Sky & Weather Enhancement Pack 2.0

Contents

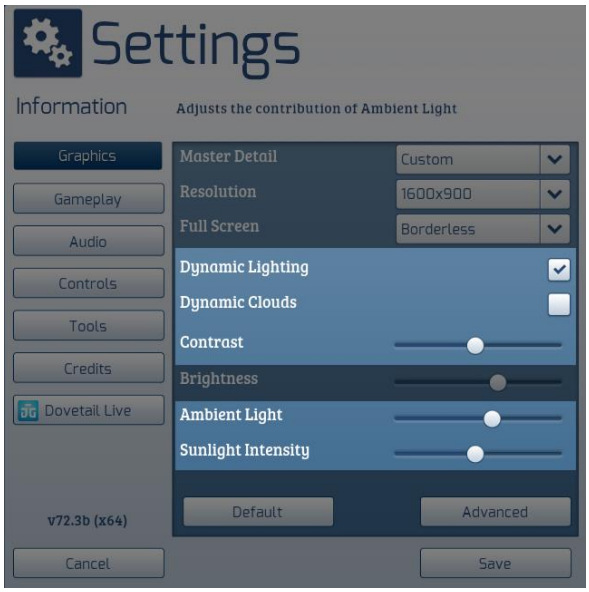
How to Install

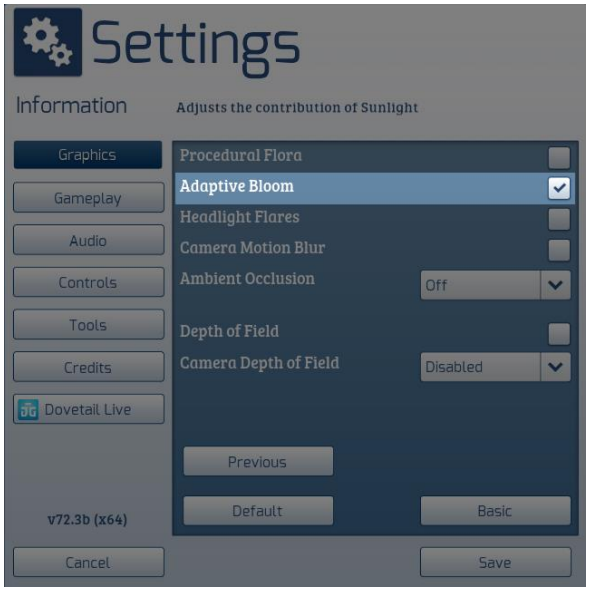
1) Locate where you have downloaded this pack and unzip it. Information on how to do this can be found *here*.
2) Go to the location where you have extracted the files from the .zip file.
3) Now find the .exe file called 'Sky & Weather Enhancement Pack 2.0'. Double-click this file.
4) Follow the steps and by the end of the process, this pack will have installed.
5) If the sky is white upon installing this pack, this means your graphics card is not capable of displaying our high-resolution clouds.

   To fix this, follow steps 1 & 2 again and find the .exe file called 'Patch - Low Resolution Clouds'. Double-click this file. Follow the steps and by the end of the process, lower resolution clouds will be installed which should allow the sky to display correctly for you.

Recommended Settings

To experience this pack as intended, you must change your in-game Audio & Graphics settings as displayed below:





Important Note

After installation of this pack, a small, black command prompt window will briefly appear every time you load Train Simulator. This is to ensure all clouds are set correctly in case they were changed for a custom type during the previous session.

This small window may also briefly appear when loading a scenario that uses the **AP SWEP Weather** track marker. If this causes the simulator to minimise on your PC, please use **Borderless** mode rather than **Full Screen** in your in-game Graphics settings.

Also, if at any point you do the following:

1) Use a weather pattern not included in this pack
2) Use a weather pattern included in this pack with wind, even if it's just for a second or two to test, and then load another scenario.

You run the risk of the clouds malfunctioning and it will look as though the clouds are at an angle with a line through the sky. To fix this, restart the simulator. This is due to us having to work around the limitations of the core simulator. This issue will not occur if you only use weather patterns included in this pack and always restart the simulator between driving scenarios. If you avoid weather patterns with wind, you will not need to restart the simulator.

Features

Sky & Environmental Lighting

Sky Colour

Sky colours have been carefully chosen to represent the transition from the brilliant blue of mid-day, to the subtle blues of dusk, to the black of night. Seasonal changes are taken into account so for example, when the sun is at its highest point in autumn the sky will look more like 16:00 during summer. All screenshots below are taken during summer.

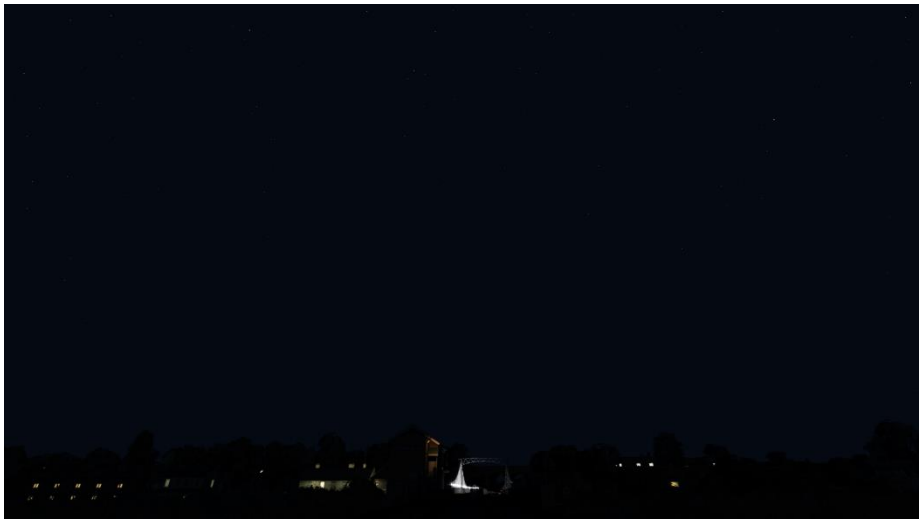
13:00 (sun at its highest point)

19:30 (90 minutes before sunset)

21:00 (sunset)

22:00 (1 hour after sunset)

00:00 (night)



Clouds

The following cloud types are provided with this pack. Which cloud type is shown depends on the weather used.

Cirrus (High Cloud)

Cirrostratus (Haze)

Cumulus (Fair Weather Cloud)

Stratus (Overcast/Rain Cloud)

Shower

Thick Mist (Low Cloud)

Only applicable to Clear, High Cloud or Haze weather patterns.

If you are interested in a wider and more varied selection of cloudscapes which are useable with this pack, please see our *Cloud Enhancement Pack* at www.armstrongpowerhouse.com/cloud_enhancement_pack.

Sunlight Colour & Angle

As per reality, sunlight colour changes from a white light at mid-day to a warm glow at sunset. Seasonal differences are once again taken into account so the mid-day sun during winter will look warmer compared to summer. In addition to this, the angle of the sun varies by season so the sun is a lot lower at mid-day during winter compared to summer. Finally, the sun is in the south at mid-day, as is correct for the northern hemisphere. Both screenshots below are taken during summer.

13:00 (sun at its highest point)

20:40 (20 minutes before sunset)

Sun Glare

Great care has been taken to try and produce the best possible looking glare from the sun within the limitations of the simulator. This accentuates the brightness of the sun during the middle of the day, its orange glow at sunset, and afterglow after sunset.

16:00 (mid-afternoon)

20:50 (10 minutes before sunset)

21:30 (30 minutes after sunset)

Moon

Nine different phases of the moon are represented and which one shows is dependent on the date of the scenario.

Supported Routes

Please see below for a list of the routes which will have these new sky and environmental settings applied:

- AP Wherry Lines: Norwich to Great Yarmouth & Lowestoft
- ATS Cambridge to Peterborough
- ATS Chat Moss
- ATS Kings Cross to Kings Lynn
- BMG Welsh Marches Line: Newport to Shrewsbury
- DTG Birmingham Cross City Line: Lichfield - Bromsgrove & Redditch
- DTG Chatham Main Line: London - Gillingham
- DTG Chatham Main & Medway Valley Lines
- DTG Chatham Main Line: London - Dover & Ramsgate
- DTG East Coast Main Line
- DTG East Coast Main Line: London - Peterborough
- DTG Edinburgh - Glasgow
- DTG Falmouth Branch
- DTG Fife Circle Line: Edinburgh - Dunfermline
- DTG Great Eastern Main Line: London - Ipswich
- DTG Great Western Main Line
- DTG Huddersfield Line: Manchester - Leeds
- DTG Isle of Wight
- DTG Liverpool - Manchester
- DTG London - Brighton
- DTG London - Faversham High Speed
- DTG Midland Main Line: London - Bedford
- DTG North London Line
- DTG North London & Goblin Lines
- DTG North Wales Coast Line: Crewe - Holyhead
- DTG Portsmouth Direct Line: London Waterloo - Portsmouth
- DTG Riviera Line: Exeter - Paignton
- DTG Riviera Line in the Fifties: Exeter - Kingswear
- DTG Settle - Carlisle
- DTG Somerset & Dorset Railway
- DTG South London Network
- DTG South Wales Coastal: Bristol - Swansea
- DTG South Western Main Line: Southampton - Bournemouth
- DTG WCML South: London Euston - Birmingham
- DTG Weardale & Teesdale Network
- DTG West Coast Main Line North
- DTG West Coast Main Line Over Shap
- DTG West Somerset Railway
- DTG Western Lines of Scotland
- DTG Woodhead
- DTG Woodhead Electric Railway in Blue

- Just Trains Bristol - Exeter
- Just Trains Midland Main Line
- Just Trains South Western Expressways - Reading
- Milepost Simulations West Highland Line (South)
- Rivet Games Suburban Glasgow Northeast: Springburn - Helensburgh
- Rivet Games Suburban Glasgow: Airdrie Route Extension

Please note that these new skies/lighting ***MUST*** be used in conjunction with the weather patterns included in this pack. These have an **AP** prefix. Using other weather patterns will almost definitely result in the skies malfunctioning and a restart of the simulator will be required to return them to normal.

How to Apply to Other Routes

DISCLAIMER: This advice is given on a no-support basis and assumes some prior knowledge. We recommend you only attempt this if you are confident in your knowledge of Train Simulator folder structures.

1) Go to the assets folder for the relevant route and find the folder called 'TimeOfDay'. If there is no folder called this, find the 'template' blueprint for the route which is usually in a folder called 'TemplateRoutes'. Open this blueprint and see where the TimeOfDay blueprints are located and go there.
2) Go to your RailWorks directory and navigate to **Assets\AP\WeatherEP\TimeOfDay**.
3) Copy the four .bin files in this folder named after each season and paste them into the TimeOfDay folder of your chosen route. If the naming convention differs for the relevant route, re-name accordingly so the new files match the naming of the old.

