improve the operating capabilities of the plant, as well as the accuracy of the metering of effluent treated water.

5.10 Sludge Digestion & Dewatering

5.10.1 Background

The original plant design incorporated five sludge drying beds and was used to dewater the waste sludge created by the RBC process at the plant. With the 1986 plant expansion, five additional sludge drying beds were constructed, along with an aerobic digester to treat the WAS from the suspended growth treatment process. Digested sludge from the aerobic digester was gravity flowed to the drying beds for dewatering. Once the sludge was adequately dewatered it was capable of being disposed of at a landfill. The purpose of the digester is to reduce the amount of WAS by promoting an environment in which the microbes contained in the digester use their own cells as a food source for energy. As the food supply becomes scarcer, the microorganisms use their owner protoplasm as the food source, thereby reducing the quantity of microorganisms and sludge. This equates to less sludge requiring dewatering and disposal. With the 2002 plant upgrade, five sludge drying beds were removed and a belt filter press (BFP) was installed to mechanically dewater the digested sludge. Five of the drying beds were left in place as a backup to the BFP. However, these drying beds are not used due to their inefficiencies and the amount of time required for dewatering. The drying beds can take weeks and months to dewater the sludge, and occupy an enormous amount of land space that can better be used for other necessary plant operations and house additional plant infrastructure. The BFP greatly accelerates the dewatering process and allows the plant to waste and dispose of much more sludge from the plant than with using the sludge drying beds, which rely on gravity and the cooperation of the weather to dewater the sludge. The inability of the operations staff to adequately dispose of WAS from the plant means that the solids will accumulate in the plant at the various unit treatment operations, such as the aeration basins, clarifiers, etc. Consequently, the plant will not operate efficiently and will be prone to not meeting effluent limits due to the accumulation of solids in the aeration basins and clarifiers. Therefore, solids management for the plant is very important for proper wastewater treatment.

5.10.2 Assessment/Analysis

The existing three-cell digester has a capacity of 12,300 ft^3 per cell, or 36,900 ft^3 total capacity. TCEQ requires that the digester volume be sufficient to provide both the minimum required detention time and the mass load received by the digester. TCEQ stipulates that the minimum detention time for the aerobic digester must be 60 days at 15° Celsius (C) or 40 days at 20° C for municipal sludge applied to land for disposal. However, the TCMUD does not land apply its sludge for disposal but rather disposes of it at a landfill. Therefore, the minimum sludge treatment at the WWTF should reduce the sludge volume through proper digestion and dewatering to an acceptable level that allows the operations staff to properly manage the volume of solids in the aeration treatment basins and clarifiers, while also producing a sufficiently treated and dewater sludge that is acceptable to the landfill.

To provide the TCMUD with options for sludge treatment and management, TWG assessed the treatment requirements for both Class B pathogen reduction and non-Class B sludge treatment. As mentioned previously, the issues with historic record keeping makes it difficult to confirm that the existing facility can consistently achieve the 20° C temperature required for 40 days detention time. Therefore, assessments were run by TWG to determine the size requirements for the aerobic digesters to achieve Class B pathogen reduction standard requirements at both 60 days at 15° C and the 40 days at 20° C, as well as detention times less than 40 days (i.e., 30 days). The present configuration and operation of the three digester cells is to operate them in parallel. TWG evaluated the future design to be operated in parallel for all additional digester cells Furthermore, it was assumed that the digesters would operate at 1.5% solids concentration (15,000 mg/L TSS), without the presence of any thickening equipment, such as a gravity belt thickener, to increase the concentration. Table 5-6 shows the digester capacity currently at the WWTF, as well as the required capacities needed to meet the future build-out population and flow demands for the two Class B pathogen reduction scenarios, as well as for non-Class B pathogen reduction at 30 days detention.

TABLE 5-6: DIGESTER REQUIREMENTS

Component	Existing Digester	30 days	40 days (20° C)	60 days (15° C)
Volume / Capacity	36,900 ft^3	80,000 ft^3	102,750 ft^3	154,150 ft^3
Air / Blowers	N/A	975 ACFM	990 ACFM	1015 ACFM
Mean Cell Residence Time	< 15 Days	30 Days	40 Days	60 Days

5.10.3 Conclusions and Recommendations

5.10.3.1 Aerobic Digester

The existing aerobic digesters are undersized for the current and future loadings on the plant. The 2002 plant expansion provided for additional sludge drying beds but not an expansion to the digester basin capacity. As previously mentioned, the drying beds are not used due to their limitations and inefficiencies. Therefore, the ability of the treatment plant to operate efficiently with proper solids management is largely dependent on the sludge treatment and wasting capabilities of the plant. The plant expansion to meet future build-out population demands will further exacerbate the problem with the undersized digesters. The mean cell residence time (MCRT), as indicated in Table 5-6, measures the length of storage time the various sludge basins will provide at the future build-out population. As a result, the digester capacity must be expanded by roughly 3-4 times its current capacity to meet the Class B pathogen reduction requirement. At a minimum, the digesters should be expanded to meet the 30 day detention time requirements at ultimate build-out population loadings in order to sufficiently manage the plant solids. For purposes of planning and developing costs herein, 30 days of detention time was used for all calculations. The TCMUD can opt to select the larger digester basin should they decide that is in their best interest.

5.10.3.2 Belt Filter Press

The existing belt filter press (BFP) is a 2-meter wide belt that is rated to dewater approximately 1400 pounds of solids per hour (lbs/hr). A Seepex

progressive cavity (PC) pump is used to pump digested sludge from the digesters to the BFP for dewatering. The BFP mechanically extracts a large portion of the water from the digested sludge in order to reduce the volume of sludge that must be disposed of to a landfill. The extracted water, called supernatant, is gravity drained to a lift station and pumped back to the head of the plant for further treatment. The volume of sludge liquid from the digester is reduced by a factor of 3-4 times. The digested sludge liquid starts out at approximately 1.5% solids content and is concentrated to 5%-6% solids content using the BFP. This consistency is called "cake" because it is dry enough to exhibit the characteristics of a solid that can be stacked and hauled in the bed of a dump truck. The real advantage of the BFP is its ability to reduce the volume of digested sludge requiring handling and disposal by up to 75%, in a timely fashion. As a result, the treatment plant can be run more effectively and treat the wastewater to better meet effluent permit limits.

The BFP currently must be capable of dewatering approximately 132,000 gallons per month, on average. This equates to approximately 4-hours of operation per week to effectively manage the solids content in the treatment plant. Based on TWG calculations for future build-out flows of 2.343 MGD, the sludge production at the plant will increase to approximately 19,220 gpd, or 586,000 gallons per month. This equates to the BFP needing to operate for 2-days per week on average to effectively manage the plant's solids. This is a very manageable operating time for dewatering operations and therefore, no additional sludge dewater capacity must be added to the plant.

5.11 Standby Power Generation

The expansion of the WWTF will place additional electrical demands on the standby power generator. Presently, the existing generator is capable of providing approximately 600 kW of power. Depending on the equipment and treatment options selected by TCMUD, the additional equipment could add another 600 kW of power demand, or more. For purposes of this study, TWG has assumed that it will be possible to add a second 600 kW generator to run congruently with the existing standby power generator, rather than replace the existing generator with one larger generator that is capable of meeting the electrical demands for the final expanded treatment plant. Installing and operating a second generator is much more cost effective than installing one larger generator. However, this option will depend on many variables such as, the size of generator required, the build-out electrical demands required, capabilities of the existing

generator, etc. and must be determined at the time of design. For purposes of planning and projecting costs for this report, TWG assumed that a second generator could be added to minimize the costs and still meet the build-out electrical demands of the expanded WWTF design. In addition, during the design phase of the plant expansion, the electrical service to the WWTF will require evaluation by the electrical provider to determine if a new service will be required or if the existing service has sufficient capacity to meet the additional demands.

5.12 Miscellaneous Equipment & Infrastructure

5.12.1 Plant Reuse Water

Wash water is required for a number of pieces of equipment and processes at the WWTF. For example, the BFP requires a high pressure, relatively low volume flow to wash the sludge from the belt in order for the BFP to function correctly and extract the water from the sludge solids. The fine screening unit and clarifier units, to name a few, also use pressurized wash water to function and keep solids from accumulating on screens and weirs. To accomplish this, the treatment plant has the option of using potable drinking water as the source for wash water, or to reuse the treated and disinfected water from the wastewater plant. The latter is used at TCMUD's WWTF to conserve potable water and to reduce the cost of using potable drinking water, which is typical in the industry. The existing system used at the treatment plant for reuse water extracts the disinfected treated wastewater from the UV basin and boosts it using a packaged water booster station. The booster station is equipped with three pumps, each capable of pressurizing the water source to 91 pounds per square inch (psi) or 211 feet of total dynamic head (TDH), and delivering a total flow of 625 gpm. Table 5-7 shows the breakdown on the pump capacities for the booster station.

TABLE 5-7: WATER REUSE BOOSTER STATION

Pump Number	Capacity (GPM)
1	125
2	250
3	250
TOTAL	625

5.12.2 Conclusions and Recommendations

The existing booster station has sufficient capacity to supply reuse wash water to all existing and proposed future plant unit processes and equipment. Therefore, additional reuse pumping capacity is not required. At the time of TWG's assessment visits the staff reported that they had recently noticed the booster station did not seem to be operating correctly. It was short-cycling (pumps were turning on and off very frequently). The equipment representative was contacted and arranged to have the booster station checked by a field maintenance service provider. It was determined that the hydropneumatic tank for the booster station was not functioning. The unit was repaired and is now working correctly.

5.12.3 Plant Lift Sation

The plant lift station is a small submersible station that currently returns sludge and overflows from the tertiary filter and UV disinfection basin to the head of the plant. It is located just south of the tertiary filter basin. At one time it provided sludge return and wasting for Clarifier No. 1 and the sludge drying beds. However, these structures are no longer used. This lift station will be fully evaluated during the design phase and any required improvements will be addressed and made. Depending on the treatment option selected by the Board, the role of this lift station could diminish, thus requiring minimal improvements required. Due to the small size of this lift station and its controls system, the scope and cost for any required upgrades will be relatively small.

5.13 Site Limitations

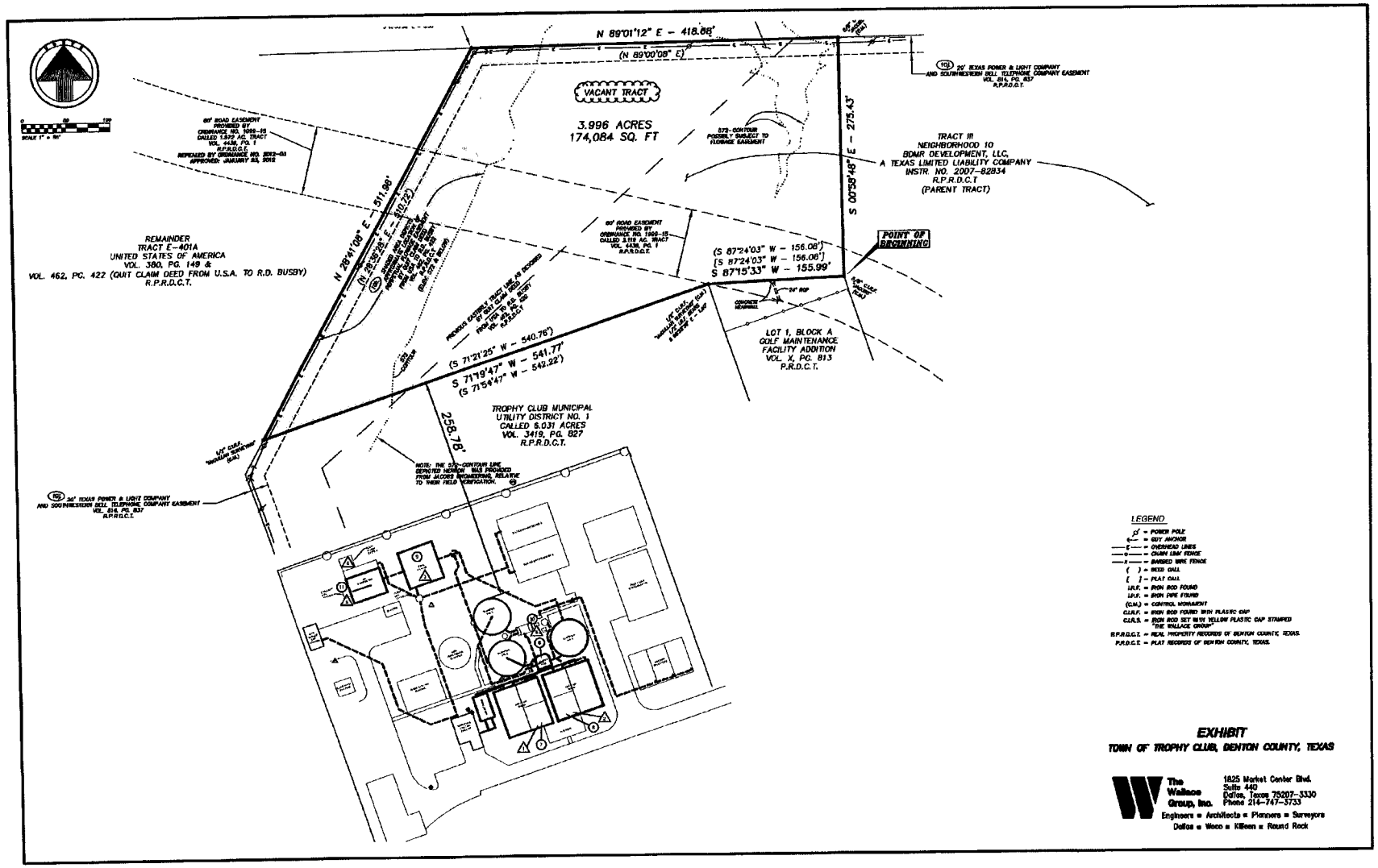
5.13.1 Layout & Land Availability

As previously discussed, Exhibits 5-2 through 5-4 depict the three presented options for expanding the wastewater treatment plant. The Exhibits also show the phased construction that can occur to meet the future build-out population and wastewater demands. The phasing of the construction allows TCMUD to

better scale the construction costs and scope to meet their budget. Option 1 shows the configuration required to expand the treatment capacity of the plant using the same CAS treatment that is presently being used at the plant. This option requires more land area and has a larger footprint due primarily to the size of the aeration basins that must be added to meet the ultimate 2.343 MGD future flow projection. Option 2 depicts the MBR treatment system, which uses considerably less land space due to achieving roughly the same treatment capacity as Option 1 while using about half the basin volume and area. In addition, the total land required is further reduced from that of Option 1 since no external clarifiers are required for TSS removal because the MBR is capable of removing BOD and TSS in one treatment step. However, the clarifier basins would be retained and converted to EQ basins. Option 3 lays out the BioMag Enhanced treatment system that also uses considerably less land space while achieving the same build-out treatment capacity.

TCMUD has purchased additional land to the north of the existing treatment plant. This decision was made by the Board due to the existing treatment facility being "land locked", with no additional land available for expansion in the future if they did not acquire this north tract of land while it was available. TCMUD owned the land immediately to the north of the existing plant, primarily to serve as the 150' buffer zone to the wastewater plant. TCMUD, therefore, purchased the additional land to the north to allow for future plant expansion if needed and to also serve as additional buffer zone should the plant need to expand further north. Exhibit 5-5: TCMUD Property Map shows the location of the plant in relation to the newly purchased property.

One note concerning this property is the elevation of this property relative to the existing treatment plant. Any future treatment processes and equipment to be constructed on this property will require bringing in fill to raise the elevation of the finished constructed grade in order to coincide with the existing treatment plant's hydraulic grade, as well as ensure the new basins and equipment are at least one foot above the 100-year floodplain.



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5.13.2 Soils & Groundwater

No geotechnical investigation was conducted at the treatment facility for purposes of this report. Prior to any design and work submitted to TCEQ for approval, a full engineering investigation and report will need to be conducted. A copy of the limited geotechnical boring logs is contained in the plant drawings from the 2002 plant expansion. From those few drilling logs it appears that there is significant variability in the soil types at the facility, but the majority of them demonstrated a high sand content with low propensities for soil expansion (swelling) as indicated by plasticity indices (PI) generally below a value of 20. A thorough geotechnical investigation will provide the necessary information to address the structural and construction constraints for the site.

The three existing geotechnical borings from the 2002 plant expansion indicated one bore encountered groundwater at a depth between 18-20 feet below the ground surface. The other two borings did not encounter groundwater. The presence and depth of groundwater can vary significantly with the amount of precipitation and other geologic conditions at the site. Therefore, the presence or lack of groundwater indicated on the 2002 drawings is not necessarily a good predictor for future projects. However, the presence of shallow groundwater can have a major cost impact on structural costs and should be accounted for in any cost projections. Based on the available information it is not anticipated that shallow groundwater should be a major issue, unless an unusually wet period occurs at the time of any construction.

5.13.3 Floodplain

Exhibit 5-6: FEMA FIRM Map shows the approximate boundary of the 100-year flood zone for the treatment plant and surrounding area. Based on the FEMA Flood Insurance Rate Map (FIRM) depicted in Exhibit 5-6, the treatment plant appears to lie outside the 100-year flood zone. TCEQ requires that no basins, equipment or facility buildings should be located below the 100-year flood elevation to prevent damage to the plant and the release of raw, untreated wastewater into the receiving stream due to flooding potential.

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FEMA

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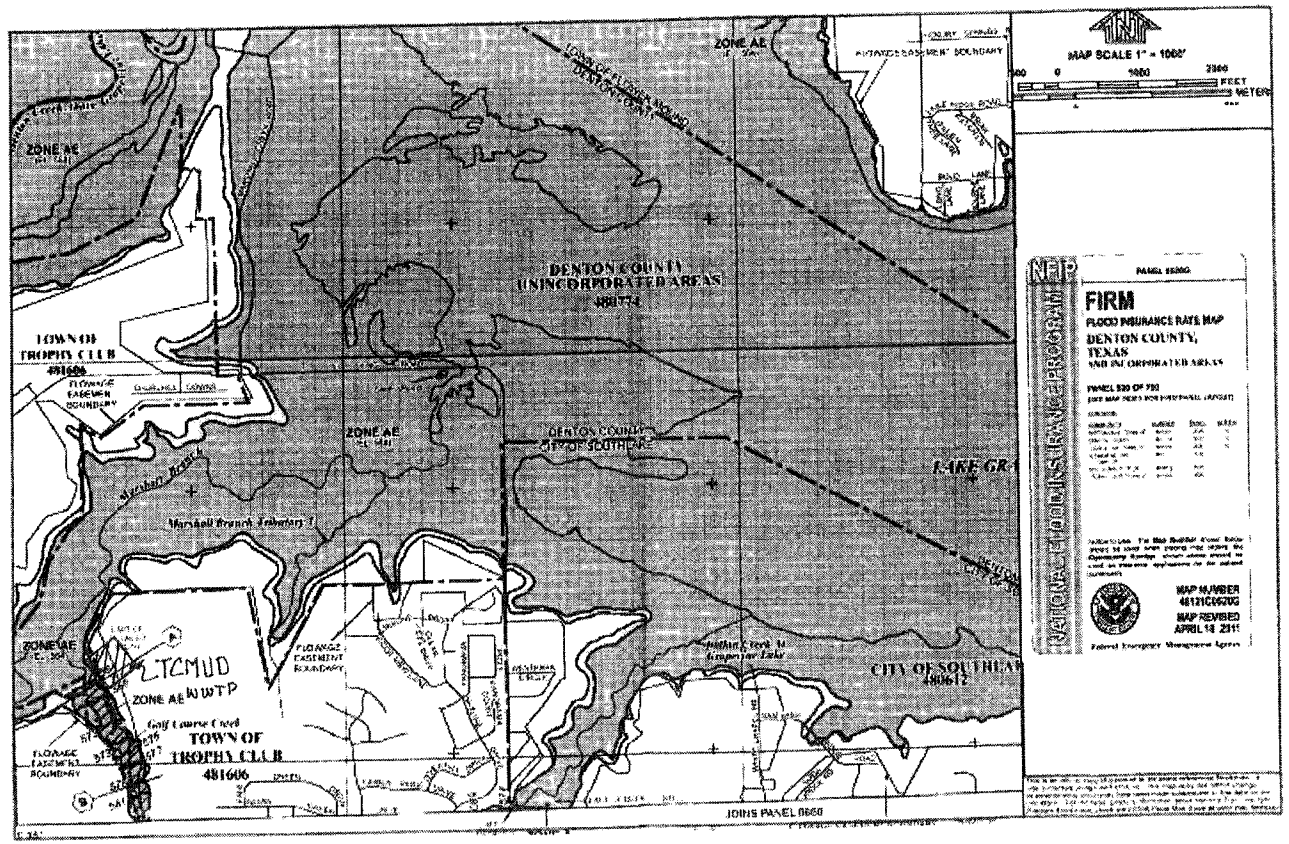


6.0 TRINITY RIVER AUTHORITY (TRA) REGIONAL TREATMENT

An option open to TCMUD is to send part or all of their wastewater flow to the Trinity River Authority (TRA) for treatment. The TRA's Denton Creek Regional Wastewater Treatment is located a short distance to the northwest of TCMUD service area. The TRA has a large force main which crosses into the Town of Trophy Club near Trophy Club Drive and SH 114 and extends north into Roanoke. The line is owned by the TRA but was constructed by the City of Southlake. In discussions with the TRA, it is unknown at this time if there is available volume in this line or what the initial cost would be to TCMUD to utilize this line. It is also unknown whether the City of Southlake would even allow TCMUD to tie into the line.

A second alternative would be for TCMUD to construct a force main from a collection point inside TCMUD's service area to a point in Roanoke where the TRA has a gravity line which flows to the Denton Creek Plant. This would require a new lift station. The size of the lift station would depend on the amount of wastewater flow and the location of the station. An 8 inch force main would be required to flow an average flow of 450,000 gpd to the plant. If TCMUD was to decide to utilize the TRA for treatment of all of its wastewater, it is very likely the force main would be 20 or 24-inch line. In addition to cost for the construction of the lift station and force main, additional expense is likely to be required for easements for the pipeline as well as operation and maintenance. The cost of the force main is very likely to be high due to the construction in developed residential areas.

A third alternative would be for TCMUD to construct its own wastewater line to the Denton Creek plant. This would involve the construction of a force main the complete distance or at least a portion of the distance and then a gravity line the remaining distance.

