

Author: Jacky K.C. LAI

Supervisor: Rosie van der Schans, Lex van Deudekom, Leeke Reinders

Passage of Wind

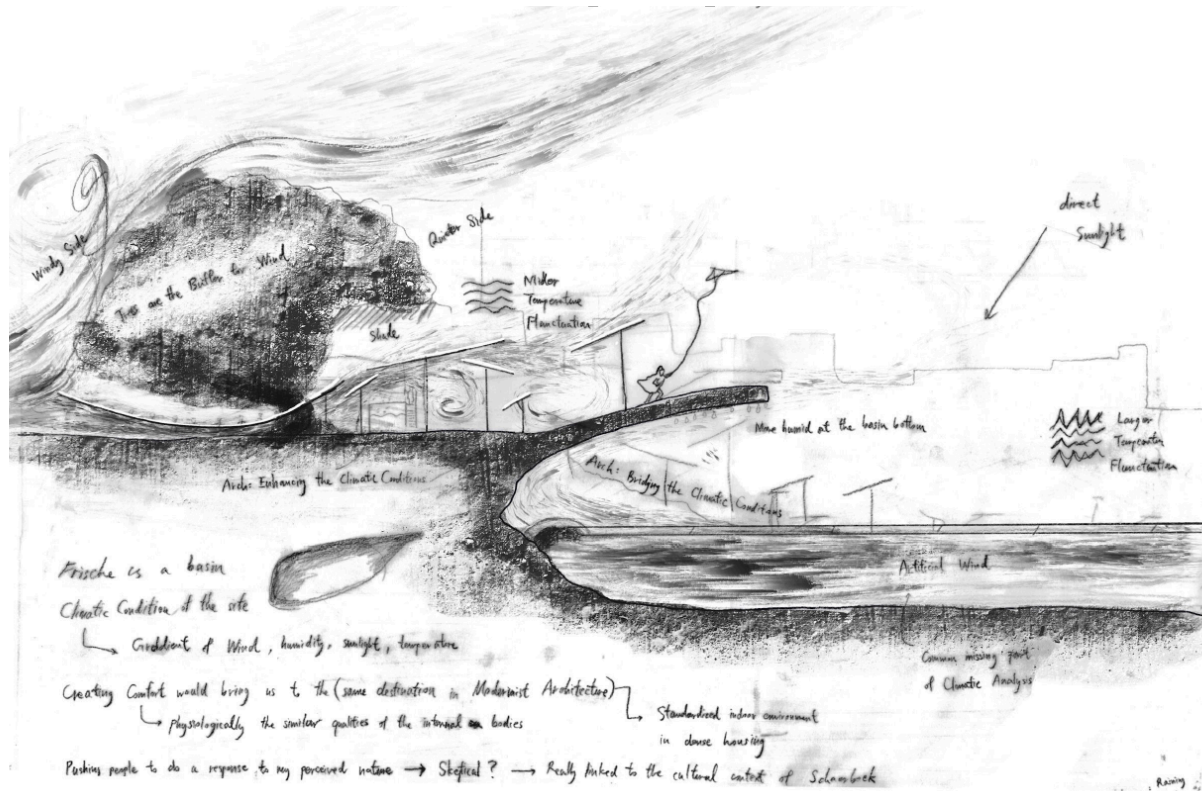


Figure 1 Sketching Climate, Author, 2023.

Climatic Biography - The Plural of Weather

As aforementioned in the research plan, the project *Passage of Wind*, or 4.8×10^{10} raindrops in the *frische* in the previous proposal, would be guided by in-situ research on the climatic characteristics of the site Josaphat friche in Brussels. To implement the research, a mobile weather station was used as the main tool to collect the statistical meteorological data from the site, alongside visual observations and photographs. Since it is an individual project, the methodology of the field study was restricted to my mobility and the time range of the data collection process. Therefore, a thorough climatic analysis was almost impractical in this project but a very specific interest in the aerial landscape was still possible to be investigated within these constraints.

Arriving at the friche, I noted down the meteorological data reflected from the mobile weather station including temperature, apparent temperature, air pressure, humidity, wind speed and wind direction. This observation process lasted for around 10 minutes until I moved to the next locations with different urban and landscape contexts. At the end of the day, 13 locations inside the friche

were inspected and a table of contents was illustrated to extract the observable variations. Since there were no significant conflicts in the air mass over the city, such as cold fronts and cyclones, the general climatic condition on the day of the inspection was relatively calm compared to a stormy season in Brussels. The humidity, temperature and air pressure almost remained in the same conditions during the brief field study while there was more variation in the measurements of the local wind including the wind speed, direction and the apparent temperature influenced by the heat exchange in the air.