Please note that we cannot permit the distribution of these TimeOfDay files. If you wish to distribute a route, or a patch for a route which uses these files, you must edit the template blueprint to point to the AP\WeatherEP\TimeOfDay folder and enable the AP>WeatherEP blueprint set in the route editor.

Mist & Fog

By default in the simulator, the colour of mist is directly linked to the upper sky colour. Through some intricate work to the shaders (files which control how the simulator looks), we have managed to override this link and make it customisable to different types of weather. This means that:

- Mist now merges much better into the landscape and no longer looks too blue.

- The colour and brightness of mist changes throughout the day to complement the sky colour.

- Mist in overcast weather is greyer compared to the bluer mist of a clear day

- In clear weather, mist density increased so sky and sun are visible for longer before giving way to fog.

- The transition between mist and fog now looks more realistic with less fluctuation of colour.

In regard to fog, this was already simulated rather well except for one thing, it couldn't be used at night. This has now been fixed which makes for some atmospheric and moody dawn/dusk scenes.

Finally, when using Armstrong Powerhouse rolling stock with simulated wheelslip and/or wheelslide, adhesion is now decreased in fog or thick mist as per reality.

For the purposes of this pack, we define mist as when the sky is still visible and fog as when the sky is obscured. Therefore, there will be occasions where visibility is worse during mist compared to fog.

Please see the next two pages for some images of the improvements.


NEW MILLS SOUTH JUNCTION

Adaptive Bloom

Within the in-game **Graphics** settings, an option is provided for **Adaptive Bloom**. By default, this setting brightens the brightest parts of a scene, often too much in our opinion, and gives a more desaturated (less colourful) look to the visuals. The image is also not as sharp.

We have stripped this back and simply used it to rectify what we have always thought is an issue with the simulator and that is that it's too dark. For anyone familiar with photography, it looks as though it is under-exposed.

Our new settings therefore simply brighten the visuals to what we think is a realistic amount. We have also retained the 'Adaptive' part which means that the scene is brightened even further in darker scenes. This makes night driving and driving through tunnels a much more visually pleasing experience.

Please see the screenshots below for some before and after shots. Before shows adaptive bloom turned off, and after shows our version of adaptive bloom turned on.

Before

After

As well as using the in-game 'Graphics' settings, adaptive bloom can be turned on/off whilst driving by pressing **Ctrl+Shift+1**. This is a great way of seeing the difference for yourself in real-time.

Night Glass

To date, the glass on rolling stock produced/enhanced by us has been made to look as correct as possible during daylight which means it is very tinted. In reality, as night falls, interiors of trains become much more visible and this is simulated to an extent in this pack.

This is a one-size-fits-all change so we have had to take into account interiors that are very bright and those that are dimmer. We think we have hit a happy medium, allowing night driving to be further enhanced.

Weather

A wide variety of new weather patterns are supplied in this pack to make best use of the new clouds and to give more variety/immersion within scenarios. They consist of two types; **Standard** & **Dynamic**. **Dynamic** is what was formerly known as **Extension** in V1.0 of this pack.

Standard

Standard weather patterns are generally constant and do not change during a scenario, though there are exceptions. They are also more limited in their functionality.

How to Apply

1) Open Train Simulator, click **Build**, **Scenario**, and select the scenario you wish to apply a new kind of weather to. Click **Edit** and wait for the scenario to load in the scenario editor.
2) Hover the mouse on the middle far-left of the screen and the rolling stock menu will fly-out, click the object set filter which looks like a blue box with an orange arrow to the right of it.

3) Hover your mouse on the far-right of the screen and a fly-out will appear. Select **AP** from the drop-down menu and tick the second and third box next to **WeatherEP**.

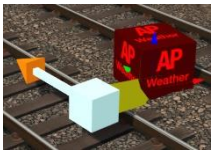
4) Now find the scenario marker for your scenario and double click it.

5) Hover the mouse on the far-right of the screen and a menu will fly-out listing scenario information.
6) Where there is a cloud and sun icon, click the arrow to bring up the drop-down menu and select the weather you desire.

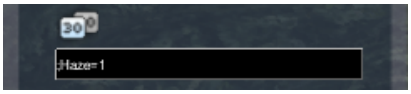
If using a standard weather pattern with **Haze**, please follow the instructions below:

1) In the left-hand rolling stock fly-out, click the **Track Infrastructure** category and select **AP SWEP Weather**.

2) Place this track marker on any piece of track.
3) Double click the blue box which says **AP Weather** on it and go to the right-hand fly-out menu.



4) Add **;Haze=1** to the **Speed Limit** box.



Dynamic

Dynamic weather patterns often change throughout scenarios and can contain more advanced functionality such as lightning flashes, thunder and custom density of precipitation shown on the windscreen.

How to Apply

1) Open Train Simulator, click **Build**, **Scenario**, and select the scenario you wish to apply a new kind of weather to. Click **Edit** and wait for the scenario to load.

2) Once loaded, hover the mouse on the middle far-left of the screen and the rolling stock menu will fly-out, click the object set filter which looks like a blue box with an orange arrow to the right of it.

3) Hover your mouse on the far-right of the screen and a fly-out will appear. Select **AP** from the drop-down menu and tick the second and third box next to **WeatherEP**.

4) Now find the scenario marker for your scenario and double click it. 

5) Hover the mouse on the far-right of the screen and a menu will fly-out listing scenario information.

6) Towards the top of the menu, click the cogs icon. 

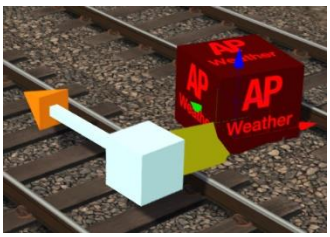
7) Click the arrow to bring up the drop-down menu and select **AP Weather**.

8) In the left-hand rolling stock fly-out, click the **Track Infrastructure** category and select **AP SWEP Weather** if you would like to trigger a dynamic weather pattern at the start of a scenario.
Select **AP SWEP Weather (Pass)** if you would like to trigger a dynamic weather pattern during a scenario when a train (player or AI) passes over the track marker.
Select **AP SWEP Weather (Time)** if you would like to trigger a dynamic weather pattern at a certain time during the scenario.

9) If using **AP SWEP Weather** or **AP SWEP Weather (Time)**, place this track marker on any piece of track.

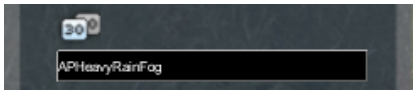
OR

If using **AP SWEP Weather (Pass)**, place this track marker where you would like the dynamic weather pattern to trigger. The link (light blue arrow with orange tip) must face the direction the player train will be travelling when it passes over it. If the arrow is facing the wrong way, press **Shift** whilst clicking the arrow to change its direction.



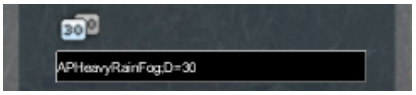
10) Double click the blue box which says **AP Weather** on it and go to the right-hand fly-out menu.

11) Add the trigger name for the dynamic weather pattern you wish to trigger to the **Speed Limit** box.

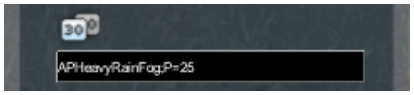


12) If using **AP SWEP Weather (Time)**, add **;T=hhmmss** to the trigger name. **hhmmss** is the time you would like to trigger the weather in hours/minutes/seconds without any punctuation.
For example, input **;T=160100** and your chosen weather will activate at 16:01:00.

13) If using **AP SWEP Weather** and you wish to delay the weather pattern from triggering, add **;D=x** to the trigger name. **x** is the delay in seconds.



14) If you wish for the weather pattern to only trigger sometimes, add **;P=x** to the trigger name. **x** is the percentage value of the chance of the trigger firing. Do ***not*** include the **%** character, **x** is a numerical value only. For example, **;P=25** would mean the weather pattern has a 25% chance of triggering.



Notes on using AP SWEP Weather (Pass) & (Time) track markers

The **AP SWEP Weather (Pass)** and **(Time)** track markers are only intended for use where you wish to trigger more than one dynamic weather pattern in a scenario.

AP SWEP Weather (Pass) will be rendered inactive once a train has passed over it. It won't keep triggering if more than one train passes over it.

For reasons we have been unable to work out, if you use more than two **AP SWEP Weather (Pass)** or **(Time)** track markers, the blue boxes must be buried below the ground or moved somewhere the player is unlikely to see them to ensure they don't appear when the scenario is loaded.

Please see the following pages for an overview of the types of weather included.

All of the following weather patterns, from **Clear** to **Random**, must be triggered right at the start of a scenario.

Clear

Weather Patterns

Type	Name / Trigger Name	Visibility	Notes
Standard	AP Clear	4 miles	
Standard	AP Clear (Mist Light)	2 miles	
Standard	AP Clear (Mist Medium)	1 mile	
Standard	AP Clear (Mist Thick)	¼ mile	Mist only - cannot be used with 'Thick Mist' cloud - use dynamic version for that.
Standard	AP Clear (Wind Light)	4 miles	Must not be used in conjunction with any dynamic weather. If this weather type is used, you must restart the simulator before driving another scenario, otherwise clouds may not appear correctly.
Standard	AP Clear (Wind Moderate)		
Standard	AP Clear (Wind Strong)		
Dynamic	APClearThickMist	¼ mile	Poor adhesion.
Dynamic	APVariableClearMist	2 miles - ¼ mile	Mist of varying density. Poor adhesion when thick mist.
Dynamic	APVariableClearMistFog	2 miles - 500 ft	Fog & mist of varying density. Poor adhesion when fog or thick mist.

High Cloud

Weather Patterns

Type	Name / Trigger Name	Visibility	Notes
Standard	AP High Cloud	4 miles	
Standard	AP High Cloud (Mist Light)	2 miles	
Standard	AP High Cloud (Mist Medium)	1 mile	
Standard	AP High Cloud (Mist Thick)	¼ mile	Mist only - cannot be used with 'Thick Mist' cloud - use dynamic version for that.
Dynamic	APHighCloudThickMist	¼ mile	Poor adhesion.
Dynamic	APVariableHighCloudMist	2 miles - ¼ mile	Mist of varying density. Poor adhesion when thick mist.
Dynamic	APVariableHighCloudMistFog	2 miles - 500 ft	Fog & mist of varying density. Poor adhesion when fog or thick mist.

Haze

When using any of the standard weather patterns, **;Haze=1** must be added to the **AP SWEP Weather** track marker.

