IDENTIFICATION OF POTENTIAL LOCATIONS OF VERTICAL AXIS HIGHWAY WIND TURBINES IN NORTH LUZON EXPRESSWAY IN 2018

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ABSTRACT

Through time, energy scarcity, distribution, and accessibility has been a problem of every nation, and the search for a source of sustainable renewable energy has been pursued by researchers all over the world. Wind is an abundant yet untapped source of energy that when properly harnessed, can contribute electricity along the highways, or nearby areas. The potential locations of installation of Vertical Axis Highway Wind Turbine in NLEX were determined. Such turbines are capable of harnessing energy from wind in all directions, suitable for energy gathering in a highway. It was identified that the turbines are to be installed in the median of the northbound and southbound lanes of the North Luzon Expressway. Based on 2018 data of NLEX, there were found 74 initial potential locations along the 83 km stretch of NLEX. Based on wind power potential calculated from the air density derived from temperature data, wind speed derived from the vehicle count in NLEX, and swept area of the blades based on the prototype turbine- the energy that would have been produced by the turbines were estimated. Based on certain criteria including the proximity of these turbines to lamp posts or toll exits which it must power, a number of these turbines were excluded as potential locations. The final potential locations of the turbines were identified to be installed in 68 locations. Theoretically, from the final potential locations of vertical axis highway wind turbines in NLEX based on 2018 data, a total energy of 27 417.7 kW could be produced by the 68 turbines, amounting to Php 4 087 075. Solely looking at these numbers, the amount of energy that the turbines would have produced does not justify the cost. However, this must not stop, but rather encourage experts in looking for other ways of effectively harnessing such abundant resource, for a sustainable alternative energy source.

KEY WORDS: wind energy, potential locations, highway wind turbine, wind power potential

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Renewable Energy is energy that is generated from natural processes that are continuously replenished including sunlight, geothermal heat, wind, tides, water, and various forms of biomass. (Ciolkosz, 2018). According to Section 2 of the Renewable Energy Act of 2008, the state shall accelerate the exploration and development of renewable energy, including wind energy sources, in order to attain energy self-reliance through developing sustainable energy strategies thereby reducing the country's dependence on fossil fuels and the corresponding price fluctuations in international markets which may negatively influence many sectors of the economy.

The development and utilization of renewable energy is stated to encourage the reduction of harmful emissions tackling both economic growth and health and environment protection (Renewable Energy Act of 2008). This passage has positively impacted the Philippine's move towards expansion of renewable energy, with the support of investors and developers of renewable energy.

The rapidly moving vehicles in highways produces a near constant source of wind power. Using both natural wind flows and wind flows made by traffic on highways could create power from wind turbines, which will utilize the draft wind generated by these vehicles in order to produce energy (Champagnie, et. al, 2013).

Energy plays a vital role in the progression of a community, and so its production, for the effective distribution and utilization of its constituents, is usually one of the main

concerns of the government. Energy scarcity, distribution, and accessibility has been a problem in the Philippines. Although there are certain alternatives present, energy sources still appear to be scarce. Since there is an abundant and untapped natural wind and turbulence created by traffic in highways, what is a better way than converting them to useful energy?

1.2 Statement of the Problem

If energy from the wind, brought about by passing vehicles in highways, will be harnessed, where are the potential locations for installation of highway wind turbines that will be most cost efficient?

1.3. Objectives

1.3.1. General Objectives

To identify the potential locations for establishing highway wind turbines in North Luzon Expressway.

1.3.2. Specific Objectives

The objectives of this research includes the identification of the initial potential locations for installation of wind turbines in North Luzon Expressway (NLEX) based on an established criteria and initial field data. This study also seeks to determine the relationship between vehicle count and wind speed via Statistical Analysis (i.e Multiple and Linear Regression). This study aims to estimate the total wind potential that the turbines will have produced in 2018. The objectives of this research are also to produce a map of the final potential locations, as well as a cost efficiency table from the analysis.

1.4. Significance of the Study

The North Luzon Expressway Corporation have been looking at wind energy as an alternative energy source. With the map of potential sites for the installation of wind turbines, NLEX Corporation, or other interested agencies, can utilize the output map in order to assess the installation locations of the turbines that will be most cost efficient.

If the turbines are to be installed in NLEX, according to the decrease in the operational expenses most especially in electric wages brought about by the turbines, they could help the patrons by decreasing the amount of toll fees.

Additionally, the methodology performed in this study is illustrated and can therefore be adapted for identification of potential sites, and assessment of the cost efficiency of highway wind turbines for other highways in the Philippines, or around the globe, providing a possible source of renewable energy. Furthermore, the final methodology and criteria used for the selection of potential sites can be used as basis for optimization.

1.5. Scope and Limitations

1.5.1. Study Area

The North Luzon Expressway, is a 97-kilometer highway connecting Metro Manila, Central Luzon and Northern Luzon. Through the modern approach in operations, maintenance, management and customer service, NLEX qualifies as Philippines' showcase for world-class highways ("The Company", 2018). The toll exits in NLEX are as follows: 12 Balintawak Toll Plaza, 13 Smart Connect Interchange, 15 Valenzuela Exit, 20 Meycauayan Exit, 23 Marilao Exit, 27 Bocaue Exit, 32 Tabang Exit, 34 Balagtas Interchange, 38 Sta. Rita Exit, 45 Pulilan Exit, 56 San Simon Exit, 65 San Fernando Exit, 72 Mexico Exit , 81 Angeles Exit and 83 Dau Exit (the two-digit number indicates the distance of each toll from Manila, in

kilometers). The exact extent of NLEX that is the study area, from km 12 to km 83, is shown in Figure 1.1.

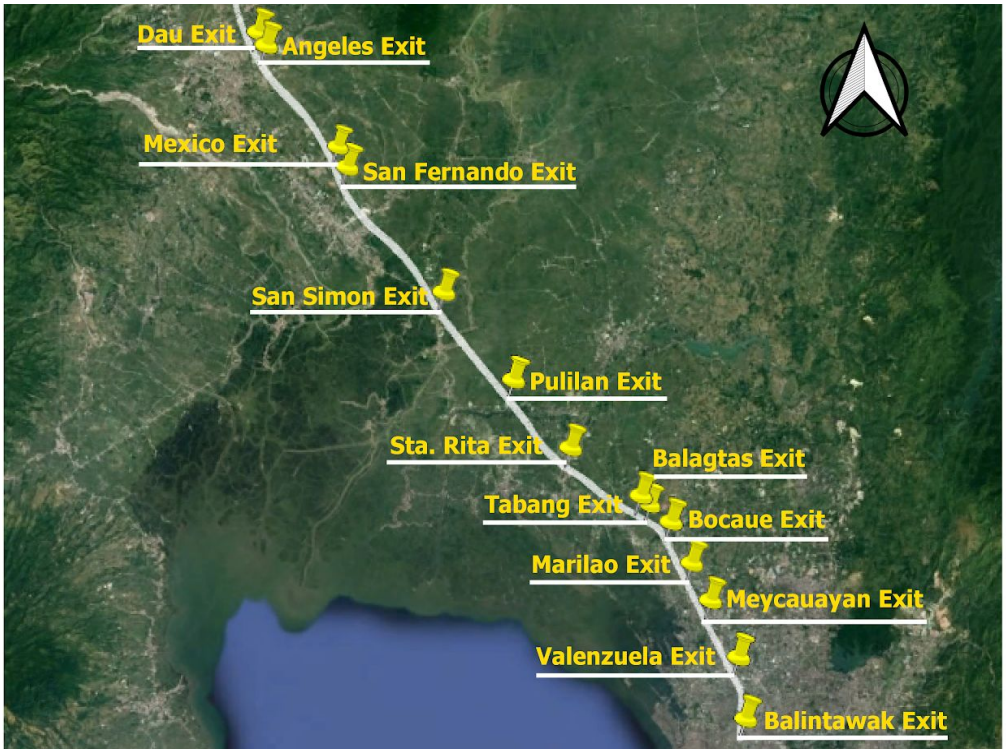


Figure 1.1. Study Area- North Luzon Expressway from Balintawak Exit to Dau Exit

Due to accessibility and feasibility, NLEX was the chosen study area. Balintawak Exit in NLEX is only about a 30-minute drive away from the University of the Philippines, the nearest highway for the researchers. Aside from its accessibility, the number and speed of cars passing through NLEX are sufficient to be subject to wind speed analysis. This makes it worthy to study if it can be a sufficient source of potential wind energy, and a viable alternative energy source.

1.5.2. Limitations

Traffic is usually the same during the weekdays, and differs during the weekends, says Cathy del Mundo of NLEX Traffic Control Office. Since fieldwork cannot be performed every day of the week, this fact, along with the traffic data to be obtained from NLEX will be

the basis of the limited fieldwork schedule. Flow of traffic is assumed constant per hour. Special cases such as Holy Week, All Saint's Day, Christmas and other occasions that highly affects the flow of traffic can not be accounted for. Quantitative estimates were asked from NLEX Traffic Control Room officers instead.

The researchers were only allowed by the NLEX Corporation to use a tripod to mount the instrument for this research. There is a portion in NLEX where the island is depressed for about a meter. Since the anemometer is to be connected to a rod that is attached to a bipod, the maximum attainable height of the anemometer with respect to the ground that can be fixed is at 2 meters only. The bipod will not be able to support and sustain the rod for the prescribed duration of fieldwork at a greater height.

Due to financial and logistical constraints, the speed of the cars were only assessed on specific field days. A statistical analysis will be done instead to simulate for other days.

Since turbine installations need not to be coordinate-precise, but station specific, coordinates of researchers during fieldwork were not taken.

The available temperature data in PAGASA is on an 6-hourly variation only. The mean temperature was used for a 6-hourly variation to derive the air density necessary for computation of energy output.

On site air density was not measured by a specific device. For computation of energy output, air density was based on a literature which is dependent on temperature.

CHAPTER 2

REVIEW OF RELATED LITERATURE

2.1. Wind Speed

The highway wind turbines utilizes wind draft from rapidly moving vehicles in the highway. In order to make a quantitative estimate of this wind speed, proper wind speed measurement must be performed. Furthermore, one must also account the factors that affect the fluctuation of wind speed.

2.1.1. Wind Speed Measurement

In a journal on Measurement of Surface Wind, Wind speed measurement using hand-held anemometers must be taken from a point well-exposed to the wind, and at a safe distance from obstructions such as buildings and trees. At standard, wind instruments such as anemometers must be mounted 10 meters above the ground, when it is located in an open terrain. An area where the distance of the anemometer to any obstruction is at least 10 times the height of the obstruction is considered an open area. If such height is unattainable, correction may be applied. For obstacles at distance 30 times more than their height, no correction is needed, while correction can be applied at a distance 20 times more than their height. For obstacles at a distance 10 times more than their height, correction may be applied in certain cases (World Meteorological Organization, ND).

However, since there are no such infrastructures in the median of NLEX and the maximum height attainable due to the limitations with the equipment and agreed upon with NLEX Corporation is at 2 meters, this will be the height to be considered. Furthermore, this height is much closer to where wind draft will come from, or the height of the assumed turbines, than the prescribed 10 meters.

2.1.2. Relationship of Wind Speed and Vehicle Characteristics

Based on the results of the study of Bani-Hani et. al (2018) on the Feasibility of Highway Energy Harvesting using a Vertical Axis Wind Turbine, the moving vehicles produce wind speed that varies depending on the speed and size of the vehicles. Additionally, density and speed of these vehicles vary directly with wind speed. More fast-moving vehicles will produce higher wind speeds, generating greater power (Bani-Hani, et. al, 2018).

2.1.3. Vehicle Speed Limit in NLEX

According to NLEX Traffic Control Room officer that the maximum speed limit for all kinds of trucks and buses would range to 80 kph and 100 kph for cars.

The aforementioned factors will be used as basis to simulate the supposed energy generated in NLEX for 2018. Additionally, Jakob (2010) in his *Challenges in developing a high-quality surface wind-speed dataset for Australia* states that it is important to develop high quality surface wind speed data set that is highly desirable for applications on wind energy assessment, wind modelling, and records of wind observations. He identified the suitable sites by taking mean wind speed everyday by using handheld anemometers or beaufort scale (Jakob, 2010). Since the temperature data available is 6-hourly, the excerpt above is the basis of taking the mean as the statistics in order to match temperature and vehicle data.

2.2. Potential Locations of Highway Wind Turbines

Should energy from the wind be harnessed, the placing of the turbines for maximum energy extraction must be carefully put into consideration.

In a study by Champaigne et. al. (2013) regarding Highway Wind Energy, extensive data is collected on wind patterns produced by vehicles on both sides of the highway. Using

collected data, a wind turbine is designed to be placed on the medians of the highway. Although one turbine may not provide adequate power generation, a collective of turbines on a long strip of highway has potential to generate a large amount of energy that can be used to power streetlights, other public amenities or even generate profits by selling the power back to grid. The highway wind turbine can be used to provide power in any city in the around the globe where there is high vehicle traffic. (Champaigne, Altenor & Simonis, 2013). The median of the northbound and southbound lanes of the highway is where the researchers will conduct fieldwork, where wind speed will be estimated, for this is where wind turbines are to be installed.

According to an article in 2014 on *Wind Energy Principles, Conversion and Site Selection,* the considerations for selection of Wind Turbine sites include: (1) Technical Considerations, such as Wind Speed, Land Topography and Geology, Grid Structure Distance and Turbine size; (2) Economic Considerations, such as Capital cost, Land cost, Operational and management cost and Electricity market; (3) Environmental Considerations, such as Visual impact, Wildlife & endangered species, Electromagnetic interference and Noise impact; and (4) Social Considerations, such as Regulatory boundaries, Public acceptance, Land use and Distance from the residential area (Energy Systems Analysis and Design, 2014). In the European Wind Energy Conference proceedings written by W. Palz (1984), an expert group within the IEA agreement has developed a set of Recommended Practices for Wind Turbine Testing and Evaluation which includes power performance, cost of energy, fatigue evaluation, acoustics, quality of power and electromagnetic interference (Palz, 1984).

Furthermore, data presented by John Sorensen, et. al. (2012) in their journal *Risk assessment of wind turbines close to highways*, estimates that a risk of wind turbines when

parts of the turbine be 'thrown away' in events of total or partial failure, is of minor importance. This is true for turbines installed in a row at a 400m - 500m spacing (Sorensen, et. al., 2012).

Energy extraction is also said to be maximum somewhere between the upstream speed and the zero wind speed, as mentioned by Walker in *Wind Energy Technology* (Walker & Jenkins, 1997). Zero wind speed is considered to be at the toll plazas, therefore the locations in consideration are segments in between toll plazas.

All these factors will be integrated and put into consideration for the identification of potential sites.

2.3. Cost Efficiency Analysis

The initial identification of potential locations of highway wind turbine can be assessed based on the potentiality of the area of installation. Considering the amount of energy that passing vehicles can generate and the cost of installation of the turbines, cost efficiency can be assessed. Given the most efficient turbine, the energy that can be harnessed can still be maximized based on their location, which yields the most amount of wind draft.

2.3.1. Power in Wind

Cost analysis can be performed first by determination of wind power. Energy equation (1) is derived in a study by Chinte, Doromal, Martinez and Palma (2018) on *Performance Analysis of a Savonius Vertical Axis Wind Turbine For a Five-Kilowatt Wind Power Plan Design* as:

$$P_w = \frac{1}{2}\rho A U^3 \tag{2.1}$$

Where P_w is the available wind power, ϱ is the air density, A is the swept area of the blades and U is the mean wind speed over a suitable period of time.

However, generally, turbines are not able to extract 100% of the energy since there occur pressure changes across the turbine blades. Some of the winds' energy is being used here, consequently decreasing the usable energy. The usable power or mechanical power in Watts, given as P_m, is finally computed as:

$$P_m = \frac{1}{2}\rho\left(\frac{16}{27}\right)AU^3 \tag{2.2}$$

Equation 2 shows the factors affecting wind energy- air density, swept area of the blades of the turbine, and the mean wind speed. Measurement or control of air density is a limitation of this project, therefore a constant air density will be assumed based on standard atmospheric pressure, and the given temperature. Furthermore, a conceptual prototype will be selected to determine the variable A. Equation 2 reveals that high wind speed largely increases the generated wind power. Since wind power output is directly proportional to the cube of mean wind speed, a small increase in wind speed will significantly and positively affect the wind power output (Chinte, et. al, 2018).

2.3.2. Ideal Vertical Axis Highway Wind Turbine

Unlike Horizontal Axis Wind Turbines, Vertical Axis Wind Turbines do not require yaw mechanism for it harnesses wind from all directions. Furthermore, VAWTs are generally installed and functions near ground level, enabling installation of heavy equipment such as batteries where the fluctuating wind energy can be stored (Bidi, et. al, 2017). This type of turbine will be assumed as the prototype turbine for further energy computation. Due to energy fluctuation brought about by the uneven speed and volume of vehicles, the generated

electricity will be stored in batteries. The energy produced will be direct current (DC), and must be converted to alternating current (AC) to be useable as electricity we use and so DC current has to be pasted through an inverter before it can be used. Advantages of vertical wind turbine include better capability in capturing wind in various directions that horizontal turbines cannot, as these design require to be pointed the direction of the wind only. With vertical design, heavy components of the wind turbine, such as the generator and the battery, can be placed at the base of the turbine easily (Champagnie, et.al, 2013).

The efficiency of the turbines highly depends on the design and selection of the blades of the wind turbines. Since it has been established that a Vertical Axis Wind Turbine is the type of axis to be used, and that no such turbine designed specifically for highways is available in the market, a conceptual vertical axis wind turbine will be selected based on a number of criteria.

As determined by Bas de Jong (2015) in his study on Wind Turbines along Highways, certain wind turbine requirements must be considered with which the wind turbine concept needs to fulfill. The requirements established are founded through extensive research and interview with experts. The requirements are enumerated as follows:

- The wind turbine, along with the generator has to be small. Since this device will be installed in the median of highways, the base has to be within the allotted area only. The length of the torque arm cannot be too long as well, that can possibly harm the passing vehicles in case of breakdown.
- Since the turbine must be able to work with natural winds or the turbulence created by the vehicles, the turbine must be able to automatically turn towards the wind direction.

- Since turbines will be installed in the median of highway, an open area, they must be able to withstand harsh weather conditions such as rain or storm and intense heat.
- Unlike large-scale turbines, the turbines should not be producing undesired sound output to the point that it distracts drivers.
- Aside from the actual installation cost, for the turbines to be cost efficient, they must have minimum need of maintenance and long lifespan. Additionally, daily traffic must be left undisturbed by making the turbines durable.
- Ideal VAWT must be safe to people, animals and nature.
- Due to the uneven flow of traffic, the turbine must have an energy storage or battery to cater these fluctuations.

In this study, the researches will identify the potential locations of highway wind turbines based on the *initial potential sites* for installation given by the criteria, on site *vehicle and wind characteristics* and their statistical relationship, in order to identify the potential locations which are cost efficient based on a certain *vertical axis highway wind turbine* prototype to be selected from the requirements and the power in the wind that can be harnessed.

CHAPTER 3

METHODOLOGY

3. 1. Flowchart of Methodology

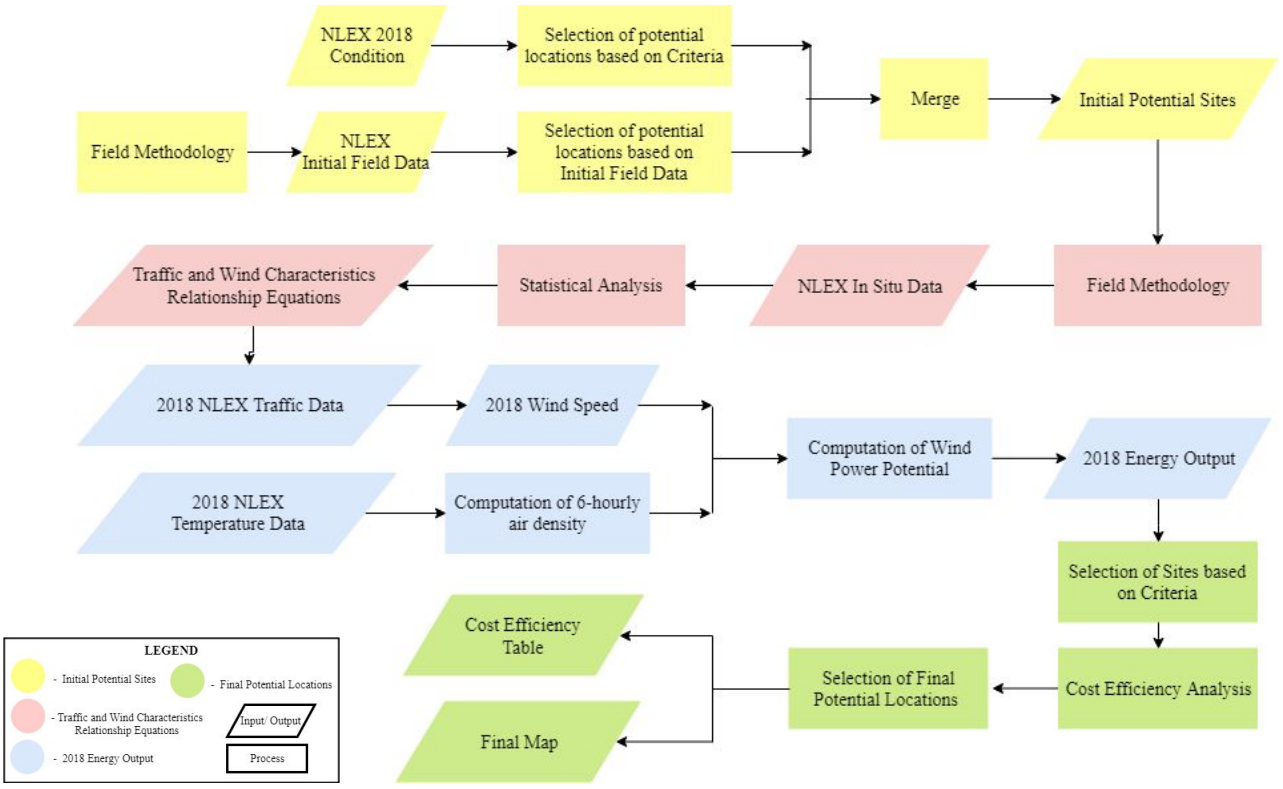


Figure 3.1. Flowchart of Methodology

3.2. Methodology

The flowchart of methodology for this research is illustrated in Figure 3.1 above. The methodology is partitioned by the four (4) intermediate or final outputs of this research: Initial Potential Locations, Traffic and Wind Characteristics Relationship Equations, 2018 Energy Output and Final Potential Locations.

3.2.1. Initial Potential Locations

The initial potential locations are to be determined using the criteria set by Energy Systems Analysis and Design and the Initial Field Data. The potential sites from the criteria and from the initial field data will be merged in order to identify the initial potential sites.

3.2.1.1. Criteria

An article on Wind Energy Principles, Conversion and Site Selection enumerated certain criteria that must be considered in the selection of Wind Turbine Sites (Energy Systems Analysis and Design, 2014). The following are the criteria considered in the selection of the Initial Potential Sites:

I. Technical Considerations
    A. Wind Speed and Turbine Size
    B. Land Topography and Geology (As of 2018)
    C. Grid Structure Distance

II. Economic Considerations
    A. Capital Cost
    B. Land Cost
    C. Operational and Management Cost
    D. Electricity Market

III. Environmental Considerations
    A. Visual Impact
    B. Wildlife and Endangered Species
    C. Electromagnetic Interference
    D. Noise Impact

IV. Social Considerations
    A. Regulatory boundaries
    B. Public acceptance
    C. Land use

3.2.1.2. Initial Field Data

➢ Schedule

A schedule of fieldwork was devised and coordinated with NLEX Corporation. Days 1 and 2 are allotted for the initial fieldwork, where the potential locations for succeeding fieldwork days will be based on. the potential locations. A table of the final fieldwork schedule is shown in Table 3.1.

Day	Date	Station	Distance from Manila (km)
1	March 10 (Sunday)	Balagtas Interchange – Sta Rita Exit	34.5, 35, 35.5, 36, 36.5, 37, 37.5
2	March 12 (Tuesday)	Sta Rita Exit - Pulilan Exit	38.5, 39, 39.5, 40, 40.5, 41, 41.5, 42, 42.5, 43, 43.5, 44, 44.5

Table 3.1. Fieldwork schedule for Initial Field Data gathering as coordinated with NLEX Corporation.

The first two field days, March 10 and 12, are designated for *Initial Field Data* gathering. Field procedure was performed from 8AM - 12NN each field day. Time of fieldwork must be the same for each field day for consistency in data gathering and analysis.

➢ Materials

- ➢ Calibrated Portable Anemometer - used to measure wind speed and wind flow (volume); can also measure temperature.
- ➢ Bipod - two legged stand or support
- ➢ Speed Gun - used to measure speed of moving objects, specifically vehicles.
- ➢ Field notebook - where field data will be written on.

➢ Methodology

The team was assisted to the first station by the NLEX Patrol Officers, at station km 34.5 (referred from Manila).

The handheld anemometer was attached to a rod, and then to a bipod at a height of 2m from the ground. A sample set up is shown in figure 3.2.



Figure 3.2: Set up of portable anemometer mounted on the rod by the support of bipod.

Wind speed from the anemometer and vehicle speed from the speed gun, operated by NLEX Patrol Officers, were recorded at 10 second intervals for a whole minute for 10 times, for a total of 10 minutes or 60 observations. This method was repeated in km 35, 35.5, 36, 36.5, 37 and 37.5. Sample field data for the acquisition of initial field data is shown in Table 3.2. The complete initial field data can be seen in Appendix A.

	Interval	**Wind Speed**	**Vehicle Speed**		**Average**
			NB	**SB**	
Min 1	1s - 10s	3.87	104	105	104.5
	10s - 20s	3.65	97	98	97.5

	20s - 30s	3.84	102	103	102.5
	30s - 40s	3.89	102	103	102.5
	40s - 50s	3.69	99	99	99
	50s - 60s	3.89	105	104	104.5

Table 3.2. Sample Initial Field Data gathered on Wind Speed and Vehicle Speed in Km 36

The same methodology was performed in Day 2 for km 38.5, 39, 39.5, 40, 40.5, 41, 41.5, 42, 42.5, 43, 43.5, 44, 44.5.

3.2.2. Vehicle Characteristics and Wind Speed Relationship

3.2.2.1. NLEX In Situ Data

➢ Materials

- Calibrated Portable Anemometer - used to measure wind speed and wind flow (volume); can also measure temperature.
- Bipod - two legged stand or support
- Camera or video capturing device - device used for recording visual images in forms of video and photographs.
- Field notebook - where field data will be written on.

➢ Schedule

A schedule of fieldwork was devised and coordinated with NLEX Corporation for Days 3 to 8. The fieldwork days for potential locations were based on the fieldwork on *Initial Field Data*. Time of fieldwork is made the same for each day, at 8AM - 12NN every day, for consistency on data gathering. A table of the final fieldwork schedule is shown in Table 3.3.

Day	**Date**	**Station**	**Distance from Manila (km)**

3	March 17 (Sunday)	Balagtas Exit - Sta Rita Exit	35, 36, 37
4	March 18 (Monday)	Sta Rita Exit - Pulilan Exit	40, 41.5, 43
5	March 19 (Tuesday)	Pulilan Exit – San Simon Exit	48, 50.5, 53
6	March 24 (Sunday)	San Simon Exit – San Fernando Exit	58.5, 60.5, 62.5
7	March 25 (Monday)	San Fernando Exit - Mexico Exit	67, 68.5, 70
8	March 26 (Tuesday)	Mexico Exit - Angeles Exit; Angeles Exit - Dau Exit	74.5, 76.5, 78.5 81.5, 82, 82.5

Table 3.3. Fieldwork schedule for In Situ Data gathering as coordinated with NLEX Corporation.

The team was assisted to the first station by the NLEX Patrol Officers, at the station's km posts. The handheld anemometer was attached similar to how it was mounted in Days 1 and 2 (refer to Figure 3.2.).

Wind speed and temperature readings of the anemometer were recorded continuously. Data may be written for every changes with respect to time, or the anemometer may be recorded using a camera.

Vehicle count was taken note of as well, by counting all kinds of vehicle coming from the northbound and southbound lanes. Counting was done every 1 minute. Similar to the anemometer, passing vehicles may also be recorded where the time stamps were compared in

order to match vehicle count with wind speed and temperature. Ten (10) observations were made per station, for a total of 10 minutes. A sample field data is shown in table 3.4. The complete initial field data can be seen in Appendix A.

Observation (min)	Wind Speed	NB (Northbound)	SB (Southbound)	Total
0:00 - 1:00	3.88	16	10	26
1:01 - 2:00	3.98	15	12	27
2:01 - 3:00	4.11	17	11	28
3:01 - 4:00	3.97	14	13	27
4:01 - 5:00	3.9	13	13	26
5:01 - 6:00	4.18	21	9	30
6:01 - 7:00	3.95	19	8	27
7:01 - 8:00	4.12	17	12	29
8:01 - 9:00	3.98	18	10	28
9:01 - 10:00	4.2	20	10	30

Table 3.4. Sample In Situ Field Data gathered on Wind Speed and Vehicle Count in km 36

3.2.2.2. Linear Regression

From the gathered *Initial Field Data and In Situ Data*, the relationship between vehicle speed and wind speed, and vehicle count and wind speed was determined respectively through linear regression in Microsoft Excel.

3.2.3. 2018 Wind Power Potential

The wind power potential can be computed using the equation (Eq. 2.2):

$$P_m = \frac{1}{2}\rho\left(\frac{16}{27}\right)AU^3 \tag{2.2}$$

where P_m is the available wind power, ϱ is the air density, A is the swept area of the blades and U is the mean wind speed over a suitable period of time, total energy extracted by the turbines is computed for the potential sites in 2018. The swept area of the blades is based on the turbine prototype. Wind speed, U, and air density, ϱ, are derived in this section.

3.2.3.1. Wind Speed in 2018 (U)

3.2.3.1.1. Traffic Data

Traffic data in NLEX, specifically an hour-to-hour vehicle count from toll to toll for the whole year of 2018 was obtained from the Traffic Control Room of NLEX Corporation. A sample traffic data is shown in table 3.5. The table of vehicle count for the rest of 2018 can be asked upon request due to the data agreement with NLEX Corporation.

Date and Time	Mindanao Ave		Balintawak		Valenzuela		Meycauayan	
	NB	SB	NB	SB	NB	SB	NB	SB
01/01/18 01:00:00	111	229	350	352	86	372	371	561
01/01/18 02:00:00	271	541	814	1010	279	985	733	1604
01/01/18 03:00:00	173	415	778	1253	282	1233	852	1853
01/01/18 04:00:00	200	215	701	850	412	824	844	1097
01/01/18 05:00:00	139	170	722	752	528	763	940	923
01/01/18 06:00:00	148	239	933	918	659	925	1159	1099
01/01/18 07:00:00	202	275	1248	1123	639	1153	1675	1353
01/01/18 08:00:00	223	296	1482	1334	649	1338	1993	1569
01/01/18 09:00:00	269	462	1784	1429	760	1454	2502	1591
01/01/18 10:00:00	418	582	2290	1912	802	1954	2407	2358
01/01/18 11:00:00	628	787	2758	2515	844	2426	3249	3018
01/01/18 12:00:00	640	1049	2893	2999	1492	2835	3363	3497
01/01/18 13:00:00	611	1126	2729	3063	1068	2986	3398	3517
01/01/18 14:00:00	521	1220	2582	3441	1419	3503	3751	3924
01/01/18 15:00:00	534	1397	2752	3692	1277	3775	3440	4214
01/01/18 16:00:00	500	1560	2588	3886	1303	3998	3608	4370
01/01/18 17:00:00	470	1596	2560	4028	1404	4079	3248	4579
01/01/18 18:00:00	470	1435	2415	3733	1341	3839	2967	4138
01/01/18 19:00:00	331	1413	2468	3713	1400	3725	2798	4769
01/01/18 20:00:00	330	1897	2291	3343	1377	3447	2505	4666
01/01/18 21:00:00	320	1871	2380	3411	1237	3458	2455	4452
01/01/18 22:00:00	304	1427	2274	3006	1052	3067	2364	4080
01/01/18 23:00:00	261	1072	1874	2759	1296	2802	2047	3708
01/02/18 00:00:00	179	828	1674	2070	658	2061	1655	2666

Table 3.5a: NLEX Traffic Data on January 1, 2018 (Mindanao Ave. - Meycauayan)

Marilao		Bocaue		Tabang Fork		Tabang Spur		Sta.
NB	SB	NB	SB	NB	SB	NB	SB	NB
316	626	302	567	587	265	101	82	293
862	1523	804	1279	1620	814	268	238	762
939	1799	892	1474	1489	940	247	238	793
865	994	802	882	895	608	75	102	620
940	872	913	765	942	636	66	100	637
1155	1007	1092	920	1177	761	80	130	759
1624	1264	1529	1158	1495	991	148	195	923
1934	1444	1815	1307	1849	1105	168	193	1145
2346	1589	2190	1457	2206	1240	279	253	1262
2983	2233	2759	2049	2694	1630	379	428	1474
3792	2870	3423	2673	3296	2588	549	582	1801
3818	3395	3626	3065	3556	2986	645	602	1895
3442	3543	3251	3191	3218	3164	628	550	1638
3227	4108	2945	3796	2943	3657	582	614	1629
3306	4562	3031	4218	2877	4308	513	668	1626
2984	4900	2771	4344	2605	4693	510	695	1385
2860	5351	2549	4736	2507	5295	555	726	1306
2594	5306	2309	4925	2260	5076	511	687	1100
2585	5170	2177	4880	2058	4077	494	621	928
2298	5131	1959	4726	1928	4517	447	542	912
2269	4724	1962	4427	1815	4346	447	470	860
2310	4297	1961	3899	1821	3911	394	419	871
1832	3864	1646	3400	1546	3292	391	267	800

Table 3.5b: NLEX Traffic Data on January 1, 2018 (Marilao - Sta. Rita)

Angeles		Dau		Sta. Ines	
NB	SB	NB	SB	NB	SB
127	137	126	128	30	20
476	200	393	174	62	54
546	241	494	220	82	49
614	220	583	188	108	46
537	245	528	222	60	59
661	312	631	276	78	60
938	426	902	374	122	98
1044	496	975	444	120	105
1114	642	1049	578	145	144
1272	839	1238	804	173	222
1571	1187	1450	1093	255	267
1613	1380	1438	1396	273	275
1564	1546	1359	1549	268	293
1581	1629	1412	1660	209	281
1726	1870	1456	1964	250	278
1537	2120	1363	2342	246	324
1466	2272	1238	2339	264	314
1334	2097	1067	2206	249	367
1144	2084	1002	2038	286	344
1009	2070	910	1902	246	293
946	1871	874	1619	219	185
831	1554	748	1340	175	171

Table 3.5c: NLEX Traffic Data on January 1, 2018 (Angeles - Sta. Ines)

The data shows the number of vehicles in the northbound and southbound lanes of NLEX, which passed through Mindanao Avenue, Balintawak, Valenzuela, Meycauayan, Marilao, Bocaue, Tabang, Balagtas, Sta. Rita, Pulilan, San Simon, San Fernando, Mexico, Angeles, Dau and Sta. Ines toll plazas for 24 hours daily for the year 2018.

3.2.3.1.2. Computation of Wind Speed in 2018

The wind speed in 2018 was derived from where the *In Situ* field data was collected, for the quarters of each segment. For the rest of the potential locations per segment, the derived traffic and wind characteristics relationship equations from section 3.2.2., were applied to the traffic data to estimate the wind speed in all potential locations.

3.2.3.2. Air density (ϱ)

3.2.3.2.1. Temperature Data

Temperature data in NLEX was procured in the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)- Science Garden Complex in Quezon City. A 6-hourly variation of the temperature in the sensors of PAGASA nearest NLEX were obtained. Sample temperature data can be seen in the Table 3.6. The complete temperature data can be seen in Appendix J.

Date	6:00	12:00	18:00	0:00
1				
Max	30.8	29.6	26.4	25.8
Min	26.2	26.4	25	24.4
2				
Max	31.1	31.5	26.2	27.2
Min	25.8	26.2	25	24.2
3				
Max	30.7	29.2	27.2	26.7
Min	25.4	25.6	25.1	24.2
4				
Max	31.2	28.8	27.6	26.2
Min	26.7	25.9	25.6	24.4
5				
Max	31.2	29	27.2	27.2
Min	26.2	27.2	25	24.4
6				
Max	31.6	31.8	27.8	27
Min	27.2	27.8	26.2	25.6
7				
Max	30.2	31	27	25.2
Min	27	27	25.2	25

Table 3.6: PAGASA-Clark Weather Station Temperature Data on July 1-7, 2018

NLEX is 83 kilometers long and PAGASA had sensors in the Science Garden, Subic Bay International Airport and in Clark. The sensors nearest to each segment were identified, to be used for choosing a more proper air density for energy computation.

3.2.3.2.2. Computation of 6-hourly Air Density

Air density can be derived from the table obtained from Engineer's Edge website. Based on the range of temperature values, the air density can be computed using table 3.7.

Temperature (C)	Density (kg/m3)
20	1.204
25	1.184
30	1.165
35	1.127

Table 3.7. Air Density values based on temperature from Engineer's Edge

3.2.4. Final Potential Locations

3.2.4.2. Criteria for Selection of Potential Locations

Criteria for the selection of final potential locations was formulated where a turbine must be located.

3.2.4.2. Cost Efficiency Analysis

Based on the energy output by the turbines in the potential locations and the cost of wind turbines, cost efficiency analysis was performed to identify the combination of number and location of the turbines, that can generate the most amount of energy with the least installation cost.

3.2.4.3. Generation of Final Potential Locations Map

Upon selection of final potential locations, a map of final potential locations of vertical axis highway wind turbines in NLEX was generated in ArcGIS.

CHAPTER 4

RESULTS AND DISCUSSION

4.1. Initial Potential Locations

4.1.1. Criteria

Based on the criteria presented in Chapter 3.2.1. on site selection of wind turbines, the potential locations found are analyzed in this section.

4.1.1.1. Technical Considerations

Wind Speed and Turbine Size

The computation formula, or equation 2.2. includes the air density, swept area of blades of the turbines and mean wind speed. This value is the lowest at the lowest value of wind speed, in the case of a highway, where vehicular congestion mostly occurs. This scenario is identified as the toll plazas, where vehicles come to a full stop. Therefore, toll plazas are identified as non-potential locations.

Land Topography and Geology (As of 2018)

Aside from the wind speed in toll plazas, the structures themselves do not allow the construction of wind turbines. The turbines has to be mounted on land. At kilometer 00 to kilometer 35, the median of the highway is a concrete wall barrier only. From kilometer 35 to kilometer 35, the median of the highway is a concrete wall barrier as well, as shown in figures 4.1a and 4.1b. Additionally, there is a viaduct much known as Candaba Viaduct, the longest bridge in the Philippines, from km. 38 to km. 45, shown in figure 4.3 and 4.4, as well as a bridge from km. 34 to km. 83 illustrated in figure 4.1a to 4.13b.



Figure 4.1a: Aerial view of Angat-Pulilan Bridge



Figure 4.1b: Street view of Angat-Pulilan Bridge



Figure 4.2a: Aerial view of 5km Candaba Viaduct



Figure 4.2b: Street view of Candaba Viaduct

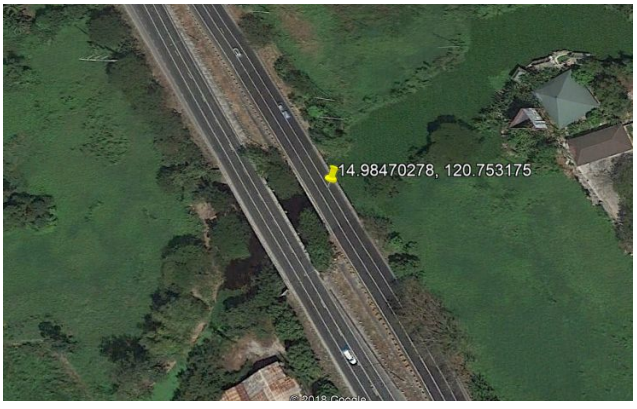


Figure 4.3a: Aerial view of Tulaoc bridge



Figure 4.3b: Street view of Tulaoc bridge



Figure 4.4a: Aerial View of Pau bridge



Figure 4.4b: Street View of Pau bridge



Figure 4.5a: Aerial View of San Matias bridge



Figure 4.5b: Street View of San Matias bridge



Figure 4.6a: Aerial View of San Fernando bridge



Figure 4.6b: Street View of San Fernando bridge



Figure 4.7a: Aerial View of San Jose bridge



Figure 4.7b: Street View of San Jose bridge



Figure 4.8a: Aerial View of Bulaon bridge



Figure 4.8b: Street View of Bulaon Bridge



Figure 4.9a: Aerial View of Akli Bridge



Figure 4.9b: Street View of Akli Bridge



Figure 4.10a: Aerial View of Abacan Bridge



Figure 4.10b: Street View of Abacan bridge



Figure 4.11a: Aerial View of Sapang Bago bridge



Figure 4.11b: Street View of Sapang Bago bridge



Figure 4.12a: Aerial View of bridge below SCTEX Interchange Sta. 85+560



Figure 4.12b: Street View of 79.45 meter bridge

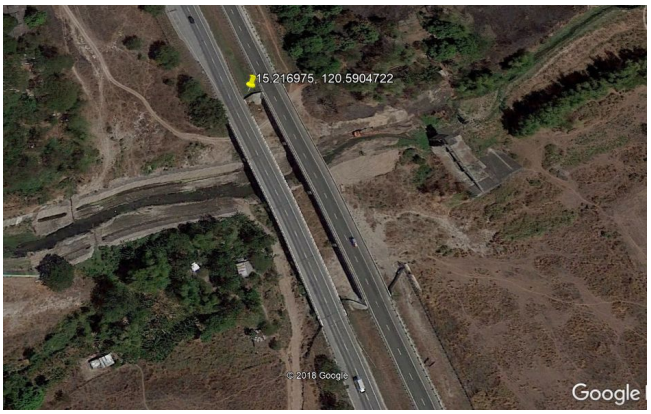


Figure 4.13a: Aerial View of 131.72 meter bridge



Figure 4.13b: Street View of 131.72 meter bridge

Since turbines cannot be mounted on a thin wall barrier, or the barrier cannot be removed, as well as such structure cannot be installed within a viaduct or on a bridge, these segments were eliminated as potential locations.

