MILVIZ

KBAB BEALE AIR FORCE BASE

SCENERY FOR LOCKHEED MARTIN PREPAR3D VERSIONS 4.X AND 5.X

USER MANUAL

This scenery addon software package is an artistic representation of the subject matter. It has been recreated using publically available information and commercially available aerial images.

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Welcome to the Military Visualizations KBAB Beale AFB Scenery User Manual

This document describes the setup procedure, and the specific features of the scenery in order for the user to get the most out of it.

Scenery Highlights:

- 62.4 sq. km (24.1 sq. miles) of 30cm/pixel terrain aerial image
- Seasonal adaptation of aerial image
- Color matching options for Default, ORBX Global Base/OpenLC, ORBX NA Northern California, ORBX TrueEarth NorCal
- Two historical versions, Retro (SR-71 final operational stage 1989-1990) and Modern
- Accurate buildings and hangars using PBR texturing
- Accurate USAF ground equipment
- Detailed tarmac texturing with weathering, bump and specular effects as well as wet effect when raining
- Dynamic night lighting
- 3D grass on runway and taxiway edges
- Configuration manager through Milviz Addon Management System (MVAMS)
- Optional freeware MAIW AI package

Table of Contents

Credits:

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MVAMS Coding and compilation: Collin Biedenkapp, Ricardo Ramos

AFLT Tool for control of approach lights: Don Grovestine (Used with his kind permission with thanks)

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Sergio Sanchez

Terrain aerial image:

Licensed by:

VALTUS IMAGERY SERVICES,

a division of North West Geomatics Ltd.

245 Aero Way NE, Calgary, Alberta T2E 6K2, Canada

Valuable information provided by or obtained from:

Beale AFB official web page: (https://www.beale.af.mil/)

“Beale Air Force Base During the Cold War” by James B. Quest, Arcadia Publishing ISBN 978-1-4671-3081-3

Habu – The online Blackbird Museum web site: http://www.habu.org/

Centuryseries of Glowingheat: http://www.glowingheat.co.uk/

(with special thanks)

Introduction

The idea for this scenery was born in my head when doing beta testing for the Milviz SR-71. Looking for a base to start from I realized how nice it would be to have an appropriate hangar at an appropriate airbase. I presented the idea to the “Big Kahuna”, Colin Pearson, and he was very supportive, offering many of the resources available within Milviz.

After a lot of research I decided on Beale as an interesting and historical base connected with the history of the Blackbird. The fact that the base is still very much active with Reconnaissance and Air Refueling units made it the perfect choice. From the very beginning, it was decided to portray two versions of the base, the Blackbird era and the modern one. The contrast between the more flashy KC-135Q paints with the modern KC-135R and the SR-71 with the MQ-9 Drones is interesting to note, as is the fact that the venerable U-2, even in different versions is present in both cases.

With the vagaries of the market, the future of the Milviz Habu is not certain, nevertheless KBAB makes an ideal setting for any aircraft.

With the kind permission of MAIW and the individual model creators, an optional AI package has been created/adapted and is available as freeware to liven up the base.

Short description and history of Beale Air Force Base

The below text is taken from Beale AFB official web page: (https://www.beale.af.mil/)

Beale Air Force Base not only has a unique mission, but it was named for an unique individual. Unlike most other bases that were named for aviators, Beale was named for Edward Fitzgerald Beale (1822-1893), the nineteenth-century pioneer. Beale graduated from the Naval Academy, served in the California militia and led the experiment to replace Army mules with camels.

Camp Beale opened in October 1942, as a training site for the 13th Armored and the 81st and 96th Infantry Divisions. During World War II, Camp Beale's 86,000 acres were home for more than 60,000 soldiers, a prisoner-of-war encampment, and a 1,000-bed hospital. In 1948, the camp transferred from the Army to the Air Force. The Air Force conducted bombardier and navigator training at Beale and in 1951 reactivated the Beale Bombing and Gunnery Range for aviation engineer training. The base has been under several commands, including Air Training Command, Continental Air Command, Aviation Engineer Force, the Strategic Air Command, and since June 1, 1992, Air Combat Command.

In May 1959, Colonel Paul K. Carlton assumed command of the recently activated 4126th Strategic Wing. The first two KC-135s arrived two months later on July 7, 1959. On January 18, 1960, the 31st Bombardment Squadron with its B-52s arrived at Beale to become part of the wing. The 14th Air Division moved to Beale from Travis AFB, one week later. On February 1, 1963, SAC redesignated the 4126th as the 456th Strategic Aerospace Wing. On September 30, 1975, the 456th Bombardment Wing deactivated and the 17th Bombardment Wing activated in its place. On September 30, 1976, the 17th deactivated and the 100th Strategic Reconnaissance Wing at Davis Monthan AFB, Ariz., became the 100th Air Refueling Wing and moved to Beale. Many of the people and the tankers that had been part of the 17th now became members of the 100th. The 17th Wing's B-52s moved to other bases. The 100th ARW stayed at Beale until March 15, 1983, when the Air Force deactivated the wing and consolidated its refueling mission and assets into the 9th Strategic Reconnaissance Wing. From 1959 until 1965, Beale was support base for three Titan I missile sites near Lincoln, Chico, and the Sutter Buttes. On July 1, 1979, the 7th Missile Warning Squadron

brought the Phased Array Warning System (PAVE PAWS) Radar site to Beale. This 10-story structure can detect possible attack by sea-launched ballistic missiles or track a global satellite.

On October 15, 1964, the Department of Defense announced that Beale would be the home of the new, supersonic reconnaissance aircraft, the SR-71 "Blackbird." The 4200th Strategic Reconnaissance Wing activated on January 1, 1965. The new wing received its first aircraft, a T-38 Talon, on July 8, 1965. The first SR-71 did not arrive until January 7, 1966.

On June 25, 1966, the 9th Strategic Reconnaissance Wing, that began as the 9th Observation Group in 1922 and its 1st Strategic Reconnaissance Squadron activated as the 1st Aero Squadron in 1913, replaced the 4200th. The first U-2 arrived from Davis Monthan on July 12, 1976. Until January 26, 1990, when budget restrictions forced the retirement of the SR-71, Beale AFB was the home of two of the world's most unique aircraft.

In July 1994, the 350th Air Refueling Squadron transferred from Beale to McConnell AFB, Kansas, taking the last of the KC-135Q tankers with it. Tankers returned in 1998 when the 940th Air Refueling Wing, an Air Force Reserve unit, transferred to Beale. In 2001, the 12th Reconnaissance Squadron activated at Beale as the parent organization for the GLOBAL HAWK, the Air Force's newest high-altitude reconnaissance platform.

Today, Beale AFB is home for the U-2 Dragon Lady, T-38 Talon and RQ-4 Global Hawk. The base, covering nearly 23,000 acres, is home to more than 4,500 military personnel. Beale AFB has an unique name and mission, a historic past, and a promising future.

Source: https://www.beale.af.mil/

System requirements

Software pre-requisites:

OS: Windows 10

Simulator versions: Lockheed Martin Prepar3D v4.5

Lockheed Martin Prepar3D v5.0 and 5.1

Recommended hardware minimum specs:

Processor: 3.0 Ghz or higher

Memory: 16 GB RAM

Graphics: DirectX11® compliant video card or greater, 4096 MB video RAM or higher

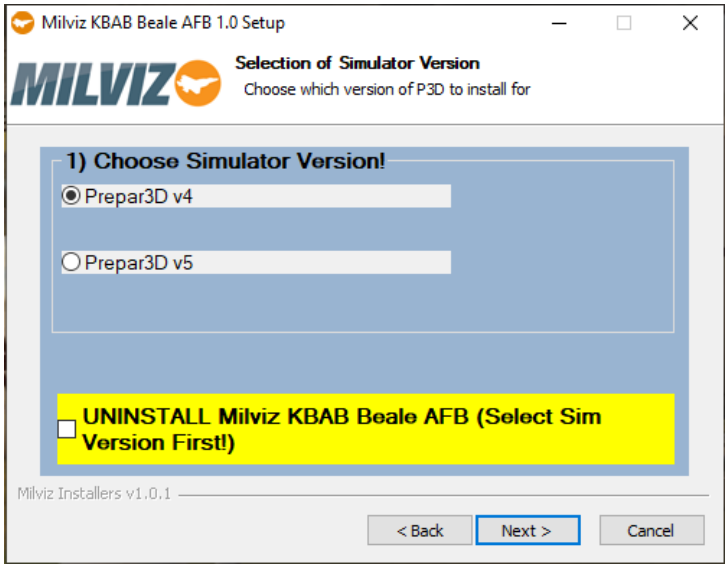
Hard Drive: 2.8 GB available space

The scenery will be able to run also with lower specs than the above but will also depend on the complexity of the aircraft used. The above specs have been shown to result in acceptable performance during testing with Milviz aircraft.