Weather Patterns

Type	Name / Trigger Name	Visibility	Notes
Standard	AP Haze Light	4 miles	75% sun strength
Standard	AP Haze Light (Mist Light)	2 miles	
Standard	AP Haze Light (Mist Medium)	1 mile	
Standard	AP Haze Light (Mist Thick)	¼ mile	75% sun strength. Mist only - cannot be used with 'Thick Mist' cloud - use dynamic version for that.
Standard	AP Haze Medium	4 miles	50% sun strength
Standard	AP Haze Medium (Mist Light)	2 miles	
Standard	AP Haze Medium (Mist Medium)	1 mile	
Standard	AP Haze Medium (Mist Thick)	¼ mile	50% sun strength. Mist only - cannot be used with 'Thick Mist' cloud - use dynamic version for that.
Standard	AP Haze Thick	4 miles	25% sun strength
Standard	AP Haze Thick (Mist Light)	2 miles	
Standard	AP Haze Thick (Mist Medium)	1 mile	
Standard	AP Haze Thick (Mist Thick)	¼ mile	25% sun strength. Mist only - cannot be used with 'Thick Mist' cloud - use dynamic version for that.
Dynamic	APLightHazeThickMist	¼ mile	75% sun strength. Poor adhesion.
Dynamic	APMedHazeThickMist	¼ mile	50% sun strength. Poor adhesion.
Dynamic	APThickHazeThickMist	¼ mile	25% sun strength. Poor adhesion.
Dynamic	APVariableHaze	See notes	Sun strength continuously varies between 100% & 25%. Visibility - Use with a Haze standard weather pattern. This will dictate visibility.

Fair Cloud

When using any of the standard weather patterns which include haze, **;Haze=1** must be added to the **AP SWEP Weather** track marker.

Weather Patterns

Type	Name / Trigger Name	Visibility	Notes
Standard	AP Fair Cloud	4 miles	
Standard	AP Fair Cloud (Mist Light)	2 miles	
Standard	AP Fair Cloud (Mist Medium)	1 miles	
Standard	AP Fair Cloud (Mist Thick)	¼ mile	
Standard	AP Fair Cloud (Haze Light)	4 miles	75% sun strength
Standard	AP Fair Cloud (Haze Light/Mist Light)	2 miles	
Standard	AP Fair Cloud (Haze Light/Mist Medium)	1 miles	
Standard	AP Fair Cloud (Haze Light/Mist Thick)	¼ mile	
Standard	AP Fair Cloud (Haze Medium)	4 miles	50% sun strength
Standard	AP Fair Cloud (Haze Medium/Mist Light)	2 miles	
Standard	AP Fair Cloud (Haze Medium/Mist Medium)	1 miles	
Standard	AP Fair Cloud (Haze Medium/Mist Thick)	¼ mile	
Standard	AP Fair Cloud (Haze Thick)	4 miles	25% sun strength
Standard	AP Fair Cloud (Haze Thick/Mist Light)	2 miles	
Standard	AP Fair Cloud (Haze Thick/Mist Medium)	1 miles	

Standard	AP Fair Cloud (Haze Thick/Mist Thick)	¼ mile	
Standard	AP Fair Cloud (Wind)	4 miles	Clouds move slowly. You must add **;Wind=1** to the **Speed Limit** box of a **AP SWEP Weather** track marker to ensure the clouds do not flicker. Must not be used in conjunction with any dynamic weather. If this weather type is used, you must restart the simulator before driving another scenario, otherwise clouds may not appear correctly.
Dynamic	APVariableFairCloudSun10%	See notes	Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~10% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudSun30%	See notes	Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~30% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudSun50%	See notes	Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~50% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudSun70%	See notes	Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~70% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudSun90%	See notes	Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~90% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudWindSun10%	See notes	Clouds move slowly. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~10% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudWindSun30%	See notes	Clouds move slowly. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~30% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudWindSun50%	See notes	Clouds move slowly. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~50% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudWindSun70%	See notes	Clouds move slowly. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~70% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudWindSun90%	See notes	Clouds move slowly. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~90% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudLightHazeSun10%	See notes	Same as Fair Cloud (Haze Light) except for visibility. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~10% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.

Dynamic	APVariableFairCloudLightHazeSun30%	See notes	Same as Fair Cloud (Haze Light) except for visibility. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~30% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudLightHazeSun50%	See notes	Same as Fair Cloud (Haze Light) except for visibility. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~50% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudLightHazeSun70%	See notes	Same as Fair Cloud (Haze Light) except for visibility. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~70% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudLightHazeSun90%	See notes	Same as Fair Cloud (Haze Light) except for visibility. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~90% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudMedHazeSun10%	See notes	Same as Fair Cloud (Haze Medium) except for visibility. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~10% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudMedHazeSun30%	See notes	Same as Fair Cloud (Haze Medium) except for visibility. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~30% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudMedHazeSun50%	See notes	Same as Fair Cloud (Haze Medium) except for visibility. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~50% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudMedHazeSun70%	See notes	Same as Fair Cloud (Haze Medium) except for visibility. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~70% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairCloudMedHazeSun90%	See notes	Same as Fair Cloud (Haze Medium) except for visibility. Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~90% of the time. Visibility - Use with a Fair Cloud standard weather pattern. This will dictate visibility.

Fair/High Cloud

Weather Patterns

Type	Name / Trigger Name	Visibility	Notes
Standard	AP Fair/High Cloud	4 miles	
Standard	AP Fair/High Cloud (Mist Light)	2 miles	
Standard	AP Fair/High Cloud (Mist Medium)	1 mile	
Standard	AP Fair/High Cloud (Mist Thick)	¼ mile	Mist only - cannot be used with 'Thick Mist' cloud - use dynamic version for that.
Dynamic	APVariableFairHighCloudSun10%	See notes	Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~10% of the time. Visibility - Use with a Fair/High Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairHighCloudSun30%	See notes	Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~30% of the time. Visibility - Use with a Fair/High Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairHighCloudSun50%	See notes	Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~50% of the time. Visibility - Use with a Fair/High Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairHighCloudSun70%	See notes	Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~70% of the time. Visibility - Use with a Fair/High Cloud standard weather pattern. This will dictate visibility.
Dynamic	APVariableFairHighCloudSun90%	See notes	Sun comes in and out to simulate clouds blocking the sun. Sun will be blocked ~90% of the time. Visibility - Use with a Fair/High Cloud standard weather pattern. This will dictate visibility.

Overcast

Weather Patterns

Type	Name / Trigger Name	Visibility	Notes
Standard	AP Overcast	3 miles	
Standard	AP Overcast (Mist Light)	2.25 miles	
Standard	AP Overcast (Mist Medium)	1.1 miles	
Standard	AP Overcast (Mist Thick)	0.8 miles	Sky partially obscured by mist.
Standard	AP Overcast (Fog)	1 mile	Sky completely obscured by fog.
Dynamic	APVariableOvercastRain	See notes	Rain of varying intensity with dry overcast spells. Visibility - Use with Overcast or Overcast (Mist Light) standard weather patterns. This will dictate visibility when overcast.
Dynamic	APVariableOvercastRainFog	See notes	Foggy rain of varying intensity with dry overcast spells. Visibility - Use with Overcast (Mist Medium), Overcast (Mist Thick) or Overcast (Fog) standard weather pattern. This will dictate visibility when overcast.
Dynamic	APVariableOvercastSnow	See notes	Snow of varying intensity with dry overcast spells. Visibility - Use with Overcast or Overcast (Mist Light) standard weather pattern. This will dictate visibility when overcast.
Dynamic	APVariableOvercastSnowFog	See notes	Snow of varying intensity with dry overcast spells. Visibility - Use with Overcast (Mist Medium), Overcast (Mist Thick) or Overcast (Fog) standard weather pattern. This will dictate visibility when overcast.

Overcast (Sun)

Weather Patterns

Type	Name / Trigger Name	Visibility	Notes
Standard	AP Overcast (Sun)	3 miles	
Standard	AP Overcast (Sun) (Mist Light)	2.25 miles	
Standard	AP Overcast (Sun) (Mist Medium)	1.1 miles	
Standard	AP Overcast (Sun) (Mist Thick)	0.8 miles	Sky partially obscured by mist.
Dynamic	APVariableOvercastSun	See notes	Sun varies from 100% obscured to 60% obscured. Visibility - Use with an Overcast (Sun) standard weather pattern. This will dictate visibility.
Dynamic	APVariableOvercastSunRain	See notes	Sun varies from 100% obscured to 60% obscured with spells of rain of varying intensity. Visibility - Use with Overcast (Sun) or Overcast (Sun) (Mist Light) standard weather pattern. This will dictate visibility when overcast.
Dynamic	APVariableOvercastSunRainFog	See notes	Sun varies from 100% obscured to 60% obscured with spells of foggy rain of varying intensity. Visibility - Use with Overcast (Sun) (Mist Medium) or Overcast (Sun) (Mist Thick) standard weather pattern. This will dictate visibility when overcast.

Fog

Weather Patterns

Type	Name / Trigger Name	Visibility	Notes
Standard	AP Fog Light	½ mile	
Standard	AP Fog Medium	¼ mile	
Standard	AP Fog Thick	500 ft	
Standard	AP Fog Variable	½ mile - 500 ft	Fog of varying density. Will be the same sequence of density every time. Use dynamic version for more variety.
Dynamic	APLightFog	½ mile	Poor adhesion
Dynamic	APMedFog	¼ mile	
Dynamic	APThickFog	500 ft	
Dynamic	APVariableFog	½ mile - 500 ft	Fog of varying density. Poor adhesion when thick mist.
Dynamic	APVariableClearMistFog	2 miles - 500 ft	Fog & mist of varying density. Poor adhesion when fog or thick mist. Clear during mist.
Dynamic	APVariableHighCloudMistFog	2 miles - 500 ft	Fog & mist of varying density. Poor adhesion when fog or thick mist. High Cloud during mist.

Rain

Drizzle option is a finer rain which produces a more mist like effect with poor adhesion.

Weather Patterns

Type	Name / Trigger Name	Visibility	Notes
Standard	AP Rain Light	1 mile	Light rain
Standard	AP Rain Light (Fog)		
Standard	AP Rain Moderate	0.9 miles	Moderate rain
Standard	AP Rain Moderate (Fog)	0.85 miles	
Standard	AP Rain Heavy	0.85 miles	Heavy rain. Sky partially obscured by fog.
Standard	AP Rain Heavy (Fog)	½ mile	Heavy rain
Standard	AP Rain Variable	1 mile - 0.85 miles	Rain of varying intensity. Will be the same sequence of intensity every time. Use dynamic version for more variety.
Standard	AP Rain Variable (Fog)	1 mile - ½ mile	
Dynamic	APModRain	0.9 miles	Moderate rain. More realistic windscreen raindrop density.
Dynamic	APModRainFog	0.85 miles	Moderate rain. More realistic windscreen raindrop density.
Dynamic	APHeavyRain	0.85 miles	Heavy rain. Sky partially obscured by fog. More realistic windscreen raindrop density.
Dynamic	APHeavyRainFog	½ mile	Heavy rain. More realistic windscreen raindrop density.
Dynamic	APVariableRain	1 mile - 0.85 miles	Rain of varying intensity. More realistic windscreen raindrop density.
Dynamic	APVariableRainFog	1 mile - ½ mile	Rain of varying intensity. More realistic windscreen raindrop density.

