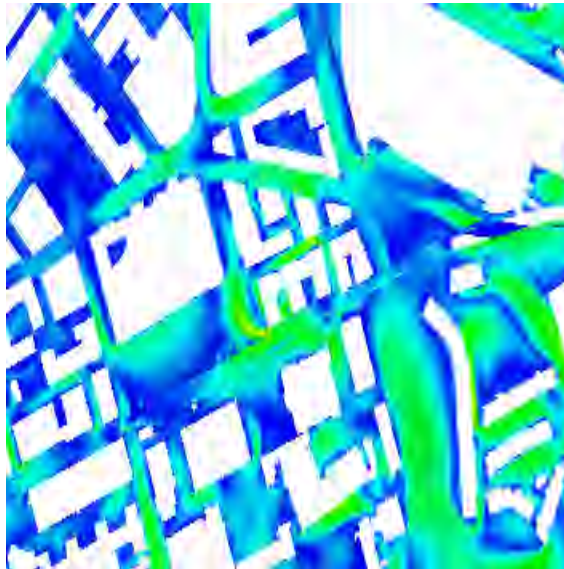
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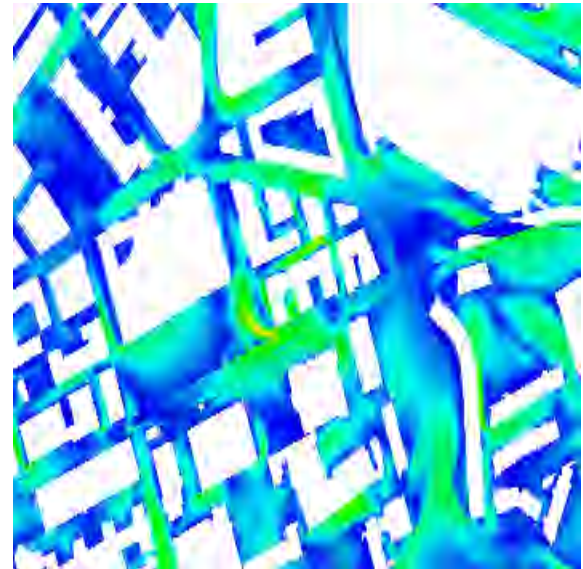
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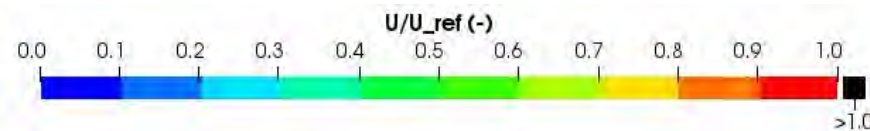
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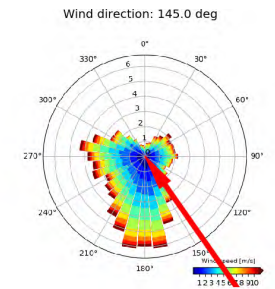
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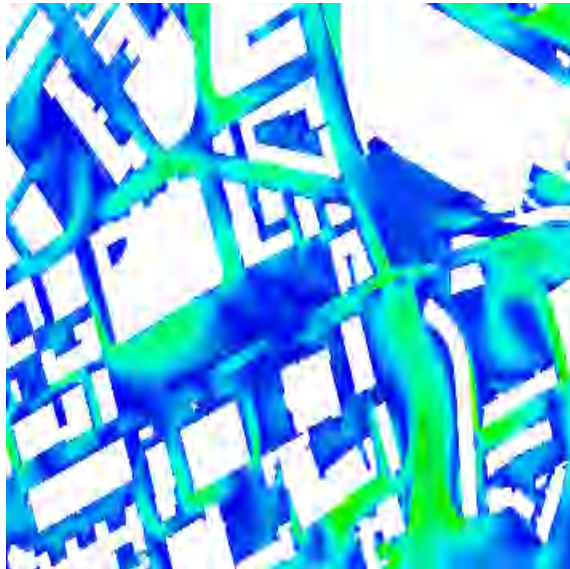
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145deg: Velocity contours at 1.5m above ground

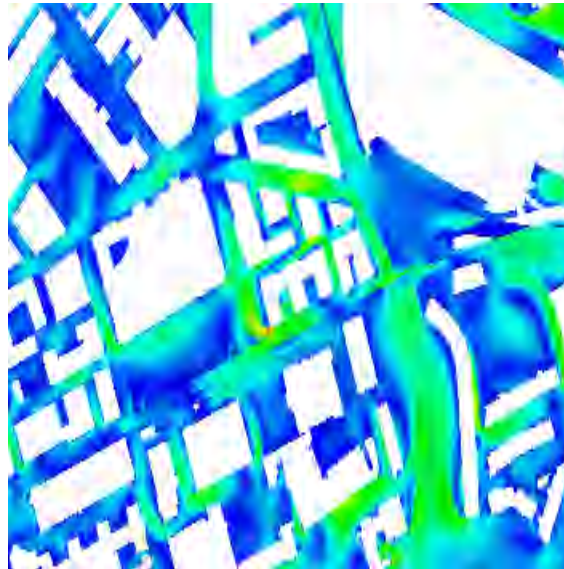
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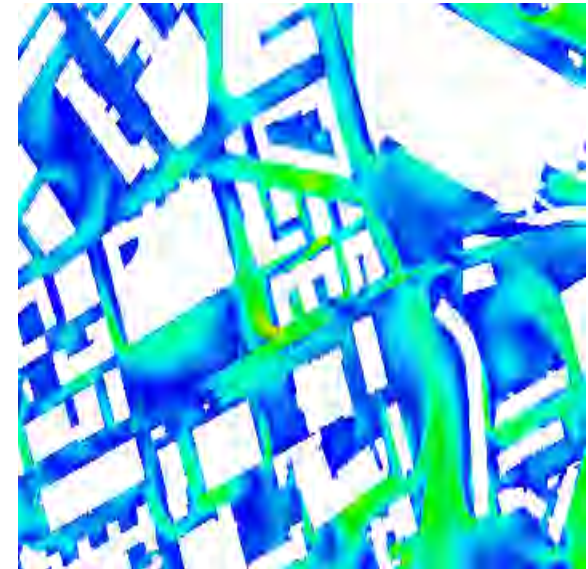
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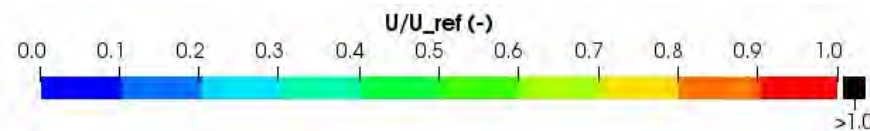
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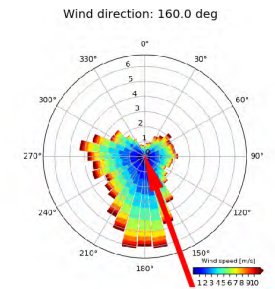
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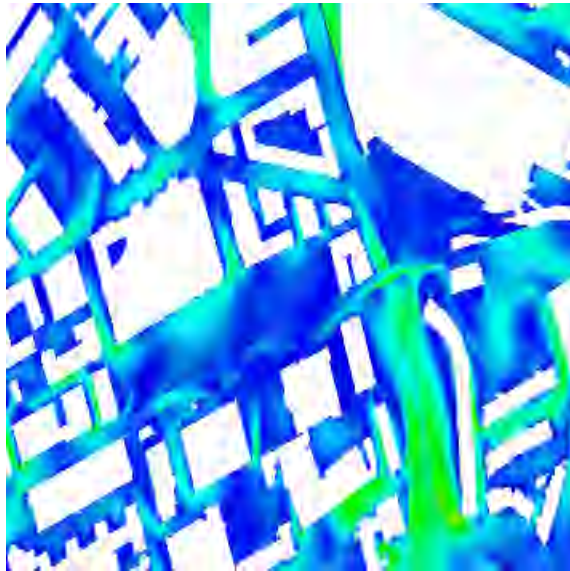
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160deg: Velocity contours at 1.5m above ground

