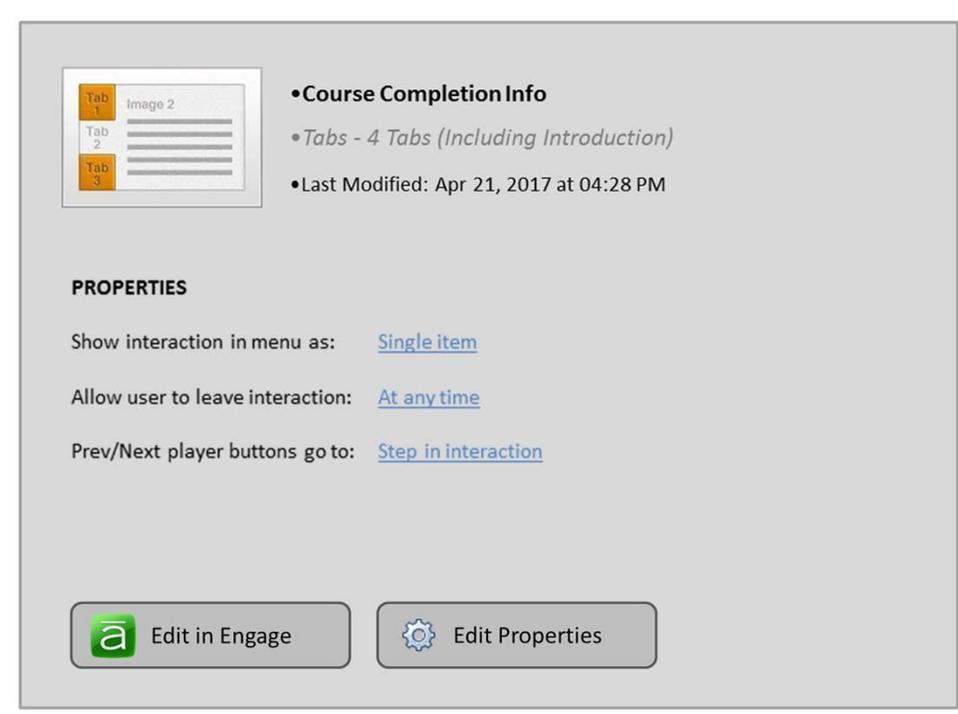


AWIPS Interactive Reference (AIR) Contributor Training

Eric Jacobsen
Warning Decision Training Division



This lesson introduces the AWIPS Interactive Reference tool, deployed in 16.4.1, to contributors, those who wish to upload reference content to VLab to be accessed from AWIPS workstations.



Course Completion Info

- *Tabs - 4 Tabs (Including Introduction)*
- Last Modified: Apr 21, 2017 at 04:28 PM

PROPERTIES

Show interaction in menu as: [Single item](#)

Allow user to leave interaction: [At any time](#)

Prev/Next player buttons go to: [Step in interaction](#)

 Edit in Engage  Edit Properties

In this module we will cover what you need to know before attempting to register references in the VLab for use with AIR. This includes how AIR is designed to be used by forecasters, how you will register content in the VLab for use with AIR, and how to optimize VLab content registration for effective VLab searches.

The actual step-by-step instructions for how to register references are provided through job sheets in the VLab.

Review the tabs on this slide, then click advance to proceed to the next slide

AWIPS Interactive Reference Demo

AWIPS

of 376M Preparing menu entries

Search Results
VIRTUAL LAB
WHERE GREAT IDEAS BECOME OPERATIONAL REALITY

Consolidated Reference Search

Simple Search Criteria

Keywords: Tracking Meteogram

Site: WFO Omaha/Valley NE

Tracking Meteogram

Source: WDTD Author: Stanislav Speransky Approved: true

AWIPS Interactive Reference

This is the reference page for the AWIPS Interactive Reference.

Source: WDTD Author: Michael Magisig Approved: true

Reference Content

- Tracking Meteogram

Fig. 1 Tracking meteogram tool loaded over satellite IR for two different storms A and B (see circle center and line legend).

Training Job Sheets (click on "html" for web page layout with image links or "PDF" for PDF viewing with images embedded w