Dynamic	APVariableOvercastRain	See notes	Rain of varying intensity with dry overcast spells. Visibility - Use with Overcast or Overcast (Mist Light) standard weather patterns. This will dictate visibility when overcast.
Dynamic	APVariableOvercastRainFog	See notes	Foggy rain of varying intensity with dry overcast spells. Visibility - Use with Overcast (Mist Medium), Overcast (Mist Thick) or Overcast (Fog) standard weather pattern. This will dictate visibility when overcast.
Dynamic	APVariableOvercastSunRain	See notes	Sun varies from 100% obscured to 60% obscured with spells of rain of varying intensity. Visibility - Use with Overcast (Sun) or Overcast (Sun) (Mist Light) standard weather pattern. This will dictate visibility when overcast.
Dynamic	APVariableOvercastSunRainFog	See notes	Sun varies from 100% obscured to 60% obscured with spells of foggy rain of varying intensity. Visibility - Use with Overcast (Sun) (Mist Medium) or Overcast (Sun) (Mist Thick) standard weather pattern. This will dictate visibility when overcast.
Dynamic	APThunderstormFog	½ mile	Heavy rain with thunder and sheet lightning
Dynamic	APLightDrizzleFog	1 mile	Light drizzle
Dynamic	APModDrizzleFog	0.85 miles	Moderate drizzle
Dynamic	APHeavyDrizzleFog	½ mile	Heavy drizzle
Dynamic	APVariableDrizzleFog	1 mile - ½ mile	Drizzle of varying intensity

Snow

Weather Patterns

Type	Name / Trigger Name	Visibility	Notes
Standard	AP Snow Light	1 mile	Dynamic version strongly recommended for more realistic windscreen raindrop density
Standard	AP Snow Light (Fog)		
Standard	AP Snow Moderate	0.9 miles	
Standard	AP Snow Moderate (Fog)	¾ mile	
Standard	AP Snow Heavy	0.85 miles	
Standard	AP Snow Heavy (Fog)	⅓ mile	
Standard	AP Snow Variable	1 mile - 0.85 miles	Snow of varying intensity. Will be the same sequence of intensity every time. Use dynamic version for more variety and realistic windscreen raindrop density.
Standard	AP Snow Variable (Fog)	1 mile - ⅓ mile	
Dynamic	APLightSnow	1 mile	More realistic windscreen raindrop density
Dynamic	APLightSnowFog		
Dynamic	APModSnow	0.9 miles	
Dynamic	APModSnowFog	¾ mile	
Dynamic	APHeavySnow	0.85 miles	
Dynamic	APHeavySnowFog	⅓ mile	

Dynamic	APVariableSnow	1 mile - 0.85 miles	Snow of varying intensity. More realistic windscreen raindrop density.
Dynamic	APVariableSnowFog	1 mile - ⅓ mile	
Dynamic	APVariableOvercastSnow	See notes	Snow of varying intensity with dry overcast spells. Visibility - Use with Overcast or Overcast (Mist Light) standard weather patterns. This will dictate visibility when overcast.
Dynamic	APVariableOvercastSnowFog	See notes	Foggy snow of varying intensity with dry overcast spells. Visibility - Use with Overcast (Mist Medium), Overcast (Mist Thick) or Overcast (Fog) standard weather pattern. This will dictate visibility when overcast.

Showers

Weather Patterns - Multiple Random Showers

The following weather patterns are to be triggered at the start of a scenario and are all dynamic. They can only be used in conjunction with the standard weather patterns listed. The standard weather pattern is what the shower will transition to and from. They will produce showers of varying duration at varying intervals for the whole of the scenario.

If you would like showers to not have a chance of triggering until a certain time, add **;Start=x** to the trigger name. **x** is how many minutes after the scenario starts that you would like showers to start having a chance of triggering.

If you would like showers to stop triggering during a scenario, add **;End=x** to the trigger name. **x** is how many minutes after the scenario starts that you would like showers to stop triggering.

The default maximum interval between one shower finishing and another one triggering is 20 minutes, to increase this interval, add **;MaxGap=x** to the trigger name. **x** is the value in minutes of your chosen maximum interval. Increasing this figure from the default 20 will make showers less frequent and decreasing it will make them more frequent.

Trigger Name	Standard Weather Pattern	Notes
APFairCloudRainShowers	AP Fair Cloud AP Fair Cloud (Mist Light) AP Fair Cloud (Mist Medium)	Light, moderate or heavy showers
APFairCloudLightRainShowers		Light showers
APFairCloudModRainShowers		Moderate showers
APFairCloudHeavyRainShowers		Heavy showers
APFairCloudRainShowersStormy		Light, moderate or heavy showers. Heavy showers - darker lighting for a stormy look.
APFairCloudHeavyRainShowersStormy		Heavy showers. Darker lighting and reduced visibility for a stormy look.
APFairCloudRainShowersThundery		Light, moderate or heavy showers. Heavy showers - thunder and sheet lightning.
APFairCloudHeavyRainShowersThundery		Heavy showers. Thunder and sheet lightning. Reduced visibility.
APFairHighCloudRainShowers	AP Fair/High Cloud AP Fair/High Cloud (Mist Light) AP Fair/High Cloud (Mist Medium)	Light, moderate or heavy showers
APFairHighCloudLightRainShowers		Light showers
APFairHighCloudModRainShowers		Moderate showers
APFairHighCloudHeavyRainShowers		Heavy showers
APFairHighCloudRainShowersStormy		Light, moderate or heavy showers. Heavy showers - darker lighting for a stormy look.
APFairHighCloudHeavyRainShowersStormy		Heavy showers. Darker lighting and reduced visibility for a stormy look.
APFairHighCloudRainShowersThundery		Light, moderate or heavy showers. Heavy showers - thunder and sheet lightning.
APFairHighCloudHeavyRainShowersThundery		Heavy showers. Thunder and sheet lightning. Reduced visibility.
APOvercastRainShowers	Overcast Overcast (Mist Light) Overcast (Sun) Overcast (Sun) (Mist Light)	Light, moderate or heavy showers
APOvercastLightRainShowers		Light showers
APOvercastModRainShowers		Moderate showers
APOvercastHeavyRainShowers		Heavy showers
APOvercastRainShowersFog	Overcast (Mist Medium) Overcast (Mist Thick) Overcast (Fog) Overcast (Sun) (Mist Medium) Overcast (Sun) (Mist Thick)	Light, moderate or heavy showers. Reduced visibility.
APOvercastLightRainShowersFog		Light shower. Reduced visibility.
APOvercastModRainShowersFog		Moderate shower. Reduced visibility.
APOvercastHeavyRainShowersFog		Heavy shower. Reduced visibility.

For these showers to be snow instead of rain, simply replace **Rain** with **Snow** in the trigger name. Please note, **Stormy** or **Thundery** showers will not function with snow.

Weather Patterns - Individual Showers

The following weather patterns allow you to trigger showers individually rather than randomly and are all dynamic.

They can only be used in conjunction with the standard weather patterns listed. The standard weather pattern is what the shower will transition to and from.

Remove the number at the end of the trigger name for the shower to be a random duration.

Trigger Name	Duration	Standard Weather Pattern	Notes
APFairCloudLightRainShower1	10.5 mins	AP Fair Cloud AP Fair Cloud (Mist Light) AP Fair Cloud (Mist Medium)	Light shower
APFairCloudLightRainShower2	13 mins		
APFairCloudLightRainShower3	14.5 mins		
APFairCloudLightRainShower4	17 mins		
APFairCloudLightRainShower5	19 mins		
APFairCloudModRainShower1	11.5 mins		Moderate shower
APFairCloudModRainShower2	14 mins		
APFairCloudModRainShower3	16.5 mins		
APFairCloudModRainShower4	19 mins		
APFairCloudModRainShower5	21 mins		
APFairCloudHeavyRainShower1	11.75 mins		Heavy shower
APFairCloudHeavyRainShower2	13.75 mins		
APFairCloudHeavyRainShower3	17.5 mins		
APFairCloudHeavyRainShower4	20.5 mins		
APFairCloudHeavyRainShower5	24 mins		
APFairCloudHeavyRainShowerStormy1	12.5 mins		Heavy shower. Darker lighting for a stormy look.
APFairCloudHeavyRainShowerStormy2	15.5 mins		
APFairCloudHeavyRainShowerStormy3	20.5 mins		
APFairCloudHeavyRainShowerStormy4	22.25 mins		
APFairCloudHeavyRainShowerStormy5	24.5 mins		
APFairCloudHeavyRainShowerThundery1	15 mins		Heavy shower. Thunder and sheet lightning.
APFairCloudHeavyRainShowerThundery2	16.5 mins		
APFairCloudHeavyRainShowerThundery3	19 mins		
APFairHighCloudLightRainShower1	10.5 mins	AP Fair/High Cloud	Light shower

APFairHighCloudLightRainShower2	13 mins	AP Fair/High Cloud (Mist Light) AP Fair/High Cloud (Mist Medium)	
APFairHighCloudLightRainShower3	14.5 mins		
APFairHighCloudLightRainShower4	17 mins		
APFairHighCloudLightRainShower5	19 mins		
APFairHighCloudModRainShower1	11.5 mins		Moderate shower
APFairHighCloudModRainShower2	14 mins		
APFairHighCloudModRainShower3	16.5 mins		
APFairHighCloudModRainShower4	19 mins		
APFairHighCloudModRainShower5	21 mins		
APFairHighCloudHeavyRainShower1	11.75 mins		Heavy shower
APFairHighCloudHeavyRainShower2	13.75 mins		
APFairHighCloudHeavyRainShower3	17.5 mins		
APFairHighCloudHeavyRainShower4	20.5 mins		
APFairHighCloudHeavyRainShower5	24 mins		
APFairHighCloudHeavyRainShowerStormy1	12.5 mins		Heavy shower. Darker lighting for a stormy look.
APFairHighCloudHeavyRainShowerStormy2	15.5 mins		
APFairHighCloudHeavyRainShowerStormy3	20.5 mins		
APFairHighCloudHeavyRainShowerStormy4	22.25 mins		
APFairHighCloudHeavyRainShowerStormy5	24.5 mins		
APFairHighCloudHeavyRainShowerThundery1	15 mins		Heavy shower. Thunder and sheet lightning.
APFairHighCloudHeavyRainShowerThundery2	16.5 mins		
APFairHighCloudHeavyRainShowerThundery3	19 mins		
APOvercastLightRainShower1	4 mins	Overcast Overcast (Mist Light) Overcast (Sun) Overcast (Sun) (Mist Light)	Light shower
APOvercastLightRainShower2	6 mins		
APOvercastLightRainShower3	11 mins		
APOvercastLightRainShower4	10 mins		
APOvercastLightRainShower5	14 mins		
APOvercastModRainShower1	7 mins		Moderate shower
APOvercastModRainShower2	9 mins		
APOvercastModRainShower3	11 mins		
APOvercastModRainShower4	13 mins		