Grid Structure Distance

There are no visible electrical wirings in NLEX that can interfere with the installation of turbines. Yet, the lamp posts are stationed only at 50 or 60 meters apart, thereby allowing energy transmission from the turbines to be more efficient for it need not to travel long distances.

4.1.1.2. Other Considerations

An advantage of installations of wind turbines on highways include that no issue on *Electromagnetic Interference* and *Noise Impact* may be brought about. *Wildlife and Endangered Species* will remain unharmed since no such entities are within the area, or are close enough to be affected at all.

A highway being owned by only one institution only removes the issues on *Environmental* and *Social Considerations* such as *Visual Impact*, *Regulatory Boundaries*, *Public Acceptance* and *Land Use*.

NLEX Corporation, is positive and accepting of the idea of an alternative energy, that is safe for the environment. If the researchers can show that wind energy from highway wind turbines can generate substantial power, NLEX Corporation will certainly consider, says Mike Ocampo of Traffic Control Room officer.

Based on the criteria given above, the potentiality of the middle islands were assessed, and other considerations were accounted for to identify the segments where installation of wind turbines are possible.

Looking at the criteria alone, the potentiality of the middle island to allow the installation of wind turbines is mainly looked at in this section. Sample photos of the *Initial Potential Locations* based on the criteria are as follows:

Balagtas Exit to Sta. Rita Exit:



Figure 4.14 - Street View of Balagtas - Sta. Rita Exit

Sta. Rita Exit to Pulilan Exit:



Figure 4.15 - Street View of Sta. Rita - Pulilan Exit

Pulilan Exit to San Simon Exit:



Figure 4.16: Street View of Pulilan - San Simon Exit

San Simon Exit to San Fernando Exit:



Figure 4.17: Street View of San Simon - San Fernando Exit

San Fernando Exit to Mexico Exit:



Figure 4.18: Street View of San Fernando - Mexico Exit

Mexico Exit to Angeles Exit:



Figure 4.19: Street View of Mexico - Angeles Exit

Angeles Exit to Dau Exit:



Figure 4.20: Street View of Angeles - Dau Exit

To further visualize, the extent of the initial potential locations based on the criteria presented is shown in Figure 4.21.

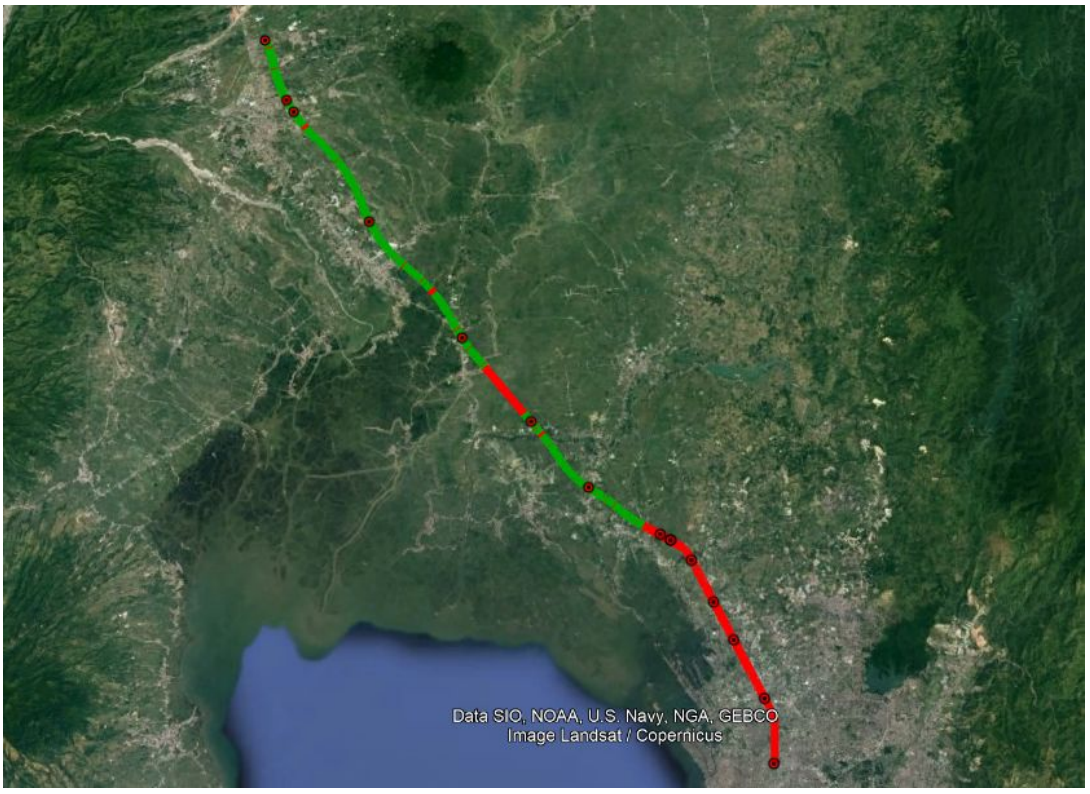


Figure 4.21: NLEX Initial Potential Sites based on Criteria- Highlighted portions of NLEX in green color represents the initial potential locations

4.1.2. Initial Field Data

Energy extraction is considered maximum between upstream speed and zero wind speed says Walker in Wind Energy Technology (Walker & Jenkins, 1997). Zero wind speed is considered to be at toll exits, and segments in consideration are those in between the toll plazas. In consideration of motorists safety, a 500-meter distance of a row of turbines is considered safe, therefore vehicle speed and wind speed were assessed in segments at a 500m interval from toll to toll (Sorensen, 2012).

The Initial Field Data, through linear regression, shows that vehicle speed has a positive correlation with wind speed. A sample plot for the vehicle speed and wind speed

relationship can be seen in Figure 4.22. This conforms with Bani-Hani's claim that fast-moving vehicles produces higher wind speeds, translating to greater power.

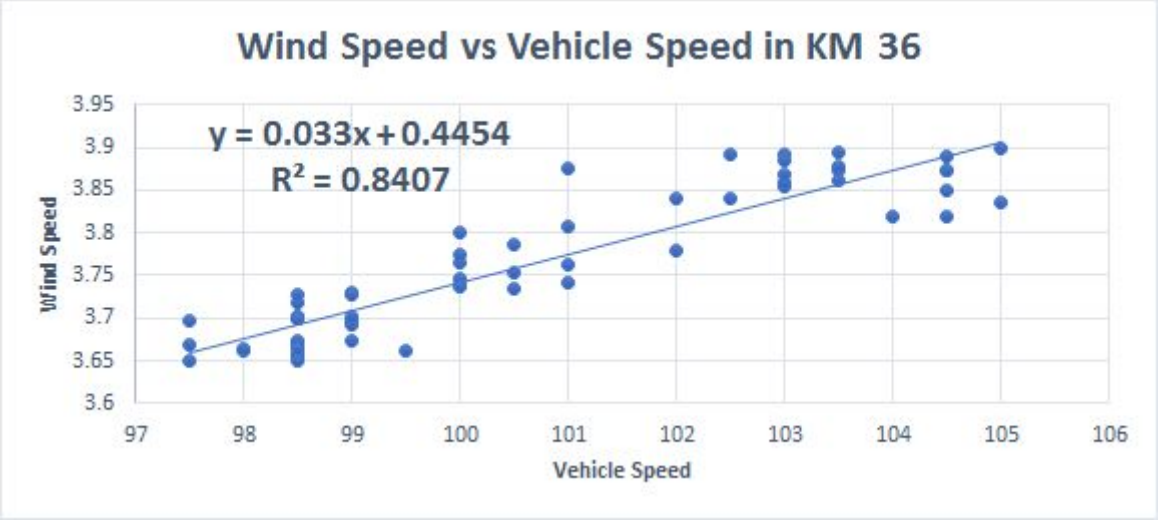


Figure 4.22. Plot of the relationship between Vehicle Speed and Wind Speed in km 36

Based on all the initial field data collected in the segment, it can be seen that wind speed increases from toll plazas, peaks at the median, and then decreases to the next toll plaza. This can be supported by the general behavior of vehicles, as described by Mike Ocampo, Traffic Control Officer of NLEX Corporation. 'It usually depends on the capability of the cars, but they tend to reach the speed limit of 100 kph, 500m to 1km from the toll plaza then slows down once they see the 1km sign to the next exit (Ocampo, 2019).' This trend is illustrated in Figures 4.23 and 4.24 for segment 1, Balagtas toll plaza to Sta. Rita toll plaza and segment 2, Sta. Rita toll plaza to Pulilan toll plaza.

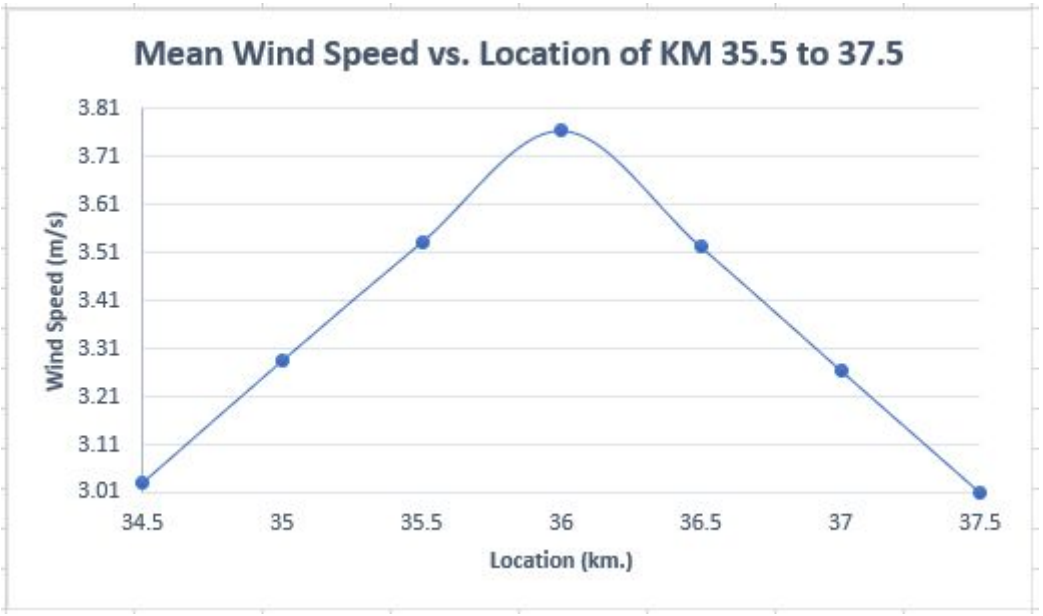


Figure 4.23. Plot of the trend of wind speed from Balagtas toll plaza to Sta. Rita toll plaza

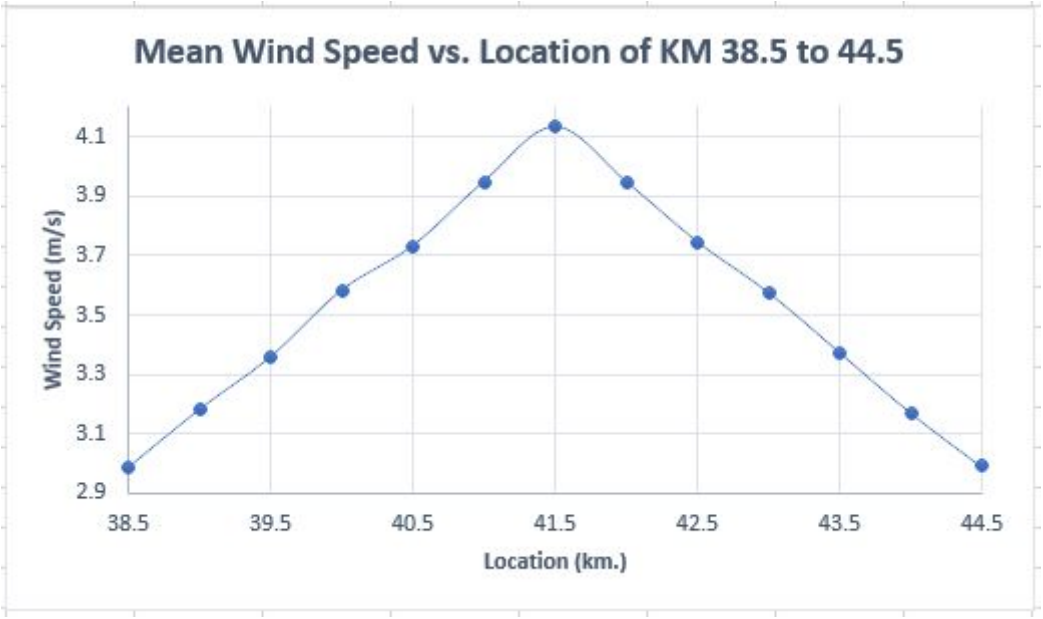


Figure 4.24. Plot of the trend of wind speed from Sta. Rita toll plaza to Pulilan toll plaza

From the plots in Figures 4.23 and 4.24, the relationship equation of wind speed with respect to location was derived in excel as equation 4.1. This will be used in the estimation of wind speed for energy output.

$$y = 0.033x + 0.4454 \quad (4.1.)$$

4.1.3. Initial Potential Locations

Merging the findings above, the initial potential locations were identified to be at 500 m intervals from toll plazas in the potential locations given by the criteria. Table 4.1. summarizes the list of potential locations in the study area.

Segment	Initial Potential Locations (km station)	Total Number
12 Balintawak - 15 Valenzuela	No potential location	0
15 Valenzuela - 20 Meycauayan	No potential location	0
20 Meycauayan - 23 Marilao	No potential location	0
23 Marilao - 27 Bocaue	No potential location	0
27 Bocaue - 32 Tabang	No potential location	0
34 Balagtas - 38 Pulilan	36, 36.5, 37, 37.5	4
38 Pulilan - 45 Sta Rita	38.5, 39, 39.5, 40, 40.5, 41, 41.5, 42, 42.5, 43, 43.5, 44, 44.5	13
45 Sta Rita - 56 San Simon	45.5, 51.5, 52, 52.5, 53, 53.5, 54, 54.5, 55, 55.5	10
56 San Simon - 65 San Fernando	56.5, 57, 57.5, 58, 58.5, 59, 59.5, 60.5, 61, 61.5, 62, 62.5, 63, 63.5, 64, 64.5	16
65 San Fernando - 72 Mexico	65.5, 66, 66.5, 67, 67.5, 68, 68.5, 69, 69.5, 70, 70.5, 71, 71.5	13
72 Mexico - 81 Angeles	72.5, 73, 73.5, 74, 74.5, 75, 75.5, 76, 76.5, 77, 77.5, 78, 78.5, 79.5, 80, 80.5	16
81 Angeles - 83 Dau	81.5, 82	2

Table 4.1. List of Potential Locations per segment in the study area

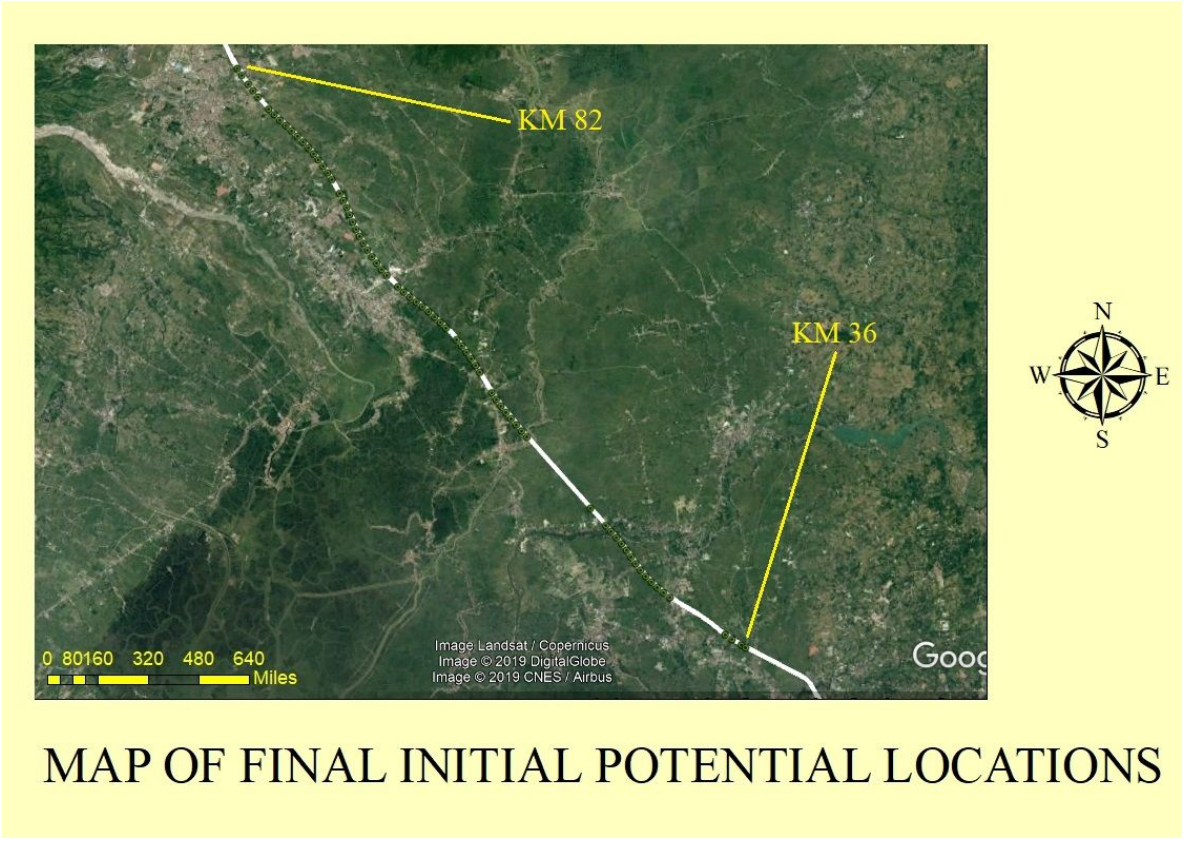


Figure 4.25. Map of the Initial Potential Locations for Installation of Vertical Axis Highway Wind Turbines

A map of these locations is summarized in Figure 4.25. A full page is shown in Appendix G. There were 74 initial potential locations identified in the study area. In these sites, a criteria will be applied and then cost efficiency analysis will be performed in order to identify the final potential locations for installation of highway wind turbines in NLEX.

4.2. Vehicle Count and Wind Speed Relationship

From the In Situ data, the relationship between vehicle count and wind speed were determined. Tables 4.2, 4.3 and 4.4 shows a plot of the relationship between the vehicle count and wind speed data in the fieldwork stations between Balagtas and Sta Rita Exit in km 35, 36 and 37 respectively.

KM 35				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.26	19	7	26
2	3.29	19	7	26
3	3.33	11	15	26
4	3.36	13	14	27
5	3.38	17	10	27
6	3.39	11	17	28
7	3.4	19	10	29
8	3.45	18	12	30
9	3.46	11	19	30
10	3.47	19	11	30

Table 4.2. Vehicle Count vs Wind Speed in km 37- First quartile of Balagtas - Sta. Rita Segment

KM 36 (MEDIAN)				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.88	14	12	26
2	3.9	17	9	26
3	3.95	16	11	27
4	3.97	15	12	27
5	3.98	12	15	27
6	3.98	19	9	28
7	4.11	12	16	28
8	4.12	20	9	29
9	4.18	16	14	30
10	4.2	17	13	30

Table 4.3. Vehicle Count vs Wind Speed in km 36- Median of Balagtas - Sta. Rita Segment

KM 37				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.25	14	18	26
2	3.31	20	11	26
3	3.33	16	13	26
4	3.35	16	14	26
5	3.41	12	12	26
6	3.44	20	16	26
7	3.44	20	11	27
8	3.46	11	18	27
9	3.46	16	17	28
10	3.55	14	20	30

Table 4.4. Vehicle Count vs Wind Speed in km 38- Third quartile of Balagtas - Sta. Rita Segment

A relationship equation was determined through Microsoft Excel. Per segment, 2 equations are derived- for the median and for the quartiles, which were observed to have similar trends. Given 7 segments, 14 equations were derived from excel. This is enumerated in Table 4.5.

Segment	**Location**	**Equation**	
Balagtas - Sta. Rita	Median	Y = 0.0177x - 0.6688	(4.2)
Balagtas - Sta. Rita	Quartile	Y = 0.0155x + 0.6155	(4.3)
Sta. Rita - Pulilan	Median	Y = 0.0395x + 2.4955	(4.4)
Sta. Rita - Pulilan	Quartile	Y = 0.031x + 2.28150	(4.5)
Pulilan - San Simon	Median	Y = 0.0267x + 3.0444	(4.6)
Pulilan - San Simon	Quartile	Y = 0.0167x + 2.8718	(4.7)
San Simon - San Fernando	Median	Y = 0.0435x + 2.162	(4.8)
San Simon - San Fernando	Quartile	Y = 0.0181x + 2.7626	(4.9)
San Fernando - Mexico	Median	Y = 0.0264x + 3.0708	(4.10)
San Fernando - Mexico	Quartile	Y = 0.0263x + 2.5044	(4.11)
Mexico - Angeles	Median	Y = 0.0295x + 2.7437	(4.12)
Mexico - Angeles	Quartile	Y = 0.0236x + 2.4348	(4.13)
Angeles - Dau	Median	Y = 0.112x - 0.8347	(4.14)
Angeles - Dau	Quartile	Y = 0.1011x - 0.9139	(4.15)

Table 4.5. Equations for the medians and quartiles of each segment.

Equations 4.2 to 4.15 will be applied to the traffic data in order to get the wind speed for the medians and quartiles per segment per hour. To derive the wind speed of the other potential locations, equation 4.1 will be used.

4.3. 2018 Wind Power Potential

The Wind Power Potential, given by Eq. 2.2, is computed in this section.

4.3.1. Wind Speed in 2018 (U)

Using Eq. 4.2 to Eq. 4.15, wind speeds were computed at the median and quartiles of each segment, while Eq. 4.1 was used to estimate the wind speed at the rest of the potential locations. However, according to Mr. Ocampo, NLEX Corp TCR Officer, vehicles tend to slow down at about 3000 cars per hour per toll, while traffic tends to come to almost a full stop at 5000 cars per hour per toll. These considerations were put into consideration such that wind speed at tolls with 3000 vehicles per hour were adjusted, while those at 5000 cars per hour were assigned a 0 wind speed. A sample computation is seen in Table 4.6 for the wind speed in Balagtas - Sta. Rita segment in January 1, 2018 in all potential locations in the segment.

Time	**Vehicle Count**	**Wind Speed**			
		Km 36	**Km 36.5**	**Km 37**	**Km 37.5**
1:00	1090	2.302	2.1311	1.954	1.777
2:00	824	2.534	2.346	2.152	1.9575
3:00	443	2.515	2.328	2.135	1.942
4:00	413	2.468	2.284	2.095	1.906
5:00	595	2.461	2.278	2.089	1.900
6:00	822	2.505	2.319	2.127	1.935
7:00	1149	2.635	2.439	2.237	2.035
8:00	1084	2.524	2.336	2.143	1.949

9:00	1346	2.681	2.482	2.276	2.071
10:00	1374	2.7	2.499	2.292	2.085
11:00	1256	2.951	2.731	2.505	2.279
12:00	1185	3.036	2.811	2.578	2.345
13:00	1305	3.132	2.899	2.659	2.419
14:00	1687	3.224	2.984	2.737	2.49
15:00	2206	3.392	3.14	2.88	2.62
16:00	1844	3.59	3.324	3.048	2.773
17:00	1758	1.961	1.816	1.665	1.515
18:00	1806	1.929	1.786	1.638	1.49
19:00	1694	1.932	1.789	1.64	1.492
20:00	1798	1.915	1.773	1.626	1.479
21:00	2184	1.955	1.81	1.66	1.51
22:00	2405	3.399	3.146	2.885	2.625
23:00	1815	3.08	3.292	3.019	2.746
24:00	1469	3.08	2.851	2.615	2.379

Table 4.6. Wind speed in Balagtas - Sta. Rita segment from km 36 to 37.5 in January 1, 2018.

4.3.2. Air density (ϱ)

4.3.2.1. Temperature Data

For the stretch of NLEX, PAGASA has 3 sensors stationed at the Science Garden, Subic Bay International Airport (SBIA) and Clark. The coordinates of each sensor is tabulated in table 4.7. and distances of each toll plaza is determined and shown in table 4.8. Finally, the nearest sensor to each segment was identified, and summarized in Table 4.9. This will be used for the selection of temperature data for the analysis per given segment

Sensor	Latitude	Longitude
Science Garden	14° 38' 37"	121° 2' 40"
SBIA	14° 47' 59"	120° 16' 4"
Clark	15° 11' 7"	120° 32' 57"

Table 4.7: Coordinates of PAGASA Sensors

Toll Plaza	Latitude	Longitude	Distance from		
			Science Garden	SBIA	Clark
Balagtas	14° 50' 27"	120° 53' 58"	24.4733627	63.31083997	49.13698838
Sta Rita	14° 51' 43"	120° 51' 34"	28.61764102	59.5047582	44.81794465
Pulilan	14° 54' 30"	120° 49' 1"	34.89289736	55.98427428	38.53983568
San Simon	14° 59' 30"	120° 44' 57"	45.62520587	51.82821209	27.85906625
San Fernando	15° 3' 1"	120° 41' 39"	53.66174112	49.46445391	19.82816704
Mexico	15° 6' 32"	120° 39' 40"	60.26920456	50.03063545	13.57314904
Angeles	15° 9' 46"	120° 36' 49"	67.4624819	50.13821964	6.832737236
Dau	15° 10' 46"	120° 36' 15"	69.35146768	50.71912412	5.529538444

Table 4.8: Distances of Toll Plazas with PAGASA Sensors

Segment	Nearest Sensor
Balagtas - Sta Rita	Science Garden
Sta Rita - Pulilan	Science Garden
Pulilan - San Simon	Clark
San Simon - San Fernando	Clark
San Fernando - Mexico	Clark
Mexico - Angeles	Clark
Angeles - Dau	Clark

Table 4.9: Assignment of segment to nearest PAGASA sensor.

4.3.2.2. Air Density Derivation

From table 3.7, the air density for each segment at a given time was estimated. A range was assigned for values not exactly shown in the table of values, tabulated in table 4.10. A sample assignment of air density is shown in table 4.11.

Range	Temperature (C)	Air Density (kg/m3)
20 - 22.5	20	1.204
22.5 - 27.5	25	1.184

27.5 - 32.5	30	1.165
32.5 - 37	35	1.127

Table 4.10. Assignment of Air Density value based on a range of temperature data

Time	Temperature C)	Air Density
01:00 - 06:00	31.4	1.1.65
06:00 - 12:00	31.2	1.165
12:00 - 18:00	27.2	1.184
18:00 - 00:00 (Jan 2)	24.8	1.184

Table 4.11. Air Density in Balagtas - Sta. Rita segment in January 1, 2018.

4.3.3. Vertical Axis Highway Wind Turbine Prototype

Based on the criteria set for an ideal vertical axis highway wind turbine by Bas de Jong (2015) in his study on Wind Turbines along Highways, specified in section 2.3.2., a prototype was selected.

Considering the forenamed requirements, the specifications conceptual VAWT are as follows:

- Height - 4 meters
- Diameter - 1 meter
- Swept Area - 4 m^2
- Weight - 1200 kg
- Wind endurance class - 40 m/s

Bas De Jong also gives a costing of such turbine, including VAT, handling fees, shipping fee and insurance, total price estimate of the conceptual turbine is Php 60,104.05 (de Jong, 2015).

4.3.4. Total Wind Power Potential

Using equation (2),

$$P_m = \frac{1}{2}\rho(\frac{16}{27})AU^3 \quad (2.2)$$

the wind power potential for 2018 was computed. ρ, or air density, was derived from section 4.1.3.2., A, or the swept area of the blades, is 4m2 and U is estimated in section 4.1.3.1. Table 4.12 shows a sample computation for the wind power potential speed in Balagtas - Sta Rita segment from km 36 to km 37.5 in January 1, 2019.

Time	Air Density	Energy Output			
		Km 36	Km 36.5	Km 37	Km 37.5
1:00	1.165	17.11803	13.5822	10.4774	7.885952
2:00	1.165	22.84624	18.12722	13.98346	10.52483
3:00	1.165	22.30965	17.70146	13.65503	10.27763
4:00	1.165	21.08188	16.7273	12.90355	9.712022
5:00	1.165	20.90297	16.58534	12.79404	9.629601
6:00	1.165	22.05774	17.50159	13.50084	10.16158
7:00	1.165	25.65857	20.35865	15.7048	11.82042
8:00	1.165	22.55007	17.89222	13.80218	10.38839
9:00	1.165	27.04135	21.4558	16.55115	12.45744
10:00	1.165	27.60501	21.90303	16.89615	12.7171
11:00	1.165	36.04332	28.59836	22.06097	16.60447

12:00	1.165	39.2684	31.15728	24.03494	18.09021
13:00	1.184	43.09185	34.19098	26.37515	19.8516
14:00	1.184	47.0025	37.29386	28.76873	21.65316
15:00	1.184	54.7653	43.4532	33.5201	25.22933
16:00	1.184	64.92639	51.51546	39.73938	29.91035
17:00	1.184	10.58315	8.397139	6.47761	4.875456
18:00	1.184	10.06931	7.989431	6.163101	4.638737
19:00	1.184	10.11846	8.028431	6.193186	4.661381
20:00	1.184	9.858837	7.822436	6.03428	4.541778
21:00	1.184	10.48845	8.322002	6.419649	4.831831
22:00	1.184	55.08074	43.70349	33.71317	25.37465
23:00	1.184	63.07249	50.0445	38.60466	29.0563
24:00	1.184	41.00059	32.53167	25.09515	18.88819

Table 4.12. Wind power potential in Balagtas - Sta Rita segment from km 36 to 37.5 in January 1, 2019.

4.4. Final Potential Locations

4.4.1. Finalization of Potential Locations

A criteria on the selection of potential locations was formulated. A turbine must be placed on the following locations:

1. In the median of a segment, where wind speed and wind potential is maximum
2. Within 50m from a lamp post
3. Within 500m from a toll plaza, if there is no lamp post in the vicinity
4. Cost efficient
5. On an identified initial potential location (based on Section 3.2.1.)

4.4.2. Cost Efficiency Analysis

From the 74 identified initial potential locations, there were found 6 potential locations that do not have a lamp post 50m within its vicinity, nor a toll plaza 500m within its vicinity. A sample analysis is shown in table 4.13.

Segment	KM	TOTAL ENERGY OUTPUT in 2018 (W)	Number of Lamp Posts in Proximity (500m)	Distance to nearest toll plaza (3 km)
34 Balagtas - 38 Pulilan	36	313861.0072	10	2
34 Balagtas - 38 Pulilan	36.5	249031.1707	10	1.5
34 Balagtas - 38 Pulilan	37	192104.334	10	1
34 Balagtas - 38 Pulilan	37.5	144589.7954	10	0.5
38 Pulilan - 45 Sta Rita	38.5	128766.2899	10	0.5
38 Pulilan - 45 Sta Rita	39	153055.5019	10	1
38 Pulilan - 45 Sta Rita	39.5	180221.8307	10	1.5
38 Pulilan - 45 Sta Rita	40	210426.3171	10	2
38 Pulilan - 45 Sta Rita	40.5	243830.0019	10	2.5
38 Pulilan - 45 Sta Rita	41	280593.9261	10	3
38 Pulilan - 45 Sta Rita	41.5	318484.5201	10	3.5
38 Pulilan - 45 Sta Rita	42	280593.9261	10	3
38 Pulilan - 45 Sta Rita	42.5	243830.0019	10	2.5
38 Pulilan - 45 Sta Rita	43	210426.3171	10	2
38 Pulilan - 45 Sta Rita	43.5	180221.8307	10	1.5
38 Pulilan - 45 Sta Rita	44	153055.5019	10	1
38 Pulilan - 45 Sta Rita	44.5	128766.2899	10	0.5
45 Sta Rita - 56 San Simon	45.5	97068.27908	15	0.5
45 Sta Rita - 56 San Simon	51.5	217469.7499	20	4.5
45 Sta Rita - 56 San Simon	52	198803.8009	20	4
45 Sta Rita - 56 San Simon	52.5	181237.7244	20	3.5
45 Sta Rita - 56 San Simon	53	164738.122	20	3
45 Sta Rita - 56 San Simon	53.5	149271.5955	20	2.5
45 Sta Rita - 56 San Simon	54	134804.7463	20	2
45 Sta Rita - 56 San Simon	54.5	121304.1761	20	1.5
45 Sta Rita - 56 San Simon	55	108736.4865	20	1
45 Sta Rita - 56 San Simon	55.5	97068.27908	20	0.5
56 San Simon - 65 San Fernando	56.5	144627.0428	15	0.5
56 San Simon - 65 San Fernando	57	165865.2584	10	1
56 San Simon - 65 San Fernando	57.5	189087.0832	10	1.5
56 San Simon - 65 San Fernando	58	214381.076	10	2
56 San Simon - 65 San Fernando	58.5	241835.7953	10	2.5

56 San Simon - 65 San Fernando	64.5	144627.0428	10	0.5
65 San Fernando - 72 Mexico	65.5	140316.6396	5	0.5
65 San Fernando - 72 Mexico	66	166784.5966	0	1
65 San Fernando - 72 Mexico	66.5	196387.7479	0	1.5
65 San Fernando - 72 Mexico	67	229301.5799	0	2
65 San Fernando - 72 Mexico	67.5	265701.5788	0	2.5
65 San Fernando - 72 Mexico	68	305763.2308	0	3
65 San Fernando - 72 Mexico	69	305763.2308	0	3
65 San Fernando - 72 Mexico	69.5	265701.5788	0	2.5
65 San Fernando - 72 Mexico	70	229301.5799	0	2
65 San Fernando - 72 Mexico	70.5	196387.7479	0	1.5
65 San Fernando - 72 Mexico	71	166784.5966	0	1
65 San Fernando - 72 Mexico	71.5	140316.6396	0	0.5
72 Mexico - 81 Angeles	72.5	113255.796	0	0.5
72 Mexico - 81 Angeles	73	129887.2016	0	1
72 Mexico - 81 Angeles	73.5	148071.9492	0	1.5
72 Mexico - 81 Angeles	74	167879.3879	0	2
72 Mexico - 81 Angeles	74.5	189378.867	0	2.5
72 Mexico - 81 Angeles	75	212639.7358	0	3
72 Mexico - 81 Angeles	78	212639.7358	0	3
72 Mexico - 81 Angeles	78.5	189378.867	0	2.5
72 Mexico - 81 Angeles	79.5	148071.9492	0	1.5
72 Mexico - 81 Angeles	80	129887.2016	0	1
72 Mexico - 81 Angeles	80.5	113255.796	0	0.5
81 Angeles - 83 Dau	81.5	196867.7163	0	0.5
81 Angeles - 83 Dau	82	321643.4445	0	1

Table 4.13. Cost Efficiency Table of Potential Locations

Total Number of Turbines: 68

Total Cost of Installation: Php 4 087 075

There were found 68 potential locations for highway wind turbines in NLEX. With 68 turbines, the cost of installation is Php 4 087 075.

The map of the final potential locations for installation of vertical axis highway wind turbines in North Luzon Expressway is shown in figures 4.26 and 4.27. A full-page view of the following figures will be seen at Appendix H and I.

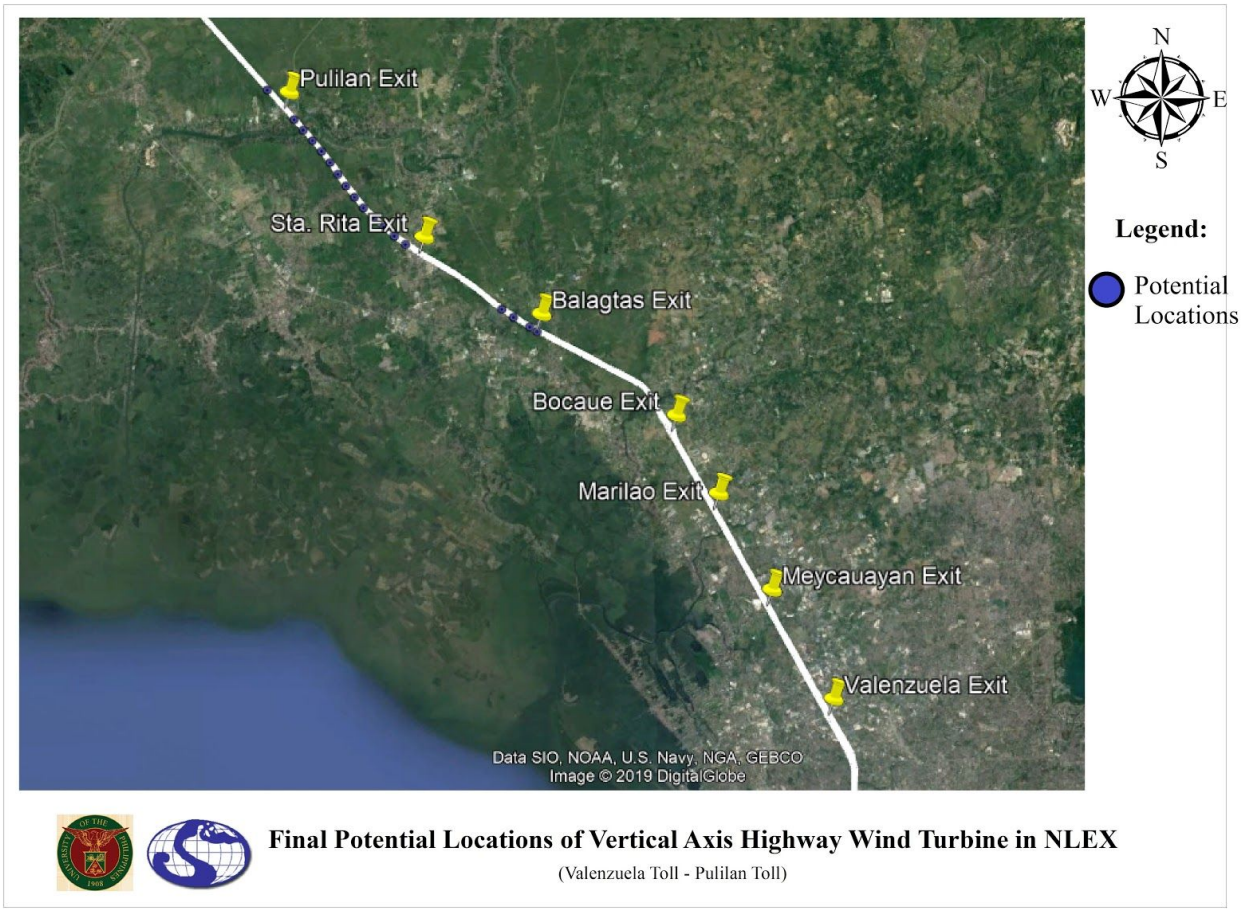


Figure 4.26. Map of the Final Potential Locations for installation of Vertical Axis Highway Wind Turbines in North Luzon Expressway from Valenzuela Toll to Pulilan Toll

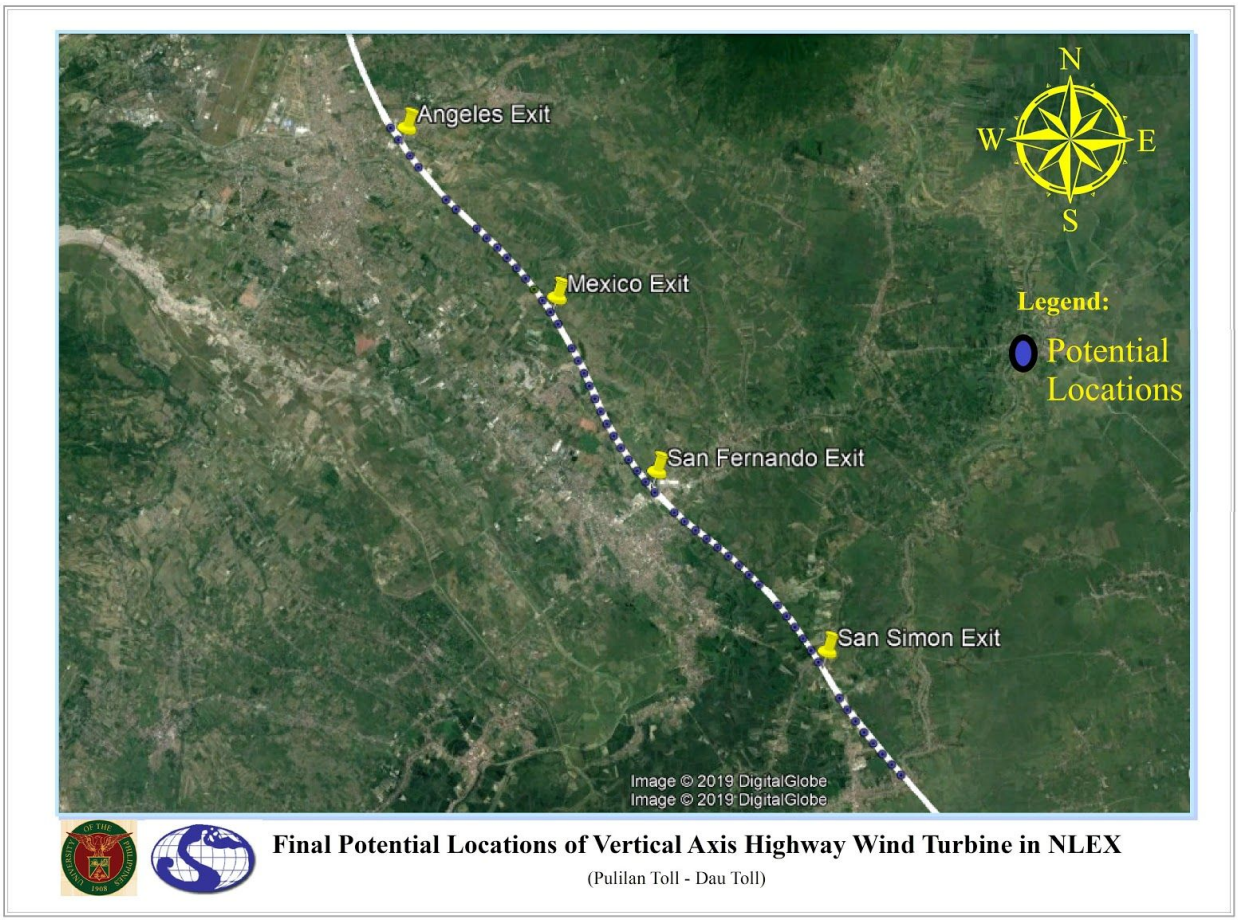


Figure 4.27. Map of the Final Potential Locations for installation of Vertical Axis Highway Wind Turbines in North Luzon Expressway from Pulilan Toll to Dau Toll

CHAPTER 5

CONCLUSION

5.1. Summary of Results

The potential locations for installation of Highway Wind Turbine in NLEX was determined via statistical analysis using the relationships of the acquired vehicle characteristics- speed and count- from NLEX Corporation and field data and wind speed.