For purposes of evaluating costs herein, the TRA option was considered by assuming TCMUD would construct a force main the full distance from its WWTP to the Denton Creek WWTP with the TRA treating all of TCMUD's wastewater flow. The cost for this construction was estimated and then amortized over 20 years at an interest of 4½% with a yearly bond payment of $186,240.00.

The financial impact of having the TRA provide wastewater treatment for TCMUD was also reviewed. The 2013 MUD budget is broken down into collection and treatment. The treatment section was further broken down into fixed and variable cost. The fixed costs

are salaries, insurance, employment taxes, schools and training, etc., items which are basically set and would not necessarily increase or decrease based on the flow of the plant. Variable costs include maintenance and repairs, electricity, chemicals, etc. items which traditionally fluctuate with the volume of flow. The 2013 budget costs for these are as follows:

- Collection Costs $459,887.00
- Fixed Costs $437,183.00
- Variable Costs $2.26 per 1000 gallons

The Variable Costs is based on a budget amount of $602,245.00 divided by an average flow of 729,000 gpd or 266,085,000 gallons per year flow.

Current sewer rates for TCMUD are as follows:

- 0-12,000 gallons $2.50/1000 gallons
- Sewer rates are capped at 12,000 gallons per month.

TCMUD currently has 3915 water meters. TCMUD charges a minimum "Administrative Fee" of $12.71 per meter per month. Based on the average flow of 792,000 gpd and 3915 meters, the average wastewater flow is 5660 gallons per month. Wastewater revenue for TCMUD was calculated based on the minimum administrative fee per month plus the average monthly flow divided by 1000 gallons times $2.50 per 1000 gallons. These calculations are shown in Appendix F, Column A for the current flow of 729,000 gpd. Also included in the revenue is $80,878.00 for golf course effluent revenues. The golf course effluent revenues for 2011 and 2012 are given in Table 6-1 The lower value was used in this report to be conservative.

TABLE 6-1: GOLF COURSE EFFLUENT REVENUES

	2011		2012	
	MILLION GALLONS	REVENUE	MILLION GALLONS	REVENUE
JANUARY	1.249	$749	0	0
FEBRUARY	0	0	0	0
MARCH	0.646	$387	0	0
APRIL	14.607	$8,764	6.796	$4,417
MAY	12.612	$8,198	20.083	$17,471
JUNE	7.385	$4,800	16.810	$10,927
JULY	23.293	$15,140	23.792	$15,465
AUGUST	23.730	$15,425	21.880	$14,222
SEPTEMBER	22.935	$14,908	18.470	$12,006
OCTOBER	10.746	$6,447	21.309	$13,851
NOVEMBER	10.099	$6,060	12.635	$8,213
DECEMBER	0	0	0	0
TOTAL:	**127.301**	**$80,878**	**141.774**	**$96,570**

Based on the current flow of 792,000 gpd, the prospective wastewater revenue for TCMUD is $1,343,206 while the expenses are $1,499,220 resulting in a net loss of $156,014. As the flow increases, the generated revenues improve. At 800,000 gpd the wastewater revenue increases to $1,466,149 while the expenses increase to $1,602,656 resulting in a loss of $136,507. This is shown in Column B of Table Appendix B. The increase in number of connections was calculated by taking the projected flow and dividing by 100 gpcd to arrive at the projected population. The population was then divided by 2.5 persons per connection to determine the number of connections.

In visiting with the TRA, the current wastewater treatment cost for its members is $4.36 per 1000 gallons. Utilizing the revenues for 729,000 gpd and 800,000 gpd listed in Table 6-2 and using the collection cost but using the TRA gross cost per 1000 gallons instead of TCMUD's current treatment cost, the results were losses of $276,811 and $311,647 respectively. These calculations are reflected in Table 6-2 and in Columns C and D in Appendix A.

TABLE 6-2:
TCMUD VS TRA
2012-2013 BUDGET COSTS

	TCMUD		TRA	
Gallons per Day	729,000	800,000	729,000	800,000
Revenue	$1,343,206.30	$1,466,149.11	$1,343,206.30	$1,466,149.11
Expenses	$1,499,220.36	$1,602,656.09	$1,620,027.60	$1,777,797.09
Difference	($156,014.06)	($136,506.98)	($276,811.30)	($311,647.98)

Based on historical information provided by the TRA (Appendix H), the cost of treatment for its customers at Denton Creek Regional WWTP increased a total of $1.189/1000 gallons from 2004 to 2011 or an average of $148/1000 gallons per year. In Attachment G, TCMUD's increased flow to 1.4 MG was assumed to occur in 2015, with increases in flow to 1.88MG occurring in 2018 and the 2.4 MG flow in 2020. This timetable was assumed in order to compare the proposed TCMUD wastewater treatment improvement costs to the projected increase in treatment cost by using TRA for treatment.

In order for TCMUD to utilize the TRA's Denton Creek WWTP, the wastewater must be transported to the site. For this report, it was assumed 100% of TCMUD's wastewater would be pumped to the Denton Creek Plant via a 24-inch force main from the existing TCMUD WWTP to the plant. The capital cost for the new lift station, force main and appurtenances is $2,400,000. This includes an allowance of $100,000 for easements and ROW costs for the new line. Based on 4½% for 20 years, the yearly bond payment is $186,240. This expense is added to the TRA cost of treatment in Attachment G.. This attachment shows the existing plant for average daily flows of 792,000 and 800,000 gpd and then lists the projected revenue and expenses for TCMUD and TRA options at various stages or average daily flows. For 1,400,000 gpd, TCMUD's numbers have been adjusted for the increased flow, an increase number of connections, increase in variable costs based on the increased flow, increased collection costs based on the average cost per connection today and multiplied times the projected number of connections, and the bond cost. The bond cost is the projected yearly payment based on the bond amount shown at the bottom of the table amortized at 4½% for 20 years. The yearly bond payment for the 1,400,000 gpd flow is $310,400 per year for the 20 years. The yearly bond payment for the 1,880,000 flow is $620,800 for the $8,000,000 at 4½% for 20 years. The

2,400,000 gpd yearly bond payment is $776,000 for $10,000,000 for 4½% for 20 years. It is likely the debt would occur at various times in the future with some of the previous infrastructure expense paid down and would not amount to the shown bond cost for the 20 years. However, with assumptions used for when the new wastewater improvements would be needed and the exact value of the interest rate at the time of refinancing unknown, this method was chosen to provide a general idea of the cost for TCMUD's wastewater improvements as well as a method to compare the option of using TRA treatment.

The following table indicates the cost of transferring TCMUD's wastewater to TRA and having TRA treat TCMUD's wastewater flows is more expensive than TCMUD making the proposed phased improvements to its own wastewater treatment facility and treating the waste. The added expenditures for the TRA to treat the average daily flows of 1,400,000 gpd, 1,880,000 gpd and 2,400,000 gpd are $660,769; $1,087,255; and $1,760,265, respectively.

TABLE 6-3:
PROJECTED TCMUD VS TRA COSTS

	TCMUD	TRA	TCMUD	TRA	TCMUD	TRA
GPD	1,400,000	1,400,000	1,880,000	1,880,000	2,400,000	2,400,000
Cost of Collection and Treatment	$3,219,617	$3,902,497	$4,377,571	$5,481,323	$5,450,956	$7,215,943
Minimum Fee per Conn. *	$17.00	$17.00	$17.00	$17.00	$17.00	$17.00
Cost /1000 gallons *	$3.95	$3.95	$4.05	$4.05	$3.90	$3.90
Revenue	$3,241,728	$3,241,728	$4,394,068	$4,394,068	$5,455,678	$5,455,678
Revenue minus Expenses	$22,111	($660,769)	($16,497)	($1,087,255)	$4,722	($1,760,265)

Based on the assumed sewer collection and treatment rates shown with a "* "in the above table, the "Revenues Minus Expenses" row shows the net difference in the income

and expenses to TCMUD for the various scenarios. It also provides insight as to what rates might need to be to cover the costs of the new improvements. A more detailed summary is shown in Appendix G.

7.0 OPINION OF PROBABLE CONSTRUCTION COSTS (OPCC)

Table 8-1 in Section 8.0 provides a comparative summary of the different treatment options and phases of construction for each. Also, Appendix-I: Opinion of Probable Construction Costs (OPCC) contains the detailed cost information on the engineer's opinion of probable construction costs for each treatment option and each construction phase within each option. These costs do not include any professional design fees, geotechnical costs, environmental cost (if needed), legal or financial fees, etc. These fees can range from 10-20% of the construction costs depending upon studies required by the technology and financing options selected.These costs are intended to provide a comparative assessment of the construction options available to the client and are not intended to reflect exact construction costs of the project. These costs are based on preliminary information and assumptions were made in the absence of required information to make more precise cost projections. Therefore, these costs are based on the experience and best judgment of the Engineer, and the Engineer has no control over the cost of labor, materials, or equipment furnished by the contractor; or over the competitive bidding or market conditions that can greatly fluctuate and influence final project costs. The Engineer cannot and does not guarantee the construction costs, but does strive to provide a cost-effective project.

8.0 SUMMARY AND RECOMMENDATIONS

This study provides information to TCMUD for phased options by which to expand the capacity of the WWTF in order to meet the growing population and area served by the treatment plant. The study outlined the following items for consideration in the Board of Directors' decision making process with how to proceed with providing wastewater treatment by TCMUD.

- Wastewater Treatment Options:
    - Option 1 – Expand the Conventional Activated Sludge (CAS) Capacity
    - Option 2 – Replace CAS with Membrane Biological Reactors (MBR)
    - Option 3 – BioMag Biological Treatment System (BioMag)

- Option 4 – Contract with Trinity River Authority (TRA) for treatment

The study further evaluated the options with respect to the phasing or implementation of construction or contracting with TRA in order to provide the Board with flexibility in implementing the necessary changes for wastewater services that fit with TCMUD's funding and financing capacity. The following paragraph outlines the operating parameters for the three phasing options for increasing the capacity of TCMUD's wastewater services.

- Phased Construction or Implementation for Expanded Treatment Capacity:
  - Phase I – Expand Average Day Capacity to 1.3-1.4 MGD
  - Phase II – Expand Average Day Capacity to 1.88-2.4 MGD
  - Phase III – Expand Average Day Capacity to 2.4 MGD

The study also evaluated the approximate costs for the various options and phases of construction. Table 8-1 provides a summary for both the OPCC and the annualized costs for the above conditions, as well.

TABLE 8-1: SUMMARY OF TREATMENT OPTIONS, PHASING & COSTS
(Flow capacities based on constituent loading and effluent requirements)

	Process Description	Flow Capacity (MGD)			OPCC (millions)	Annualized Cost
		Avg. Day	Peak Day	Peak 2-Hr		
Option 1						
Phase I	Expand CAS Treatment	1.41	2.82	3.68	$3.855	$5,450,956
Phase II		1.88	3.76	4.91	$4.055	
Phase III		2.35	4.70	6.13	$1.966	
TOTAL					**$9.876**	
Option 2						
Phase I	MBR Treatment	1.38	2.76	3.60	$5.293	$5,606,156
Phase II		2.40	4.80	6.26	$6.563	
Phase III		N/A	N/A	N/A	N/A	
TOTAL					**$11.856**	
Option 3						
Phase I	BioMag Treatment	1.84	3.68	4.80	$9.054	$5,590,636
Phase II		2.40	4.80	6.26	$2.496	
Phase III		N/A	N/A	N/A	N/A	
TOTAL					$11.550	
Option 4						
Phase I	TRA Treatment	1.40	2.80	3.65	N/A	$7,215,943
Phase II		1.88	3.76	4.91	N/A	
Phase III		2.40	4.80	6.13	N/A	
TOTAL						

Table 8-2 identifies what equipment and/or processes must be upgraded/improved under each of the treatment options presented above and at what phase they must be added or improved in order to meet the flow and demand requirements for that phase.

Note that Option 4 (TRA) is not presented in the table because the only upgrade required for this option would be to improve the existing lift station in order to provide adequate flow and head pressure to deliver the raw wastewater to the TRA for treatment.

TABLE 8-2: EQUIPMENT REQUIREMENTS FOR PLANT UPGRADES

Equipment/Process	Option 1 – CAS			Option 2 – MBR			Option 3 – BioMag		
	Construction Phase			Construction Phase			Construction Phase		
	I	II	III	I	II	III	I	II	III
Headworks/Mechanical Screen		✓			✓	N/A		✓	N/A
Influent Lift Station – Pumps		✓	✓		✓	N/A	✓	✓	N/A
Bioselector Tank						N/A			N/A
Fine Screening		✓		✓		N/A	✓		N/A
Grit Removal		✓		✓		N/A	✓		N/A
Biological Treatment Process	✓	✓	✓	✓	✓	N/A	✓		N/A
Clarification/Solids Separation		✓				N/A			N/A
RAS/WAS/Scum Lift Stations	✓	✓		✓		N/A	✓	✓	N/A
Tertiary Filtration	✓	✓				N/A			N/A
UV Disinfection	✓	✓	✓	✓	✓	N/A	✓	✓	N/A
Effluent Lift Station – Pumps	✓	✓	✓	✓	✓	N/A	✓	✓	N/A
Aerobic Digestion	✓	✓	✓	✓	✓	N/A	✓	✓	N/A
Belt Filter Press						N/A			N/A
Reuse Water Booster Station						N/A			N/A
Electrical/Standby Generator	✓	✓	✓	✓	✓	N/A	✓	✓	N/A

Table 8-3 below provides the primary advantage(s) and disadvantage(s) for each of the options presented herein for upgrading TCMUD WWTF to meet future demands. This information is presented to help the Board make a more informed decision to address the treatment demands for wastewater served by TCMUD.

TABLE 8-3: TREATMENT SYSTEM ADVANTAGES/DISADVANTAGES

Option	Process	Advantages	Disadvantages
Option 1	CAS Treatment	• Proven Technology • Cost Effective • Operator Familiarity	• Nutrient Removal • Large Footprint • Infrastructure Intensive
Option 2	MBR Treatment	• Nutrient Removal • Small Footprint • Effluent Quality • Approved Process	• Cost • Two Parallel Plants During Phase I
Option 3	BioMag System	• Nutrient Removal • Small Footprint • Effluent Quality	• Cost • No TCEQ Pre-Approval
Option 4	TRA Services	• Fewer MUD Operations • TPDES Requirements	• Cost • Loss of Control • Future Rate Increases
Option – Other	IFAS Treatment	• Nutrient Removal • Small Footprint • Effluent Quality	• Cost • No TCEQ Pre-Approval

The primary points of interest from Table 8-3 are the following:

- All project plans, drawings and specifications are subject to review and approval by TCEQ. The CAS and MBR processes are approved processes per the Texas Administrative Code (TAC) requirements. The BioMag and IFAS systems presently do not possess TCEQ process approval.

- The CAS system is the most cost effective option. However, it does not provide any means for meeting future nutrient removal for phosphorous and nitrogen, should those effluent limits be imposed at a later date by TCEQ. The CAS system could be retrofitted to treat for nutrient removal with the addition of concrete anoxic basins, aeration equipment and the addition of a large lift station to deliver the wastewater to the new nutrient removal infrastructure. The cost for this additional construction would bring the CAS system in line with the other options presented for the MBR, BioMag and IFAS systems.

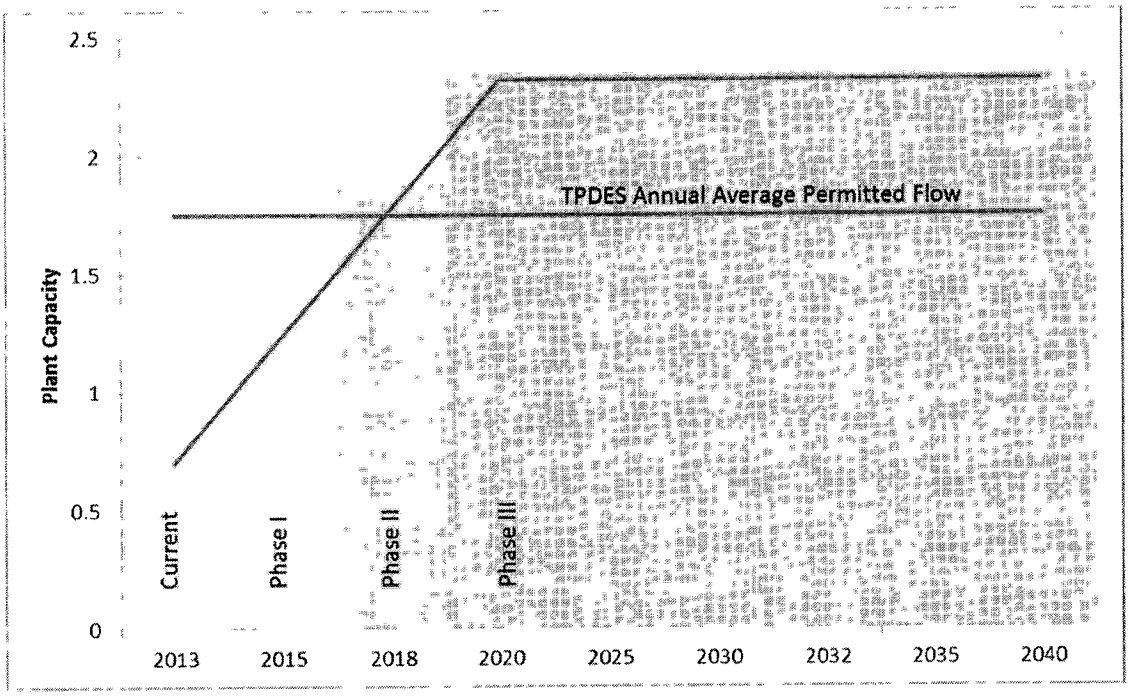
- The presented process options for the BioMag and IFAS systems are not presently preapproved by TCEQ. TCEQ did not provide any information on what they might require to gain approval for TCMUD's WWTF but generally they either require a pilot study to ensure the process technology will work, or that the equipment manufacturer provide a performance bond to correct the plant in the event that the installed process equipment does not perform as required to meet permit limits. The equipment manufacturers for both the MBR and BioMag processes have indicated they would be willing to do either requirement. These two options, as well as the MBR, as they are presented herein, are all capable of meeting nutrient removal requirements without additional equipment or infrastructure, while providing an effluent quality that exceeds the present permit limits of 5/12/3 and 5/12/1.

- Representatives from TCMUD, Siemens (BioMag manufacturer) and TWG are scheduled to meet with the TCEQ on May 8, 2013 to discuss the capabilities of the BioMag process and to gain feedback from the TCEQ on their requirements for the BioMag treatment process to gain approved process status as an acceptable treatment alternative in the State of Texas.

- The TRA option is the most expensive of all options presented. This is due to both the fees charged for treatment as well as the additional infrastructure required to deliver the wastewater to the TRA. The primary advantage of this option is that TCMUD would not be in the wastewater treatment business. However, TCMUD would no longer have control of the wastewater system or the user costs associated with treatment. Since this option is so different than the other options, TWG would encourage TCMUD Board to visit with other participants in the TRA system to find out their likes and dislikes before considering this option.

Table 8-4 below provides information on the schedule for completing each phase of construction for each treatment option, as well as the respective available capacities provided by the treatment options and phases of construction previously presented in this report.

TABLE 8-4: TREATMENT CAPACITY & SCHEDULE



The decision by the Board as to which option should be selected to best meet the future wastewater treatment needs for TCMUD is dependent on a number of factors. Those factors are best understood by the Board and therefore, the decision is best left to the Board. TWG is available and would like to provide any additional information and support services necessary for the Board to make an informed decision. However, TWG did not make a recommendation in this report as to the best option since we do not understand TCMUD's issues to the degree required to make that decision. TWG does encourage the Board to move swiftly on their decision to address the wastewater treatment needs for TCMUD since the present treatment plant is rapidly reaching its treatment capacity and will exceed that capacity by mid-2014.