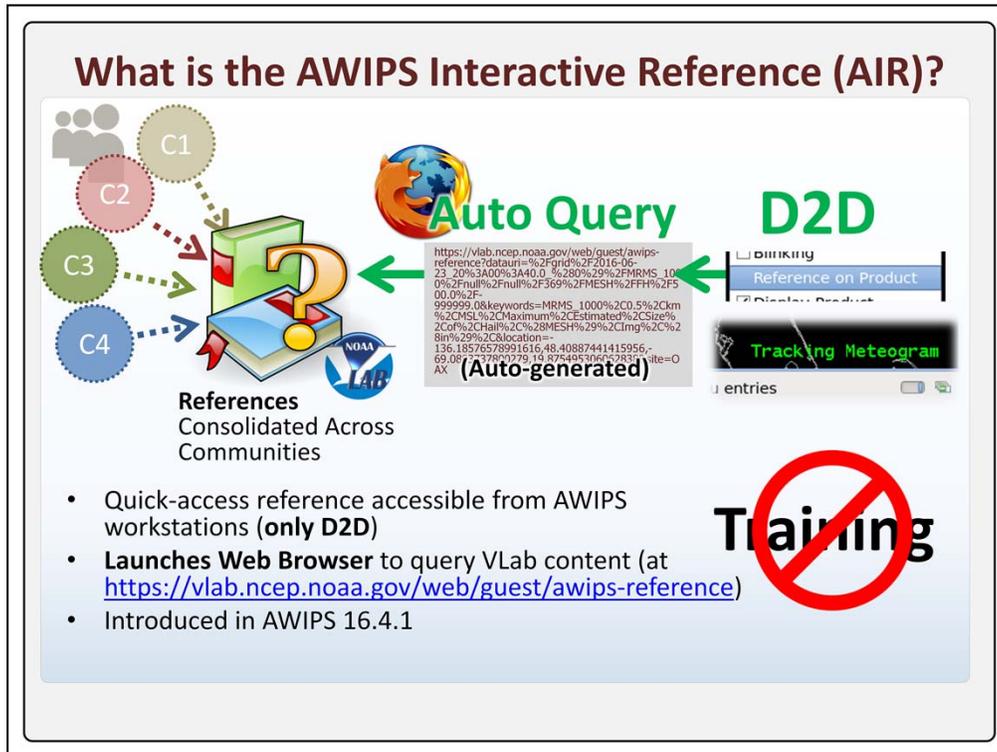
- Jobsheets are extension of the "AWIPS Tracking Meteogram Tool Training" posted to (LMS - Internet, speaker notes PDF)
- All Tracking Meteogram Jobsheets (html, PDF)
 - Jobsheet 1: Track Cloud-Top Temperatures and Load Additional Meteograms (html, PDF)
 - Jobsheet 2: Create Meteograms From a Paired Radar Product (html, PDF)
 - Jobsheet 3: Create Meteograms From Multiple Stacked Grid Images and Use Snap All Points to This Location (html, PDF)
 - Jobsheet 4: Track Total Lightning Density Trends in Convective Storms (html, PDF)

Overview

- Track circles with the tool to create time trend of radar, satellite, grid image, and total lightning density
- Does not work with contours, wind barbs, station plots

To introduce the purpose of the AWIPS Interactive Reference (or AIR in short), consider a user on their AWIPS terminal with a resource such as the Tracking Meteogram tool pulled up in D2D.

Having already taken the training but in need of a refresher on its usage, by long right-clicking on the legend text and selecting "Reference on Product," a browser window will open with a list of references, automatically scored for relevance to the user's selected resource. After identifying a relevant result, the forecaster can click on the title to be linked to the quick reference documentation



So what is AIR? As we've seen, AIR is a quick-access reference feature integrated into CAVE for products and tools that the user wants to know more about.

Any product, map, or tool in D2D which loads with a lower-right text legend, like the Tracking Meteogram example here, can be used to launch an AIR query for relevant documentation by long-right clicking on its legend and selecting "Reference on Product." This triggers information gathering about the selected item and some details of the CAVE session, which launches a web browser and passes it an encoded URL. A query then acts on a repository of guides and documentation, hosted in VLab and accessible on live AWIPS workstations. It is NOT meant as a training resource, as training should be managed through the Commerce Learning Center, but instead for easily finding refresher and best practice information about specific products and tools.

AIR is a feature of CAVE starting in build 16.4.1 of AWIPS.

A critical element of AIR is its reliance on contributed content from across communities in VLab. This is where you, the contributor, will fit in.

AIR Uses Web Browser and VLab



- All reference content is served through **Web Browser**
- Must be hosted on VLab
 - Uploaded Documents 
 - Web Content (html) 
- Limit high-bandwidth content (e.g. video)
 - File size limit 51MB
 - Unknown impacts on VLab/local network

All AIR references are presented through the web browser launched by CAVE, either by playing the content in the browser, such as with html or images, or by prompting the user to select a program from the browser's application list registered with the file extensions. But, even more specifically, all references must reside on VLab or the AWIPS network will not allow it to be accessed.

We will discuss what can be hosted on VLab in more detail later, but this falls into two broad categories: uploaded documents, or html referred to as Web Content. These formats offer a wide range of flexibility. However, VLab has implemented file size restrictions to limit high-bandwidth content, since the impacts of serving high bandwidth content on the VLab or the local network are not known. And so, it is prudent to be cautious in serving high bandwidth content, like videos, even under this limit, until more is known.

AIR Reference Discovery

Search Results – Simple Display

Consolidated Reference Search

Simple Search Criteria

Keywords:

Site:

Simple|Advanced ↑

→ Tracking Meteogram

Source: WDTD **Author:** Stanislav Speransky **Approved:** true

AWIPS Interactive Reference
This is the reference page for the AWIPS Interactive Reference.
Source: WDTD **Author:** Michael Magsig **Approved:** true

AWIPS Build Changes Current
This page contains a summary of AWIPS build changes that accompany the Informational Overview
Source: WDTD **Author:** Michael Magsig **Approved:** true

MESH Tracks
MRMS product guide MESH Tracks reference pages.
Source: WDTD **Author:** Alyssa Bates **Approved:** true

Rotation Tracks
MRMS product guide Rotation Tracks reference pages.
Source: WDTD **Author:** Alyssa Bates **Approved:** true

xx dBZ Echo Top (ET)
MRMS product guide 18, 30, 50, and 60 dBZ Echo Tops reference pages.
Source: WDTD **Author:** Alyssa Bates **Approved:** true

- Available references are found through on-demand search
- Results display helps user ID useful material
 - e.g. Author, Approval (“Formal reference”) in addition to Description
- Results ordered by most relevant first

With AIR there is no one-to-one connection between a selected AWIPS resource and a quick reference. Rather, AIR uses the query to find likely matches among available, registered references on VLab and presents a display of results. Shown here is the “Simple” form of the results page, from which a prospective user can evaluate the titles, source, description and approval, which designates material with formal origins, to pick a relevant reference, if any exists.