The results have shown that based on 2018 data in NLEX, installation of Vertical Axis Highway Wind Turbine in North Luzon Expressway are to be done in the median of the northbound and southbound lanes of NLEX in 68 potential locations. These locations are identified to be able to be installed with turbines, having measurable wind speed that can power a turbine.

The installation of 68 turbines would have produced 27 417.7 kilowatts of power in 2018, and would have cost Php 4 087 075. However, the amount of energy that these turbines would have produced does not justify the cost of installation. Cost efficiency can be increased by increasing the wind energy potential to cost ratio. The wind energy potential, is maximum at maximum air density, swept area of the blades of the turbines and mean wind speed. Maximum air density is attained at low temperatures given standard atmospheric pressure. An hour to hour basis of temperature data may show these variations instead of assuming a mean temperature for 6 hours. The mean wind speed in NLEX can be increased by further assessing other factors contributing to it such as vehicle speed in all stations and size of vehicles. The values appeared to be close to the field data, which is only a few hours of sample from a year. Sample data in other times of the day, or other days of the week may

have affected the wind speed computation. Additionally, maximum cost efficiency is attained through a turbine with maximum swept area of the blades, at minimum cost of installation.

The cost efficiency analysis of the turbines may have not attracted investors to such projects yet, but we must not be discouraged looking for effective ways of harnessing such abundant resource. Scientists and engineers must continue their pursuit in making wind, as a renewable source, an available, reliable and sustainable source of energy, to contribute to the energy security of future generations.

5.2. Recommendations for Future Work

If this research is to be replicated in determining optimal locations of highway wind turbines, several factors may be considered in order to improve the results of this study.

For more accurate results, temperature data used must be on an hour-to-hour basis, and must be collected from the closest sensor to the exact locations.

Sample data from day/s with unusual traffic cases such as Holy Week, All Saint's Day, Christmas and other occasions that highly affects the flow of traffic may be taken as well.

When vertical axis wind turbines become more available, a cheaper prototype having the same or better specifications can be considered.

In order to further maximize energy harnessed by the device, it can be equipped with solar panels, for gathering of solar power, or piezometer, for gathering energy from vibration from the ground.

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APPENDIX

Appendix A. Fieldwork Data

Wind Speed vs. Vehicle Speed of KM 34.5

	Interval	Wind Speed	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	2.95	66	65	65.5
	10s - 20s	2.95	67	68	67.5
	20s - 30s	2.92	67	67	67
	30s - 40s	2.98	70	70	70
	40s - 50s	3.14	73	74	73.5
	50s - 60s	3.08	75	76	75.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	2.99	69	71	70
	10s - 20s	3.03	69	72	70.5
	20s - 30s	3.14	73	75	74
	30s - 40s	2.94	68	66	67
	40s - 50s	3.07	69	70	69.5
	50s - 60s	3.06	69	69	69

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.10	71	69	70
	10s - 20s	3.00	70	72	71
	20s - 30s	3.04	70	72	71
	30s - 40s	3.10	74	76	75
	40s - 50s	2.93	65	68	66.5
	50s - 60s	3.12	74	75	74.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.10	71	69	70
	10s - 20s	2.97	68	68	68
	20s - 30s	3.02	71	70	70.5
	30s - 40s	3.09	74	73	73.5
	40s - 50s	3.00	69	72	70.5
	50s - 60s	2.90	66	68	67

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 5	1s - 10s	3.11	70	72	71
	10s - 20s	2.94	66	65	65.5
	20s - 30s	3.00	72	72	72
	30s - 40s	3.10	74	73	73.5
	40s - 50s	3.00	69	69	69
	50s - 60s	3.10	75	73	74
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	2.98	69	69	69
	10s - 20s	3.06	72	70	71
	20s - 30s	3.04	72	71	71.5
	30s - 40s	2.91	67	65	66
	40s - 50s	2.92	68	66	67
	50s - 60s	2.96	66	67	66.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 7	1s - 10s	3.06	69	72	70.5
	10s - 20s	3.05	70	69	69.5
	20s - 30s	2.96	66	67	66.5
	30s - 40s	3.13	73	76	74.5
	40s - 50s	3.09	74	75	74.5
	50s - 60s	3.00	69	71	70
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	2.99	72	69	70.5
	10s - 20s	3.13	73	75	74
	20s - 30s	3.07	75	75	75
	30s - 40s	3.00	70	69	69.5
	40s - 50s	3.07	75	74	74.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 9	1s - 10s	2.94	67	67	67
	10s - 20s	2.94	68	67	67.5
	20s - 30s	3.13	75	76	75.5
	30s - 40s	3.10	73	74	73.5
	40s - 50s	2.94	65	68	66.5
	50s - 60s	3.05	70	70	70
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.13	76	73	74.5
	10s - 20s	3.06	76	74	75
	20s - 30s	3.12	74	76	75
	30s - 40s	3.09	73	73	73
	40s - 50s	3.04	72	72	72

Wind Speed vs. Vehicle Speed of KM 35

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 1	1s - 10s	3.2519	83	83	83
	10s - 20s	3.2769	80	78	79
	20s - 30s	3.2155	77	80	78.5
	30s - 40s	3.3817	87	83	85
	40s - 50s	3.364	84	86	85
	50s - 60s	3.3776	86	85	85.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.3675	87	82	84.5
	10s - 20s	3.3362	85	85	85
	20s - 30s	3.1742	77	80	78.5
	30s - 40s	3.2972	82	84	83
	40s - 50s	3.2791	82	79	80.5
	50s - 60s	3.3259	85	83	84

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.2773	80	83	81.5
	10s - 20s	3.2264	79	76	77.5
	20s - 30s	3.3092	82	84	83
	30s - 40s	3.2503	80	78	79
	40s - 50s	3.1702	77	79	78
	50s - 60s	3.1979	77	80	78.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.1938	78	78	78
	10s - 20s	3.3404	84	87	85.5
	20s - 30s	3.3054	80	80	80
	30s - 40s	3.1557	78	79	78.5
	40s - 50s	3.1596	79	77	78
	50s - 60s	3.2615	83	81	82

			NB	SB	
Min 5	1s - 10s	3.2779	81	83	82
	10s - 20s	3.1892	79	77	78
	20s - 30s	3.2865	82	82	82
	30s - 40s	3.2742	83	82	82.5
	40s - 50s	3.262	82	82	82
	50s - 60s	3.1807	77	77	77
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.3481	87	87	87
	10s - 20s	3.214	78	77	77.5
	20s - 30s	3.3758	85	86	85.5
	30s - 40s	3.167	78	78	78
	40s - 50s	3.2651	83	80	81.5

			NB	SB	
Min 7	1s - 10s	3.3143	87	86	86.5
	10s - 20s	3.2952	83	83	83
	20s - 30s	3.209	79	78	78.5
	30s - 40s	3.308	82	83	82.5
	40s - 50s	3.3905	86	85	85.5
	50s - 60s	3.3931	85	87	86
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.3657	86	86	86
	10s - 20s	3.3017	81	81	81
	20s - 30s	3.3181	84	87	85.5
	30s - 40s	3.3055	82	80	81
	40s - 50s	3.3941	87	84	85.5

	Interval	Wind Speed	NB	SB	Average
Min 9	1s - 10s	3.1693	78	79	78.5
	10s - 20s	3.3252	84	84	84
	20s - 30s	3.1986	78	82	80
	30s - 40s	3.2545	82	82	82
	40s - 50s	3.2822	82	82	82
	50s - 60s	3.3349	82	79	80.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.3657	85	87	86
	10s - 20s	3.1639	76	79	77.5
	20s - 30s	3.2992	83	80	81.5
	30s - 40s	3.3791	85	84	84.5
	40s - 50s	3.3716	85	84	84.5

Wind Speed vs. Vehicle Speed of KM 35.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 1	1s - 10s	3.6487	97	95	96
	10s - 20s	3.5985	96	94	95
	20s - 30s	3.4139	88	91	89.5
	30s - 40s	3.6023	96	94	95
	40s - 50s	3.5052	94	97	95.5
	50s - 60s	3.4502	88	92	90

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.5252	91	92	91.5
	10s - 20s	3.586	95	96	95.5
	20s - 30s	3.4041	88	89	88.5
	30s - 40s	3.43	90	94	92
	40s - 50s	3.5574	91	97	94
	50s - 60s	3.5041	91	96	93.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.5461	94	95	94.5
	10s - 20s	3.6386	95	95	95
	20s - 30s	3.617	96	97	96.5
	30s - 40s	3.5536	93	90	91.5
	40s - 50s	3.5924	96	94	95
	50s - 60s	3.5239	92	95	93.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.4145	88	89	88.5
	10s - 20s	3.6292	96	96	96
	20s - 30s	3.5052	94	91	92.5
	30s - 40s	3.5358	94	92	93
	40s - 50s	3.5865	97	95	96
	50s - 60s	3.4057	89	90	89.5

			NB	SB	
Min 5	1s - 10s	3.5359	92	94	93
	10s - 20s	3.6041	97	95	96
	20s - 30s	3.6197	96	96	96
	30s - 40s	3.5157	91	92	91.5
	40s - 50s	3.514	91	92	91.5
	50s - 60s	3.6442	96	95	95.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.4443	88	90	89
	10s - 20s	3.509	94	92	93
	20s - 30s	3.5818	96	97	96.5
	30s - 40s	3.4873	94	93	93.5
	40s - 50s	3.5189	93	90	91.5

			NB	SB	
Min 7	1s - 10s	3.5588	92	92	92
	10s - 20s	3.4969	92	91	91.5
	20s - 30s	3.5634	93	94	93.5
	30s - 40s	3.4032	88	90	89
	40s - 50s	3.6225	95	97	96
	50s - 60s	3.5544	92	92	92

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.6146	96	96	96
	10s - 20s	3.5476	92	92	92
	20s - 30s	3.6389	95	96	95.5
	30s - 40s	3.5754	95	95	95
	40s - 50s	3.468	88	88	88

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 9	1s - 10s	3.5572	93	93	93
	10s - 20s	3.442	88	88	88
	20s - 30s	3.5323	92	94	93
	30s - 40s	3.4455	88	90	89
	40s - 50s	3.551	93	91	92
	50s - 60s	3.6143	95	96	95.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.4394	88	87	87.5
	10s - 20s	3.4061	88	88	88
	20s - 30s	3.4029	88	88	88
	30s - 40s	3.527	92	92	92
	40s - 50s	3.5226	94	91	92.5

Wind Speed vs. Vehicle Speed of KM 36

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 1	1s - 10s	3.873	104	105	104.5
	10s - 20s	3.6513	97	98	97.5
	20s - 30s	3.8401	102	103	102.5
	30s - 40s	3.8907	102	103	102.5
	40s - 50s	3.6981	99	99	99
	50s - 60s	3.8887	105	104	104.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.6614	99	97	98
	10s - 20s	3.8077	102	100	101
	20s - 30s	3.6724	99	98	98.5
	30s - 40s	3.6695	98	99	98.5
	40s - 50s	3.7291	99	99	99
	50s - 60s	3.7337	101	100	100.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.6547	99	98	98.5
	10s - 20s	3.753	100	101	100.5
	20s - 30s	3.6571	99	98	98.5
	30s - 40s	3.8929	102	104	103
	40s - 50s	3.7418	102	100	101
	50s - 60s	3.8996	105	105	105

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.8548	103	103	103
	10s - 20s	3.6936	99	99	99
	20s - 30s	3.6694	98	97	97.5
	30s - 40s	3.7627	100	102	101
	40s - 50s	3.8937	103	104	103.5
	50s - 60s	3.74	100	100	100

			NB	SB	
Min 5	1s - 10s	3.7173	99	98	98.5
	10s - 20s	3.8727	103	104	103.5
	20s - 30s	3.6735	99	98	98.5
	30s - 40s	3.8197	104	104	104
	40s - 50s	3.7286	99	98	98.5
	50s - 60s	3.7471	100	100	100

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.8399	102	102	102
	10s - 20s	3.8734	105	104	104.5
	20s - 30s	3.8764	102	100	101
	30s - 40s	3.6986	99	98	98.5
	40s - 50s	3.8604	102	105	103.5

			NB	SB	
Min 7	1s - 10s	3.7854	101	100	100.5
	10s - 20s	3.8202	104	105	104.5
	20s - 30s	3.7367	100	100	100
	30s - 40s	3.8359	105	105	105
	40s - 50s	3.7801	102	102	102
	50s - 60s	3.7284	99	99	99

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.7012	99	98	98.5
	10s - 20s	3.6748	99	99	99
	20s - 30s	3.7994	100	100	100
	30s - 40s	3.8504	105	104	104.5
	40s - 50s	3.7014	99	98	98.5

			NB	SB	
Min 9	1s - 10s	3.6999	99	98	98.5
	10s - 20s	3.696	98	97	97.5
	20s - 30s	3.8585	102	104	103
	30s - 40s	3.8691	104	102	103
	40s - 50s	3.6495	99	98	98.5
	50s - 60s	3.6644	97	99	98

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.8772	104	103	103.5
	10s - 20s	3.6651	99	98	98.5
	20s - 30s	3.7025	99	99	99
	30s - 40s	3.7658	100	100	100
	40s - 50s	3.774	100	100	100

Wind Speed vs. Vehicle Speed of KM 36.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 1	1s - 10s	3.4239	88	91	89.5
	10s - 20s	3.5197	93	90	91.5
	20s - 30s	3.597	95	90	92.5
	30s - 40s	3.4154	88	87	87.5
	40s - 50s	3.4831	94	90	92
	50s - 60s	3.6207	95	93	94

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.6132	96	94	95
	10s - 20s	3.4963	94	90	92
	20s - 30s	3.5522	92	90	91
	30s - 40s	3.5053	93	90	91.5
	40s - 50s	3.5117	93	97	95
	50s - 60s	3.4197	89	95	92

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.5999	96	97	96.5
	10s - 20s	3.6009	96	96	96
	20s - 30s	3.4847	91	94	92.5
	30s - 40s	3.5052	92	90	91
	40s - 50s	3.3995	90	90	90
	50s - 60s	3.6227	96	93	94.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.5546	92	93	92.5
	10s - 20s	3.5821	97	96	96.5
	20s - 30s	3.6423	96	90	93
	30s - 40s	3.5108	92	92	92
	40s - 50s	3.4102	90	91	90.5
	50s - 60s	3.4692	90	87	88.5

			NB	SB	
Min 5	1s - 10s	3.4905	92	94	93
	10s - 20s	3.4694	90	89	89.5
	20s - 30s	3.4882	93	93	93
	30s - 40s	3.6049	97	96	96.5
	40s - 50s	3.5727	96	97	96.5
	50s - 60s	3.4612	90	90	90

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.5821	94	94	94
	10s - 20s	3.6102	95	95	95
	20s - 30s	3.4465	90	89	89.5
	30s - 40s	3.6246	96	95	95.5
	40s - 50s	3.5601	91	94	92.5

			NB	SB	
Min 7	1s - 10s	3.4675	88	88	88
	10s - 20s	3.4076	88	87	87.5
	20s - 30s	3.5194	94	92	93
	30s - 40s	3.5735	97	96	96.5
	40s - 50s	3.4757	90	90	90
	50s - 60s	3.4548	88	89	88.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.5263	93	92	92.5
	10s - 20s	3.4922	93	92	92.5
	20s - 30s	3.5077	91	94	92.5
	30s - 40s	3.5983	95	96	95.5
	40s - 50s	3.4449	89	89	89

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 9	1s - 10s	3.5053	92	91	91.5
	10s - 20s	3.5858	96	95	95.5
	20s - 30s	3.4939	92	92	92
	30s - 40s	3.4589	89	89	89
	40s - 50s	3.6278	97	97	97
	50s - 60s	3.5275	92	92	92

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.635	96	97	96.5
	10s - 20s	3.5338	94	92	93
	20s - 30s	3.6428	95	96	95.5
	30s - 40s	3.5052	94	94	94
	40s - 50s	3.5421	94	93	93.5

Wind Speed vs. Vehicle Speed of KM 37

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 1	1s - 10s	3.1999	76	79	77.5
	10s - 20s	3.2048	79	80	79.5
	20s - 30s	3.3299	83	83	83
	30s - 40s	3.3562	84	87	85.5
	40s - 50s	3.3461	86	86	86
	50s - 60s	3.1522	79	80	79.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.323	82	82	82
	10s - 20s	3.2535	83	83	83
	20s - 30s	3.3061	82	83	82.5
	30s - 40s	3.172	79	80	79.5
	40s - 50s	3.2012	76	79	77.5
	50s - 60s	3.1847	77	78	77.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.2474	80	81	80.5
	10s - 20s	3.1812	79	81	80
	20s - 30s	3.3667	85	87	86
	30s - 40s	3.2419	82	84	83
	40s - 50s	3.3631	85	86	85.5
	50s - 60s	3.2938	80	79	79.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.3803	87	86	86.5
	10s - 20s	3.1963	79	77	78
	20s - 30s	3.186	78	79	78.5
	30s - 40s	3.2289	79	77	78
	40s - 50s	3.2593	80	80	80
	50s - 60s	3.3321	84	84	84

			NB	SB	
Min 5	1s - 10s	3.2027	79	78	78.5
	10s - 20s	3.3471	86	85	85.5
	20s - 30s	3.2398	82	83	82.5
	30s - 40s	3.3166	86	84	85
	40s - 50s	3.3208	84	86	85
	50s - 60s	3.3174	84	87	85.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.1577	77	76	76.5
	10s - 20s	3.1652	77	77	77
	20s - 30s	3.1799	77	77	77
	30s - 40s	3.3295	85	85	85
	40s - 50s	3.2425	83	81	82

			NB	SB	
Min 7	1s - 10s	3.154	79	79	79
	10s - 20s	3.2288	79	78	78.5
	20s - 30s	3.2743	81	82	81.5
	30s - 40s	3.1458	77	80	78.5
	40s - 50s	3.2576	82	83	82.5
	50s - 60s	3.3688	84	84	84

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.3462	86	87	86.5
	10s - 20s	3.1833	77	78	77.5
	20s - 30s	3.2894	81	82	81.5
	30s - 40s	3.3714	86	86	86
	40s - 50s	3.1761	78	79	78.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 9	1s - 10s	3.2086	79	80	79.5
	10s - 20s	3.1744	77	79	78
	20s - 30s	3.2276	79	79	79
	30s - 40s	3.1789	79	78	78.5
	40s - 50s	3.2754	81	80	80.5
	50s - 60s	3.3539	86	87	86.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.3447	86	87	86.5
	10s - 20s	3.2768	83	82	82.5
	20s - 30s	3.37	85	84	84.5
	30s - 40s	3.3684	84	82	83
	40s - 50s	3.3344	85	87	86

Wind Speed vs. Vehicle Speed of KM 37.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 1	1s - 10s	3.0052	69	69	69
	10s - 20s	3.1177	76	74	75
	20s - 30s	3.0225	69	70	69.5
	30s - 40s	2.9884	69	72	70.5
	40s - 50s	2.8944	68	69	68.5
	50s - 60s	3.1375	76	75	75.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	2.9965	69	68	68.5
	10s - 20s	2.9026	68	67	67.5
	20s - 30s	2.9294	68	66	67
	30s - 40s	3.0067	70	72	71
	40s - 50s	3.0175	69	68	68.5
	50s - 60s	3.0112	72	72	72

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.1186	75	76	75.5
	10s - 20s	3.086	76	68	72
	20s - 30s	3.0926	74	74	74
	30s - 40s	3.0006	69	70	69.5
	40s - 50s	2.9287	68	70	69
	50s - 60s	3.1267	75	76	75.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.1287	74	75	74.5
	10s - 20s	3.0294	71	71	71
	20s - 30s	3.1144	74	75	74.5
	30s - 40s	3.0659	74	75	74.5
	40s - 50s	3.0068	72	71	71.5
	50s - 60s	2.9625	70	72	71

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 5	1s - 10s	2.8986	68	71	69.5
	10s - 20s	2.8983	69	69	69
	20s - 30s	3.0821	75	76	75.5
	30s - 40s	3.0881	73	73	73
	40s - 50s	3.1006	75	73	74
	50s - 60s	2.9123	65	68	66.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 7	1s - 10s	2.9905	69	71	70
	10s - 20s	3.1191	76	73	74.5
	20s - 30s	2.9129	68	66	67
	30s - 40s	2.9065	66	69	67.5
	40s - 50s	3.0468	70	69	69.5
	50s - 60s	3.0648	76	73	74.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	2.9106	68	66	67
	10s - 20s	2.9604	68	68	68
	20s - 30s	2.8968	68	67	67.5
	30s - 40s	2.9116	68	69	68.5
	40s - 50s	3.025	72	70	71

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	2.9814	69	71	70
	10s - 20s	2.9464	67	68	67.5
	20s - 30s	2.9884	69	69	69
	30s - 40s	3.06	72	69	70.5
	40s - 50s	3.1173	74	74	74

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 9	1s - 10s	3.1019	74	76	75
	10s - 20s	3.0089	71	70	70.5
	20s - 30s	2.9278	68	68	68
	30s - 40s	3.0759	72	76	74
	40s - 50s	3.1013	76	75	75.5
	50s - 60s	2.9337	68	65	66.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.0183	72	71	71.5
	10s - 20s	2.9463	67	69	68
	20s - 30s	3.031	69	72	70.5
	30s - 40s	3.0758	76	74	75
	40s - 50s	2.898	68	68	68

Wind Speed vs. Vehicle Speed of KM 38.5

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	2.965	67	67	67
	10s - 20s	3.0096	67	68	67.5
	20s - 30s	2.9302	65	65	65
	30s - 40s	3.0274	69	69	69
	40s - 50s	3.0154	67	68	67.5
	50s - 60s	3.0701	69	70	69.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	2.9461	66	66	66
	10s - 20s	2.9184	66	65	65.5
	20s - 30s	2.9695	67	67	67
	30s - 40s	3.0413	70	70	70
	40s - 50s	3.0519	70	69	69.5
	50s - 60s	2.9068	65	66	65.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.0786	69	65	67
	10s - 20s	3.0178	68	66	67
	20s - 30s	2.9964	67	69	68
	30s - 40s	3.0517	70	67	68.5
	40s - 50s	3.0299	69	66	67.5
	50s - 60s	2.9998	68	65	66.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.0546	70	70	70
	10s - 20s	3.0081	68	69	68.5
	20s - 30s	3.0302	70	67	68.5
	30s - 40s	2.936	66	66	66
	40s - 50s	3.0114	68	65	66.5
	50s - 60s	2.9804	68	69	68.5

			NB	SB	
Min 5	1s - 10s	3.0708	69	69	69
	10s - 20s	3.0405	70	70	70
	20s - 30s	2.9552	66	65	65.5
	30s - 40s	2.9637	67	68	67.5
	40s - 50s	3.0758	70	70	70
	50s - 60s	2.938	65	65	65
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.0305	70	70	70
	10s - 20s	3.0205	68	67	67.5
	20s - 30s	2.9411	66	65	65.5
	30s - 40s	3.0576	70	69	69.5
	40s - 50s	2.9386	65	66	65.5

			NB	SB	
Min 7	1s - 10s	3.063	70	70	70
	10s - 20s	2.9908	68	68	68
	20s - 30s	2.9598	66	65	65.5
	30s - 40s	2.952	66	66	66
	40s - 50s	2.9567	66	66	66
	50s - 60s	2.9559	66	67	66.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	2.9637	68	68	68
	10s - 20s	2.9494	65	66	65.5
	20s - 30s	2.9336	66	66	66
	30s - 40s	2.9208	66	65	65.5
	40s - 50s	2.9981	67	68	67.5

	Interval	Wind Speed	NB	SB	Average
Min 9	1s - 10s	2.9801	68	68	68
	10s - 20s	2.9593	66	65	65.5
	20s - 30s	3.0188	68	67	67.5
	30s - 40s	2.9335	65	65	65
	40s - 50s	2.9705	68	67	67.5
	50s - 60s	2.9876	67	67	67
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.0632	70	69	69.5
	10s - 20s	2.9646	67	68	67.5
	20s - 30s	2.9512	66	65	65.5
	30s - 40s	3.0675	69	69	69
	40s - 50s	2.9221	66	66	66

Wind Speed vs. Vehicle Speed of KM 39

	Interval	Wind Speed (m/s	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	3.2425	75	72	73.5
	10s - 20s	3.2558	76	73	74.5
	20s - 30s	3.235	76	71	73.5
	30s - 40s	3.2374	76	70	73
	40s - 50s	3.2436	75	72	73.5
	50s - 60s	3.175	74	73	73.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.091	72	72	72
	10s - 20s	3.1464	71	71	71
	20s - 30s	3.1473	71	72	71.5
	30s - 40s	3.2137	73	72	72.5
	40s - 50s	3.1489	73	74	73.5
	50s - 60s	3.0858	71	76	73.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.2429	76	75	75.5
	10s - 20s	3.0989	72	72	72
	20s - 30s	3.2014	73	74	73.5
	30s - 40s	3.2157	76	75	75.5
	40s - 50s	3.2467	75	76	75.5
	50s - 60s	3.2204	75	75	75
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.1787	73	73	73
	10s - 20s	3.2682	76	76	76
	20s - 30s	3.2206	75	75	75
	30s - 40s	3.2662	76	76	76
	40s - 50s	3.2134	76	76	76
	50s - 60s	3.2088	73	73	73

			NB	SB	
Min 5	1s - 10s	3.2699	76	75	75.5
	10s - 20s	3.2408	76	76	76
	20s - 30s	3.1519	72	72	72
	30s - 40s	3.0862	72	72	72
	40s - 50s	3.2305	76	76	76
	50s - 60s	3.1652	73	73	73
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.1947	73	73	73
	10s - 20s	3.0918	72	71	71.5
	20s - 30s	3.1439	72	72	72
	30s - 40s	3.1129	72	71	71.5

			NB	SB	
Min 7	1s - 10s	3.2613	75	75	75
	10s - 20s	3.1313	72	71	71.5
	20s - 30s	3.0959	72	72	72
	30s - 40s	3.1929	74	74	74
	40s - 50s	3.2008	74	73	73.5
	50s - 60s	3.1285	72	72	72
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.1517	71	71	71
	10s - 20s	3.2326	75	76	75.5
	20s - 30s	3.2676	76	75	75.5
	30s - 40s	3.254	75	76	75.5

			NB	SB	
Min 9	1s - 10s	3.1039	72	72	72
	10s - 20s	3.1901	74	74	74
	20s - 30s	3.2447	75	76	75.5
	30s - 40s	3.2014	73	74	73.5
	40s - 50s	3.1947	74	74	74
	50s - 60s	3.0976	72	71	71.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.1135	71	71	71
	10s - 20s	3.1476	72	71	71.5
	20s - 30s	3.1648	72	72	72
	30s - 40s	3.2637	75	75	75
	40s - 50s	3.1723	73	74	73.5

Wind Speed vs. Vehicle Speed of KM 39.5

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	3.3363	80	79	79.5
	10s - 20s	3.2782	77	78	77.5
	20s - 30s	3.4057	78	78	78
	30s - 40s	3.3091	78	78	78
	40s - 50s	3.2933	77	77	77
	50s - 60s	3.352	80	80	80
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.3018	77	78	77.5
	10s - 20s	3.3073	77	78	77.5
	20s - 30s	3.3562	80	80	80
	30s - 40s	3.341	78	77	77.5
	40s - 50s	3.3802	79	80	79.5
	50s - 60s	3.4364	82	81	81.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.3074	77	77	77
	10s - 20s	3.374	80	79	79.5
	20s - 30s	3.3768	80	79	79.5
	30s - 40s	3.2938	77	78	77.5
	40s - 50s	3.3365	80	79	79.5
	50s - 60s	3.3374	80	80	80
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.4534	81	82	81.5
	10s - 20s	3.4307	82	82	82
	20s - 30s	3.2904	77	77	77
	30s - 40s	3.2913	78	77	77.5
	40s - 50s	3.3807	80	79	79.5
	50s - 60s	3.4193	81	82	81.5

	[illegible]	[illegible]	NB	SB	[illegible]
Min 5	1s - 10s	3.3849	79	79	79
	10s - 20s	3.3349	79	79	79
	20s - 30s	3.3691	80	79	79.5
	30s - 40s	3.4387	81	82	81.5
	40s - 50s	3.3721	80	80	80
	50s - 60s	3.3091	77	78	77.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.3363	79	79	79
	10s - 20s	3.3007	77	78	77.5
	20s - 30s	3.2762	77	77	77
	30s - 40s	3.4281	81	81	81
	40s - 50s	3.3841	79	79	79

	[illegible]	[illegible]	NB	SB	[illegible]
Min 7	1s - 10s	3.4279	81	76	78.5
	10s - 20s	3.3289	77	80	78.5
	20s - 30s	3.4439	81	77	79
	30s - 40s	3.2799	77	77	77
	40s - 50s	3.3239	78	79	78.5
	50s - 60s	3.4311	81	77	79
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.3657	79	77	78
	10s - 20s	3.4396	81	77	79
	20s - 30s	3.3724	80	78	79
	30s - 40s	3.423	81	82	81.5
	40s - 50s	3.3024	78	78	78

	Interval	Wind Speed	[illegible]		Average
			NB	SB	
Min 9	1s - 10s	3.2978	77	77	77
	10s - 20s	3.3701	80	79	79.5
	20s - 30s	3.4345	82	81	81.5
	30s - 40s	3.3286	78	78	78
	40s - 50s	3.4309	81	81	81
	50s - 60s	3.3812	80	79	79.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.4128	81	81	81
	10s - 20s	3.3835	80	79	79.5
	20s - 30s	3.2955	77	78	77.5
	30s - 40s	3.3682	79	80	79.5
	40s - 50s	3.2801	77	77	77

Wind Speed vs. Vehicle Speed of KM 40

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	3.6194	88	83	85.5
	10s - 20s	3.5984	88	84	86
	20s - 30s	3.5128	84	84	84
	30s - 40s	3.4793	83	84	83.5
	40s - 50s	3.6134	88	88	88
	50s - 60s	3.5851	88	87	87.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.5548	86	86	86
	10s - 20s	3.5916	85	86	85.5
	20s - 30s	3.6306	87	87	87
	30s - 40s	3.5006	84	83	83.5
	40s - 50s	3.5489	85	85	85
	50s - 60s	3.5998	87	87	87

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.6338	88	88	88
	10s - 20s	3.6296	88	88	88
	20s - 30s	3.5544	86	86	86
	30s - 40s	3.6302	88	87	87.5
	40s - 50s	3.6419	87	87	87
	50s - 60s	3.6083	88	87	87.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.5683	85	85	85
	10s - 20s	3.6032	88	87	87.5
	20s - 30s	3.5307	85	86	85.5
	30s - 40s	3.5743	85	86	85.5
	40s - 50s	3.5961	88	88	88
	50s - 60s	3.5638	86	86	86

	[illegible]	[illegible]	NB	SB	[illegible]
Min 5	1s - 10s	3.6082	87	87	87
	10s - 20s	3.5879	88	87	87.5
	20s - 30s	3.6016	88	87	87.5
	30s - 40s	3.5836	88	87	87.5
	40s - 50s	3.5383	86	85	85.5
	50s - 60s	3.6281	87	87	87
	Interval	Wind Speed	Vehicle Speed		Average
			NB	86	
Min 6	1s - 10s	3.6321	88	87	87.5
	10s - 20s	3.5421	86	86	86
	20s - 30s	3.585	87	87	87
	30s - 40s	3.5247	86	86	86
	40s - 50s	3.6331	87	88	87.5

	[illegible]	[illegible]	NB	SB	[illegible]
Min 7	1s - 10s	3.6423	88	88	88
	10s - 20s	3.6135	87	87	87
	20s - 30s	3.5457	86	86	86
	30s - 40s	3.5399	86	86	86
	40s - 50s	3.5445	85	86	85.5
	50s - 60s	3.6356	88	87	87.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.5929	87	88	87.5
	10s - 20s	3.6104	87	88	87.5
	20s - 30s	3.6398	88	88	88
	30s - 40s	3.6378	88	87	87.5
	40s - 50s	3.5649	85	85	85

	Interval	Wind Speed	NB	SB	Average
Min 9	1s - 10s	3.5645	86	85	85.5
	10s - 20s	3.5691	85	86	85.5
	20s - 30s	3.6322	87	88	87.5
	30s - 40s	3.5233	86	86	86
	40s - 50s	3.5293	86	85	85.5
	50s - 60s	3.6353	87	89	88
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.5737	85	86	85.5
	10s - 20s	3.6081	87	88	87.5
	20s - 30s	3.6105	87	88	87.5
	30s - 40s	3.5639	86	88	87
	40s - 50s	3.5989	88	89	88.5

Wind Speed vs. Vehicle Speed of KM 40.5

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	3.6485	90	89	89.5
	10s - 20s	3.7279	92	91	91.5
	20s - 30s	3.7867	94	93	93.5
	30s - 40s	3.6552	90	89	89.5
	40s - 50s	3.7099	91	91	91
	50s - 60s	3.7643	91	92	91.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.6482	90	89	89.5
	10s - 20s	3.7393	91	91	91
	20s - 30s	3.757	91	91	91
	30s - 40s	3.6924	91	92	91.5
	40s - 50s	3.6712	92	91	91.5
	50s - 60s	3.655	92	92	92

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.7394	91	92	91.5
	10s - 20s	3.7542	91	91	91
	20s - 30s	3.6691	90	90	90
	30s - 40s	3.7213	92	92	92
	40s - 50s	3.7168	92	92	92
	50s - 60s	3.7531	91	91	91
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.8184	94	94	94
	10s - 20s	3.8027	94	94	94
	20s - 30s	3.7412	92	92	92
	30s - 40s	3.6511	89	89	89
	40s - 50s	3.82	94	94	94
	50s - 60s	3.6878	90	89	89.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 5	1s - 10s	3.7959	94	94	94
	10s - 20s	3.7942	94	93	93.5
	20s - 30s	3.7894	93	93	93
	30s - 40s	3.6654	90	90	90
	40s - 50s	3.7352	91	91	91
	50s - 60s	3.7583	91	91	91
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.6787	90	89	89.5
	10s - 20s	3.7443	92	92	92
	20s - 30s	3.7465	91	91	91
	30s - 40s	3.7139	92	92	92
	40s - 50s	3.7473	92	91	91.5

	Interval	Wind Speed	NB	SB	Average
Min 7	1s - 10s	3.8062	93	93	93
	10s - 20s	3.7767	93	93	93
	20s - 30s	3.7429	91	91	91
	30s - 40s	3.6757	89	90	89.5
	40s - 50s	3.7993	94	93	93.5
	50s - 60s	3.7837	93	93	93
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.738	92	92	92
	10s - 20s	3.7231	92	91	91.5
	20s - 30s	3.7296	91	92	91.5
	30s - 40s	3.7994	93	93	93
	40s - 50s	3.7193	92	91	91.5

	Interval	Wind Speed	NB	SB	Average
Min 9	1s - 10s	3.7733	93	93	93
	10s - 20s	3.7002	92	92	92
	20s - 30s	3.6925	89	89	89
	30s - 40s	3.7447	92	91	91.5
	40s - 50s	3.6977	90	90	90
	50s - 60s	3.6762	89	89	89
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.6451	89	90	89.5
	10s - 20s	3.7741	91	92	91.5
	20s - 30s	3.8028	93	94	93.5
	30s - 40s	3.7218	91	89	90
	40s - 50s	3.8107	94	92	93

Wind Speed vs. Vehicle Speed of KM 41

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	3.938	98	97	97.5
	10s - 20s	3.9265	97	97	97
	20s - 30s	3.9263	97	98	97.5
	30s - 40s	3.9806	99	99	99
	40s - 50s	3.9239	98	97	97.5
	50s - 60s	3.9338	97	97	97
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.9337	97	97	97
	10s - 20s	3.9702	100	100	100
	20s - 30s	3.9791	100	99	99.5
	30s - 40s	3.9443	97	97	97
	40s - 50s	3.939	97	97	97
	50s - 60s	4.0105	99	100	99.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.9479	97	98	97.5
	10s - 20s	3.9837	99	99	99
	20s - 30s	3.9728	100	99	99.5
	30s - 40s	3.9557	99	100	99.5
	40s - 50s	3.9106	97	97	97
	50s - 60s	3.9729	99	100	99.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.9776	100	100	100
	10s - 20s	3.9314	97	97	97
	20s - 30s	3.9961	100	99	99.5
	30s - 40s	3.9908	99	100	99.5
	40s - 50s	3.9736	100	99	99.5
	50s - 60s	3.9885	100	100	100

	[illegible]	[illegible]	NB	SB	[illegible]
Min 5	1s - 10s	3.9706	100	100	100
	10s - 20s	3.9111	98	98	98
	20s - 30s	3.9724	100	99	99.5
	30s - 40s	3.8921	97	97	97
	40s - 50s	3.9749	99	99	99
	50s - 60s	3.9963	99	100	99.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.8962	97	97	97
	10s - 20s	3.987	97	97	97
	20s - 30s	4.011	100	100	100
	30s - 40s	3.9373	97	98	97.5
	40s - 50s	3.9108	97	98	97.5