APPENDIX A

WWTF RECORD DATA

APPENDIX A
WWTF RECORD DATA
TROPHY CLUB MUD

Influent						Effluent					Process Control					
						Permit Limits										
						5.0	3.0	12	Report	24	70 to 150	0.2 to 0.5				
Date	Flow	CBOD5	NH3	TSS	Copper	CBOD5	NH3	TSS	Copper	Nitrate-N	SVI	F/M	Detention time	Sludge age	Miss	Mlvss	30 Min settling
2-Nov-11	0.584	190															
3-Nov-11	0.548	180				4.6	0.17	0.01		24							
9-Nov-11	0.572	250		220		4.5	0.12	0.01			72.8		13.6	8.7	3300		240
10-Nov-11	0.566	190				3.2	0.1	0.01		26			14.5				
16-Nov-11	0.566	160				5.6	0.1	2					13.8				
17-Nov-11	0.591	190				6.2	0.15	2.3		19			14.0				
22-Nov-11	0.577	140				4.5	0.15	2					14.0				
23-Nov-11	0.305	180				4.9	0.11	0.01		21			13.4				
30-Nov-11	0.389	180		200		12	0.31	7.7			70.5		13.7	15.1	3550		250
1-Dec-11	0.454	180		160		9.2	0.35	8		23	72.7		26.0	14.1	3100		235
2-Dec-11	0.412							10					20.4				
8-Dec-11	0.479	362				6.1		35					17.4				
9-Dec-11	0.512	358		100		7.8		10			61.5		19.2	18.0	2800		175
13-Dec-11	0.515			120		5		20			58.6		16.5	14.7	2750		160
14-Dec-11	0.435	310		220		1.4		20			54.7		15.5	9.1	2650		135
15-Dec-11	0.57	80		220		6		5			43.3		15.4	5.9	2250		110
16-Dec-11	1	169		100		4.2		0			54.5		18.2	7.6	2300		125
20-Dec-11	0.541	267.5		100		3.9		0			52.6		13.9	14.3	2350		125
21-Dec-11	0.595	178		140		2.9	0.36	0			44.6		7.9	8.7	2200		98
22-Dec-11	0.525						0.14	0			48.7		14.6		2050		100
23-Dec-11	0.532						0.44	0					13.3				
27-Dec-11	0.435	404.5				7.1		20			50.8		15.1		2850		145
28-Dec-11	0.548	273				3.2	0.33	35			43.5		14.9		3100		135
29-Dec-11	0.478	323.5		220		7.6	0.67	10			60		18.2	8.9	2850		170
30-Dec-11	0.438	224		280		6.3	0.63	0			49.2		14.5	6.7	2500		120
2-Jan-12	0.409						0.95						16.6				
3-Jan-12	0.474	143		320		2.9	1.1				50		18.1	5.4	2500		125
4-Jan-12	0.543	312		220		3	0.47				44.6		19.4	6.6	2400		110
5-Jan-12	0.445	129		120		2.6	0.31	5			47		16.7	15.1	2450		115
6-Jan-12	0.481	163		240		2.8	0.37	5			54		14.6	6.3	2200		120
9-Jan-12	0.497			120			1.3				49.5		17.8	10.8	1950		95
10-Jan-12	0.852	132		220		6.8	0.5				43		16.5	3.6	2050		90
11 Jan 12	0.698	130		160		4.5	0.29				50		15.9	5.2	1750		90
12 Jan-12	0.528	155		120		7.4	0.63	4.7		16	41.6		9.3	10.9	2100		85
13-Jan-12	0.558	210				9.9	0.75	9					11.3				
16-Jan-12	1			80			1	5			45		15.0	8.3	2000		90
17 Jan 12	0.61	141		240		6.5	1.4	0			35.9		14.2	4.4	1950		70
18-Jan-12	0.388	154		300		6.4	1.2	10			32.6		7.9	6.5	2300		75
19-Jan-12	0.47	150		300		7.5	1.1	20			29.4		13.0	6.0	2550		75
20-Jan-12	0.511	143		180		7.7	1.6	10			43.8		20.4	8.6	2400		105
23 Jan-12	0.553			200			1.5	5			42.3		16.9	7.8	2600		110
24-Jan-12	0.59	79		200		4.8	0.79	20			39.3		15.5	8.5	3050		120
25 Jan-12	0.578	126		360		2	0.82	35			35.6		14.3	4.7	2950		105

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WWTF RECORD DATA
TROPHY CLUB MUD

Influent

Effluent

Process Control

						Permit Limits											
						5.0	3.0	12	Report	24	70 to 150	0.2 to 0.5					
Date	Flow	CBOD5	NH3	TSS	Copper	CBOD5	NH3	TSS	Copper	Nitrate-N	SVI	F/M	Detention time	Sludge age	Mlss	Mlvss	30 Min settling
26-Jan-12	0.526	278		480		7.8	0.38	10			34.8		13.4	4.3	3300		115
27-Jan-12	0.543	137		260		7.7	0.23	30		11	33.9		13.7	6.9	2950		100
1-Feb-12	0.559	252		240		12	0.32	20		16	34.0		15.1	6.1	2500		85
2-Feb-12	0.498			80			0.26	15		20	34.9		14.6	26.1	3150		110
3-Feb-12	0.513			320			0.42	75		23	40.8		14.2	4.9	2450		100
6-Feb-12	0.532			340			0.51	30			41.0		15.9	5.6	3050		125
7-Feb-12	0.496	125		300		2.8	0.46	60			47.4		15.4	6.3	2850		135
8-Feb-12	0.497	146		340		3.1	0.28	75			33.3		14.9	5.6	2850		95
9-Feb-12	0.454	202		280		4.6	0.46	65		20	47.4		16.0	4.9	1900		90
10-Feb-12	0.538	144		340		5.3	0.77	50		20	37.1		15.9	5.6	3100		115
13-Feb-12	0.516			160			0.16	45			50.0		17.4	11.2	2800		140
14-Feb-12	0.485	216		300		3.3	0.14	50			45.6		14.7	7.7	3400		155
15-Feb-12	0.474	145				2.9	0.12	50					15.3				
16-Feb-12	0.519	202				4	0.2	95		20			16.3				
17-Feb-12	0.463	178				3.5	0.22	0		24			16.7				
20-Feb-12	0.584						0.14	0					15.3				
21-Feb-12	0.543	208				2.5	0.12	15					17.1				
22-Feb-12	0.574	217				2.9	0.15	20					13.6				
23-Feb-12	0.504	256				2.7	0.15	10		21			14.6				
24-Feb-12	0.528	268				2.7	0.14	0		21			13.8				
27-Feb-12	0.492						0.25	5					15.7				
28-Feb-12	0.475	301				2.6	0.17	20					15.0				
29-Feb-12	0.55	196				2.1	0.24	10					16.1				
1-Mar-12	0.454	283		340		9.2	0.35	15		2.3	53.1		16.7	6.8	3200		170
2-Mar-12	0.412	246		280				10			52.2		14.4	9.6	3350		175
7-Mar-12	0.538	161		660				25			60.6		17.4	3.3	3550		215
8-Mar-12	0.479	240		360		6.1		35			53.4		19.2	8.4	4400		235
9-Mar 12	0.512	229		500		7.8		10			58.4		14.7	5.0	3850		225
12-Mar-12	0.44			280				10			54.9		16.5	11.0	4100		225
13-Mar-12	0.515	190		100		5		20			53.1		15.5	26.0	4050		215
14-Mar-12	0.435	140		180		1.4		20			59.0		18.0	17.5	4150		245
15-Mar 12	0.57	183		440		6		5			55.4		15.4	5.5	4150		230
16-Mar-12	0.805	180		360		4.2		0			42.3		18.2	5.9	5200		220
20-Mar-12	0.541	121		420		3.9	0.36	0			45.3		13.9	5.4	3750		170
21 Mar-12	0.595	147		100		2.9	0.14	0			49.4		9.8	23.0	4150		205
22-Mar-12	0.525	196		200			0.44	0			60.0		14.6	11.0	3500		210
26-Mar-12	0.419	211		320				20			51.7		13.3	10.7	4350		225
27-Mar-12	0.435	190		300		6.4	0.33	35			54.5		15.1	9.7	3850		210
28-Mar-12	0.548	229		300		3.2	0.67	10			53.9		18.9	7.6	3800		205
29-Mar-12	0.478			360			0.63				51.6		18.2	9.1	4750		245
30-Mar 12	0.438			240		7.6					59.0		14.5	13.0	4150		245
31-Mar 12	0.482					6.3							16.6				
1-Apr-12	0.454					9.2	0.35	15		2.3			18.1				

APPENDIX A
WWTF RECORD DATA
TROPHY CLUB MUD

Influent						Effluent						Process Control					
						Permit Limits						70 to 150	0.2 to 0.5				
						5.0	3.0	12	Report	24							
Date	Flow	CBOD5	NH3	TSS	Copper	CBOD5	NH3	TSS	Copper	Nitrate-N		SVI	F/M	Detention time	Sludge age	Miss	Mlvss	30 Min settling
2-Apr-12	0.412			160					10			59.5		16.4	21.0	4200		250
3-Apr-12	0.296			280								56.4		17.4	15.5	3900		220
4-Apr-12	0.31			100								66.7		19.2	36.7	3450		230
5-Apr-12	1.154			380					0			61.3		26.8	2.8	3750		230
6-Apr-12	0.554	330							0					25.5				
7-Apr-12	0.528								25					6.9				
8-Apr-12	0.479					6.1			35					14.3				
9-Apr-12	0.512			520		7.8			10			71.0		15.0	4.3	3450		245
12-Apr-12	0.44			260					10			64.6		16.5	9.4	3250		210
13-Apr-12	0.515			360		5			20			65.2		15.5	6.1	3450		225
14-Apr-12	0.435			280		1.4						64.6		18.0	8.8	3250		210
15-Apr-12	0.57					6								15.4				
16-Apr-12	0.805			280		4.2						64.6		18.2	4.8	3250		210
19 Apr 12	0.468			340					0			73.3		13.9	7.8	3750		275
20-Apr-12	0.541			300		3.9			0			63.9		9.8	6.2	3050		195
21-Apr-12	0.595					2.9	0.36		0					16.9				
22-Apr-12	0.525						0.14		0					14.6				
23-Apr-12	0.532			300			0.44		20			89.8		13.3	5.1	2450		220
26-Apr-12	0.419			240		6.4			35			72.2		15.1	8.9	2700		195
27-Apr-12	0.435			380		3.2	0.33		10			66.1		14.9	5.6	2800		185
28-Apr-12	0.548						0.67							18.9				
29-Apr-12	0.478					7.6	0.63							18.2				
1-May-12	0.798			260			0.18					70.2		14.5	4.5	2850		200
2-May-12	0.7816						0.22							16.6				
3-May-12	0.9435			280		2.7	0.19	1.9	0.024			57.4		9.9	3.4	2700		155
4-May-12	0.7511			360		3.7	0.38	8			26	51.0		10.1	3.1	2550		130
5-May-12	0.8079						0.29							8.4				
7-May-12	0.7522			360			0.46					48.8		10.5	2.6	2150		105
8-May-12	0.8134						0.61							9.8				
9-May-12	0.7552		170	260		7.5	0.54	9.3	0.022			44.4		10.5	3.8	2250		100
10-May-12	0.7333		180			7.8	0.81	13.3			24			9.7				
11-May 12	0.7532			260			0.28					47.6		10.5	3.5	2100		100
14 May 12	0.45						0.46							10.8				
15-May-12	0.521		260	240		4.7	0.28	3.33				46.9		10.5	4.2	1600		75
16-May-12	0.46		270			4.9	0.24	1.9						17.6				
17 May 12	0.412						0.39							15.2				
18-May-12	0.829			240			0.46					35.0		17.2	3.3	2000		70
22-May-12	0.851		240			7.2	0.38	3.67						19.2				
23-May-12	0.819		210	120		5.5	0.35	4.67			19	48.8		9.6	6.9	2050		100
24-May-12	0.791						0.25							9.3				
25-May-12	0.849			100			0.24					52.5		9.7	7.8	2000		105
26-May-12	0.83						0.25							10.0				
28-May-12	0.694						0.22							9.3				

APPENDIX A
WWTF RECORD DATA
TROPHY CLUB MUD

Influent

Effluent

Process Control

						Permit Limits	5.0	3.0		12	Report	24	70 to 150	0.2 to 0.5						
Date	Flow	CBOD5	NH3	TSS	Copper		CBOD5	NH3	TSS		Copper	Nitrate-N	SVI	F/M	Detention time	Sludge age	Mlss	Mlvss	30 Min settling
29-May-12	0.896			940				0.47					46.6		9.5	1.1	2900		135
30-May-12	0.865	270						0.22	1.9						11.4				
31-May-12	0.857	200		300			4.1	0.27	2.67			20	55.4		8.8	3.6	2800		155
4-Jun-12	0.7952							0.38							9.2				
5-Jun-12	0.8935							0.38							9.2				
6-Jun-12	0.559	183					4.9	0.3	2						10.0				
7-Jun-12	0.49	159					4.8	0.3	2		0.021	25.5			8.9				
8-Jun-12	0.467							0.32					44.4		14.2		2700		120
11-Jun-12	0.48							0.31							16.2				
12 Jun-12	0.7883							0.3					57.7		17.0		2600		150
13-Jun-12	0.7442	170			0.11		3.6	0.03	2				67.9		16.5		2800		190
14-Jun-12	0.8248	170			0.14		3.7	0.3	2		0.018	21.8			10.0				
19-Jun-12	0.7334	462					4	0.2	4		0.018	19.1			10.6				
21 Jun 12	0.7896	220			0.42		2	0.23	2						9.6				
25-Jun-12	0.8041	300		120	0.15		4.5	0.46	2		0.00065	11.5	48.6		10.8	12.3	3600		175
26-Jun-12	1.006	210		360			5.9	0.38	2				62.1	0.27	10.0	2.6	2900	2400	180
2-Jul-12	0.7726	165			0.11		4.9	0.26	2		0.012	15	30.9	0.05	9.8		8100	7700	250
3-Jul-12	0.798	198	46	244			3.7	0.35	2						7.9				
10-Jul-12	0.82	187	49	248	0.12		5.9	0.33	2		0.007	7.9	92.6	0.20	10.3	4.4	2700	2300	250
11-Jul 12	0.788	156	37	164			5.1	0.28	2				96.2	0.18	9.9	6.6	2600	2100	250
18-Jul-12	0.464	218	35	214	0.12		3.1	0.36	2		0.003	8.87	105.3	0.09	9.7	12.6	3800	3400	400
19-Jul-12	0.8027	187	49	200			3.2	0.2	2				66.7	0.21	10.1	6.2	3000	2200	200
26-Jul-12	0.8371	126	33	183	0.12		2	0.25	2		0.018	0.1	85.3	0.12	17.1	7.3	3400	2600	290
27-Jul-12	0.798	224	41	288			2.65	0.23	2		0.013	17			9.9				
2-Aug-12	0.8588	194	14	232	0.118		3.9	0.06	3.3						9.5				
3-Aug-12	0.9275	187	45	200			4.2	0.25	2						9.9				
7-Aug-12	0.8337	195	40	236	0.099		6	0.18	4		0.0121	16	72.2	0.21	9.2	6.0	3600	2400	260
9-Aug-12	0.8275	153	42	140			4.7	0.18	2.3				78.1	0.15	8.5	9.1	3200	2600	250
15-Aug 12	1.05	120	26	146	0.086		2.2	0.27	2.9		0.018	10			9.5				
16-Aug-12	0.915	191	32	252			4.5	0.29	3						9.6				
20-Aug-12	0.89	171	37	240	0.136		2.7	0.14	2.7		0.02	14	105.0	0.29	7.5	3.1	2000	1600	210
21-Aug 12	0.921	180	29	252			4.5	0.2	2				90.9	0.23	8.7	3.1	2200	2200	200
28-Aug 12	0.566	272	28	328			4.1	0.28	2.3		0.025	17	63.9	0.17	8.9	6.4	3600	2800	230
29-Aug-12	0.619	242	27	240			4.1	0.2	2						8.6				
3-Sep-12	0.754	117	36	132	0.07		4.3	1.63	2		0.024				14.0				
4-Sep 12	0.888	207	46	268			5.9	2.64	2			9.4			12.8				
6-Sep-12	0.32						5.3								10.5				
10-Sep-12	0.859	225	35	236	0.342		3.4	0.34	2		0.018	15.5			8.9				
11-Sep-12	0.744	169	45	187			3.2	0.28	2						24.8				
17-Sep-12	0.6174	216	26	200			2.8	2.34	2		0.023	4.9			9.2				
18-Sep-12	0.589	168	42	232	0.071		5.1	2.13	2				94.1		10.6	8.2	3400	2800	320
20-Sep-12	0.528						5.1								12.8				
24-Sep-12	0.819	207	44	212	0.107		9.6	0.23	2		0.017	13.6			13.4	0.0			

APPENDIX A
WWTF RECORD DATA
TROPHY CLUB MUD

Influent						Effluent					Process Control						
						Permit Limits											
						5.0	3.0	12	Report	24	70 to 150	0.2 to 0.5					
Date	Flow	CBOD5	NH3	TSS	Copper	CBOD5	NH3	TSS	Copper	Nitrate-N	SVI	F/M	Detention time	Sludge age	Miss	Mivss	30 Min settling
25-Sep-12	0.832	198	42	224		5.7	0.25	2			87 5		15 0	5.7	3200	3000	280
27-Sep-12	0.83	174	28			3.2	0.12				84.4		9.7		3200	2200	270
28-Sep-12	0 783	228	40				0.37				87.5		9.5		2400	2200	210
29-Sep-12	0.419						0.28						9.5				
30 Sep-12	1 15					6.3							10 1				
3-Oct-12	0.542					3 9	3 72	2	0.008	5.3	66.7		18.9		3000	2400	200
4-Oct-12	0.624	194	43	292	0.091	3 7	3 58	2			107 1		6 9	2 5	1400	1200	150
8-Oct 12	0.7164	216	43	208	0.099	4 4	0.25	2	0.017	23 2	57 5		14 6	8 9	4000	3600	230
9-Oct-12	0.583	285	30	232		5.2	0.36	2			73 8		12.7	10.2	4200	3200	310
16 Oct-12	0.53	179	35	204	0 116	4 8	0.36	2	0.016	20.8	72.7		11 1	6.7	2200	1800	160
17-Oct-12	0.482						0.16				80.0		13.6		2000	1600	160
18-Oct-12	0.899	227	41	264		4 3	0.61	2			86 4		14 9	3.1	2200	2000	190
19-Oct-12	0.53						0.28				75 0		16.4		2800	2200	210
20-Oct-12	0 761						0.2						8.8				
22-Oct 12	0.821	185		232	0.15	4.3		2			84.6		14 9	4 5	2600	2200	220
23-Oct-12	0.86	214	46	236		4.3	0.23	2	0.002	6 36	96 9		10.4	5.2	3200	2800	310
24-Oct-12	0 8162					4 2	0.36				88.9		9 6		3600	3000	320
25-Oct 12	0 578						0.41				100.0		9 2		3000	2600	300
26-Oct-12	0.58						0.18				97.2		9 7		3600	3000	350
30-Oct-12	0.701	209	38	224	0.104	5.8	0.29	2	0.007	3.83	107 1		13 7	8.8	4200	3400	450
31-Oct-12	0 572	214	45	260		3 3	0.35	2			109.4		13 7	7 1	3200	3000	350
7-Nov-12	0.7319	234	39	212	0.156	5 8	0.43	2	0.009	12.1	88 7		11 3	13.2	6200	4800	550
8-Nov-12	0.7419	213	36	216		2 7	0 26	2			140.0		13 8	8.2	4000	3600	560
13-Nov-12	0.543	296	43	284	0 116	9 3	0 15	2	0 006	10 7	97.9		10.8	10.3	4800	3800	470
14-Nov-12	0.5227	190	47	232		3.2	0.29	2			104.8		10.7	11.4	4200	3600	440
19-Nov-12	0.7568	172	47	248	0.136	3 7	0.33	2	0.008	8.5	95.0		14.6	7.0	4000	3400	380
20 Nov 12	0.7719	184	40	204		2	0.28	2			147 2		15.2	7 5	3600	2800	530
29-Nov-12	0.525	263	44	226	0.099	6 5	0.43	2.1	0.007	14 3	147 1		10.5	9.5	3400	3000	500
30-Nov-12	0.639	211	39	186		7.5	1 02	2.7			119.4		10.3	17.2	6200	5200	740
AVERAGE																	
Pre-May 1	0 52631	201.5	N/A	261.4	N/A	5 2	0.46	16 2	N/A	18.3	52 1	N/A	15 7	9.4	3081	N/A	163
Post-May 1	0.72944	207 1	38.4	243.9	0 135	4.6	0.47	2.6	0.014	14.0	79.4	0.18	11.5	6.4	3174	2890	258
All Data	0 62029	204.2	38.4	253 7	0.135	4 9	0.47	10.7	0.014	15 6	63 7	0.18	13.7	8.3	3120	2890	203
PEAK																	
Pre-May 1	1 154	404.5	N/A	660.0	N/A	12.0	1.6	95.0	N/A	26.0	89.8	N/A	26.8	36.7	5200.0	N/A	275.0
Post-May 1	1 150	462.0	49.0	940.0	0.420	9.6	3 7	13 3	0.025	26.0	147 2	0.3	24.8	17.2	8100.0	7700.0	740.0

April - Sept	0.413
Post-May 1 Oct - March	0.632
Pre-May 1 Oct - March	0 467

TCMUD001768

APPENDIX B

ALLIANCE AIRPORT NOAA RECORDS

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 01/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	max 5-second Dir	max 2-minute Speed	max 2-minute Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	42	20	31	M	15	27	34	0	-	-		M	M	M	0.00	29.47	30.25	5.8	36	6.3	22	020	16	350	01
02	49	15	32	M	17	27	33	0	-	-		M	M	M	0.00	29.52	30.34	2.0	16	2.3	16	170	10	160	02
03	59	30	45	M	27	37	20	0	-	-		M	M	M	0.00	29.32	30.13	7.2	19	7.4	29	190	20	190	03
04	53	33	43	M	38	41	22	0	-	-	BR	M	M	M	0.00	29.26	30.07	1.8	24	3.3	14	290	12	300	04
05	58	28	43	M	31	37	22	0	-	-		M	M	M	0.00	29.23	30.02	4.1	30	4.9	23	310	17	310	05
06	62	30	46	M	27	38	19	0	-	-		M	M	M	0.00	29.25	30.06	5.1	29	5.8	20	320	16	310	06
07	67	37	52	M	28	41	13	0	-	-		M	M	M	0.00	29.09	29.87	3.8	31	6.0	17	010	13	030	07
08	52	28	40	M	23	35	25	0	-	-		M	M	M	0.00	29.13	29.94	4.0	08	4.9	20	100	15	100	08
09	46	29	38	M	32	34	27	0	-	-	RA SN BR	M	M	M	1.25	29.15	29.93	8.8	10	9.4	25	130	18	130	09
10	34	28	31	M	27	30	34	0	-	-	FZDZ BR	M	M	M	T	29.40	30.16	4.2	01	6.5	26	320	21	320	10
11	34	18	26	M	15	22	39	0	-	-		M	M	M	0.00	29.83	30.62	8.2	33	8.6	25	320	20	320	11
12	31	21	26*	M	13	23	39	0	-	-		M	M	M	0.00	29.91	30.75	5.7	02	6.0	17	050	13	010	12
13	41	18	30	M	17	26	35	0	-	-		M	M	M	0.00	29.70	30.57	4.8	17	5.0	16	150	14	150	13
14	48	27	38	M	27	34	27	0	-	-	DZ	M	M	M	T	29.49	30.33	5.4	16	5.7	16	150	14	140	14
15	53	41	47	M	39	42	18	0	-	-	RA BR	M	M	M	T	29.42	30.23	2.8	16	3.0	13	140	9	170	15
16	46	44	45	M	43	44	20	0	-	-	RA DZ FG+ FG BR	M	M	M	0.07	29.23	30.05	4.7	02	5.1	17	040	13	030	16
17	60	45	53	M	45	47	12	0	-	-	DZ FG+ FG BR	M	M	M	T	28.97	29.77	5.2	18	5.8	22	160	16	160	17
18	56	32	44	M	41	44	21	0	-	-	BR HZ	M	M	M	0.00	29.19	29.94	7.0	35	8.3	23	350	18	340	18
19	58	26	42	M	34	39	23	0	-	-		M	M	M	0.00	29.15	29.95	6.6	13	6.9	24	150	20	150	19
20	51	20	36	M	27	31	29	0	-	-	RA DZ BR	M	M	M	0.01	29.42	30.19	11.9	35	13.0	38	340	31	350	20
21	44	13*	29	M	20	27	36	0	-	-		M	M	M	0.00	29.31	30.12	2.6	18	3.4	16	160	12	160	21
22	62	24	43	M	25	36	22	0	-	-		M	M	M	0.00	29.15	29.97	7.8	18	8.4	31	170	23	170	22
23	49	20	35	M	29	36	30	0	-	-		M	M	M	0.00	29.25	30.03	1.1	34	8.2	25	160	21	160	23
24	55	15	35	M	24	32	30	0	-	-		M	M	M	0.00	29.28	30.08	1.4	04	2.5	17	360	13	360	24
25	52	27	40	M	25	34	25	0	-	-	DZ	M	M	M	T	29.36	30.15	6.1	34	6.6	20	350	15	350	25
26	62	24	43	M	25	36	22	0	-	-		M	M	M	0.00	29.39	30.18	4.6	27	4.9	18	240	14	250	26
27	66	26	46	M	25	37	19	0	-	-		M	M	M	0.00	29.34	30.15	4.8	25	5.1	21	250	16	260	27
28	76	31	54	M	26	41	11	0	-	-		M	M	M	0.00	29.24	30.04	2.5	23	3.2	20	210	14	220	28
29	78*	36	57*	M	39	49	8	0	-	-		M	M	M	0.00	29.13	29.92	7.7	19	8.3	25	230	20	160	29
30	65	37	51	M	46	50	14	0	-	-	BR HZ	M	M	M	0.00	29.20	29.96	4.9	29	9.1	24	200	16	310	30
31	49	34	42	M	38	41	23	0	-	-	RA DZ BR HZ	M	M	M	0.02	29.17	29.96	5.8	01	6.6	35	360	25	360	31
	53.5	27.6	40.6		28.6	36.1	24.3	0.0	<----Monthly Averages | Totals---->			M	M	1.35s		29.32	30.12	0.6	32	6.1	<Monthly Average			
	M	M	M		<----------Departure From Normal---------->										M										