These results displays are formatted to highlight information about each reference that can characterize its quality. Besides the title and description, for example, forecasters can see who authored the reference, and whether its approval flag designates it as formal material related to a national initiative. The results display are also ordered by decreasing relevance.

Continuing with the example in our demonstration, we see that a tracking meteogram reference does exist and is placed first in the results, while other results which appear less relevant are included

lower in the list.

AIR Reference Discovery (Advanced)

Search Results - Advanced Display

AWIPS Interactive Reference Search

Search Terms: Tracking Meteogram

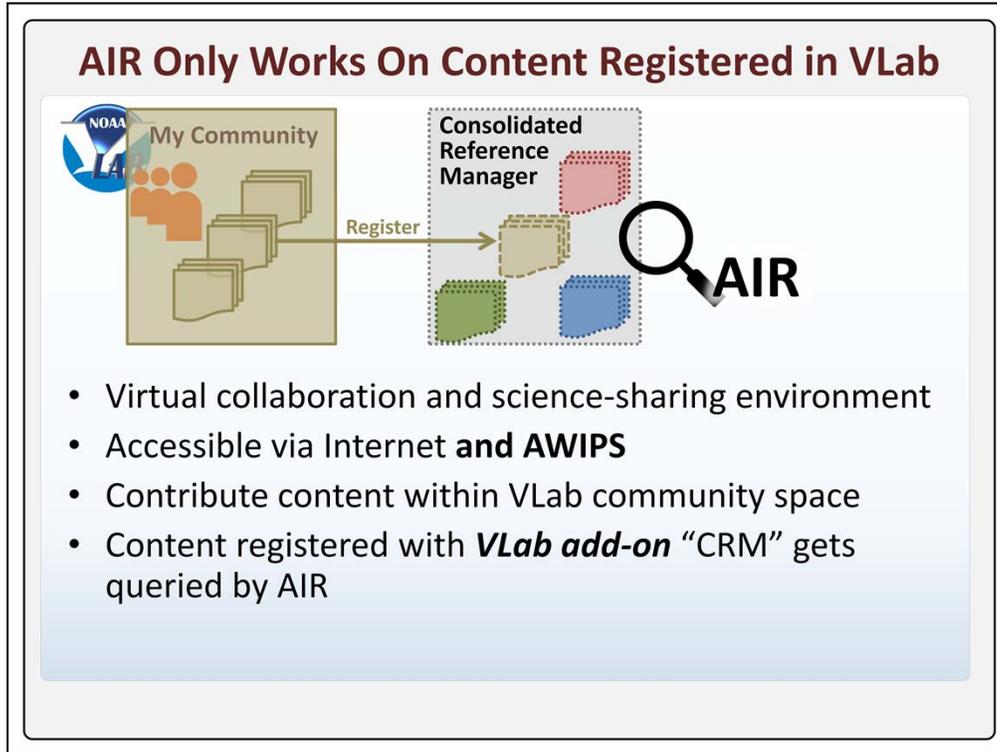
Community: OCLO

Relevance Score: 6.6695313

Title	Author	Duration	Units	Description	Community	Relevance Score	Approved
Tracking Meteogram	Stanislav Speransky	1.0	pages	Tracking Meteogram quick-reference web page will provide supplemental information that is an extension of the Tracking Meteogram training in the CLC.	OCLO	6.6695313	true
AWIPS Interactive Reference	Michael Magsig	1.0	pages	This is the reference page for the AWIPS Interactive Reference.	OCLO	0.000036880487	true
AWIPS Build Changes Current	Michael Magsig	1.0	pages	This page contains a summary of AWIPS build changes that accompany the Informational Overviews training in the CLC.	OCLO	0.00003642705	true
MESH Tracks	Alyssa Bates	1.0	pages	MRMS product guide MESH Tracks reference page.	OCLO	0.00003642705	true
Rotation Tracks	Alyssa Bates	1.0	pages	MRMS product guide Rotation Tracks reference page.	Warning Decision Training Division (WDTD)	0.000008898149	true
					Warning Decision Training Division	0.000008615774	true

An advanced view of the results is also available which shows more detailed information about the matches. The key advantage of this perspective is its inclusion of the relevance score, assigned by the AIR query to each match. This and the efficient, tabular display of results makes the advanced view useful for contributors who are testing the retrieval of their reference from AWIPS. We can plainly see how much higher the relevance score of the Tracking Meteogram reference is in this search compared to the other references also displayed.

As we discuss how to create references in this training, we will highlight the origin of each of the metadata fields displayed in these results. We will also explain which of them are most influential on this score. But first we've mentioned that AIR aggregates registered content from different VLab communities... something we can even see here from the diversity in the "community" column. Since VLab may be new to many folks, let's spend a moment understanding better what this means.



AIR ONLY works with content which is hosted AND registered on VLab.