	[illegible]	[illegible]	NB	SB	[illegible]
Min 7	1s - 10s	3.9118	97	98	97.5
	10s - 20s	3.9761	100	99	99.5
	20s - 30s	3.991	99	99	99
	30s - 40s	3.9353	97	98	97.5
	40s - 50s	3.9927	100	100	100
	50s - 60s	3.9279	97	97	97
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.909	98	98	98
	10s - 20s	3.9234	98	98	98
	20s - 30s	3.9701	100	99	99.5
	30s - 40s	3.9119	97	98	97.5
	40s - 50s	3.9101	97	98	97.5

	Interval	Wind Speed			Average
			NB	SB	
Min 9	1s - 10s	3.901	98	98	98
	10s - 20s	3.9374	97	97	97
	20s - 30s	3.9086	97	98	97.5
	30s - 40s	3.9537	100	99	99.5
	40s - 50s	3.9353	97	97	97
	50s - 60s	3.9276	97	98	97.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.9272	97	100	98.5
	10s - 20s	3.9818	99	98	98.5
	20s - 30s	4.0016	99	100	99.5
	30s - 40s	3.9182	98	99	98.5
	40s - 50s	3.967	100	99	99.5

Wind Speed vs. Vehicle Speed of KM 41.5

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	4.1136	101	102	101.5
	10s - 20s	4.1497	103	102	102.5
	20s - 30s	4.1804	104	102	103
	30s - 40s	4.195	103	104	103.5
	40s - 50s	4.1988	104	104	104
	50s - 60s	4.1339	100	102	101

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	4.1933	103	103	103
	10s - 20s	4.1663	103	103	103
	20s - 30s	4.1976	103	102	102.5
	30s - 40s	4.1205	102	100	101
	40s - 50s	4.08	101	100	100.5
	50s - 60s	4.1811	102	103	102.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	4.1738	102	104	103
	10s - 20s	4.1292	102	102	102
	20s - 30s	4.1325	101	100	100.5
	30s - 40s	4.0806	102	101	101.5
	40s - 50s	4.118	100	100	100
	50s - 60s	4.1025	101	100	100.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	4.0848	101	102	101.5
	10s - 20s	4.1532	104	104	104
	20s - 30s	4.0864	102	100	101
	30s - 40s	4.1688	104	104	104
	40s - 50s	4.1102	100	102	101
	50s - 60s	4.1076	100	100	100

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 5	1s - 10s	4.1157	100	102	101
	10s - 20s	4.1032	100	101	100.5
	20s - 30s	4.1122	102	101	101.5
	30s - 40s	4.0935	102	101	101.5
	40s - 50s	4.1192	102	100	101
	50s - 60s	4.1231	102	101	101.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	4.1392	102	102	102
	10s - 20s	4.0838	102	102	102
	20s - 30s	4.1293	101	102	101.5
	30s - 40s	4.084	102	100	101
	40s - 50s	4.0967	102	102	102

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 7	1s - 10s	4.1134	101	102	101.5
	10s - 20s	4.1265	102	101	101.5
	20s - 30s	4.1335	101	101	101
	30s - 40s	4.1299	100	102	101
	40s - 50s	4.1193	101	101	101
	50s - 60s	4.1203	101	100	100.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	4.0963	102	102	102
	10s - 20s	4.1376	100	102	101
	20s - 30s	4.1876	104	102	103
	30s - 40s	4.1898	104	103	103.5
	40s - 50s	4.1897	103	102	102.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 9	1s - 10s	4.1753	102	103	102.5
	10s - 20s	4.1005	100	100	100
	20s - 30s	4.1216	102	101	101.5
	30s - 40s	4.0926	101	100	100.5
	40s - 50s	4.138	101	102	101.5
	50s - 60s	4.191	103	104	103.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	4.1211	101	100	100.5
	10s - 20s	4.1681	104	103	103.5
	20s - 30s	4.1761	104	104	104
	30s - 40s	4.092	101	102	101.5
	40s - 50s	4.0866	102	100	101
	50s - 60s	4.102	101	100	100.5

Wind Speed vs. Vehicle Speed of KM 42

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	3.9776	99	100	99.5
	10s - 20s	3.9314	97	97	97
	20s - 30s	3.9961	100	99	99.5
	30s - 40s	3.9908	100	99	99.5
	40s - 50s	3.9736	99	99	99
	50s - 60s	3.9885	99	99	99
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.9118	97	97	97
	10s - 20s	3.9761	100	99	99.5
	20s - 30s	3.991	100	100	100
	30s - 40s	3.9353	98	97	97.5
	40s - 50s	3.9927	99	100	99.5
	50s - 60s	3.9279	97	97	97

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.909	97	97	97
	10s - 20s	3.9234	98	98	98
	20s - 30s	3.9701	100	99	99.5
	30s - 40s	3.9119	97	97	97
	40s - 50s	3.9101	98	97	97.5
	50s - 60s	3.9677	100	100	100
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.9479	97	98	97.5
	10s - 20s	3.9837	99	100	99.5
	20s - 30s	3.9728	100	99	99.5
	30s - 40s	3.9557	100	100	100
	40s - 50s	3.9106	97	98	97.5
	50s - 60s	3.9729	99	99	99

			NB	SB	
Min 5	1s - 10s	3.9272	97	97	97
	10s - 20s	3.9818	99	99	99
	20s - 30s	4.0016	100	100	100
	30s - 40s	3.9182	98	98	98
	40s - 50s	3.967	100	99	99.5
	50s - 60s	3.9031	98	97	97.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.9104	97	98	97.5
	10s - 20s	3.9568	99	99	99
	20s - 30s	3.9388	97	97	97
	30s - 40s	3.9676	100	100	100
	40s - 50s	3.9402	98	97	97.5

			NB	SB	
Min 7	1s - 10s	3.9889	100	98	99
	10s - 20s	4.0124	100	100	100
	20s - 30s	3.9597	99	96	97.5
	30s - 40s	3.9039	97	95	96
	40s - 50s	3.9039	97	95	96
	50s - 60s	3.9694	100	98	99
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.9089	98	97	97.5
	10s - 20s	3.9864	99	99	99
	20s - 30s	3.9073	97	97	97
	30s - 40s	4.0126	100	100	100
	40s - 50s	3.9022	98	97	97.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 9	1s - 10s	3.9158	97	95	96
	10s - 20s	3.897	98	96	97
	20s - 30s	3.9353	98	96	97
	30s - 40s	3.8938	98	96	97
	40s - 50s	3.8976	97	98	97.5
	50s - 60s	3.9862	100	98	99
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.9913	100	99	99.5
	10s - 20s	3.9271	98	96	97
	20s - 30s	3.9243	97	95	96
	30s - 40s	3.9702	99	97	98
	40s - 50s	3.8946	97	95	96

Wind Speed vs. Vehicle Speed of KM 42.5

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	3.8062	89	91	90
	10s - 20s	3.7767	93	91	92
	20s - 30s	3.7429	92	89	90.5
	30s - 40s	3.6757	89	92	90.5
	40s - 50s	3.7993	93	90	91.5
	50s - 60s	3.7837	93	90	91.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.6918	90	94	92
	10s - 20s	3.7933	94	90	92
	20s - 30s	3.7537	92	89	90.5
	30s - 40s	3.8158	94	90	92
	40s - 50s	3.7944	94	91	92.5
	50s - 60s	3.675	92	89	90.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.6782	90	89	89.5
	10s - 20s	3.6771	89	89	89
	20s - 30s	3.7039	90	90	90
	30s - 40s	3.8045	92	92	92
	40s - 50s	3.8004	92	91	91.5
	50s - 60s	3.7994	93	93	93
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.738	91	92	91.5
	10s - 20s	3.7231	91	91	91
	20s - 30s	3.7296	92	91	91.5
	30s - 40s	3.7994	94	94	94
	40s - 50s	3.7193	91	91	91
	50s - 60s	3.6798	90	89	89.5

			NB	SB	
Min 5	1s - 10s	3.7513	91	91	91
	10s - 20s	3.7131	92	91	91.5
	20s - 30s	3.739	92	91	91.5
	30s - 40s	3.7688	94	93	93.5
	40s - 50s	3.735	92	91	91.5
	50s - 60s	3.8174	94	94	94
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.7733	93	93	93
	10s - 20s	3.7002	90	89	89.5
	20s - 30s	3.6925	89	89	89
	30s - 40s	3.7447	92	92	92
	40s - 50s	3.6977	89	89	89

			NB	SB	
Min 7	1s - 10s	3.76	92	92	92
	10s - 20s	3.7509	91	92	91.5
	20s - 30s	3.8271	94	94	94
	30s - 40s	3.8227	94	94	94
	40s - 50s	3.7615	92	92	92
	50s - 60s	3.6745	89	90	89.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.6957	92	91	91.5
	10s - 20s	3.8239	93	94	93.5
	20s - 30s	3.7305	92	92	92
	30s - 40s	3.652	89	89	89
	40s - 50s	3.8166	94	93	93.5

	Interval	Wind Speed	NB	SB	Average
Min 9	1s - 10s	3.6451	89	89	89
	10s - 20s	3.7741	93	94	93.5
	20s - 30s	3.8028	93	94	93.5
	30s - 40s	3.7218	91	91	91
	40s - 50s	3.8107	94	94	94
	50s - 60s	3.7359	91	92	91.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.8184	93	93	93
	10s - 20s	3.8027	93	94	93.5
	20s - 30s	3.7412	91	91	91
	30s - 40s	3.6511	90	89	89.5
	40s - 50s	3.82	93	94	93.5

Wind Speed vs. Vehicle Speed of KM 43

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	3.6198	87	85	86
	10s - 20s	3.4726	83	86	84.5
	20s - 30s	3.6426	88	84	86
	30s - 40s	3.5098	83	85	84
	40s - 50s	3.5125	84	86	85
	50s - 60s	3.6061	87	84	85.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.6321	88	88	88
	10s - 20s	3.5421	85	85	85
	20s - 30s	3.585	86	85	85.5
	30s - 40s	3.5247	86	85	85.5
	40s - 50s	3.6331	88	88	88
	50s - 60s	3.5615	86	86	86

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.5338	86	86	86
	10s - 20s	3.5645	86	85	85.5
	20s - 30s	3.6066	87	88	87.5
	30s - 40s	3.5193	84	84	84
	40s - 50s	3.5705	86	86	86
	50s - 60s	3.6305	87	88	87.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.6338	88	88	88
	10s - 20s	3.6296	87	88	87.5
	20s - 30s	3.5544	85	85	85
	30s - 40s	3.6302	87	88	87.5
	40s - 50s	3.6419	88	88	88
	50s - 60s	3.6083	87	87	87

	Interval	Wind Speed	NB	SB	Average
Min 5	1s - 10s	3.4908	83	83	83
	10s - 20s	3.6042	87	88	87.5
	20s - 30s	3.5457	85	86	85.5
	30s - 40s	3.6428	88	87	87.5
	40s - 50s	3.4975	83	83	83
	50s - 60s	3.5349	85	85	85
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.6082	88	88	88
	10s - 20s	3.5879	87	87	87
	20s - 30s	3.6016	87	87	87
	30s - 40s	3.5836	88	87	87.5
	40s - 50s	3.5383	85	85	85

	Interval	Wind Speed	NB	SB	Average
Min 7	1s - 10s	3.555	85	86	85.5
	10s - 20s	3.5994	87	87	87
	20s - 30s	3.5907	87	87	87
	30s - 40s	3.5372	85	86	85.5
	40s - 50s	3.5581	85	85	85
	50s - 60s	3.5283	85	86	85.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.6423	87	88	87.5
	10s - 20s	3.6135	87	87	87
	20s - 30s	3.5457	86	86	86
	30s - 40s	3.5399	85	86	85.5
	40s - 50s	3.5445	85	85	85

	Interval	Wind Speed	NB	SB	Average
Min 9	1s - 10s	3.5299	85	86	85.5
	10s - 20s	3.6015	88	88	88
	20s - 30s	3.6053	87	88	87.5
	30s - 40s	3.6067	88	88	88
	40s - 50s	3.5563	86	86	86
	50s - 60s	3.5113	86	86	86
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.5683	86	85	85.5
	10s - 20s	3.6032	88	88	88
	20s - 30s	3.5307	86	86	86
	30s - 40s	3.5743	86	86	86
	40s - 50s	3.5961	87	88	87.5

Wind Speed vs. Vehicle Speed of KM 43.5

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	3.3363	79	79	79
	10s - 20s	3.3007	77	78	77.5
	20s - 30s	3.2762	77	77	77
	30s - 40s	3.4281	82	82	82
	40s - 50s	3.3841	80	79	79.5
	50s - 60s	3.4526	82	81	81.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.4128	82	81	81.5
	10s - 20s	3.3835	79	79	79
	20s - 30s	3.2955	77	78	77.5
	30s - 40s	3.3682	79	79	79
	40s - 50s	3.2801	78	77	77.5
	50s - 60s	3.3625	80	79	79.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.4417	82	82	82
	10s - 20s	3.3504	79	80	79.5
	20s - 30s	3.2867	77	77	77
	30s - 40s	3.4217	82	82	82
	40s - 50s	3.3365	80	79	79.5
	50s - 60s	3.4459	81	81	81
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.4279	81	81	81
	10s - 20s	3.3289	77	78	77.5
	20s - 30s	3.4439	82	81	81.5
	30s - 40s	3.2799	77	78	77.5
	40s - 50s	3.3239	78	78	78
	50s - 60s	3.4311	82	81	81.5

			NB	SB	
Min 5	1s - 10s	3.3657	79	80	79.5
	10s - 20s	3.4396	81	82	81.5
	20s - 30s	3.3724	80	79	79.5
	30s - 40s	3.423	81	81	81
	40s - 50s	3.3024	78	78	78
	50s - 60s	3.4155	81	82	81.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.3156	78	77	77.5
	10s - 20s	3.4114	81	82	81.5
	20s - 30s	3.3244	77	78	77.5
	30s - 40s	3.3927	80	80	80
	40s - 50s	3.4336	82	82	82

			NB	SB	
Min 7	1s - 10s	3.4385	82	81	81.5
	10s - 20s	3.428	81	81	81
	20s - 30s	3.4106	81	81	81
	30s - 40s	3.4102	81	82	81.5
	40s - 50s	3.3043	78	78	78
	50s - 60s	3.2839	77	77	77
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.2978	77	77	77
	10s - 20s	3.3701	80	79	79.5
	20s - 30s	3.4345	82	81	81.5
	30s - 40s	3.3286	78	78	78
	40s - 50s	3.4309	82	82	82

	Interval	Wind Speed	NB	SB	Average
Min 9	1s - 10s	3.4082	81	82	81.5
	10s - 20s	3.3148	78	77	77.5
	20s - 30s	3.372	79	80	79.5
	30s - 40s	3.366	80	80	80
	40s - 50s	3.3237	78	78	78
	50s - 60s	3.4179	82	82	82
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.3978	81	79	80
	10s - 20s	3.4	81	78	79.5
	20s - 30s	3.3644	80	77	78.5
	30s - 40s	3.3528	80	82	81
	40s - 50s	3.4311	81	78	79.5

Wind Speed vs. Vehicle Speed of KM 44

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	3.2092	74	74	74
	10s - 20s	3.2193	75	75	75
	20s - 30s	3.1213	72	71	71.5
	30s - 40s	3.087	71	71	71
	40s - 50s	3.189	74	73	73.5
	50s - 60s	3.1647	73	73	73
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.1947	73	73	73
	10s - 20s	3.0918	71	71	71
	20s - 30s	3.1439	72	72	72
	30s - 40s	3.1129	72	71	71.5
	40s - 50s	3.0941	71	71	71
	50s - 60s	3.1668	73	73	73
			NB	SB	
Min 5	1s - 10s	3.1135	72	74	73
	10s - 20s	3.1476	72	75	73.5
	20s - 30s	3.1648	74	71	72.5
	30s - 40s	3.2637	76	73	74.5
	40s - 50s	3.1723	74	72	73
	50s - 60s	3.1862	73	76	74.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.1008	72	71	71.5
	10s - 20s	3.2604	75	75	75
	20s - 30s	3.1704	74	74	74
	30s - 40s	3.2219	75	75	75
	Interval	Wind Speed			Average
			NB	SB	
Min 9	1s - 10s	3.1839	73	73	73
	10s - 20s	3.1846	74	73	73.5
	20s - 30s	3.1917	73	74	73.5
	30s - 40s	3.1306	72	72	72
	40s - 50s	3.2705	76	76	76
	50s - 60s	3.2062	74	74	74
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.1517	73	74	73.5
	10s - 20s	3.2326	75	75	75
	20s - 30s	3.2676	76	76	76
	30s - 40s	3.254	75	75	75
	40s - 50s	3.1003	71	72	71.5

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.0879	71	71	71
	10s - 20s	3.1375	72	71	71.5
	20s - 30s	3.122	72	72	72
	30s - 40s	3.2437	76	75	75.5
	40s - 50s	3.1309	72	71	71.5
	50s - 60s	3.2	74	74	74
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.2613	76	76	76
	10s - 20s	3.1313	72	71	71.5
	20s - 30s	3.0959	71	71	71
	30s - 40s	3.1929	74	74	74
	40s - 50s	3.2008	74	73	73.5
	50s - 60s	3.1285	72	71	71.5
			NB	SB	
Min 7	1s - 10s	3.1549	73	74	73.5
	10s - 20s	3.1306	72	72	72
	20s - 30s	3.1634	73	73	73
	30s - 40s	3.1918	74	74	74
	40s - 50s	3.2506	76	76	76
	50s - 60s	3.1103	71	72	71.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.1039	71	72	71.5
	10s - 20s	3.1901	74	73	73.5
	20s - 30s	3.2447	76	76	76
	30s - 40s	3.2014	73	74	73.5
	40s - 50s	3.1947	73	73	73

Wind Speed vs. Vehicle Speed of KM 44.5

	Interval	Wind Speed (m/s)	Vehicle Speed (kph)		Average
			NB	SB	
Min 1	1s - 10s	2.9913	67	68	67.5
	10s - 20s	2.914	66	66	66
	20s - 30s	3.079	69	69	69
	30s - 40s	3.083	70	70	70
	40s - 50s	2.983	67	67	67
	50s - 60s	3.0062	68	67	67.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 2	1s - 10s	3.0327	70	69	69.5
	10s - 20s	2.9678	67	68	67.5
	20s - 30s	2.9628	67	67	67
	30s - 40s	2.9897	68	68	68
	40s - 50s	3.0045	68	68	68
	50s - 60s	3.0203	68	68	68

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 3	1s - 10s	3.0305	67	65	66
	10s - 20s	3.0205	67	65	66
	20s - 30s	2.9411	66	69	67.5
	30s - 40s	3.0576	69	65	67
	40s - 50s	2.9386	65	70	67.5
	50s - 60s	3.0351	69	65	67
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 4	1s - 10s	3.0632	70	69	69.5
	10s - 20s	2.9646	67	68	67.5
	20s - 30s	2.9512	68	67	67.5
	30s - 40s	3.0675	69	70	69.5
	40s - 50s	2.9221	66	66	66
	50s - 60s	2.9053	66	65	65.5

			NB	SB	
Min 5	1s - 10s	2.9461	65	65	65
	10s - 20s	2.9184	65	65	65
	20s - 30s	2.9695	65	66	65.5
	30s - 40s	3.0413	69	69	69
	40s - 50s	3.0519	70	70	70
	50s - 60s	2.9068	65	66	65.5
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 6	1s - 10s	3.0546	70	69	69.5
	10s - 20s	3.0081	68	67	67.5
	20s - 30s	3.0302	69	69	69
	30s - 40s	2.936	65	65	65
	40s - 50s	3.0114	68	68	68

			NB	SB	
Min 7	1s - 10s	3.0485	69	69	69
	10s - 20s	2.9345	66	65	65.5
	20s - 30s	2.9658	67	67	67
	30s - 40s	2.9559	66	66	66
	40s - 50s	3.052	70	70	70
	50s - 60s	2.9656	67	67	67
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 8	1s - 10s	3.063	69	69	69
	10s - 20s	2.9908	67	67	67
	20s - 30s	2.9598	66	65	65.5
	30s - 40s	2.952	65	65	65
	40s - 50s	2.9567	66	66	66

	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 9	1s - 10s	2.9552	66	65	65.5
	10s - 20s	2.989	68	67	67.5
	20s - 30s	3.0214	67	68	67.5
	30s - 40s	2.9979	68	68	68
	40s - 50s	3.0701	70	69	69.5
	50s - 60s	2.9856	68	68	68
	Interval	Wind Speed	Vehicle Speed		Average
			NB	SB	
Min 10	1s - 10s	3.0516	70	70	70
	10s - 20s	2.9013	65	66	65.5
	20s - 30s	2.9911	68	67	67.5
	30s - 40s	2.9234	65	66	65.5
	40s - 50s	3.0105	67	67	67

Wind Speed vs. Vehicle Count of KM 35 to KM 43

KM 35				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.26	11	15	26
2	3.29	14	12	26
3	3.33	19	7	26
4	3.36	18	9	27
5	3.38	15	12	27
6	3.39	13	15	28
7	3.4	15	14	29
8	3.45	20	10	30
9	3.46	11	19	30
10	3.47	16	14	30

KM 36 (MEDIAN)				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.88	19	7	26
2	3.9	18	8	26
3	3.95	13	14	27
4	3.97	13	14	27
5	3.98	14	13	27
6	3.98	16	12	28
7	4.11	18	10	28
8	4.12	16	13	29
9	4.18	18	12	30
10	4.2	19	11	30

KM 37				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.25	14	20	26
2	3.31	18	18	26
3	3.33	12	13	26
4	3.35	13	13	26
5	3.41	19	14	26
6	3.44	11	18	26
7	3.44	20	13	27
8	3.46	15	11	27
9	3.46	20	13	28
10	3.55	12	19	30

KM 40				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.47	22	16	38
2	3.5	30	9	39
3	3.5	23	16	39
4	3.51	30	10	40
5	3.53	24	17	41
6	3.54	24	17	41
7	3.55	26	15	41
8	3.56	24	18	42
9	3.63	23	20	43
10	3.64	23	20	43

KM 41.5 (MEDIAN)				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	4.05	27	12	39
2	4.05	21	18	39
3	4.06	23	17	40
4	4.07	25	15	40
5	4.1	30	11	41
6	4.1	29	12	41
7	4.13	22	20	42
8	4.19	26	16	42
9	4.2	29	14	43
10	4.2	21	22	43

KM 43				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.47	30	8	38
2	3.48	22	16	38
3	3.48	29	9	38
4	3.48	27	11	38
5	3.51	21	18	39
6	3.53	28	11	39
7	3.53	21	18	39
8	3.53	30	9	39
9	3.55	29	11	40
10	3.64	25	17	42

Wind Speed vs. Vehicle Count of KM 48 to KM 62.5

KM 48				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.50	27	11	38
2	3.51	21	17	38
3	3.52	26	13	39
4	3.53	27	12	39
5	3.53	22	17	39
6	3.56	28	13	41
7	3.56	23	18	41
8	3.58	29	13	42
9	3.59	24	19	43
10	3.60	23	20	43

KM 50.5 (MEDIAN)				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	4.08	28	11	39
2	4.11	29	11	40
3	4.13	24	17	41
4	4.14	27	14	41
5	4.14	24	17	41
6	4.16	23	19	42
7	4.16	21	21	42
8	4.17	23	19	42
9	4.19	23	20	43
10	4.20	22	21	43

KM 53				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.50	30	8	38
2	3.50	27	11	38
3	3.52	30	9	39
4	3.52	27	12	39
5	3.53	30	9	39
6	3.53	27	12	39
7	3.55	21	19	40
8	3.56	26	15	41
9	3.57	25	16	41
10	3.59	28	14	42

KM 58.5				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.51	21	20	41
2	3.52	28	14	42
3	3.52	28	14	42
4	3.53	22	21	43
5	3.54	29	14	43
6	3.56	23	21	44
7	3.58	21	24	45
8	3.58	29	16	45
9	3.59	29	17	46
10	3.60	27	19	46

KM 60.5 (MEDIAN)				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	4.07	25	19	44
2	4.08	30	14	44
3	4.08	25	19	44
4	4.08	23	21	44
5	4.09	27	17	44
6	4.10	21	24	45
7	4.11	27	18	45
8	4.11	30	15	45
9	4.16	23	23	46
10	4.18	29	17	46

KM 62.5				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.50	22	19	41
2	3.52	28	14	42
3	3.53	26	16	42
4	3.55	28	15	43
5	3.55	25	18	43
6	3.55	28	15	43
7	3.56	28	15	43
8	3.59	27	17	44
9	3.61	24	21	45
10	3.61	23	23	46

Wind Speed vs. Vehicle Count of KM 67 to KM 78.5

KM 67				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.48	22	15	37
2	3.49	28	9	37
3	3.51	22	17	39
4	3.54	24	16	40
5	3.54	21	19	40
6	3.56	28	13	41
7	3.56	22	19	41
8	3.6	24	17	41
9	3.61	27	14	41
10	3.61	21	20	41

KM 68.5 (MEDIAN)				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	4.05	27	11	38
2	4.06	26	12	38
3	4.08	21	17	38
4	4.09	30	8	38
5	4.11	28	11	39
6	4.13	23	17	40
7	4.14	23	17	40
8	4.15	27	14	41
9	4.17	24	18	42
10	4.18	25	17	42

KM 70				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.48	21	16	37
2	3.5	23	14	37
3	3.51	27	11	38
4	3.56	24	14	38
5	3.57	30	8	38
6	3.58	22	17	39
7	3.59	29	11	40
8	3.62	23	18	41
9	3.63	27	14	41
10	3.64	21	21	42

KM 74.5				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.49	21	24	45
2	3.49	24	21	45
3	3.5	29	16	45
4	3.52	29	17	46
5	3.53	23	23	46
6	3.55	24	24	48
7	3.57	21	27	48
8	3.59	24	25	49
9	3.61	25	25	50
10	3.62	26	24	50

KM 76.5 (MEDIAN)				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	4.07	28	18	46
2	4.08	29	17	46
3	4.09	25	21	46
4	4.14	23	24	47
5	4.15	28	19	47
6	4.16	25	22	47
7	4.18	26	22	48
8	4.18	22	27	49
9	4.18	30	19	49
10	4.2	25	25	50

KM 78.5				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.5	28	17	45
2	3.53	22	23	45
3	3.55	21	24	45
4	3.55	23	22	45
5	3.56	29	17	46
6	3.56	23	23	46
7	3.57	24	23	47
8	3.61	22	26	48
9	3.62	28	21	49
10	3.62	29	20	49

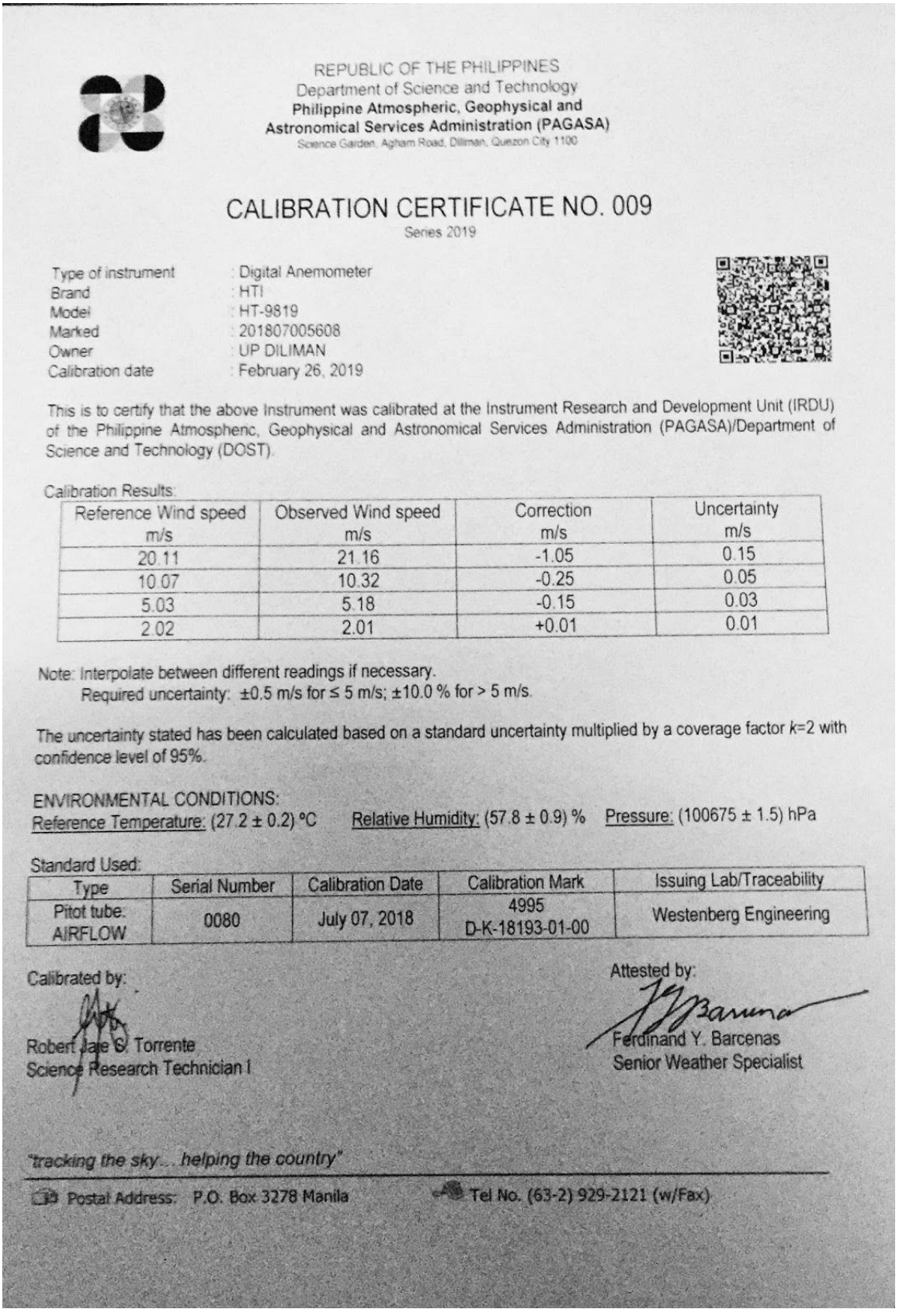
Wind Speed vs. Vehicle Count of KM 81.5 to KM 82.5

KM 81.5				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	2.92	25	13	38
2	3.01	22	17	39
3	3.11	23	17	40
4	3.16	21	19	40
5	3.24	24	17	41
6	3.26	29	12	41
7	3.32	25	17	42
8	3.4	26	17	43
9	3.41	30	13	43
10	3.47	21	22	43

KM 82 (MEDIAN)				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	3.56	23	16	39
2	3.63	24	16	40
3	3.65	28	12	40
4	3.68	28	12	40
5	3.72	25	16	41
6	3.74	27	14	41
7	3.95	26	17	43
8	4.07	30	14	44
9	4.11	21	23	44
10	4.15	26	18	44

KM 82.5				
Obs.	Wind Speed	Vehicle Count		Total
		NB	SB	
1	2.96	26	12	38
2	2.97	23	15	38
3	3.05	30	9	39
4	3.16	23	16	39
5	3.22	27	13	40
6	3.3	24	17	41
7	3.32	28	13	41
8	3.4	21	21	42
9	3.48	23	20	43
10	3.5	25	18	43

Appendix B. Anemometer Calibration Certification from PAGASA



REPUBLIC OF THE PHILIPPINES
Department of Science and Technology
Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)
Science Garden, Agham Road, Diliman, Quezon City 1100

CALIBRATION CERTIFICATE NO. 009

Series 2019

Type of instrument	: Digital Anemometer
Brand	: HTI
Model	: HT-9819
Marked	: 201807005608
Owner	: UP DILIMAN
Calibration date	: February 26, 2019

This is to certify that the above Instrument was calibrated at the Instrument Research and Development Unit (IRDU) of the Philippine Atmosphenc, Geophysical and Astronomical Services Administration (PAGASA)/Department of Science and Technology (DOST).

Calibration Results:

Reference Wind speed m/s	Observed Wind speed m/s	Correction m/s	Uncertainty m/s
20.11	21.16	-1.05	0.15
10.07	10.32	-0.25	0.05
5.03	5.18	-0.15	0.03
2.02	2.01	+0.01	0.01

Note: Interpolate between different readings if necessary.
Required uncertainty: ±0.5 m/s for ≤ 5 m/s; ±10.0 % for > 5 m/s.

The uncertainty stated has been calculated based on a standard uncertainty multiplied by a coverage factor *k*=2 with confidence level of 95%.

ENVIRONMENTAL CONDITIONS:
Reference Temperature: (27.2 ± 0.2) °C Relative Humidity: (57.8 ± 0.9) % Pressure: (100675 ± 1.5) hPa

Standard Used:

Type	Serial Number	Calibration Date	Calibration Mark	Issuing Lab/Traceability
Pitot tube: AIRFLOW	0080	July 07, 2018	4995 D-K-18193-01-00	Westenberg Engineering

Calibrated by:

Robert Jade S. Torrente
Science Research Technician I

Attested by:

Ferdinand Y. Barcenas
Senior Weather Specialist

"tracking the sky... helping the country"

Postal Address: P.O. Box 3278 Manila Tel No. (63-2) 929-2121 (w/Fax)

Appendix C. Request Letter for fieldwork in NLEX Corporation

07 March 2019

Mr. Raul L. Ignacio
North Luzon Expressway Corporation

Greetings!

I am Vida Gonzales, a BS Geodetic Engineering Student of the University of the Philippines- Diliman. In fulfillment of our GE 199 course or Undergraduate Research Proper. This is regarding the study we are conducting on the *Identification of Potential Sites of Highway Wind Turbines in North Luzon Expressway (*NLEX), a copy of the complete proposal may be available upon request. I would like to update you with our **revised detailed methodology** and **proposed updated schedule**.

The **revised detailed methodology** to be performed includes the measurement of wind speed and direction on each location via handheld anemometer, which will be held 2 meters from the ground via pole and a bipod. For the more effective measurement of the wind draft, the device must be stationed at the middle of the northbound and southbound lanes on the island. Temperature will also be simultaneously recorded with the wind speed, using the anemometer. Vehicular count towards the northbound and the southbound of NLEX will also be done by taking a video of the passing cars, which will be post processed in a vehicle counter program. This revision of the methodology was devised in order to adjust the time of fieldwork, from the original 12-hours of fieldwork, to **8AM – 12NN every day**.

Here is our **proposed updated schedule** at our chosen Area of Study along NLEX.

Date	Day	Station	Distance from Manila
March 9	Saturday	Balagtas Interchange – Sta Rita Exit	35 km
March 10	Sunday	Balagtas Interchange – Sta Rita Exit	36 km
March 11	Monday	Balagtas Interchange – Sta Rita Exit	37 km
March 12	Tuesday	Sta Rita Exit - Pulilan Exit	41.5 km
March 17	Sunday	Pulilan Exit – San Simon Exit	50.5 km
March 18	Monday	San Simon Exit – San Fernando Exit	60.5 km
March 19	Tuesday	San Fernando Exit – Mexico Exit	68.5 km
March 23	Saturday	Mexico Exit – Angeles Exit	76.5 km
March 24	Sunday	BUFFER DAYS	
March 25	Monday		
March 26	Tuesday		

Thank you very much for your support!

Sincerely,

Vida Beatrice D. Gonzales

Distances are referred from the image below:



Appendix D. Request Letter for traffic data in NLEX Corporation

13 November 2018

Mr. Raul L. Ignacio
NORTH LUZON EXPRESSWAY CORPORATION

Greetings!

I am Vida Beatrice D. Gonzales, a student of BS Geodetic Engineering in the University of the Philippines Diliman. In fulfillment of our GE 190 course, or Undergraduate Research Proposal and Data Gathering, and in preparation for our Undergraduate Research Proper, we are conducting a study on the Identification of Potential Sites of Highway Wind Turbines in North Luzon Expressway (a copy of our research proposal may be available upon request).

In line with this, we would like to ask if there is data available on the traffic characteristics of NLEX, such as vehicular speed and density on an hour-to-hour basis, or any similar data. Traffic characteristics are necessary to assess the wind characteristics for the highway wind turbines.

Should you have any inquiries regarding our research, please do not hesitate to contact me at 0906 341 3409 or at vidabeatricegonzales@gmail.com. Your help will go a long way. Thank you for your positive response!

Sincerely,



Vida Beatrice D. Gonzales
0906 341 3409
vidabeatricegonzales@gmail.com

ENDORSED BY:



Engr. Edgardo G. Macatulad
Thesis Adviser
University of the Philippines- Diliman
Department of Geodetic Engineering

Appendix E. Request Letter for temperature data in PAGASA

22 February 2019

Ms. Edna L. Juanillo, M.Sc.
Weather Services Chief
Climatology and Agrometeorology Division
Philippine Atmospheric Geophysical and Astronomical Services Administration (PAGASA)

Greetings!

I am Vida Gonzales, a BS Geodetic Engineering Student of the University of the Philippines- Diliman. In fulfillment of our GE 199 course or Undergraduate Research Proper, we are conducting a study on the Identification of Potential Sites of Highway Wind Turbines in North Luzon Expressway (NLEX), a copy of the complete proposal may be available upon request.

The energy harnessed from the wind turbine can be estimated by the wind parameters that are affected by the traffic data, as well as the **temperature** at the location at every given time. In line with this, we would like to ask for **temperature data in 2018 up to present,** (if possible up to March 2019), in an **hour to hour** basis, from Manila up to Subic-Clark-Tarlac Expressway (SCTEX), from ALL available and nearest sensors that extends from **Manila to SCTEX**.

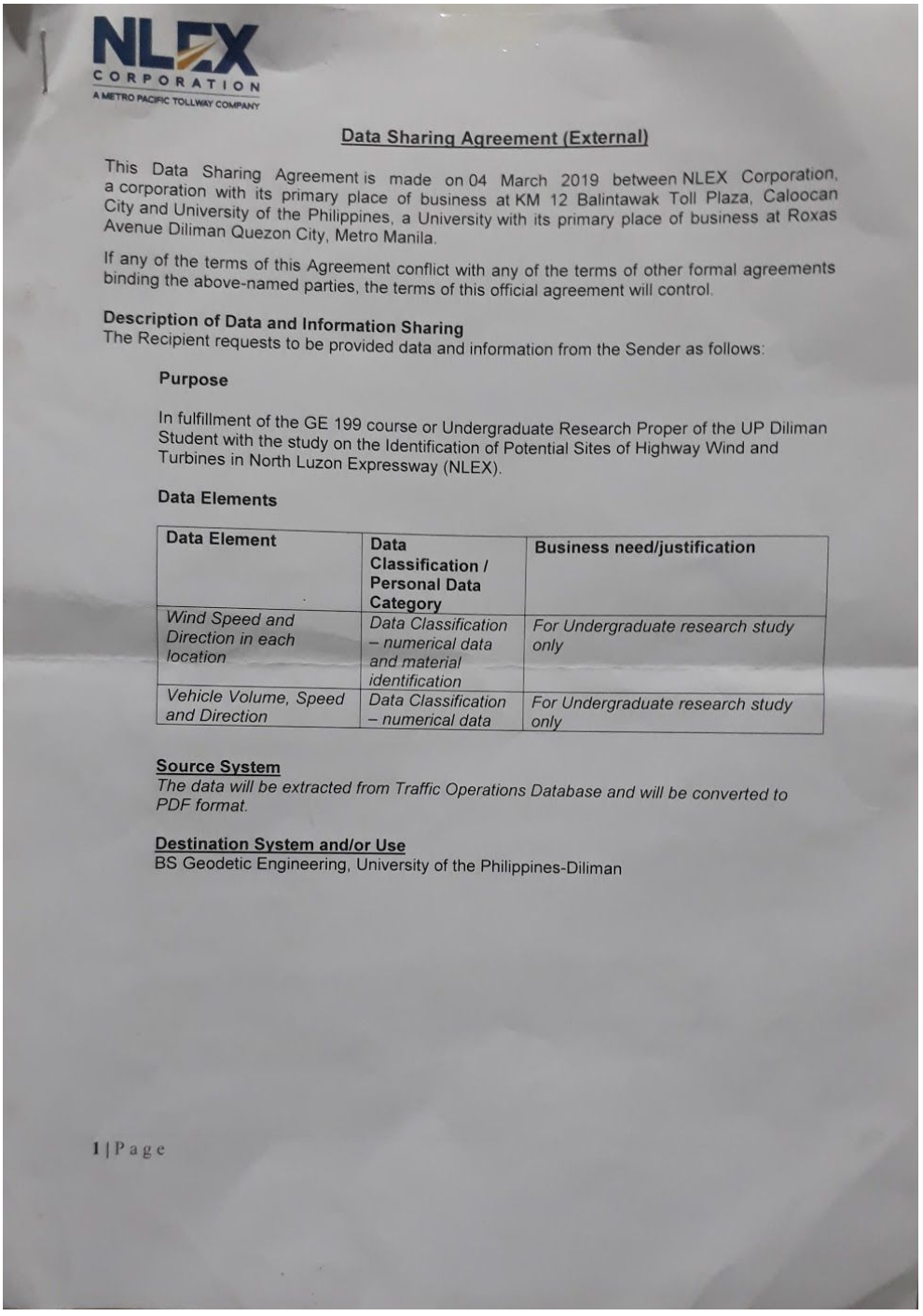
Rest assured that the data will be used **strictly for academic purposes** only. The researchers will strictly comply with the conditions that comes with the data. Should you have any inquiries regarding our research, please do not hesitate to contact me at 0906 341 3409 or at vidabeatricegonzales@gmail.com. Your help will go a long way. Thank you for your positive response!