Greatest 24-hr Precipitation: 1.25 Date: 09
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level	Pressure	Date	Time (LST)
Maximum	30.88	12	1041
Minimum	29.62	17	1715

Degree Days	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	752	M	M	M
Cooling:	0	M	M	M

Number of Days with ---->
Max Temp >=90: 0
Max Temp <=32: 1
Thunderstorms : 0
Min Temp <=32: 23
Min Temp <=0 : 0
Heavy Fog : 2
Precipitation >=.01 inch: 3s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 02/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	Precipitation (In) 1800 UTC Water Equiv	2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res. Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	35	12	24	M	12	17	41	0	-	-	RA FZRA SN FG+ FZFG BR BLSN	M	M	M	0.40	29.40	30.20	20.9	33	20.5	41	310	32	320	01
02	18	11	15*	M	7	14	50	0	-	-		M	M	M	0.00	29.78	30.59	14.7	34	15.0	31	340	22	340	02
03	21	14	18	M	7	15	47	0	-	-	SN	M	M	M	T	29.69	30.56	10.5	35	10.7	23	010	17	360	03
04	28	14	21	M	15	19	44	0	-	-	SN FZFG BR	M	M	M	0.10	29.38	30.26	5.1	31	6.0	17	290	14	300	04
05	56	19	38	M	25	31	27	0	-	-		M	M	M	0.00	29.03	29.89	4.3	20	M	M	M	M	M	05
06	53	31	42	M	34	37	23	0	-	-	RA BR	M	M	M	0.05	29.16	29.92	6.6	34	7.0	25	320	21	340	06
07	48	28	38	M	27	34	27	0	-	-		M	M	M	T	29.44	30.23	7.9	33	8.9	26	310	21	340	07
08	56	31	44	M	26	37	21	0	-	-		M	M	M	0.00	29.28	30.09	12.5	13	12.8	32	120	24	120	08
09	48	13	31	M	14	19	34	0	-	-	RA SN BR BLSN	M	M	M	0.15	29.57	30.35	15.1	32	16.6	35	320	28	320	09
10	37	11*	24	M	11	21	41	0	-	-		M	M	M	0.00	29.53	30.37	2.7	35	3.7	18	360	13	360	10
11	57	19	38	M	18	29	27	0	-	-		M	M	M	0.00	29.54	30.36	2.8	23	3.5	18	210	14	210	11
12	67	21	44	M	22	35	21	0	-	-		M	M	M	0.00	29.56	30.38	4.2	20	4.3	21	210	16	220	12
13	76	35	56	M	26	42	9	0	-	-		M	M	M	0.00	29.33	30.12	9.1	19	9.2	26	190	20	210	13
14	73	37	55	M	43	50	10	0	-	-		M	M	M	0.00	29.34	30.12	5.1	15	6.0	22	130	17	130	14
15	79	53	66	M	53	58	0	1	-	-		M	M	M	0.00	29.23	30.00	10.5	18	10.8	28	180	18	180	15
16	75	60	68	M	56	60	0	3	-	-		M	M	M	0.00	29.16	29.93	13.7	18	13.7	29	180	22	160	16
17	81	62	72	M	57	62	0	7	-	-		M	M	M	0.00	29.11	29.85	14.2	18	14.5	35	190	23	210	17
18	84*	59	72	M	59	63	0	7	-	-	BR	M	M	M	0.00	29.28	30.01	8.0	18	8.8	24	160	18	160	18
19	77	55	66	M	56	59	0	1	-	-	BR	M	M	M	0.00	29.26	30.03	9.1	17	9.2	26	160	20	170	19
20	80	61	71	M	56	61	0	6	-	-		M	M	M	0.00	28.98	29.78	13.1	18	13.2	33	190	22	210	20
21	73	43	58	M	45	52	7	0	-	-		M	M	M	0.00	29.11	29.83	4.0	28	12.6	35	180	25	310	21
22	67	37	52	M	34	44	13	0	-	-		M	M	M	T	29.26	30.04	4.3	08	5.7	20	010	15	130	22
23	72	54	63	M	58	60	2	0	-	-	BR HZ	M	M	M	0.00	29.11	29.90	8.7	16	8.8	21	170	16	160	23
24	83	41	62	M	47	56	3	0	-	-	RA BR	M	M	M	0.02	29.01	29.75	6.9	25	14.8	43	260	30	260	24
25	56	37	47	M	34	40	18	0	-	-		M	M	M	0.00	29.27	30.06	4.9	36	6.1	20	360	16	360	25
26	77	33	55	M	49	53	10	0	-	-	BR	M	M	M	0.00	29.05	29.84	7.4	17	7.6	26	190	20	160	26
27	81	65	73*	M	60	64	0	8	-	-	RA BR	M	M	M	T	28.85	29.60	12.9	18	15.2	35	170	26	170	27
28	69	34	52	M	32	44	13	0	-	-		M	M	M	0.00	29.37	30.09	9.9	32	11.5	35	320	26	340	28
	61.7	35.4	48.6		35.1	42.0	17.4	1.2	<----Monthly Averages | Totals---->			M	M	0.72s		29.29	30.13	2.1	22	M	<Monthly Average			
	M	M	M		<----------Departure From Normal---------->										M										

Degree Days — Monthly: Total / Departure; Season to Date: Total / Departure

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	488	M	M	M
Cooling:	33	M	M	M

Greatest 24-hr Precipitation: 0.42s Date: 01
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Number of Days with ----->
Max Temp >=90: 0
Max Temp <=32: 3
Thunderstorms : 0

Min Temp <=32: 12
Min Temp <=0 : 0
Heavy Fog : 1

Precipitation >=.01 inch: 5
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

Sea Level Pressure	Date	Time (LST)
Maximum 30.69	03	0214
Minimum 29.44	27	1629

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 03/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max	Min	Avg	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	max 5-second Dir	max 2-minute Speed	max 2-minute Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	71	28	50	M	31	41	15	0	-	-		M	M	M	0.00	29.44	30.25	3.0	16	3.5	16	140	12	160	01
02	74	37	56	M	34	46	9	0	-	-		M	M	M	0.00	29.34	30.12	4.8	13	5.2	18	110	14	140	02
03	78	46	62	M	40	51	3	0	-	-		M	M	M	0.00	29.14	29.93	11.2	16	11.4	30	150	23	160	03
04	73	53	63	M	53	58	2	0	-	-		M	M	M	0.00	29.11	29.85	7.9	18	11.4	31	360	25	360	04
05	57	32	45	M	27	38	20	0	-	-		M	M	M	T	29.47	30.22	13.4	35	13.8	31	340	24	350	05
06	63	23*	43*	M	22	36	22	0	-	-		M	M	M	0.00	29.31	30.14	3.9	15	4.5	18	140	15	140	06
07	68	47	58	M	43	49	7	0	-	-		M	M	M	0.00	29.01	29.82	14.0	15	14.4	31	160	25	160	07
08	84	51	68	M	50	57	0	3	-	-	DZ BR	M	M	M	T	28.98	29.71	4.0	20	12.9	31	190	22	300	08
09	64	42	53	M	33	44	12	0	-	-		M	M	M	0.00	29.42	30.16	11.7	33	11.8	29	010	23	340	09
10	69	37	53	M	26	41	12	0	-	-		M	M	M	0.00	29.55	30.33	3.0	33	5.9	18	340	13	310	10
11	80	41	61	M	28	46	4	0	-	-		M	M	M	0.00	29.28	30.08	12.0	18	12.1	36	180	26	180	11
12	80	52	66	M	50	57	0	1	-	-		M	M	M	0.00	29.16	29.93	12.8	17	12.9	28	160	21	170	12
13	77	56	67	M	56	60	0	2	-	-		M	M	M	0.00	29.23	29.97	8.7	18	11.0	29	300	22	310	13
14	62	37	50	M	37	44	15	0	-	-		M	M	M	0.00	29.44	30.19	11.5	34	11.9	31	340	25	340	14
15	64	30	47	M	36	44	18	0	-	-		M	M	M	0.00	29.39	30.18	2.8	13	3.7	17	130	15	120	15
16	78	47	63	M	53	58	2	0	-	-		M	M	M	0.00	29.29	30.08	10.6	17	10.7	31	160	24	170	16
17	87	63	75	M	58	64	0	10	-	-		M	M	M	0.00	29.21	29.97	16.3	18	16.4	33	190	25	160	17
18	87	64	76*	M	59	65	0	11	-	-		M	M	M	0.00	29.30	30.03	9.0	18	10.0	32	190	21	190	18
19	84	63	74	M	58	64	0	9	-	-		M	M	M	0.00	29.28	30.03	12.7	17	12.9	32	150	23	160	19
20	83	61	72	M	57	63	0	7	-	-		M	M	M	0.00	29.29	30.04	15.7	17	15.9	33	190	26	160	20
21	85	63	74	M	57	63	0	9	-	-		M	M	M	0.00	29.23	29.98	14.2	17	14.3	35	170	23	160	21
22	85	64	75	M	57	63	0	10	-	-		M	M	M	0.00	29.00	29.76	18.8	19	19.1	38	190	26	190	22
23	80	52	66	M	36	53	0	1	-	-		M	M	M	0.00	29.12	29.85	4.3	32	7.4	M	M	20	190	23
24	78	38	58	M	34	49	7	0	-	-		M	M	M	0.00	29.16	29.93	6.4	12	7.3	28	130	20	130	24
25	87*	61	74	M	57	63	0	9	-	-		M	M	M	0.00	28.92	29.70	10.8	18	11.8	29	190	20	220	25
26	82	48	65	M	49	58	0	0	-	-		M	M	M	0.00	28.95	29.67	4.8	30	13.7	30	340	22	360	26
27	50	46	48	M	43	46	17	0	-	-	DZ BR	M	M	M	T	29.14	29.89	7.0	02	8.1	20	040	16	040	27
28	62	47	55	M	43	47	10	0	-	-	BR	M	M	M	0.00	29.16	29.94	6.5	09	7.7	18	120	15	120	28
29	55	42	49	M	46	48	16	0	-	-	RA DZ BR	M	M	M	0.10	29.24	30.00	6.5	01	9.0	23	350	18	350	29
30	55	37	46	M	39	43	19	0	-	-	BR HZ	M	M	M	0.00	29.23	30.02	4.4	01	5.9	18	350	14	360	30
31	79	37	58	M	40	48	7	0	-	-	BR HZ	M	M	M	0.00	29.03	29.82	2.0	26	4.1	29	190	20	300	31
	73.6	46.6	60.1		43.6	51.8	7.0	2.3	<----Monthly Averages | Totals---->			M	M	0.10s		29.22	29.99	4.2	17	10.3	<Monthly Average			
	M	M	M		<----Departure From Normal---->										M										

Degree Days: Monthly (Total / Departure) | Season to Date (Total / Departure)
Heating: 217 M | M M
Cooling: 72 M | M M

Greatest 24-hr Precipitation: 0.10 Date: 29
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure Date Time (LST)
Maximum 30.47 10 1041
Minimum 29.55 26 0425

Number of Days with ----->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 0
Min Temp <=32: 4
Min Temp <=0 : 0
Heavy Fog : 0
Precipitation >=.01 inch: 1
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 04/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX

Lat. 32.973 Lon. -97.318

Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max	Min	Avg	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	91	41	66	M	48	57	0	1	-	-		M	M	M	0.00	29.01	29.74	0.8	01	5.0	24	190	17	180	01
02	87	46	67	M	56	61	0	2	-	-		M	M	M	0.00	29.11	29.87	8.4	16	9.2	31	170	22	140	02
03	88	66	77	M	62	67	0	12	-	-		M	M	M	0.00	28.88	29.64	17.9	18	18.0	41	190	28	190	03
04	75	36	56	M	34	48	9	0	-	-	RA BR	M	M	M	0.07	29.21	29.92	12.8	33	17.1	44	330	36	340	04
05	75	31*	53*	M	27	44	12	0	-	-		M	M	M	0.00	29.23	30.01	8.3	18	8.7	29	170	21	180	05
06	87	53	70	M	45	56	0	5	-	-		M	M	M	0.00	29.01	29.79	14.6	17	14.8	31	160	24	170	06
07	85	63	74	M	60	65	0	9	-	-		M	M	M	0.00	28.97	29.71	11.1	17	11.5	29	180	20	190	07
08	91	66	79	M	65	70	0	14	-	-	HZ	M	M	M	0.00	28.98	29.71	11.9	17	12.0	30	170	22	160	08
09	91	68	80	M	63	69	0	15	-	-		M	M	M	0.00	29.00	29.73	17.3	17	17.4	38	180	30	160	09
10	92	66	79	M	63	68	0	14	-	-	TSRA RA	M	M	M	0.36	28.97	29.69	11.9	18	14.3	52	310	38	310	10
11	76	50	63	M	46	55	2	0	-	-	TSRA BR	M	M	M	0.58	29.23	29.95	8.7	33	10.7	44	320	36	320	11
12	79	43	61	M	41	52	4	0	-	-		M	M	M	0.00	29.28	30.05	2.6	16	3.4	M	M	M	M	12
13	81	51	66	M	45	55	0	1	-	-		M	M	M	0.00	29.12	29.90	8.1	16	8.7	24	160	18	160	13
14	87	63	75	M	59	65	0	10	-	-	TS RA	M	M	M	T	28.89	29.64	12.2	17	13.9	38	160	28	160	14
15	74	47	61	M	27	47	4	0	-	-	FU DU BLDU	M	M	M	0.00	29.10	29.84	15.8	31	16.2	51	310	38	320	15
16	75	40	58	M	26	45	7	0	-	-		M	M	M	0.00	29.26	30.02	1.1	31	6.2	18	320	13	310	16
17	84	50	67	M	40	54	0	2	-	-		M	M	M	0.00	29.00	29.79	13.0	17	13.2	37	170	26	160	17
18	95	68	82	M	64	69	0	17	-	-		M	M	M	0.00	28.84	29.59	14.3	18	14.6	35	190	23	170	18
19	96*	67	82	M	63	70	0	17	-	-	BR HZ FU	M	M	M	0.00	28.91	29.61	7.9	19	11.7	35	220	24	220	19
20	70	58	64	M	53	57	1	0	-	-	RA DZ BR	M	M	M	T	29.20	29.92	10.0	04	10.3	26	040	18	060	20
21	85	58	72	M	61	64	0	7	-	-	RA DZ BR HZ	M	M	M	0.03	29.09	29.87	6.8	14	9.0	36	180	23	180	21
22	92	70	81	M	64	69	0	16	-	-		M	M	M	0.00	28.95	29.69	15.1	18	15.4	39	180	25	190	22
23	91	72	82*	M	65	70	0	17	-	-	TSRA	M	M	M	0.16	28.97	29.70	16.6	17	17.5	68	160	47	160	23
24	84	65	75	M	65	69	0	10	-	-	TS TSRA RA BR	M	M	M	0.15	28.97	29.73	10.0	17	12.4	45	290	31	280	24
25	M	M	M	M	65	69	M	M	-	-	TS TSRA BR HZ	M	M	M	0.46	28.79	29.55	6.7	18	12.3	35	330	29	340	25
26	M	M	M	M	57	60	M	M	-	-		M	M	M	0.00	28.71	M	6.5	03	7.2	20	020	14	070	26
27	69	47	58	M	49	55	7	0	-	-	BR	M	M	M	0.00	29.05	29.75	8.2	31	9.6	30	300	23	300	27
28	78	40	59	M	42	51	6	0	-	-		M	M	M	0.00	29.34	30.09	1.2	19	2.4	12	150	9	160	28
29	86	54	70	M	47	57	0	5	-	-		M	M	M	0.00	29.03	29.82	15.5	17	15.6	39	170	30	160	29
30	88	67	78	M	60	66	0	13	-	-		M	M	M	0.00	28.94	29.68	2.4	22	9.5	32	190	22	180	30
	84.0	55.2	69.6		52.1	60.1	M	M	<----Monthly Averages | Totals---->			M	M	0.00s		29.03	29.81	6.0	18	11.6	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->											M										

Degree Days	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	M	M	M	M
Cooling:	M	M	M	M

Greatest 24-hr Precipitation: 0.00s Date: M
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

	Sea Level Pressure	Date	Time (LST)
Maximum	30.21	28	1047
Minimum	29.33	26	1743

Number of Days with ------>
Max Temp >=90: M
Max Temp <=32: M
Thunderstorms : 8

Min Temp <=32: M
Min Temp <=0 : M
Heavy Fog : 0

Precipitation >=.01 inch: 0s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 05/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	Precipitation (In) 1800 UTC Water Equiv	2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	max 5-second Dir	max 2-minute Speed	max 2-minute Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	71	45	58	M	48	50	7	0	-	-	TS TSRA RA BR	M	M	M	0.63	29.15	29.90	12.9	01	13.5	39	290	30	270	01
02	53	45	49*	M	45	47	16	0	-	-	TSRA RA BR	M	M	M	1.26	29.43	30.18	11.8	35	12.2	25	320	21	360	02
03	70	37*	54	M	41	48	11	0	-	-		M	M	M	0.00	29.57	30.34	0.2	09	2.5	14	360	10	360	03
04	76	47	62	M	42	52	3	0	-	-		M	M	M	0.00	29.48	30.27	6.0	16	6.7	23	160	18	150	04
05	79	52	66	M	47	56	0	1	-	-		M	M	M	0.00	29.33	30.11	5.5	18	6.3	25	160	17	160	05
06	85	51	68	M	54	61	0	3	-	-		M	M	M	0.00	29.13	29.92	7.3	17	7.9	30	180	22	160	06
07	91	66	79	M	59	66	0	14	-	-		M	M	M	0.00	28.98	29.73	12.6	18	12.7	29	170	20	180	07
08	92	70	81	M	66	71	0	16	-	-		M	M	M	0.00	28.95	29.69	12.2	17	12.5	30	160	23	160	08
09	92	72	82	M	66	71	0	17	-	-	HZ	M	M	M	0.00	28.92	29.64	15.1	17	15.2	43	180	30	160	09
10	84	67	76	M	66	69	0	11	-	-	TSRA RA	M	M	M	0.37	28.96	29.68	9.2	17	10.5	46s	160	33	130	10
11	80	63	72	M	65	67	0	7	-	-	TSRA RA BR HZ	M	M	M	0.93	28.98	29.73	9.6	15	10.1	39	260	26	270	11
12	82	62	72	M	62	65	0	7	-	-	HZ	M	M	M	0.00	29.08	29.82	5.4	18	6.4	25	170	18	170	12
13	75	56	66	M	51	57	0	1	-	-		M	M	M	0.00	29.20	29.93	9.7	34	9.8	26	320	22	340	13
14	72	48	60	M	45	52	5	0	-	-		M	M	M	0.00	29.26	30.01	8.0	35	8.6	29	340	20	340	14
15	73	46	60	M	45	52	5	0	-	-		M	M	M	0.00	29.26	30.03	5.2	35	5.6	20	360	15	330	15
16	74	49	62	M	47	54	3	0	-	-		M	M	M	0.00	29.21	29.99	4.6	03	5.3	M	M	13	040	16
17	82	48	65	M	51	58	0	0	-	-		M	M	M	0.00	29.02	29.79	6.7	13	6.9	M	M	16	150	17
18	87	66	77	M	63	68	0	12	-	-		M	M	M	0.00	28.85	29.59	15.0	17	15.3	39	160	29	160	18
19	84	72	78	M	67	71	0	13	-	-	RA	M	M	M	T	28.92	29.66	15.8	15	16.0	35	160	28	170	19
20	85	63	74	M	68	70	0	9	-	-	TS TSRA BR HZ	M	M	M	0.62	28.93	29.68	7.9	16	9.0	32	240	23	240	20
21	88	58	73	M	69	71	0	8	-	-	FG BR	M	M	M	0.00	29.01	29.74	10.4	17	10.5	32	170	23	170	21
22	92	66	79	M	70	73	0	14	-	-	TSRA BR HZ	M	M	M	1.02	28.98	29.72	10.7	17	12.2	47	220	32	210	22
23	87	68	78	M	69	72	0	13	-	-	RA BR HZ	M	M	M	0.41	28.95	29.69	12.0	17	12.6	33	160	24	160	23
24	90	74	82	M	70	73	0	17	-	-	TS TSRA GR RA BR HZ	M	M	M	0.63	28.87	29.61	11.5	16	13.3	39	160	26	170	24
25	91	67	79	M	57	65	0	14	-	-		M	M	M	0.00	28.99	29.69	7.6	28	11.5	29	280	21	270	25
26	82	57	70	M	55	61	0	5	-	-		M	M	M	0.00	29.15	29.90	3.2	36	6.2	22	340	16	340	26
27	95	64	80	M	63	69	0	15	-	-		M	M	M	0.00	28.89	29.65	12.4	16	13.0	33	160	24	160	27
28	96*	74	85*	M	69	74	0	20	-	-	HZ	M	M	M	0.00	28.82	29.54	16.0	18	16.1	37	170	28	170	28
29	94	73	84	M	66	72	0	19	-	-		M	M	M	0.00	28.96	29.66	17.6	17	17.8	38	170	29	170	29
30	92	75	84	M	67	72	0	19	-	-		M	M	M	0.00	29.10	29.80	16.7	16	16.8	43	150	29	160	30
31	91	74	83	M	70	74	0	18	-	-		M	M	M	0.00	29.33	30.03	7.9	16	9.1	29	160	21	160	31
	83.4	60.5	72.0	-	58.8	63.9	1.6	8.8	<---Monthly Averages | Totals--->			M	M	5.89s		29.09	29.85	5.9	16	10.7	<Monthly Average			
	M	M	M	<---Departure From Normal--->										M											

