## Import Custom Weather Data



## In this video...

- Create a custom connection to weather data source .csv file
- Link data columns from .csv to ARM weather fields
- Import:
  - Daily weather -> Weather table
  - Hourly weather -> Application tab
    Batch import into multiple trials



onnection:	Iteris ClearAg					~
) Import da	Custom Conne	ction				-
Import w	ather data to bla	ank weather fie	lds			
Options		1000106-02	1200			134
✓ Import of	aily weather dat	a prior to startir	ig date	14	÷	days
Import o	aily weather dat	a after ending	date	1	-	days
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Trial locatio	n time zone:					~

Custom Connection	~	Read headers from CSV	Header Row Number				
Connection Name:	GDMLocalStation-Daily	Conn	ection Data Headers				
Source Code:	GDMwthr						
Type:	Daily Weather V						
CSV Date and time							
Date format:	🔛 📴 Information						
Separator:	Enter co	mment to store with new list item GDMwthr	\$				
4 digit year (YY	(YY) weather from local GDM weather	er station					
Time format:		OK Cancel	Help				

Connection			
Custom Conne	ection		
Connection Na	ame: Gl	DMLocalStation-Daily	
Source C	ode: G	DMwthr	ŀ
т	ype: Da	aily Weather	
CSV Date an	d time -		
Date format:	MM-DD	ŀYY	~
Separator:	/ Slash		~
✓ 4 digit yea	r (mm)		
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In this video, we demonstrate how to import weather data into an ARM trial using any weather data source.

We will create a custom connection to a weather data source file, link the data columns in the file to ARM weather fields, and use the connection to import daily weather to the Weather table, and then import 'hourly' weather to the Application table into several trials at once.

To begin, select the Import Weather Data button on the toolbar. If you have not created a custom connection before, the Iteris ClearAg connection is loaded to start. With a subscription to their service, you can import their weather and soil data by directly connecting to their API – see Import ClearAg Weather Data for more information.

Next, select 'Custom Connection...' from the dropdown to create a new connection.

Start by defining a name for this connection. Then define an 8-digit code that will be used to identify the source of the data imported through this connection.

Click the dropdown button to add a comment and save this code for later use.

Next, define the type of weather that will be imported with this connection.

**Daily** connections link to the Weather tab of the Site Description, while **Application** connections are for hourly data that import into the Application weather fields based on application start and stop times. For this example we will use Daily weather.

Next, set the format of dates and times found in the source file. This can be different from the format ARM uses to display dates and times within the program, so make sure to look at your source file to determine the format so that ARM reads the file correctly.

Then enter the units of measure for values stored in the source file. When a data value is imported, ARM will autofill the appropriate unit from the list of defaults defined here.

## Import Custom Weather Data

ARM Field Name

~

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Read headers from CSV     Header Row Number:     3       Connection Data Headers       Date       TempHigh       Tme@TempHgh       TempLow       Time@TempLow       TempAvg       RHHigh       RHLow       Buble:	×
Connection Data Headers Date TempHigh TempHigh TempLow TempAvg RHHigh RHLow BHLow	
Date TempHigh Time@TempHigh TempLow TempAvg RHHigh RHLow BHLow	^
TempHigh Tme@TempHigh TempLow TempLow TempAvg RHHigh RHLow BHLow	
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Time@TempLow TempAvg RHHigh RHLow RHLow	
TempAvg RHHgh RHLow RHLow	
RHHigh RHLow RHLow	-
RHLow	
PHAve	
nnavg	
Rainfall	
CumulativeRainfall	

Date

Date Time

Moisture Total

**30Y Precipitation** 

Avg Temp 30Y Min Temp

Connection Column Na

Yes No Cancel

OK

Precipitation

Irrigation

Туре

Unit

Current Connection settings have not been s like to save unsaved changes before closing?

Changes will be lost if 'No' is selected

Interval

Min Temp

Type: Daily Weather

Time@TempHigh

Time@TempLow

Settings.

ion: GDMLocalSt

Import all weather data fm

Import weather data to bi Options

Import daily weather dat Import daily weather dat

TempLow

TempAvg

RHHigh

RHLow

RHAva

Date TempHigh

Connection Column Name

Finally, enter the data headers for the connection file. Select a source file for ARM to read the headers from, instead of hand-typing the information. (If the header row is not the very first line of the document, specify which row for ARM to read the headers from.)

Press OK to save this connection.

Now we can link the headers from the source file to ARM trial fields. Since we chose the Daily connection type, we can select fields from the Weather table to link.

Select a field name to link the data from the source column name to that trial field when importing data. Note that not all of the fields in your source file need to be linked to a field; ARM will simply skip over any unused columns during an import.

Since we do not have a trial open to import weather yet, click Cancel and then click Yes to save our changes to this connection.

General Trial	Objectives/Conclusion	s Contacts
General Tri	al Information	
Edit on Conta	cts tab information for th	e 4 duplicate r
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importing daily weather, ARM uses the Trial Initiation and Completion dates as the default date range to import, found on the General Trial tab of the Site Description.