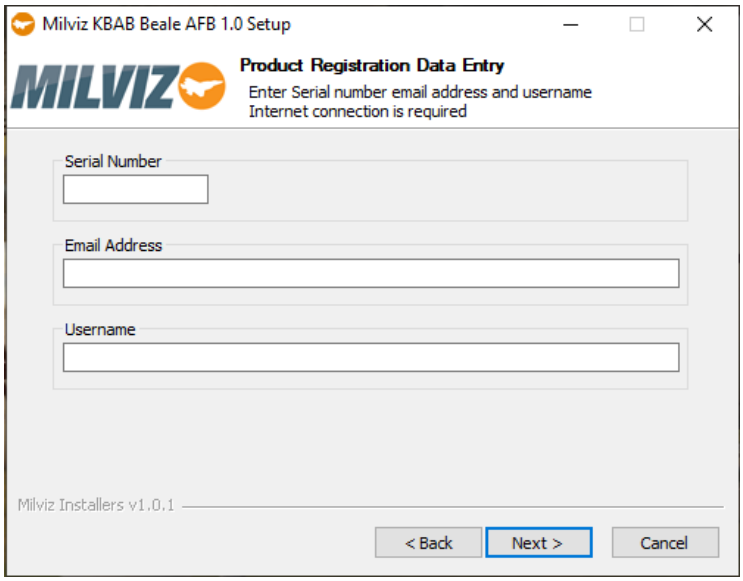
Installing the scenery

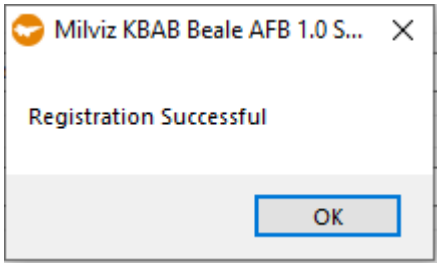
It is recommended to deactivate your antivirus software when running the installer to allow it to create the necessary folders, files and registry entry. The installer also needs to be run with administrator rights.

Once the installer starts click next, pass the EULA agreement page and you will be prompted to select the Simulator version (Prepar3D v4 or v5) by clicking the appropriate radio button. Please note that on the same installer page there is a checkbox option for uninstalling of the scenery (see below Uninstalling the scenery).

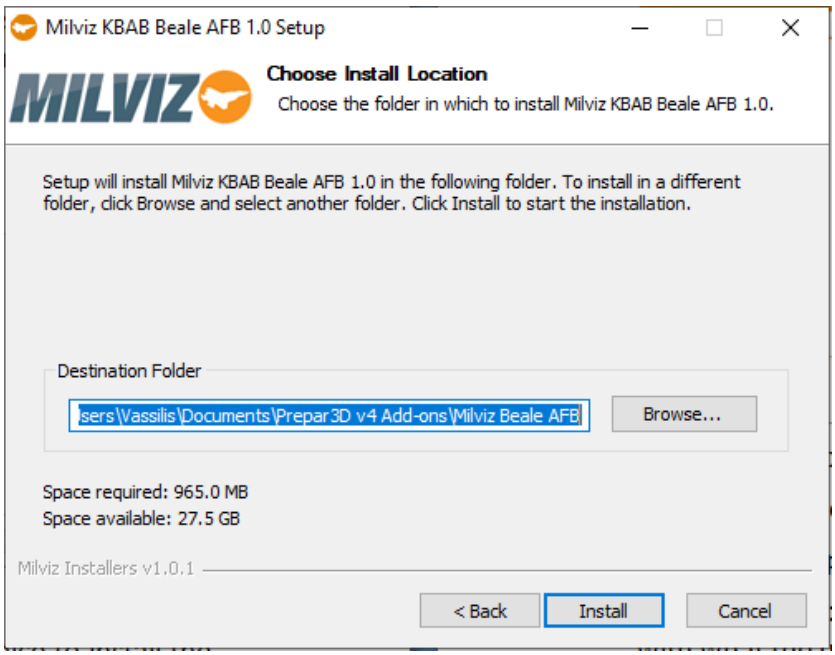


The next page is used to enter the serial number that you have received with your purchase. Active internet connection is required. Enter the serial number, your email address and username (optional). Upon hitting "Next" your serial number will be verified on the Milviz servers and if cleared, a "Registration Successful" message box will appear. Click "OK" and installation will continue. In case of error in the entries, user may try again upt to 3 times, after which the installer will exit and will have to be run again.





The next page is used to select the install location. The scenery is designed to be installed outside the P3D main folder. Default location is "…\Users\"Username"\Documents\Prepar3D v4 Add-ons" if Prepar3D v4 has been selected or "…\Users\"Username"\Documents\Prepar3D v5 Add-ons" if Prepar3D v5 has been selected.



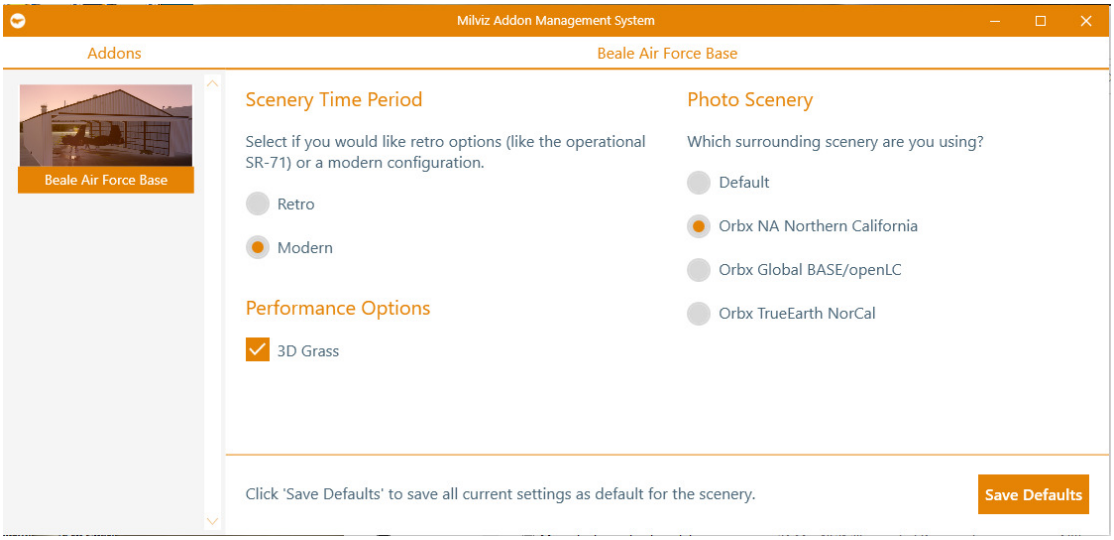
The user can select any other drive or folder of his choice to install the scenery by using the "Browse" button. The installer will create the folder "Milviz Beale AFB" inside the location pointed by the user and install all files needed there.

Regardless of the location selected to install the scenery, the installer will create a "Milviz Beale AFB" folder inside the documents folder in which a small configuration file will be stored. This folder is not to be deleted as it will affect the functionality of the scenery, requiring a reinstall.

After clicking the "Install" button, file transfer will start. Nearing completion the installer will install the Milviz Addon Management System (MVAMS2). If other Milviz products utilizing MVAMS2 exist and the MVAMS is already installed, the user can select to cancel the MVAMS2 installation or chose "repair". Only the required configuration files for KBAB will be then added to MVAMS2.

MVAMS2 will be launched upon completion of the installation. Scroll to find the KBAB entry in MVAMS2 and click it to display the configuration page.