Degree Days

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	50	M	M	M
Cooling:	273	M	M	M

Greatest 24-hr Precipitation: 1.53s Date: 01-02
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure	Date	Time (LST)
Maximum 30.44	03	1025
Minimum 29.37	24	1830

Number of Days with ---->
Max Temp >=90: 11
Max Temp <=32: 0
Thunderstorms : 10

Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 0

Precipitation >=.01 inch: 10s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 06/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg. Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	94	74	84	M	64	70	0	19	-	-		M	M	M	0.00	29.34	30.08	7.2	16	7.3	29	140	20	160	01
02	95	69	82	M	63	70	0	17	-	-		M	M	M	0.00	29.21	29.96	7.3	17	7.7	31	160	23	160	02
03	97	69	83	M	61	69	0	18	-	-		M	M	M	0.00	29.21	29.94	6.5	15	6.9	30	130	21	140	03
04	96	68	82	M	60	68	0	17	-	-		M	M	M	0.00	29.33	30.05	5.9	17	6.3	23	170	17	160	04
05	99	70	85	M	62	70	0	20	-	-		M	M	M	0.00	29.28	30.02	2.1	16	4.4	15	230	14	230	05
06	99	68	84	M	62	70	0	19	-	-		M	M	M	0.00	29.15	29.90	4.1	14	5.6	16	100	13	100	06
07	98	69	84	M	61	69	0	19	-	-		M	M	M	0.00	29.08	29.81	7.5	16	8.1	25	160	17	160	07
08	95	74	85	M	65	72	0	20	-	-		M	M	M	0.00	29.08	29.80	9.8	17	10.0	28	150	21	150	08
09	95	76	86	M	63	71	0	21	-	-		M	M	M	0.00	29.08	29.81	10.9	17	11.2	28	150	20	160	09
10	95	73	84	M	64	71	0	19	-	-		M	M	M	0.00	29.08	29.81	10.0	16	10.1	25	140	20	160	10
11	97	73	85	M	63	71	0	20	-	-		M	M	M	0.00	29.10	29.82	6.9	16	7.4	25	160	18	140	11
12	97	75	86	M	62	70	0	21	-	-		M	M	M	0.00	29.10	29.82	9.1	17	9.5	26	150	21	160	12
13	102	77	90	M	60	70	0	25	-	-		M	M	M	0.00	29.11	29.84	8.8	18	9.5	24	190	16	170	13
14	101	78	90	M	60	70	0	25	-	-		M	M	M	0.00	29.04	29.75	10.4	19	11.8	33	190	20	160	14
15	100	77	89	M	65	73	0	24	-	-	TS	M	M	M	T	29.01	29.74	7.9	16	9.3	28	010	18	360	15
16	101	78	90	M	65	73	0	25	-	-		M	M	M	0.00	28.96	29.68	12.9	17	13.1	35	160	24	170	16
17	105	79	92	M	66	74	0	27	-	-		M	M	M	0.00	28.94	29.65	16.1	18	16.3	37	190	25	170	17
18	106*	79	93	M	63	73	0	28	-	-	RA	M	M	M	T	28.97	29.68	14.8	19	15.1	55	210	40	210	18
19	104	82	93*	M	65	73	0	28	-	-		M	M	M	0.00	28.92	29.64	16.7	18	17.2	38	210	26	170	19
20	99	71	85	M	66	73	0	20	-	-	TS TSGS BR	M	M	M	0.08	28.86	29.58	15.6	17	16.8	38	170	26	340	20
21	96	67*	82	M	69	73	0	17	-	-	TS TSRA BR	M	M	M	1.90	29.00	29.71	3.0	17	8.1	60	280	44	280	21
22	92	69	81*	M	66	71	0	16	-	-		M	M	M	0.02	29.12	29.84	2.9	14	4.3	21	150	15	160	22
23	97	71	84	M	65	71	0	19	-	-		M	M	M	0.00	29.10	29.84	4.5	17	5.4	21	150	16	150	23
24	96	73	85	M	68	73	0	20	-	-		M	M	M	0.00	29.03	29.76	8.1	17	8.6	25	160	20	160	24
25	97	76	87	M	70	75	0	22	-	-		M	M	M	0.00	29.01	29.73	13.2	17	13.3	31	160	23	160	25
26	99	77	88	M	69	75	0	23	-	-		M	M	M	0.00	29.02	29.74	12.7	18	12.8	37	160	23	180	26
27	101	79	90	M	68	75	0	25	-	-		M	M	M	0.00	29.10	29.81	8.4	18	9.9	31	190	21	160	27
28	100	79	90	M	69	75	0	25	-	-		M	M	M	0.00	29.19	29.90	6.9	16	8.7	28	120	22	120	28
29	101	75	88	M	67	74	0	23	-	-		M	M	M	0.00	29.18	29 91	6.0	17	7.7	23	160	16	160	29
30	101	75	88	M	65	73	0	23	-	-		M	M	M	0.00	29.16	29.89	6.5	16	6.9	29	160	17	150	30
	98.5	74.0	86.3		64.5	71.8	0.0	21.5	<----Monthly Averages | Totals---->			M	M	2.00s	29.09	29.81	8.6	17	9.6	<Monthly Average				
	M	M	M		<----Departure From Normal---->										M										

Degree Days

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	0	M	M	M
Cooling:	645	M	M	M

Greatest 24-hr Precipitation: 1.97s Date: 20-21
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

	Sea Level Pressure	Date	Time (LST)
Maximum	30.18	01	0856
Minimum	29.49	20	2026

Number of Days with ---->
Max Temp >=90: 30
Max Temp <=32: 0
Thunderstorms : 6
Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 0
Precipitation >=.01 inch: 3
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 07/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	Precipitation (In) 1800 UTC Water Equiv	2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	max 5-second Dir	max 2-minute Speed	max 2-minute Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	101	74	88	M	64	72	0	23	-	-		M	M	M	0.00	29.20	29.91	4.7	16	5.4	21	150	15	160	01
02	101	73	87	M	65	73	0	22	-	-		M	M	M	0.00	29.23	29.95	2.7	14	4.5	18	150	12	130	02
03	102	72*	87*	M	64	72	0	22	-	-		M	M	M	0.00	29.15	29.88	1.2	19	3.4	24	210	16	280	03
04	103	77	90	M	62	72	0	25	-	-		M	M	M	0.00	29.11	29.84	5.2	18	6.8	16	130	13	130	04
05	102	76	89	M	62	71	0	24	-	-		M	M	M	0.00	29.14	29.86	3.6	16	5.5	18	150	14	160	05
06	103	75	89	M	62	71	0	24	-	-		M	M	M	0.00	29.15	29.86	3.5	16	5.4	21	110	15	150	06
07	105	79	92	M	62	72	0	27	-	-		M	M	M	0.00	29.07	29.80	4.8	19	6.0	18	190	13	160	07
08	108	81	95	M	61	72	0	30	-	-		M	M	M	0.00	28.99	29.71	5.7	20	6.5	18	210	13	200	08
09	104	82	93	M	61	72	0	28	-	-		M	M	M	0.00	29.05	29.76	8.0	18	8.8	24	160	17	150	09
10	102	82	92	M	63	73	0	27	-	-		M	M	M	0.00	29.14	29.84	8.3	17	9.2	28	110	18	150	10
11	103	79	91	M	66	74	0	26	-	-		M	M	M	0.00	29.16	29.89	8.4	17	9.2	23	150	17	160	11
12	103	82	93	M	66	74	0	28	-	-		M	M	M	0.00	29.13	29.86	7.6	17	8.1	23	150	18	150	12
13	106	83	95	M	62	73	0	30	-	-		M	M	M	0.00	29.08	29.80	6.4	19	7.4	20	180	16	150	13
14	106	82	94	M	64	74	0	29	-	-		M	M	M	0.00	29.03	29.75	5.7	18	7.5	25	160	16	140	14
15	106	80	93	M	64	74	0	28	-	-		M	M	M	0.00	29.02	29.73	4.2	16	6.1	22	160	16	160	15
16	103	80	92	M	67	75	0	27	-	-		M	M	M	0.00	29.11	29.81	5.9	13	6.9	20	090	15	140	16
17	102	79	91	M	65	74	0	26	-	-		M	M	M	0.00	29.21	29.93	2.6	13	4.0	20	110	14	110	17
18	102	79	91	M	67	75	0	26	-	-		M	M	M	0.00	29.19	29.91	3.6	10	4.5	15s	070	18	220	18
19	102	80	91	M	68	75	0	26	-	-		M	M	M	0.00	29.13	29.85	6.2	13	7.5	22	120	17	130	19
20	101	79	90	M	68	75	0	25	-	-		M	M	M	0.00	29.09	29.82	7.5	16	7.8	21	110	15	140	20
21	104	82	93	M	65	74	0	28	-	-		M	M	M	0.00	29.07	29.79	7.3	16	8.4	22	150	16	150	21
22	102	81	92	M	67	75	0	27	-	-		M	M	M	0.00	29.10	29.80	10.2	17	10.8	25	150	18	150	22
23	105	80	93	M	66	74	0	28	-	-		M	M	M	0.00	29.16	29.87	8.2	18	9.1	25	160	17	190	23
24	106	81	94	M	62	72	0	29	-	-		M	M	M	0.00	29.20	29.92	6.2	19	7.1	28	320	15	260	24
25	108*	82	95	M	62	73	0	30	-	-		M	M	M	0.00	29.10	29.83	6.0	18	7.2	26	170	18	170	25
26	104	85	95	M	64	73	0	30	-	-		M	M	M	T	29.02	29.74	5.8	14	7.2	M	M	16	130	26
27	107	80	94	M	63	73	0	29	-	-		M	M	M	0.00	29.03	29.74	6.8	16	7.8	M	M	18	140	27
28	104	80	92	M	65	74	0	27	-	-		M	M	M	0.00	29.11	29.81	8.1	15	8.9	M	M	16	170	28
29	104	80	92	M	67	75	0	27	-	-		M	M	M	0.00	29.18	29.89	7.5	16	8.2	M	M	18	150	29
30	101	77	89	M	67	74	0	24	-	-		M	M	M	0.00	29.25	29.97	7.4	18	7.6	M	M	17	160	30
31	106	83	95*	M	65	74	0	30	-	-		M	M	M	0.00	29.25	29.97	4.5	17	5.9	M	M	16	160	31
	103.7	79.5	91.6s		64.4	73.4	0.0	26.8	<----Monthly Averages | Totals---->			M	M	T	29.13	29.84	5.6	17	7.1	<Monthly Average				
	M	M	M				<----Departure From Normal---->								M										

Degree Days — Monthly Total / Departure — Season to Date Total / Departure

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	0	M	M	M
Cooling:	832	M	M	M

Greatest 24-hr Precipitation: T Date: M
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure	Value	Date	Time (LST)
Maximum	30.06	31	0828
Minimum	29.63	08	1907

Number of Days with ——>
- Max Temp >=90: 31
- Max Temp <=32: 0
- Thunderstorms : 0
- Min Temp <=32: 0
- Min Temp <=0 : 0
- Heavy Fog : 0
- Precipitation >=.01 inch: 0
- Precipitation >=.10 inch:
- Snowfall >=1.0 inch : M

* EXTREMES FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 08/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	Precipitation (In) 1800 UTC Water Equiv	2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	108	80	94	M	59	72	0	29	-	-		M	M	M	0.00	29.16	29.89	3.5	22	5.0	25	250	14	150	01
02	110	82	96	M	58	72	0	31	-	-		M	M	M	0.00	29.07	29.79	4.4	18	5.7	21	160	16	130	02
03	112*	82	97	M	61	73	0	32	-	-		M	M	M	0.00	29.03	29.75	4.3	19	6.4	M	M	17	150	03
04	111	82	97	M	60	72	0	32	-	-		M	M	M	0.00	29.05	29.76	6.2	18	7.4	26	150	20	150	04
05	109	83	96	M	60	72	0	31	-	-		M	M	M	0.00	29.07	29.78	7.9	17	8.9	M	M	16	140	05
06	107	84	96	M	61	72	0	31	-	-		M	M	M	0.00	29.08	29.80	6.6	18	7.7	M	M	15	140	06
07	106	84	95	M	64	74	0	30	-	-		M	M	M	0.00	29.06	29.78	8.1	17	9.4	23	140	16	150	07
08	108	84	96	M	63	74	0	31	-	-		M	M	M	0.00	28.98	29.70	9.3	19	9.6	24	190	16	210	08
09	110	84	97*	M	64	74	0	32	-	-		M	M	M	0.00	28.98	29.70	9.1	18	9.6	26	200	17	190	09
10	106	83	95	M	61	72	0	30	-	-		M	M	M	0.00	29.00	29.70	8.0	17	9.0	24	220	17	140	10
11	99	79	89	M	69	75	0	24	-	-		M	M	M	T	29.05	29.77	5.0	13	9.3	39	010	25	010	11
12	105	80	93	M	66	74	0	28	-	-		M	M	M	0.00	29.08	29.79	6.7	17	8.1	40	220	31	230	12
13	88	74	81*	M	71	74	0	16	-	-	RA BR	M	M	M	1.36	29.20	29.91	0.8	13	4.0	29	350	23	350	13
14	99	75	87	M	69	75	0	22	-	-		M	M	M	0.00	29.17	29.90	1.1	06	2.5	M	M	8	100	14
15	105	76	91	M	66	74	0	26	-	-		M	M	M	0.00	29.08	29.81	3.3	19	4.4	20	220	14	210	15
16	106	84	95	M	62	72	0	30	-	-		M	M	M	0.00	29.13	29.84	8.0	19	8.5	23	150	16	150	16
17	105	82	94	M	61	72	0	29	-	-		M	M	M	0.00	29.21	29.92	4.8	19	5.7	22	150	14	140	17
18	107	74*	91	M	59	71	0	26	-	-		M	M	M	0.00	29.12	29.85	4.5	21	5.5	21	220	15	230	18
19	107	79	93	M	59	71	0	28	-	-		M	M	M	0.00	29.05	29.77	6.0	20	7.6	21	200	16	230	19
20	109	81	95	M	62	73	0	30	-	-		M	M	M	0.00	29.09	29.80	5.1	20	6.2	23	160	16	220	20
21	102	81	92	M	64	73	0	27	-	-		M	M	M	0.00	29.18	29.89	5.3	15	7.2	M	M	15	130	21
22	105	79	92	M	63	73	0	27	-	-		M	M	M	0.00	29.16	29.88	2.9	18	4.1	17	160	12	130	22
23	107	79	93	M	63	73	0	28	-	-		M	M	M	0.00	29.10	29.82	4.8	20	5.9	30	180	M	M	23
24	107	79	93	M	64	73	0	28	-	-	BLDU	M	M	M	0.00	29.09	29.81	5.5	18	7.7	30	120	25	120	24
25	105	75	90	M	67	75	0	25	-	-	TSRA	M	M	M	T	29.11	29.83	2.7	15	5.6	18	150	13	160	25
26	105	78	92	M	63	73	0	27	-	-		M	M	M	0.00	29.13	29.85	2.6	19	4.2	18	250	12	200	26
27	108	76	92	M	62	72	0	27	-	-		M	M	M	0.00	29.10	29.82	2.0	10	3.7	20	090	12	090	27
28	108	81	95	M	58	71	0	30	-	-		M	M	M	0.00	29.03	29.75	3.2	14	4.5	23	120	12	130	28
29	103	85	94	M	59	71	0	29	-	-	RA	M	M	M	T	29.04	29.75	9.8	15	10.6	26	120	20	140	29
30	106	84	95	M	57	70	0	30	-	-	RA	M	M	M	T	29.05	29.76	11.6	17	12.1	29	150	21	160	30
31	105	84	95	M	56	70	0	30	-	-	RA	M	M	M	T	29.13	29.84	8.6	17	9.2	24	160	17	160	31
	105.7	78.8	92.3s		62.3	72.6	0.0	28.3	<---Monthly Averages | Totals---->			M	M	1.36s	29.09	29.81	5.2	18	6.9	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->											M									

Degree Days: Monthly Total 0, Departure M; Season to Date Total 876, Departure M

Heating: 0 M M M
Cooling: 876 M M M

Greatest 24-hr Precipitation: 1.36 Date: 13
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure: Maximum 30.00 Date 17 Time (LST) 1133; Minimum 29.59 Date 08 1925

Number of Days with ---->
Max Temp >=90: 30
Max Temp <=32: 0
Thunderstorms : 1
Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 0
Precipitation >=.01 inch: 1
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 09/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(in) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (in) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	102	80	91	M	56	69	0	26	-	-		M	M	M	0.00	29.16	29.88	6.5	14	7.2	25	170	18	120	01
02	101	81	91	M	62	72	0	26	-	-		M	M	M	0.00	29.09	29.81	7.1	13	8.1	25	100	17	110	02
03	99	71	85	M	57	68	0	20	-	-		M	M	M	0.00	29.03	29.75	5.5	08	5.9	30	060	17	080	03
04	96	71	84	M	57	67	0	19	-	-		M	M	M	0.00	29.10	29.80	13.7	01	14.1	36	360	25	360	04
05	85	56	71	M	39	56	0	6	-	-		M	M	M	0.00	29.23	29.96	11.9	36	12.2	32	350	23	350	05
06	88	48*	68	M	40	54	0	3	-	-		M	M	M	0.00	29.27	30.02	1.8	05	2.5	14	060	10	070	06
07	91	49	70	M	37	55	0	5	-	-		M	M	M	0.00	29.34	30.08	5.6	01	6.2	28	340	17	040	07
08	89	60	75	M	40	56	0	10	-	-		M	M	M	0.00	29.31	30.06	5.8	01	6.4	24	020	16	040	08
09	89	55	72	M	37	55	0	7	-	-		M	M	M	0.00	29.23	29.99	2.6	36	3.3	21	330	14	360	09
10	93	53	73	M	42	57	0	8	-	-		M	M	M	0.00	29.23	29.98	1.5	33	2.6	18	310	13	340	10
11	97	56	77	M	46	60	0	12	-	-		M	M	M	0.00	29.27	30.01	2.1	35	3.2	20	320	15	320	11
12	104	57	81	M	47	62	0	16	-	-		M	M	M	0.00	29.22	29.97	3.3	16	3.7	20	170	14	150	12
13	107*	74	91*	M	48	65	0	26	-	-		M	M	M	0.00	29.10	29.83	7.3	22	7.8	29	260	21	260	13
14	97	73	85	M	52	65	0	20	-	-	RA	M	M	M	T	29.15	29.86	1.3	03	7.0	32	120	18	050	14
15	75	64	70	M	54	60	0	5	-	-		M	M	M	0.00	29.34	30.07	9.8	05	10.3	24	040	18	030	15
16	93	66	80	M	60	66	0	15	-	-	TSRA RA BR	M	M	M	1.34	29.28	30.02	5.5	13	7.0	38	250	29	250	16
17	93	67	80	M	66	70	0	15	-	-		M	M	M	0.00	29.20	29.95	7.1	17	7.8	23	160	18	160	17
18	95	72	84	M	66	71	0	19	-	-	TS	M	M	M	0.01	29.16	29.90	3.0	22	8.8	26	190	21	160	18
19	87	59	73	M	53	62	0	8	-	-		M	M	M	0.00	29.26	30.00	6.9	36	7.3	25	010	20	020	19
20	89	54	72	M	52	61	0	7	-	-		M	M	M	0.00	29.18	29.94	1.1	09	1.7	12	130	8	100	20
21	93	62	78	M	55	64	0	13	-	-		M	M	M	0.00	29.21	29.95	3.8	12	4.4	17	140	14	120	21
22	78	60	69	M	55	61	0	4	-	-	RA	M	M	M	0.03	29.33	30.06	7.2	36	9.6	29	020	21	030	22
23	82	49	66*	M	50	57	0	1	-	-	BR	M	M	M	0.00	29.31	30.07	0.7	36	1.8	10	090	7	130	23
24	97	55	76	M	48	61	0	11	-	-		M	M	M	0.00	29.05	29.83	5.8	20	6.5	24	190	17	220	24
25	92	67	80	M	50	63	0	15	-	-		M	M	M	0.00	28.97	29.69	2.2	33	8.3	22	310	17	310	25
26	89	61	75	M	56	64	0	10	-	-		M	M	M	0.00	29.06	29.79	5.1	07	5.7	15	140	13	140	26
27	92	66	79	M	57	66	0	14	-	-		M	M	M	0.00	29.11	29.84	3.2	05	3.7	17	050	13	070	27
28	95	62	79	M	52	62	0	14	-	-	HZ	M	M	M	0.00	29.11	29.85	0.9	08	1.8	16	140	12	130	28
29	100	62	81	M	55	65	0	16	-	-	TS GR RA	M	M	M	0.46	29.14	29.86	2.7	05	4.2	59	020	40	010	29
30	81	53	67	M	37	54	0	2	-	-		M	M	M	0.00	29.37	30.10	7.6	03	8.0	26	040	20	050	30
	92.3	62.1	77.2		50.9	62.3	0.0	12.4	<----Monthly Averages | Totals---->			M	M	1.84s	29.20	29.93	2.0	05	6.2	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->											M										

Degree Days — Monthly: Total 0, Departure M; Season to Date: Total M, Departure M

Heating: 0 M M M
Cooling: 373 M M M

Greatest 24-hr Precipitation: 1.34 Date: 16
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure		Date	Time (LST)
Maximum	30.20	30	0950
Minimum	29.60	25	0452