VLab is a collaborative space with many communities where widely customizable content and tools serving a variety of needs can be contributed by members, and accessed on the internet AND the AWIPS network. In VLab, a given community might generate many pieces of content, only some of which may be appropriate for the scope of AIR as a quick-reference utility. If a contributor has such a reference and wishes to make it accessible via AIR, it must be “registered” with an administrative utility referred to as the Consolidated Reference Manager, which is not default to all communities but can be enabled by request.

As its name implies, the Consolidated Reference Manager (or CRM) consolidates all such registered references from the different communities which have contributed. It is this consolidated list of material that AIR queries will search.

VLab Privacy Settings






- Permissions and private/public distinction are important in VLab
- Content owner sets permissions
- **Public** content
 - Visible to all AIR searches
- **Private** content
 - Only visible to members of community
 - **Requires login** before AIR searches will see

In AWIPS builds **prior to 17.1.1**, AIR requires authentication.

Instructions for fix available on AIR FP page:
<https://vlab.ncep.noaa.gov/web/oclo/air-fp>

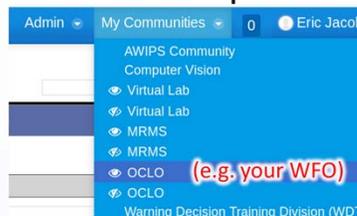
One of the most important concepts about the VLab to understand is public versus private permissions. The VLab content owner chooses whether to make their content publicly visible in VLab so that all AIR search results can see it, or to restrict it to members of their community only.

Crucially, when not logged in, ALL users are treated as public and will only see the public material. In order for AIR to search private content, the community user must be logged in to the VLab before launching an AIR search. Only then will they also see the private references for communities that they are members of.

A note to local focal points is that, prior to AWIPS 17.1.1, an AIR configuration file requires users to log in to VLab. A workaround to this behavior is linked to here. Jobsheets associated with this training will guide you through some of these choices, but more in-depth training on VLab, beyond the basics necessary to contribute to AIR, will be included in a VLab Fundamentals course planned for later in 2017.

Default VLab Community for Field Offices

- WFO and RFC staff **have default access to pre-configured, local community**
 - Sandbox for AIR and VLab practice
 - Repository for local content
- Community features:
 - Local staff auto-assigned membership after **LDAP** login
 - **Future:** SSO will also work, and admins can add members
 - Default members have view-only permissions
 - SOOs, DOHs, ITOs have admin control
 - Ready to use with AIR (CRM tool pre-enabled) and training jobsheets



See Jobsheet:
“VLab Community Management for AIR”

What will VLab’s community organization and permissions management practically look like for you?

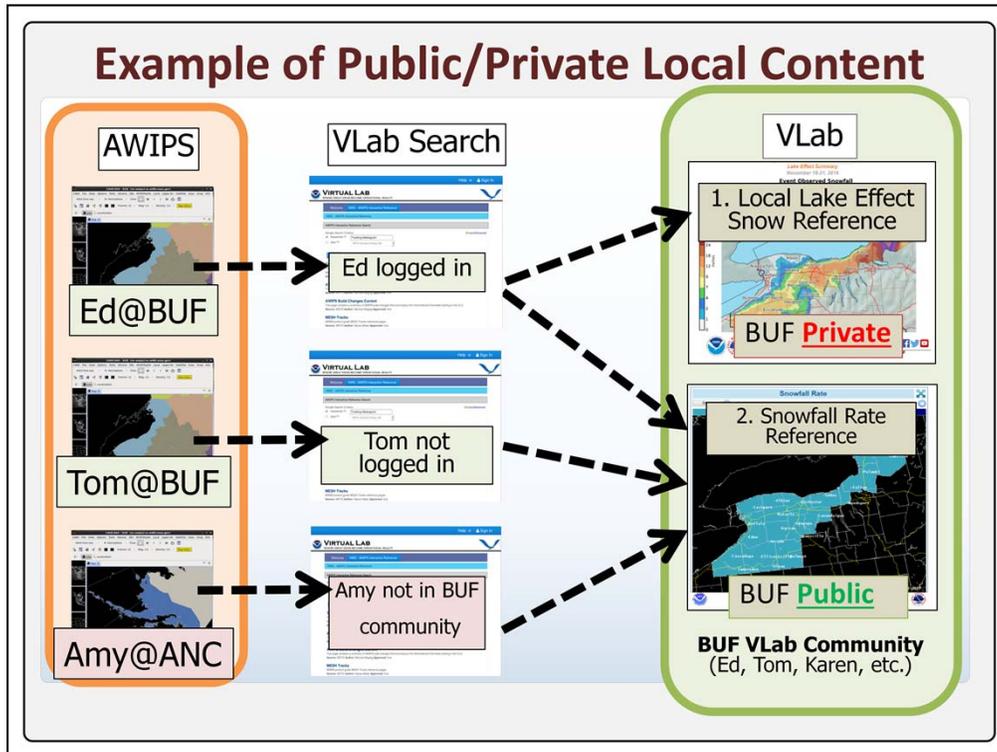
To jump start field use and testing of VLab, a community has been created for each national weather service WFO and RFC, which can be used as a sandbox for testing the capabilities of AIR and VLab, and as a repository for locally created content. You can access these new communities simply by logging into VLab, and checking for your office-specific community in the “My Communities” drop-down.