Configuring the scenery



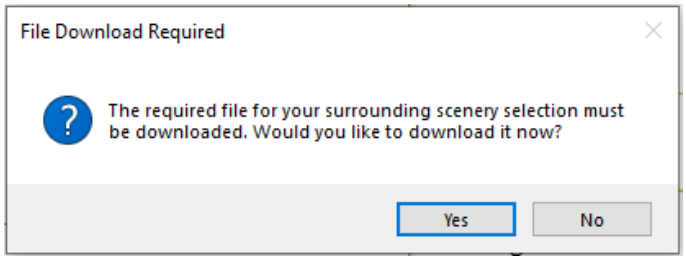
The available configuration options for KBAB are the following:

Scenery Time Period: Retro or Modern

Performance options: 3D Grass on-off

Photo Scenery: Selection of photo background that is color matched with what the user has installed

Default option for photo scenery is Orbx NA Northern California. It is the option that in my opinion matches best with how the area looks like and the photoreal background was optimized for this package. If another option is selected then MVAMS downloads the photo background from the Milviz servers and installs it. The following message is displayed:



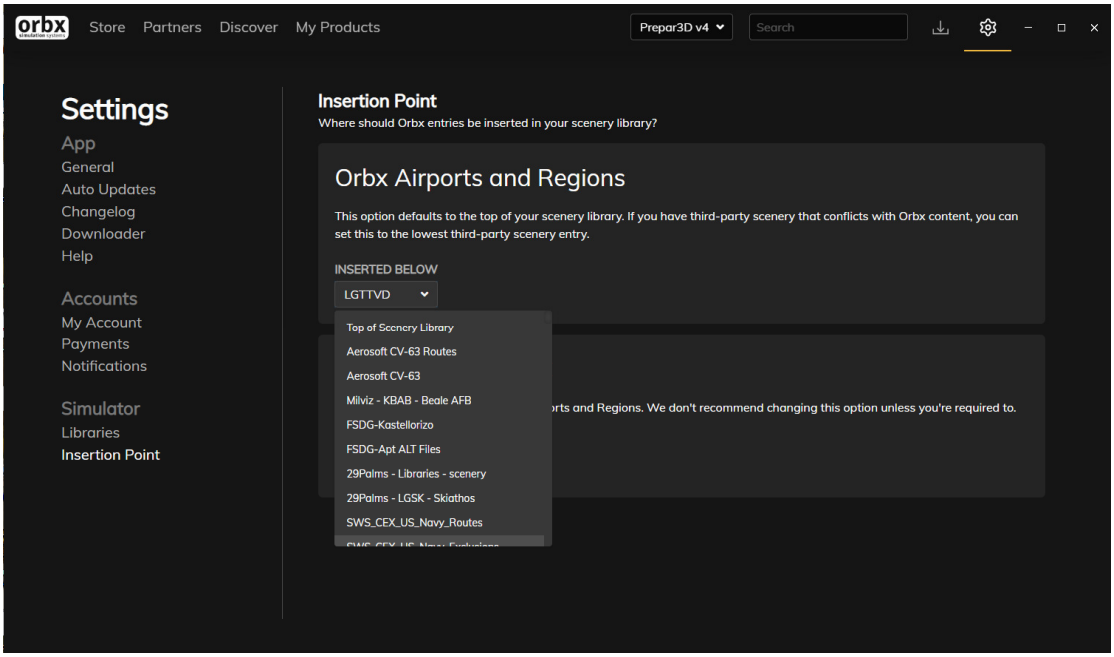
After downloading, once the photo scenery is stored on disc and is available immediately for configuration any time the user selects it. This method was selected to reduce the installer size.

The “Default” color matching is the less realistic one, however it is offered if the user does not have any Orbx products installed in order for the scenery to blend and not stand out. All options have season and night variations, except the Orbx True Earth version which only has one season.

Once configuration is complete clicking “Save Defaults” saves it. The selected configuration will be shown next time the simulator is started. Configuration changes will not take effect with the simulator running.

ORBX insertion point

The installer will put the scenery on the top of the scenery library. If the user has Orbx products installed it is important to make sure that the Orbx insertion point is set below the KBAB Beale AFB entry. To check this use the insertion point feature in Orbx Central as below:

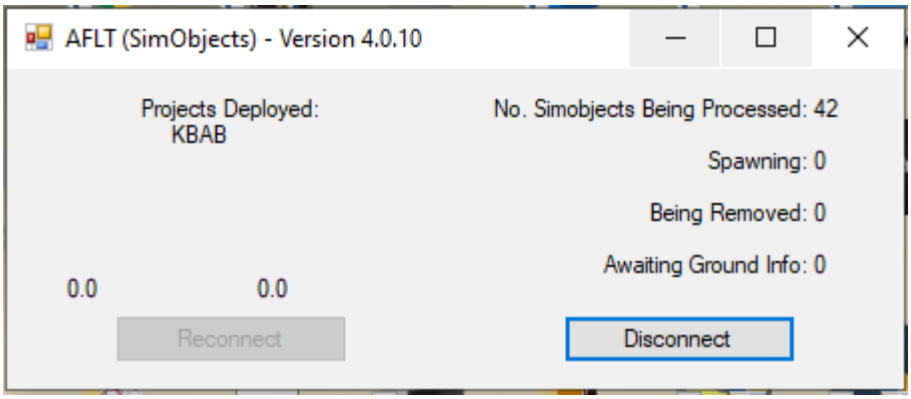


The insertion point should be either KBAB or any other scenery entry below KBAB.

When starting P3D after first installing the scenery, click “Yes” when asked to accept AFLT for P3D and Milviz Beale AFB.

The AFLT module

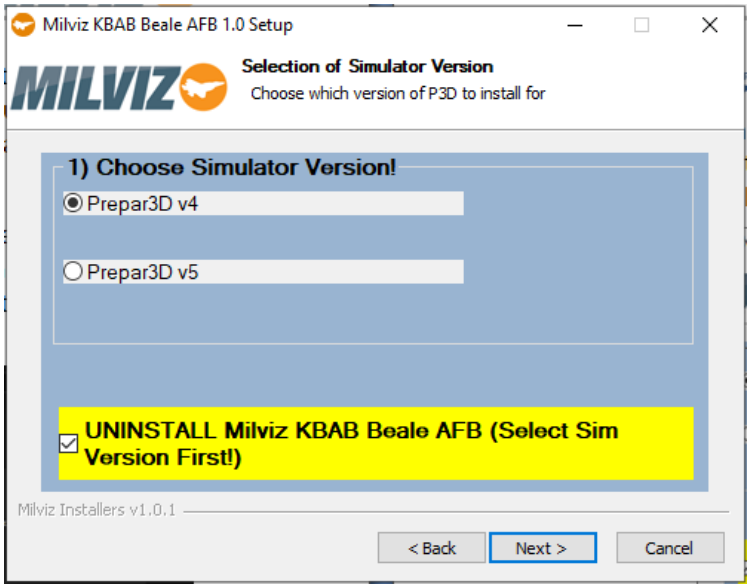
The installer will also install the AFLT module by Don Grovestine. The program is used to control the approach (Running Rabbit) lights on runways 15 and 33. The program will start upon launch of P3D and keep running in its own window:



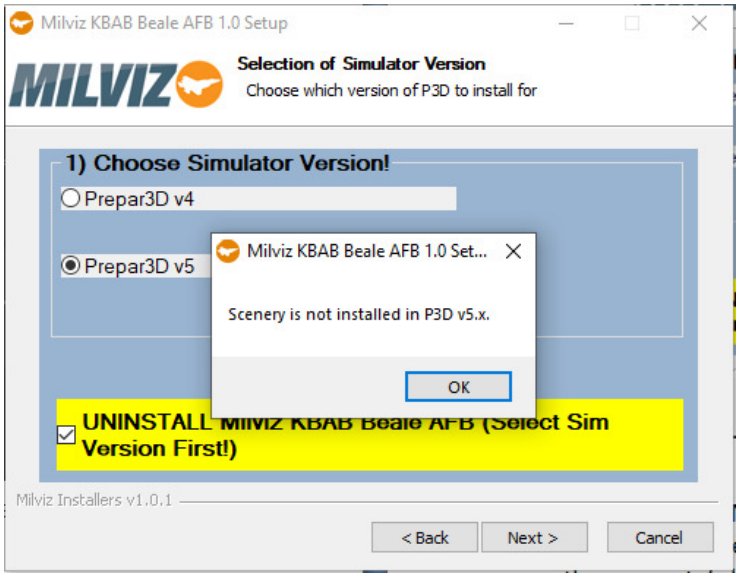
The user does not need to do anything in the AFLT window. Pressing Disconnect or closing it will stop it the approach lights from working. The program does not affect P3D at all but it is loaded even if the user does not fly from KBAB. AFLT will close upon normal shutdown of P3D. If P3D experiences a CTD for any reason AFLT will keep running so the user will need to close it manually.