Sincerely,



Vida Beatrice D. Gonzales
0906 341 3409
vidabeatricegonzales@gmail.com

Appendix F. Data Sharing Agreement letter from NLEX Corporation



NLEX CORPORATION
A METRO PACIFIC TOLLWAY COMPANY

Data Sharing Agreement (External)

This Data Sharing Agreement is made on 04 March 2019 between NLEX Corporation, a corporation with its primary place of business at KM 12 Balintawak Toll Plaza, Caloocan City and University of the Philippines, a University with its primary place of business at Roxas Avenue Diliman Quezon City, Metro Manila.

If any of the terms of this Agreement conflict with any of the terms of other formal agreements binding the above-named parties, the terms of this official agreement will control.

Description of Data and Information Sharing
The Recipient requests to be provided data and information from the Sender as follows:

Purpose

In fulfillment of the GE 199 course or Undergraduate Research Proper of the UP Diliman Student with the study on the Identification of Potential Sites of Highway Wind and Turbines in North Luzon Expressway (NLEX).

Data Elements

Data Element	Data Classification / Personal Data Category	Business need/justification
Wind Speed and Direction in each location	*Data Classification – numerical data and material identification*	*For Undergraduate research study only*
Vehicle Volume, Speed and Direction	*Data Classification – numerical data*	*For Undergraduate research study only*

Source System
The data will be extracted from Traffic Operations Database and will be converted to PDF format.

Destination System and/or Use
BS Geodetic Engineering, University of the Philippines-Diliman

1 | Page

NLEX CORPORATION
A METRO PACIFIC TOLLWAY COMPANY

Method of Sharing

Resource Account / Access Credential
If the method of sharing is an integration or interface that requires a resource account or an access credential, complete the following:

Account/access name: Not applicable
Approving parties: Not applicable
Date authorized: Not applicable
Duration/Validity of access: Not applicable
Level/type of Access: Not applicable

Frequency of Sharing
Data sharing shall be limited only once.

Sharing Lifecycle
This agreement begins on March 04, 2019 and terminates on March 26, 2019.

Selection Criteria for Included Records
NLEX, its subsidiaries and organizational units adheres to the principle of transparency, legitimate purpose, proportionality and least privilege, meaning that recipients of data and information should receive no more information that is absolutely required in order to complete an assigned job or responsibility.

The selection criteria for data recipients shall be based on the decision of management, NLEX Corp. Data Privacy Policy and Data Privacy Act of 2012 (RA10173) when it comes to sharing personal and sensitive personal information.

The data or information shared under this Agreement ☐ includes or ☑ does not include Personal Information or Sensitive Personal Information, as defined by the Data Privacy Act of 2012 (RA 10173); see SECTION 3 (Definition of Terms), https://privacy.gov.ph/data-privacy-act/#3.

Ownership of Data and Information
The Sender retains exclusive rights to all data, content, and information the organization collects, produces, transmits, and stores regarding its services, programs, and operations.

Definition: Covered Data and Information (CDI) includes paper records, electronic images, data and other information records supplied by NLEX, and/or its subsidiaries about its constituents, operations, or business processes, as well as paper records, electronic images, data and other information records NLEX's and/or its subsidiaries' constituents provide directly to the Recipient, if any.

Definition: Constituents are persons and entities that have a relationship to any organizational unit of NLEX and/or its subsidiaries, including but not limited to: employees (including current, prospective employees, candidates for employment, former employees and retirees), and other affiliates (including but not limited to board members, consultants, contractors, donors, invited guests, recipients of goods and services, and volunteers).

NLEX CORPORATION
A METRO PACIFIC TOLLWAY COMPANY

Prohibition on Unauthorized Use or Disclosure of CDI: Recipient agrees to hold CDI in strict confidence. Recipient shall not use or disclose CDI received from or on behalf of Sender (or its Constituents) except as permitted or required by the Agreement, as required by law, or as otherwise authorized in writing. Recipient agrees not to access or use CDI for any purpose other than the purpose for which the sharing agreement was made.

Return or Destruction of CDI: Upon termination, cancellation, expiration or other conclusion of the Agreement, Recipient shall return all CDI to Sender or, if return is not feasible, destroy any and all CDI. If the Recipient destroys the information, the Recipient shall provide Sender with a formal notice confirming the date of destruction.

Remedies: If Sender reasonably determines in good faith that Recipient has materially breached any of its obligations under the Agreement, then Sender shall have the right to (1) require Recipient to submit to a plan of monitoring and reporting, (2) provide Recipient with a fifteen (15) days period to cure the breach, or (3) terminate the Agreement immediately if cure is not possible. Before exercising any of these options, Sender shall provide written notice to Recipient describing the violation and the action it intends to take.

Maintenance of the Security of Electronic Information: Recipient shall develop, implement, maintain and use appropriate administrative, technical and physical security measures to preserve the confidentiality, integrity and availability of all transmitted and stored CDI received from, or on behalf of NLEX, its subsidiaries, or its constituents. Recipient shall impose these measures on all subcontractors or other third parties used by Recipient.

Administrative Security Measures and description:
The data will be localize managed by strictly the researcher and their thesis adviser.

Technical Security Measures and description:
The data will not be shared to other individual and solely be stored in two personal working computers.

Physical Security Measures and description:
General results will only be reflected in the paper and confidentiality will be observed.

Data Subject Access: Recipient shall develop a way, method, or process in which Data Subject may access their personal data when intended to or deemed necessary.

Reporting Unauthorized Disclosures, Misuse of Covered Data and Information:
Recipient shall, within one (1) day of discovery, report to Sender, the Information Asset Protection section, Compliance Officer for Privacy and Data Privacy Officer any use or disclosure of CDI not authorized by the Agreement or in writing. Recipient's report shall identify:

(1) the nature of the unauthorized use, disclosure, or breach, its root cause and circumstances regarding it's discover.
   a. description of how the breach occurred and the vulnerability of the data processing system that allowed the breach;
   b. a chronology of the events leading up to the loss of control over the CDI;
   c. approximate number of data subjects or records involved;
   d. description or nature of the breach;

NLEX CORPORATION
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e. description of the likely consequences of the data breach;

f. name and contact details of the data protection officer or any other accountable persons.

(2) the CDI used or disclosed, Personal Data possibly involved.
   a. description of sensitive personal information involved; and
   b. description of other information involved that may be used to enable identity fraud.
(3) the identity of the individual(s) or entity that received the unauthorized disclosure,
(4) the action(s) that Recipient has taken or shall take to mitigate any potentially negative effects of the unauthorized use or disclosure, and
   a. description of the measures taken or proposed to be taken to address the breach;
   b. actions being taken to secure or recover the personal data that were compromised;
   c. actions performed or proposed to mitigate possible harm or negative consequences, and limit the damage or distress to those affected by the incident;
(5) the corrective action(s) Recipient has taken or shall take to prevent future similar unauthorized uses, disclosures, or breach. Recipient shall provide any additional information in connection with the unauthorized disclosure reasonably requested by Sender, Compliance Officer for Privacy or Data Privacy Officer.

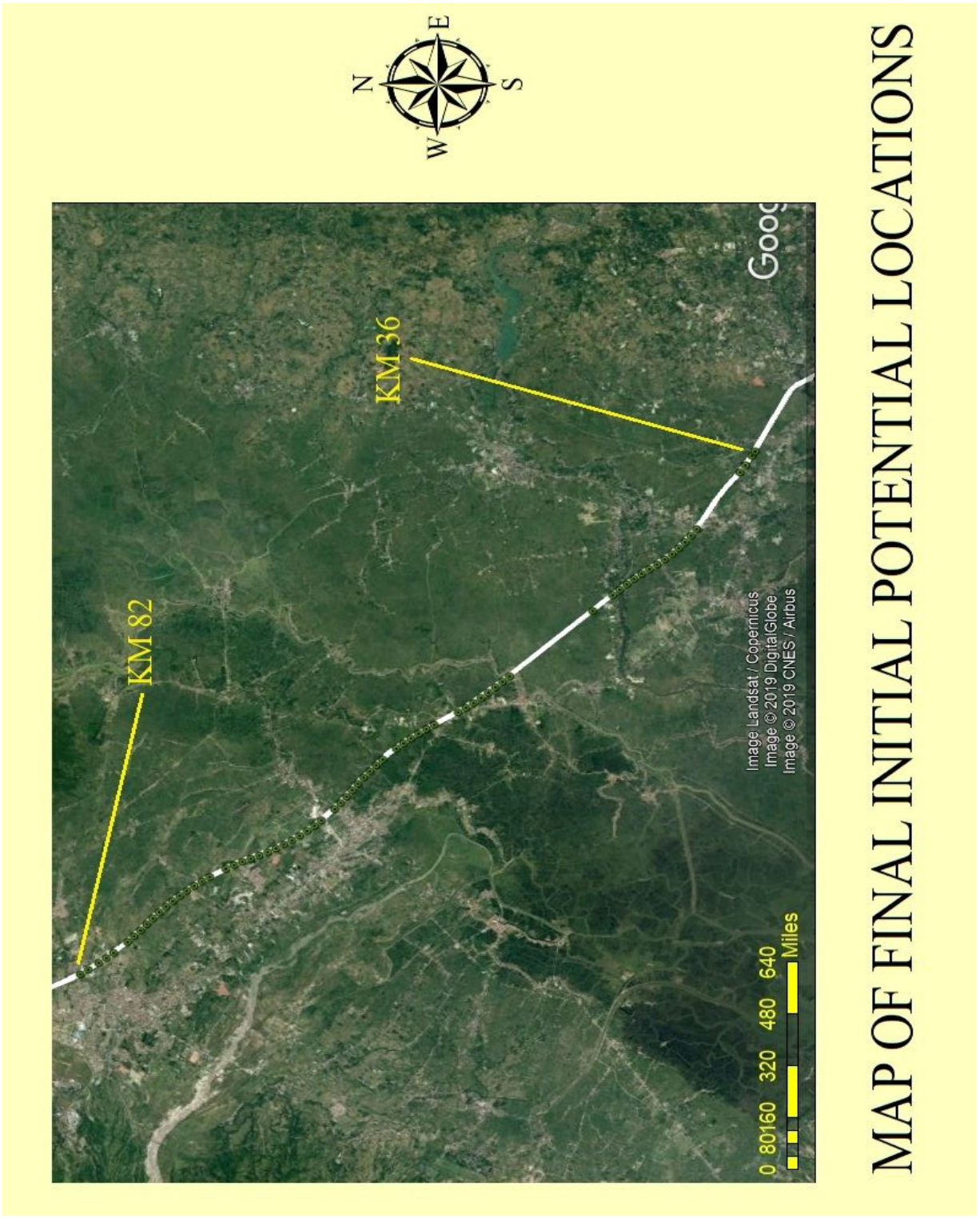
The Sender's designated Point of Contact for this Agreement and related provisions are:

Catherine P. Del Mundo
Manager, Traffic Operations
02-580-8589
cpdelmundo@nlex.com.ph

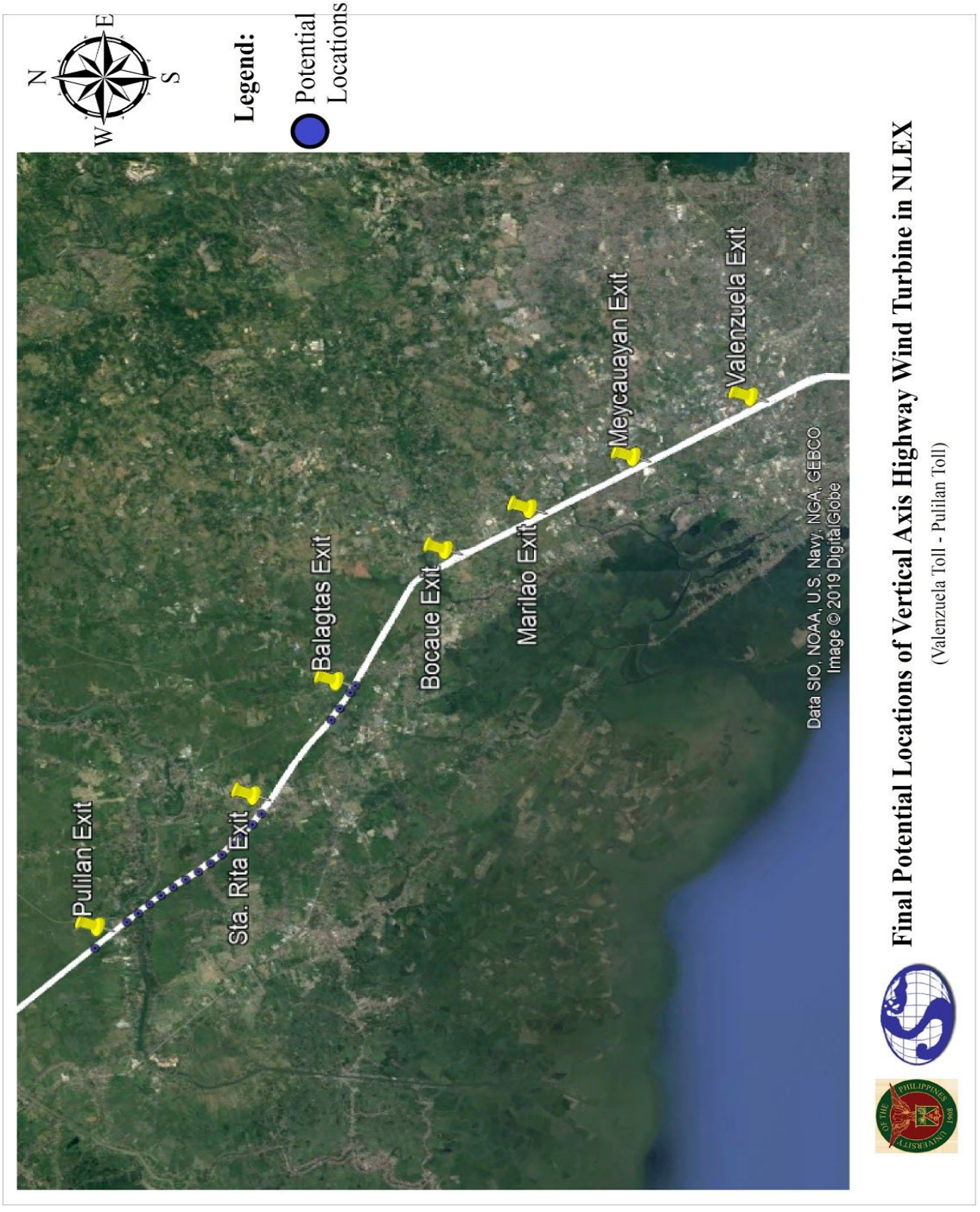
In the event the above-named contact is unavailable or cannot be reached, the alternate contact is:

Allan Jeffrey N. Ang
Senior Manager, ESH / Compliance Officer for Privacy
02-580-8963
ajnang@nlex.com.ph

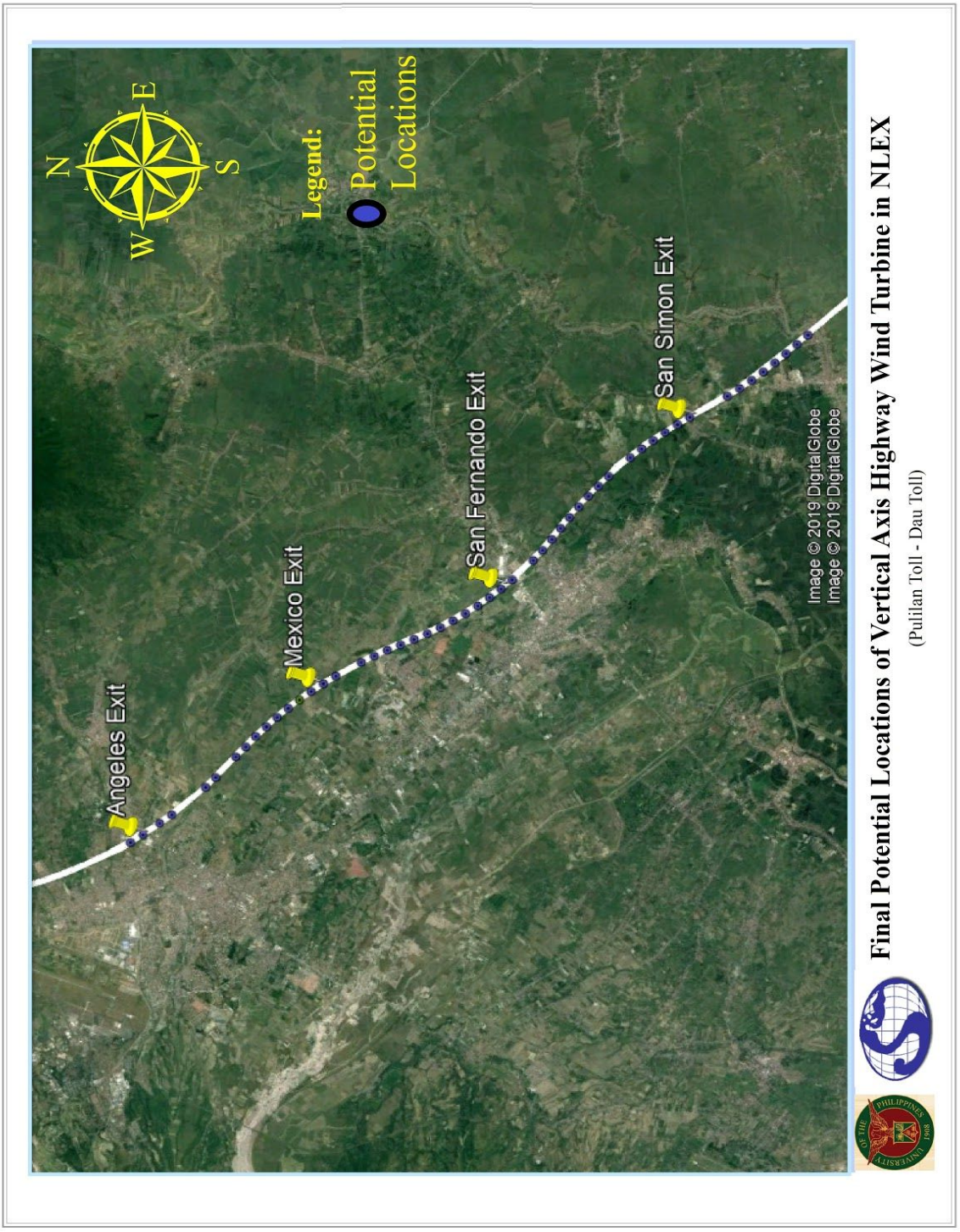
Appendix G. Map of Final Initial Potential Locations



Appendix H. Map of Final Potential Locations of Vertical Axis Highway Wind Turbine (Valenzuela Toll to Pulilan Toll)



Appendix I. Map of Final Potential Locations of Vertical Axis Highway Wind Turbine (Pulilan Toll to Dau Toll)



Appendix J. Temperature Data from PAGASA (Science Garden, Clark, Subic Bay International Airport)

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		292	285	260	292
	Minimum		214	260	234	214
	Mean		253	272.5	247	253
2	Maximum		296	288	267	296
	Minimum		242	264	241	236
	Mean		269	276	254	266
3	Maximum		297	292	257	297
	Minimum		246	257	243	234
	Mean		271.5	274.5	250	265.5
4	Maximum		323	309	271	262
	Minimum		252	271	243	230
	Mean		287.5	290	257	246
5	Maximum		326	326	276	270
	Minimum		256	276	265	242
	Mean		291	301	270.5	256
6	Maximum		334	332	281	260
	Minimum		265	281	243	230
	Mean		299.5	306.5	262	245
7	Maximum		310	306	256	244
	Minimum		260	256	242	230
	Mean		285	281	249	237
8	Maximum		315	318	266	244
	Minimum		244	256	244	220
	Mean		279.5	287	255	232
9	Maximum		321	329	274	247
	Minimum		236	274	239	231
	Mean		278.5	301.5	256.5	239
10	Maximum		309	314	272	250
	Minimum		240	272	243	243
	Mean		274.5	293	257.5	246.5
11	Maximum		297	286	252	254
	Minimum		250	252	242	242
	Mean		273.5	269	247	248
12	Maximum		295	283	248	256
	Minimum		254	248	240	220
	Mean		274.5	265.5	244	238
13	Maximum		302	300	255	246
	Minimum		246	255	227	215
	Mean		274	277.5	241	230.5
14	Maximum		300	299	256	242
	Minimum		234	25	240	220
	Mean		267	162	248	231
15	Maximum		304	305	258	246
	Minimum		235	258	236	220
	Mean		269.5	281.5	247	233

16	Maximum	[redacted]	292	304	248	297
	Minimum		239	240	240	233
	Mean		265.5	272	244	265
17	Maximum		289	289	256	245
	Minimum		233	256	234	229
	Mean		261	272.5	245	237
18	Maximum		302	313	282	256
	Minimum		245	282	250	240
	Mean		273.5	297.5	266	248
19	Maximum		303	298	260	262
	Minimum		249	260	240	225
	Mean		276	279	250	243.5
20	Maximum		320	320	261	248
	Minimum		245	261	242	225
	Mean		282.5	290.5	251.5	236.5
21	Maximum		305	299	272	252
	Minimum		248	272	244	232
	Mean		276.5	285.5	258	242
22	Maximum		300	300	263	252
	Minimum		252	263	240	218
	Mean		276	281.5	251.5	235
23	Maximum		292	274	264	252
	Minimum		226	252	238	229
	Mean		259	263	251	240.5
24	Maximum		299	298	264	228
	Minimum		252	264	227	218
	Mean		275.5	281	263	223
25	Maximum		315	308	266	250
	Minimum		245	266	240	226
	Mean		280	287	253	238
26	Maximum		317	320	285	245
	Minimum		245	275	245	240
	Mean		281	297.5	265	242.5
27	Maximum		262	262	251	256
	Minimum		241	250	239	234
	Mean		251.5	256	245	245
28	Maximum		285	274	272	252
	Minimum		243	260	232	220
	Mean		264	267	252	236
29	Maximum		301	301	248	258
	Minimum		252	248	236	228
	Mean		276.5	274.5	242	243
30	Maximum		312	312	266	252
	Minimum		242	266	231	229
	Mean		277	289	248.5	240.5
31	Maximum		281	287	263	245
	Minimum		248	262	236	220

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	314	312	272	248
	Minimum		216	272	242	228
	Mean		265	292	257	238
2	Maximum		310	317	262	248
	Minimum		235	236	232	210
	Mean		272.5	276.5	247	229
3	Maximum		298	292	251	246
	Minimum		240	249	227	219
	Mean		269	270.5	239	232.5
4	Maximum		304	320	270	248
	Minimum		236	270	240	229
	Mean		270	295	255	238.5
5	Maximum		295	297	252	251
	Minimum		240	252	230	215
	Mean		267.5	274.5	241	233
6	Maximum		293	290	254	230
	Minimum		228	254	215	205
	Mean		260.5	272	234.5	217.5
7	Maximum		279	277	276	237
	Minimum		230	256	226	220
	Mean		254.5	266.5	251	228.5
8	Maximum		291	297	249	251
	Minimum		230	242	224	206
	Mean		260.5	269.5	236.5	228.5
9	Maximum		296	302	277	254
	Minimum		230	246	252	240
	Mean		263	274	264.5	247
10	Maximum		298	302	26	259
	Minimum		250	266	253	244
	Mean		274	284	139.5	251.5
11	Maximum		300	298	284	270
	Minimum		253	250	258	241
	Mean		276.5	274	271	255.5
12	Maximum		318	323	278	314
	Minimum		268	278	254	241
	Mean		293	300.5	266	277.5
13	Maximum		307	298	262	255
	Minimum		251	262	248	230
	Mean		279	280	255	242.5
14	Maximum		297	300	296	263
	Minimum		241	262	249	241
	Mean		269	281	272.5	252
15	Maximum		316	314	285	268
	Minimum		254	285	250	230
	Mean		285	299.5	267.5	249

16	Maximum	[redacted]	333	329	294	292
	Minimum		252	289	264	238
	Mean		292.5	309	279	265
17	Maximum		330	340	276	250
	Minimum		255	251	242	225
	Mean		292.5	295.5	259	237.5
18	Maximum		336	330	279	256
	Minimum		245	275	246	219
	Mean		290.5	302.5	262.5	237.5
19	Maximum		334	334	275	280
	Minimum		250	280	238	218
	Mean		292	307	256.5	249
20	Maximum		320	320	284	256
	Minimum		252	285	250	230
	Mean		286	302.5	267	243
21	Maximum		333	333	331	276
	Minimum		245	285	258	237
	Mean		289	309	294.5	256.5
22	Maximum		327	333	286	238
	Minimum		263	286	252	204
	Mean		295	309.5	269	221
23	Maximum		328	326	276	259
	Minimum		227	276	242	219
	Mean		277.5	301	259	239
24	Maximum		328	332	279	269
	Minimum		249	279	243	232
	Mean		288.5	305.5	261	250.5
25	Maximum		321	313	273	270
	Minimum		269	273	252	236
	Mean		295	293	262.5	253
26	Maximum		319	320	317	271
	Minimum		263	280	264	246
	Mean		291	300	290.5	258.5
27	Maximum		308	308	274	256
	Minimum		251	253	244	238
	Mean		279.5	280.5	259	247
28	Maximum		324	328	293	280
	Minimum		257	289	263	243
	Mean		290.5	308.5	278	261.5

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	338	337	293	274
	Minimum		280	293	270	254
	Mean		309	315	281.5	264
2	Maximum		336	336	284	290
	Minimum		274	284	265	245
	Mean		305	310	274.5	267.5
3	Maximum		334	334	294	272
	Minimum		266	290	268	242
	Mean		300	312	281	257
4	Maximum		347	341	285	284
	Minimum		262	285	258	242
	Mean		304.5	313	271.5	263
5	Maximum		344	347	297	278
	Minimum		284	242	264	255
	Mean		314	294.5	280.5	266.5
6	Maximum		333	346	295	240
	Minimum		278	295	256	261
	Mean		305.5	320.5	275.5	250.5
7	Maximum		326	326	271	268
	Minimum		282	271	253	245
	Mean		304	298.5	262	256.5
8	Maximum		301	305	272	260
	Minimum		255	265	260	230
	Mean		278	285	266	245
9	Maximum		296	303	273	275
	Minimum		232	273	246	235
	Mean		264	288	259.5	255
10	Maximum		300	300	261	248
	Minimum		245	260	223	215
	Mean		272.5	280	242	231.5
11	Maximum		298	302	260	255
	Minimum		237	260	219	198
	Mean		267.5	281	239.5	226.5
12	Maximum		310	310	262	242
	Minimum		250	262	226	220
	Mean		280	286	244	231
13	Maximum		310	312	268	255
	Minimum		242	266	228	206
	Mean		276	289	248	230.5
14	Maximum		315	318	263	244
	Minimum		250	261	224	210
	Mean		282.5	289.5	243.5	227
15	Maximum		324	323	282	274
	Minimum		244	282	256	244
	Mean		284	302.5	269	259

16	Maximum	[redacted]	331	330	293	298
	Minimum		274	244	262	240
	Mean		302.5	287	277.5	269
17	Maximum		326	329	283	268
	Minimum		268	283	246	228
	Mean		297	306	264.5	248
18	Maximum		328	326	281	269
	Minimum		268	215	235	220
	Mean		298	270.5	258	244.5
19	Maximum		332	335	289	262
	Minimum		260	293	248	220
	Mean		296	314	268.5	241
20	Maximum		332	338	295	296
	Minimum		262	295	264	230
	Mean		297	316.5	279.5	263
21	Maximum		330	332	273	266
	Minimum		265	285	250	255
	Mean		297.5	308.5	261.5	260.5
22	Maximum		338	322	266	254
	Minimum		266	266	250	240
	Mean		302	294	258	247
23	Maximum		332	315	261	256
	Minimum		255	261	246	235
	Mean		293.5	288	253.5	245.5
24	Maximum		310	306	256	245
	Minimum		245	256	217	215
	Mean		277.5	281	236.5	230
25	Maximum		300	300	258	248
	Minimum		239	258	217	209
	Mean		269.5	279	237.5	228.5
26	Maximum		308	306	265	248
	Minimum		238	265	238	230
	Mean		273	285.5	251.5	239
27	Maximum		300	307	270	252
	Minimum		248	270	228	214
	Mean		274	288.5	249	233
28	Maximum		312	316	264	262
	Minimum		248	264	249	249
	Mean		280	290	256.5	255.5
29	Maximum		313	318	282	252
	Minimum		256	282	250	241
	Mean		284.5	300	266	246.5
30	Maximum		313	313	265	242
	Minimum		247	265	225	225
	Mean		280	289	245	233.5
31	Maximum		304	304	270	242
	Minimum		238	270	243	252

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	300	308	279	266
	Minimum		254	279	233	218
	Mean		277	293.5	256	242
2	Maximum		308	304	275	255
	Minimum		272	275	252	240
	Mean		290	289.5	263.5	247.5
3	Maximum		304	283	274	278
	Minimum		255	274	252	243
	Mean		279.5	278.5	263	260.5
4	Maximum		313	287	274	261
	Minimum		278	278	246	239
	Mean		295.5	282.5	260	250
5	Maximum		301	289	268	255
	Minimum		262	268	246	222
	Mean		281.5	278.5	257	238.5
6	Maximum		322	333	288	290
	Minimum		255	288	252	240
	Mean		288.5	310.5	270	265
7	Maximum		338	336	281	270
	Minimum		272	281	264	245
	Mean		305	308.5	272.5	257.5
8	Maximum		320	327	276	277
	Minimum		247	276	247	241
	Mean		283.5	301.5	261.5	259
9	Maximum		320	319	284	276
	Minimum		275	284	252	242
	Mean		297.5	301.5	268	259
10	Maximum		340	340	275	277
	Minimum		276	250	248	239
	Mean		308	295	261.5	258
11	Maximum		331	329	294	294
	Minimum		267	294	266	244
	Mean		299	311.5	280	269
12	Maximum		342	342	298	286
	Minimum		248	298	268	248
	Mean		295	320	283	267
13	Maximum		350	346	292	290
	Minimum		286	296	268	245
	Mean		318	321	280	267.5
14	Maximum		350	348	297	290
	Minimum		275	297	262	245
	Mean		312.5	322.5	279.5	267.5
15	Maximum		345	341	307	288
	Minimum		270	307	260	246
	Mean		307.5	324	283.5	267

16	Maximum	[redacted]	338	332	289	338
	Minimum		288	289	256	236
	Mean		313	310.5	272.5	287
17	Maximum		348	342	298	286
	Minimum		274	298	253	238
	Mean		311	320	275.5	262
18	Maximum		328	336	289	285
	Minimum		281	289	264	231
	Mean		304.5	312.5	276.5	258
19	Maximum		341	334	285	280
	Minimum		261	285	248	236
	Mean		301	309.5	266.5	258
20	Maximum		330	341	292	294
	Minimum		280	292	254	238
	Mean		305	316.5	273	266
21	Maximum		342	349	307	292
	Minimum		275	307	260	260
	Mean		308.5	328	283.5	276
22	Maximum		325	327	296	295
	Minimum		261	295	252	244
	Mean		293	311	274	269.5
23	Maximum		351	354	304	300
	Minimum		291	304	278	260
	Mean		321	329	291	280
24	Maximum		338	338	289	294
	Minimum		300	279	268	253
	Mean		319	308.5	278.5	273.5
25	Maximum		326	338	333	295
	Minimum		293	300	261	245
	Mean		309.5	319	297	270
26	Maximum		324	340	298	280
	Minimum		273	279	258	234
	Mean		298.5	309.5	278	257
27	Maximum		336	339	292	298
	Minimum		280	275	274	246
	Mean		308	307	283	272
28	Maximum		340	348	298	284
	Minimum		285	293	276	252
	Mean		312.5	320.5	287	268
29	Maximum		338	342	295	302
	Minimum		275	295	268	252
	Mean		306.5	318.5	281.5	277
30	Maximum		345	343	292	284
	Minimum		302	281	250	245
	Mean		323.5	312	271	264.5

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	332	332	296	298
	Minimum		284	295	274	249
	Mean		308	313.5	285	273.5
2	Maximum		368	367	307	296
	Minimum		285	306	260	248
	Mean		326.5	336.5	283.5	272
3	Maximum		354	306	311	301
	Minimum		285	366	271	258
	Mean		319.5	336	291	279.5
4	Maximum		355	356	298	292
	Minimum		296	298	270	252
	Mean		325.5	327	284	272
5	Maximum		320	306	276	281
	Minimum		260	276	252	250
	Mean		290	291	264	265.5
6	Maximum		342	340	316	299
	Minimum		272	270	260	248
	Mean		307	305	288	273.5
7	Maximum		346	342	299	298
	Minimum		297	292	266	250
	Mean		321.5	317	282.5	274
8	Maximum		348	348	280	301
	Minimum		298	270	270	265
	Mean		323	309	275	283
9	Maximum		336	340	334	302
	Minimum		301	300	253	253
	Mean		318.5	320	293.5	277.5
10	Maximum		344	350	289	268
	Minimum		292	289	258	248
	Mean		318	319.5	273.5	258
11	Maximum		328	325	302	300
	Minimum		268	298	268	240
	Mean		298	311.5	285	270
12	Maximum		348	344	267	290
	Minimum		296	242	256	240
	Mean		322	293	261.5	265
13	Maximum		346	346	295	298
	Minimum		288	295	267	257
	Mean		317	320.5	281	277.5
14	Maximum		345	354	298	308
	Minimum		298	311	265	260
	Mean		321.5	332.5	281.5	284
15	Maximum		342	339	267	291
	Minimum		308	263	255	252
	Mean		325	301	261	271.5

16	Maximum	[redacted]	353	353	329	305
	Minimum		279	286	259	249
	Mean		316	319.5	294	277
17	Maximum		344	344	310	296
	Minimum		250	310	274	248
	Mean		297	327	292	272
18	Maximum		333	334	311	302
	Minimum		294	310	286	255
	Mean		313.5	322	298.5	278.5
19	Maximum		342	342	289	302
	Minimum		296	262	262	252
	Mean		319	302	275.5	277
20	Maximum		342	342	299	308
	Minimum		302	299	266	256
	Mean		322	320.5	282.5	282
21	Maximum		349	349	297	292
	Minimum		308	297	262	250
	Mean		328.5	323	279.5	271
22	Maximum		334	333	286	288
	Minimum		292	264	266	254
	Mean		313	298.5	276	271
23	Maximum		345	348	305	303
	Minimum		285	304	274	258
	Mean		315	326	289.5	280.5
24	Maximum		337	294	263	305
	Minimum		296	261	255	242
	Mean		316.5	277.5	259	273.5
25	Maximum		334	322	266	299
	Minimum		284	266	256	247
	Mean		309	294	261	273
26	Maximum		342	341	267	294
	Minimum		295	265	254	245
	Mean		318.5	303	260.5	269.5
27	Maximum		348	350	320	308
	Minimum		294	285	278	264
	Mean		321	317.5	299	286
28	Maximum		356	356	318	302
	Minimum		299	318	284	262
	Mean		327.5	337	301	282
29	Maximum		340	346	312	304
	Minimum		302	312	274	260
	Mean		321	329	293	282
30	Maximum		348	298	295	287
	Minimum		298	278	270	262
	Mean		323	288	282.5	274.5
31	Maximum		350	357	304	307
	Minimum		277	304	280	266

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	344	350	313	312
	Minimum		300	310	280	265
	Mean		322	330	296.5	288.5
2	Maximum		340	335	296	286
	Minimum		290	296	261	248
	Mean		315	315.5	278.5	267
3	Maximum		312	336	296	308
	Minimum		286	296	262	252
	Mean		299	316	279	280
4	Maximum		354	354	314	286
	Minimum		297	314	299	274
	Mean		325.5	334	306.5	280
5	Maximum		342	242	264	262
	Minimum		286	262	260	252
	Mean		314	252	262	257
6	Maximum		314	310	278	258
	Minimum		262	278	249	247
	Mean		288	294	263.5	252.5
7	Maximum		312	312	276	278
	Minimum		258	235	262	254
	Mean		285	273.5	269	266
8	Maximum		301	288	274	260
	Minimum		257	262	265	250
	Mean		279	275	269.5	255
9	Maximum		260	263	261	265
	Minimum		245	250	243	235
	Mean		252.5	256.5	252	250
10	Maximum		268	268	254	258
	Minimum		235	243	248	246
	Mean		251.5	255.5	251	252
11	Maximum		278	262	262	260
	Minimum		256	252	254	240
	Mean		267	257	258	250
12	Maximum		270	266	258	248
	Minimum		256	256	254	242
	Mean		263	261	256	245
13	Maximum		268	270	267	257
	Minimum		244	254	243	245
	Mean		256	262	255	251
14	Maximum		305	305	288	284
	Minimum		253	288	262	250
	Mean		279	296.5	275	267
15	Maximum		314	307	274	265
	Minimum		284	271	268	240
	Mean		299	289	271	252.5

16	Maximum	[redacted]	304	300	260	262
	Minimum		252	246	256	240
	Mean		278	273	258	251
17	Maximum		320	316	284	288
	Minimum		262	284	266	258
	Mean		291	300	275	273
18	Maximum		324	323	289	294
	Minimum		288	289	274	252
	Mean		306	306	281.5	273
19	Maximum		328	331	294	290
	Minimum		294	294	284	272
	Mean		311	312.5	289	281
20	Maximum		324	317	315	294
	Minimum		290	254	250	250
	Mean		307	285.5	282.5	272
21	Maximum		316	319	256	276
	Minimum		284	244	244	240
	Mean		300	281.5	250	258
22	Maximum		310	310	259	270
	Minimum		251	256	246	238
	Mean		280.5	283	252.5	254
23	Maximum		336	340	263	275
	Minimum		270	22	254	240
	Mean		303	181	258.5	257.5
24	Maximum		324	321	273	274
	Minimum		263	273	263	255
	Mean		293.5	297	268	264.5
25	Maximum		322	327	267	267
	Minimum		270	267	252	248
	Mean		296	297	259.5	257.5
26	Maximum		299	266	258	278
	Minimum		257	258	245	239
	Mean		278	262	251.5	258.5
27	Maximum		328	328	272	286
	Minimum		258	270	256	248
	Mean		293	299	264	267
28	Maximum		321	322	289	287
	Minimum		286	289	265	256
	Mean		303.5	305.5	277	271.5
29	Maximum		319	321	294	290
	Minimum		265	292	280	20
	Mean		292	306.5	287	155
30	Maximum		312	312	287	270
	Minimum		290	287	260	256
	Mean		301	299.5	273.5	263

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	31	31.4	27.9	28.6
	Minimum		27.5	27.7	26.8	25.6
	Mean		29.25	29.55	27.35	27.1
2	Maximum		31.3	31.9	28.7	27.9
	Minimum		28.6	28.7	27.6	26.4
	Mean		29.95	30.3	28.15	27.15
3	Maximum		31.3	30.8	28	28.4
	Minimum		27	28	26.7	25.5
	Mean		29.15	29.4	27.35	26.95
4	Maximum		31.6	31.6	28	28
	Minimum		27.8	28.4	27.2	25.2
	Mean		29.7	30	27.6	26.6
5	Maximum		31.7	31.6	28.4	28.7
	Minimum		28	28.4	26.8	26
	Mean		29.85	30	27.6	27.35
6	Maximum		33	32.2	28.5	33
	Minimum		28.7	27.7	27.2	25
	Mean		30.85	29.95	27.85	29
7	Maximum		32.4	31.4	26.4	26
	Minimum		28.2	26.4	26	24
	Mean		30.3	28.9	26.2	25
8	Maximum		32.2	32.2	27.1	28.3
	Minimum		25.2	27.1	25.8	25.3
	Mean		28.7	29.65	26.45	26.8
9	Maximum		31.1	31.1	27.4	27.2
	Minimum		28.3	27.4	25	23.8
	Mean		29.7	29.25	26.2	25.5
10	Maximum		31.7	30.6	27.6	27.6
	Minimum		26.7	27.6	27	25.6
	Mean		29.2	29.1	27.3	26.6
11	Maximum		29.8	29.6	29.4	27.2
	Minimum		27.6	26.3	25.5	25
	Mean		28.7	27.95	27.45	26.1
12	Maximum		29.5	29.1	27	28
	Minimum		28	26.9	26.5	24.8
	Mean		28.75	28	26.75	26.4
13	Maximum		31.4	30.4	25.4	26.4
	Minimum		28	25	24	24
	Mean		29.7	27.7	24.7	25.2
14	Maximum		31.6	31.6	27.3	26.8
	Minimum		26.4	27.2	26.6	24.8
	Mean		29	29.4	26.95	25.8
15	Maximum		29	28.8	27.5	26
	Minimum		25.8	27.5	26	25
	Mean		27.4	28.15	26.75	25.5