APOvercastModRainShower5	18 mins		
APOvercastHeavyRainShower1	7 mins		Heavy shower
APOvercastHeavyRainShower2	12 mins		
APOvercastHeavyRainShower3	14 mins		
APOvercastHeavyRainShower4	15.5 mins		
APOvercastHeavyRainShower5	20 mins		
APOvercastLightRainShowerFog1	3 mins	Overcast (Mist Medium) Overcast (Mist Thick) Overcast (Fog) **Weather patterns below only compatible with rain showers, not snow showers** Overcast (Sun) (Mist Medium) Overcast (Sun) (Mist Thick)	Light shower. Reduced visibility.
APOvercastLightRainShowerFog2	6 mins		
APOvercastLightRainShowerFog3	11 mins		
APOvercastLightRainShowerFog4	10 mins		
APOvercastLightRainShowerFog5	14 mins		
APOvercastModRainShowerFog1	6 mins		Moderate shower. Reduced visibility.
APOvercastModRainShowerFog2	9 mins		
APOvercastModRainShowerFog3	11 mins		
APOvercastModRainShowerFog4	13 mins		
APOvercastModRainShowerFog5	18 mins		
APOvercastHeavyRainShowerFog1	7 mins		Heavy shower. Reduced visibility.
APOvercastHeavyRainShowerFog2	12 mins		
APOvercastHeavyRainShowerFog3	13 mins		
APOvercastHeavyRainShowerFog4	15 mins		
APOvercastHeavyRainShowerFog5	20 mins		

For these showers to be snow instead of rain, simply replace **Rain** with **Snow** in the trigger name. Please note, **Stormy** or **Thundery** showers will not function with snow.

When triggering a non-Overcast shower using the **AP SWEP Weather (Pass)** or **(Time)** track marker, **;Shower=1** must be added to a separate **AP SWEP Weather** track marker for the correct clouds to show during the shower. When triggering a Overcast shower using the **AP SWEP Weather (Pass)** or **(Time)** track marker, **;Shower=2** must be added to a separate **AP SWEP Weather** track marker for the correct clouds to show during the shower.

Random

If you would like the weather to be chosen at random from all of the types listed so far in the manual, please follow the instructions below:

1) Follow the instructions on how to apply a dynamic weather pattern as found earlier in this manual but leave the **Speed Limit** box blank on the **AP SWEP Weather** track marker. There is no trigger name for random weather.

Please note that you must use the **AP SWEP Weather** track marker and not the **AP SWEP Weather (Pass)** or **(Time)** track marker**.**

2) Set the standard weather pattern to one of the following:

- **AP Fair Cloud**
- **AP Fair Cloud (Mist Light)**
- **AP Fair Cloud (Mist Medium)**

This will be the weather pattern you experience between showers if showers are the randomly chosen weather pattern.

That's it! Every time you load a scenario with random weather, you will most likely experience a different weather pattern, providing great variety every time you drive a scenario.

Random weather is also intelligent so will only give you snow during the winter and thunderstorms during the summer.

Please note, the only showers that will be selected at random are from **Fair Cloud** weather and not **Fair/High Cloud**.

Transitions

To provide finer control over weather, we have provided a large number of transition weather patterns between different weather types.

Standard weather patterns are applied in the same manner as already described in this manual.

Dynamic weather patterns are also applied in a similar way but with a number of things to look out for as stated below. If applying a standard weather pattern, the next three paragraphs can be ignored.

These dynamic weather patterns cannot be used in conjunction with any of the dynamic weather patterns already listed in this manual. They are only recommended for use by more advanced scenario creators who are happy to experiment.

It is also important to note whether a certain transition can used as part of a chain. These are denoted by an **x** in the **Chain** column of the table below. If not, this weather pattern must only be triggered in isolation and not be followed by another trigger in a scenario. Even for transitions that can be triggered one after another in a chain, there is a hard-coded limitation in Train Simulator which means that at the moment of triggering the next chain, you may see the weather momentarily flash to the selected standard weather pattern, which can sometimes spoil immersion.

Where an entry is made in the **Standard Weather Pattern** column, this must be the standard weather pattern you have set before triggering the relevant dynamic weather pattern. If more than one is stated, you can choose from the selection. If one isn't stated, it goes without saying that the weather before triggering must be the same as the **From** weather type.

Weather Patterns

Type	Trigger Name	From	To	Via	Duration	Chain	Standard Weather Pattern
Standard	AP Clear to High Cloud	Clear	High Cloud		60 mins		
Dynamic	APClear-HighCloud30	Clear	High Cloud		30 mins		AP Clear
Dynamic	APClear-HighCloud60	Clear	High Cloud		60 mins		AP Clear (Mist Light)
Dynamic	APClear-HighCloud90	Clear	High Cloud		90 mins		AP Clear (Mist Medium) AP Clear (Mist Thick)
Dynamic	APClear-Overcast15	Clear	Overcast		15 mins	x	
Dynamic	APClearLightMist-OvercastLightMist15	Clear (Mist Light)	Overcast (Mist Light)		15 mins	x	
Dynamic	APClearMedMist-OvercastMedMist15	Clear (Mist Medium)	Overcast (Mist Medium)		15 mins	x	
Standard	AP Clear to Overcast	Clear	Overcast		70 mins		
Dynamic	APClear-HighCloud-Overcast70	Clear	Overcast	High Cloud	70 mins		AP Clear
Dynamic	APClear-HighCloud-OvercastLightMist70	Clear	Overcast (Mist Light)	High Cloud	70 mins		AP Clear (Mist Light)
Dynamic	APClear-HighCloud-OvercastMedMist70	Clear	Overcast (Mist Medium)	High Cloud	70 mins		AP Clear (Mist Medium)
Dynamic	APClear-HighCloud-OvercastThickMist70	Clear	Overcast (Mist Thick)	High Cloud	70 mins		AP Clear (Mist Thick)
If using the 4 weather patterns below with the **AP SWEP Weather (Pass)** or **(Time)** track marker, you must add **;Haze=1** to the **Speed Limit** box of a separate **AP SWEP Weather** track marker to ensure the correct clouds appear.							
Dynamic	APClear-Haze-Overcast100	Clear	Overcast	Full Haze	100 mins		
Dynamic	APClear-Haze-OvercastLightMist100	Clear	Overcast (Mist Light)	Full Haze	100 mins		
Dynamic	APClear-Haze-OvercastMedMist100	Clear	Overcast (Mist Medium)	Full Haze	100 mins		
Dynamic	APClear-Haze-OvercastThickMist100	Clear	Overcast (Mist Thick)	Full Haze	100 mins		
Standard	AP Clear (Mist Light) to Fog Light	Clear (Mist Light)	Fog Light		22.5 mins		
Standard	AP Clear (Mist Light) to Fog Medium	Clear (Mist Light)	Fog Medium		22.5 mins		
Standard	AP Clear (Mist Light) to Fog Thick	Clear (Mist Light)	Fog Thick		22.5 mins		
If using any of the weather patterns below which involve transitioning from mist to fog or are **Mist Thick**, you must add **;Mist=1** to the **Speed Limit** box of a separate **AP SWEP Weather** track marker to ensure the correct clouds appear. Also, these weather patterns cannot be used in a chain with any weather pattern, standard or dynamic, that features Fair Cloud.							
Dynamic	APClear-LightFog	Clear	Fog Light		2.5 mins	x	
Dynamic	APClear-MedFog	Clear	Fog Medium		3 mins	x	
Dynamic	APClear-ThickFog	Clear	Fog Thick		3.5 mins	x	
Dynamic	APClearLightMist-MedMist1	Clear (Mist Light)	Clear (Mist Medium)		1 min	x	
Dynamic	APClearLightMist-LightFog	Clear (Mist Light)	Fog Light		2.5 mins	x	
Dynamic	APClearLightMist-MedFog	Clear (Mist Light)	Fog Medium		3 mins	x	
Dynamic	APClearLightMist-ThickFog	Clear (Mist Light)	Fog Thick		3.5 mins	x	
Dynamic	APClearMedMist-LightMist1	Clear (Mist Medium)	Clear (Mist Light)		1 min	x	
Dynamic	APClearMedMist-ThickMist1	Clear (Mist Medium)	Clear (Mist Thick)		1 min	x	
Dynamic	APClearMedMist-LightFog	Clear (Mist Medium)	Fog Light		2 mins	x	

Dynamic	APClearMedMist-MedFog	Clear (Mist Medium)	Fog Medium		2.5 mins	x	
Dynamic	APClearMedMist-ThickFog	Clear (Mist Medium)	Fog Thick		3 mins	x	
Dynamic	APClearThickMist-MedMist1	Clear (Mist Thick)	Clear (Mist Medium)		1 min	x	
Dynamic	APClearThickMist-LightFog	Clear (Mist Thick)	Fog Light		1.5 mins	x	
Dynamic	APClearThickMist-MedFog	Clear (Mist Thick)	Fog Medium		2 mins	x	
Dynamic	APClearThickMist-ThickFog	Clear (Mist Thick)	Fog Thick		2.5 mins	x	
Standard	AP High Cloud to Clear	High Cloud	Clear		60 mins		
Dynamic	APHighCloud-Clear30	High Cloud	Clear		30 mins		AP High Cloud AP High Cloud (Mist Light) AP High Cloud (Mist Medium) AP High Cloud (Mist Thick)
Dynamic	APHighCloud-Clear60	High Cloud	Clear		60 mins		
Dynamic	APHighCloud-Clear90	High Cloud	Clear		90 mins		
Standard	AP High Cloud to Overcast	High Cloud	Overcast		40 mins		
Dynamic	APHighCloud-Overcast15	High Cloud	Overcast		15 mins	x	
Dynamic	APHighCloudLightMist-OvercastLightMist15	High Cloud (Mist Light)	Overcast (Mist Light)		15 mins	x	
Dynamic	APHighCloudMedMist-OvercastMedMist15	High Cloud (Mist Medium)	Overcast (Mist Medium)		15 mins	x	
Dynamic	APHighCloud-Overcast20	High Cloud	Overcast		20 mins		AP High Cloud AP High Cloud (Mist Light) AP High Cloud (Mist Medium) AP High Cloud (Mist Thick)
Dynamic	APHighCloud-Overcast40	High Cloud	Overcast		40 mins		
Dynamic	APHighCloud-OvercastLightMist20	High Cloud	Overcast (Mist Light)		20 mins		
Dynamic	APHighCloud-OvercastLightMist40	High Cloud	Overcast (Mist Light)		40 mins		
Dynamic	APHighCloud-OvercastMedMist20	High Cloud	Overcast (Mist Medium)		20 mins		
Dynamic	APHighCloud-OvercastMedMist40	High Cloud	Overcast (Mist Medium)		40 mins		
Dynamic	APHighCloud-OvercastThickMist20	High Cloud	Overcast (Mist Thick)		20 mins		
Dynamic	APHighCloud-OvercastThickMist40	High Cloud	Overcast (Mist Thick)		40 mins		
Dynamic	APHighCloud-LightFog	High Cloud	Fog Light		2.5 mins	x	
Dynamic	APHighCloud-MedFog	High Cloud	Fog Medium		3 mins	x	
Dynamic	APHighCloud-ThickFog	High Cloud	Fog Thick		3.5 mins	x	
Dynamic	APHighCloudLightMist-MedMist1	High Cloud (Mist Light)	High Cloud (Mist Medium)		1 min	x	
Dynamic	APHighCloudLightMist-LightFog	High Cloud (Mist Light)	Fog Light		2.5 mins	x	
Dynamic	APHighCloudLightMist-MedFog	High Cloud (Mist Light)	Fog Medium		3 mins	x	
Dynamic	APHighCloudLightMist-ThickFog	High Cloud (Mist Light)	Fog Thick		3.5 mins	x	
Dynamic	APHighCloudMedMist-LightMist1	High Cloud (Mist Medium)	High Cloud (Mist Light)		1 min	x	
Dynamic	APHighCloudMedMist-ThickMist1	High Cloud (Mist Medium)	High Cloud (Mist Thick)		1 min	x	
Dynamic	APHighCloudMedMist-LightFog	High Cloud (Mist Medium)	Fog Light		2 mins	x	
Dynamic	APHighCloudMedMist-MedFog	High Cloud (Mist Medium)	Fog Medium		2.5 mins	x	
Dynamic	APHighCloudMedMist-ThickFog	High Cloud (Mist Medium)	Fog Thick		3 mins	x	