		Humidity	Temperature	Wind speed	Wind direction	Air pressure	Feels like
1435-1455	Park Wahis	85	5.6	2.2	SSW	1021	3.8
1515 (S train)	Train Track Cottage	85	5.5	0.6	E	1021	5.5
1517 (Prevail)		-	-	-	SSW	-	-
1522 (N train)		-	5.4	1.0	SSW	-	5.4
1532	Triangular bump	85	5.0	0.9	SSW	-	4.9
1540	Sport field	-	4.7	1.6	NWW	-	2.7
1606	East entrance	-	-	1.5	E / SW	-	3.6
1616	North Sport	85	-	2.2	SW	-	2.7
1626	Proposed bridge entry	-	-	0.8	SW	-	4.5
1639	Evere	-	4.6	3.5	SWS	-	1.7
1649	Industry A	-	-	2.4	SWS	-	2.5
1659	Industry B	-	-	4.0	NWW	-	0.4
1709	Industry Church	-	-	2.0	SWS	-	3.6
1719	Industry C	-	-	1.6	SEE	-	3.6
1729	EMD Music	-	-	1.1	SEE/SWS	-	4.2

Figure 2 Table of Meteorological data of Frich Josaphat, Author, 18 December 2023.

Focusing on the wind direction, the table of data suggested that there could be a prevailing southwest wind dominating the site, with a few exceptions situated near some shelters. This particular hypothesis was also supported by the visual observation of the existing flora which shows that the grass of the friche always tilt to the northeast.



Figure 3 Collage over a photograph of the grass in Frich Josaphat, Author, October 2023.

The feedback from the field study could not illustrate the full climatic characteristics of the site, but it revealed the existence of a prevailing wind and its impact on different urban contexts in the site such as street corners, slopes, treelines and straight roads. Furthermore, the artificial turbulence caused by the trains going through the friche also transformed the landscape by dispersing pollens and seeds from the wind-pollinated plants. These observations were mapped on a site plan to understand the significance of buildings in terms of the aerial landscape.