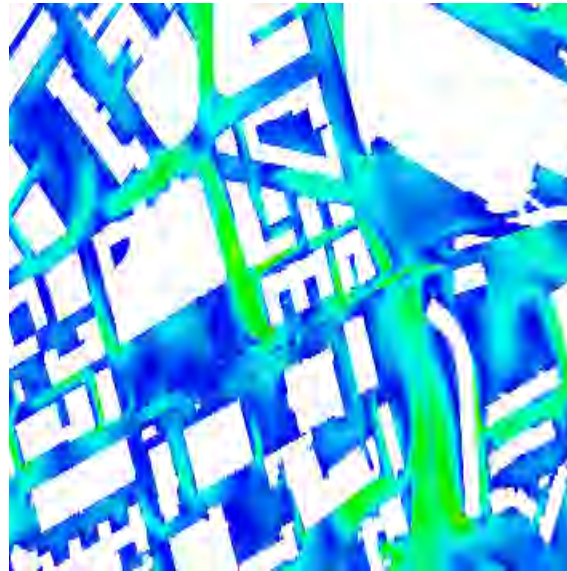
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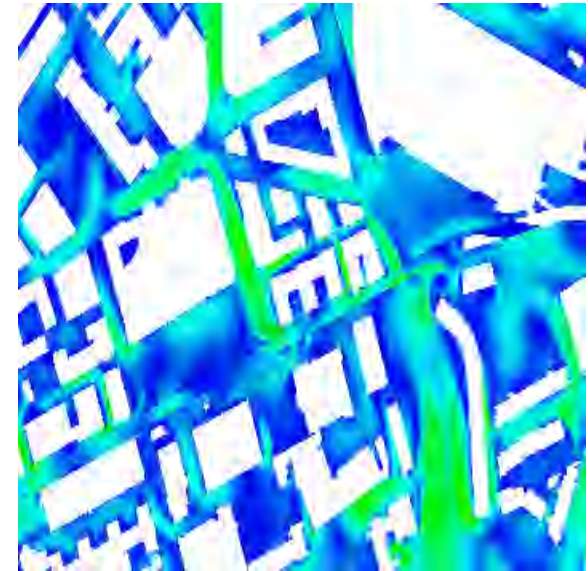
Baseline



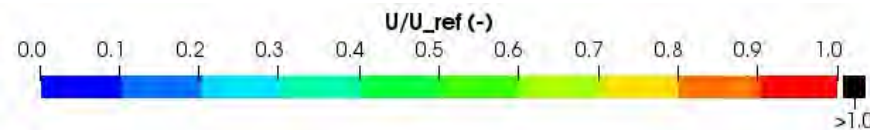
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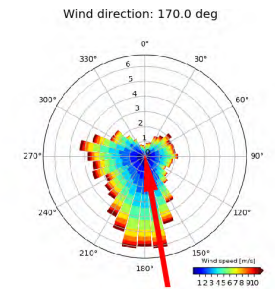
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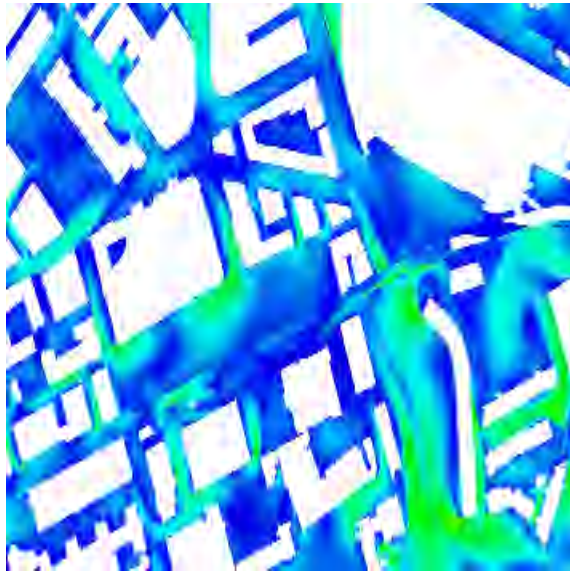
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170deg: Velocity contours at 1.5m above ground

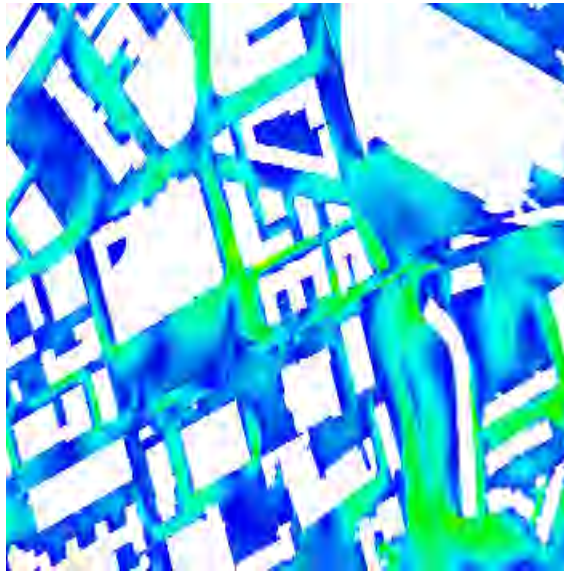
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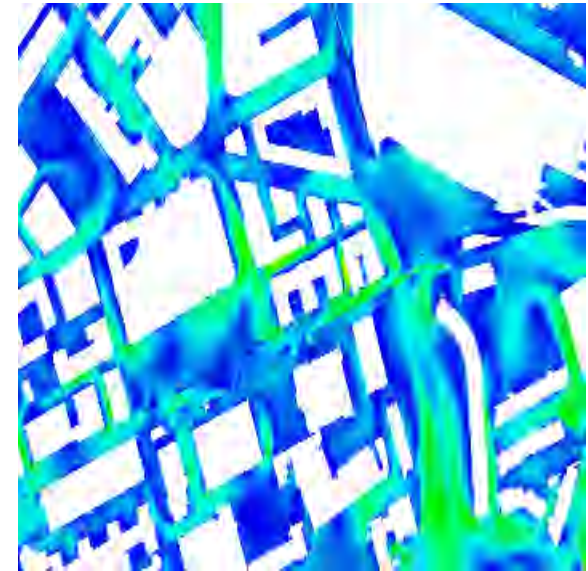
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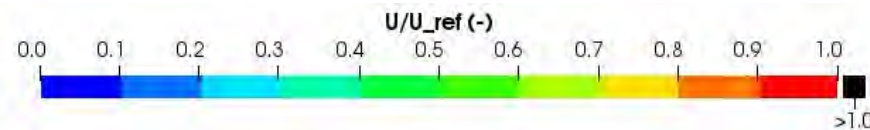
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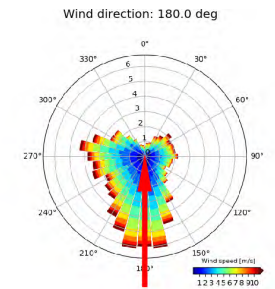
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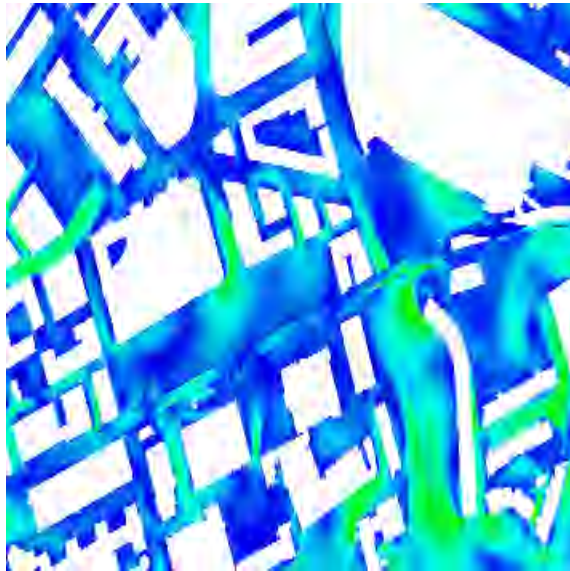
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Date: 2023-04-20