Local staff (including you) are auto-assigned to this community after LDAP login to VLab. LDAP sign-in, which is the login utility to the right on the VLab splash screen, is necessary as of the release of this training for each member before they are added to a community’s membership list. In later VLab upgrades, it will be easier to build your community’s membership, in part because the “Single Sign-on” authentication, if you are logged in to Google, will also work to trigger this community assignment. Also in the future, the VLab database will update to contain a complete listing of NWS staff, who then can be manually added by community admins without requiring each member to log in. Managing users and roles in VLab is very straightforward, and a jobsheet to help you with this is provided on VLab.

Auto-assignment also designates permissions for each user. Most new members

receive only viewing permissions to the community, and not content creation or AIR registration roles, but SOOs, DOHs, and ITOs will be granted admin rights by default, so that they can manage the roles that their staff play in the community. This includes elevating permissions to allow content creation, and even for granting AIR registration roles to select staff, all of which is discussed in the jobsheet.

These default communities have each been pre-configured with the "Consolidated Reference Management" tool needed to begin practicing with AIR immediately, following the jobsheets provided with this training.



Reference material generated in office-specific communities will be one source for the content contributions that AIR is built on.

For example, a forecaster from the Buffalo community (where Ed, Tom, Karen, and others work), might create a widely applicable reference on snowfall rates, and contribute this to the VLab as a public reference for anyone to use. As public, all users searching AIR, whether members of the local office (Ed and Tom) or an outside office (Amy) can find this reference in their AIR results.

On the other hand, some local content will be relevant only to one office, such as the Buffalo CWA's "local lake effect snow reference." This material can use the private, "community-only" permissions setting. As a private reference, only logged-in members of the community like Ed will be able to see this. Tom will need to log in to authenticate himself as a member of the community before he can see it, and Amy from a different VLab Community will never see this reference.

This example is meant to show how you can begin using your pre-configured VLab community to generate and control references.

Metadata Origins in AIR

Search Results

Thumbnail	Title	Source	Author	Duration	Units	Description	Community	Rating	Views	Relevance Score	Site	Location	Approved
	Tracking Meteogram	WDTD	Silvian Speransky	1.0	pages	Tracking Meteogram quick-reference web page with job sheets and supplemental information that is an extension of the Tracking Meteogram training in the CLC.	OCLC	0	1211	6.6695313			true
	AWIPS Interactive Reference	WDTD	Michael Magig	1.0	pages	This is the reference page for the AWIPS Interactive Reference.	OCLC	0	184	0.000036880487			true
	AWIPS Build Changes Current	WDTD	Michael Magig	1.0	pages	This page contains a summary of AWIPS build changes that accompany the Informational Overviews training in the CLC.	OCLC	0	776	0.0000384271			true

Reference

- Title
- Author
- Body
- Description
- Tags

Registration

- Source
- Duration & Units
- Location
- Site
- Approval
- Visibility
- Thumbnail

- References are created with several fields populated by author
- Registering content for AIR adds other user-defined information

Contributing an AIR reference requires some familiarity with content metadata, attributes which appear in or directly affect the search results.

For example, the title, author, description, and other fields outlined here in blue, are attributes connected with content when it is created in VLab. Not displayed but critical to the logic which gathers AIR search results are the content body and tags.

To supplement these, when a contributor decides to offer some existing content to AIR, additional metadata, specific to AIR, becomes associated with the reference through the process of registration. These include the source, duration, approval, etc., the fields outlined in orange in the search results.

So, from the provided metadata, which ones contribute to the computed score?

AIR-Generated URL Components

MRMS_1000 0.5 km MSL Maximum Estimated Size of Hail (MESH) Img (in) 23.2058 0HR Thu 20:58Z 23-Jun-16

Auto-generated URL from AIR (example):

https://vlab.ncep.noaa.gov/web/guest/awips-reference?datauri=%2Fgrid%2F2016-06-23_20%3A00%3A40.0_%280%29%2FMRMS_1000%2Fnull%2Fnull%2F369%2FMESH%2FFH%2F500.0%2F-9&keywords=MRMS_1000%2C0.5%2Ckm%2CMSL%2CMaximum%2CEstimated%2CSize%2Cof%2CHail%2C%28MESH%29%2Cimg%2C%28i&location=-136.18576578991616,48.40887441415956,-69.0893737800279,19.875495306062838&site=OAX

URL Components:

- Base:** The direct-access URL for searching AWIPS references (Products only)
- Data URI:** Internal AWIPS address for loaded products
- Default Keywords:** Legend text of selected item in AWIPS, **NO TIMESTAMP**
- Location:** Lat-lon bounding box of CAVE panel
- Site:** Localization site of AWIPS

NWS AWIPS Interactive Reference

Consolidated Reference Search

Search Terms

Keywords: MRMS_1000 0.5 km MSL Maxir

DataURI:

Location: -139.4793607817928,56.254496

Site: WFO Omaha/Valley NE

Update

The scoring of references can seem in some ways like a black box, but it's worth understanding at a high level before we transition to the process of creating references.

Scoring starts with the information passed to VLab from CAVE via the encoded URL. Though lengthy, it has five recognizable parts: a base URL which is the default address of VLAB's AWIPS interactive reference, followed by the data URI for the product (if applicable, which is the internal AWIPS address for the loaded product), keywords populated from the text legend, a lat-lon bounding box for the domain in view in the D2D, and a site localization value which comes from the localization used in CAVE.