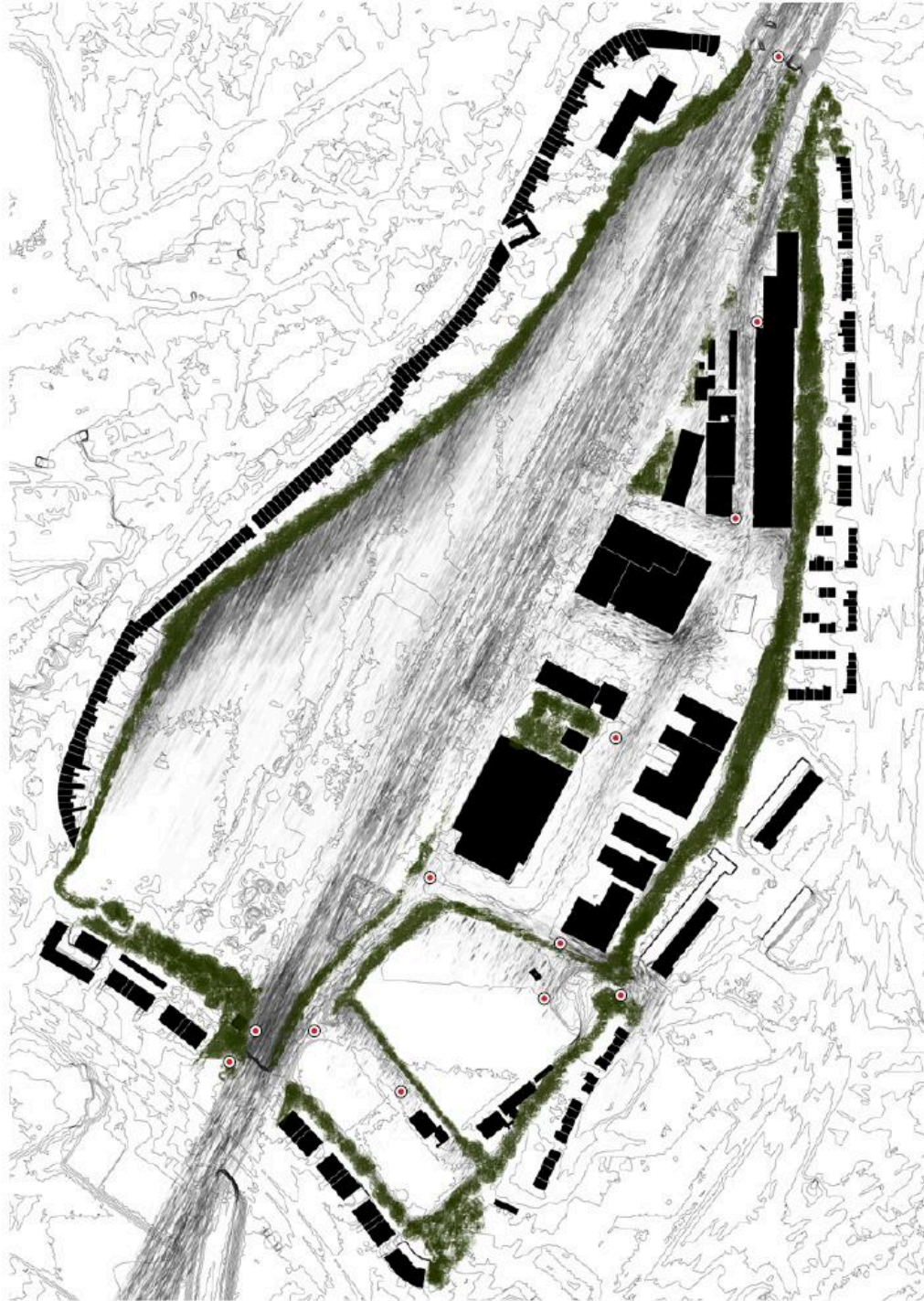


Figure 4 Windmap of Friche Josaphat, Author, 2023.

A Gateway Landscape

Will the wind still travel across the friche in the future? Several voluntary organizations have criticised the Brussels government's plan for real estate and urban developments in Friche Josaphat, claiming that it is not a sustainable proposal to ignore the thriving biodiversity on the site. For instance, Sauvons la Friche Josaphat and some other public associations published "*Plan B Josaphat Manifesto*" in 2021 and suggested an alternative to exclude the western half of the friche from the urban constructions and concentrate the new town establishments on the eastern side. Under this context, the western land would preserve its ecological system and horizon while housing and community amenities could be settled on the opposite side.