180deg: Velocity contours at 1.5m above ground

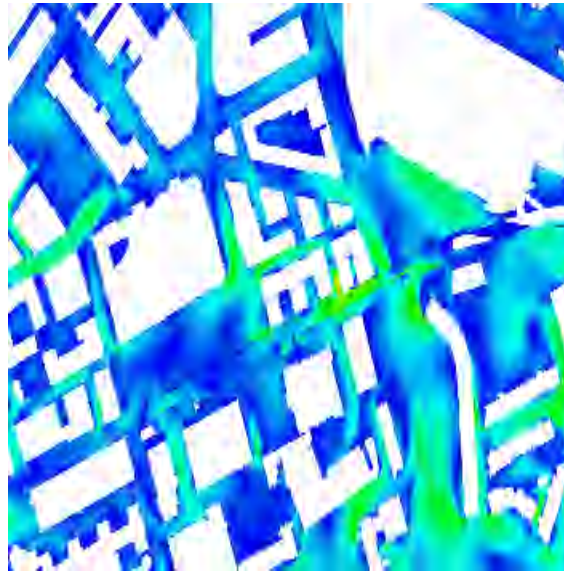
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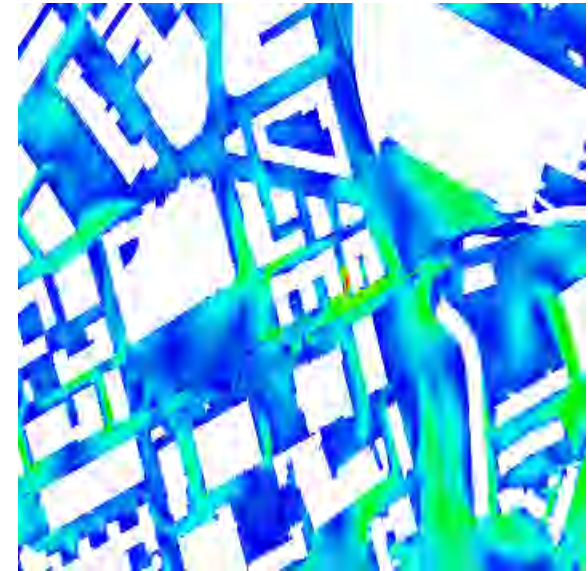
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Proposed

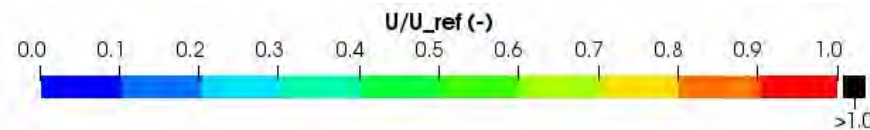


Cumulative



Project:

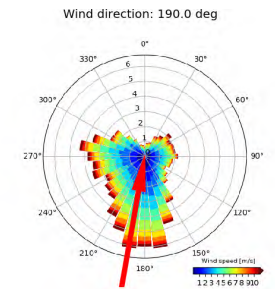
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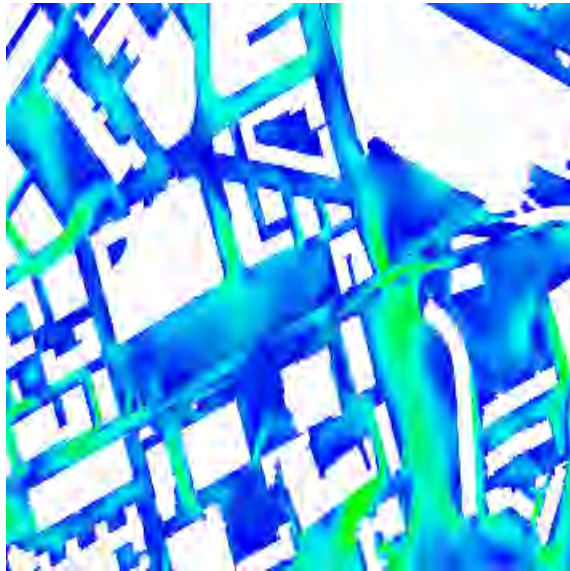
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Date: 2023-04-20

190deg: Velocity contours at 1.5m above ground

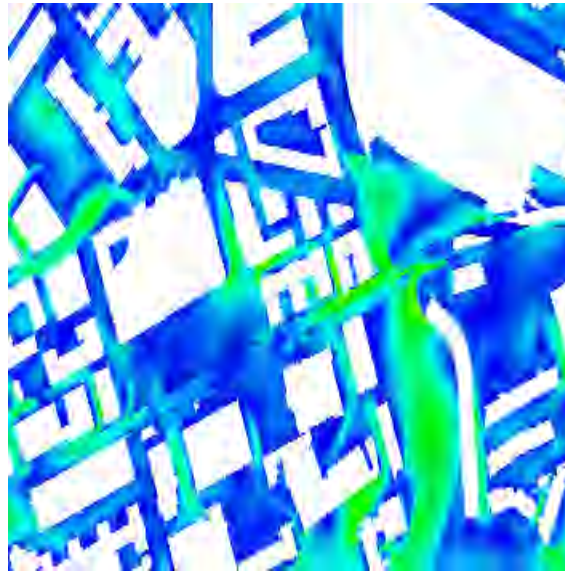
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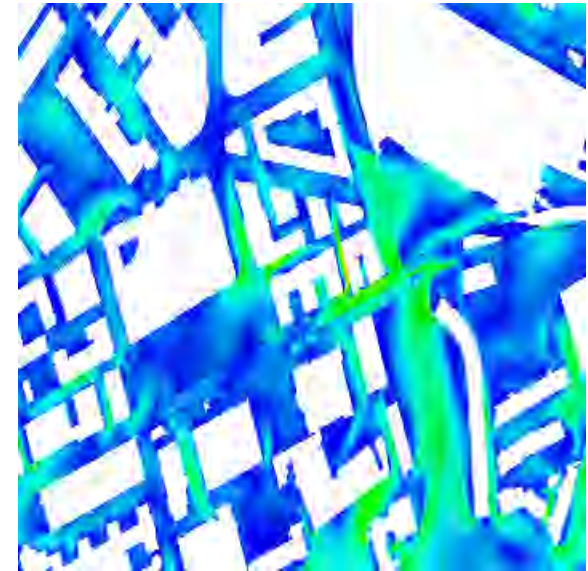
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Proposed

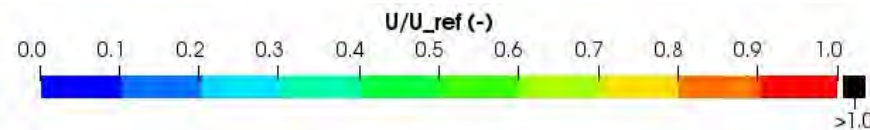


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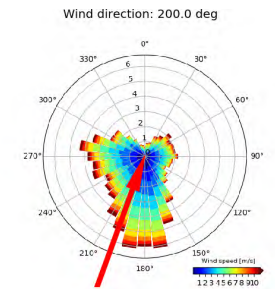
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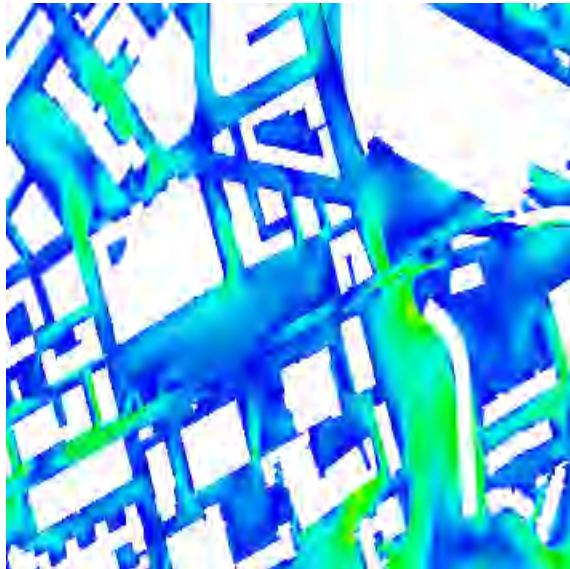
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200deg: Velocity contours at 1.5m above ground