Each of the last four parameters could potentially be used to search available, registered references in AIR, as seen by the corresponding fields in the advanced view of the AIR query page. However, at this time, the most widely used parameter is the Keyword parameter, which is parsed directly from the text legend clicked on to launch AIR. This is the reason why only the Keywords field is checked by default in AIR queries, although some other fields may be populated.

AIR Keyword Parameter & Scoring

MRMS_1000 0.5 km MSL Maximum Estimated Size of Hail (MESH) Img (in) 23.2058 0HR Thu 20:58Z 23-Jun-16

KEYWORD EXAMPLE:

MRMS_1000 0.5 km MSL Maximum Estimated Size of HAIL (MESH) Img (in)

- Legend text of selected resource only, **without time stamp**
- SCORING: Match keywords with reference metadata
 - Parse keywords by spaces
 - Symbols become wildcard
 - Also search adjacent keyword pairs
- Metadata weighted in the following order

1. Tags

2. Title

3. Description

4. Body

The Keyword parameter is created from the text legend which was clicked on to load AIR. It is quite literally the chosen legend text, and nothing else. Only the timestamp is removed from the legend in its conversion to a keyword string. No background metadata is used to enhance it, and other resources which might happen to be loaded DO NOT contribute either. As an aside, combination products in D2D have special behavior IF you click on the “plus” icon in the middle... in that case, both products will be incorporated into the keyword string.

The core of the keyword-based scoring is to try matching these keywords with the metadata of a reference. In this process, each keyword (delimited by a space) is its own search term, some symbols are treated as wildcards, and AIR also implements a keyword pair search, which will be discussed later.

The reference metadata which is searched against refers to the following items... Tags are by far the most important field in establishing a good match. A good match with tags weights the relevance score substantially. Also important are the title, and description, though lesser weighted. Finally, the body of the reference is also checked, but with minimal weight.

How to Contribute a Reference to AIR

- Basic series of steps in VLab

1. Create

2. Add Description and Tags

3. Register



* optimize metadata

So, to contribute reference material which can be discovered with AIR, there are three fundamental steps, each with interfaces that will be explained further.

First, you must create the reference in VLab, either by uploading a ready-made document or generating some web content. Second, you should then be sure to populate the metadata of your reference, specifically the description and tag fields, which helps both users and the AIR scoring system to better identify the purpose of your content. And finally, as was mentioned earlier, you must register your reference using the “Consolidated Reference Manager” (or CRM). This is the step which actually contributes your reference to the consolidated set of material that AIR will search.

We also mention here an implied fourth step, optimization of metadata, which will be discussed in depth after the primary steps are explained. Jobsheets will also guide you through all the steps listed here.

Contributing References to AIR

1. Create
2. Add Description and Tags
3. Register
4. (Optimize)

STEP 1: CREATING REFERENCES

Let's take a look at the first step, which is how to create reference content on VLab

Community Administration

If you have rights to contribute in your community

- Content administration rights to community needed
- All needed tools under “Content” admin submenu

*CRM utility enabled by request (to vlab.admin@noaa.gov)

To contribute and manage AIR content in the VLab, you’ll need administration privileges in a community, and for the CRM utility to be enabled. You can determine if you have admin rights by first selecting a community from the “My Communities” drop-down. Then, you should see an “Admin” item next to “My Communities”.

From the Admin drop-down, “Content” refers to the content administration interface, which contains everything we need to create and register references. This takes us to an admin page with a submenu on the left, containing three relevant items: A link for creating and managing Web Content; Below that, another link for uploading Documents and Media; And, on the bottom, the Consolidated Reference Management utility, IF that has already been enabled in your community.

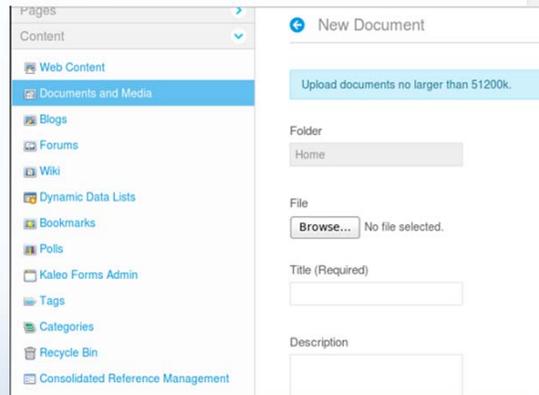
(STEP 1) Uploaded Documents



Documents

- Many file types can be uploaded
 - PDFs, Images, Microsoft Office Docs, *videos**
 - Other: e.g. xml procedure files
- **Banned: .tar, .tgz, .zip, .rpm, .gz**

 **See Jobsheet:**
“Uploading a PDF to VLab”



The screenshot shows a web interface for creating a new document. On the left is a sidebar with a navigation menu containing items like 'Web Content', 'Documents and Media', 'Blogs', 'Forums', 'Wiki', 'Dynamic Data Lists', 'Bookmarks', 'Polls', 'Kaleo Forms Admin', 'Tags', 'Categories', 'Recycle Bin', and 'Consolidated Reference Management'. The main area is titled 'New Document' and features a blue button that says 'Upload documents no larger than 51200k.'. Below this are form fields for 'Folder' (set to 'Home'), 'File' (with a 'Browse...' button and 'No file selected.' text), 'Title (Required)' (with an empty text box), and 'Description' (with an empty text box).