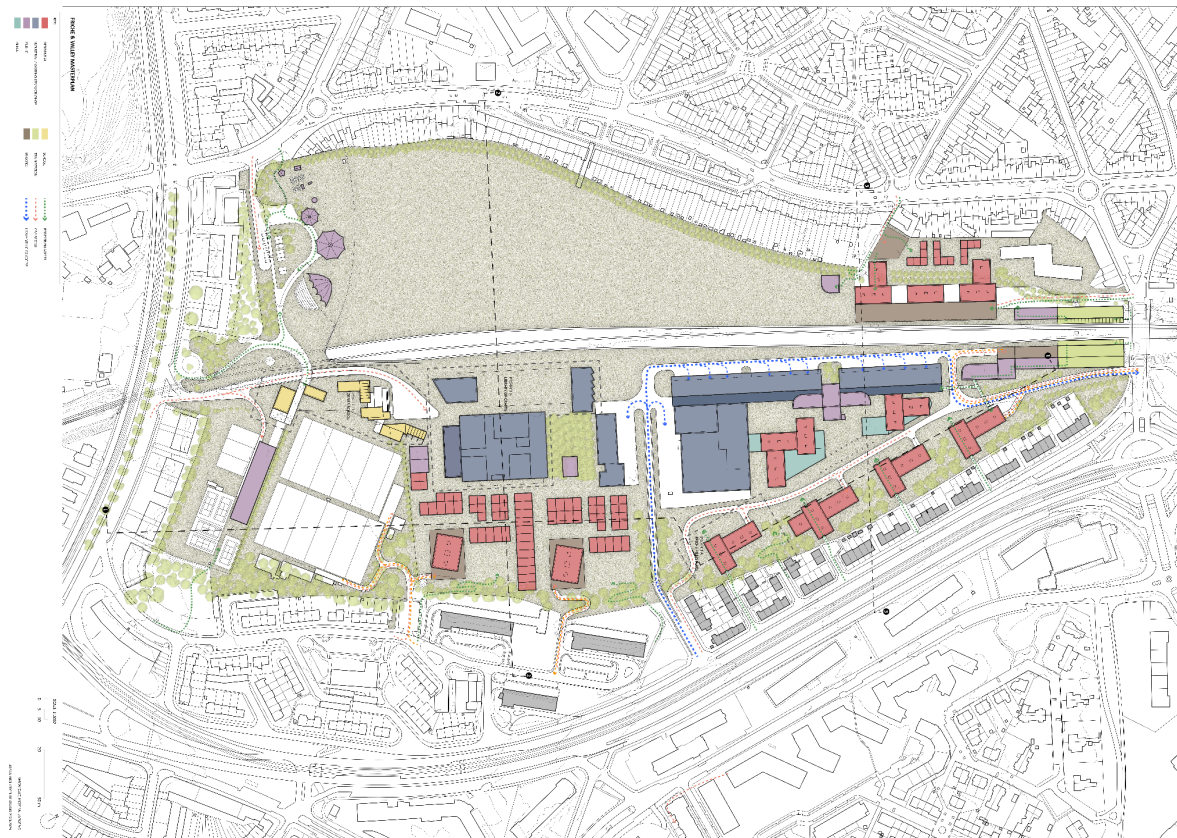


Figure 5 Masterplan of Friche Josaphat, Author, Jaron Smit, Jackie Ho. 2023.

Extending the urban strategy from the alternative planning, the friche will develop contrasting microclimates within itself because of the separation between human and non-human habitats. Moreover, even though using the existing train track as a barrier between the two worlds is a very obvious solution to address the border, it also becomes an obstacle in the conversations and circulation planning of the whole friche. There are only two existing ways to get over the train tracks: the bridge connecting the station Evere on the north and Park Wahis on the south. Station Evere is a convenient infrastructural asset for future residents who travel long distances while the southern Park Wahis has no particular character or function that connects to the friche. Nonetheless, its location serves as one of the most significant anchors in the previous wind map -

the passage or gateway of the southern prevailing wind. Whatever is being built at this location will affect the aerial landscape of the friche, such as smoke from a restaurant, rainwater from the gutters or seeds from a high-rise balcony. The overlaying interpretation of the wind map and future masterplan has granted a unique mission for this particular piece of the landscape which acts as the southern gate or entrance of the Friche Josaphat.



Figure 5 1:1000 Site Plan (not to scale), Author. 2024.

Swirling the Air

Being so light and invisible, the essence of wind often needs an agent to be illustrated or related to. Buildings are the major agents in this project, shaping the airflow with its corners and facades while regulating its ventilation by inhaling fresh air and exhaling exhaust. Nonetheless, a specific network of human agents is also necessary to establish the fluidity and consequences of a designed aerial landscape. Meteorologists would be the winning candidates if the project is a scientific thesis, but *Passage of Wind* needs to work with the future residents who will explore and live inside the friche in the future. The decision of the programme and users led me back to a scene I saw during my trip to Ljubljana. There was a public artwork at the central plaza of the old city spraying water over the cobblestone ground, with a standing sign beside saying “The Area With

Ljubljana's Own Weather". Among the public and tourists, children and parents are the most active players who spread their limbs to enjoy this weather installation. This picture brought me back numerous memories of watching kids riding on the wind in animes and movies, realising the necessity of sensing the weather and the environments during the growth of a child.



As a result, an elementary school was set to be the programme of the design project. The bond between the wind, the weather and the kids has also led the way to establishing a school of nature: seeing nature as their teachers and not locking up students in the classrooms for the whole day. This design theme will further dominate the tectonic, climatic control, materialisation and user experiences of the architectural interventions at the site near Park Wahis.