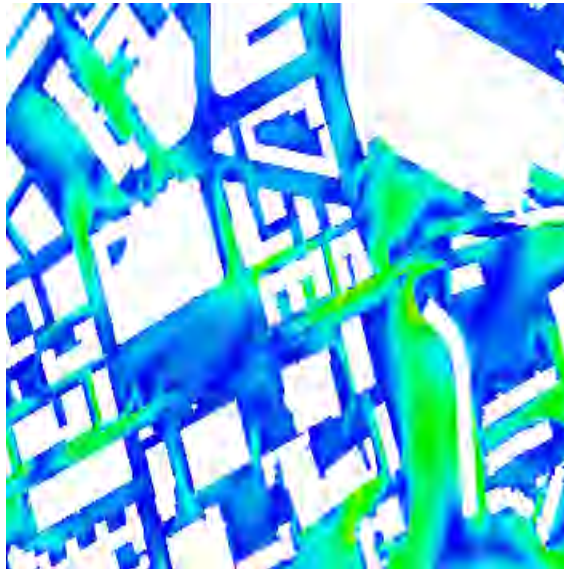
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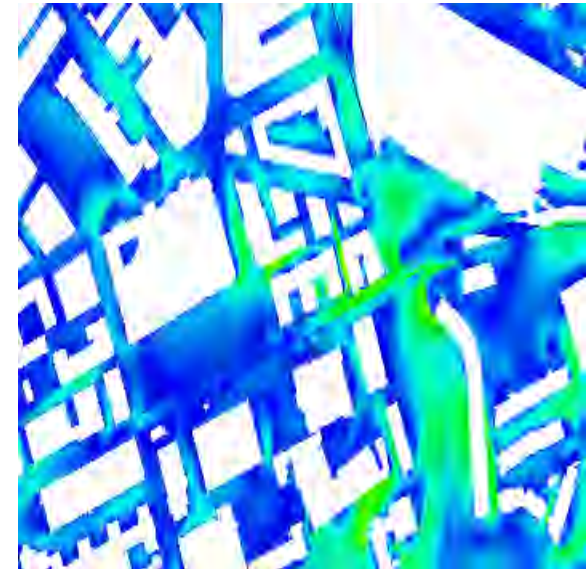
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Proposed

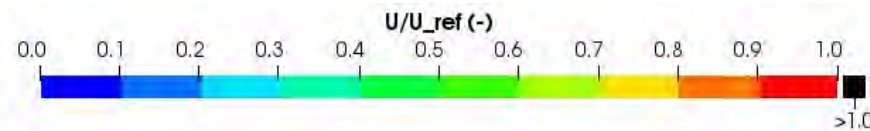


Cumulative



Project:

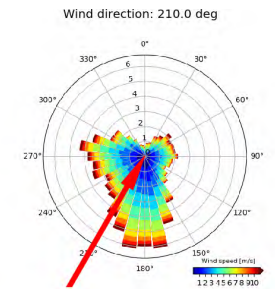
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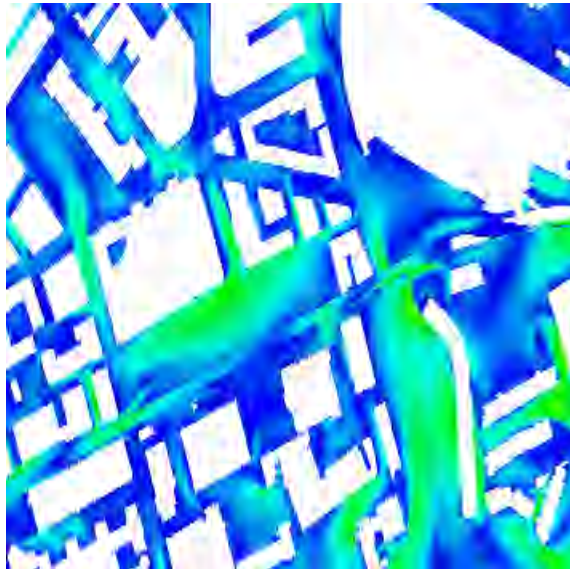
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210deg: Velocity contours at 1.5m above ground

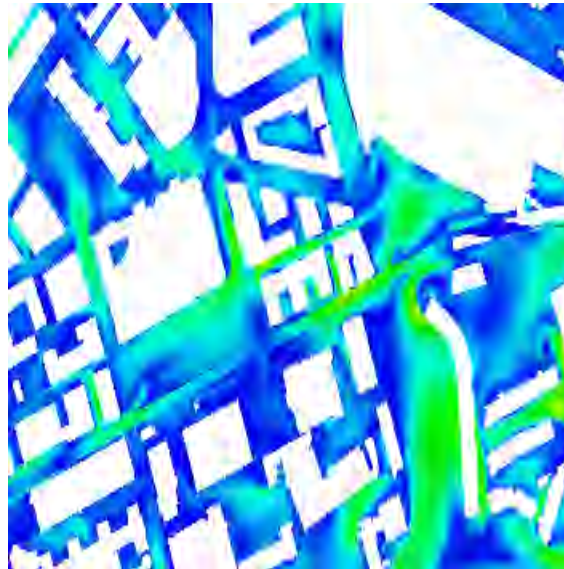
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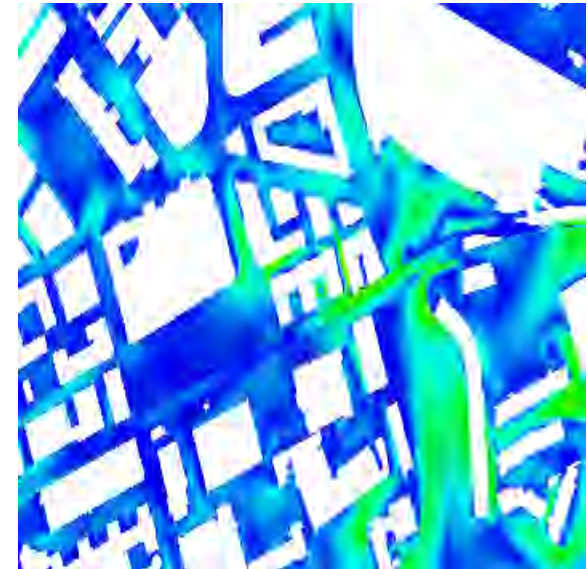
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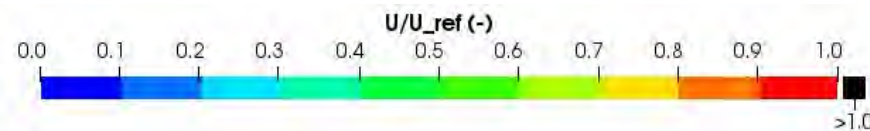
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Cumulative



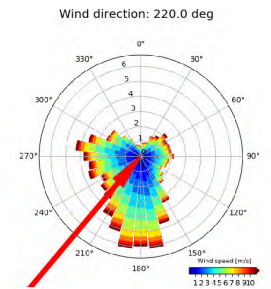
Project:
Echo Street, Manchester



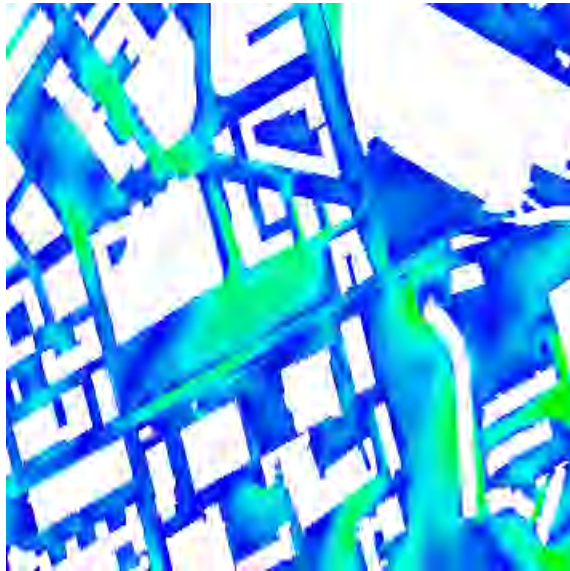
Created by: georgequixley
Date: 2023-04-20