Uninstalling the Scenery

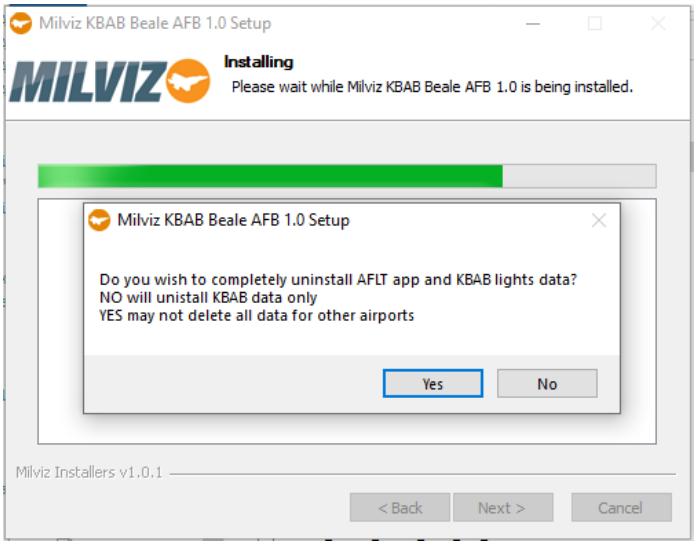
In order to uninstall the scenery run the installer again. When at the simulator selection page, select the simulator version and click on the "UNINSTALL" Checkbox:



If the scenery is not installed in the selected P3D version a message box will appear:



After hitting “Next” the uninstaller will normally detect the folder in which the scenery is installed. If not use the “Browse” button to point to the correct folder. Once ready click “Install” button to uninstall the scenery. A messagebox will request the user to select weather the AFLT application should be uninstalled. This option is given as there could be other scenery packages also using AFLT and deleting the app will affect them.

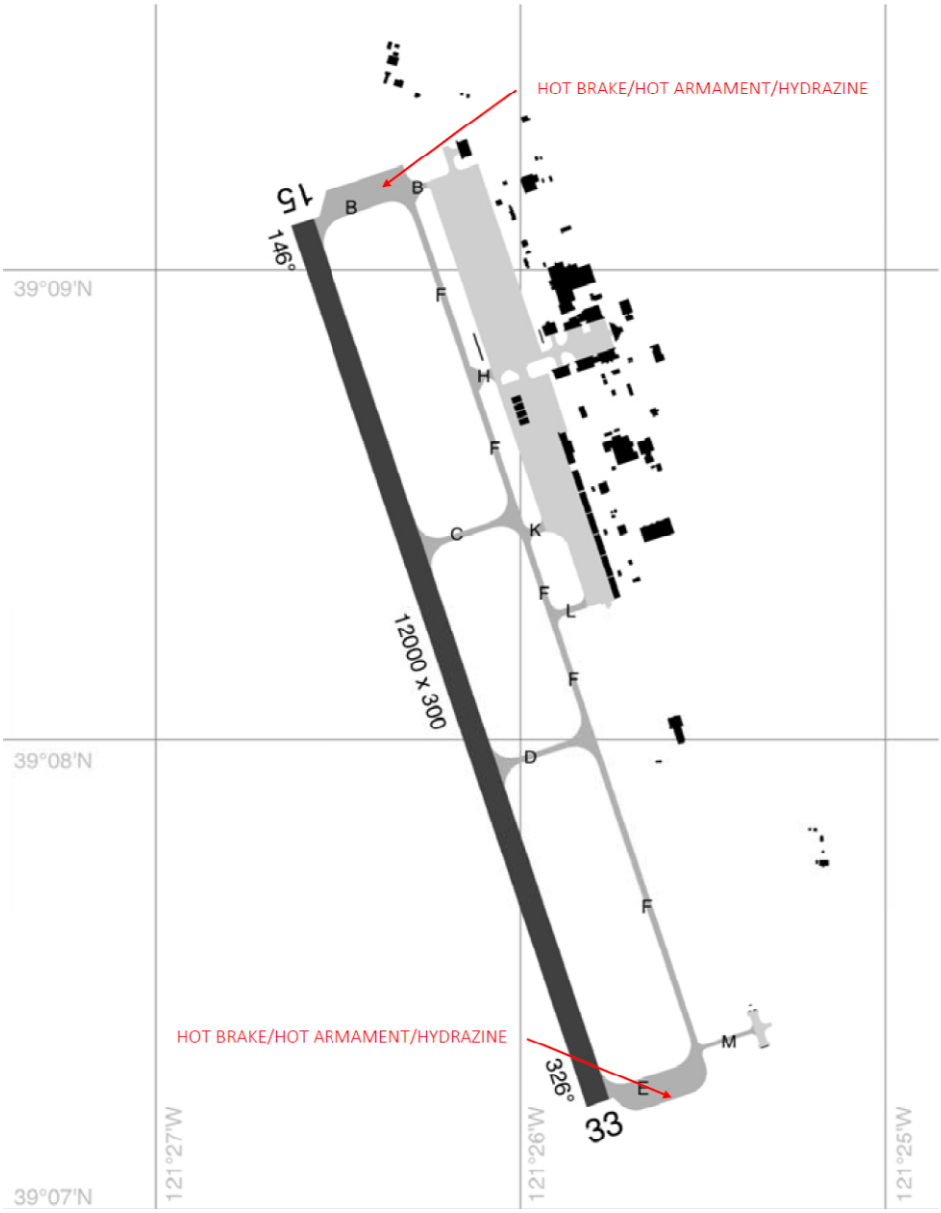


The “Yes” option will delete both the app and the KBAB lights data. If other airport lights data exists these will not be removed. The “No” option will only remove the KBAB lights data.

The uninstaller will proceed to delete all files and entries for the scenery in the P3D configuration files.

Airport features

KBAB features a 12000'x300' concrete runway (33-15) with accurate magnetic direction 326˚-146˚.



FOR REFERENCE ONLY

28a
FCIF 16-29B

Source USAF, 9RW T-38 In-Flight Guide Beale AFB, CA

Radio frequencies:

Type	Name	Freq
APPROACH	NORCAL	125.4
DEPARTURE	NORCAL	125.4
FSS	RANCHO	122.1
GROUND	BEALE	121.6
APPROACH	SACRAMENTO APPROACH	124.55
TOWER	BEALE	119.4

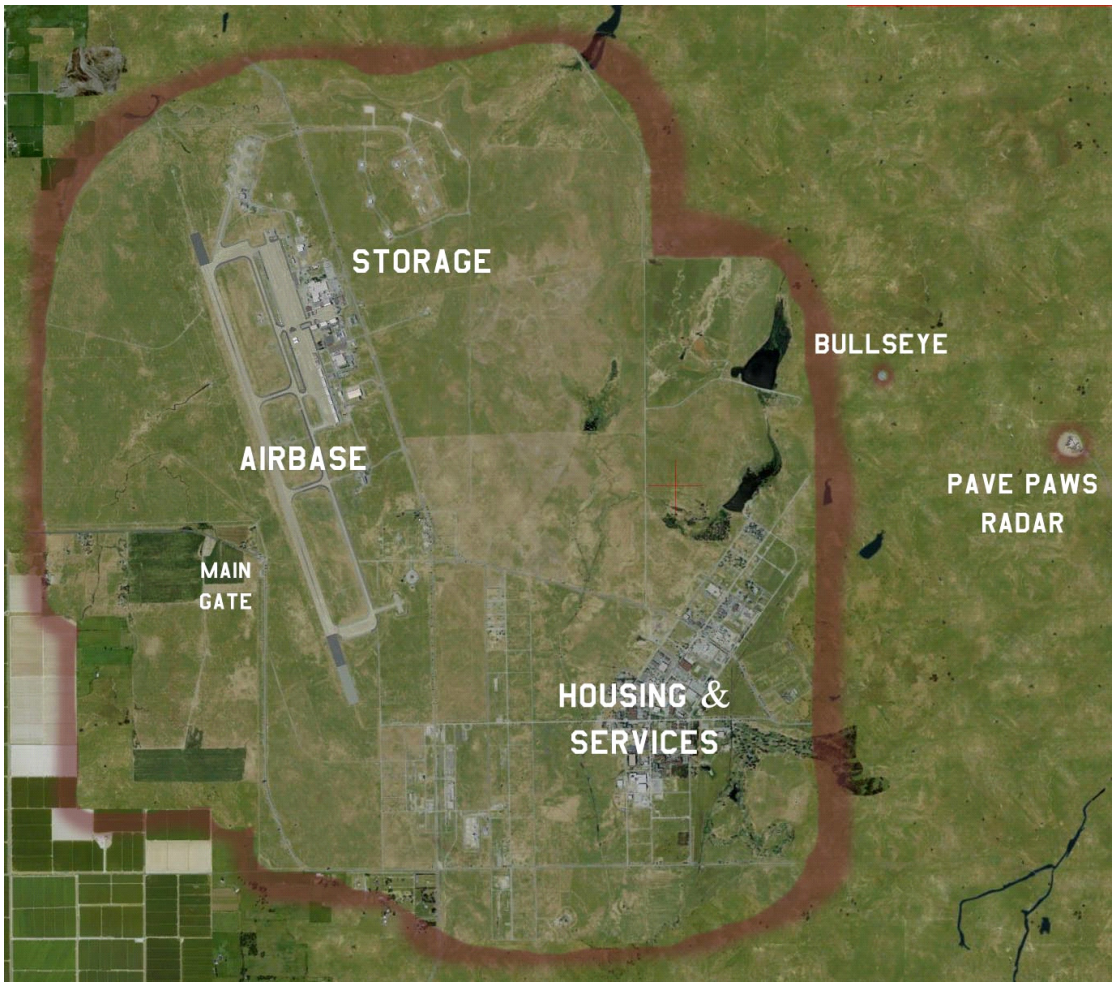
Navaids:

Type	Ident	Name	Freq	Airport	Dist (Nm)
ILS	IBAB	ILS 15	109.500 Mhz	KBAB	1.6
ILS	IMIZ	ILS 33	109.500 Mhz	KBAB	1.2
MARKER		MIDDLE			6.8
MARKER	MY	OUTER			8.3
DME	BAB	BEALE (MARYSVILLE)	108.600 Mhz		0.2

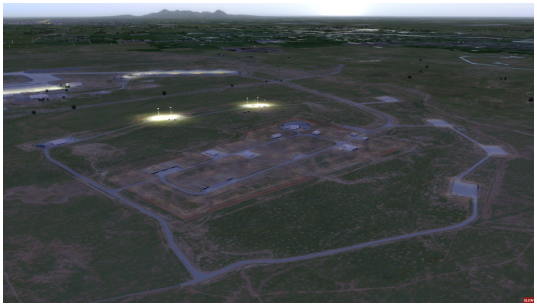
Scenery features

Scenery locations and photoreal background coverage

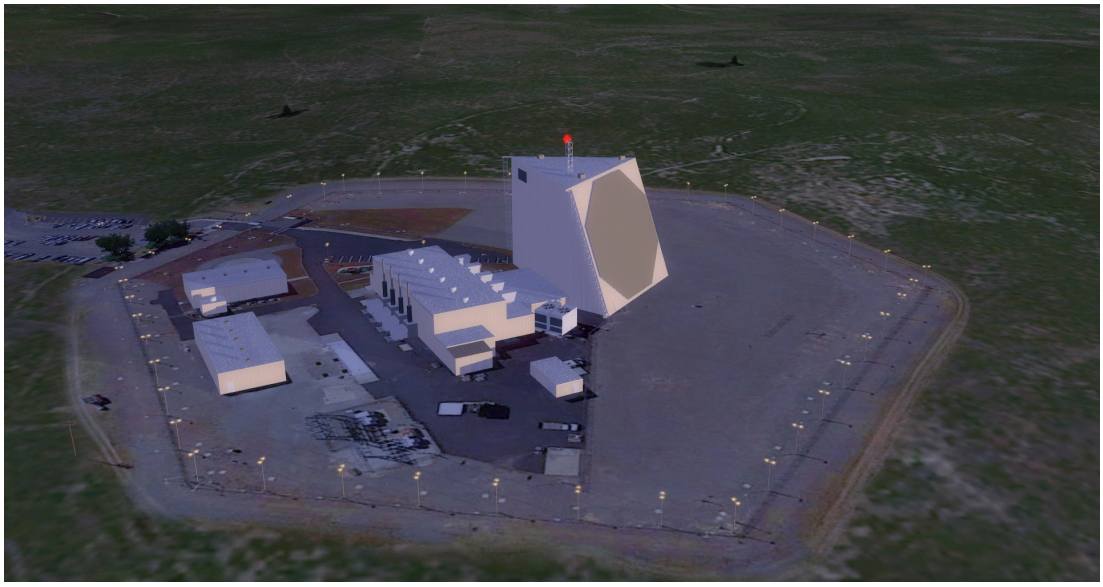
The scenery covers the main airbase, storage areas at the north side and housing and services area to the south east. There are two small additional features to the east, a training “bullseye” and the PAVE PAWS radar installation. The picture below show where these are. The red shading shows the limits of the photoreal coverage (Orbx NA NorCal in spring season shown):



Housing and services

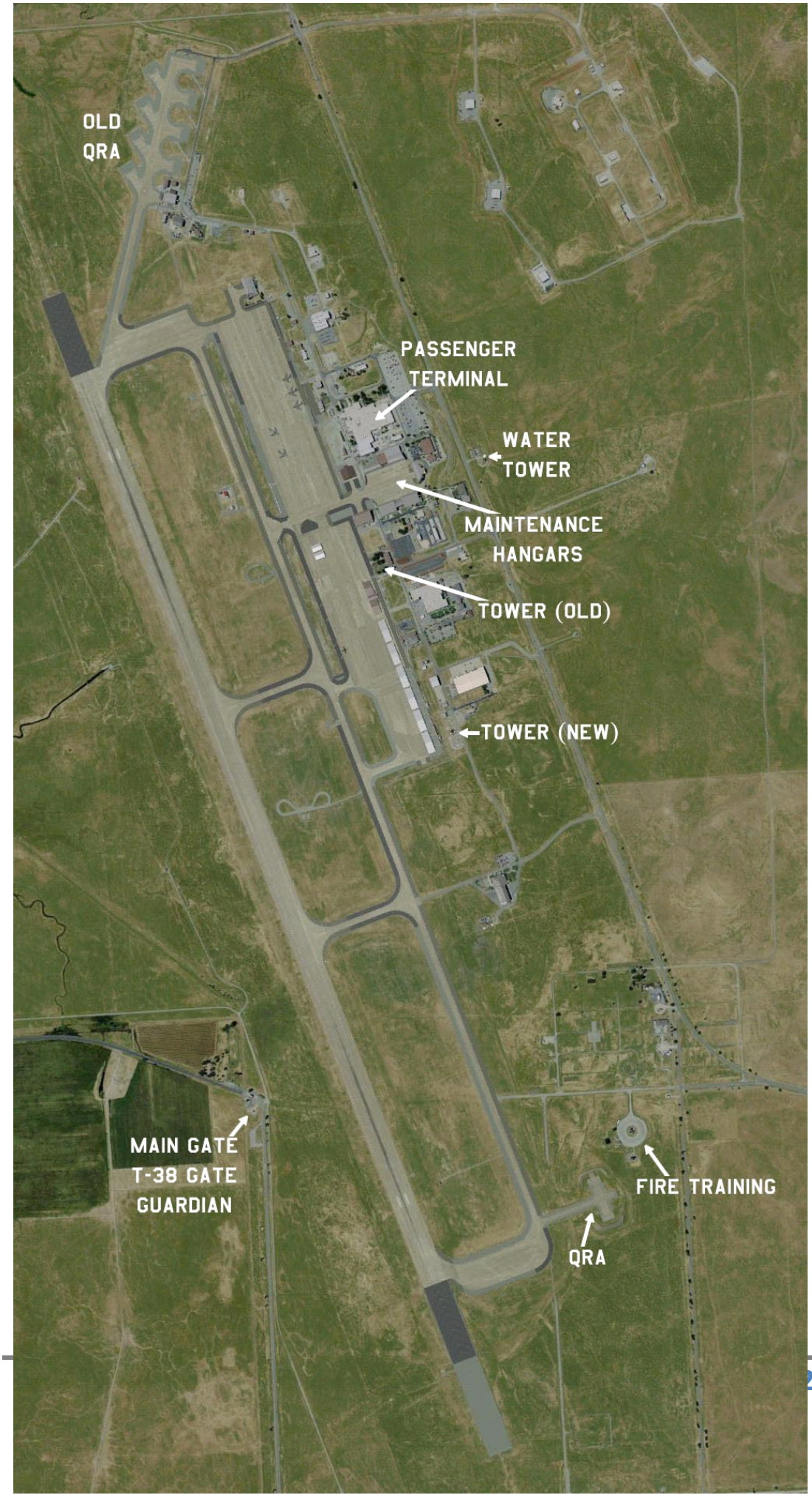


Storage



PAVE PAWS Radar

The picture on the next page shows the locations of some more features of the airbase area.


OLD
QRA
PASSENGER
TERMINAL
WATER
TOWER
MAINTENANCE
HANGARS
TOWER (OLD)
TOWER (NEW)
MAIN GATE
T-38 GATE
GUARDIAN
FIRE TRAINING
QRA

Parking spaces – Starting points

A flight can be started by selecting KBAB from the Select Airport screen. The related city is Marysville and state is California.