Of the two primary ways to host a reference on VLAB, uploading documents is certainly the quickest. PDF guides can be uploaded to VLab, as well as pictures, Office Documents, and videos, although serving videos to AWIPS machines can be problematic due to file size limitations, long download times, CODEC problems, and bandwidth concerns. You may even upload AWIPS procedures and a variety of other files, but some file types are banned on VLab for security reasons.

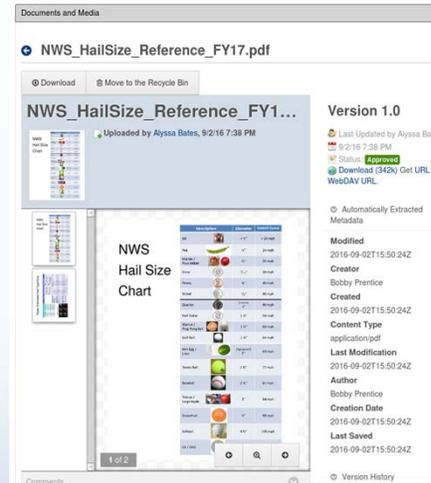
Uploading is done with a simple file browser in the “new document” creator, which you can use to find items on your local machine. We emphasize here that a jobsheet is provided for uploading a basic pdf to VLAB, which covers in detail the steps you need to take to complete this process.

(STEP 1) Uploaded Documents, Continued



Documents

- Limited view-ability directly in browser
- Can view directly in web browser, with URL
 - e.g. PDFs, images, movies, other browser-compatible files



The major drawback with documents is with the way they are viewed in VLab. Unless downloaded, VLab displays simple previews of uploaded documents (as shown to the right on this slide). These visual previews are usually not sized for immediate viewing and require more interaction.

A sharper and more immediately viewable display can be accessed by playing the PDF through the browser. This will be accessed by pointing your browser at the address revealed by the “Get URL” link, if the web browser supports the filetype, which bypasses the VLab document preview tool. Later we’ll discuss an option in the AIR registration process which links directly to this browser view, if desired.

(STEP 1) Web Content



Web Content

- Similar to mini web pages
- Create with simple WYSIWYG editor, or html

See Jobsheet: "Creating Basic Web Content in VLab"

The second way to host material on VLab is as what's referred to as web content. You can approximately think of web content in VLab as a miniature webpage. In reality, web content aren't standalone like a true webpage but are more similar to the individual building blocks or widgets which compose a single, multi-element page. Nevertheless, they are based on html and can incorporate many of the dynamic displays and interactions that a web page might.

Although making web content does require re-entering your existing material into VLab, the available editors do make the process reasonably intuitive. Web content can be created with a visual "what you see is what you get" (WYSIWYG) editor, which feels like writing a typical word document, although an html editor can also be toggled to.

As with uploading documents, a detailed jobsheet is provided with this training to explain how to get started creating basic web content.

(STEP 1) Web Content, Continued

Web Content

Tracking Meteogram



Fig. 1 Tracking meteogram tool loaded over satellite IR for two different storms A and B (see circle center and location)

Training Job Sheets (click on "html" for web page layout with image links or "PDF" for PDF viewing with images)

are an extension of the "AWIPS Tracking Meteogram Tool Training" posted to (LMS - Internet, speak)

Jobsheets

- Jobsheet 1: Tracking Meteogram Jobsheets (html, PDF)
- Jobsheet 2: Track Cloud-Top Temperatures and Load Additional Meteograms (html, PDF)
- Jobsheet 3: Create Meteograms From a Paired Radar Product (html, PDF)
- Jobsheet 4: Create Meteograms From Multiple Stacked Grid Images and Use Snap All Points to This Location (html, PDF)
- Jobsheet 5: Track Total Lightning Density Trends in Convective Storms (html, PDF)

Quick Reference

time trend of radar, satellite, grid image, and total lightning density

- Natively viewed in browser, more interactive potential
- Virtually unlimited customization

Here are a few examples of how web content can be designed to suit your reference. Because web content can contain links, images, dynamic content through javascript, and much more, it can feel better adapted to viewing in VLab than a static document would. Also, web content can be extensively customized, with some web development savvy.

Contributing References to AIR

1. Create
2. Add Description and Tags
3. Register
4. (Optimize)

STEP 2: ADD DESCRIPTION AND TAGS

Now that we've overviewed the ways to create content on VLab, we'll discuss the second step, adding description and tags.

(STEP 2) Importance of Description and Tags

- Description and Tags **essential** to content appearance and score in relevant AIR queries

Metadata Weighting

1. Tags

2. Title

3. Description

4. Body

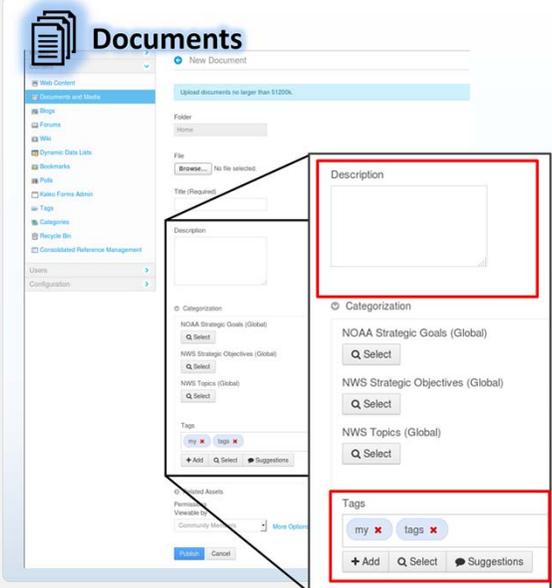
Duration	Units	Description	Comm
1.0	pages	Tracking Meteogram quick-reference web page with job sheets and supplemental information that is an extension of the Tracking Meteogram training in the CLC.	OCCLO
1.0	pages	This is the reference page for the AWIPS Interactive Reference.	OCCLO
1.0	pages	This page contains a summary of AWIPS build changes that accompany the Informational Overviews training in the CLC.	OCCLO
1.0	pages	MRMS product guide MESH Tracks reference pages.	Warning Training (WDTD)
1.0	pages	MRMS product guide Rotation Tracks reference pages.	Warning