220deg: Velocity contours at 1.5m above ground

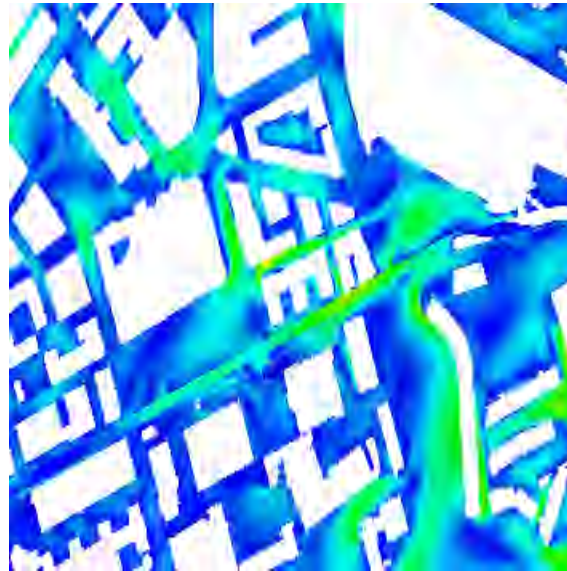
$U_{ref} = 10\text{m/s}$ at 90m height



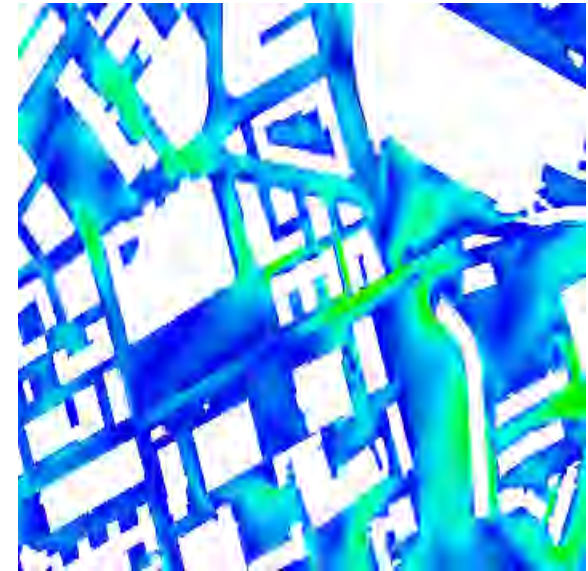
Baseline



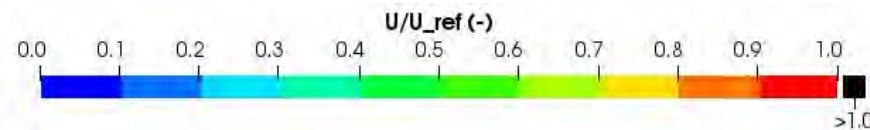
Proposed



Cumulative



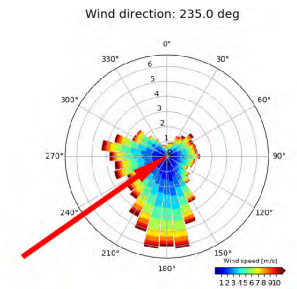
Project:
Echo Street, Manchester



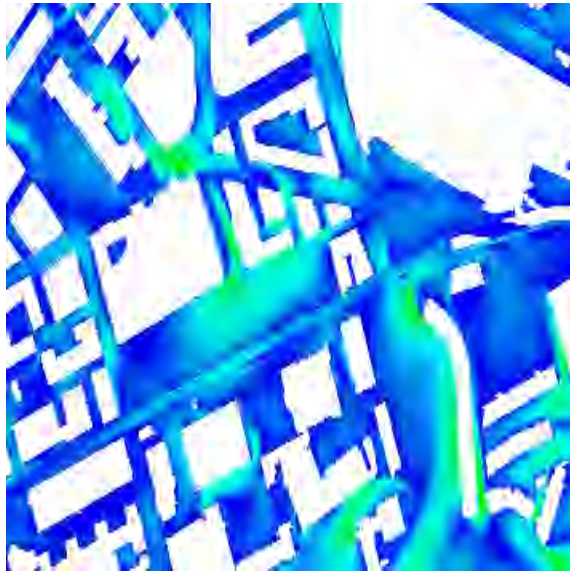
Created by: georgequixley
Date: 2023-04-20

235deg: Velocity contours at 1.5m above ground

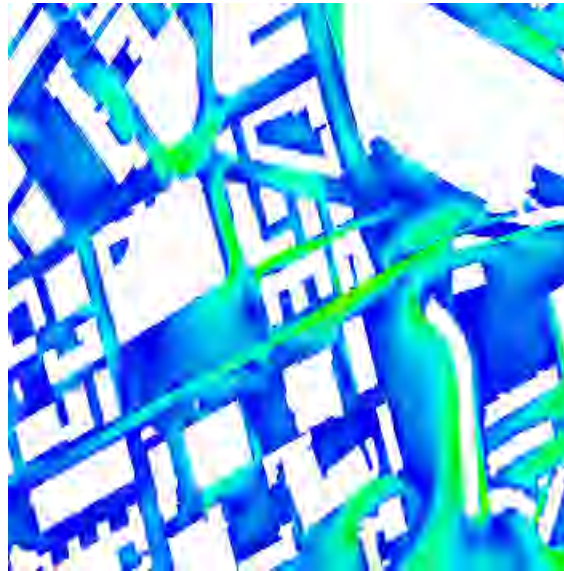
$U_{ref} = 10\text{m/s}$ at 90m height



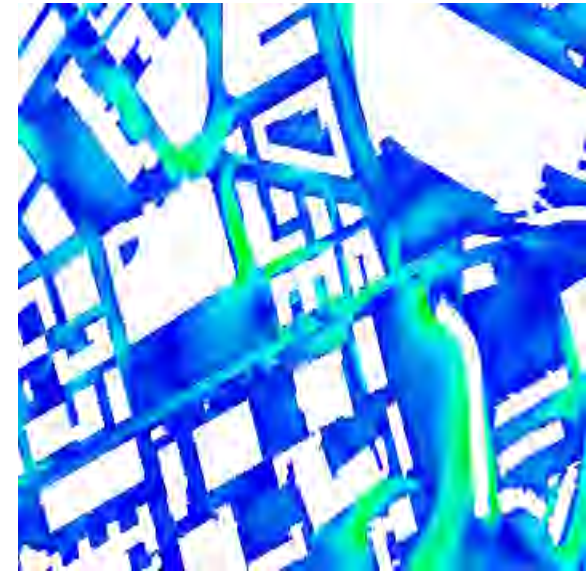
Baseline



Proposed

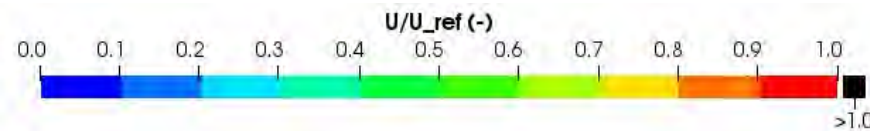


Cumulative



Project:

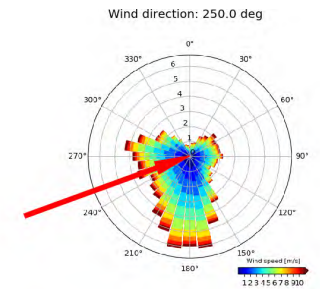
Echo Street, Manchester



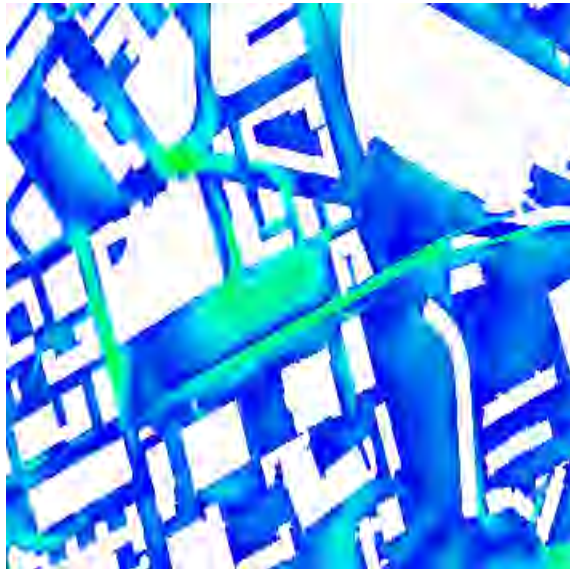
Created by: georgequixley
Date: 2023-04-20