There are several runway starts and parking locations to start a flight from.

Runway starts:

15: Runway 15 start

NORTH (N): Start at hold short of Rwy 15

33: Runway 33 start

SOUTH (S): Start at hold short of Rwy 33

Parking Slots

List of Parking Slots (Modern version):

1, 2, 3: QRA on south side at end of taxiway M

5, 7: U-2 Hangar QRA

6, 4: U-2 Apron parking

9, 10, 11: MQ-4 Apron parking

8, 12: MQ-4 Hangar

13, 14, 15: VIP Apron Parking (C-5, C-17, VC-25 etc.)

16, 17, 18, 19, 20, 21, 22, 23, 24, 25: KC-135R Apron Parking

26, 27, 28, 28, 30, 31, 32, 33, 34: GA and light AC apron parking

36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46: T-38A Apron parking

List of Parking Slots (Retro version):

1, 2, 3: QRA on south side at end of taxiway M

4, 5: U-2 Hangar QRA

6, 7, 8, 9, 10: SR-71A Hangar QRA

11, 12: U-2 Apron parking

13, 14: VIP Apron Parking (C-5 etc.)

15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25: KC-135Q Apron Parking

26, 27, 28, 28, 30, 31, 32, 33, 34, 35, 36: T-38A Apron parking

Above parking spots for modern version shown in the following screenshots:

Modern Version

North Apron:

South Apron:

Retro Version

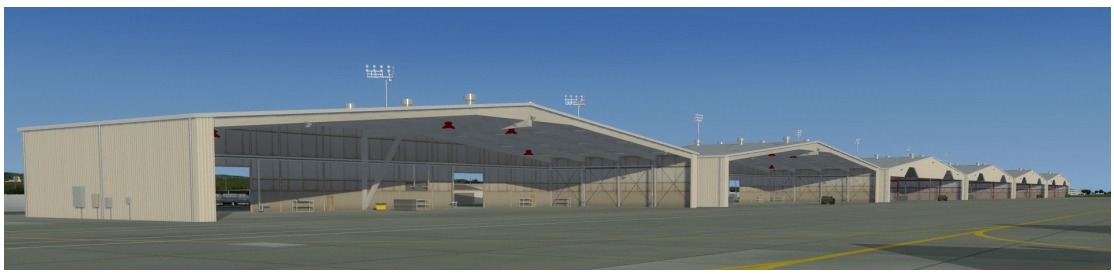
North Apron:

South Apron:

Hangars, buildings and details

Showing some of the scenery features in the following screenshots:

U-2 hangars and modern control tower (screenshot at dusk with night lighting effects)



U-2 hangar complex

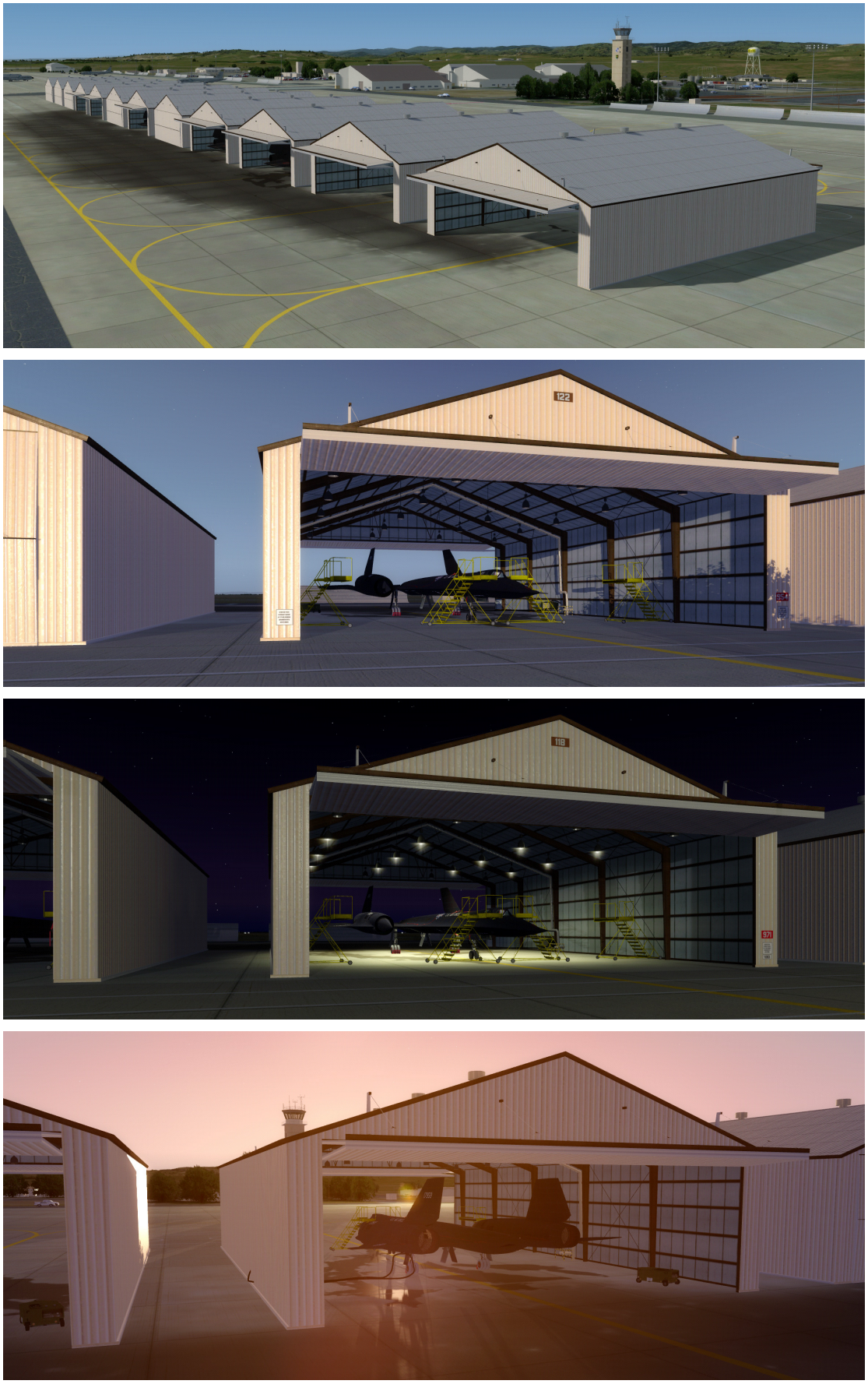
RQ-4 Hangar complex

Maintenance hangar (1 of 6 total)