16	Maximum	[redacted]	28.6	28.3	26.5	26.1
	Minimum		25.3	26.4	25.6	24.8
	Mean		26.95	27.35	26.05	25.45
17	Maximum		25.5	26.1	25.6	25.6
	Minimum		25	25.2	24.5	24.5
	Mean		25.25	25.65	25.05	25.05
18	Maximum		29.2	29	28.7	27.1
	Minimum		25.4	28.2	26	24.8
	Mean		27.3	28.6	27.35	25.95
19	Maximum		29.5	28.1	25.8	25.3
	Minimum		26.4	25.8	25.4	23.4
	Mean		27.95	26.95	25.6	24.35
20	Maximum		28.3	28	27.6	28.4
	Minimum		25	25.3	26.8	26.5
	Mean		26.65	26.65	27.2	27.45
21	Maximum		30.4	30.4	27.4	25.8
	Minimum		27.4	26.4	24.5	24.5
	Mean		28.9	28.4	25.95	25.15
22	Maximum		26.2	26	25.8	26
	Minimum		25	25	24.6	24.5
	Mean		25.6	25.5	25.2	25.25
23	Maximum		27.8	28.3	26.5	26.3
	Minimum		25.5	26.5	25.2	25.2
	Mean		26.65	27.4	25.85	25.75
24	Maximum		28.8	29.8	27.9	26.8
	Minimum		25.5	27.8	25.2	24.6
	Mean		27.15	28.8	26.55	25.7
25	Maximum		30.5	29.8	27.4	30.2
	Minimum		26.5	27.4	26.4	24.9
	Mean		28.5	28.6	26.9	27.55
26	Maximum		30	27.8	26.7	26.5
	Minimum		26.9	26.7	25.8	24.3
	Mean		28.45	27.25	26.25	25.4
27	Maximum		28.3	28.1	27.2	26.4
	Minimum		25.4	27.2	26.2	24.5
	Mean		26.85	27.65	26.7	25.45
28	Maximum		30.2	29.8	26.8	27.5
	Minimum		26.4	26.8	25.8	25.2
	Mean		28.3	28.3	26.3	26.35
29	Maximum		32	31.6	27.8	27.1
	Minimum		27.5	27.8	27.1	26.4
	Mean		29.75	29.7	27.45	26.75
30	Maximum		30.8	30.8	29	28.1
	Minimum		27	28.5	27.6	26.2
	Mean		28.9	29.65	28.3	27.15
31	Maximum		32.2	32.2	28.6	27.9
	Minimum		28.3	28.6	26.5	26.2

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	31.4	31.1	28.1	27.1
	Minimum		27.7	28.4	27.4	25.3
	Mean		29.55	29.75	27.75	26.2
2	Maximum		30	30	27.9	27
	Minimum		26.8	27.9	27	25.2
	Mean		28.4	28.95	27.45	26.1
3	Maximum		30.6	30.6	28.3	27.2
	Minimum		25.8	28.2	26.9	25.8
	Mean		28.2	29.4	27.6	26.5
4	Maximum		31.5	31.5	26.3	27.3
	Minimum		27.1	26.3	25	24.4
	Mean		29.3	28.9	25.65	25.85
5	Maximum		31	31	37.6	28.6
	Minimum		27.3	27.6	25.5	24.4
	Mean		29.15	29.3	31.55	26.5
6	Maximum		30.6	30.8	27.3	27.3
	Minimum		28	27.3	25.8	25
	Mean		29.3	29.05	26.55	26.15
7	Maximum		30.7	30.4	26.9	26.2
	Minimum		27	26.9	25.2	24.9
	Mean		28.85	28.65	26.05	25.55
8	Maximum		30.4	31.4	30.6	26.9
	Minimum		25.5	28.8	26.1	25.6
	Mean		27.95	30.1	28.35	26.25
9	Maximum		29.8	28.6	27.8	26.9
	Minimum		26.9	27.5	25.4	25.2
	Mean		28.35	28.05	26.6	26.05
10	Maximum		28	28.4	27.8	26.6
	Minimum		25.5	26.9	27.2	26
	Mean		26.75	27.65	27.5	26.3
11	Maximum		26.8	26.1	27.1	27.8
	Minimum		25	24.5	24.8	27.1
	Mean		25.9	25.3	25.95	27.45
12	Maximum		27.8	27	27	26.7
	Minimum		26.2	26	25	25.5
	Mean		27	26.5	26	26.1
13	Maximum		29	28.7	26.4	26.6
	Minimum		25.6	25.9	26	25.7
	Mean		27.3	27.3	26.2	26.15
14	Maximum		30.4	30.3	27.8	28.4
	Minimum		25.5	25.7	26.9	26.9
	Mean		27.95	28	27.35	27.65
15	Maximum		30.4	30.4	28	28.2
	Minimum		27.9	27.8	26.8	27
	Mean		29.15	29.1	27.4	27.6

16	Maximum	[redacted]	30.5	30.2	28.2	26.8
	Minimum		28	28.2	25.4	25
	Mean		29.25	29.2	26.8	25.9
17	Maximum		30.6	30.5	27.2	26
	Minimum		24	27.3	25.1	24.8
	Mean		27.3	28.9	26.15	25.4
18	Maximum		29.8	29.8	27.6	27.1
	Minimum		26	25	26	25.8
	Mean		27.9	27.4	26.8	26.45
19	Maximum		30.1	30	28	26.3
	Minimum		26.3	28	25.5	25
	Mean		28.2	29	26.75	25.65
20	Maximum		28.1	28.8	27.8	28.2
	Minimum		26.3	26.8	26.4	25.6
	Mean		27.2	27.8	27.1	26.9
21	Maximum		30.4	30.7	29.3	28.6
	Minimum		28.2	26.4	26.2	26.2
	Mean		29.3	28.55	27.75	27.4
22	Maximum		30.3	30	28.4	27.6
	Minimum		28	28.4	27.4	26.3
	Mean		29.15	29.2	27.9	26.95
23	Maximum		30.4	29.8	28.8	29.8
	Minimum		27.4	28.8	27.8	27.8
	Mean		28.9	29.3	28.3	28.8
24	Maximum		30.6	30.6	28	27.1
	Minimum		28.2	28.3	26.8	25.6
	Mean		29.4	29.45	27.4	26.35
25	Maximum		30.3	30.2	28	27.8
	Minimum		25.6	27.4	27.4	26.5
	Mean		27.95	28.8	27.7	27.15
26	Maximum		29.8	29.4	28.1	27.4
	Minimum		26.8	28.8	26.3	25.4
	Mean		28.3	29.1	27.2	26.4
27	Maximum		32.2	31.9	28.7	28.5
	Minimum		26.6	28.6	26.2	25.4
	Mean		29.4	30.25	27.45	26.95
28	Maximum		32.8	32.3	29.2	27.8
	Minimum		28.5	29.2	26.2	24.7
	Mean		30.65	30.75	27.7	26.25
29	Maximum		33	33	29.6	28.5
	Minimum		26.5	27	26.8	24.5
	Mean		29.75	30	28.2	26.5
30	Maximum		32.7	32.4	27.2	28
	Minimum		27.5	27.2	25.2	24.6
	Mean		30.1	29.8	26.2	26.3
31	Maximum		31.7	31.3	27.6	25.4
	Minimum		28	27.3	24.4	24.4

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	318	316	280	267
	Minimum		254	281	254	249
	Mean		286	298.5	267	258
2	Maximum		318	320	276	260
	Minimum		262	276	255	241
	Mean		290	298	265.5	250.5
3	Maximum		308	311	270	266
	Minimum		257	270	260	254
	Mean		282.5	290.5	265	260
4	Maximum		302	304	267	266
	Minimum		246	264	254	240
	Mean		274	284	260.5	253
5	Maximum		306	278	270	273
	Minimum		252	248	252	247
	Mean		279	263	261	260
6	Maximum		305	271	256	254
	Minimum		262	256	252	248
	Mean		283.5	263.5	254	251
7	Maximum		292	286	266	262
	Minimum		243	266	256	235
	Mean		267.5	276	261	248.5
8	Maximum		322	316	284	280
	Minimum		262	284	275	260
	Mean		292	300	279.5	270
9	Maximum		320	324	284	281
	Minimum		265	284	261	248
	Mean		292.5	304	272.5	264.5
10	Maximum		323	320	283	260
	Minimum		279	282	254	252
	Mean		301	301	268.5	256
11	Maximum		310	312	264	270
	Minimum		260	264	252	238
	Mean		285	288	258	254
12	Maximum		310	306	264	260
	Minimum		252	264	254	230
	Mean		281	285	259	245
13	Maximum		320	320	282	268
	Minimum		260	268	256	256
	Mean		290	294	269	262
14	Maximum		290	285	267	263
	Minimum		263	253	255	235
	Mean		276.5	269	261	249
15	Maximum		278	288	261	269
	Minimum		250	242	255	250
	Mean		264	265	258	259.5

16	Maximum	[redacted]	307	310	262	259
	Minimum		269	262	250	248
	Mean		288	286	256	253.5
17	Maximum		304	320	262	258
	Minimum		255	262	250	244
	Mean		279.5	291	256	251
18	Maximum		336	334	284	278
	Minimum		258	284	260	248
	Mean		297	309	272	263
19	Maximum		318	314	311	283
	Minimum		278	276	262	254
	Mean		298	295	286.5	268.5
20	Maximum		321	313	248	254
	Minimum		278	248	244	242
	Mean		299.5	280.5	246	248
21	Maximum		304	312	255	265
	Minimum		254	255	246	235
	Mean		279	283.5	250.5	250
22	Maximum		320	315	282	272
	Minimum		264	282	248	230
	Mean		292	298.5	265	251
23	Maximum		330	336	300	279
	Minimum		265	294	266	252
	Mean		297.5	315	283	265.5
24	Maximum		327	328	294	278
	Minimum		272	286	266	260
	Mean		299.5	307	280	269
25	Maximum		326	325	271	273
	Minimum		278	271	262	246
	Mean		302	298	266.5	259.5
26	Maximum		324	324	287	273
	Minimum		274	277	270	240
	Mean		299	300.5	278.5	256.5
27	Maximum		314	320	292	280
	Minimum		274	285	276	250
	Mean		294	302.5	284	265
28	Maximum		320	317	287	280
	Minimum		280	286	276	255
	Mean		300	301.5	281.5	267.5
29	Maximum		324	317	287	278
	Minimum		280	258	270	250
	Mean		302	287.5	278.5	264
30	Maximum		334	332	325	287
	Minimum		278	294	256	254
	Mean		306	313	290.5	270.5

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		331	300	300	287
	Minimum		283	287	274	254
	Mean		307	293.5	287	270.5
2	Maximum		316	316	260	254
	Minimum		274	249	250	240
	Mean		295	282.5	255	247
3	Maximum		310	328	322	269
	Minimum		254	284	250	246
	Mean		282	306	286	257.5
4	Maximum		308	315	283	280
	Minimum		250	283	258	246
	Mean		279	299	270.5	263
5	Maximum		328	324	285	278
	Minimum		280	285	254	238
	Mean		304	304.5	269.5	258
6	Maximum		324	324	292	273
	Minimum		278	291	269	251
	Mean		301	307.5	280.5	262
7	Maximum		314	310	284	286
	Minimum		266	284	260	246
	Mean		290	297	272	266
8	Maximum		325	324	272	278
	Minimum		286	272	254	236
	Mean		305.5	298	263	257
9	Maximum		319	318	288	262
	Minimum		274	288	260	242
	Mean		296.5	303	274	252
10	Maximum		322	294	271	272
	Minimum		262	272	253	243
	Mean		292	283	262	257.5
11	Maximum		336	338	283	280
	Minimum		259	283	266	247
	Mean		297.5	310.5	274.5	263.5
12	Maximum		338	338	292	282
	Minimum		280	292	258	240
	Mean		309	315	275	261
13	Maximum		345	341	293	293
	Minimum		282	292	277	261
	Mean		313.5	316.5	285	277
14	Maximum		317	315	270	274
	Minimum		257	270	255	244
	Mean		287	292.5	262.5	259
15	Maximum		322	318	259	278
	Minimum		268	259	246	236
	Mean		295	288.5	252.5	257

16	Maximum	[redacted]	320	300	264	280
	Minimum		278	264	250	232
	Mean		299	282	257	256
17	Maximum		328	328	323	266
	Minimum		271	262	253	239
	Mean		299.5	295	288	252.5
18	Maximum		327	327	284	280
	Minimum		266	280	248	230
	Mean		296.5	303.5	266	255
19	Maximum		328	336	278	286
	Minimum		270	271	252	236
	Mean		299	303.5	265	261
20	Maximum		326	324	271	261
	Minimum		272	269	259	249
	Mean		299	296.5	265	255
21	Maximum		316	315	277	270
	Minimum		254	275	256	237
	Mean		285	295	266.5	253.5
22	Maximum		342	336	269	264
	Minimum		288	269	250	238
	Mean		315	302.5	259.5	251
23	Maximum		324	326	276	264
	Minimum		264	276	240	225
	Mean		294	301	258	244.5
24	Maximum		317	314	311	275
	Minimum		264	278	249	239
	Mean		290.5	296	280	257
25	Maximum		325	320	284	283
	Minimum		266	284	256	242
	Mean		295.5	302	270	262.5
26	Maximum		330	326	278	260
	Minimum		273	283	260	248
	Mean		301.5	304.5	269	254
27	Maximum		332	330	286	275
	Minimum		260	286	255	255
	Mean		296	308	270.5	265
28	Maximum		332	332	258	239
	Minimum		275	258	245	229
	Mean		303.5	295	251.5	234
29	Maximum		302	302	272	275
	Minimum		239	272	248	248
	Mean		270.5	287	260	261.5
30	Maximum		278	261	268	273
	Minimum		257	257	257	258
	Mean		267.5	259	262.5	265.5
31	Maximum		325	325	315	285
	Minimum		272	292	257	248

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	331	334	292	278
	Minimum		258	292	264	258
	Mean		294.5	313	278	268
2	Maximum		328	322	278	270
	Minimum		278	278	262	235
	Mean		303	300	270	252.5
3	Maximum		336	232	287	276
	Minimum		270	287	256	244
	Mean		303	259.5	271.5	260
4	Maximum		338	333	273	279
	Minimum		273	273	248	238
	Mean		305.5	303	260.5	258.5
5	Maximum		326	326	279	284
	Minimum		275	279	256	248
	Mean		300.5	302.5	267.5	266
6	Maximum		334	330	280	263
	Minimum		260	281	254	246
	Mean		297	305.5	267	254.5
7	Maximum		315	317	272	272
	Minimum		257	268	245	237
	Mean		286	292.5	258.5	254.5
8	Maximum		326	325	265	265
	Minimum		272	264	242	241
	Mean		299	294.5	253.5	253
9	Maximum		301	301	274	270
	Minimum		262	274	252	235
	Mean		281.5	287.5	263	252.5
10	Maximum		318	310	258	257
	Minimum		270	257	235	227
	Mean		294	283.5	246.5	242
11	Maximum		330	328	246	269
	Minimum		257	266	236	233
	Mean		293.5	297	241	251
12	Maximum		327	322	288	283
	Minimum		260	287	266	249
	Mean		293.5	304.5	277	266
13	Maximum		314	317	279	277
	Minimum		270	279	250	234
	Mean		292	298	264.5	255.5
14	Maximum		339	339	295	263
	Minimum		277	275	245	237
	Mean		308	307	270	250
15	Maximum		334	333	282	278
	Minimum		261	282	246	228
	Mean		297.5	307.5	264	253

16	Maximum	[redacted]	338	326	277	252
	Minimum		270	277	246	230
	Mean		304	301.5	261.5	241
17	Maximum		326	322	288	262
	Minimum		252	288	245	230
	Mean		289	305	266.5	246
18	Maximum		322	318	268	262
	Minimum		262	268	242	234
	Mean		292	293	255	248
19	Maximum		322	331	279	256
	Minimum		262	279	252	226
	Mean		292	305	265.5	241
20	Maximum		311	308	274	274
	Minimum		256	274	262	260
	Mean		283.5	291	268	267
21	Maximum		289	258	248	268
	Minimum		255	248	244	238
	Mean		272	253	246	253
22	Maximum		318	315	276	275
	Minimum		258	276	254	242
	Mean		288	295.5	265	258.5
23	Maximum		322	322	273	262
	Minimum		275	268	250	228
	Mean		298.5	295	261.5	245
24	Maximum		310	304	266	263
	Minimum		262	268	245	239
	Mean		286	286	255.5	251
25	Maximum		318	310	269	258
	Minimum		263	269	237	224
	Mean		290.5	289.5	253	241
26	Maximum		315	318	281	265
	Minimum		258	280	242	228
	Mean		286.5	299	261.5	246.5
27	Maximum		328	323	270	266
	Minimum		255	265	248	242
	Mean		291.5	294	259	254
28	Maximum		303	305	270	269
	Minimum		250	270	252	239
	Mean		276.5	287.5	261	254
29	Maximum		316	310	273	276
	Minimum		265	273	246	225
	Mean		290.5	291.5	259.5	250.5
30	Maximum		310	308	263	258
	Minimum		257	263	238	230
	Mean		283.5	285.5	250.5	244

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	314	306	267	262
	Minimum		258	268	250	249
	Mean		286	287	258.5	255.5
2	Maximum		316	313	265	271
	Minimum		262	260	236	222
	Mean		289	286.5	250.5	246.5
3	Maximum		329	330	271	264
	Minimum		260	271	264	246
	Mean		294.5	300.5	267.5	255
4	Maximum		320	308	270	276
	Minimum		234	269	254	235
	Mean		277	288.5	262	255.5
5	Maximum		300	324	280	272
	Minimum		263	277	234	234
	Mean		281.5	300.5	257	253
6	Maximum		349	349	279	258
	Minimum		264	279	246	226
	Mean		306.5	314	262.5	242
7	Maximum		320	316	268	260
	Minimum		258	268	252	230
	Mean		289	292	260	245
8	Maximum		330	329	269	270
	Minimum		260	269	252	230
	Mean		295	299	260.5	250
9	Maximum		308	304	267	267
	Minimum		262	262	232	221
	Mean		285	283	249.5	244
10	Maximum		324	320	279	269
	Minimum		254	279	246	235
	Mean		289	299.5	262.5	252
11	Maximum		320	322	273	253
	Minimum		261	273	248	229
	Mean		290.5	297.5	260.5	241
12	Maximum		326	326	273	259
	Minimum		256	273	247	247
	Mean		291	299.5	260	253
13	Maximum		288	289	269	240
	Minimum		259	265	250	230
	Mean		273.5	277	259.5	235
14	Maximum		288	286	254	250
	Minimum		238	251	242	230
	Mean		263	268.5	248	240
15	Maximum		300	294	257	259
	Minimum		250	257	238	233
	Mean		275	275.5	247.5	246

16	Maximum	[redacted]	306	297	263	259
	Minimum		258	263	236	225
	Mean		282	280	249.5	242
17	Maximum		295	292	274	254
	Minimum		259	274	236	224
	Mean		277	283	255	239
18	Maximum		314	310	266	254
	Minimum		254	266	248	242
	Mean		284	288	257	248
19	Maximum		308	306	257	254
	Minimum		254	257	228	214
	Mean		281	281.5	242.5	234
20	Maximum		302	282	262	250
	Minimum		235	262	252	244
	Mean		268.5	272	257	247
21	Maximum		284	286	268	248
	Minimum		264	268	251	234
	Mean		274	277	259.5	241
22	Maximum		317	296	268	254
	Minimum		243	268	254	240
	Mean		280	282	261	247
23	Maximum		260	302	250	300
	Minimum		248	250	236	230
	Mean		254	276	243	265
24	Maximum		302	298	242	246
	Minimum		238	238	240	230
	Mean		270	268	241	238
25	Maximum		316	306	268	250
	Minimum		246	268	242	234
	Mean		281	287	255	242
26	Maximum		304	306	276	249
	Minimum		250	272	22	227
	Mean		277	289	149	238
27	Maximum		302	314	276	257
	Minimum		247	276	252	240
	Mean		274.5	295	264	248.5
28	Maximum		294	274	248	250
	Minimum		254	240	244	230
	Mean		274	257	246	240
29	Maximum		244	244	242	245
	Minimum		236	228	231	239
	Mean		240	236	236.5	242
30	Maximum		250	262	242	266
	Minimum		235	242	230	230
	Mean		242.5	252	236	248
31	Maximum		264	258	244	241
	Minimum		258	244	238	228

Date	Classification	00 00	06 00	12 00	18 00	00 00	
1	Maximum		30.1	30.1	25.8	24	
	Minimum		23.4	25.8	23.6	23.4	
	Mean		26.75	27.95	24.7	23.7	
2	Maximum		28.2	28.4	24.5	24	
	Minimum		24	24.5	24	23.4	
	Mean		26.1	26.45	24.25	23.7	
3	Maximum		30	30	25.3	25.4	
	Minimum		24	25.2	23.7	23.5	
	Mean		27	27.6	24.5	24.45	
4	Maximum		30.1	29.8	26.3	26.5	
	Minimum		25.4	26.3	24.3	23.8	
	Mean		27.75	28.05	25.3	25.15	
5	Maximum		30.6	31	27.6	25.4	
	Minimum		26.5	27.6	25.4	24.5	
	Mean		28.55	29.3	26.5	24.95	
6	Maximum		30.4	31.8	26.4	24.4	
	Minimum		25.4	26.4	23.6	23	
	Mean		27.9	29.1	25	23.7	
7	Maximum		32.5	32.6	28.4	26.2	
	Minimum		24.4	28.4	25	24.6	
	Mean		28.45	30.5	26.7	25.4	
8	Maximum		31.6	31.7	28.2	25.2	
	Minimum		26.2	28.2	25.8	24.8	
	Mean		28.9	29.95	27	25	
9	Maximum		32.2	33	28	25.8	
	Minimum		25.2	28	24.5	24	
	Mean		28.7	30.5	26.25	24.9	
10	Maximum		31.8	32.2	27.6	25.5	
	Minimum		25.8	27.6	24	23.8	
	Mean		28.8	29.9	25.8	24.65	
11	Maximum		30.7	30.2	25.7	24.3	
	Minimum		25.5	25.7	23	22.9	
	Mean		28.1	27.95	24.35	23.6	
12	Maximum		29.3	28.4	23.4	23.2	
	Minimum		24.3	23.4	22	22	
	Mean		26.8	25.9	22.7	22.6	
13	Maximum		29.4	29.4	23	22.8	
	Minimum		23.2	23	21.8	21.8	
	Mean		26.3	26.2	22.4	22.3	
14	Maximum		29.3	29.3	24.5	23.7	
	Minimum		22.8	24.5	22.3	21.4	
	Mean		26.05	26.9	23.4	22.55	
15	Maximum		29.8	29.8	25.8	24.8	
	Minimum		23.7	25.8	23.4	23	
	Mean		26.75	27.8	24.6	23.9	

16	Maximum	[redacted]	30.8	31.4	25.6	24.3	
	Minimum		24.8	25	24.6	24	
	Mean		27.8	28.2	25.1	24.15	
17	Maximum		26.1	26.8	24.8	25.2	
	Minimum		24.3	24.8	23.8	23.8	
	Mean		25.2	25.8	24.3	24.5	
18	Maximum		29.7	30.2	26.5	25	
	Minimum		25.2	26.5	24.3	24.3	
	Mean		27.45	28.35	25.4	24.65	
19	Maximum		29.5	29.2	25	23.6	
	Minimum		25	25	23.4	23	
	Mean		27.25	27.1	24.2	23.3	
20	Maximum		30.2	30.8	28.8	26	
	Minimum		23.6	25.8	25.2	25	
	Mean		26.9	28.3	27	25.5	
21	Maximum		30.4	30.6	26.6	25.2	
	Minimum		26	26.6	23.8	23	
	Mean		28.2	28.6	25.2	24.1	
22	Maximum		31	31.2	26.4	24.8	
	Minimum		25.2	26.4	24.4	23.8	
	Mean		28.1	28.8	25.4	24.3	
23	Maximum		31.8	32.2	27.6	24.8	
	Minimum		24.8	27.6	24.2	23.6	
	Mean		28.3	29.9	25.9	24.2	
24	Maximum		30.2	29.5	26.8	26.3	
	Minimum		24.8	26.8	24.5	24	
	Mean		27.5	28.15	25.65	25.15	
25	Maximum		31.7	31.2	27.4	26.6	
	Minimum		26.3	27.4	25.1	24	
	Mean		29	29.3	26.25	25.3	
26	Maximum		32.4	32.4	27.4	25	
	Minimum		26.6	27.4	24.4	24.4	
	Mean		29.5	29.9	25.9	24.7	
27	Maximum		28.4	28.4	25.8	24.8	
	Minimum		25	25.8	24	24	
	Mean		26.7	27.1	24.9	24.4	
28	Maximum		27.6	26.9	24.3	25	
	Minimum		24.8	24.3	23.5	23.2	
	Mean		26.2	25.6	23.9	24.1	
29	Maximum		30.4	31	27	25.2	
	Minimum		25	27	25.4	24.4	
	Mean		27.7	29	26.2	24.8	
30	Maximum		29.4	29.4	26.2	23.8	
	Minimum		25.2	26.2	23.6	22.8	
	Mean		27.3	27.8	24.9	23.3	
31	Maximum		31.4	31.4	26.4	25.1	
	Minimum		23.8	26.4	24	23.2	

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		31.2	31.4	27.4	25
	Minimum		25.1	27.4	25.4	23.4
	Mean		28.15	29.4	26.4	24.2
2	Maximum		31	31.4	27.4	24
	Minimum		25	27.4	24.6	22.2
	Mean		28	29.4	26	23.1
3	Maximum		30.7	30	26.4	23
	Minimum		23.7	26.4	23.4	23.4
	Mean		27.2	28.2	24.9	23.2
4	Maximum		30.6	30.6	25.2	23.2
	Minimum		23	25.2	23	22.2
	Mean		26.8	27.9	24.1	22.7
5	Maximum		29.1	29.1	23	22.2
	Minimum		23.3	22.2	22.2	20.9
	Mean		26.2	25.65	22.6	21.55
6	Maximum		28.4	28.9	24.4	22.8
	Minimum		22.1	24.4	22.7	21.2
	Mean		25.25	26.65	23.55	22
7	Maximum		30	29.2	24.6	22.3
	Minimum		22.8	24.6	22.3	20.7
	Mean		26.4	26.9	23.45	21.5
8	Maximum		27.8	27.8	25.6	22.4
	Minimum		21.8	25.6	21.6	20.6
	Mean		24.8	26.7	23.6	21.5
9	Maximum		29.6	31	26.8	24.2
	Minimum		22.4	26.8	24.2	23.8
	Mean		26	28.9	25.5	24
10	Maximum		32	32.4	27.6	25.2
	Minimum		24.2	27.6	24.4	23.8
	Mean		28.1	30	26	24.5
11	Maximum		31.4	31.2	28.1	25.3
	Minimum		25.2	28.1	24.6	23.7
	Mean		28.3	29.65	26.35	24.5
12	Maximum		31.6	31.6	26.6	23.7
	Minimum		25.3	26.6	23.4	22.8
	Mean		28.45	29.1	25	23.25
13	Maximum		29.4	29.4	25	23.6
	Minimum		23.7	25	22.6	22.4
	Mean		26.55	27.2	23.8	23
14	Maximum		30.4	30.6	27.4	24.2
	Minimum		23.6	27.4	25.2	23.8
	Mean		27	29	26.3	24
15	Maximum		32.2	33	28.4	26.2
	Minimum		24.2	28.4	25.6	24.2
	Mean		28.2	30.7	27	25.2

16	Maximum	[redacted]	33.8	34	29.6	25.7
	Minimum		26.2	29.6	25.7	24
	Mean		30	31.8	27.65	24.85
17	Maximum		33.8	34.2	29	26
	Minimum		25	29	25.2	23.5
	Mean		29.4	31.6	27.1	24.75
18	Maximum		32.4	33.6	28	26.8
	Minimum		26	28	25.6	23.8
	Mean		29.2	30.8	26.8	25.3
19	Maximum		33.4	33.2	27.8	25.4
	Minimum		26.8	27.8	23.4	23
	Mean		30.1	30.5	25.6	24.2
20	Maximum		33.6	33.6	29	26
	Minimum		25.4	29	25.4	24
	Mean		29.5	31.3	27.2	25
21	Maximum		33	33.9	28.7	26.3
	Minimum		26	28.7	26	24.6
	Mean		29.5	31.3	27.35	25.45
22	Maximum		33.4	33.7	28.6	26.6
	Minimum		26.3	28.6	25.4	25.2
	Mean		29.85	31.15	27	25.9
23	Maximum		31.5	31.6	27.6	29.8
	Minimum		26.6	27.6	25.2	23.4
	Mean		29.05	29.6	26.4	26.6
24	Maximum		33.4	33.4	25.2	25.8
	Minimum		24.8	28.2	25.4	24.4
	Mean		29.1	30.8	25.3	25.1
25	Maximum		32.8	32.8	27.4	26.7
	Minimum		25.8	27.4	24.5	23.4
	Mean		29.3	30.1	25.95	25.05
26	Maximum		32.6	33	28	25.6
	Minimum		26.7	28	25.5	24.8
	Mean		29.65	30.5	26.75	25.2
27	Maximum		32	32.2	26.8	26
	Minimum		25.6	26.8	25	24
	Mean		28.8	29.5	25.9	25
28	Maximum		33	33.2	29.6	26.4
	Minimum		26	29.6	25.6	24.6
	Mean		29.5	31.4	27.6	25.5

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		34.4	34.4	29.6	26.8
	Minimum		26.4	29.6	26.4	25
	Mean		30.4	32	28	25.9
2	Maximum		33	33.2	29.2	26.2
	Minimum		26.8	29.2	25.6	24.2
	Mean		29.9	31.2	27.4	25.2
3	Maximum		31.8	32.4	28.4	28.2
	Minimum		26.2	28	26.5	24.6
	Mean		29	30.2	27.45	26.4
4	Maximum		34.2	34.2	28.2	26
	Minimum		28.2	28.2	24.4	23.2
	Mean		31.2	31.2	26.3	24.6
5	Maximum		34	35.6	29.4	27.4
	Minimum		26	29.4	25.6	24.4
	Mean		30	32.5	27.5	25.9
6	Maximum		34.2	35	29.4	27
	Minimum		27.2	29.4	26.2	24.8
	Mean		30.7	32.2	27.8	25.9
7	Maximum		33	31.9	28.1	27.5
	Minimum		27	28.1	26	25.6
	Mean		30	30	27.05	26.55
8	Maximum		33.5	33.5	26.4	24.9
	Minimum		27.5	25.8	24.5	24.5
	Mean		30.5	29.65	25.45	24.7
9	Maximum		31.6	32.2	25	23.6
	Minimum		24.9	25	24.8	23
	Mean		28.25	28.6	24.9	23.3
10	Maximum		28.5	29	25.7	22.8
	Minimum		23.6	25.7	22.2	20.8
	Mean		26.05	27.35	23.95	21.8
11	Maximum		30	30	25.2	24
	Minimum		22.8	25.2	22	21.7
	Mean		26.4	27.6	23.6	22.85
12	Maximum		30	31	26.4	24
	Minimum		24	26.4	23.2	21.8
	Mean		27	28.7	24.8	22.9
13	Maximum		31.1	31.3	27.8	24.4
	Minimum		24	27.8	24	22.4
	Mean		27.55	29.55	25.9	23.4
14	Maximum		31.4	32.4	28	26.4
	Minimum		24.4	28	24.2	23.7
	Mean		27.9	30.2	26.1	25.05
15	Maximum		33.8	34.2	29	26.5
	Minimum		26.4	29	25.4	24.4
	Mean		30.1	31.6	27.2	25.45

16	Maximum	[redacted]	34.6	34.6	26.4	27
	Minimum		26.5	25.4	24.6	23.8
	Mean		30.55	30	25.5	25.4
17	Maximum		33	33	28.4	26.8
	Minimum		27	28.4	26	24
	Mean		30	30.7	27.2	25.4
18	Maximum		32.6	33.6	28.4	26
	Minimum		26.8	28.4	26	24
	Mean		29.7	31	27.2	25
19	Maximum		33.3	34.5	28.3	26.2
	Minimum		26	28.3	24.9	23.6
	Mean		29.65	31.4	26.6	24.9
20	Maximum		34	34.2	26.6	25.4
	Minimum		26.2	26.4	25	23
	Mean		30.1	30.3	25.8	24.2
21	Maximum		33.4	33.8	26.6	25.8
	Minimum		25.4	26.6	24.8	24.4
	Mean		29.4	30.2	25.7	25.1
22	Maximum		29.4	29	26.4	22.4
	Minimum		25.8	26.4	24.8	22
	Mean		27.6	27.7	25.6	22.2
23	Maximum		30.2	30.8	26	24
	Minimum		22.4	26	23.8	21.8
	Mean		26.3	28.4	24.9	22.9
24	Maximum		29.4	29.6	25	23.2
	Minimum		24	25	22.6	21
	Mean		26.7	27.3	23.8	22.1
25	Maximum		31.2	22	26	24.2
	Minimum		23.2	26	22.8	22.2
	Mean		27.2	24	24.4	23.2
26	Maximum		31.6	32.2	27.2	25
	Minimum		24.2	27.2	24.8	23.4
	Mean		27.9	29.7	26	24.2
27	Maximum		31.4	32.2	27.2	25
	Minimum		25	28	24.6	23
	Mean		28.2	30.1	25.9	24
28	Maximum		32.8	33.2	28	24.8
	Minimum		25.4	28	24.2	24
	Mean		29.1	30.6	26.1	24.4
29	Maximum		32.7	32.7	27.7	26.2
	Minimum		24.8	26.8	25.2	24.3
	Mean		28.75	29.75	26.45	25.25
30	Maximum		33.2	33.2	24.9	25
	Minimum		26.2	24.9	23.4	23
	Mean		29.7	29.05	24.15	24
31	Maximum		29.9	30.2	26.4	24.6
	Minimum		25	26.4	25	24.2

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		32	32	28.4	23.6
	Minimum		24.6	28.4	23.8	23
	Mean		28.3	30.2	26.1	23.3
2	Maximum		31.4	31.4	28.7	25
	Minimum		23.6	28.7	25.4	24
	Mean		27.5	30.05	27.05	24.5
3	Maximum		30.9	31.2	28	26.1
	Minimum		25	28	24.8	24.8
	Mean		27.95	29.6	26.4	25.45
4	Maximum		31.6	32.5	27.4	27.1
	Minimum		26.1	27.4	26	24.6
	Mean		28.85	29.95	26.7	25.85
5	Maximum		31.2	31	27.5	26.7
	Minimum		27.1	27.5	25.2	23.4
	Mean		29.15	29.25	26.35	25.05
6	Maximum		33.4	34	30	27
	Minimum		26.7	30	26.8	25.4
	Mean		30.05	32	28.4	26.2
7	Maximum		33.2	33.4	28.2	25.6
	Minimum		27	28.2	25	24
	Mean		30.1	30.8	26.6	24.8
8	Maximum		31.7	31.7	27.4	26.4
	Minimum		25.6	27.4	24.4	23.8
	Mean		28.65	29.55	25.9	25.1
9	Maximum		32.7	32.4	28.2	28
	Minimum		26.4	28.2	26.4	25.2
	Mean		29.55	30.3	27.3	26.6
10	Maximum		33.8	34.6	26	27.4
	Minimum		28	25.4	25.3	24.8
	Mean		30.9	30	25.65	26.1
11	Maximum		34.2	35	28.8	28
	Minimum		27.4	28.8	25.8	24.8
	Mean		30.8	31.9	27.3	26.4
12	Maximum		33.6	34.5	30	28.5
	Minimum		27.8	30	20.6	25.2
	Mean		30.7	32.25	25.3	26.85
13	Maximum		34.4	35.2	30	28.2
	Minimum		28.5	30	26.4	25.4
	Mean		31.45	32.6	28.2	26.8
14	Maximum		34.2	34.2	30	27.8
	Minimum		28.2	30	26.2	25
	Mean		31.2	32.1	28.1	26.4
15	Maximum		35	35.4	25.3	27.8
	Minimum		27.8	22.7	22.7	24.5
	Mean		31.4	29.05	24	26.15

16	Maximum	[redacted]	33.4	34.6	29.1	26.3
	Minimum		27.8	29.1	26	24.5
	Mean		30.6	31.85	27.55	25.4
17	Maximum		34	35.2	31	27.4
	Minimum		26.3	31	26.1	24.8
	Mean		30.15	33.1	28.55	26.1
18	Maximum		32.6	33.3	28.6	27.9
	Minimum		27.4	28.6	25.8	24.3
	Mean		30	30.95	27.2	26.1
19	Maximum		33.4	35	29	28.3
	Minimum		27.9	29	26.1	24.7
	Mean		30.65	32	27.55	26.5
20	Maximum		34	34.8	29.8	28.1
	Minimum		28.3	29.8	26.8	25.2
	Mean		31.15	32.3	28.3	26.65
21	Maximum		34.8	36.2	29.8	28
	Minimum		28.1	29.8	27.6	26.6
	Mean		31.45	33	28.7	27.3
22	Maximum		31	32.2	30.4	28.2
	Minimum		28	29	26.2	25
	Mean		29.5	30.6	28.3	26.6
23	Maximum		34.6	34.9	30.6	28.4
	Minimum		28.2	30.6	27.4	26.3
	Mean		31.4	32.75	29	27.35
24	Maximum		35.4	34.4	28.4	28.6
	Minimum		28.4	27.3	26.6	25.8
	Mean		31.9	30.85	27.5	27.2
25	Maximum		35.4	34.4	28.4	28.6
	Minimum		28	28.4	27.4	25.6
	Mean		31.7	31.4	27.9	27.1
26	Maximum		34.8	35.2	26	28
	Minimum		28.6	25.2	25.8	25
	Mean		31.7	30.2	25.9	26.5
27	Maximum		34	35.2	31	28
	Minimum		28	31	27	25.4
	Mean		31	33.1	29	26.7
28	Maximum		33.6	34.8	30.4	28.6
	Minimum		28	30.4	26.6	25.6
	Mean		30.8	32.6	28.5	27.1
29	Maximum		34.7	35.1	29.2	28.7
	Minimum		28.6	28.9	27.8	26.1
	Mean		31.65	32	28.5	27.4
30	Maximum		35	35.6	31.2	29
	Minimum		28.7	31.2	27.2	26
	Mean		31.85	33.4	29.2	27.5

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		32.4	34	31	29.5
	Minimum		29	31	28	27.2
	Mean		30.7	32.5	29.5	28.35
2	Maximum		35.4	36.4	31.2	28.2
	Minimum		29.5	31.2	28.8	26.6
	Mean		32.45	33.8	30	27.4
3	Maximum		36.9	36.9	31.2	29.1
	Minimum		28.2	31.2	27.8	26.4
	Mean		32.55	34.05	29.5	27.75
4	Maximum		34.6	34.6	29.9	28.3
	Minimum		29.1	29.9	27	26.1
	Mean		31.85	32.25	28.45	27.2
5	Maximum		30.3	29.4	28	25
	Minimum		28.3	28	26.7	24.6
	Mean		29.3	28.7	27.35	24.8
6	Maximum		33	33.6	30	28
	Minimum		25	30	28	26.2
	Mean		29	31.8	29	27.1
7	Maximum		35.2	36.4	31.2	28.8
	Minimum		28	31.2	28.2	27
	Mean		31.6	33.8	29.7	27.9
8	Maximum		35.2	35.2	30	28.8
	Minimum		28.8	30	27.2	26.2
	Mean		32	32.6	28.6	27.5
9	Maximum		35.2	35.8	27.6	29
	Minimum		28.8	26.8	24.6	25.4
	Mean		32	31.3	26.1	27.2
10	Maximum		34.8	35.4	29.4	29.6
	Minimum		29	29.4	27.4	26.2
	Mean		31.9	32.4	28.4	27.9
11	Maximum		34.8	35.3	28.2	28.9
	Minimum		29.6	26.6	26.6	26.2
	Mean		32.2	30.95	27.4	27.55
12	Maximum		35.2	35.2	25.2	28
	Minimum		28.9	24.2	24.2	25
	Mean		32.05	29.7	24.7	26.5
13	Maximum		35	35	26.6	28.6
	Minimum		28	26.2	26	26
	Mean		31.5	30.6	26.3	27.3
14	Maximum		35	35	26.6	28.6
	Minimum		28.6	32.4	28.4	27.4
	Mean		31.8	33.7	27.5	28
15	Maximum		33.8	33.4	30.3	29
	Minimum		29.6	30.3	27.3	27
	Mean		31.7	31.85	28.8	28