250deg: Velocity contours at 1.5m above ground

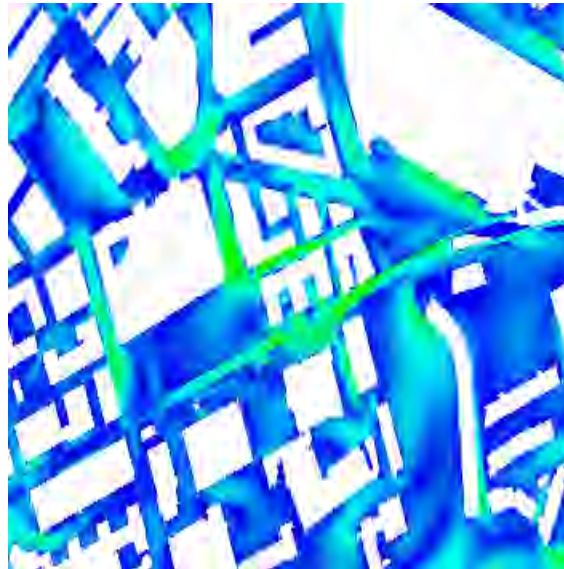
$U_{ref} = 10\text{m/s}$ at 90m height



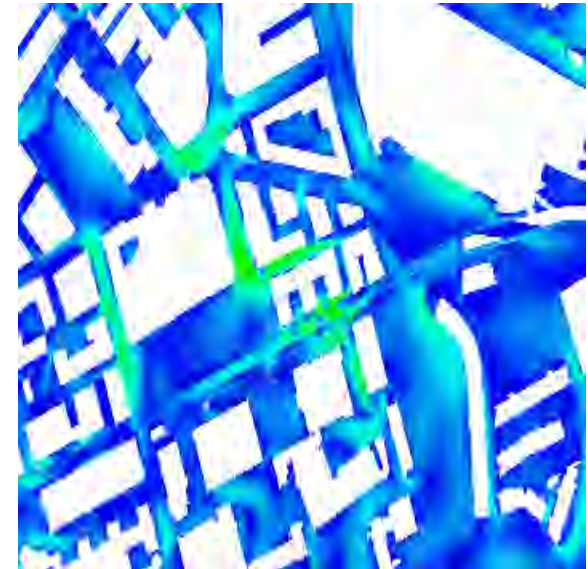
Baseline



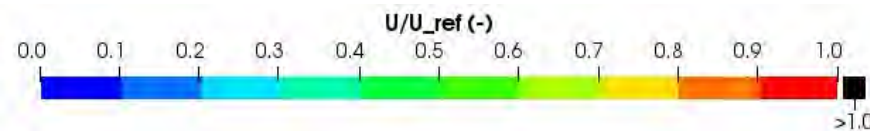
Proposed



Cumulative



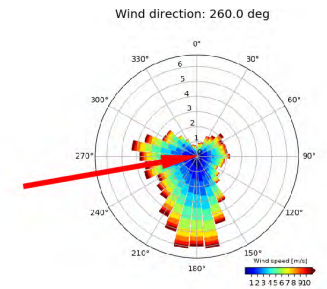
Project:
Echo Street, Manchester



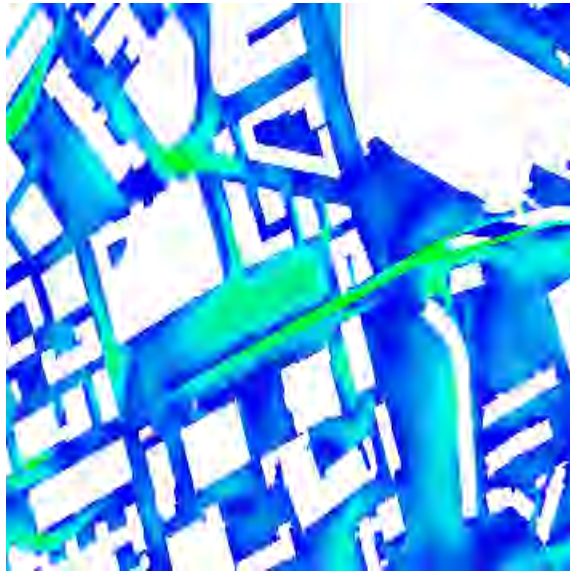
Created by: georgequixley
Date: 2023-04-20

260deg: Velocity contours at 1.5m above ground

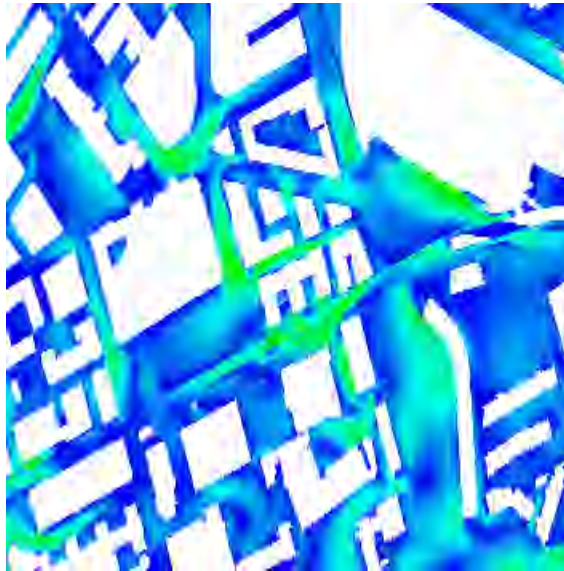
$U_{ref} = 10\text{m/s}$ at 90m height



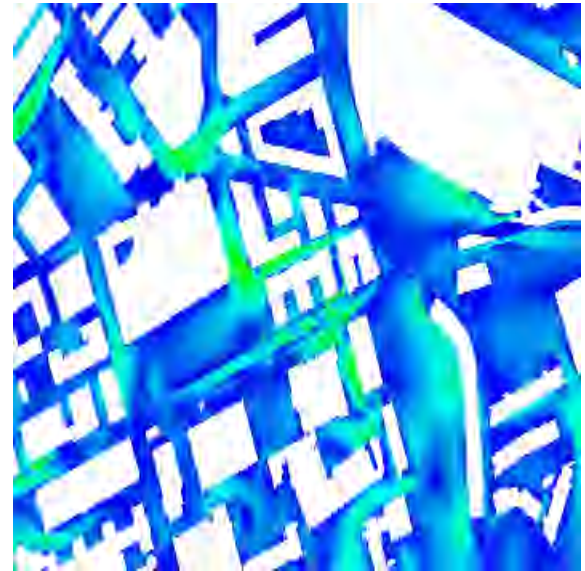
Baseline



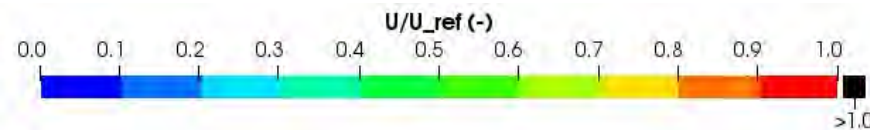
Proposed



Cumulative



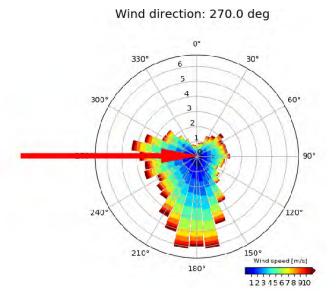
Project:
Echo Street, Manchester



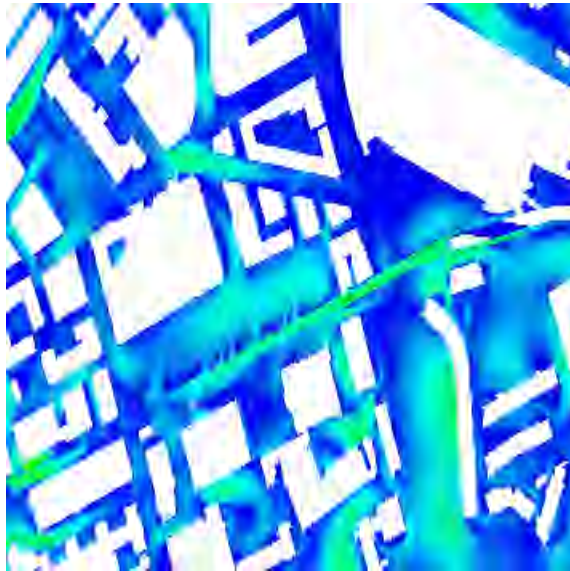
Created by: georgequixley
Date: 2023-04-20