Now let's open a trial to use this new connection. When



The Weather Import process can also be triggered from the Tools menu. Again, ARM defaults to the dates specified within the trial, but we can also specify additional days prior to the starting date or after the ending date to include in the import. Alternatively, we can import all of the days of weather data contained in the source file.



ite Description	We	ather Cor	nditio	ns								We	sather	
Date		Moisture Total	Un	it	Тур	e	Min Temp	Max Temp	Avg Temp	Tem Uni	p t	% Relative Humidity	Source	E.
Apr-1-2017	~	0	cm	~	RAIN	~	32.9	55.4	41.255	С	~	70.7	GDMwthr	~
Apr-2-2017	~	0	cm	~	RAIN	~	30	63.5	47.302	С	~	83.9	GDMwthr	~
Apr-3-2017	>	0.02	cm	>	RAIN	2	42.7	64	56.246	С	~	92.4	GDMwthr	~
Apr-4-2017	~	0	cm	~	RAIN	~	33.2	48.5	39.643	С	2	79.6	GDMwthr	~
Apr-5-2017	~	0	cm	~	RAIN	~	27.9	57.6	39.461	С	~	84.9	GDMwthr	~
Apr-6-2017	~	0	cm	~	RAIN	V	35.8	65	50.008	С	5	74.6	GDMwthr	~

ect ID Filter by :#1 Filter For ... Remove Filter Hide Current Field **Display All Fields** Auto-Size Column Widths Delete File Rename File Move File Archive File Clear Field Map Link Select 条 Import Weather Data For Selected Trial(s) -Frevious Versions... Include

Connection Column Name	ARM Field Name	-
Date	Application Date	N
Temp	Application Date	1g
RH	Appl. Start Time	I
DewPoint	Application Method	Ш
WindSpeed	Application Timing	Ш
WindGust	Applied By	Ш
CumulativeRainfall	Air Temperature at Appl. Start Time Air Temperature at Appl. Stop Time	ľ
	% Relative Humidity at Appl. Start Time % Relative Humidity at Appl. Stop Time Wind Velocity at Appl. Start Time	~
Settings	Wind Direction at Appl. Start Time	

Weather import application weather data to application(s) AC.     Weather import successful for C-\Usern VMRE_Vin10_VM_Doornt-Documents VARM Data-Yung18.dat0.     Argeological Date is bank in application. Date and start time are needed to import application weather data to application(s) A8.     Weather import successful for C-\Usern VMRE_Vin10_VM_Doornt-Documents VARM Data-Yung16.dat0.	Successfully     Weather imp	ead weather data Int successful for C	:\Users\MRE Wi	n10 VM Docmt	Documents ARM Data	InfyExport-2.csv Fung17.dat0.
Weather import successful for C-\Users\WRE_Win10_VM_Docmt\Documents\ARM Data\Fung18.dat0.     Arplication Date in blank in application C. Date and start time are needed to import application weather     data.         Weather import auccessful of C-WeathWRE_Win10_VM_Docmt\Documents\ARM Data\Fung16.dat0.         Weather import adaptication weather data to application(b) AC.         Weather import adaptication weather data to application(b) AC.	Importe	d application weath	ner data to applica	tion(s) A-C.		
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	Display	10				

General Trial Objectives/Conclusions Contacts Crop Description Pest Description Ste and Design Application Description

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	A				В	С			
Application Date	Jan-1	5-2018	~	Jan-2	2-2018	~			
Appl. Start Time	1:30 F	PM		3:00	PM				_
Appl. Stop Time	3:00 F	M		4:00	PM				
Application Method	SPRA	Y	~	SPR/	SPRAY		SPRAY		
Appl. Entry Date						_	-		_
Air Temperature Start, Stop	46.7	47.0 F	~	47.0	45.7 F	~			
% Relative Humidity Start, Stop	68.8	63.6		63.6	72.1				_
Wind Velocity+Dir. Start	0.75	MPH ~		0.25	MPH ~	~		~	
Wind Velocity+Dir. Stop	0.25	MPH	~	0	MPH	~			
Wind Velocity+Dir. Max	4.25	MPH	~	4.25	MPH	~			
Wet Leaves (Y/N)	~			~		-	~		_

Press OK to proceed to select the weather data file to import. This should be saved in a comma-separated file (.csv file extension) – a common, simple output type for large sets of data (and an easy format to 'save as' from an Excel spreadsheet if needed).

Now on the Weather tab, we can see the daily weather records have been imported into the fields we defined within the connection, for the date range specified.

You can also import weather data into multiple trials at one time. This can be useful for a weather station located at a research location, to import that same data into all trials at that location. We will demonstrate this with the Application connection type, but it can be done with daily weather too.

From the Study List, select the trials to import data into. Then right-click and select 'Import Weather Data for Selected Trial(s)'.

We select from the list an Application connection that we had set up previously. Note that we link fields from the source csv to weather-related fields found on the Application tab of the Site Description for this connection type.

Now click OK to proceed to select the weather source file to import. This time we choose the 'hourly' weather data.

After the data has been imported into the files, ARM displays a summary of what occurred, and any errors it may have encountered.

Then if we open one of the trials, we can see that application weather details have been filled in from file, for applications that have a date and time specified.

Also note that Start and Stop fields like air temperature are both filled in, based on the Application Start and Stop times.