Number of Days with ------>
Max Temp >=90: 19
Max Temp <=32: 0
Thunderstorms : 3
Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 0
Precipitation >=.01 inch: 4
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 10/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	Precipitation (In) 1800 UTC Water Equiv	2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	82	50	66	M	38	52	0	1	-	-		0	M	0.0	0.00	29.39	30.16	1.1	08	1.9	14	120	9	120	01
02	83	46	65	M	40	52	0	0	-	-		0	M	0.0	0.00	29.39	30.16	3.2	14	3.8	M	M	12	330	02
03	87	50	69	M	42	55	0	4	-	-		0	M	0.0	0.00	29.39	30.14	4.0	14	4.2	17	130	13	120	03
04	87	50	69	M	43	55	0	4	-	-		0	M	0.0	0.00	29.36	30.13	2.9	16	4.0	20	130	14	150	04
05	87	57	72	M	44	57	0	7	-	-		0	M	0.0	0.00	29.27	30.03	7.7	15	8.0	26	140	21	160	05
06	88	67	78	M	59	66	0	13	-	-	RA	0	M	0.0	T	29.18	29.93	13.8	16	14.0	37	150	26	150	06
07	90*	73	82*	M	64	70	0	17	-	-		0	M	0.0	0.00	29.20	29.94	16.6	15	16.8	32	150	25	160	07
08	86	63	75	M	63	67	0	10	-	-	TSRA RA BR	0	M	0.0	0.94	29.23	29.96	6.8	13	13.3	36	340	29	350	08
09	67	61	64	M	61	62	1	0	-	-	RA BR	0	M	0.0	1.87	29.24	29.99	5.2	35	6.7	23	350	17	340	09
10	76	58	67	M	58	61	0	2	-	-	BR	0	M	0.0	0.00	29.23	30.00	3.1	35	3.4	15	030	10	360	10
11	83	55	69	M	57	62	0	4	-	-		0	M	0.0	0.00	29.08	29.86	3.3	19	3.8	22	150	17	150	11
12	82	61	72	M	61	64	0	7	-	-	TSRA RA BR	0	M	0.0	1.17	29.05	29.80	3.9	26	6.0	35	320	26	310	12
13	79	54	67	M	46	56	0	2	-	-		0	M	0.0	0.00	29.18	29.92	6.6	34	7.0	21	340	16	340	13
14	86	50	68	M	48	57	0	3	-	-		0	M	0.0	0.00	29.17	29.92	3.6	18	3.8	20	160	15	170	14
15	87	53	70	M	50	59	0	5	-	-		0	M	0.0	0.00	29.26	30.00	3.1	16	3.5	M	M	13	160	15
16	87	62	75	M	55	62	0	10	-	-		0	M	0.0	0.00	29.20	29.96	6.5	19	6.9	20	140	15	210	16
17	88	60	74	M	57	63	0	9	-	-	TSRA	0	M	0.0	0.26	29.01	29.76	5.2	20	11.0	38	330	29	330	17
18	67	51	59	M	36	48	6	0	-	-		0	M	0.0	0.00	29.27	30.02	15.0	33	15.2	36	340	28	340	18
19	68	42	55	M	33	45	10	0	-	-		0	M	0.0	0.00	29.31	30.08	9.1	32	9.7	32	340	25	320	19
20	72	37	55	M	36	46	10	0	-	-		0	M	0.0	0.00	29.28	30.06	4.0	15	4.6	23	140	18	150	20
21	82	48	65	M	48	55	0	0	-	-		0	M	0.0	0.00	29.28	30.06	1.6	18	2.3	17	150	10	170	21
22	83	54	69	M	59	64	0	4	-	-		0	M	0.0	0.00	29.20	29.96	7.2	18	7.3	24	190	21	170	22
23	72	54	63	M	60	62	2	0	-	-	TSRA MIFG BR	0	M	0.0	0.87	29.27	30.01	1.8	01	3.6	39	340	29	340	23
24	80	51	66	M	57	60	0	1	-	-	FG+ FG BR	0	M	0.0	0.00	29.36	30.12	2.9	15	3.2	14	110	12	120	24
25	85	60	73	M	56	63	0	8	-	-		0	M	0.0	0.00	29.18	29.95	9.7	18	9.8	31	190	21	170	25
26	82	59	71	M	57	62	0	6	-	-		0	M	0.0	0.00	29.10	29.86	2.8	22	9.6	26	190	17	190	26
27	59	47	53	M	46	49	12	0	-	-	RA DZ BR	0	M	0.0	0.19	29.26	30.01	12.5	36	13.1	35	040	24	360	27
28	62	39	51	M	40	46	14	0	-	-		0	M	0.0	0.00	29.47	30.23	7.4	35	8.0	23	340	18	340	28
29	65	34*	50*	M	35	44	15	0	-	-		0	M	0.0	0.00	29.39	30.20	4.5	18	4.9	21	220	15	170	29
30	70	44	57	M	39	47	8	0	-	-		0	M	0.0	0.00	29.36	30.14	4.5	18	4.7	21	180	14	170	30
31	76	40	58	M	44	52	7	0	-	-		0	M	0.0	0.00	29.34	30.13	4.5	16	4.6	20	150	13	160	31
	79.4	52.6	66.0		49.4	56.9	2.7	3.8	<——Monthly Averages | Totals——>			M	M	5.32s		29.26	30.01	1.7	17	7.1	<Monthly Average			
	M	M	M		<——Departure From Normal——>										M										

Degree Days	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	85	M	M	M
Cooling:	117	M	M	M

Greatest 24-hr Precipitation: 2.81s Date: 08-09
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure		Date	Time (LST)
Maximum	30.32	29	0824
Minimum	29.57	17	1926

Number of Days with ——>
Max Temp >=90: 1
Max Temp <=32: 0
Thunderstorms : 4
Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 1
Precipitation >=.01 inch: 5s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 11/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(Inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	76	53	65	M	48	56	0	0	-	-		0	M	0.0	0.00	29.24	30.01	11.6	17	11.3	30	160	22	160	01
02	77	44	61	M	50	55	4	0	-	-	BR	0	M	0.0	0.00	29.30	30.03	4.9	25	16.8	44	320	32	320	02
03	57	31	44	M	27	38	21	0	-	-		0	M	0.0	0.00	29.54	30.32	9.7	32	9.9	28	330	22	330	03
04	63	25	44	M	27	38	21	0	-	-		0	M	0.0	0.00	29.37	30.19	1.2	15	1.9	10	130	9	130	04
05	70	42	56	M	40	49	9	0	-	-		0	M	0.0	0.00	29.14	29.95	10.8	15	11.0	33	160	25	150	05
06	78	63	71	M	60	63	0	6	-	-		0	M	0.0	0.00	29.18	29.93	12.3	17	12.5	26	150	21	160	06
07	78	68	73	M	65	67	0	8	-	-	TSRA RA DZ BR	0	M	0.0	0.28	29.15	29.91	13.7	16	13.8	35	130	22	140	07
08	71	50	61	M	57	60	4	0	-	-	RA	0	M	0.0	0.02	29.18	M	4.6	25	11.3	26	180	20	900	08
09	60	42	51	M	35	44	14	0	-	-		0	M	0.0	0.00	29.56	30.31	11.0	34	11.5	30	360	20	360	09
10	64	34	49	M	30	41	16	0	-	-		0	M	0.0	0.00	29.57	30.37	4.1	29	5.0	20	330	14	290	10
11	70	38	54	M	28	43	11	0	-	-		0	M	0.0	0.00	29.29	30.10	8.9	19	9.2	29	190	17	190	11
12	75	51	63	M	44	53	2	0	-	-		0	M	0.0	0.00	29.08	29.87	12.0	19	12.1	33	200	25	210	12
13	84*	62	73	M	54	61	0	8	-	-		0	M	0.0	0.00	29.02	29.77	9.9	20	10.3	28	220	21	240	13
14	81	67	74*	M	62	66	0	9	-	-	HZ	0	M	0.0	0.00	29.00	29.75	8.2	20	8.5	29	210	22	220	14
15	83	58	71	M	60	64	0	6	-	-	RA BR	0	M	0.0	0.29	28.95	29.70	2.4	21	5.0	26	280	21	300	15
16	60	42	51	M	43	50	14	0	-	-	BR	0	M	0.0	0.00	29.29	29.99	10.5	36	10.8	28	350	21	360	16
17	56	32	44	M	29	38	21	0	-	-		0	M	0.0	0.00	29.57	30.35	1.4	04	4.8	23	010	16	360	17
18	63	41	52	M	39	47	13	0	-	-		0	M	0.0	0.00	29.23	30.06	12.5	17	12.6	31	180	23	170	18
19	78	61	70	M	59	63	0	5	-	-		0	M	0.0	0.00	29.08	29.85	11.8	18	11.9	32	220	23	180	19
20	71	47	59	M	52	55	6	0	-	-	BR	0	M	0.0	0.05	29.30	30.04	4.9	33	8.2	23	350	17	340	20
21	52	45	49	M	46	48	16	0	-	-	TSRA RA DZ BR HZ	0	M	0.0	1.02	29.25	30.04	5.6	35	7.4	24	290	16	340	21
22	63	42	53	M	46	48	12	0	-	-	BR	0	M	0.0	0.00	29.33	30.09	6.5	32	7.2	23	300	17	340	22
23	67	37	52	M	44	48	13	0	-	-	BR	0	M	0.0	0.00	29.47	30.25	0.1	11	0.4	6	080	5	100	23
24	65	36	51	M	46	48	14	0	-	-	BR HZ	0	M	0.0	0.00	29.42	30.22	6.6	14	6.9	22	140	17	140	24
25	69	51	60	M	53	56	5	0	-	-	BR	0	M	0.0	0.00	29.17	29.97	10.4	16	10.5	26	160	20	170	25
26	65	47	56	M	44	50	9	0	-	-	RA	0	M	0.0	0.05	29.26	M	8.6	31	16.4	43	330	32	320	26
27	49	35	42	M	19	M	23	0	-	-		0	M	0.0	0.00	29.49	30.27	14.2	32	14.4	32	310	25	340	27
28	57	22*	40*	M	21	33	25	0	-	-		0	M	0.0	0.00	29.33	30.14	1.0	29	1.4	13	320	10	330	28
29	59	29	44	M	28	38	21	0	-	-		0	M	0.0	0.00	29.44	30.22	6.6	33	7.2	23	350	16	350	29
30	59	26	43	M	27	37	22	0	-	-		0	M	0.0	0.00	29.36	30.17	3.6	16	4.1	15	150	13	160	30
	67.3	44.0	55.7		42.8	50.2	10.5	1.4	<----Monthly Averages | Totals---->			M	M	1.72s		29.28	30.06	2.4	21	9.1	<Monthly Average			
	M	M	M	<----------Departure From Normal---------->											M										

Degree Days — Monthly: Total 316 Departure M; Season to Date: Total M Departure M
Heating: 316 M M M
Cooling: 42 M M M

Greatest 24-hr Precipitation: 1.02 Date: 21
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure — Date — Time (LST)
Maximum 30.50 17 0952
Minimum 29.62 15 1508

Number of Days with ----->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 2

Min Temp <=32: 6
Min Temp <=0 : 0
Heavy Fog : 0

Precipitation >=.01 inch: 6
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 12/2011

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	63	40	52	M	44	49	13	0	-	-	RA BR	0	M	0.0	0.01	29.39	30.15	3.0	16	4.7	18	160	14	170	01
02	56	42	49	M	44	45	16	0	-	-	RA DZ FG+ BR	0	M	0.0	0.10	29.46	30.25	5.2	01	6.5	20	360	16	350	02
03	64	50	57	M	52	54	8	0	-	-	RA BR	0	M	0.0	0.56	29.25	30.03	7.1	16	10.0	30	150	23	140	03
04	50	39	45	M	38	40	20	0	-	-	RA BR	0	M	0.0	1.38	29.36	30.15	8.6	36	9.2	22	030	18	340	04
05	41	33	37	M	30	34	28	0	-	-	RA DZ SN BR	0	M	M	0.48	29.44	30.22	15.4	35	15.9	35	360	25	360	05
06	35	25	30*	M	23	28	35	0	-	-	SN BR	M	M	M	T	29.54	30.35	11.2	33	11.7	24	300	20	350	06
07	47	19*	33	M	23	29	32	0	-	-		0	M	0.0	0.00	29.51	30.35	2.6	23	3.6	16	220	10	210	07
08	56	30	43	M	28	35	22	0	-	-		0	M	0.0	0.00	29.39	30.21	6.5	17	6.6	21	150	17	160	08
09	51	35	43	M	37	40	22	0	-	-	DZ FG BR	0	M	0.0	T	29.52	30.30	2.7	01	4.5	18	010	14	360	09
10	51	31	41	M	32	36	24	0	-	-	BR	0	M	0.0	0.00	29.70	30.51	3.7	36	4.2	18	360	15	360	10
11	50	29	40	M	29	37	25	0	-	-	BR	0	M	0.0	0.00	29.54	30.37	4.8	13	5.2	15	130	13	110	11
12	53	46	50	M	31	41	15	0	-	-	RA	0	M	0.0	T	29.47	30.26	5.9	13	6.2	17	130	15	120	12
13	64	51	58	M	50	54	7	0	-	-	RA DZ BR HZ	0	M	0.0	0.04	29.38	30.18	8.7	13	8.9	29	160	23	160	13
14	68	60	64*	M	61	62	1	0	-	-	TSRA RA DZ BR	0	M	0.0	0.62	29.18	29.96	10.5	17	11.8	31	170	25	160	14
15	60	42	51	M	44	47	14	0	-	-	TSRA RA BR	0	M	0.0	1.02	29.39	30.15	6.9	01	8.0	22	020	16	360	15
16	52	33	43	M	33	39	22	0	-	-	RA	0	M	0.0	0.07	29.59	30.37	6.8	36	6.9	20	350	15	360	16
17	58	27	43	M	32	38	22	0	-	-		0	M	0.0	0.00	29.65	30.46	0.7	33	1.5	14	160	7	230	17
18	59	41	50	M	38	45	15	0	-	-		0	M	0.0	0.00	29.44	30.26	6.5	17	6.6	20	170	15	170	18
19	63	49	56	M	50	52	9	0	-	-	RA BCFG BR	0	M	0.0	0.50	29.07	29.88	8.2	15	9.2	31	130	23	140	19
20	50	37	44	M	36	41	21	0	-	-	BR	0	M	0.0	0.00	29.16	29.94	9.7	27	11.4	29	270	22	280	20
21	56	29	43	M	33	38	22	0	-	-		0	M	0.0	0.00	29.16	29.97	3.4	19	4.6	15	150	12	140	21
22	57	36	47	M	38	42	18	0	-	-		0	M	0.0	0.00	29.31	30.07	5.9	31	8.0	24	310	20	320	22
23	43	35	39	M	31	36	26	0	-	-		0	M	0.0	0.00	29.62	30.40	8.8	36	9.2	24	360	20	340	23
24	43	36	40	M	31	37	25	0	-	-	RA	0	M	0.0	0.02	29.62	30.43	4.2	01	4.7	16	030	13	030	24
25	48	40	44	M	34	40	21	0	-	-	RA	0	M	0.0	0.01	29.59	30.40	5.6	34	5.9	17	360	12	320	25
26	47	36	42	M	36	39	23	0	-	-	RA DZ BR	0	M	0.0	T	29.34	30.16	6.0	28	6.5	20	300	14	290	26
27	58	32	45	M	30	37	20	0	-	-		0	M	0.0	0.00	29.39	30.20	5.5	31	6.1	21	320	16	320	27
28	60	26	43	M	32	38	22	0	-	-		0	M	0.0	0.00	29.27	30.08	2.9	18	4.1	25	160	20	160	28
29	66	27	47	M	34	41	18	0	-	-		0	M	0.0	0.00	29.13	29.94	4.7	18	4.8	20	170	16	170	29
30	66	34	50	M	34	43	15	0	-	-		0	M	0.0	0.00	29.24	30.01	2.5	36	3.2	15	030	10	010	30
31	75*	31	53	M	36	45	12	0	-	-		0	M	0.0	0.00	29.21	29.96	3.9	21	8.1	37	340	26	340	31
	55.2	36.2	45.7		36.3	41.4	19.1	0.0	<---Monthly Averages | Totals--->			M	M	4.82s		29.40	30.19	0.7	33	7.0	<Monthly Average			
	M	M	M		<---Departure From Normal--->										M										

Degree Days — Monthly: Total / Departure — Season to Date: Total / Departure

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	593	M	M	M
Cooling:	0	M	M	M

Greatest 24-hr Precipitation: 1.43s Date: 03-04
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure	Date	Time (LST)
Maximum 30.60	10	1024
Minimum 29.69	19	1530

Number of Days with --->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 2
Min Temp <=32: 11
Min Temp <=0 : 0
Heavy Fog : 1
Precipitation >=.01 inch: 11s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 01/2012

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	max 5-second Dir	max 2-minute Speed	max 2-minute Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	58	36	47	M	27	39	18	0	-	-		0	M	0.0	0.00	29.73	30.50	9.9	33	9.9	25	350	20	340	01
02	53	27	40	M	22	34	25	0	-	-		0	M	0.0	0.00	29.85	30.65	4.9	35	5.4	18	360	14	340	02
03	58	23	41	M	24	36	24	0	-	-		0	M	0.0	0.00	29.55	30.40	8.0	17	8.2	29	170	21	170	03
04	61	32	47	M	30	38	18	0	-	-		0	M	0.0	0.00	29.49	30.29	1.2	36	3.5	17	360	14	360	04
05	66	28	47	M	31	40	18	0	-	-		0	M	0.0	0.00	29.40	30.22	3.3	21	3.8	15	250	12	250	05
06	73	46	60	M	44	51	5	0	-	-		0	M	0.0	0.00	29.12	29.91	9.2	19	9.4	26	190	18	190	06
07	59	40	50	M	37	44	15	0	-	-		0	M	0.0	0.00	29.23	29.99	5.0	32	7.2	22	340	17	340	07
08	53	33	43	M	43	45	22	0	-	-	TSRA BR	0	M	0.0	0.03	29.31	30.08	3.7	02	4.0	16	050	12	040	08
09	48	42	45	M	39	41	20	0	-	-	RA DZ BR	0	M	0.0	1.31	29.31	30.11	10.2	36	11.0	23	360	18	360	09
10	47	40	44	M	40	42	21	0	-	-	TSRA RA BR	0	M	0.0	0.34	29.10	29.91	9.8	31	10.3	22	310	17	320	10
11	65	31	48	M	37	42	17	0	-	-		0	M	0.0	0.00	29.02	29.78	5.0	34	7.7	38	340	29	340	11
12	41	23	32*	M	14	27	33	0	-	-		0	M	0.0	0.00	29.44	30.21	12.0	33	12.7	37	360	29	340	12
13	57	22*	40	M	23	33	25	0	-	-		0	M	0.0	0.00	29.44	30.24	3.8	22	4.6	18	220	15	210	13
14	66	34	50	M	27	39	15	0	-	-		0	M	0.0	0.00	29.47	30.26	3.1	25	4.5	16	250	14	240	14
15	64	37	51	M	37	45	14	0	-	-		0	M	0.0	0.00	29.36	30.16	11.4	18	11.5	33	190	23	180	15
16	73	58	66	M	56	59	0	1	-	-		0	M	0.0	0.00	29.15	29.93	14.3	19	14.4	33	190	25	190	16
17	64	33	49	M	33	41	16	0	-	-		0	M	0.0	0.00	29.44	30.19	9.7	34	12.7	35	350	29	340	17
18	55	23	39	M	26	35	26	0	-	-		0	M	0.0	0.00	29.36	30.20	1.3	19	3.8	16	180	12	220	18
19	71	39	55	M	35	44	10	0	-	-		0	M	0.0	0.00	29.07	29.87	1.6	23	3.3	16	280	12	260	19
20	79*	35	57	M	42	49	8	0	-	-		0	M	0.0	0.00	29.00	29.75	2.8	21	8.1	26	360	18	360	20
21	51	31	41	M	29	36	24	0	-	-		0	M	0.0	0.00	29.19	29.99	5.4	35	8.3	25	350	18	360	21
22	77	40	59	M	38	48	6	0	-	-	BR BLDU	0	M	0.0	0.00	28.98	29.74	8.5	23	14.1	39	240	30	240	22
23	62	34	48	M	32	41	17	0	-	-		0	M	0.0	0.00	29.28	30.05	1.2	28	2.8	13	150	9	160	23
24	66	31	49	M	39	45	16	0	-	-	TSRA RA BR	0	M	0.0	1.26	29.21	29.99	6.4	09	8.0	22	070	18	120	24
25	50	47	49	M	45	47	16	0	-	-	TSRA RA DZ BR	0	M	0.0	2.65	29.10	29.90	10.4	36	11.8	32	080	25	080	25
26	58	40	49	M	40	45	16	0	-	-	RA DZ BR	0	M	0.0	0.22	29.21	29.97	8.7	30	9.3	23	320	20	320	26
27	68	36	52	M	39	45	13	0	-	-		0	M	0.0	0.00	29.22	29.98	3.8	21	9.9	33	350	26	340	27
28	51	29	40	M	27	35	25	0	-	-		0	M	0.0	0.00	29.65	30.42	6.2	36	6.9	22	360	17	350	28
29	60	28	44	M	29	38	21	0	-	-		0	M	0.0	0.00	29.55	30.38	4.0	19	4.1	18	190	14	180	29
30	67	36	52	M	43	49	13	0	-	-		0	M	0.0	0.00	29.34	30.16	10.0	18	10.1	32	190	22	180	30
31	75	57	66*	M	54	58	0	1	-	-		0	M	0.0	0.00	29.24	30.01	9.4	19	9.8	28	210	22	220	31
	61.2	35.2	48.2		34.9	42.3	16.7	0.1	<----Monthly Averages | Totals---->			M	M	5.82s		29.31	30.10	1.7	27	8.1	<Monthly Average			
	M	M	M				<----------Departure From Normal---------->								M									

Degree Days: Monthly Total / Departure; Season to Date Total / Departure
Heating: 517 M M M
Cooling: 2 M M M

Greatest 24-hr Precipitation: 3.91s Date: 24-25
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure Date Time (LST)
Maximum 30.79 02 1053
Minimum 29.58 22 1419

Number of Days with ---->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 4
Min Temp <=32: 12
Min Temp <=0 : 0
Heavy Fog : 0
Precipitation >=.01 inch: 6
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 02/2012