Dynamic	APHighCloudThickMist-MedMist1	High Cloud (Mist Thick)	High Cloud (Mist Medium)		1 min	x	
Dynamic	APHighCloudThickMist-LightFog	High Cloud (Mist Thick)	Fog Light		1.5 mins	x	
Dynamic	APHighCloudThickMist-MedFog	High Cloud (Mist Thick)	Fog Medium		2 mins	x	
Dynamic	APHighCloudThickMist-ThickFog	High Cloud (Mist Thick)	Fog Thick		2.5 mins	x	
Dynamic	APHighCloud-HighCloudNoSun120	High Cloud (Sun)	High Cloud (No Sun)		2 mins		AP High Cloud AP High Cloud (Mist Light) AP High Cloud (Mist Medium) AP High Cloud (Mist Thick)
Dynamic	APHighCloudNoSun-HighCloud120	High Cloud (No Sun)	High Cloud (Sun)		2 mins		
Dynamic	APLightFog-Clear	Fog Light	Clear		3.75 mins	x	
Dynamic	APLightFog-ClearLightMist	Fog Light	Clear (Mist Light)		2.75 mins	x	
Dynamic	APLightFog-ClearMedMist	Fog Light	Clear (Mist Medium)		2.25 mins	x	
Dynamic	APLightFog-ClearThickMist	Fog Light	Clear (Mist Thick)		1.75 mins	x	
Dynamic	APLightFog-HighCloud	Fog Light	High Cloud		3.75 mins	x	
Dynamic	APLightFog-HighCloud LightMist	Fog Light	High Cloud (Mist Light)		2.75 mins	x	
Dynamic	APLightFog-HighCloud MedMist	Fog Light	High Cloud (Mist Medium)		2.25 mins	x	
Dynamic	APLightFog-HighCloudThickMist	Fog Light	High Cloud (Mist Thick)		1.75 mins	x	
Dynamic	APLightFog-OvercastFog1	Fog Light	Overcast (Fog)		1 min	x	
Dynamic	APLightFog-MedFog0.5	Fog Light	Fog Medium		0.5 mins	x	
Dynamic	APMedFog-Clear	Fog Medium	Clear		4.25 mins	x	
Dynamic	APMedFog-ClearLightMist	Fog Medium	Clear (Mist Light)		3.25 mins	x	
Dynamic	APMedFog-ClearMedMist	Fog Medium	Clear (Mist Medium)		2.75 mins	x	
Dynamic	APMedFog-ClearThickMist	Fog Medium	Clear (Mist Thick)		1.5 mins	x	
Dynamic	APMedFog-HighCloud	Fog Medium	High Cloud		4.25 mins	x	
Dynamic	APMedFog-HighCloudLightMist	Fog Medium	High Cloud (Mist Light)		3.25 mins	x	
Dynamic	APMedFog-HighCloudMedMist	Fog Medium	High Cloud (Mist Medium)		2.75 mins	x	
Dynamic	APMedFog-HighCloudThickMist	Fog Medium	High Cloud (Mist Thick)		1.5 mins	x	
Dynamic	APMedFog-LightFog0.5	Fog Medium	Fog Light		0.5 mins	x	
Dynamic	APMedFog-ThickFog0.5	Fog Medium	Fog Thick		0.5 mins	x	
Dynamic	APThickFog-Clear	Fog Thick	Clear		4.75 mins	x	
Dynamic	APThickFog-ClearLightMist	Fog Thick	Clear (Mist Light)		3.75 mins	x	
Dynamic	APThickFog-ClearMedMist	Fog Thick	Clear (Mist Medium)		3.25 mins	x	
Dynamic	APThickFog-ClearThickMist	Fog Thick	Clear (Mist Thick)		2 mins	x	
Dynamic	APThickFog-HighCloud	Fog Thick	High Cloud		4.75 mins	x	
Dynamic	APThickFog-HighCloudLightMist	Fog Thick	High Cloud (Mist Light)		3.75 mins	x	
Dynamic	APThickFog-HighCloudMedMist	Fog Thick	High Cloud (Mist Medium)		3.25 mins	x	

Dynamic	APThickFog-HighCloudThickMist	Fog Thick	High Cloud (Mist Thick)		2 mins	x	
Dynamic	APThickFog-MedFog0.5	Fog Thick	Fog Medium		0.5 mins	x	
Standard	AP Fair Cloud to Overcast	Fair Cloud	Overcast		40 mins		
Dynamic	APFairCloud-Overcast20	Fair Cloud	Overcast		20 mins		AP Fair Cloud AP Fair Cloud (Mist Light) AP Fair Cloud (Mist Medium) AP Fair Cloud (Mist Thick)
Dynamic	APFairCloud-Overcast40	Fair Cloud	Overcast		40 mins		
Dynamic	APFairCloud-OvercastLightMist20	Fair Cloud	Overcast (Mist Light)		20 mins		
Dynamic	APFairCloud-OvercastLightMist40	Fair Cloud	Overcast (Mist Light)		40 mins		
Dynamic	APFairCloud-OvercastMedMist20	Fair Cloud	Overcast (Mist Medium)		20 mins		
Dynamic	APFairCloud-OvercastMedMist40	Fair Cloud	Overcast (Mist Medium)		40 mins		
Dynamic	APFairCloud-OvercastThickMist20	Fair Cloud	Overcast (Mist Thick)		20 mins		
Dynamic	APFairCloud-OvercastThickMist40	Fair Cloud	Overcast (Mist Thick)		40 mins		
Dynamic	APFairCloud-FairCloudNoSun120	Fair Cloud (Sun)	Fair Cloud (No Sun)		2 mins		
Dynamic	APFairCloudNoSun-FairCloud120	Fair Cloud (No Sun)	Fair Cloud (Sun)		2 mins		
Dynamic	APFairCloudWind-FairCloudWindNoSun120	Fair Cloud (Sun)	Fair Cloud (No Sun)		2 mins		AP Fair Cloud (Wind)
Dynamic	APFairCloudWindNoSun-FairCloudWind120	Fair Cloud (Wind) (No Sun)	Fair Cloud (Wind) (Sun)		2 mins		
Dynamic	APFairCloudLightHaze-FairCloudLightHazeNoSun120	Fair Cloud (Haze Light) (Sun)	Fair Cloud (Haze Light) (No Sun)		2 mins		AP Fair Cloud (Haze Light) AP Fair Cloud (Haze Light) (Mist Light) AP Fair Cloud (Haze Light) (Mist Medium) AP Fair Cloud (Haze Light) (Mist Thick)
Dynamic	APFairCloudLightHazeNoSun-FairCloudLightHaze120	Fair Cloud (Haze Light) (No Sun)	Fair Cloud (Haze Light) (Sun)		2 mins		
Dynamic	APFairCloudMedHaze-FairCloudMedHazeNoSun120	Fair Cloud (Haze Medium) (Sun)	Fair Cloud (Haze Medium) (No Sun)		2 mins		AP Fair Cloud (Haze Medium) AP Fair Cloud (Haze Medium) (Mist Light) AP Fair Cloud (Haze Medium) (Mist Medium) AP Fair Cloud (Haze Medium) (Mist Thick)
Dynamic	APFairCloudMedHazeNoSun-FairCloudMedHaze120	Fair Cloud (Haze Medium) (No Sun)	Fair Cloud (Haze Medium) (Sun)		2 mins		
Standard	AP Fair/High Cloud to Overcast	Fair/High Cloud	Overcast		40 mins		
Dynamic	APFairHighCloud-Overcast20	Fair/High Cloud	Overcast		20 mins		AP Fair/High Cloud AP Fair/High Cloud (Mist Light) AP Fair/High Cloud (Mist Medium) AP Fair/High Cloud (Mist Thick)
Dynamic	APFairHighCloud-Overcast40	Fair/High Cloud	Overcast		40 mins		
Dynamic	APFairHighCloud-OvercastLightMist20	Fair/High Cloud	Overcast (Mist Light)		20 mins		
Dynamic	APFairHighCloud-OvercastLightMist40	Fair/High Cloud	Overcast (Mist Light)		40 mins		
Dynamic	APFairHighCloud-OvercastMedMist20	Fair/High Cloud	Overcast (Mist Medium)		20 mins		
Dynamic	APFairHighCloud-OvercastMedMist40	Fair/High Cloud	Overcast (Mist Medium)		40 mins		
Dynamic	APFairHighCloud-OvercastThickMist20	Fair/High Cloud	Overcast (Mist Thick)		20 mins		
Dynamic	APFairHighCloud-OvercastThickMist40	Fair/High Cloud	Overcast (Mist Thick)		40 mins		
Dynamic	APFairHighCloud-FairHighCloudNoSun120	Fair/High Cloud (Sun)	Fair/High Cloud (No Sun)		2 mins		
Dynamic	APFairHighCloudNoSun-FairHighCloud120	Fair/High Cloud (No Sun)	Fair/High Cloud (Sun)		2 mins		
Dynamic	APOvercast-Clear15	Overcast	Clear		15 mins	x	
Dynamic	APOvercastLightMist-ClearLightMist15	Overcast (Mist Light)	Clear (Mist Light)		15 mins	x	
Dynamic	APOvercastMedMist-ClearMedMist15	Overcast (Mist Medium)	Clear (Mist Medium)		15 mins	x	