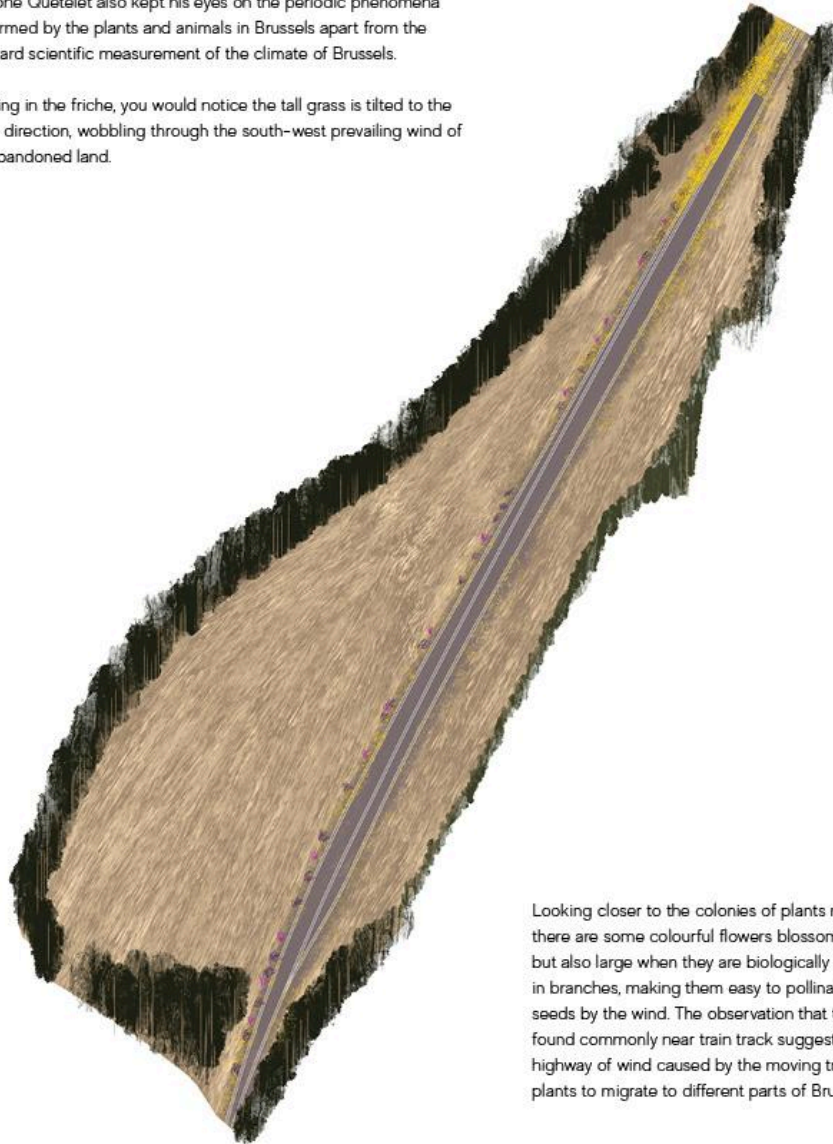
Appendix

FAUNA AND WIND

CHAPTER 1

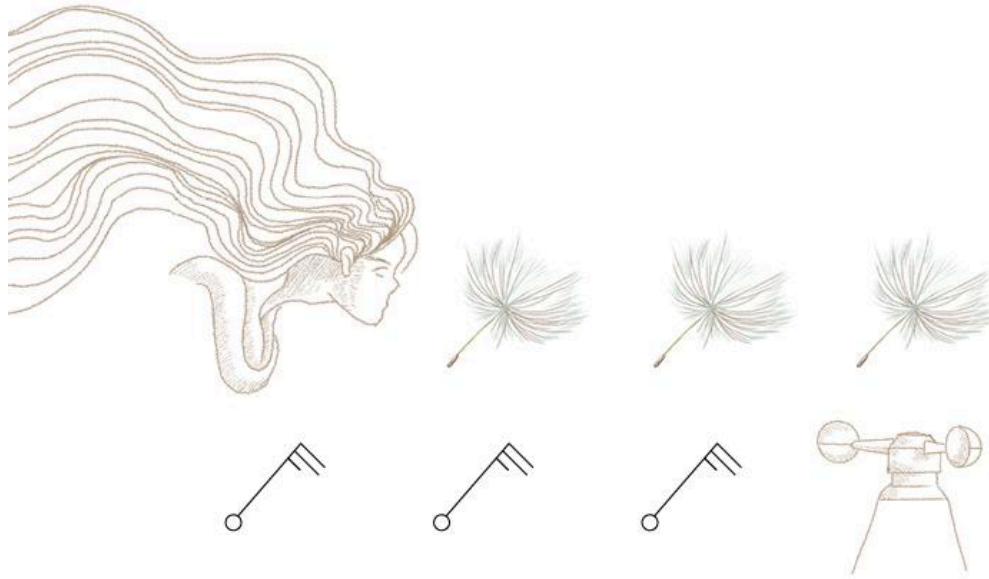
The scientists who drafted the scope of climatic science in the 19th century relied on their observations and analysis of soil hydrology, colonies of plant species, and verbal legacy among the farmers to figure out the relationship between local weather and regional climatic sequences. The founder and director of the Brussels Observatory, Adolphe Queetelet also kept his eyes on the periodic phenomena performed by the plants and animals in Brussels apart from the standard scientific measurement of the climate of Brussels.

Walking in the friche, you would notice the tall grass is tilted to the same direction, wobbling through the south-west prevailing wind of the abandoned land.



Looking closer to the colonies of plants near the train track, there are some colourful flowers blossoming. They are small but also large when they are biologically structured to thrive in branches, making them easy to pollinate and disperse their seeds by the wind. The observation that these flowers were found commonly near train track suggests that the artificial highway of wind caused by the moving trains also help these plants to migrate to different parts of Brussels.





I LOOK AT THE TV BROADCASTING OF THE WEATHER FORECAST TODAY.
ALTHOUGH I DON'T UNDERSTAND THE MEANING OF THOSE WIND FLAGS,
BUT THEY REALLY LOOK LIKE THE DANDELION'S FLUFFY SEEDS.



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