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	71	48	60	M	51	54	5	0	-	-		0	M	0.0	T	29.30	30.06	2.1	27	4.1	M	M	17	150	01
02	73	40	57	M	53	55	8	0	-	-	BR	0	M	0.0	T	29.25	30.04	7.3	12	7.7	25	120	21	110	02
03	73	51	62	M	59	61	3	0	-	-	RA DZ BR	0	M	0.0	0.22	29.17	29.93	6.3	18	12.4	28	320	22	150	03
04	54	41	48	M	38	43	17	0	-	-		0	M	0.0	0.00	29.46	30.22	13.9	33	14.1	29	350	22	350	04
05	47	29	38	M	32	37	27	0	-	-		0	M	0.0	0.00	29.57	30.36	9.5	35	9.8	28	360	21	360	05
06	54	27	41	M	33	39	24	0	-	-		0	M	0.0	0.00	29.47	30.29	0.8	07	2.3	13	010	9	020	06
07	58	44	51	M	39	44	14	0	-	-		0	M	0.0	0.00	29.49	30.26	2.4	33	2.9	15	330	12	330	07
08	45	30	38	M	33	37	27	0	-	-		0	M	0.0	0.00	29.62	30.43	5.8	34	6.1	18	350	15	350	08
09	55	28	42	M	37	40	23	0	-	-	RA BR HZ	0	M	0.0	0.09	29.41	30.24	5.2	16	5.4	18	160	15	160	09
10	56	33	45	M	37	41	20	0	-	-	RA BR	0	M	0.0	0.03	29.44	30.20	9.4	33	10.9	26	340	22	340	10
11	37	26*	32*	M	15	26	33	0	-	-		0	M	0.0	0.00	29.77	30.56	10.5	02	11.1	29	360	22	030	11
12	40	27	34	M	18	29	31	0	-	-	RA SN BR	0	M	M	0.06	29.61	30.46	5.4	13	7.4	24	130	18	130	12
13	49	33	41	M	37	39	24	0	-	-	RA SN FG+ BR	M	M	M	0.18	29.15	30.00	6.3	15	7.5	24	130	18	130	13
14	66	44	55	M	47	49	10	0	-	-	FG+ FG BR HZ	0	M	0.0	0.00	29.11	29.91	7.6	12	7.9	22	120	17	140	14
15	75	44	60	M	43	51	5	0	-	-	RA FG BR	0	M	0.0	0.01	29.16	29.91	5.4	23	10.0	28	270	21	250	15
16	55	40	48	M	40	44	17	0	-	-		0	M	0.0	0.00	29.41	30.19	5.5	36	6.9	21	010	14	020	16
17	62	43	53	M	45	49	12	0	-	-	RA BR	0	M	0.0	T	29.28	30.08	2.0	05	3.9	13	080	9	050	17
18	53	44	49	M	45	47	16	0	-	-	RA BR	0	M	0.0	1.26	29.20	29.98	9.0	01	10.2	26	360	20	360	18
19	54	40	47	M	41	43	18	0	-	-	BR HZ	0	M	0.0	0.00	29.29	30.09	1.6	28	4.6	16	340	13	340	19
20	66	42	54	M	42	47	11	0	-	-	BR	0	M	0.0	0.00	29.21	29.99	7.5	18	11.2	37	300	26	300	20
21	68	32	50	M	37	45	15	0	-	-		0	M	0.0	0.00	29.22	30.02	6.2	18	6.4	23	180	17	190	21
22	77	52	65	M	41	52	0	0	-	-		0	M	0.0	0.00	28.90	29.70	7.8	23	8.7	26	260	20	250	22
23	80*	51	66*	M	34	50	0	1	-	-		0	M	0.0	0.00	28.81	29.53	8.8	29	14.7	37	350	28	350	23
24	59	33	46	M	23	38	19	0	-	-		0	M	0.0	0.00	29.47	30.20	8.5	35	9.0	25	330	18	360	24
25	63	33	48	M	24	39	17	0	-	-		0	M	0.0	0.00	29.47	30.26	7.5	18	7.8	26	170	21	170	25
26	65	39	52	M	39	46	13	0	-	-		0	M	0.0	0.00	29.31	30.09	10.7	17	11.0	30	190	23	180	26
27	68	48	58	M	49	53	7	0	-	-		0	M	0.0	0.00	29.42	30.20	4.7	10	4.9	16	110	13	120	27
28	74	56	65	M	59	62	0	0	-	-	RA BR	0	M	0.0	T	29.16	29.94	12.3	17	13.0	38	160	29	170	28
29	75	41	58	M	35	49	7	0	-	-		0	M	0.0	0.00	29.18	29.95	5.8	28	6.5	22	270	16	300	29
	61.1	39.3	50.2		38.8	45.1	14.6	0.0	<----Monthly Averages | Totals---->			M	M	1.86§		29.32	30.11	0.3	24	8.2	<Monthly Average				
	M	M	M				<----------Departure From Normal---------->								M										

Degree Days — Monthly: Total 423, Departure M; Season to Date: Total M, Departure M

Heating: 423 M M M
Cooling: 1 M M M

Greatest 24-hr Precipitation: 1.26 Date: 18
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure	Date	Time (LST)
Maximum 30.67	12	0038
Minimum 29.38	23	0624

Number of Days with ---->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 0
Min Temp <=32: 7
Min Temp <=0 : 0
Heavy Fog : 2
Precipitation >=.01 inch: 8§
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 03/2012

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	81	40	61	M	49	56	4	0	-	-		0	M	0.0	0.00	28.95	29.73	8.0	18	8.1	26	180	21	160	01
02	68	47	58	M	41	50	7	0	-	-		0	M	0.0	0.00	29.03	29.76	7.4	33	11.8	25	320	20	310	02
03	59	34*	47	M	29	41	18	0	-	-		0	M	0.0	0.00	29.31	30.07	4.6	32	6.0	18	300	15	340	03
04	73	36	55	M	28	43	10	0	-	-		0	M	0.0	0.00	29.36	30.13	5.7	24	6.2	20	230	16	220	04
05	76	40	58	M	35	48	7	0	-	-		0	M	0.0	0.00	29.43	30.21	7.0	17	7.1	30	180	23	160	05
06	72	53	63	M	49	55	2	0	-	-		0	M	0.0	0.00	29.24	30.03	18.4	17	18.6	40	160	30	180	06
07	71	63	67	M	58	61	0	2	-	-	RA	0	M	0.0	T	29.14	29.90	16.1	17	16.3	35	160	28	160	07
08	72	41	57	M	50	53	8	0	-	-	RA DZ BR	0	M	0.0	0.19	29.36	30.08	5.2	02	14.3	40	360	30	350	08
09	53	41	47*	M	31	40	18	0	-	-	RA	0	M	0.0	0.05	29.60	30.39	8.9	04	9.4	30	030	21	030	09
10	52	46	49	M	40	44	16	0	-	-	RA BR	0	M	0.0	1.06	29.41	30.23	4.4	07	5.7	16	090	14	090	10
11	64	48	56	M	49	51	9	0	-	-	RA FG BR	0	M	0.0	0.22	29.19	29.99	4.2	19	5.8	22	160	16	170	11
12	80	50	65	M	53	58	0	0	-	-		0	M	0.0	0.00	29.21	29.97	8.1	19	8.4	21	220	14	210	12
13	76	62	69	M	62	65	0	4	-	-		0	M	0.0	0.00	29.27	30.02	8.9	18	9.2	24	190	18	160	13
14	77	66	72	M	63	66	0	7	-	-		0	M	0.0	0.00	29.28	30.03	11.9	17	12.0	24	190	18	170	14
15	79	67	73	M	64	66	0	8	-	-		0	M	0.0	0.00	29.29	30.04	11.0	18	11.1	30	190	22	190	15
16	79	66	73	M	63	66	0	8	-	-		0	M	0.0	T	29.24	30.00	12.1	17	11.7	25	160	21	160	16
17	77	66	72	M	62	65	0	7	-	-	TS	0	M	0.0	0.01	29.18	29.94	13.3	17	13.5	32	150	25	140	17
18	74	67	71	M	63	66	0	6	-	-		0	M	0.0	0.00	29.10	29.86	16.7	17	16.8	37	180	26	180	18
19	77	56	67	M	61	63	0	2	-	-	TSRA RA BR	0	M	0.0	1.70	28.92	29.67	14.2	17	17.5	51	190	36	160	19
20	65	48	57	M	50	53	8	0	-	-	TSRA RA BR	0	M	0.0	1.89	29.00	29.76	0.7	15	6.0	25	060	21	060	20
21	63	46	55	M	44	49	10	0	-	-		0	M	0.0	0.01	29.02	29.78	5.6	20	7.0	25	160	17	170	21
22	70	42	56	M	46	49	9	0	-	-	RA	0	M	0.0	0.02	29.10	29.85	4.0	23	8.4	33	310	26	300	22
23	74	43	59	M	46	52	6	0	-	-		0	M	0.0	0.00	29.23	29.99	1.6	25	1.9	13	330	9	340	23
24	79	45	62	M	52	57	3	0	-	-		0	M	0.0	0.00	29.23	29.99	1.4	18	1.7	15	150	9	160	24
25	83	50	67	M	54	59	0	2	-	-		0	M	0.0	0.00	29.26	30.01	0.6	15	1.3	13	120	9	120	25
26	81	53	67	M	56	61	0	2	-	-		0	M	0.0	0.00	29.23	29.98	5.5	17	5.6	23	140	16	150	26
27	78	55	67	M	55	60	0	2	-	-		0	M	0.0	0.00	29.21	29.97	7.7	17	7.9	26	160	21	170	27
28	74	61	68	M	61	63	0	3	-	-		0	M	0.0	0.00	29.20	29.95	6.6	18	6.5	20	190	13	170	28
29	79	59	69	M	62	64	0	4	-	-	DZ BR	0	M	0.0	T	29.08	29.85	5.9	17	6.9	22	150	17	150	29
30	82	67	75*	M	66	68	0	10	-	-	BR HZ	0	M	0.0	0.00	29.02	29.77	7.0	16	7.8	21	170	16	160	30
31	83*	63	73	M	65	68	0	8	-	-	BR HZ	0	M	0.0	0.00	29.02	29.76	5.9	16	6.2	17	140	13	160	31
	73.3	52.3	62.8	.	51.8	56.8	4.4	2.4	<----Monthly Averages | Totals---->			M	M	5.17s	29.20	29.96	5.7	17	8.9	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->											M										

Greatest 24-hr Precipitation: 3.55s Date: 19-20
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure		Date	Time (LST)
Maximum	30.51	09	1036
Minimum	29.54	02	0331

Degree Days	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	135	M	M	M
Cooling:	75	M	M	M

Number of Days with ---------->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 3

Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 0

Precipitation >=.01 inch: 11s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 04/2012

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	Precipitation (In) 1800 UTC Water Equiv	2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	max 5-second Dir	max 2-minute Speed	max 2-minute Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	85	67	76	M	66	69	0	11	-	-	BR HZ	0	M	0.0	0.00	28.91	29.65	12.3	17	12.0	30	180	21	170	01
02	83	67	75	M	64	68	0	10	-	-	BR HZ	0	M	0.0	0.00	28.87	29.61	13.5	15	14.3	29	180	23	120	02
03	73	56	65	M	63	64	0	0	-	-	TSRA RA BR HZ	0	M	0.0	0.78	29.02	29.74	3.6	12	6.7	25	140	17	130	03
04	73	55	64	M	54	57	1	0	-	-	FG+ BR	0	M	0.0	0.00	29.07	29.82	4.6	31	6.1	21	320	15	310	04
05	75	48	62	M	52	57	3	0	-	-		0	M	0.0	0.00	29.10	29.85	4.5	35	5.5	16	360	12	350	05
06	77	50	64	M	54	59	1	0	-	-		0	M	0.0	0.00	29.22	29.97	3.4	10	4.4	17	130	14	130	06
07	83	61	72	M	61	65	0	7	-	-		0	M	0.0	0.00	29.34	30.06	4.5	16	6.1	20	170	15	220	07
08	68	57	63	M	60	61	2	0	-	-	TSRA RA FG BR	0	M	0.0	0.50	29.43	30.19	3.6	05	4.8	18	070	15	080	08
09	71	57	64	M	61	62	1	0	-	-	FG+ FG BR HZ	0	M	0.0	0.00	29.35	30.13	2.0	10	3.0	12	120	9	130	09
10	83	61	72	M	61	65	0	7	-	-	BR HZ	0	M	0.0	0.00	29.29	30.05	1.1	21	3.3	22	350	17	360	10
11	82	58	70	M	60	64	0	5	-	-	BR HZ	0	M	0.0	0.00	29.26	30.03	4.6	13	5.6	20	140	15	120	11
12	79	62	71	M	61	65	0	6	-	-	BR HZ	0	M	0.0	0.00	29.18	29.94	12.7	15	13.5	29	170	22	160	12
13	79	66	73	M	64	67	0	8	-	-		0	M	0.0	0.00	29.10	29.86	13.2	17	13.4	31	180	22	160	13
14	80	71	76	M	66	69	0	11	-	-	RA HZ	0	M	0.0	T	28.97	29.72	18.6	16	18.6	47	160	32	160	14
15	76	53	65	M	56	61	0	0	-	-	TSRA RA BR HZ	0	M	0.0	0.44	29.03	29.75	7.9	20	9.3	38	160	26	160	15
16	72	50	61	M	48	54	4	0	-	-		0	M	0.0	0.00	29.36	30.09	4.0	05	5.6	24	050	16	050	16
17	77	44	61	M	50	55	4	0	-	-		0	M	0.0	0.00	29.41	30.18	1.1	08	1.9	16	050	8	150	17
18	79	51	65	M	53	58	0	0	-	-		0	M	0.0	0.00	29.27	30.06	6.6	16	6.9	20	160	15	160	18
19	80	55	68	M	52	59	0	3	-	-		0	M	0.0	0.00	29.04	29.83	10.0	17	10.6	31	170	23	160	19
20	69	51	60	M	53	57	5	0	-	-	TS TSRA RA BR HZ	0	M	0.0	0.06	29.15	29.90	8.7	35	12.6	35	160	25	360	20
21	75	44	60	M	45	52	5	0	-	-		0	M	0.0	0.00	29.24	30.00	3.4	36	3.8	20	350	12	360	21
22	81	47	64	M	46	55	1	0	-	-		0	M	0.0	0.00	29.33	30.08	6.4	35	7.4	29	010	21	360	22
23	74	41*	58*	M	42	51	7	0	-	-		0	M	0.0	0.00	29.36	30.14	0.8	01	1.3	18	040	10	040	23
24	87	51	69	M	51	59	0	4	-	-		0	M	0.0	0.00	29.13	29.91	6.3	18	6.6	24	190	15	170	24
25	89	65	77	M	63	68	0	12	-	-		0	M	0.0	0.00	28.98	29.73	11.4	18	11.9	30	180	18	170	25
26	88	68	78	M	66	70	0	13	-	-		0	M	0.0	0.00	28.99	29.73	9.4	15	9.6	23	150	18	160	26
27	89*	68	79*	M	62	68	0	14	-	-		0	M	0.0	0.00	28.95	29.69	15.5	17	15.7	32	160	25	160	27
28	86	67	77	M	63	68	0	12	-	-		0	M	0.0	0.00	29.04	29.75	12.6	17	13.0	32	150	21	160	28
29	86	68	77	M	63	68	0	12	-	-	HZ	0	M	0.0	T	29.13	29.87	12.0	16	12.2	30	180	22	160	29
30	85	71	78	M	67	70	0	13	-	-	BR HZ	0	M	0.0	T	29.13	29.88	11.3	17	11.4	29	170	20	170	30
	79.5	57.7	68.6		57.6	62.2	1.1	4.9	<---Monthly Averages | Totals--->			M	M	1.80s	29.15	29.91	5.1	16	8.6	<Monthly Average				
	M	M	M	<---------Departure From Normal--------->											M										

Degree Days — Monthly: Total 34, Departure M; Season to Date: Total M, Departure M
Heating: 34 M M M
Cooling: 148 M M M

Greatest 24-hr Precipitation: 0.79s Date: 03-04
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure — Date — Time (LST)
Maximum 30.26 23 1003
Minimum 29.51 02 1550

Number of Days with ---->
Max Temp >=90: 0
Max Temp <=32: 0
Thunderstorms : 5
Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 2
Precipitation >=.01 inch: 5s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 05/2012

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/ice on Ground(in) 1200 UTC Depth	Precipitation (in) 1800 UTC Water Equiv	2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	88	70	79	M	65	69	0	14	-	-	BR HZ	0	M	0.0	0.00	29.07	29.80	16.4	17	15.8	33	160	23	160	01
02	84	69	77	M	66	69	0	12	-	-		0	M	0.0	0.00	29.08	29.81	9.5	17	9.7	29	170	22	160	02
03	93	67	80	M	66	71	0	15	-	-		0	M	0.0	0.00	29.10	29.83	7.8	17	8.3	23	150	17	160	03
04	93	71	82	M	66	71	0	17	-	-		0	M	0.0	0.00	29.10	29.84	7.0	16	8.7	29	190	21	180	04
05	93	65	79	M	67	72	0	14	-	-		0	M	0.0	0.00	29.03	29.77	10.1	16	10.9	26	160	21	170	05
06	92	74	83	M	65	70	0	18	-	-		0	M	0.0	0.00	29.02	29.76	13.0	17	14.7	23	270	23	270	06
07	87	69	78	M	63	68	0	13	-	-	RA	0	M	0.0	T	29.12	29.83	5.0	34	8.8	29	320	22	320	07
08	70	64	67	M	58	62	0	2	-	-		0	M	0.0	T	29.22	29.96	9.0	36	9.3	26	360	20	350	08
09	83	55	69	M	48	58	0	4	-	-		0	M	0.0	0.00	29.23	29.98	4.2	04	5.3	22	060	15	070	09
10	84	51*	68	M	51	59	0	3	-	-		0	M	0.0	T	29.11	29.87	7.5	14	8.0	28	160	20	160	10
11	76	63	70	M	62	64	0	5	-	-	TS TSRA RA BR HZ	0	M	0.0	0.40	29.13	29.87	3.0	05	5.7	29	350	22	340	11
12	71	61	66*	M	61	63	0	1	-	-	RA BR HZ	0	M	0.0	0.03	29.34	30.07	5.5	35	6.2	18	030	14	020	12
13	82	56	69	M	57	62	0	4	-	-		0	M	0.0	0.00	29.36	30.11	4.3	36	5.2	17	350	14	350	13
14	83	55	69	M	56	62	0	4	-	-		0	M	0.0	0.00	29.29	30.05	2.6	05	3.8	20	060	13	080	14
15	85	57	71	M	54	61	0	6	-	-		0	M	0.0	0.00	29.28	30.02	1.7	06	4.3	18	030	14	090	15
16	89	55	72	M	52	61	0	7	-	-		0	M	0.0	0.00	29.24	29.99	0.7	15	2.7	M	M	12	050	16
17	91	60	76	M	54	63	0	11	-	-		0	M	0.0	0.00	29.17	29.92	4.9	18	6.0	21	160	15	160	17
18	90	60	75	M	56	65	0	10	-	-		0	M	0.0	0.00	29.09	29.84	10.3	17	10.4	31	160	23	160	18
19	91	67	79	M	60	67	0	14	-	-		0	M	0.0	0.00	29.13	29.85	13.4	16	13.5	32	150	25	150	19
20	90	68	79	M	59	66	0	14	-	-		0	M	0.0	0.00	29.31	30.02	6.0	14	7.2	20	130	15	140	20
21	90	58	74	M	59	66	0	9	-	-		0	M	0.0	0.00	29.33	30.07	2.6	05	3.7	17	040	12	030	21
22	94	61	78	M	58	66	0	13	-	-		0	M	0.0	0.00	29.13	29.89	4.2	16	5.2	17	150	14	150	22
23	93	71	82	M	62	69	0	17	-	-		0	M	0.0	0.00	28.86	29.62	14.2	17	14.3	36	170	26	160	23
24	96	73	85	M	67	72	0	20	-	-		0	M	0.0	0.00	28.85	29.56	15.8	17	16.0	33	160	24	160	24
25	96	74	85	M	67	72	0	20	-	-		0	M	0.0	0.00	29.07	29.76	15.0	17	15.1	32	140	24	150	25
26	95	74	85*	M	65	71	0	20	-	-		0	M	0.0	0.00	29.17	29.89	12.6	17	12.9	33	140	23	160	26
27	94	71	83	M	62	69	0	18	-	-		0	M	0.0	0.00	29.11	29.85	12.2	17	12.4	30	160	23	160	27
28	98*	68	83	M	65	71	0	18	-	-	TSRA BR	0	M	0.0	0.28	29.07	29.81	6.2	18	10.6	51	330	37	330	28
29	97	65	81	M	66	72	0	16	-	-	TS	0	M	0.0	0.00	29.05	29.79	6.7	17	8.1	46	180	33	170	29
30	92	67	80	M	62	68	0	15	-	-	TS TSRA RA	0	M	0.0	0.24	29.00	29.78	5.5	12	13.7	45	120	38	150	30
31	85	65	75	M	61	66	0	10	-	-	TS TSRA BR	0	M	0.0s	0.27	29.10	29.82	5.1	36	8.7	30	340	25	340	31
	88.5	63.7	76.1		60.6	66.6	0.0	11.7	<----Monthly Averages | Totals---->			M	M	1.22s	29.13	29.87	5.2	16	9.2	<Monthly Average				
	M	M	M		<----------Departure From Normal---------->										M										

Degree Days — Monthly (Total / Departure) — Season to Date (Total / Departure)

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	0	M	M	M
Cooling:	364	M	M	M

Greatest 24-hr Precipitation: 0.41 Date: 30-31
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure	Date	Time (LST)
Maximum 30.18	13	1028
Minimum 29.49	23	1824

Number of Days with ------>
Max Temp >=90: 18
Max Temp <=32: 0
Thunderstorms : 8
Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 0
Precipitation >=.01 inch: 5
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 06/2012