270deg: Velocity contours at 1.5m above ground

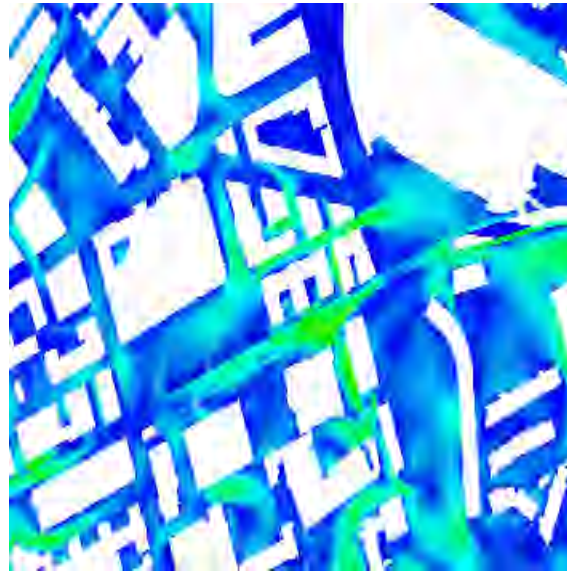
$U_{ref} = 10\text{m/s}$ at 90m height



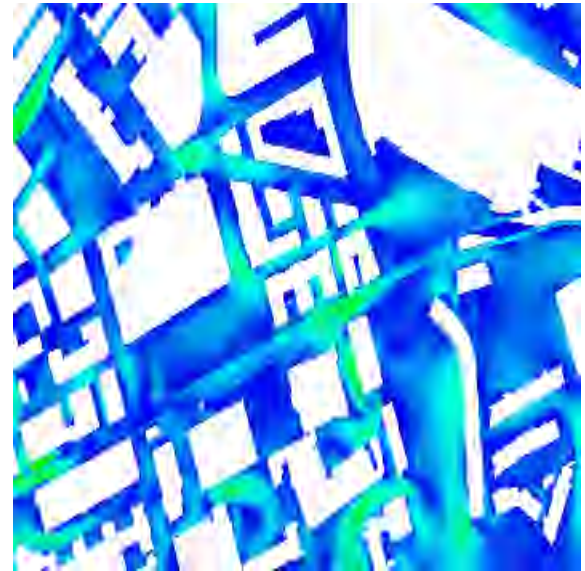
Baseline



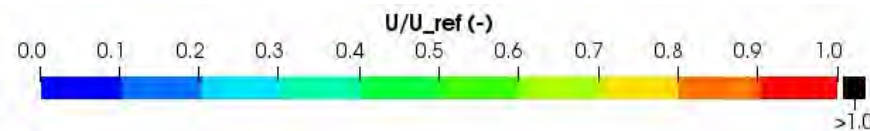
Proposed



Cumulative



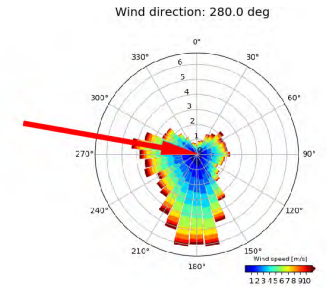
Project:
Echo Street, Manchester



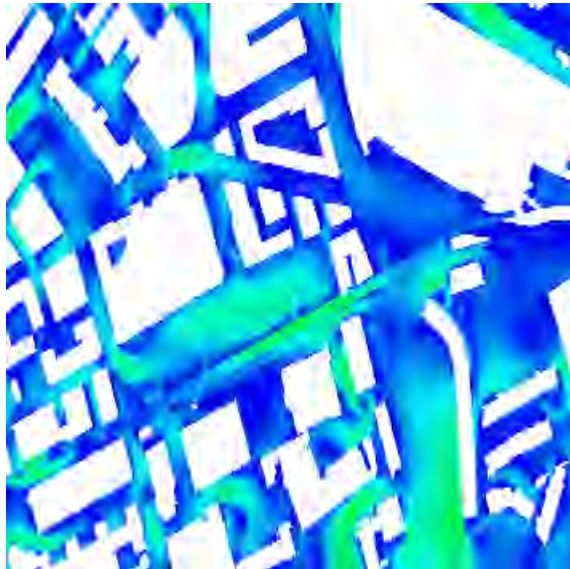
Created by: georgequixley
Date: 2023-04-20

280deg: Velocity contours at 1.5m above ground

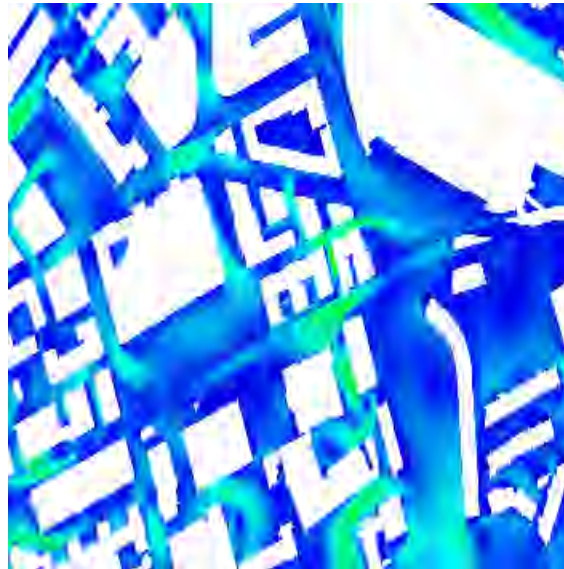
$U_{ref} = 10\text{m/s}$ at 90m height



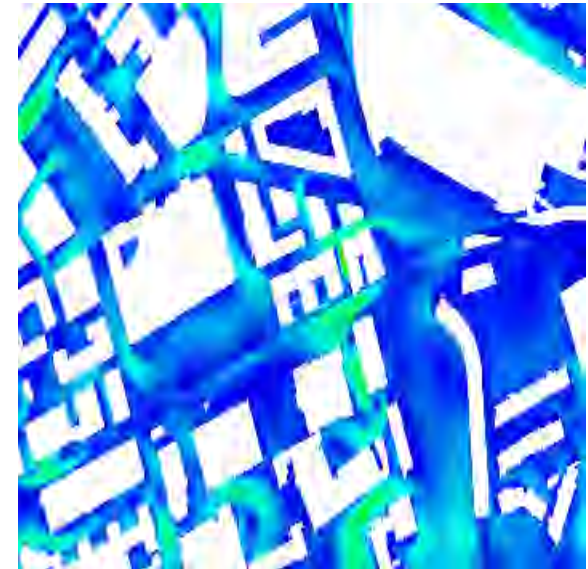
Baseline



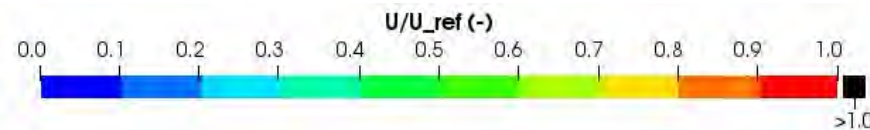
Proposed



Cumulative



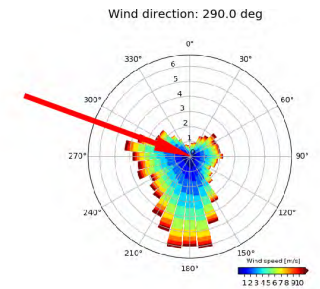
Project:
Echo Street, Manchester



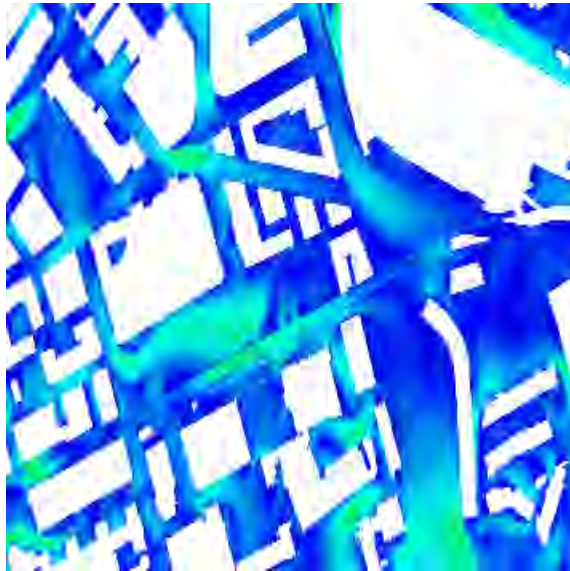
Created by: georgequixley
Date: 2023-04-20