16	Maximum	[redacted]	33.9	34.9	28.8	28.7
	Minimum		29	28.8	27.2	26.8
	Mean		31.45	31.85	28	27.75
17	Maximum		34.9	36.1	27.5	29.3
	Minimum		28.7	26.4	26.3	26.1
	Mean		31.8	31.25	26.9	27.7
18	Maximum		35	35.6	31	29
	Minimum		29.3	31	28.4	27.6
	Mean		32.15	33.3	29.7	28.3
19	Maximum		34.9	35.6	31	29
	Minimum		29	31	27.5	26.5
	Mean		31.95	33.3	29.25	27.75
20	Maximum		35.4	36	30.2	29
	Minimum		29	30.2	24.8	26
	Mean		32.2	33.1	27.5	27.5
21	Maximum		34.8	35.6	28	27.2
	Minimum		29	28	24	24
	Mean		31.9	31.8	26	25.6
22	Maximum		34.4	34.6	29.6	29.2
	Minimum		27.2	29.6	25.9	25.6
	Mean		30.8	32.1	27.75	27.4
23	Maximum		34.8	34.8	29.5	29.1
	Minimum		29.2	28.9	28.5	26.6
	Mean		32	31.85	29	27.85
24	Maximum		35.7	35.7	29.4	29.2
	Minimum		29.1	29.3	26.8	26.1
	Mean		32.4	32.5	28.1	27.65
25	Maximum		35	35	27.8	28.2
	Minimum		29.2	28.9	28.5	26.6
	Mean		32.1	31.95	28.15	27.4
26	Maximum		35	35.2	29.4	29.2
	Minimum		28.2	29.4	27.6	26.9
	Mean		31.6	32.3	28.5	28.05
27	Maximum		35.2	36.1	27.4	29.5
	Minimum		29.2	24.6	24.6	26.9
	Mean		32.2	30.35	26	28.2
28	Maximum		35	36.4	32	29.5
	Minimum		29.5	32	28.8	27.8
	Mean		32.25	34.2	30.4	28.65
29	Maximum		36	36	30	29.8
	Minimum		29.6	30	28.4	27
	Mean		32.8	33	29.2	28.4
30	Maximum		35	35.8	30	29.6
	Minimum		29.8	30	27.6	28.6
	Mean		32.4	32.9	28.8	29.1
31	Maximum		35	35.2	29.1	30.4
	Minimum		29.6	28.6	27.6	26.8

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		34.4	35.4	31.2	29.4
	Minimum		30.4	31.2	28	27
	Mean		32.4	33.3	29.6	28.2
2	Maximum		34.8	28.4	28	26.2
	Minimum		29.4	27	25.8	25
	Mean		32.1	27.7	26.9	25.6
3	Maximum		32	33.5	28.4	29.6
	Minimum		26.2	28.6	26.4	23.7
	Mean		29.1	31.05	27.4	26.65
4	Maximum		34.1	34.6	30.7	30
	Minimum		29.6	30.7	27.9	27.5
	Mean		31.85	32.65	29.3	28.75
5	Maximum		35.2	35.2	25.4	27.8
	Minimum		30	24.7	24.6	24.7
	Mean		32.6	29.95	25	26.25
6	Maximum		31.9	31.6	28.8	26.5
	Minimum		27.8	28.8	27.2	25.6
	Mean		29.85	30.2	28	26.05
7	Maximum		31.2	32.4	28.6	27
	Minimum		26.5	28.6	25.2	25.2
	Mean		28.85	30.5	26.9	26.1
8	Maximum		30.5	26.4	26	26
	Minimum		26	25.6	25.6	25
	Mean		28.25	26	25.8	25.5
9	Maximum		28.6	27.1	25.3	25
	Minimum		26	25.3	24.5	24.5
	Mean		27.3	26.2	24.9	24.75
10	Maximum		27	27	25.8	26.2
	Minimum		25	25.8	25	24.8
	Mean		26	26.4	25.4	25.5
11	Maximum		29	26.2	26.2	25
	Minimum		25.1	25.1	24.8	24.2
	Mean		27.05	25.65	25.5	24.6
12	Maximum		28.2	28.4	25.8	25.2
	Minimum		25	25.8	25	24.2
	Mean		26.6	27.1	25.4	24.7
13	Maximum		25.6	25.9	25.7	25.1
	Minimum		24.7	25	24.5	23.9
	Mean		25.15	25.45	25.1	24.5
14	Maximum		28.7	28.7	25.8	25.4
	Minimum		25.8	25.8	24.4	23.8
	Mean		27.25	27.25	25.1	24.6
15	Maximum		28.3	28.3	25	24.2
	Minimum		24.6	25	24	23.8
	Mean		26.45	26.65	24.5	24

16	Maximum	[redacted]	30.2	30.2	26.4	25
	Minimum		24.2	26.4	24	24
	Mean		27.2	28.3	25.2	24.5
17	Maximum		30	28.4	26.4	26.6
	Minimum		25	26.4	24.8	24.6
	Mean		27.5	27.4	25.6	25.6
18	Maximum		31.3	31.3	27.2	26
	Minimum		26.6	27.2	26.1	25.4
	Mean		28.95	29.25	26.65	25.7
19	Maximum		32	33.5	29	28
	Minimum		26	29	26	25.2
	Mean		29	31.25	27.5	26.6
20	Maximum		32.6	26.8	25.1	26
	Minimum		26.8	25.1	24.2	24.2
	Mean		29.7	25.95	24.65	25.1
21	Maximum		32	32	25	25.4
	Minimum		26	24.2	24.4	24
	Mean		29	28.1	24.7	24.7
22	Maximum		31	31.2	26.8	25.8
	Minimum		25.4	26.8	25.2	25
	Mean		28.2	29	26	25.4
23	Maximum		32.4	32.6	26.4	26.2
	Minimum		25.8	26.4	25.5	24.2
	Mean		29.1	29.5	25.95	25.2
24	Maximum		32	33.2	29.5	26.4
	Minimum		26.2	29.5	24.2	24.2
	Mean		29.1	31.35	26.85	25.3
25	Maximum		31.6	31.6	25.4	26.7
	Minimum		26.4	25.4	24.6	24.6
	Mean		29	28.5	25	25.65
26	Maximum		31	30.5	26.4	26.2
	Minimum		26.7	26.4	25.4	24.4
	Mean		28.85	28.45	25.9	25.3
27	Maximum		32.4	32.4	28.2	27
	Minimum		26.2	28.2	25.1	24.8
	Mean		29.3	30.3	26.65	25.9
28	Maximum		33.5	33.5	28.4	29.1
	Minimum		27	28.4	25.9	25.5
	Mean		30.25	30.95	27.15	27.3
29	Maximum		32.2	32.8	27.6	26.8
	Minimum		29.1	28.6	25.6	25.3
	Mean		30.65	30.7	26.6	26.05
30	Maximum		30	28.8	27.4	26.2
	Minimum		26.8	27.4	25.4	24.6
	Mean		28.4	28.1	26.4	25.4

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		30.8	29.6	26.4	25.8
	Minimum		26.2	26.4	25	24.4
	Mean		28.5	28	25.7	25.1
2	Maximum		31.1	31.5	26.2	27.2
	Minimum		25.8	26.2	25	24.2
	Mean		28.45	28.85	25.6	25.7
3	Maximum		30.7	29.2	27.2	26.7
	Minimum		25.4	25.6	25.1	24.2
	Mean		28.05	27.4	26.15	25.45
4	Maximum		31.2	28.8	27.6	26.2
	Minimum		26.7	25.9	25.6	24.4
	Mean		28.95	27.35	26.6	25.3
5	Maximum		31.2	29	27.2	27.2
	Minimum		26.2	27.2	25	24.4
	Mean		28.7	28.1	26.1	25.8
6	Maximum		31.6	31.8	27.8	27
	Minimum		27.2	27.8	26.2	25.6
	Mean		29.4	29.8	27	26.3
7	Maximum		30.2	31	27	25.2
	Minimum		27	27	25.2	25
	Mean		28.6	29	26.1	25.1
8	Maximum		31.2	31.4	26.6	25.4
	Minimum		25.2	26.6	25.8	24.2
	Mean		28.2	29	26.2	24.8
9	Maximum		28.4	29.2	26.6	25.2
	Minimum		25.4	26.6	24.8	24
	Mean		26.9	27.9	25.7	24.6
10	Maximum		30.8	30.8	26	25.8
	Minimum		25.2	26	24.8	24.8
	Mean		28	28.4	25.4	25.3
11	Maximum		27.7	29.2	25.8	25.2
	Minimum		25.8	25.6	24.7	24.3
	Mean		26.75	27.4	25.25	24.75
12	Maximum		27.2	26.7	25.2	25.7
	Minimum		25.2	25.2	24.3	23.9
	Mean		26.2	25.95	24.75	24.8
13	Maximum		30.6	30.6	25.1	25.1
	Minimum		25.7	25	24	23.9
	Mean		28.15	27.8	24.55	24.5
14	Maximum		28.2	28.2	25	25
	Minimum		25.1	24.6	24.6	24.5
	Mean		26.65	26.4	24.8	24.75
15	Maximum		31.2	31.2	27	25.8
	Minimum		25	27	25.2	25.2
	Mean		28.1	29.1	26.1	25.5

16	Maximum	[redacted]	29	28.9	26	24.7
	Minimum		25.8	25.7	24.7	24.7
	Mean		27.4	27.3	25.35	24.7
17	Maximum		24.9	24.6	24.5	24.5
	Minimum		24.4	24.3	24.3	24.3
	Mean		24.65	24.45	24.4	24.4
18	Maximum		25.4	25.4	24.8	25.5
	Minimum		24.3	24.6	24.2	24
	Mean		24.85	25	24.5	24.75
19	Maximum		28.9	27.6	25.3	23.4
	Minimum		25.5	25	25	23.2
	Mean		27.2	26.3	25.15	23.3
20	Maximum		27	27	25.4	25.8
	Minimum		23.4	25.4	25	25
	Mean		25.2	26.2	25.2	25.4
21	Maximum		27.2	26.8	25.4	25.4
	Minimum		25.8	25.4	24.6	24.4
	Mean		26.5	26.1	25	24.9
22	Maximum		27.8	26.2	24.6	24
	Minimum		25.4	24.6	23.2	22.8
	Mean		26.6	25.4	23.9	23.4
23	Maximum		28	26.6	25.8	25.2
	Minimum		24	25	24.7	24.5
	Mean		26	25.8	25.25	24.85
24	Maximum		30	29.7	25.2	25.2
	Minimum		25.2	25.2	24.4	24.2
	Mean		27.6	27.45	24.8	24.7
25	Maximum		30.2	28.1	26.7	26.3
	Minimum		24.5	25	24.7	23.9
	Mean		27.35	26.55	25.7	25.1
26	Maximum		29.8	30.1	25.8	25.9
	Minimum		26.3	25.8	25.1	24.6
	Mean		28.05	27.95	25.45	25.25
27	Maximum		29.8	29.8	26.8	25.8
	Minimum		25.9	26.8	25.5	25
	Mean		27.85	28.3	26.15	25.4
28	Maximum		30.8	29	27.4	26.7
	Minimum		25.8	27.4	25.2	24.8
	Mean		28.3	28.2	26.3	25.75
29	Maximum		30.6	27.8	26	26.7
	Minimum		26.4	26	24.9	24.2
	Mean		28.5	26.9	25.45	25.45
30	Maximum		31.1	27.1	26.5	26.5
	Minimum		26.7	25.2	27.8	24.3
	Mean		28.9	26.15	27.15	25.4
31	Maximum		31.9	28.7	27.5	26.8
	Minimum		26.5	26.7	25.6	24.9

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		31.7	28.8	27.5	26.8
	Minimum		26.8	27.5	26.4	25.8
	Mean		29.25	28.15	26.95	26.3
2	Maximum		30.5	28.8	26	26.2
	Minimum		26.8	26	25.4	25
	Mean		28.65	27.4	25.7	25.6
3	Maximum		31	31	26.8	26
	Minimum		26.2	26.8	25.2	24.3
	Mean		28.6	28.9	26	25.15
4	Maximum		31.2	31.2	27.5	26.8
	Minimum		26	27.5	24.6	24.4
	Mean		28.6	29.35	26.05	25.6
5	Maximum		30.8	32.4	27.8	27
	Minimum		26.8	27.8	25.2	25
	Mean		28.8	30.1	26.5	26
6	Maximum		31.4	28.9	25.8	26.4
	Minimum		27	25.8	25.1	24.8
	Mean		29.2	27.35	25.45	25.6
7	Maximum		29.6	30.3	26.4	25.2
	Minimum		26.4	26.4	24.8	24.7
	Mean		28	28.35	25.6	24.95
8	Maximum		28.2	27.3	25	25
	Minimum		24.8	24.5	24.8	24.6
	Mean		26.5	25.9	24.9	24.8
9	Maximum		27.8	28	26.1	25
	Minimum		25	26.1	24.3	24
	Mean		26.4	27.05	25.2	24.5
10	Maximum		27.3	27	25.4	24.8
	Minimum		25	25.3	24.7	24.6
	Mean		26.15	26.15	25.05	24.7
11	Maximum		25.4	25.2	25.4	25
	Minimum		24.8	24.2	24.2	24.2
	Mean		25.1	24.7	24.8	24.6
12	Maximum		26.8	25.2	24.8	25
	Minimum		25	24.6	24.4	24.4
	Mean		25.9	24.9	24.6	24.7
13	Maximum		27	27.2	25.6	25
	Minimum		25	25.6	24.8	24.6
	Mean		26	26.4	25.2	24.8
14	Maximum		28.2	28.7	25.4	26
	Minimum		25	25.2	25	24.7
	Mean		26.6	26.95	25.2	25.35
15	Maximum		30.8	30.8	27.2	30.8
	Minimum		26	27.2	25.6	25.2
	Mean		28.4	29	26.4	28

16	Maximum	[redacted]	30.4	30.2	27.8	25.4
	Minimum		25.6	27.8	25.6	25
	Mean		28	29	26.7	25.2
17	Maximum		30	30	25.8	25.4
	Minimum		25.4	26.6	25	24.6
	Mean		27.7	28.3	25.4	25
18	Maximum		30	29.5	26.6	25
	Minimum		25.4	26.6	25	24.4
	Mean		27.7	28.05	25.8	24.7
19	Maximum		30.4	27.8	25.2	24.6
	Minimum		25	25.2	24.4	24.4
	Mean		27.7	26.5	24.8	24.5
20	Maximum		25.4	25.4	25	25.5
	Minimum		24.6	25	24.6	24.5
	Mean		25	25.2	24.8	25
21	Maximum		31.3	31	26	26.2
	Minimum		25.5	26	25.2	25
	Mean		28.4	28.5	25.6	25.6
22	Maximum		30.8	30.1	26.3	27
	Minimum		26.2	26.2	25.4	25.3
	Mean		28.5	28.15	25.85	26.15
23	Maximum		30.6	30.6	26.7	25.8
	Minimum		27	26.7	25.4	25.2
	Mean		28.8	28.65	26.05	25.5
24	Maximum		30.2	30.7	26.5	24.7
	Minimum		25.8	26.4	24.5	23.6
	Mean		28	28.55	25.5	24.15
25	Maximum		27.5	28	26.4	25.4
	Minimum		24.3	26.4	25.2	24.9
	Mean		25.9	27.2	25.8	25.15
26	Maximum		27.4	26	25	25
	Minimum		25.4	24.8	24	23.6
	Mean		26.4	25.4	24.5	24.3
27	Maximum		31.2	31.2	26.7	26.6
	Minimum		25	26.7	23.7	23.7
	Mean		28.1	28.95	25.2	25.15
28	Maximum		32	32	27.6	26
	Minimum		26.6	27.6	25.3	24.7
	Mean		29.3	29.8	26.45	25.35
29	Maximum		31.5	31.4	26.4	26
	Minimum		26	26.4	24.4	24
	Mean		28.75	28.9	25.4	25
30	Maximum		32.8	33	27.2	27.2
	Minimum		26	27	25.6	25
	Mean		29.4	30	26.4	26.1
31	Maximum		33.2	33.8	25.4	25.6
	Minimum		27.2	24.4	24.4	24.4

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		32.2	32	25.2	25.2
	Minimum		25.6	24.6	24.6	24.8
	Mean		28.9	28.3	24.9	25
2	Maximum		32.6	33	26.2	25
	Minimum		25.2	26.2	24.4	24.4
	Mean		28.9	29.6	25.3	24.7
3	Maximum		30	30.2	25.4	26
	Minimum		25	25.4	24.5	24
	Mean		27.5	27.8	24.95	25
4	Maximum		30.5	26.4	25.6	24.7
	Minimum		26	25.2	24.2	24.1
	Mean		28.25	25.8	24.9	24.4
5	Maximum		31.5	32.1	27.6	26.8
	Minimum		24.8	27.6	25.5	24.6
	Mean		28.15	29.85	26.55	25.7
6	Maximum		33.3	33.3	26.2	23.8
	Minimum		26.8	25.7	23.8	22.7
	Mean		30.05	29.5	25	23.25
7	Maximum		25	24.5	24.2	24.2
	Minimum		23.2	24.2	23.7	23.4
	Mean		24.1	24.35	23.95	23.8
8	Maximum		31	31	25.4	26.5
	Minimum		25.4	25	24.1	23.2
	Mean		28.2	28	24.75	24.85
9	Maximum		29.4	28	25.8	26.4
	Minimum		26.5	25.8	24.2	23.8
	Mean		27.95	26.9	25	25.1
10	Maximum		30	27.3	25.5	25.2
	Minimum		26.4	25.5	24.8	24.5
	Mean		28.2	26.4	25.15	24.85
11	Maximum		30.2	28.5	26.7	26.7
	Minimum		25.2	26.7	24.8	23.9
	Mean		27.7	27.6	25.75	25.3
12	Maximum		30	31	27.4	25.8
	Minimum		26.7	27.4	24.8	24
	Mean		28.35	29.2	26.1	24.9
13	Maximum		32.8	33.8	29	27.2
	Minimum		25.8	29	26.2	25.8
	Mean		29.3	31.4	27.6	26.5
14	Maximum		29	29	26.8	25.8
	Minimum		27.2	25.8	25	24.7
	Mean		28.1	27.4	25.9	25.25
15	Maximum		25.2	25.2	24.6	25.4
	Minimum		24.8	23.4	23.4	24.8
	Mean		25	24.3	24	25.1

16	Maximum	[redacted]	28	28.7	25.2	25.4
	Minimum		25.4	25	24.5	24.4
	Mean		26.7	26.85	24.85	24.9
17	Maximum		30.2	31	28.4	27.4
	Minimum		25.4	28.4	26	25
	Mean		27.8	29.7	27.2	26.2
18	Maximum		32.7	32.9	28.7	26.2
	Minimum		27.4	28.7	26	25.2
	Mean		30.05	30.8	27.35	25.7
19	Maximum		32.6	32.7	26.4	27
	Minimum		28.2	25.4	25.4	26.2
	Mean		30.4	29.05	25.9	26.6
20	Maximum		31.2	29.8	26.6	26.5
	Minimum		27	26.6	25	24.5
	Mean		29.1	28.2	25.8	25.5
21	Maximum		33.1	33.1	33.1	27.7
	Minimum		26.5	26.5	27.6	24.9
	Mean		29.8	29.8	30.35	26.3
22	Maximum		32.8	33.4	30.4	27
	Minimum		27.7	30.4	25	25
	Mean		30.25	31.9	27.7	26
23	Maximum		33	33.8	29.4	27.4
	Minimum		27	29.4	25.6	25.2
	Mean		30	31.6	27.5	26.3
24	Maximum		32.6	32.2	27	27.4
	Minimum		27.4	27	25	24.5
	Mean		30	29.6	26	25.95
25	Maximum		32.8	26.6	26	26.6
	Minimum		25	24.3	24.8	24.2
	Mean		28.9	25.45	25.4	25.4
26	Maximum		31.5	27.8	26.4	27
	Minimum		26.6	26.4	24.5	24
	Mean		29.05	27.1	25.45	25.5
27	Maximum		32.8	33	28.6	26.4
	Minimum		27	28.6	25	24.5
	Mean		29.9	30.8	26.8	25.45
28	Maximum		31	31	28.2	26.6
	Minimum		26.4	28.2	25.5	24.8
	Mean		28.7	29.6	26.85	25.7
29	Maximum		32.4	34.9	28.8	27
	Minimum		26.6	28.8	26.4	25
	Mean		29.5	31.85	27.6	26
30	Maximum		32	32	26.5	27.4
	Minimum		27	26.5	26	25.5
	Mean		29.5	29.25	26.25	26.45

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		32.8	32.8	28	27.8
	Minimum		27.4	28	25.2	25.2
	Mean		30.1	30.4	26.6	26.5
2	Maximum		33	33.1	27	25.9
	Minimum		27.8	27	25	24.6
	Mean		30.4	30.05	26	25.25
3	Maximum		31.3	31.4	26.3	26.5
	Minimum		25.9	25.8	25.1	24.5
	Mean		28.6	28.6	25.7	25.5
4	Maximum		32.2	32.1	26.6	26.7
	Minimum		26.5	26.6	25.6	24.5
	Mean		29.35	29.35	26.1	25.6
5	Maximum		31.2	32	27	26.6
	Minimum		26.7	27	24.2	23.2
	Mean		28.95	29.5	25.6	24.9
6	Maximum		31.4	31.8	25.8	25.2
	Minimum		26.6	25.6	25.1	25
	Mean		29	28.7	25.45	25.1
7	Maximum		32.5	32.6	27.9	28.3
	Minimum		25.2	27.9	25.8	25.3
	Mean		28.85	30.25	26.85	26.8
8	Maximum		33.3	33.3	28.6	28.5
	Minimum		28.3	28.6	26.7	25.5
	Mean		30.8	30.95	27.65	27
9	Maximum		32.2	33	28.3	27
	Minimum		28.5	28.3	25.6	25.3
	Mean		30.35	30.65	26.95	26.15
10	Maximum		32.4	32.5	27.8	27.4
	Minimum		27	27.5	25.4	25.4
	Mean		29.7	30	26.6	26.4
11	Maximum		32.6	33.2	29	28
	Minimum		27.4	29	27	26
	Mean		30	31.1	28	27
12	Maximum		33.3	33.4	29.6	28.6
	Minimum		28	29.6	27	25.8
	Mean		30.65	31.5	28.3	27.2
13	Maximum		33	33.4	29.4	28.4
	Minimum		28.6	29.4	26	25.8
	Mean		30.8	31.4	27.7	27.1
14	Maximum		33.3	32.6	29	28.6
	Minimum		28.4	29	26.4	25.2
	Mean		30.85	30.8	27.7	26.9
15	Maximum		32.8	32.8	27.2	27.3
	Minimum		28.6	27.2	25.6	25.2
	Mean		30.7	30	26.4	26.25

16	Maximum	[redacted]	32.6	33.2	29	28
	Minimum		27.3	29	27.2	25.8
	Mean		29.95	31.1	28.1	26.9
17	Maximum		33	32.4	25.5	26
	Minimum		28	25.2	24.7	24.2
	Mean		30.5	28.8	25.1	25.1
18	Maximum		32.2	33.1	28.3	28
	Minimum		26	28.3	26.5	24.8
	Mean		29.1	30.7	27.4	26.4
19	Maximum		32	32.1	28.2	28
	Minimum		28	28.2	26.8	25
	Mean		30	30.15	27.5	26.5
20	Maximum		30.8	32.8	29	27
	Minimum		28	29	27	26
	Mean		29.4	30.9	28	26.5
21	Maximum		32.3	32.3	27.7	27.1
	Minimum		26.8	27.7	25.7	24.4
	Mean		29.55	30	26.7	25.75
22	Maximum		32.4	32.4	27.8	27.2
	Minimum		27.1	27.8	25.8	24.4
	Mean		29.75	30.1	26.8	25.8
23	Maximum		32.4	32.8	28.6	27.4
	Minimum		27.2	28.6	25.4	25.1
	Mean		29.8	30.7	27	26.25
24	Maximum		32.6	33	28.6	27
	Minimum		27.4	28.6	26.6	25.4
	Mean		30	30.8	27.6	26.2
25	Maximum		32.2	32.2	29	27.6
	Minimum		27	29	25.6	24.6
	Mean		29.6	30.6	27.3	26.1
26	Maximum		32.6	33.3	29.2	27.4
	Minimum		30.1	31.3	27.6	25.9
	Mean		31.35	32.3	28.4	26.65
27	Maximum		32.8	33.4	29.2	27.2
	Minimum		27.4	29.2	26.6	26
	Mean		30.1	31.3	27.9	26.6
28	Maximum		32.6	32.6	26.2	23.5
	Minimum		27.2	26.2	23.2	21.8
	Mean		29.9	29.4	24.7	22.65
29	Maximum		30.3	30.6	26.3	24.4
	Minimum		23.5	26.3	24.4	23.8
	Mean		26.9	28.45	25.35	24.1
30	Maximum		27.8	25.7	25.4	26.6
	Minimum		24.4	24.7	24.6	24.4
	Mean		26.1	25.2	25	25.5
31	Maximum		31.4	31.4	27.1	27.6
	Minimum		26.6	27.1	24.7	24.7

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		32.9	33.1	28.5	28.2
	Minimum		27.6	28.5	25.9	25.1
	Mean		30.25	30.8	27.2	26.65
2	Maximum		32.3	32.3	28	27.1
	Minimum		28.2	28	25.5	25
	Mean		30.25	30.15	26.75	26.05
3	Maximum		32	32.6	28.4	27.6
	Minimum		27.1	28.4	25.8	25.2
	Mean		29.55	30.5	27.1	26.4
4	Maximum		33	33	28.2	26.8
	Minimum		27.6	28.2	24.8	25
	Mean		30.3	30.6	26.5	25.9
5	Maximum		31.6	31.8	27.4	27.4
	Minimum		26.8	27.4	25.4	24.8
	Mean		29.2	29.6	26.4	26.1
6	Maximum		31	31	27.5	27.8
	Minimum		27.4	27.5	25.4	25.8
	Mean		29.2	29.25	26.45	26.8
7	Maximum		33	32.2	27.2	26.8
	Minimum		27.8	27.2	25.4	24.2
	Mean		30.4	29.7	26.3	25.5
8	Maximum		32.8	32.6	27	25.4
	Minimum		26.8	27	24.3	24.3
	Mean		29.8	29.8	25.65	24.85
9	Maximum		30.6	30.5	27.2	26.4
	Minimum		25.4	27.2	26.4	25
	Mean		28	28.85	26.8	25.7
10	Maximum		31	31.4	27	26.8
	Minimum		26.4	27	24.5	23.6
	Mean		28.7	29.2	25.75	25.2
11	Maximum		31.6	32	27	26.4
	Minimum		26.8	27	24.4	23.8
	Mean		29.2	29.5	25.7	25.1
12	Maximum		31.6	31.9	28.2	26.6
	Minimum		26.4	28.2	24.8	24.2
	Mean		29	30.05	26.5	25.4
13	Maximum		30.4	31	27.4	27
	Minimum		26.6	27.4	25.4	24
	Mean		28.5	29.2	26.4	25.5
14	Maximum		32.9	32.7	27.1	28.1
	Minimum		27	27.1	24.5	24.2
	Mean		29.95	29.9	25.8	26.15
15	Maximum		32.2	32.2	26.8	27
	Minimum		28.1	26.8	23.5	23.2
	Mean		30.15	29.5	25.15	25.1

16	Maximum	[redacted]	31.4	31	27	27.2
	Minimum		27	27	23.4	22.8
	Mean		29.2	29	25.2	25
17	Maximum		32	31.4	27.4	26.6
	Minimum		27.2	27.4	24.8	23.4
	Mean		29.6	29.4	26.1	25
18	Maximum		31	31.3	26.8	25.8
	Minimum		26.6	26.8	23.6	23
	Mean		28.8	29.05	25.2	24.4
19	Maximum		31.2	31.6	28	25.6
	Minimum		25.8	28	24.8	23.8
	Mean		28.5	29.8	26.4	24.7
20	Maximum		31	30.4	26.7	25.6
	Minimum		25.6	26.7	25	25
	Mean		28.3	28.55	25.85	25.3
21	Maximum		28.2	26.6	25.6	26
	Minimum		25.6	25.2	25	24.8
	Mean		26.9	25.9	25.3	25.4
22	Maximum		31.2	31.4	27.2	27.2
	Minimum		26	27.2	25.2	24.4
	Mean		28.6	29.3	26.2	25.8
23	Maximum		31.8	32.4	26.6	27.5
	Minimum		27.2	26.6	24	23
	Mean		29.5	29.5	25.3	25.25
24	Maximum		31.8	31.6	27.8	26.2
	Minimum		27.5	27.8	25	24.2
	Mean		29.65	29.7	26.4	25.2
25	Maximum		29	28.8	25.4	26.8
	Minimum		26.2	25.4	23.4	22.6
	Mean		27.6	27.1	24.4	24.7
26	Maximum		31.8	31.8	28	26.8
	Minimum		26.8	28	24.8	23.4
	Mean		29.3	29.9	26.4	25.1
27	Maximum		32.8	32.8	27.4	26.4
	Minimum		26.8	27.4	25.3	24
	Mean		29.8	30.1	26.35	25.2
28	Maximum		32	32	27.9	27.9
	Minimum		26.4	27.9	25.5	24.2
	Mean		29.2	29.95	26.7	26.05
29	Maximum		31.1	31.3	27.6	26.3
	Minimum		27.9	27.6	25.5	24.1
	Mean		29.5	29.45	26.55	25.2
30	Maximum		31	30.5	26.8	24.8
	Minimum		26.3	26.8	24.6	23
	Mean		28.65	28.65	25.7	23.9

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		32.4	32.4	27.6	25.4
	Minimum		24.8	27.6	24.6	23.8
	Mean		28.6	30	26.1	24.6
2	Maximum		32	32	26.8	27.2
	Minimum		25.4	26.8	24.2	23.4
	Mean		28.7	29.4	25.5	25.3
3	Maximum		32.4	32.3	26.8	26.4
	Minimum		27.2	26.8	24.8	24.7
	Mean		29.8	29.55	25.8	25.55
4	Maximum		26.4	29.4	26.2	25.8
	Minimum		25	26.2	25.4	25
	Mean		25.7	27.8	25.8	25.4
5	Maximum		31.9	32.1	27.4	26.6
	Minimum		25.8	27.4	25	24.2
	Mean		28.85	29.75	26.2	25.4
6	Maximum		32.2	32.4	26.8	26.3
	Minimum		26.6	26.6	24.3	23.9
	Mean		29.4	29.5	25.55	25.1
7	Maximum		32.2	37.8	26.6	26.5
	Minimum		26.3	26.6	24.8	24.6
	Mean		29.25	32.2	25.7	25.55
8	Maximum		32.4	32.5	27.2	26.8
	Minimum		26.5	27.2	24.8	24.8
	Mean		29.45	29.85	26	25.8
9	Maximum		31.6	31.4	27.2	25.4
	Minimum		26.8	27.2	24	23.4
	Mean		29.2	29.3	25.6	24.4
10	Maximum		32	32.6	38	27.8
	Minimum		25.4	28	24.7	24.2
	Mean		28.7	30.3	31.35	26
11	Maximum		32.5	32.7	27.8	25.2
	Minimum		27.8	27.8	24.7	23.8
	Mean		30.15	30.25	26.25	24.5
12	Maximum		31.6	31.5	27.2	26.5
	Minimum		25.2	26.3	24.5	24.5
	Mean		28.4	28.9	25.85	25.5
13	Maximum		31	30.4	25.8	25.8
	Minimum		26.5	25.8	25.3	23.4
	Mean		28.75	28.1	25.55	24.6
14	Maximum		30.6	30.6	25.9	25.5
	Minimum		24.6	25.6	24.8	24
	Mean		27.6	28.1	25.35	24.75
15	Maximum		30.6	30.1	27	25
	Minimum		25.5	27	24.6	24.2
	Mean		28.05	28.55	25.8	24.6

16	Maximum	[redacted]	30.4	30.4	26.6	24.2
	Minimum		25	26.6	23.8	23
	Mean		27.7	28.5	25.2	23.6
17	Maximum		30.6	30.8	27.6	25.3
	Minimum		24.2	27.6	23.8	23.2
	Mean		27.4	29.2	25.7	24.25
18	Maximum		31	31.4	26.5	25
	Minimum		25.3	26.5	24.8	24.2
	Mean		28.15	28.95	25.65	24.6
19	Maximum		30	29.5	25.2	25
	Minimum		25	25.2	22.8	22.4
	Mean		27.5	27.35	24	23.7
20	Maximum		28.6	28.6	25.6	26
	Minimum		25	25.6	24.2	24.4
	Mean		26.8	27.1	24.9	25.2
21	Maximum		31.7	31.7	25.4	25.8
	Minimum		24.6	25.4	24.6	23.6
	Mean		28.15	28.55	25	24.7
22	Maximum		30.9	30	25.8	26.2
	Minimum		25.8	25.8	25.6	25.2
	Mean		28.35	27.9	25.7	25.7
23	Maximum		26.8	25	24.1	25
	Minimum		24.6	24.1	23.2	23.4
	Mean		25.7	24.55	23.65	24.2
24	Maximum		28.2	28.2	25.4	27
	Minimum		25	25.4	25	24.2
	Mean		26.6	26.8	25.2	25.6
25	Maximum		30.8	30.6	27	25.6
	Minimum		27	27	24.7	23.4
	Mean		28.9	28.8	25.85	24.5
26	Maximum		30.3	30.3	27	25
	Minimum		25.6	27	24.6	24
	Mean		27.95	28.65	25.8	24.5
27	Maximum		30.5	31.4	27.1	25.7
	Minimum		25	27.1	24.8	24.7
	Mean		27.75	29.25	25.95	25.2
28	Maximum		29	27.4	25	24.8
	Minimum		25.7	25	24.2	23.2
	Mean		27.35	26.2	24.6	24
29	Maximum		23.6	23.2	23.8	24
	Minimum		22.1	22.2	23.2	23.8
	Mean		22.85	22.7	23.5	23.9
30	Maximum		27	27	24.4	24.8
	Minimum		24	24	23.8	23.6
	Mean		25.5	25.5	24.1	24.2
31	Maximum		26.8	25.6	24	24.4
	Minimum		24.8	23.6	23.2	23.2

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	308	306	269	265
	Minimum		242	266	257	250
	Mean		275	286	263	257.5
2	Maximum		300	292	269	271
	Minimum		255	263	252	235
	Mean		277.5	277.5	260.5	253
3	Maximum		309	311	266	260
	Minimum		267	263	251	249
	Mean		288	287	258.5	254.5
4	Maximum		307	302	270	293
	Minimum		258	263	256	242
	Mean		282.5	282.5	263	267.5
5	Maximum		320	325	281	268
	Minimum		289	280	255	250
	Mean		304.5	302.5	268	259
6	Maximum		322	328	266	268
	Minimum		265	266	244	242
	Mean		293.5	297	255	255
7	Maximum		326	328	282	274
	Minimum		265	275	250	247
	Mean		295.5	301.5	266	260.5
8	Maximum		327	324	281	263
	Minimum		221	262	284	242
	Mean		274	293	282.5	252.5
9	Maximum		330	332	280	274
	Minimum		260	220	245	231
	Mean		295	276	262.5	252.5
10	Maximum		330	333	288	278
	Minimum		262	285	254	245
	Mean		296	309	271	261.5
11	Maximum		317	318	267	271
	Minimum		268	270	249	243
	Mean		292.5	294	258	257
12	Maximum		297	295	252	260
	Minimum		247	243	238	234
	Mean		272	269	245	247
13	Maximum		298	300	254	247
	Minimum		240	250	228	226
	Mean		269	275	241	236.5
14	Maximum		307	310	251	258
	Minimum		243	247	233	235
	Mean		275	278.5	242	246.5
15	Maximum		315	317	259	259
	Minimum		243	257	246	226
	Mean		279	287	252.5	242.5

16	Maximum	[redacted]	313	314	268	252
	Minimum		252	254	250	240
	Mean		282.5	284	259	246
17	Maximum		307	303	267	250
	Minimum		247	260	243	230
	Mean		277	281.5	255	240
18	Maximum		315	319	290	275
	Minimum		248	275	259	250
	Mean		281.5	297	274.5	262.5
19	Maximum		305	304	272	265
	Minimum		268	263	241	237
	Mean		286.5	283.5	256.5	251
20	Maximum		321	323	265	265
	Minimum		259	262	249	234
	Mean		290	292.5	257	249.5
21	Maximum		307	301	267	270
	Minimum		259	260	242	238
	Mean		283	280.5	254.5	254
22	Maximum		318	314	267	251
	Minimum		261	265	238	227
	Mean		289.5	289.5	252.5	239
23	Maximum		328	330	267	248
	Minimum		250	266	240	228
	Mean		289	298	253.5	238
24	Maximum		322	314	260	268
	Minimum		246	255	250	240
	Mean		284	284.5	255	254
25	Maximum		335	337	283	278
	Minimum		265	277	242	235
	Mean		300	307	262.5	256.5
26	Maximum		335	338	283	258
	Minimum		274	276	237	235
	Mean		304.5	307	260	246.5
27	Maximum		292	289	269	256
	Minimum		246	255	254	242
	Mean		269	272	261.5	249
28	Maximum		299	287	261	257
	Minimum		255	247	238	228
	Mean		277	267	249.5	242.5
29	Maximum		302	315	275	255
	Minimum		250	270	248	245
	Mean		276	292.5	261.5	250
30	Maximum		317	319	274	254
	Minimum		257	268	240	236
	Mean		287	293.5	257	245
31	Maximum		326	320	278	265
	Minimum		251	272	239	235

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	324	328	271	278
	Minimum		260	270	239	228
	Mean		292	299	255	253
2	Maximum		327	323	274	268
	Minimum		270	271	232	224
	Mean		298.5	297	253	246
3	Maximum		321	319	269	250
	Minimum		265	268	218	215
	Mean		293	293.5	243.5	232.5
4	Maximum		301	300	268	253
	Minimum		238	260	242	230
	Mean		269.5	280	255	241.5
5	Maximum		304	279	264	234
	Minimum		242	254	220	208
	Mean		273	266.5	242	221
6	Maximum		313	308	263	248
	Minimum		225	254	220	204
	Mean		269	281	241.5	226
7	Maximum		298	280	258	248
	Minimum		235	252	234	218
	Mean		266.5	266	246	233
8	Maximum		296	290	251	231
	Minimum		229	250	214	212
	Mean		262.5	270	232.5	221.5
9	Maximum		310	300	262	237
	Minimum		223	260	220	215
	Mean		266.5	280	241	226
10	Maximum		305	304	267	258
	Minimum		235	267	250	235
	Mean		270	285.5	258.5	246.5
11	Maximum		315	310	276	266
	Minimum		255	27	246	246
	Mean		285	168.5	261	256
12	Maximum		331	334	276	265
	Minimum		246	260	242	239
	Mean		288.5	297	259	252
13	Maximum		305	316	268	262
	Minimum		259	256	248	238
	Mean		282	286	258	250
14	Maximum		323	315	276	270
	Minimum		259	266	249	239
	Mean		291	290.5	262.5	254.5
15	Maximum		336	330	297	284
	Minimum		248	278	259	246
	Mean		292	304	278	265

16	Maximum	[redacted]	335	328	283	279
	Minimum		255	280	269	247
	Mean		295	304	276	263
17	Maximum		342	348	279	276
	Minimum		253	27	249	238
	Mean		297.5	187.5	264	257
18	Maximum		342	344	278	266
	Minimum		263	278	250	236
	Mean		302.5	311	264	251
19	Maximum		340	314	269	270
	Minimum		25	264	230	231
	Mean		182.5	289	249.5	250.5
20	Maximum		340	346	279	267
	Minimum		260	278	248	244
	Mean		300	312	263.5	255.5
21	Maximum		336	344	289	283
	Minimum		259	279	255	252
	Mean		297.5	311.5	272	267.5
22	Maximum		348	354	287	275
	Minimum		280	280	248	240
	Mean		314	317	267.5	257.5
23	Maximum		332	339	285	273
	Minimum		273	245	238	230
	Mean		302.5	292	261.5	251.5
24	Maximum		345	348	289	283
	Minimum		258	285	246	245
	Mean		301.5	316.5	267.5	264
25	Maximum		336	332	282	276
	Minimum		275	280	254	246
	Mean		305.5	306	268	261
26	Maximum		345	348	287	282
	Minimum		264	284	259	248
	Mean		304.5	316	273	265
27	Maximum		240	249	280	282
	Minimum		272	275	256	244
	Mean		256	262	268	263
28	Maximum		355	355	283	281
	Minimum		271	281	256	249
	Mean		313	318	269.5	265