Dynamic	APOvercast-HighCloud15	Overcast	High Cloud		15 mins	x	
Dynamic	APOvercastLightMist-HighCloudLightMist15	Overcast (Mist Light)	High Cloud (Mist Light)		15 mins	x	
Dynamic	APOvercastMedMist-HighCloudMedMist15	Overcast (Mist Medium)	High Cloud (Mist Medium)		15 mins	x	
Standard	AP Overcast to High Cloud	Overcast	High Cloud		40 mins		
Dynamic	APOvercast-HighCloud20	Overcast	High Cloud		20 mins		AP Overcast AP Overcast (Mist Light) AP Overcast (Mist Medium) AP Overcast (Mist Thick)
Dynamic	APOvercast-HighCloud40	Overcast	High Cloud		40 mins		
Dynamic	APOvercast-HighCloudLightMist20	Overcast	High Cloud (Mist Light)		20 mins		
Dynamic	APOvercast-HighCloudLightMist40	Overcast	High Cloud (Mist Light)		40 mins		
Dynamic	APOvercast-HighCloudMedMist20	Overcast	High Cloud (Mist Medium)		20 mins		
Dynamic	APOvercast-HighCloudMedMist40	Overcast	High Cloud (Mist Medium)		40 mins		
Standard	AP Overcast to Fair Cloud	Overcast	Fair Cloud		40 mins		
Dynamic	APOvercast-FairCloud20	Overcast	Fair Cloud		20 mins		
Dynamic	APOvercast-FairCloud40	Overcast	Fair Cloud		40 mins		
Dynamic	APOvercast-FairCloudLightMist20	Overcast	Fair Cloud (Mist Light)		20 mins		
Dynamic	APOvercast-FairCloudLightMist40	Overcast	Fair Cloud (Mist Light)		40 mins		
Dynamic	APOvercast-FairCloudMedMist20	Overcast	Fair Cloud (Mist Medium)		20 mins		
Dynamic	APOvercast-FairCloudMedMist40	Overcast	Fair Cloud (Mist Medium)		40 mins		
Standard	AP Overcast to Fair/High Cloud	Overcast	Fair/High Cloud		40 mins		
Dynamic	APOvercast-FairHighCloud20	Overcast	Fair/High Cloud		20 mins		
Dynamic	APOvercast-FairHighCloud40	Overcast	Fair/High Cloud		40 mins		
Dynamic	APOvercast-FairHighCloudLightMist20	Overcast	Fair/High Cloud (Mist Light)		20 mins		
Dynamic	APOvercast-FairHighCloudLightMist40	Overcast	Fair/High Cloud (Mist Light)		40 mins		
Dynamic	APOvercast-FairHighCloudMedMist20	Overcast	Fair/High Cloud (Mist Medium)		20 mins		
Dynamic	APOvercast-FairHighCloudMedMist40	Overcast	Fair/High Cloud (Mist Medium)		40 mins		
Standard	AP Overcast to Clear	Overcast	Clear	High Cloud	70 mins		
Dynamic	APOvercast-Rain-Clear	Overcast	Clear	Rain Heavy	22.5 mins	x	
Dynamic	APOvercastLightMist-Rain-Clear	Overcast (Mist Light)	Clear	Rain Heavy	22.5 mins	x	
Dynamic	APOvercastMedMist-Rain-Clear	Overcast (Mist Medium)	Clear	Rain Heavy	22.5 mins	x	
Dynamic	APOvercastThickMist-Rain-Clear	Overcast (Mist Heavy)	Clear	Rain Heavy	22.5 mins	x	
Dynamic	APOvercastFogMist-Rain-Clear	Overcast (Fog)	Clear	Rain Heavy	22.5 mins	x	
Dynamic	APOvercast-Rain-FairCloud	Overcast	Fair Cloud	Rain Heavy	22.5 mins	x	
Dynamic	APOvercastLightMist-Rain-FairCloud	Overcast (Mist Light)	Fair Cloud	Rain Heavy	22.5 mins	x	
Dynamic	APOvercastMedMist-Rain-FairCloud	Overcast (Mist Medium)	Fair Cloud	Rain Heavy	22.5 mins	x	
Dynamic	APOvercastThickMist-Rain-FairCloud	Overcast (Mist Heavy)	Fair Cloud	Rain Heavy	22.5 mins	x	

Dynamic	APOvercastFogMist-Rain-FairCloud	Overcast (Fog)	Fair Cloud	Rain Heavy	22.5 mins	x	
Dynamic	APOvercast-LightRain1	Overcast	Rain Light		1 min	x	
Dynamic	APOvercast-LightRain2	Overcast	Rain Light		2 mins	x	
Dynamic	APOvercast-LightRain4	Overcast	Rain Light		4 mins	x	
Dynamic	APOvercastLightMist-LightRain1	Overcast (Mist Light)	Rain Light		1 min	x	
Dynamic	APOvercastLightMist-LightRain2	Overcast (Mist Light)	Rain Light		2 mins	x	
Dynamic	APOvercastLightMist-LightRain4	Overcast (Mist Light)	Rain Light		4 mins	x	
Dynamic	APOvercastLightMist-LightRainFog1	Overcast (Mist Light)	Rain Light (Fog)		1 min	x	
Dynamic	APOvercastLightMist-LightRainFog2	Overcast (Mist Light)	Rain Light (Fog)		2 mins	x	
Dynamic	APOvercastLightMist-LightRainFog4	Overcast (Mist Light)	Rain Light (Fog)		4 mins	x	
Dynamic	APOvercastMedMist-LightRainFog1	Overcast (Mist Medium)	Rain Light (Fog)		1 min	x	
Dynamic	APOvercastMedMist-LightRainFog2	Overcast (Mist Medium)	Rain Light (Fog)		2 mins	x	
Dynamic	APOvercastMedMist-LightRainFog4	Overcast (Mist Medium)	Rain Light (Fog)		4 mins	x	
Dynamic	APOvercastThickMist-LightRainFog1	Overcast (Mist Thick)	Rain Light (Fog)		1 min	x	
Dynamic	APOvercastThickMist-LightRainFog2	Overcast (Mist Thick)	Rain Light (Fog)		2 mins	x	
Dynamic	APOvercastThickMist-LightRainFog4	Overcast (Mist Thick)	Rain Light (Fog)		4 mins	x	
Dynamic	APOvercastFog-LightRainFog1	Overcast (Fog)	Rain Light (Fog)		1 min	x	
Dynamic	APOvercastFog-LightRainFog2	Overcast (Fog)	Rain Light (Fog)		2 mins	x	
Dynamic	APOvercastFog-LightRainFog4	Overcast (Fog)	Rain Light (Fog)		4 mins	x	
Dynamic	APOvercast-LightSnow1	Overcast	Snow Light		1 min	x	
Dynamic	APOvercast-LightSnow2	Overcast	Snow Light		2 mins	x	
Dynamic	APOvercast-LightSnow4	Overcast	Snow Light		4 mins	x	
Dynamic	APOvercastLightMist-LightSnow1	Overcast (Mist Light)	Snow Light		1 min	x	
Dynamic	APOvercastLightMist-LightSnow2	Overcast (Mist Light)	Snow Light		2 mins	x	
Dynamic	APOvercastLightMist-LightSnow4	Overcast (Mist Light)	Snow Light		4 mins	x	
Dynamic	APOvercastLightMist-LightSnowFog1	Overcast (Mist Light)	Snow Light (Fog)		1 min	x	
Dynamic	APOvercastLightMist-LightSnowFog2	Overcast (Mist Light)	Snow Light (Fog)		2 mins	x	
Dynamic	APOvercastLightMist-LightSnowFog4	Overcast (Mist Light)	Snow Light (Fog)		4 mins	x	
Dynamic	APOvercastMedMist-LightSnowFog1	Overcast (Mist Medium)	Snow Light (Fog)		1 min	x	
Dynamic	APOvercastMedMist-LightSnowFog2	Overcast (Mist Medium)	Snow Light (Fog)		2 mins	x	
Dynamic	APOvercastMedMist-LightSnowFog4	Overcast (Mist Medium)	Snow Light (Fog)		4 mins	x	
Dynamic	APOvercastThickMist-LightSnowFog1	Overcast (Mist Thick)	Snow Light (Fog)		1 min	x	
Dynamic	APOvercastThickMist-LightSnowFog2	Overcast (Mist Thick)	Snow Light (Fog)		2 mins	x	
Dynamic	APOvercastThickMist-LightSnowFog4	Overcast (Mist Thick)	Snow Light (Fog)		4 mins	x	

Dynamic	APOvercastFog-LightSnowFog1	Overcast (Fog)	Snow Light (Fog)		1 min	x	
Dynamic	APOvercastFog-LightSnowFog2	Overcast (Fog)	Snow Light (Fog)		2 mins	x	
Dynamic	APOvercastFog-LightSnowFog4	Overcast (Fog)	Snow Light (Fog)		4 mins	x	
Dynamic	APOvercastFog-LightFog1	Overcast (Fog)	Fog Light		1 min	x	
Dynamic	APLightRain-ModRain1	Rain Light	Rain Moderate		1 min	x	
Dynamic	APLightRain-ModRain2	Rain Light	Rain Moderate		2 mins	x	
Dynamic	APLightRain-ModRain4	Rain Light	Rain Moderate		4 mins	x	
Dynamic	APLightRain-Overcast1	Rain Light	Overcast		1 min	x	
Dynamic	APLightRain-Overcast2	Rain Light	Overcast		2 mins	x	
Dynamic	APLightRain-Overcast4	Rain Light	Overcast		4 mins	x	
Dynamic	APLightRain-OvercastLightMist1	Rain Light	Overcast (Mist Light)		1 min	x	
Dynamic	APLightRain-OvercastLightMist2	Rain Light	Overcast (Mist Light)		2 mins	x	
Dynamic	APLightRain-OvercastLightMist4	Rain Light	Overcast (Mist Light)		4 mins	x	
Dynamic	APModRain-HeavyRain1	Rain Moderate	Rain Heavy		1 min	x	
Dynamic	APModRain-HeavyRain2	Rain Moderate	Rain Heavy		2 mins	x	
Dynamic	APModRain-HeavyRain4	Rain Moderate	Rain Heavy		4 mins	x	
Dynamic	APModRain-LightRain1	Rain Moderate	Rain Light		1 min	x	
Dynamic	APModRain-LightRain2	Rain Moderate	Rain Light		2 mins	x	
Dynamic	APModRain-LightRain4	Rain Moderate	Rain Light		4 mins	x	
Dynamic	APHeavyRain-ModRain1	Rain Heavy	Rain Moderate		1 min	x	
Dynamic	APHeavyRain-ModRain2	Rain Heavy	Rain Moderate		2 mins	x	
Dynamic	APHeavyRain-ModRain4	Rain Heavy	Rain Moderate		4 mins	x	
Dynamic	APLightRainFog-ModRainFog1	Rain Light (Fog)	Rain Moderate (Fog)		1 min	x	
Dynamic	APLightRainFog-ModRainFog2	Rain Light (Fog)	Rain Moderate (Fog)		2 mins	x	
Dynamic	APLightRainFog-ModRainFog4	Rain Light (Fog)	Rain Moderate (Fog)		4 mins	x	
Dynamic	APLightRainFog-OvercastLightMist1	Rain Light (Fog)	Overcast (Mist Light)		1 min	x	
Dynamic	APLightRainFog-OvercastLightMist2	Rain Light (Fog)	Overcast (Mist Light)		2 mins	x	
Dynamic	APLightRainFog-OvercastLightMist4	Rain Light (Fog)	Overcast (Mist Light)		4 mins	x	
Dynamic	APLightRainFog-OvercastMedMist1	Rain Light (Fog)	Overcast (Mist Medium)		1 min	x	
Dynamic	APLightRainFog-OvercastMedMist2	Rain Light (Fog)	Overcast (Mist Medium)		2 mins	x	
Dynamic	APLightRainFog-OvercastMedMist4	Rain Light (Fog)	Overcast (Mist Medium)		4 mins	x	
Dynamic	APLightRainFog-OvercastThickMist1	Rain Light (Fog)	Overcast (Mist Thick)		1 min	x	
Dynamic	APLightRainFog-OvercastThickMist2	Rain Light (Fog)	Overcast (Mist Thick)		2 mins	x	
Dynamic	APLightRainFog-OvercastThickMist4	Rain Light (Fog)	Overcast (Mist Thick)		4 mins	x	