290deg: Velocity contours at 1.5m above ground

$U_{ref} = 10\text{m/s}$ at 90m height



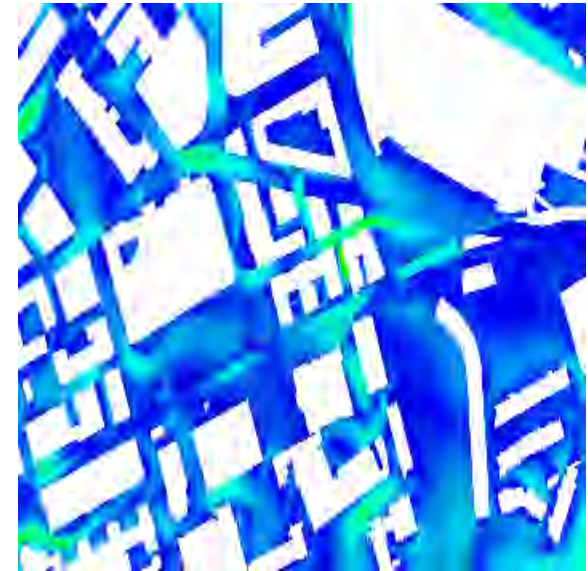
Baseline



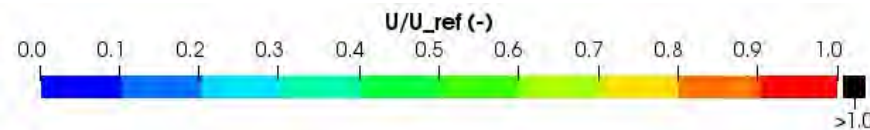
Proposed



Cumulative



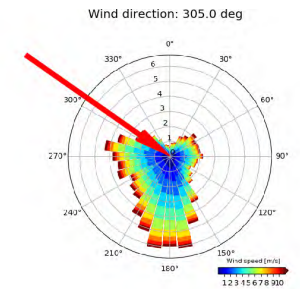
Project:
Echo Street, Manchester



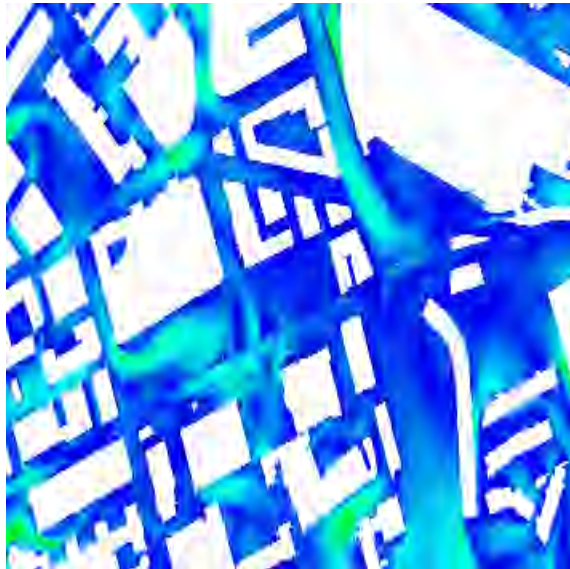
Created by: georgequixley
Date: 2023-04-20

305deg: Velocity contours at 1.5m above ground

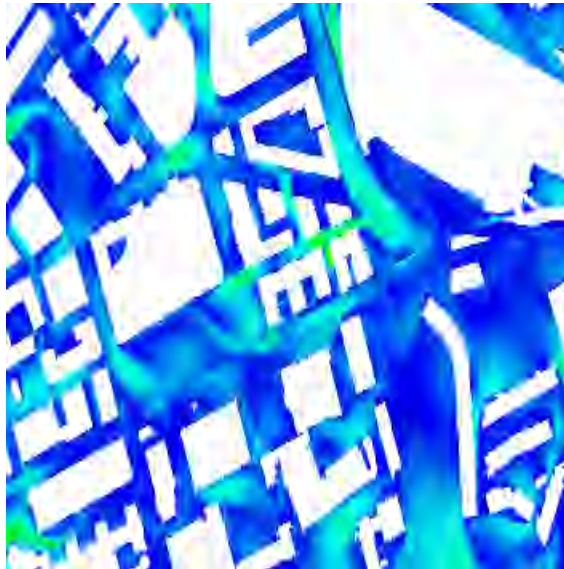
$U_{ref} = 10\text{m/s}$ at 90m height



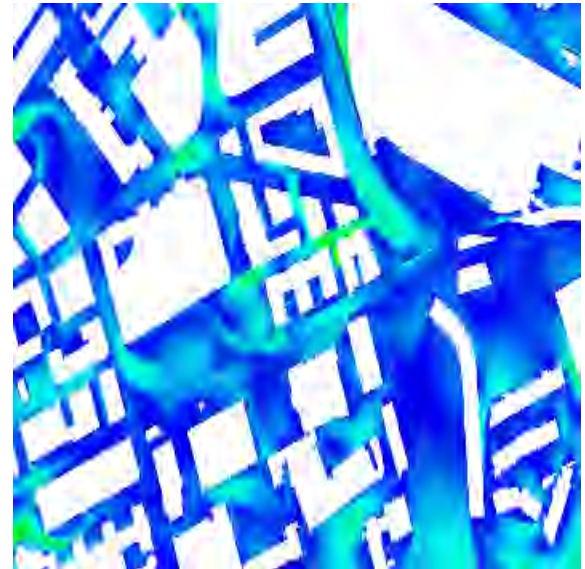
Baseline



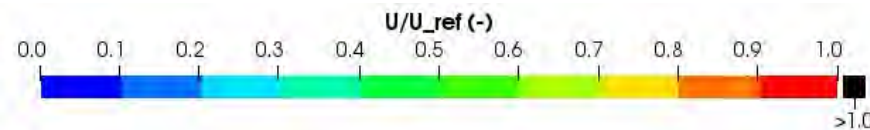
Proposed



Cumulative



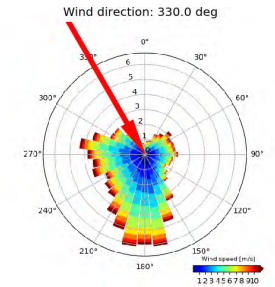
Project:
Echo Street, Manchester



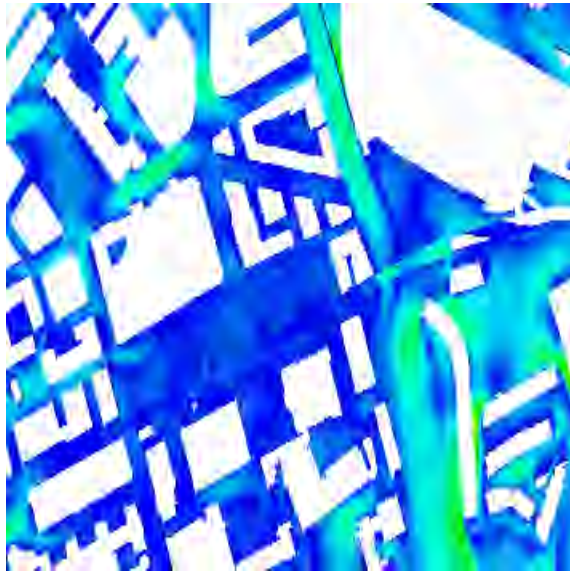
Created by: georgequixley
Date: 2023-04-20

330deg: Velocity contours at 1.5m above ground

$U_{ref} = 10\text{m/s}$ at 90m height



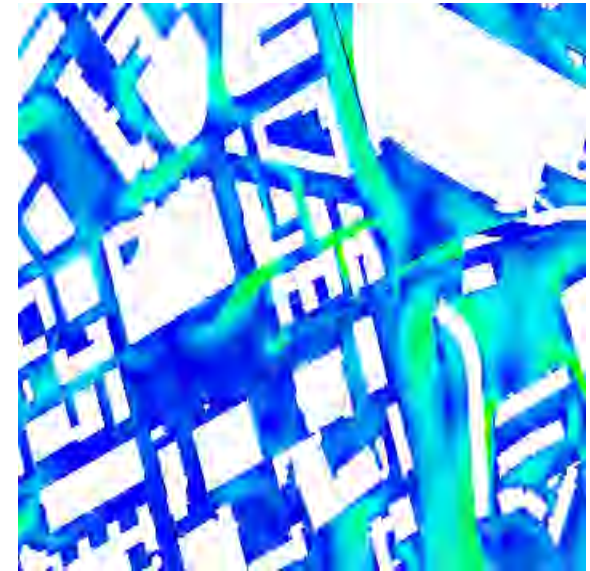
Baseline



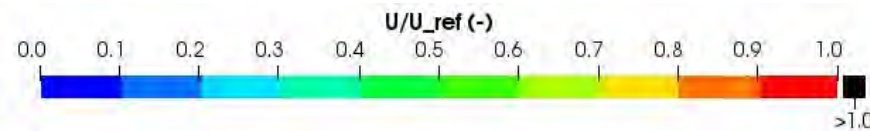
Proposed



Cumulative



Project:
Echo Street, Manchester



Created by: georgequixley
Date: 2023-04-20