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	355	357	284	293
	Minimum		273	276	260	249
	Mean		314	316.5	272	271
2	Maximum		335	348	297	292
	Minimum		291	288	255	243
	Mean		313	318	276	267.5
3	Maximum		351	342	302	279
	Minimum		285	289	265	245
	Mean		318	315.5	283.5	262
4	Maximum		358	367	299	283
	Minimum		270	283	255	241
	Mean		314	325	277	262
5	Maximum		350	359	296	283
	Minimum		272	293	248	247
	Mean		311	326	272	265
6	Maximum		354	352	292	280
	Minimum		245	292	260	247
	Mean		299.5	322	276	263.5
7	Maximum		355	342	283	274
	Minimum		279	255	264	257
	Mean		317	298.5	273.5	265.5
8	Maximum		348	328	273	272
	Minimum		272	260	248	246
	Mean		310	294	260.5	259
9	Maximum		325	317	263	257
	Minimum		255	237	221	216
	Mean		290	277	242	236.5
10	Maximum		318	315	274	260
	Minimum		245	255	227	217
	Mean		281.5	285	250.5	238.5
11	Maximum		322	325	281	265
	Minimum		245	265	239	224
	Mean		283.5	295	260	244.5
12	Maximum		325	328	279	266
	Minimum		255	268	235	225
	Mean		290	298	257	245.5
13	Maximum		337	340	278	274
	Minimum		252	270	240	232
	Mean		294.5	305	259	253
14	Maximum		343	345	284	273
	Minimum		265	281	226	220
	Mean		304	313	255	246.5
15	Maximum		335	337	289	275
	Minimum		263	279	254	227
	Mean		299	308	271.5	251

16	Maximum	[redacted]	326	330	300	283
	Minimum		266	297	254	245
	Mean		296	313.5	277	264
17	Maximum		342	348	298	285
	Minimum		265	285	249	235
	Mean		303.5	316.5	273.5	260
18	Maximum		321	356	290	275
	Minimum		272	276	249	244
	Mean		296.5	316	269.5	259.5
19	Maximum		345	336	285	262
	Minimum		265	278	237	234
	Mean		305	307	261	248
20	Maximum		315	317	297	271
	Minimum		251	280	261	232
	Mean		283	298.5	279	251.5
21	Maximum		323	325	285	278
	Minimum		258	280	253	248
	Mean		290.5	302.5	269	263
22	Maximum		338	334	280	275
	Minimum		269	273	256	247
	Mean		303.5	303.5	268	261
23	Maximum		333	335	283	269
	Minimum		265	23	249	242
	Mean		299	179	266	255.5
24	Maximum		323	328	267	265
	Minimum		259	264	233	231
	Mean		291	296	250	248
25	Maximum		329	334	269	268
	Minimum		255	260	225	210
	Mean		292	297	247	239
26	Maximum		334	336	279	262
	Minimum		258	259	233	223
	Mean		296	297.5	256	242.5
27	Maximum		325	318	278	263
	Minimum		255	271	232	225
	Mean		290	294.5	255	244
28	Maximum		315	311	288	273
	Minimum		226	280	257	240
	Mean		270.5	295.5	272.5	256.5
29	Maximum		306	304	300	268
	Minimum		259	278	257	248
	Mean		282.5	291	278.5	258
30	Maximum		312	305	264	247
	Minimum		265	247	244	229
	Mean		288.5	276	254	238
31	Maximum		316	326	280	272
	Minimum		240	278	252	237

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	329	322	272	273
	Minimum		267	263	247	240
	Mean		298	292.5	259.5	256.5
2	Maximum		337	330	288	275
	Minimum		265	270	247	237
	Mean		301	300	267.5	256
3	Maximum		331	329	260	268
	Minimum		270	255	238	230
	Mean		300.5	292	249	249
4	Maximum		335	320	297	279
	Minimum		258	280	262	251
	Mean		296.5	300	279.5	265
5	Maximum		324	310	235	272
	Minimum		273	270	253	238
	Mean		298.5	290	244	255
6	Maximum		345	328	291	284
	Minimum		267	286	265	256
	Mean		306	307	278	270
7	Maximum		353	357	292	284
	Minimum		277	287	264	250
	Mean		315	322	278	267
8	Maximum		340	342	296	278
	Minimum		266	288	260	255
	Mean		303	315	278	266.5
9	Maximum		325	319	290	295
	Minimum		277	289	268	262
	Mean		301	304	279	278.5
10	Maximum		364	366	305	297
	Minimum		288	300	265	294
	Mean		326	333	285	295.5
11	Maximum		361	368	293	290
	Minimum		281	275	265	260
	Mean		321	321.5	279	275
12	Maximum		360	370	300	296
	Minimum		282	295	274	270
	Mean		321	332.5	287	283
13	Maximum		365	375	314	296
	Minimum		290	310	278	260
	Mean		327.5	342.5	296	278
14	Maximum		360	380	309	284
	Minimum		293	303	276	259
	Mean		326.5	341.5	292.5	271.5
15	Maximum		392	379	309	298
	Minimum		273	301	264	254
	Mean		332.5	340	286.5	276

16	Maximum	[redacted]	370	376	294	288
	Minimum		288	292	268	252
	Mean		329	334	281	270
17	Maximum		360	370	299	298
	Minimum		283	294	261	251
	Mean		321.5	332	280	274.5
18	Maximum		357	355	296	292
	Minimum		289	291	257	250
	Mean		323	323	276.5	271
19	Maximum		360	367	315	295
	Minimum		278	395	265	255
	Mean		319	381	290	275
20	Maximum		261	369	301	296
	Minimum		285	297	265	257
	Mean		273	333	283	276.5
21	Maximum		360	366	307	293
	Minimum		286	299	276	269
	Mean		323	332.5	291.5	281
22	Maximum		349	346	315	298
	Minimum		285	304	279	264
	Mean		317	325	297	281
23	Maximum		358	364	312	305
	Minimum		294	308	272	268
	Mean		326	336	292	286.5
24	Maximum		357	340	305	302
	Minimum		302	305	270	263
	Mean		329.5	322.5	287.5	282.5
25	Maximum		341	330	305	299
	Minimum		300	304	278	273
	Mean		320.5	317	291.5	286
26	Maximum		342	346	299	291
	Minimum		294	279	260	256
	Mean		318	312.5	279.5	273.5
27	Maximum		362	370	304	300
	Minimum		288	296	262	248
	Mean		325	333	283	274
28	Maximum		365	367	308	304
	Minimum		287	305	274	262
	Mean		326	336	291	283
29	Maximum		356	354	309	305
	Minimum		301	304	273	269
	Mean		328.5	329	291	287
30	Maximum		367	356	308	294
	Minimum		300	302	276	260
	Mean		333.5	329	292	277

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	352	354	315	309
	Minimum		289	313	287	267
	Mean		320.5	333.5	301	288
2	Maximum		376	381	312	307
	Minimum		302	308	283	269
	Mean		339	344.5	297.5	288
3	Maximum		375	374	306	306
	Minimum		306	305	284	269
	Mean		340.5	339.5	295	287.5
4	Maximum		363	362	313	297
	Minimum		295	305	278	270
	Mean		329	333.5	295.5	283.5
5	Maximum		336	312	294	291
	Minimum		286	284	267	265
	Mean		311	298	280.5	278
6	Maximum		362	359	307	306
	Minimum		284	305	280	260
	Mean		323	332	293.5	283
7	Maximum		335	331	298	303
	Minimum		300	296	279	267
	Mean		317.5	313.5	288.5	285
8	Maximum		335	334	306	292
	Minimum		294	303	280	258
	Mean		314.5	318.5	293	275
9	Maximum		330	335	301	303
	Minimum		286	297	273	262
	Mean		308	316	287	282.5
10	Maximum		366	373	304	302
	Minimum		300	302	278	263
	Mean		333	337.5	291	282.5
11	Maximum		365	377	295	301
	Minimum		301	293	270	265
	Mean		333	335	282.5	283
12	Maximum		361	342	309	303
	Minimum		297	306	280	276
	Mean		329	324	294.5	289.5
13	Maximum		345	343	302	302
	Minimum		292	295	283	280
	Mean		318.5	319	292.5	291
14	Maximum		367	353	312	309
	Minimum		300	307	284	275
	Mean		333.5	330	298	292
15	Maximum		360	357	308	314
	Minimum		305	306	287	274
	Mean		332.5	331.5	297.5	294

16	Maximum		371	374	322	310
	Minimum		309	318	288	268
	Mean		340	346	305	289
17	Maximum		355	351	316	290
	Minimum		303	314	262	260
	Mean		329	332.5	289	275
18	Maximum		338	343	318	309
	Minimum		282	307	286	280
	Mean		310	325	302	294.5
19	Maximum		270	305	277	270
	Minimum		307	316	292	286
	Mean		288.5	310.5	284.5	278
20	Maximum		364	339	270	306
	Minimum		301	260	263	258
	Mean		332.5	299.5	266.5	282
21	Maximum		327	334	306	290
	Minimum		294	295	263	260
	Mean		310.5	314.5	284.5	275
22	Maximum		351	343	312	303
	Minimum		287	309	284	271
	Mean		319	326	298	287
23	Maximum		349	346	310	310
	Minimum		301	298	280	265
	Mean		325	322	295	287.5
24	Maximum		367	362	276	305
	Minimum		307	261	260	255
	Mean		337	311.5	268	280
25	Maximum		348	345	269	302
	Minimum		299	253	251	250
	Mean		323.5	299	260	276
26	Maximum		352	342	283	303
	Minimum		296	280	269	267
	Mean		324	311	276	285
27	Maximum		368	342	310	317
	Minimum		300	308	288	275
	Mean		334	325	299	296
28	Maximum		383	373	319	316
	Minimum		310	306	282	274
	Mean		346.5	339.5	300.5	295
29	Maximum		361	341	294	308
	Minimum		310	287	284	272
	Mean		335.5	314	289	290
30	Maximum		378	357	314	310
	Minimum		305	300	283	273
	Mean		341.5	328.5	298.5	291.5
31	Maximum		279	367	300	305
	Minimum		302	280	268	264

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum	[redacted]	378	377	312	300
	Minimum		304	308	269	265
	Mean		341	342.5	290.5	282.5
2	Maximum		345	330	278	283
	Minimum		296	263	258	255
	Mean		320.5	296.5	268	269
3	Maximum		302	328	287	305
	Minimum		253	275	259	256
	Mean		277.5	301.5	273	280.5
4	Maximum		340	334	302	304
	Minimum		294	292	276	270
	Mean		317	313	289	287
5	Maximum		337	334	285	288
	Minimum		293	278	266	254
	Mean		315	306	275.5	271
6	Maximum		338	318	287	277
	Minimum		284	276	257	254
	Mean		311	297	272	265.5
7	Maximum		314	304	273	284
	Minimum		272	268	265	262
	Mean		293	286	269	273
8	Maximum		297	258	280	273
	Minimum		253	254	254	251
	Mean		275	256	267	262
9	Maximum		274	270	284	264
	Minimum		265	252	252	250
	Mean		269.5	261	268	257
10	Maximum		275	278	270	266
	Minimum		252	257	256	254
	Mean		263.5	267.5	263	260
11	Maximum		280	286	258	260
	Minimum		253	252	244	242
	Mean		266.5	269	251	251
12	Maximum		268	268	255	264
	Minimum		247	253	245	237
	Mean		257.5	260.5	250	250.5
13	Maximum		267	274	267	255
	Minimum		243	244	240	236
	Mean		255	259	253.5	245.5
14	Maximum		282	296	282	282
	Minimum		252	254	248	250
	Mean		267	275	265	266
15	Maximum		291	288	273	252
	Minimum		245	262	242	234
	Mean		268	275	257.5	243

16	Maximum		289	290	280	255
	Minimum		243	261	245	241
	Mean		266	275.5	262.5	248
17	Maximum		288	295	270	278
	Minimum		248	268	257	251
	Mean		268	281.5	263.5	264.5
18	Maximum		310	302	285	298
	Minimum		274	281	265	257
	Mean		292	291.5	275	277.5
19	Maximum		318	323	284	283
	Minimum		292	279	256	252
	Mean		305	301	270	267.5
20	Maximum		314	295	261	270
	Minimum			258	248	245
	Mean		157	276.5	254.5	257.5
21	Maximum			302	259	270
	Minimum			245	238	236
	Mean		0	273.5	248.5	253
22	Maximum			304	280	273
	Minimum			265	245	242
	Mean		0	284.5	262.5	257.5
23	Maximum			312	278	275
	Minimum			275	254	250
	Mean		0	293.5	266	262.5
24	Maximum			310	290	273
	Minimum			283	262	235
	Mean		0	296.5	276	254
25	Maximum			298	249	265
	Minimum			237	230	232
	Mean		0	267.5	239.5	248.5
26	Maximum			294	254	278
	Minimum			248	242	238
	Mean		0	271	248	258
27	Maximum			314	275	279
	Minimum			272	246	243
	Mean		0	293	260.5	261
28	Maximum			314	295	267
	Minimum			280	253	249
	Mean		0	297	274	258
29	Maximum			321	284	285
	Minimum			275	256	249
	Mean		0	298	270	267
30	Maximum			305	278	284
	Minimum			249	245	240
	Mean		0	277	261.5	262

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		30.5	28.3	26	25
	Minimum		27.2	25.5	24.5	24.3
	Mean		28.85	26.9	25.25	24.65
2	Maximum		29	30.4	28.1	25.8
	Minimum		24.1	26	24.3	24.6
	Mean		26.55	28.2	26.2	25.2
3	Maximum		29.3	28.1	27	27.4
	Minimum		25.2	24.9	24.5	23.8
	Mean		27.25	26.5	25.75	25.6
4	Maximum		29.3	28.1	27	27.4
	Minimum		25.2	24.9	24.5	23.8
	Mean		27.25	26.5	25.75	25.6
5	Maximum		31.4	29.5	27	28.7
	Minimum		26.8	26.6	25.9	25.6
	Mean		29.1	28.05	26.45	27.15
6	Maximum		31.8	30.2	27.2	27.7
	Minimum		27.6	27.1	25.4	25
	Mean		29.7	28.65	26.3	26.35
7	Maximum		30.4	30.7	27.7	25.6
	Minimum		27.4	26.3	24	23.8
	Mean		28.9	28.5	25.85	24.7
8	Maximum		30.6	30.8	28	27.4
	Minimum		25.3	27	24	23.1
	Mean		27.95	28.9	26	25.25
9	Maximum		29.8	28.1	27.3	26.2
	Minimum		26.2	25.5	24.3	23.8
	Mean		28	26.8	25.8	25
10	Maximum		30	29.7	28	27.7
	Minimum		25.8	25.7	24.4	25.5
	Mean		27.9	27.7	26.2	26.6
11	Maximum		28.7	28.2	26.8	25.8
	Minimum		24.7	24.8	24.7	23.8
	Mean		26.7	26.5	25.75	24.8
12	Maximum		25.4	26.8	26.1	26.6
	Minimum		23.6	24.4	23.9	24.2
	Mean		24.5	25.6	25	25.4
13	Maximum		31.3	31.5	24.8	25.6
	Minimum		25.7	24.5	23.6	23.4
	Mean		28.5	28	24.2	24.5
14	Maximum		27.1	26.5	26	26.6
	Minimum		24.6	23.9	25.2	24.8
	Mean		25.85	25.2	25.6	25.7
15	Maximum		28.4	28	26.4	26.6
	Minimum		25.6	24.8	23.8	23.5
	Mean		27	26.4	25.1	25.05

16	Maximum	[redacted]	28	27.6	26.5	27
	Minimum		25.5	24	27.7	24.2
	Mean		26.75	25.8	27.1	25.6
17	Maximum		27.3	25.7	25.4	25.9
	Minimum		24.3	24.1	23.7	24.4
	Mean		25.8	24.9	24.55	25.15
18	Maximum		28.9	29.1	28	28.5
	Minimum		25	27	26.1	24.8
	Mean		26.95	28.05	27.05	26.65
19	Maximum		29.8	27.9	28.2	28.5
	Minimum		25.4	24.8	25.4	25.7
	Mean		27.6	26.35	26.8	27.1
20	Maximum		28.8	29.2	28.2	28.5
	Minimum		26.4	25.6	25.4	26.7
	Mean		27.6	27.4	26.8	27.6
21	Maximum		29	27.6	27	26.7
	Minimum		25.6	25.7	24.3	25.1
	Mean		27.3	26.65	25.65	25.9
22	Maximum		26.8	27	25.9	25.3
	Minimum		24.2	24.1	23.1	22.8
	Mean		25.5	25.55	24.5	24.05
23	Maximum		27.4	26.7	26.6	26.5
	Minimum		23.5	25.4	24.4	23
	Mean		25.45	26.05	25.5	24.75
24	Maximum		29	29.8	27.1	26.8
	Minimum		24.9	24.5	24.2	24
	Mean		26.95	27.15	25.65	25.4
25	Maximum		29.3	29	26.8	26.5
	Minimum		26.2	26	25.6	24.6
	Mean		27.75	27.5	26.2	25.55
26	Maximum		28	27.2	25.7	24.5
	Minimum		24	25	24.5	24.3
	Mean		26	26.1	25.1	24.4
27	Maximum		26.5	26.9	26.2	26.2
	Minimum		24.9	25.4	25.2	24.7
	Mean		25.7	26.15	25.7	25.45
28	Maximum		29.8	29.2	25.4	27.8
	Minimum		24.7	23.9	23.7	24.9
	Mean		27.25	26.55	24.55	26.35
29	Maximum		30	29.8	28.2	27.5
	Minimum		27	27.2	25.8	23.5
	Mean		28.5	28.5	27	25.5
30	Maximum		29.3	29.5	27.4	27.6
	Minimum		25.8	26.6	25.8	24.2
	Mean		27.55	28.05	26.6	25.9
31	Maximum		31.1	29.8	28.4	28
	Minimum		27	26.2	26	25

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		31.4	30.8	27.9	27.4
	Minimum		26.7	26.3	25.8	25.1
	Mean		29.05	28.55	26.85	26.25
2	Maximum		30	29.6	28	25.8
	Minimum		26.5	26.8	23.7	23.6
	Mean		28.25	28.2	25.85	24.7
3	Maximum		29.4	29	26.8	26.6
	Minimum		24.6	25.5	24.5	24
	Mean		27	27.25	25.65	25.3
4	Maximum		30.1	29.5	26.6	27.7
	Minimum		26.4	26.4	24.5	24.3
	Mean		28.25	27.95	25.55	26
5	Maximum		30.3	29.9	27	27.8
	Minimum		26.8	26.8	25.4	24.9
	Mean		28.55	28.35	26.2	26.35
6	Maximum		30.8	27.8	27.6	27.9
	Minimum		25.4	25	24.7	23.5
	Mean		28.1	26.4	26.15	25.7
7	Maximum		30	30.2	28.5	27.6
	Minimum		27.6	25.6	24.7	24.4
	Mean		28.8	27.9	26.6	26
8	Maximum		28.8	28.4	27.7	25.9
	Minimum		26.4	24.1	24.8	24.8
	Mean		27.6	26.25	26.25	25.35
9	Maximum		27.8	28.2	27.4	28
	Minimum		25.1	26	24.7	24.5
	Mean		26.45	27.1	26.05	26.25
10	Maximum		28.7	28.2	28.1	27.9
	Minimum		24.8	24.4	24.8	24.7
	Mean		26.75	26.3	26.45	26.3
11	Maximum		28.1	27.9	28	27.9
	Minimum		24.7	24.2	25.6	24.8
	Mean		26.4	26.05	26.8	26.35
12	Maximum		28.2	28.6	27.7	28.2
	Minimum		25.4	25.2	24.5	24.7
	Mean		26.8	26.9	26.1	26.45
13	Maximum		29.6	28.3	28	27.9
	Minimum		25.9	24.7	24.5	24.5
	Mean		27.75	26.5	26.25	26.2
14	Maximum		29.4	28.7	28.2	28.3
	Minimum		26.8	25.6	24.2	25.1
	Mean		28.1	27.15	26.2	26.7
15	Maximum		29.5	29.3	28.3	28.8
	Minimum		27.9	26.9	24.4	24.6
	Mean		28.7	28.1	26.35	26.7

16	Maximum	[redacted]	29.8	31.8	27.5	28.2
	Minimum		27.1	25.6	25.4	25.6
	Mean		28.45	28.7	26.45	26.9
17	Maximum		29.1	29.9	25.8	25.8
	Minimum		26.7	24.3	24.4	24.1
	Mean		27.9	27.1	25.1	24.95
18	Maximum		27.4	28.1	27.5	27
	Minimum		24	24.8	24.4	23.6
	Mean		25.7	26.45	25.95	25.3
19	Maximum		28.7	28	27.7	27.4
	Minimum		24.6	24.2	24.8	25
	Mean		26.65	26.1	26.25	26.2
20	Maximum		28.1	28.7	27.9	27.8
	Minimum		24.9	26.3	25.3	26.5
	Mean		26.5	27.5	26.6	27.15
21	Maximum		30.2	29.9	29.2	28.3
	Minimum		26.7	25.9	26.1	25.6
	Mean		28.45	27.9	27.65	26.95
22	Maximum		30.8	28.9	28.2	28.4
	Minimum		27.8	26.2	24.8	25.2
	Mean		29.3	27.55	26.5	26.8
23	Maximum		29.5	29	28.8	28
	Minimum		27.5	26.5	26.4	26.2
	Mean		28.5	27.75	27.6	27.1
24	Maximum		29.6	30	28.6	28
	Minimum		26	26.4	27	26.6
	Mean		27.8	28.2	27.8	27.3
25	Maximum		29.3	29.5	28.4	28.5
	Minimum		27.4	24.7	25.6	26.3
	Mean		28.35	27.1	27	27.4
26	Maximum		28.2	27.5	26.1	25.8
	Minimum		24.5	24.6	24.3	23.8
	Mean		26.35	26.05	25.2	24.8
27	Maximum		30.7	30.5	28.5	28.2
	Minimum		25.5	26.2	25.5	24.1
	Mean		28.1	28.35	27	26.15
28	Maximum		30.8	31	24.4	27.7
	Minimum		26.4	27	25	23.5
	Mean		28.6	29	24.7	25.6
29	Maximum		31.5	31.2	27.4	26.7
	Minimum		26.3	27	23.6	23.2
	Mean		28.9	29.1	25.5	24.95
30	Maximum		31.2	31.5	27.5	27.8
	Minimum		26.1	27.4	24.7	24.4
	Mean		28.65	29.45	26.1	26.1
31	Maximum		33.4	32	27	26.2
	Minimum		27.4	26.4	24.6	23.3

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		31.5	31.3	28.5	26.7
	Minimum		24.5	27	24.9	24
	Mean		28	29.15	26.7	25.35
2	Maximum		31.5	31.6	29	26.2
	Minimum		26.4	27.1	23.9	23.7
	Mean		28.95	29.35	26.45	24.95
3	Maximum		30.7	30.5	27	27
	Minimum		25.6	26	25	24.8
	Mean		28.15	28.25	26	25.9
4	Maximum		30.4	28.2	27.2	26.1
	Minimum		25.5	26.3	24.4	24.2
	Mean		27.95	27.25	25.8	25.15
5	Maximum		29.4	30.3	27.4	29.5
	Minimum		25.8	26.9	25.1	24.1
	Mean		27.6	28.6	26.25	26.8
6	Maximum		31.2	28.4	25.5	25.7
	Minimum		26.8	23.6	23.7	23.5
	Mean		29	26	24.6	24.6
7	Maximum		26.9	25.1	24.9	25.5
	Minimum		24.8	23.8	23.9	23.1
	Mean		25.85	24.45	24.4	24.3
8	Maximum		30.4	30.5	27.4	27.6
	Minimum		24	27.2	24.8	24.6
	Mean		27.2	28.85	26.1	26.1
9	Maximum		31.1	30.9	27.9	27.5
	Minimum		26.8	27	24.9	24
	Mean		28.95	28.95	26.4	25.75
10	Maximum		31.5	30.6	25.8	27.1
	Minimum		26.2	24.2	23.5	23.3
	Mean		28.85	27.4	24.65	25.2
11	Maximum		31.3	31	28	27.8
	Minimum		26.2	24.2	23.5	23.3
	Mean		28.75	27.6	25.75	25.55
12	Maximum		31.8	31.5	28.2	28
	Minimum		27	26	24.5	24
	Mean		29.4	28.75	26.35	26
13	Maximum		30.9	30.4	28.6	28.3
	Minimum		27.4	28.4	27.6	26.6
	Mean		29.15	29.4	28.1	27.45
14	Maximum		30.3	30.4	28.8	28.3
	Minimum		27.8	27.9	24.6	24.4
	Mean		29.05	29.15	26.7	26.35
15	Maximum		30.5	27.9	27.6	27.6
	Minimum		24.1	25	25.2	25.8
	Mean		27.3	26.45	26.4	26.7

16	Maximum	[redacted]	29.3	29.5	25.9	26.3
	Minimum		25.7	24.9	24	24.2
	Mean		27.5	27.2	24.95	25.25
17	Maximum		33.1	32.5	28	27.9
	Minimum		25.8	26.9	24.7	24.5
	Mean		29.45	29.7	26.35	26.2
18	Maximum		34.4	34.5	29.4	27.1
	Minimum		27.5	28.2	24.3	24
	Mean		30.95	31.35	26.85	25.55
19	Maximum		34.2	32.4	27	28.4
	Minimum		26	25.5	25.2	25
	Mean		30.1	28.95	26.1	26.7
20	Maximum		34	32.5	26	28
	Minimum		27	24.7	25	25.5
	Mean		30.5	28.6	25.5	26.75
21	Maximum		31.4	31.5	28.1	28.8
	Minimum		26.8	27.5	25.7	24.2
	Mean		29.1	29.5	26.9	26.5
22	Maximum		32.6	31.2	28.4	29
	Minimum		27.8	28.2	26.2	24.8
	Mean		30.2	29.7	27.3	26.9
23	Maximum		32	31.4	28.9	29
	Minimum		28.2	28	25.3	24.4
	Mean		30.1	29.7	27.1	26.7
24	Maximum		32.2	32.4	29.4	27.7
	Minimum		27.9	28.9	25	23.4
	Mean		30.05	30.65	27.2	25.55
25	Maximum		32.1	31.8	28.7	27.9
	Minimum		27.2	28	25.9	25.7
	Mean		29.65	29.9	27.3	26.8
26	Maximum		32.8	32.4	28	27.3
	Minimum		27.4	26.8	25.8	27.5
	Mean		30.1	29.6	26.9	27.4
27	Maximum		32.3	32	28.4	28.1
	Minimum		26.7	28	24.9	24.7
	Mean		29.5	30	26.65	26.4
28	Maximum		31	30.5	28.4	27.8
	Minimum		27.5	28	24.9	24.7
	Mean		29.25	29.25	26.65	26.25
29	Maximum		31.2	30.5	27.5	26.8
	Minimum		27.4	27.5	24.3	23.3
	Mean		29.3	29	25.9	25.05
30	Maximum		31.3	30.7	28.2	27.2
	Minimum		26.3	27.8	24.8	23.6
	Mean		28.8	29.25	26.5	25.4

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		31.4	32	28.4	28
	Minimum		26.8	27.8	25.1	25
	Mean		29.1	29.9	26.75	26.5
2	Maximum		31	28.7	27	26.8
	Minimum		26.4	25.5	25.2	24.2
	Mean		28.7	27.1	26.1	25.5
3	Maximum		30.8	30.2	28.2	27.4
	Minimum		26.3	26.8	24	23.6
	Mean		28.55	28.5	26.1	25.5
4	Maximum		32.4	32.1	28	26.9
	Minimum		26.9	27.1	24.2	22.9
	Mean		29.65	29.6	26.1	24.9
5	Maximum		31.4	31.7	27	26.6
	Minimum		25.8	26	22.2	22
	Mean		28.6	28.85	24.6	24.3
6	Maximum		31.4	31.7	28.1	27.7
	Minimum		26.4	27.2	24.2	24
	Mean		28.9	29.45	26.15	25.85
7	Maximum		32.3	31.2	28.4	28.6
	Minimum		27	28.4	24.4	24.2
	Mean		29.65	29.8	26.4	26.4
8	Maximum		33.6	31.8	28.4	28.6
	Minimum		27.5	28.2	26	24.7
	Mean		30.55	30	27.2	26.65
9	Maximum		34.1	32.9	29.5	28.1
	Minimum		28.2	28.2	26	25.7
	Mean		31.15	30.55	27.75	26.9
10	Maximum		33.2	31.5	28.2	28.9
	Minimum		27.8	27	25.5	25
	Mean		30.5	29.25	26.85	26.95
11	Maximum		33.8	33.6	28.9	29.6
	Minimum		28.2	28.1	25.9	25.4
	Mean		31	30.85	27.4	27.5
12	Maximum		34.4	34.6	29.5	29.3
	Minimum		29.2	29.1	25	24.3
	Mean		31.8	31.85	27.25	26.8
13	Maximum		34.5	34.4	28.5	29.6
	Minimum		28.7	27.5	26.3	25.2
	Mean		31.6	30.95	27.4	27.4
14	Maximum		34.2	33.8	27.7	28.6
	Minimum		29.2	27	25.5	25
	Mean		31.7	30.4	26.6	26.8
15	Maximum		32.9	29	24.8	27.8
	Minimum		28	24.6	23.8	24
	Mean		30.45	26.8	24.3	25.9

16	Maximum	[redacted]	32.2	32	28.5	28.8
	Minimum		27.3	28.2	25.4	25.2
	Mean		29.75	30.1	26.95	27
17	Maximum		32.2	32.5	27.4	27.6
	Minimum		28	26.5	24.4	24.1
	Mean		30.1	29.5	25.9	25.85
18	Maximum		32.2	32.7	29.5	28.9
	Minimum		26.8	28.5	26.4	25.2
	Mean		29.5	30.6	27.95	27.05
19	Maximum		32.9	32.5	27.4	28.3
	Minimum		28.6	26.5	24.3	24
	Mean		30.75	29.5	25.85	26.15
20	Maximum		33.8	32.9	26.6	26.9
	Minimum		28	26	25.8	25.4
	Mean		30.9	29.45	26.2	26.15
21	Maximum		33	33.2	29	28.5
	Minimum		26	27.5	24.5	24.5
	Mean		29.5	30.35	26.75	26.5
22	Maximum		34	35	29	28.1
	Minimum		25.2	26.5	25	24.5
	Mean		29.6	30.75	27	26.3
23	Maximum		33.3	32.8	26.8	27.4
	Minimum		26.7	26.8	24.7	22.7
	Mean		30	29.8	25.75	25.05
24	Maximum		33.5	33.8	28.1	27.6
	Minimum		26	27.8	24.8	24
	Mean		29.75	30.8	26.45	25.8
25	Maximum		33.8	33.4	29	28.4
	Minimum		26.3	28	25.2	24
	Mean		30.05	30.7	27.1	26.2
26	Maximum		33.2	32.8	28.2	28
	Minimum		28	27	25.4	23.6
	Mean		30.6	29.9	26.8	25.8
27	Maximum		32.8	33.1	28.6	28.7
	Minimum		27.5	28.4	25.4	24.6
	Mean		30.15	30.75	27	26.65
28	Maximum		32.8	31.6	27.6	25.8
	Minimum		28	27.4	23.7	22.4
	Mean		30.4	29.5	25.65	24.1
29	Maximum		30.3	30	28	27.5
	Minimum		24.9	26.5	25	25.5
	Mean		27.6	28.25	26.5	26.5
30	Maximum		27.8	27.5	28.2	29.4
	Minimum		25.6	25.5	26	26.5
	Mean		26.7	26.5	27.1	27.95
31	Maximum		30.8	30.6	27.2	27.8
	Minimum		28.6	26.5	26.4	25.9

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		31.5	31.2	27.6	28.3
	Minimum		27.7	27.6	24.6	24.7
	Mean		29.6	29.4	26.1	26.5
2	Maximum		33.6	32.8	28.9	27.4
	Minimum		27.2	27.9	25.2	23.6
	Mean		30.4	30.35	27.05	25.5
3	Maximum		32.5	33.7	28.7	27.9
	Minimum		26.7	28.3	25.6	23.9
	Mean		29.6	31	27.15	25.9
4	Maximum		33	32.8	28	28.2
	Minimum		27.7	27.6	26.4	24.5
	Mean		30.35	30.2	27.2	26.35
5	Maximum		33.2	33.7	26.9	28.3
	Minimum		27.8	26.4	25.6	25.4
	Mean		30.5	30.05	26.25	26.85
6	Maximum		32.8	33	27.2	27
	Minimum		26	26.2	25.4	24.8
	Mean		29.4	29.6	26.3	25.9
7	Maximum		32	32.5	27.7	27.4
	Minimum		25.8	26.5	25.5	25.1
	Mean		28.9	29.5	26.6	26.25
8	Maximum		33.5	33.4	26.9	27.2
	Minimum		27	26.9	24.8	24.4
	Mean		30.25	30.15	25.85	25.8
9	Maximum		31.9	32.2	27.2	27
	Minimum		26.7	26.8	24	23.6
	Mean		29.3	29.5	25.6	25.3
10	Maximum		32	32.3	27.3	28.3
	Minimum		26.2	27	24.4	23.2
	Mean		29.1	29.65	25.85	25.75
11	Maximum		32.3	32.7	27	28.1
	Minimum		27.7	26.2	24.5	24.3
	Mean		30	29.45	25.75	26.2
12	Maximum		33.1	32	26.9	27.5
	Minimum		27.8	26.6	24.2	24
	Mean		30.45	29.3	25.55	25.75
13	Maximum		31.5	32	26.6	27.6
	Minimum		27.3	26.2	24.5	24
	Mean		29.4	29.1	25.55	25.8
14	Maximum		33.5	24	29	27.6
	Minimum		26.8	26.8	24.7	23.9
	Mean		30.15	25.4	26.85	25.75
15	Maximum		33.7	34.1	28	28.3
	Minimum		26.9	26.7	24	24.2
	Mean		30.3	30.4	26	26.25

16	Maximum	[redacted]	32.7	31.9	27.9	26.9
	Minimum		28	27.8	24.5	23.5
	Mean		30.35	29.85	26.2	25.2
17	Maximum		31.8	31.4	26.3	27.2
	Minimum		26.2	26	25	23.8
	Mean		29	28.7	25.65	25.5
18	Maximum		32.8	33.1	26.3	26.4
	Minimum		26.3	26	24.1	22.5
	Mean		29.55	29.55	25.2	24.45
19	Maximum		32.7	32.1	26.2	26.4
	Minimum		26	25.7	24.2	23.2
	Mean		29.35	28.9	25.2	24.8
20	Maximum		31.8	30.4	26.7	26.6
	Minimum		25.4	26.5	24.4	23.8
	Mean		28.6	28.45	25.55	25.2
21	Maximum		29.2	28	27.6	27.5
	Minimum		26	25.9	26.8	26.3
	Mean		27.6	26.95	27.2	26.9
22	Maximum		32.2	32.7	28.1	28
	Minimum		26.6	27.2	26	25.7
	Mean		29.4	29.95	27.05	26.85
23	Maximum		32.3	32.1	27.5	27.2
	Minimum		27.4	26.4	25.4	24.2
	Mean		29.85	29.25	26.45	25.7
24	Maximum		31.7	31.6	27.7	27.2
	Minimum		25.9	27.6	24.1	23.3
	Mean		28.8	29.6	25.9	25.25
25	Maximum		30.5	30.7	25	27.2
	Minimum		25.9	25	24.7	23.1
	Mean		28.2	27.85	24.85	25.15
26	Maximum		32.2	32.4	26.9	26.7
	Minimum		26.8	26.2	24	23.4
	Mean		29.5	29.3	25.45	25.05
27	Maximum		32.5	32.2	26.7	26.4
	Minimum		26	26.4	23.8	23.3
	Mean		29.25	29.3	25.25	24.85
28	Maximum		31.7	32.4	28.2	27.7
	Minimum		26.2	27.5	25	23.9
	Mean		28.95	29.95	26.6	25.8
29	Maximum		32.1	32.4	28.2	27.7
	Minimum		26.5	27.9	25	24.1
	Mean		29.3	30.15	26.6	25.9
30	Maximum		31.5	31	27.3	27.7
	Minimum		26.9	26.3	25.3	24.5
	Mean		29.2	28.65	26.3	26.1

Date	Classification	00 00	06 00	12 00	18 00	00 00
1	Maximum		33.1	33	28.5	27
	Minimum		26.5	27	25.2	24.8
	Mean		29.8	30	26.85	25.9
2	Maximum		31.5	31.7	27.6	28.1
	Minimum		26.8	27.5	24.8	23.8
	Mean		29.15	29.6	26.2	25.95
3	Maximum		33.8	33.6	27.8	25.9
	Minimum		27.9	27.5	24.3	23.3
	Mean		30.85	30.55	26.05	24.6
4	Maximum		29.4	29.8	27.5	26.5
	Minimum		25.7	27.2	25.1	23.4
	Mean		27.55	28.5	26.3	24.95
5	Maximum		33.2	32.8	27.9	28.1
	Minimum		25.7	29.4	25.4	24.5
	Mean		29.45	31.1	26.65	26.3
6	Maximum		33.4	32.1	27.2	27.4
	Minimum		27.8	27	22.9	22.8
	Mean		30.6	29.55	25.05	25.1
7	Maximum		32.3	32.3	27.5	27.1
	Minimum		27.2	27.3	25.2	24.7
	Mean		29.75	29.8	26.35	25.9
8	Maximum		33	32.8	27.2	27.2
	Minimum		26.8	26.5	23.8	23.4
	Mean		29.9	29.65	25.5	25.3
9	Maximum		33.1	31.6	28.9	25.4
	Minimum		26.8	26.5	23.8	23.4
	Mean		29.95	29.05	26.35	24.4
10	Maximum		32.3	32.5	26.7	27.6
	Minimum		25.4	26.7	24.5	24.3
	Mean		28.85	29.6	25.6	25.95
11	Maximum		31.5	31.2	27.2	28.1
	Minimum		26.7	26.5	24.3	23.8
	Mean		29.1	28.85	25.75	25.95
12	Maximum		33.4	33.7	28.2	27.8
	Minimum		26.1	27.5	25.8	25.2
	Mean		29.75	30.6	27	26.5
13	Maximum		30.5	30.7	27.4	26.7
	Minimum		27.2	26.5	25.7	23.3
	Mean		28.85	28.6	26.55	25
14	Maximum		30.5	30.4	26.5	27.5
	Minimum		24.8	26.2	25.4	25.3
	Mean		27.65	28.3	25.95	26.4
15	Maximum		32.4	31.4	27.3	27
	Minimum		27.3	26.9	25.9	25.4
	Mean		29.85	29.15	26.6	26.2

16	Maximum	[redacted]	31.4	31.9	27.2	27.2
	Minimum		26.9	27.1	24.4	23.5
	Mean		29.15	29.5	25.8	25.35
17	Maximum		32.3	32.6	25.6	27.5
	Minimum		26	25.3	24.5	23.7
	Mean		29.15	28.95	25.05	25.6
18	Maximum		32.5	32.3	28	26
	Minimum		25.7	25.5	24.3	24.2
	Mean		29.1	28.9	26.15	25.1
19	Maximum		31.3	32	27.8	25
	Minimum		25.5	26	23.6	22.4
	Mean		28.4	29	25.7	23.7
20	Maximum		30.3	30.5	25.5	25.2
	Minimum		24.2	24.6	23.5	22.9
	Mean		27.25	27.55	24.5	24.05
21	Maximum		31.8	31	27.3	27.2
	Minimum		24.6	26.5	25.7	25.1
	Mean		28.2	28.75	26.5	26.15
22	Maximum		32	31.7	27.5	27.1
	Minimum		27	27.2	25.9	25.3
	Mean		29.5	29.45	26.7	26.2
23	Maximum		27.5	25.5	25	26.5
	Minimum		25.1	24	24.1	24.3
	Mean		26.3	24.75	24.55	25.4
24	Maximum		30.8	31	25.5	26.5
	Minimum		24.9	23.8	23.7	23.4
	Mean		27.85	27.4	24.6	24.95
25	Maximum		32.7	32.5	28.5	27.2
	Minimum		25.8	27.3	24.3	23.3
	Mean		29.25	29.9	26.4	25.25
26	Maximum		32.4	32	28.2	26.2
	Minimum		26.2	27.2	24.6	22.8
	Mean		29.3	29.6	26.4	24.5
27	Maximum		31.5	30.5	27.5	25.8
	Minimum		25.6	25.8	23.5	23.4
	Mean		28.55	28.15	25.5	24.6
28	Maximum		30.1	28.5	26.7	26.3
	Minimum		25	24.7	24.5	24.6
	Mean		27.55	26.6	25.6	25.45
29	Maximum		26.5	26.2	26	26.3
	Minimum		24.1	24.3	23.8	23.6
	Mean		25.3	25.25	24.9	24.95
30	Maximum		27.3	27.9	25.5	26.5
	Minimum		25.3	25.4	24.4	24
	Mean		26.3	26.65	24.95	25.25
31	Maximum		28.5	25.1	24.9	26.6
	Minimum		25	24	22.5	23.3