Dynamic	APLightRainFog-OvercastFog1	Rain Light (Fog)	Overcast (Fog)		1 min	x	
Dynamic	APLightRainFog-OvercastFog2	Rain Light (Fog)	Overcast (Fog)		2 mins	x	
Dynamic	APLightRainFog-OvercastFog4	Rain Light (Fog)	Overcast (Fog)		4 mins	x	
Dynamic	APModRainFog-HeavyRainFog1	Rain Moderate (Fog)	Rain Heavy (Fog)		1 min	x	
Dynamic	APModRainFog-HeavyRainFog2	Rain Moderate (Fog)	Rain Heavy (Fog)		2 mins	x	
Dynamic	APModRainFog-HeavyRainFog4	Rain Moderate (Fog)	Rain Heavy (Fog)		4 mins	x	
Dynamic	APModRainFog-LightRainFog1	Rain Moderate (Fog)	Rain Light (Fog)		1 min	x	
Dynamic	APModRainFog-LightRainFog2	Rain Moderate (Fog)	Rain Light (Fog)		2 mins	x	
Dynamic	APModRainFog-LightRainFog4	Rain Moderate (Fog)	Rain Light (Fog)		4 mins	x	
Dynamic	APHeavyRainFog-ModRainFog1	Rain Heavy (Fog)	Rain Moderate (Fog)		1 min	x	
Dynamic	APHeavyRainFog-ModRainFog2	Rain Heavy (Fog)	Rain Moderate (Fog)		2 mins	x	
Dynamic	APHeavyRainFog-ModRainFog4	Rain Heavy (Fog)	Rain Moderate (Fog)		4 mins	x	
Dynamic	APLightSnow-ModSnow1	Snow Light	Snow Moderate		1 min	x	
Dynamic	APLightSnow-ModSnow2	Snow Light	Snow Moderate		2 mins	x	
Dynamic	APLightSnow-ModSnow4	Snow Light	Snow Moderate		4 mins	x	
Dynamic	APLightSnow-Overcast1	Snow Light	Overcast		1 min	x	
Dynamic	APLightSnow-Overcast2	Snow Light	Overcast		2 mins	x	
Dynamic	APLightSnow-Overcast4	Snow Light	Overcast		4 mins	x	
Dynamic	APLightSnow-OvercastLightMist1	Snow Light	Overcast (Mist Light)		1 min	x	
Dynamic	APLightSnow-OvercastLightMist2	Snow Light	Overcast (Mist Light)		2 mins	x	
Dynamic	APLightSnow-OvercastLightMist4	Snow Light	Overcast (Mist Light)		4 mins	x	
Dynamic	APModSnow-HeavySnow1	Snow Moderate	Snow Heavy		1 min	x	
Dynamic	APModSnow-HeavySnow2	Snow Moderate	Snow Heavy		2 mins	x	
Dynamic	APModSnow-HeavySnow4	Snow Moderate	Snow Heavy		4 mins	x	
Dynamic	APModSnow-LightSnow1	Snow Moderate	Snow Light		1 min	x	
Dynamic	APModSnow-LightSnow2	Snow Moderate	Snow Light		2 mins	x	
Dynamic	APModSnow-LightSnow4	Snow Moderate	Snow Light		4 mins	x	
Dynamic	APHeavySnow-ModSnow1	Snow Heavy	Snow Moderate		1 min	x	
Dynamic	APHeavySnow-ModSnow2	Snow Heavy	Snow Moderate		2 mins	x	
Dynamic	APHeavySnow-ModSnow4	Snow Heavy	Snow Moderate		4 mins	x	
Dynamic	APLightSnowFog-ModSnowFog1	Snow Light (Fog)	Snow Moderate (Fog)		1 min	x	
Dynamic	APLightSnowFog-ModSnowFog2	Snow Light (Fog)	Snow Moderate (Fog)		2 mins	x	
Dynamic	APLightSnowFog-ModSnowFog4	Snow Light (Fog)	Snow Moderate (Fog)		4 mins	x	
Dynamic	APLightSnowFog-OvercastLightMist1	Snow Light (Fog)	Overcast (Mist Light)		1 min	x	

Dynamic	APLightSnowFog-OvercastLightMist2	Snow Light (Fog)	Overcast (Mist Light)		2 mins	x	
Dynamic	APLightSnowFog-OvercastLightMist4	Snow Light (Fog)	Overcast (Mist Light)		4 mins	x	
Dynamic	APLightSnowFog-OvercastMedMist1	Snow Light (Fog)	Overcast (Mist Medium)		1 min	x	
Dynamic	APLightSnowFog-OvercastMedMist2	Snow Light (Fog)	Overcast (Mist Medium)		2 mins	x	
Dynamic	APLightSnowFog-OvercastMedMist4	Snow Light (Fog)	Overcast (Mist Medium)		4 mins	x	
Dynamic	APLightSnowFog-OvercastThickMist1	Snow Light (Fog)	Overcast (Mist Thick)		1 min	x	
Dynamic	APLightSnowFog-OvercastThickMist2	Snow Light (Fog)	Overcast (Mist Thick)		2 mins	x	
Dynamic	APLightSnowFog-OvercastThickMist4	Snow Light (Fog)	Overcast (Mist Thick)		4 mins	x	
Dynamic	APLightSnowFog-OvercastFog1	Snow Light (Fog)	Overcast (Fog)		1 min	x	
Dynamic	APLightSnowFog-OvercastFog2	Snow Light (Fog)	Overcast (Fog)		2 mins	x	
Dynamic	APLightSnowFog-OvercastFog4	Snow Light (Fog)	Overcast (Fog)		4 mins	x	
Dynamic	APModSnowFog-HeavySnowFog1	Snow Moderate (Fog)	Snow Heavy (Fog)		1 min	x	
Dynamic	APModSnowFog-HeavySnowFog2	Snow Moderate (Fog)	Snow Heavy (Fog)		2 mins	x	
Dynamic	APModSnowFog-HeavySnowFog4	Snow Moderate (Fog)	Snow Heavy (Fog)		4 mins	x	
Dynamic	APModSnowFog-LightSnowFog1	Snow Moderate (Fog)	Snow Light (Fog)		1 min	x	
Dynamic	APModSnowFog-LightSnowFog2	Snow Moderate (Fog)	Snow Light (Fog)		2 mins	x	
Dynamic	APModSnowFog-LightSnowFog4	Snow Moderate (Fog)	Snow Light (Fog)		4 mins	x	
Dynamic	APHeavySnowFog-ModSnowFog1	Snow Heavy (Fog)	Snow Moderate (Fog)		1 min	x	
Dynamic	APHeavySnowFog-ModSnowFog2	Snow Heavy (Fog)	Snow Moderate (Fog)		2 mins	x	
Dynamic	APHeavySnowFog-ModSnowFog4	Snow Heavy (Fog)	Snow Moderate (Fog)		4 mins	x	

Quick Drive

Standard weather patterns have been applied for use in Quick Drive. Please see below for which weather pattern corresponds to each Quick Drive weather setting:

Quick Drive Weather Setting	Standard Weather Pattern Used
Clear	AP Clear (Mist Light)
Cloudy	AP Fair Cloud
Foggy	AP Fog Variable
Rain	AP Rain Variable
Stormy	AP Heavy Rain (Fog)
Overcast	AP Overcast (Mist Light)
Cloudy Snow	AP Snow Variable (Fog)

We would have liked to have used dynamic weather in Quick Drive but sadly Train Simulator does not support this.

Note for Scenario Developers

We encourage the use of our weather in scenarios, though anyone using a scenario with our weather will of course need to purchase this pack to experience it.

If you are using the **AP SWEP Weather** or **AP SWEP Weather (Time)** track marker, this must be placed on a piece of track that a train will not pass over in the scenario. This ensures that if the player doesn't own this pack, the signalling on the route will still behave as intended.

If using the **AP SWEP Weather (Pass)** track marker, the player must own this pack for the scenario to function properly.

Aside from those two caveats, scenarios using our weather will still work for those who haven't purchased this pack, they will just experience default weather instead.

Fork Lightning

Due to the way the simulator supports fork lightning, it must be created on a per scenario basis with each strike individually placed and timed. This is why we have included a scenario with this pack to show off this exciting new feature, with a view to including it in future scenarios too.

Whilst we would love to give you the ability to create your own weather patterns to take advantage of this in your own scenarios, we have not found a way of achieving this which would ensure only those who have purchased this pack would experience it. As a result, this feature will only be available in scenarios designed by us.

Scenario

One scenario has been included in this pack to show off the fork lightning functionality.

APWSEP: 2O46 12:07 Sutton - Luton
Route = MML - London to Bedford (AP)
Track covered = St. Pancras - Luton
Traction = Ex-First Capital Connect 319370
Year = 2015
Duration = 50 minutes

Credits

Thanks goes to the following individuals for providing photographs of lightning:

'J Iannone' - https://www.flickr.com/photos/jiannone/5935989764/
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