Water tower and power distribution

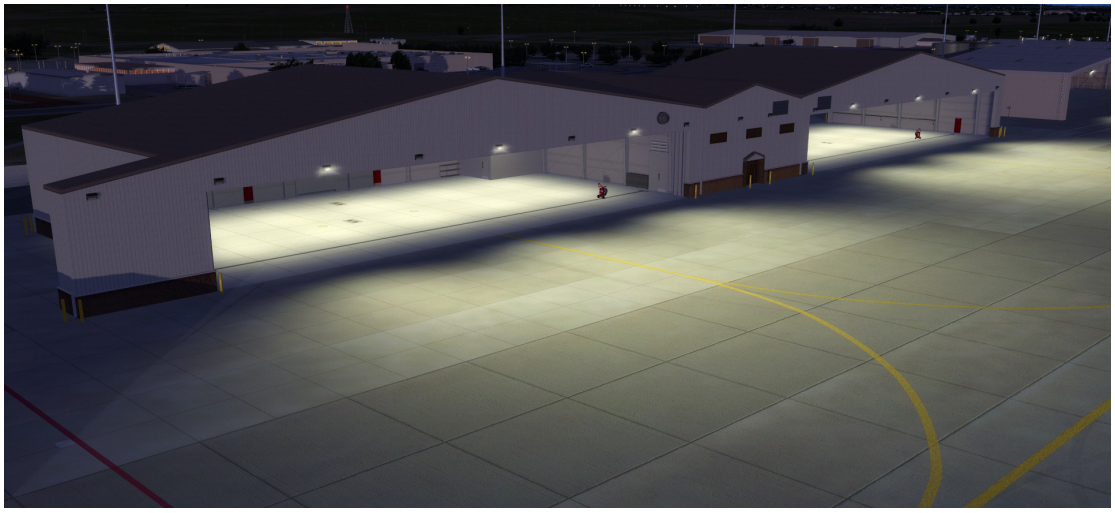
Retro control tower

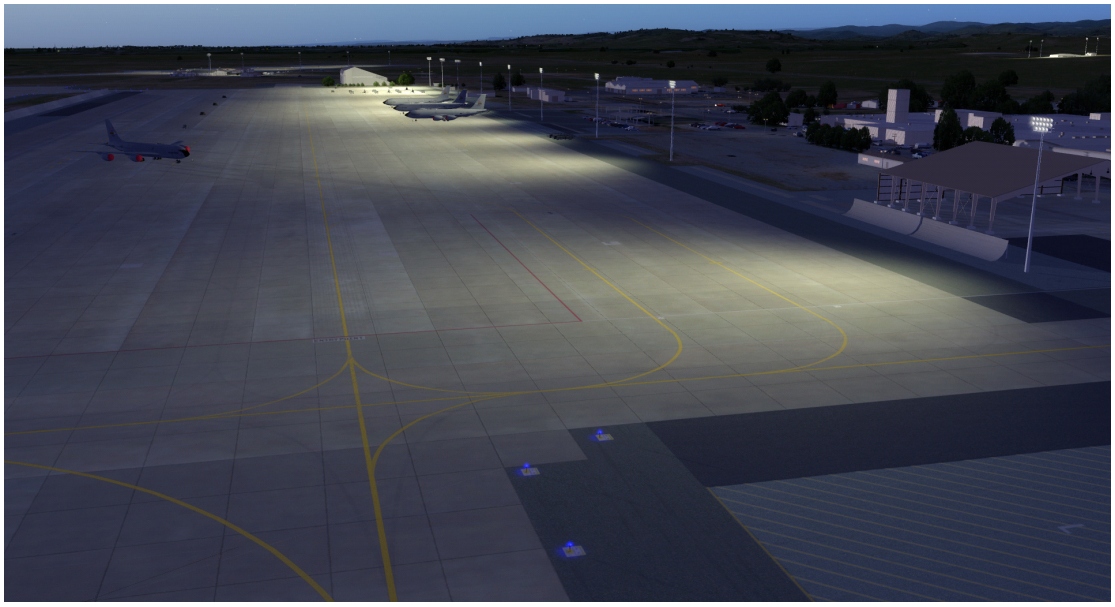
Central Gate

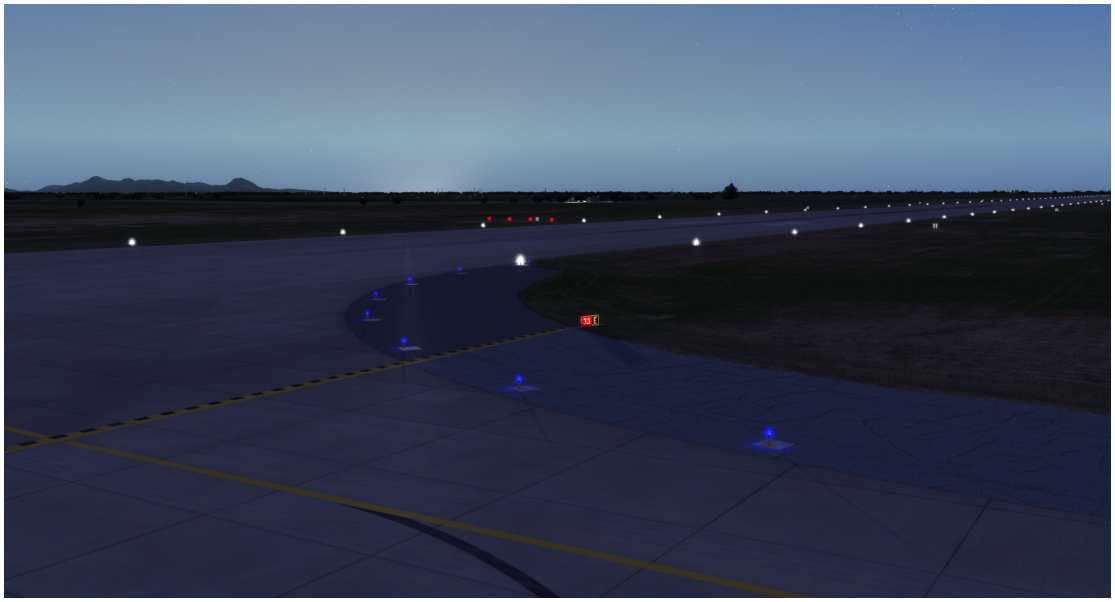


SR-71A hangar complex

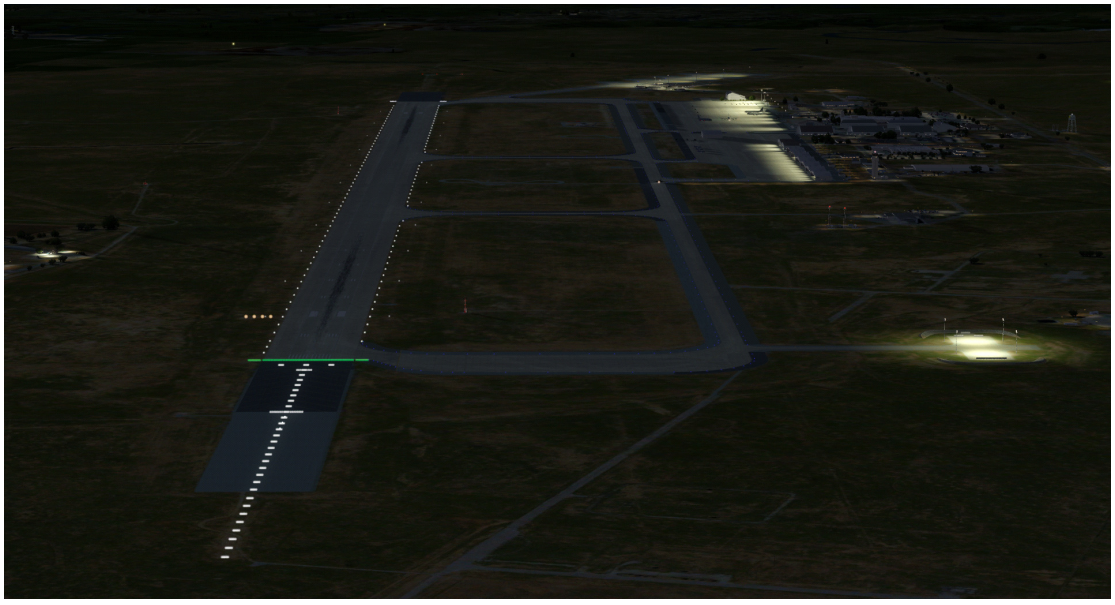
Night Lighting effects

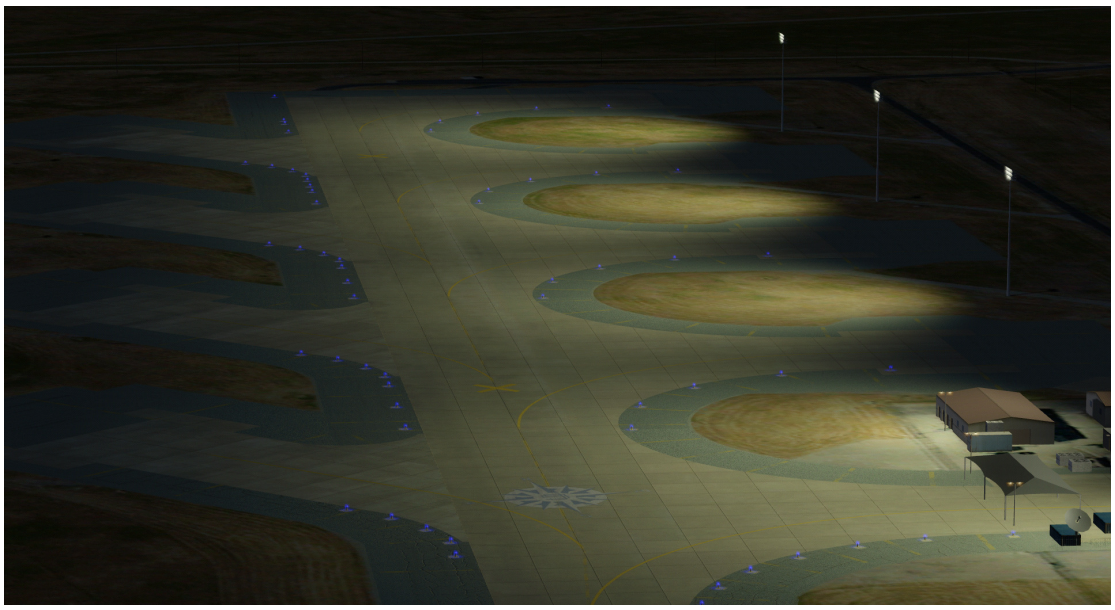







11





AI package

The scenery package includes T-38 AI traffic using the Milviz T-38A AI model. The repaints of the Talons are adjusted to reflect both their retro or modern appearance based on the scenery configuration chosen by the user.