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(Inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Direction=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	max 5-second Dir	max 2-minute Speed	max 2-minute Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	87	56*	72	M	52	61	0	7	-	-		0	M	0.0	0.00	29.17	29.93	3.0	12	5.3	16	150	12	140	01
02	99	69	84	M	61	69	0	19	-	-		0	M	0.0	0.00	29.08	29.81	6.9	18	7.8	25	160	18	150	02
03	99	74	87	M	67	72	0	22	-	-		0	M	0.0	0.00	29.07	29.79	9.0	18	9.2	26	160	20	160	03
04	96	74	85	M	69	73	0	20	-	-		0	M	0.0	0.01	29.05	29.78	4.9	17	6.3	25	140	16	050	04
05	96	73	85	M	66	72	0	20	-	-	TS TSRA	0	M	0.0	T	29.01	29.74	3.5	02	5.0	31	030	24	030	05
06	97	69	83	M	68	71	0	18	-	-	TS TSRA BR	0	M	0.0	0.61	29.06	29.77	5.7	11	8.2	35	240	25	230	06
07	75	68	72*	M	66	68	0	7	-	-	RA DZ BR	0	M	0.0	0.14	29.19	29.93	4.3	08	5.5	18	130	14	100	07
08	87	69	78	M	61	67	0	13	-	-		0	M	0.0	0.00	29.15	29.90	4.3	08	5.4	18	090	13	090	08
09	94	64	79	M	65	70	0	14	-	-		0	M	0.0	0.00	29.00	29.75	7.0	16	7.2	22	160	17	140	09
10	95	74	85	M	68	73	0	20	-	-		0	M	0.0	0.00	28.96	29.69	13.0	16	13.2	31	160	23	160	10
11	100	73	87	M	70	75	0	22	-	-	TSRA	0	M	0.0	0.02	29.08	29.78	8.3	19	11.9	44	250	31	260	11
12	89	69	79	M	64	70	0	14	-	-		0	M	0.0	0.01	29.24	29.97	4.8	11	7.1	24	010	17	110	12
13	92	68	80	M	67	70	0	15	-	-	TSRA RA	0	M	0.0	0.03	29.17	29.90	6.8	14	7.9	26	160	21	170	13
14	96	76	86	M	68	74	0	21	-	-		0	M	0.0	0.00	29.10	29.83	10.9	15	11.4	26	150	20	150	14
15	93	68	81	M	69	73	0	16	-	-	TSRA BR	0	M	0.0	0.52	29.16	29.88	7.6	15	9.6	31	330	24	330	15
16	95	75	85	M	68	73	0	20	-	-		0	M	0.0	0.00	29.23	29.94	9.1	15	9.8	24	150	18	150	16
17	94	71	83	M	68	72	0	18	-	-	TS TSRA	0	M	0.0	0.02	29.14	29.89	4.6	18	5.5	26	120	18	140	17
18	95	74	85	M	66	72	0	20	-	-		0	M	0.0	0.00	29.02	29.76	13.1	16	13.3	29	140	22	140	18
19	95	75	85	M	69	73	0	20	-	-		0	M	0.0	0.00	29.08	29.80	16.8	16	17.0	36	150	28	140	19
20	95	75	85	M	68	73	0	20	-	-		0	M	0.0	0.00s	29.15	29.87	13.1	16	13.3	31	160	22	160	20
21	94	72	83	M	67	72	0	18	-	-		0	M	0.0	0.00	29.21	29.94	3.0	14	4.8	20	150	12	100	21
22	98	69	84	M	66	72	0	19	-	-		0	M	0.0	0.00	29.15	29.88	1.0	03	2.6	14	100	9	090	22
23	98	75	87	M	64	72	0	22	-	-		0	M	0.0	0.00	29.13	29.84	4.8	14	5.6	22	140	15	130	23
24	101	68	85	M	63	71	0	20	-	-		0	M	0.0	0.00	29.15	29.88	1.5	22	3.0	17	140	13	230	24
25	105	69	87	M	61	71	0	22	-	-		0	M	0.0	0.00	29.09	29.82	0.4	05	3.1	M	M	6s	050	25
26	108*	72	90	M	64	73	0	25	-	-	HZ	0	M	0.0	0.00	29.02	29.74	2.8	09	3.5	17	110	14	120	26
27	104	83	94*	M	63	73	0	29	-	-	HZ	0	M	0.0	0.00	M	M	9.0	13	9.3	21	110	15	100	27
28	102	78	90	M	61	71	0	25	-	-		0	M	0.0	0.00	29.21	29.92	7.0	17	7.6	M	M	18	160	28
29	101	77	89	M	64	72	0	24	-	-		0	M	0.0	0.00	29.15	29.88	7.7	17	8.7	21	130	16	130	29
30	99	76	88	M	66	73	0	23	-	-		0	M	0.0	0.00	29.10	29.83	6.6	16	8.1	29	140	20	160	30
	101.5	78.5	90.0		65.3	71.4	0.0	19.1	<----Monthly Averages | Totals---->			M	M	0.00s		M	29.88	5.8	15	7.9	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->											M										

Degree Days — Monthly Total / Monthly Departure / Season to Date Total / Season to Date Departure

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	0	M	M	M
Cooling:	573	M	M	M

Greatest 24-hr Precipitation: 0.00s Date: M
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Number of Days with ----->
Max Temp >=90.4s: 0
Max Temp <=32: 0
Thunderstorms : 9
Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 0
Precipitation >=.01 inch: 0s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

Sea Level Pressure	Date	Time (LST)
Maximum 29.98	28	1105
Minimum 29.76	30	1851

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 07/2012

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg. Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	1800 UTC Water Equiv	Precipitation (In) 2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	97	74	86	M	67	73	0	21	-	-		0	M	0.0	T	29.18	29.91	10.7	16	10.5	39	150	26	150	01
02	96	78	87	M	68	73	0	22	-	-		0	M	0.0	T	29.23	29.96	9.4	17	10.2	25	170	17	160	02
03	99	78	89	M	62	71	0	24	-	-		0	M	0.0	0.00	29.20	29.92	10.1	17	10.5	26	160	20	160	03
04	100	75	88	M	65	73	0	23	-	-		0	M	0.0	0.00	29.18	29.90	9.9	17	10.6	33	150	21	150	04
05	100	77	89	M	65	73	0	24	-	-		0	M	0.0	0.00	29.20	29.92	8.3	16	8.7	24	160	18	160	05
06	100	76	88	M	63	72	0	23	-	-		0	M	0.0	0.00	29.22	29.94	4.4	17	5.8	15s	140	12	140	06
07	103	73	88	M	64	71	0	23	-	-	TSRA	0	M	0.0	0.06	29.23	29.95	3.4	14	5.8	44	030	35	030	07
08	98	71	85	M	68	73	0	20	-	-		0	M	0.0	0.00	29.20	29.93	4.6	15	5.3	40	130	32	130	08
09	96	75	86	M	69	74	0	21	-	-		0	M	0.0	T	29.16	29.89	1.2	06	5.3	26	130	21	130	09
10	94	74	84	M	69	73	0	19	-	-	TSRA	0	M	0.0	T	29.15	29.88	4.8	06	5.7	29	070	22	070	10
11	97	72	85	M	66	72	0	20	-	-		0	M	0.0	0.00	29.15	29.88	5.6	06	6.9	25	030	17	040	11
12	96	71	84	M	68	73	0	19	-	-	BR	0	M	0.0	0.00	29.16	29.88	4.9	08	6.3	26	090	15	100	12
13	97	71	84	M	67	73	0	19	-	-		0	M	0.0	0.00	29.20	29.92	4.6	08	5.5	22	120	16	090	13
14	97	74	86	M	66	72	0	21	-	-	HZ	0	M	0.0	0.00	29.21	29.94	3.7	09	5.2	40s	060	29	060	14
15	96	72	84	M	68	72	0	19	-	-	RA	0	M	0.0	0.01	29.20	29.93	2.2	11	4.2	21	100	17	110	15
16	96	70*	83*	M	67	71	0	18	-	-		0	M	0.0	0.00	29.17	29.91	5.9	18	7.0	26	140	21	150	16
17	99	75	87	M	66	73	0	22	-	-		0	M	0.0	0.00	29.16	29.88	7.8	17	8.5	22	170	16	170	17
18	101	74	88	M	67	74	0	23	-	-		0	M	0.0	0.00	29.20	29.92	6.6	19	7.7	M	M	15	140	18
19	103	75	89	M	64	72	0	24	-	-		0	M	0.0	0.00	29.25	29.98	6.5	22	7.2	16s	190	13	250	19
20	107	78	93	M	65	73	0	28	-	-	TSRA RA	0	M	0.0	0.07	29.21	29.94	4.0	24	7.2	47	340	36	340	20
21	109*	72	91	M	64	73	0	26	-	-		0	M	0.0	T	29.14	29.86	1.0	14	3.2	30	150	21	160	21
22	104	78	91	M	66	74	0	26	-	-		0	M	0.0	0.00	29.18	29.90	7.8	16	9.0	24	160	20	160	22
23	101	79	90	M	65	73	0	25	-	-		0	M	0.0	0.00	29.26	29.97	8.9	16	9.5	28	150	18	150	23
24	101	77	89	M	66	74	0	24	-	-		0	M	0.0	0.00	29.20	29.93	9.5	18	9.8	23	160	17	160	24
25	103	80	92	M	66	74	0	27	-	-		0	M	0.0	0.00	29.09	29.83	11.2	18	11.5	28	160	21	150	25
26	104	80	92	M	69	75	0	27	-	-	TS	0	M	0.0	0.00	29.11	29.82	6.4	19	7.9	25	190	16	130	26
27	102	78	90	M	68	74	0	25	-	-		0	M	0.0	0.00	29.22	29.92	4.6	17	6.3	22	120	16	120	27
28	105	77	91	M	63	73	0	26	-	-	HZ	0	M	0.0	0.00	29.26	29.98	2.3	18	4.8	23	110	15	110	28
29	107	75	91	M	57	70	0	26	-	-		0	M	0.0	0.00	29.21	29.94	4.4	20	5.8	23	190	15	160	29
30	106	79	93	M	59	71	0	28	-	-		0	M	0.0	0.00	29.17	29.89	6.0	18	7.3	21	150	15	160	30
31	108	79	94*	M	63	73	0	29	-	-		M	M	M	0.00	29.13	29.86	5.6	17	7.2	21	150	15	170	31
	100.7	75.4	88.1		65.5	72.7	0.0	23.3	<---Monthly Averages | Totals--->			M	M	0.14s		29.19	29.91	4.8	16	7.3	<Monthly Average				
	M	M	M	<----------Departure From Normal---------->											M										

Degree Days — Monthly: Heating 0 (M), Cooling 722 (M); Season to Date: Heating M, Cooling M

Greatest 24-hr Precipitation: 0.07 Date: 20
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure — Date — Time (LST)
Maximum 30.05 28 0841
Minimum 29.73 25 1828

Number of Days with ——> Max Temp >=90: 31; Max Temp <=32: 0; Thunderstorms : 4

Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 0

Precipitation >=.01 inch: 3
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 08/2012

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max.	Min.	Avg.	Dep From Normal	Avg. Dew pt	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	Precipitation (In) 1800 UTC Water Equiv	2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	max 5-second Dir	max 2-minute Speed	max 2-minute Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	109	83	96	M	63	73	0	31	-	-		0	M	0.0	0.00	29.08	29.81	7.7	18	8.7	21	180	15	160	01
02	110	81	96*	M	60	72	0	31	-	-		0	M	0.0	0.00	29.03	29.74	8.5	19	9.6	28	150	20	160	02
03	107	80	94	M	64	74	0	29	-	-		0	M	0.0	0.00	29.05	29.75	9.9	17	10.5	28	160	20	160	03
04	105	80	93	M	64	73	0	28	-	-		0	M	0.0	0.00	29.15	29.85	9.3	18	10.1	24	200	18	150	04
05	103	79	91	M	65	74	0	26	-	-		0	M	0.0	0.00	29.28	29.98	3.6	16	4.8	20	110	14	110	05
06	105	79	92	M	66	74	0	27	-	-	TSRA	0	M	0.0	T	29.22	29.95	1.8	21	4.4	24	330	18	310	06
07	104	78	91	M	64	73	0	26	-	-	RA	0	M	0.0	T	29.14	29.87	2.2	21	4.5	21	010	15	220	07
08	97	78	88	M	67	73	0	23	-	-	RA	0	M	0.0	0.04	29.18	29.90	0.6	35	4.6	25	070	20	350	08
09	110*	73	92	M	62	72	0	27	-	-		0	M	0.0	0.00	29.09	29.82	2.9	27	5.9	22	300	16	300	09
10	100	71	86	M	56	68	0	21	-	-		0	M	0.0	0.00	29.13	29.85	6.5	02	7.0	25	010	17	360	10
11	98	65	82	M	51	64	0	17	-	-		0	M	0.0	0.00	29.15	29.88	2.6	10	3.7	18	060	10	080	11
12	107	74	91	M	62	71	0	26	-	-	TSRA	0	M	0.0	0.02	29.11	29.83	5.1	19	6.2	43	220	31	220	12
13	104	75	90	M	56	68	0	25	-	-		0	M	0.0	0.00	29.17	29.89	3.6	04	5.7	23	010	16	040	13
14	107	67	87	M	61	70	0	22	-	-	TS TSRA RA BR	0	M	0.0	1.20	29.11	29.84	1.5	14	7.4	39	360	30	360	14
15	94	68	81	M	69	73	0	16	-	-	TSRA RA BR	0	M	0.0	1.17	29.11	29.84	6.5	13	7.4	38	030	26	030	15
16	89	78	84	M	66	71	0	19	-	-	RA	0	M	0.0	T	29.19	29.91	2.1	18	5.2	26	190	17	180	16
17	99	72	86	M	68	73	0	21	-	-		0	M	0.0	0.00	29.15	29.89	0.6	15	2.8	29	150	20	180	17
18	92	68	80	M	66	70	0	15	-	-	TS TSRA FG BR	0	M	0.0	2.79	29.14	29.86	4.9	13	7.5	37	170	30	160	18
19	93	68	81	M	62	68	0	16	-	-	BR	0	M	0.0	0.00	29.16	29.90	3.6	34	4.2	22	360	17	360	19
20	92	66	79	M	59	66	0	14	-	-		0	M	0.0	0.00	29.18	29.92	2.5	07	4.6	M	M	10	120	20
21	78	64	71*	M	65	67	0	6	-	-	RA BR	0	M	0.0	0.38	29.28	30.02	2.4	26	3.4	16	280	13	280	21
22	91	61*	76	M	60	66	0	11	-	-	BR HZ	0	M	0.0	0.00	29.28	30.02	4.6	13	4.9	18	150	15	160	22
23	93	71	82	M	62	69	0	17	-	-		0	M	0.0	0.00	29.21	29.95	8.0	15	8.2	M	M	M	M	23
24	95	73	84	M	67	72	0	19	-	-		0	M	0.0	0.00	29.10	29.84	8.0	15	8.5	22	150	16	140	24
25	96	78	87	M	68	74	0	22	-	-		0	M	0.0	T	29.08	29.80	12.8	17	12.9	31	160	22	170	25
26	88	74	81	M	72	75	0	16	-	-	RA	0	M	0.0	0.06	29.23	29.94	4.3	17	5.4	18	200	14	160	26
27	96	72	84	M	69	74	0	19	-	-		0	M	0.0	0.00	29.23	29.96	3.4	02	4.0	20	040	14	360	27
28	94	75	85	M	69	73	0	20	-	-	TS	0	M	0.0	0.09	29.16	29.90	5.3	03	6.0	31	070	22	080	28
29	95	68	82	M	57	67	0	17	-	-		0	M	0.0	0.00	29.08	29.82	6.7	01	7.1	24	040	18	360	29
30	97	73	85	M	61	69	0	20	-	-		0	M	0.0	0.00	29.01	29.74	7.3	02	7.8	26	030	18	030	30
31	99	75	87	M	65	72	0	22	-	-		0	M	0.0	0.00	29.11	29.83	2.7	25	3.5	17	300	12	290	31
	98.3	73.1	85.7		63.4	70.9	0.0	20.9	<-----Monthly Averages | Totals---->			M	M	5.76s	29.15	29.87	2.1	15	6.3	<Monthly Average				
	M	M	M		<-------Departure From Normal------->										M										

Greatest 24-hr Precipitation: 2.79 Date: 18
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure Date Time (LST)
Maximum 30.10 22 0853
Minimum 29.66 30 1727

Degree Days	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	0	M	M	M
Cooling:	649	M	M	M

Number of Days with ——>
Max Temp >=90: 28
Max Temp <=32: 0
Thunderstorms : 8
Min Temp <=32. 0
Min Temp <=0 : 0
Heavy Fog : 0
Precipitation >=.01 inch: 9s
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2

QUALITY CONTROLLED LOCAL CLIMATOLOGICAL DATA

(final)

NOAA, National Climatic Data Center

Month: 09/2012

Station Location: FORT WORTH ALLIANCE ARPT (53909)
FORT WORTH, TX
Lat. 32.973 Lon. -97.318
Elevation(Ground): 685 ft. above sea level

Date	Temperature (Fahrenheit) Max	Min.	Avg.	Dep From Normal	Avg. Dew pt.	Avg Wet Bulb	Degree Days Base 65 Degrees Heating	Cooling	Sun Sunrise LST	Sunset LST	Significant Weather	Snow/Ice on Ground(In) 1200 UTC Depth	Precipitation (In) 1800 UTC Water Equiv	2400 LST Snow Fall	2400 LST Water Equiv	Pressure(inches of Hg) Avg. Station	Avg. Sea Level	Wind: Speed=mph Dir=tens of degrees Resultant Speed	Res Dir	Avg. Speed	max 5-second Speed	Dir	max 2-minute Speed	Dir	Date
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
01	100	78	89	M	68	74	0	24	-	-		0	M	0.0	0.00	29.20	29.92	6.9	19	7.5	24	160	14	170	01
02	100	77	89	M	66	74	0	24	-	-		0	M	0.0	0.00	29.16	29.89	6.2	20	6.9	22	200	15	220	02
03	101	77	89	M	64	72	0	24	-	-		0	M	0.0	0.00	29.13	29.86	4.7	19	5.7	18	150	13	140	03
04	102	76	89	M	65	73	0	24	-	-		0	M	0.0	0.00	29.09	29.82	5.1	18	5.9	20	210	15	220	04
05	103	78	91	M	62	71	0	26	-	-		0	M	0.0	0.00	29.07	29.78	4.2	19	5.3	18	160	13	160	05
06	102	72	87	M	64	72	0	22	-	-		0	M	0.0	0.00	29.10	29.82	1.3	13	4.0	28	340	21	340	06
07	104*	77	91*	M	62	71	0	26	-	-		0	M	0.0	0.00	29.08	29.78	1.2	20	8.2	41	010	31	360	07
08	85	59	72	M	51	61	0	7	-	-	RA	0	M	0.0	0.01	29.31	30.03	11.1	01	11.6	38	010	30	360	08
09	89	51	70	M	47	58	0	5	-	-		0	M	0.0	0.00	29.32	30.07	0.5	35	1.4	22	330	12	010	09
10	92	55	74	M	48	60	0	9	-	-		0	M	0.0	0.00	29.28	30.03	3.8	14	4.2	18	120	13	140	10
11	92	62	77	M	51	62	0	12	-	-		0	M	0.0	0.00	29.25	29.99	7.3	15	8.2	28	140	18	160	11
12	93	69	81	M	61	68	0	16	-	-		0	M	0.0	0.00	29.23	29.96	7.5	15	7.9	21	120	16	130	12
13	84	68	76	M	65	69	0	11	-	-	RA	0	M	0.0	T	29.33	30.05	4.0	31	8.7	26	280	20	290	13
14	68	62	65	M	61	62	0	0	-	-	RA DZ BR	0	M	0.0	0.28	29.42	30.17	7.8	34	7.9	17	320	14	320	14
15	73	62	68	M	59	62	0	3	-	-	BR HZ	0	M	0.0	0.00	29.38	30.14	3.2	32	4.4	14	300	10	300	15
16	71	64	68	M	63	65	0	3	-	-	RA BR	0	M	0.0	0.12	29.24	30.02	1.6	17	2.0	10	170	8	160	16
17	84	64	74	M	63	66	0	9	-	-	BR	0	M	0.0	0.00	29.10	29.86	0.5	32	3.2	13	300	10	320	17
18	83	55	69	M	51	59	0	4	-	-		0	M	0.0	0.00	29.28	30.01	5.5	01	6.2	26	040	16	350	18
19	87	51*	69	M	49	58	0	4	-	-		0	M	0.0	0.00	29.29	30.04	4.7	18	4.8	17	190	13	150	19
20	94	61	78	M	55	64	0	13	-	-		0	M	0.0	0.00	29.21	29.96	5.3	18	5.8	18	190	13	150	20
21	95	64	80	M	52	63	0	15	-	-		0	M	0.0	0.00	29 18	29.91	5.0	19	5.7	20	240	12	130	21
22	97	61	79	M	52	63	0	14	-	-		0	M	0.0	0.00	29.26	30.00	2.3	22	3.6	14	200	9	240	22
23	94	59	77	M	56	64	0	12	-	-		0	M	0.0	0.00	29.33	30.06	2.0	19	2.5	16	220	12	210	23
24	96	71	84	M	58	68	0	19	-	-		0	M	0.0	0.00	29.23	29.98	8.8	19	9.2	24	160	16	180	24
25	95	72	84	M	60	68	0	19	-	-		0	M	0.0	0.00	29.15	29.88	12.8	18	12.8	30	200	20	170	25
26	93	73	83	M	63	69	0	18	-	-		0	M	0.0	0.00	29.20	29.93	9.6	18	9.8	28	190	18	190	26
27	90	70	80	M	63	69	0	15	-	-		0	M	0.0	0.00	29.27	30.00	2.1	16	5.6	20	180	13	360	27
28	86	68	77	M	66	69	0	12	-	-	RA	0	M	0.0	0.28	29.23	29.98	1.3	05	3.7	32	100	23	110	28
29	71	65	68	M	66	67	0	3	-	-	RA BR	0	M	0.0	1.45	29.14	29.90	8.0	03	8.4	26	030	20	030	29
30	73	55	64*	M	58	61	1	0	-	-	RA DZ BR	0	M	0.0	0.04	29.09	29.86	8.6	01	9.2	25	030	20	030	30
	89.9	65.9	77.9		59.0	66.1	0.0	13.1	<----Monthly Averages | Totals---->			M	M	2.18s	29.22	29.96	1.7	18	6.3	<Monthly Average				
	M	M	M		<----------Departure From Normal---------->										M										

Degree Days — Monthly: Total / Departure; Season to Date: Total / Departure

	Monthly Total	Monthly Departure	Season to Date Total	Season to Date Departure
Heating:	1	M	M	M
Cooling:	393	M	M	M

Greatest 24-hr Precipitation: 1.52s Date: 28-29
Greatest 24-hr Snowfall: M Date: M
Greatest Snow Depth: M Date: M

Sea Level Pressure — Date — Time (LST)
Maximum 30.22 14 2132
Minimum 29.69 07 1954

Number of Days with ——>
Max Temp >=90: 18
Max Temp <=32: 0
Thunderstorms : 0
Min Temp <=32: 0
Min Temp <=0 : 0
Heavy Fog : 0
Precipitation >=.01 inch: 6
Precipitation >=.10 inch:
Snowfall >=1.0 inch : M

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.

Data Version: VER2