Optional MAIW AI package

A freeware AI package for the base using MAIW models under permission by their creators is available through MAIW website here:

https://militaryaiworks.com/download-hangar/file-library/download/12-complete-ai-packages/2146-ai-package-for-milviz-kbab-beale-afb-scenery-update-1-0-1

The package includes the following AI:

Retro:

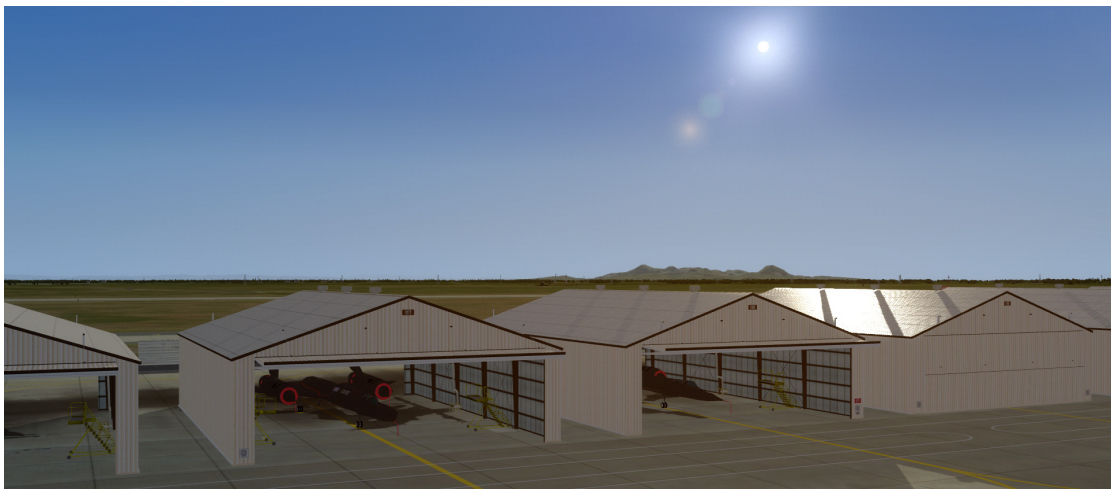
- SR-71A
- KC-135Q (Specialized version of the KC-135 for carrying the SR-71 JP-7 fuel grade)
- U-2R
- C-5A Galaxy (visiting on specific weekdays)

Modern:

- RQ-4 Global Hawk Drones
- KC-135R
- U-2 S
- C-5M Galaxy (visiting on specific weekdays)
- C-17A (visiting on specific weekdays)

The repaints of the AI planes are adjusted to represent units operating from KBAB at their respective timeframe. More details on the AI package can be found on the readme file of the AI package. Some representative screenshots follow:

Retro version:

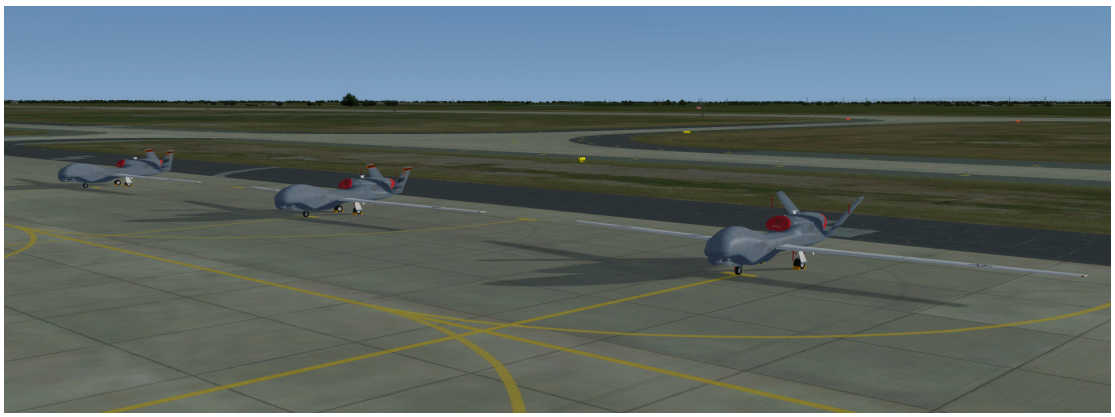


SR-71A

KC-135Q

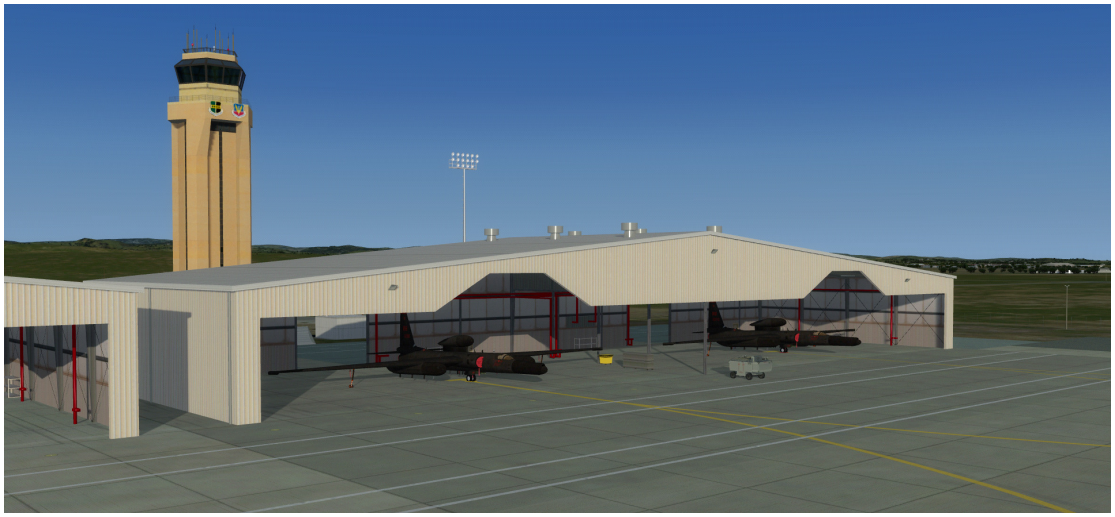
U-2R

Modern version:



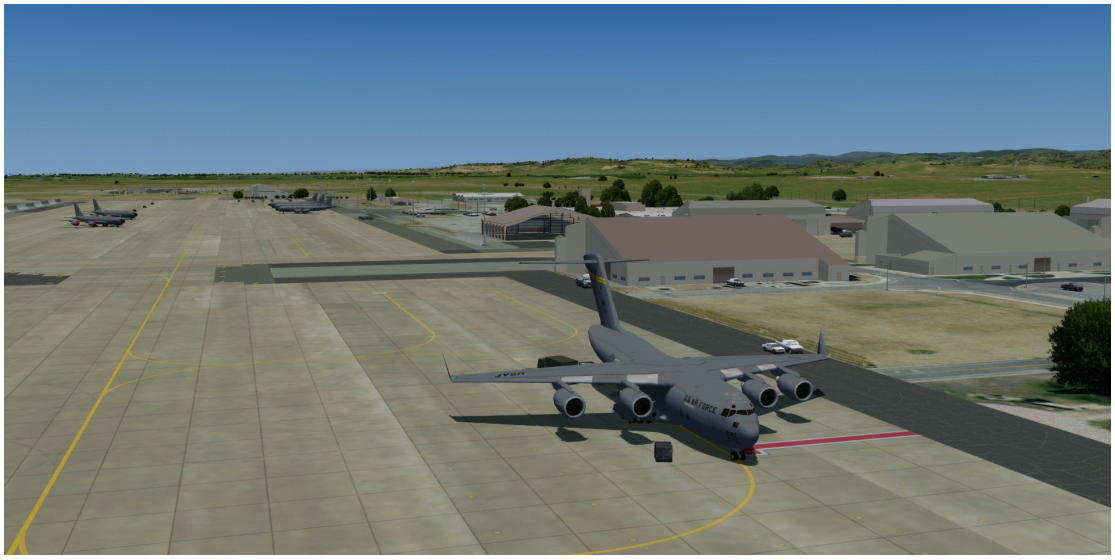
RQ-4 Global Hawk

KC-135R



U-2S

C-5M



C-17A