The description and tag fields are essential for communicating more about the reference to both the scoring algorithm and to the user viewing the AIR search results.

We recall from earlier that tags are the heaviest weighted metadata in computing relevance scores, followed by title, then description. Both the tags and description field in particular are flexible, and good candidates for information that can help boost your content's relevance score. Without any tags, in fact, your relevance score will plummet.

Remember also that the description field appears in both the simple and advanced views of the AIR search results, and so is a helping hand to the user trying to discriminate between multiple results.

(STEP 2) Adding to Documents



The screenshot shows the 'Documents' interface with a sidebar on the left containing navigation options like 'Web Content', 'Documents and Tables', 'Pages', 'Forms', 'Wiki', 'System Data Lists', 'Screenshots', 'Pods', 'Sales Forms Admin', 'Tags', 'Categories', 'Recycle Bin', 'Consolidated Reference Management', 'Users', and 'Configuration'. The main area is titled 'New Document' and includes a file upload section with a 'Browse...' button and a 'Title (Required)' field. Below this is a 'Description' field, which is highlighted with a red box. Underneath the description field is a 'Categorization' section with three categories: 'NOAA Strategic Goals (Global)', 'NWS Strategic Objectives (Global)', and 'NWS Topics (Global)', each with a 'Select' button. At the bottom is a 'Tags' field, also highlighted with a red box, containing the text 'my tags' and a '+ Add' button. An orange callout box on the right contains a checklist icon and the text: 'See Jobsheet: "Uploading a PDF to VLab"'. To the right of the screenshot, there are two bullet points: 'Add tags & description through same interface used to initially upload documents' and 'Tags are comma-separated words or phrases'.

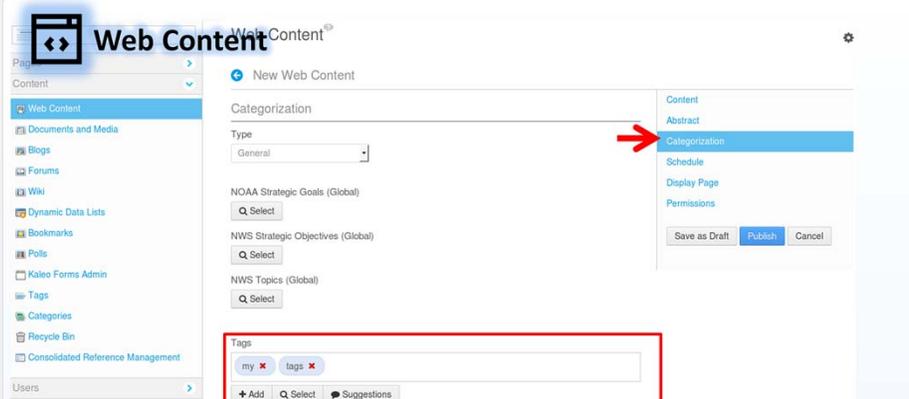
- Add tags & description through same interface used to initially upload documents
- Tags are comma-separated words or phrases

See Jobsheet:
"Uploading a PDF to VLab"

Adding tags and a description is easy for documents. It is done through the same interface used to upload documents in the first place. Here you can see the “description” field, where you enter text that will help contribute to the content score and which will also later appear in the AIR results display. Lower down, within the “categorization” section, we see a field into which we can type tags, using commas to separate different tags as we write. Note that the NOAA and NWS categorization options immediately above the “Tags” field are not tags and are not relevant to our discussion here.

How to add tags and a description is covered in the same jobsheets as uploading documents. Adding tags and a description is done through the same interface you used to generate the content in the first place, and can be done at that time or edited later.

(STEP 2) Adding to Web Content



Web Content

New Web Content

Categorization

Type: General

NOAA Strategic Goals (Global)

NWS Strategic Objectives (Global)

NWS Topics (Global)

Tags: my tags

Content

Abstract

Categorization

Schedule

Display Page

Permissions

Save as Draft Publish Cancel

- Web Content metadata fields are accessed through sub-menu to right of New Web Content interface

See Jobsheet:
“Creating Basic Web Content in VLab”

In the same way, these fields for web content are found in the web content creation interface. Though slightly different terminology, a right-hand menu shows “abstract,” which is where we find the description, and “categorization,” which is where we can edit the tags.

Again these steps are covered in the same jobsheets as creating web content.



Except for the fine tuning of your reference, the final essential step in making your reference accessible within AIR is to register it using the Consolidated Reference Manager.

(STEP 3) CRM Display

Consolidated Reference Management ⚙️

Add Entry

17 Items per Page Page 1 of 1 Showing 17 results -- First Previous Next Last --

Thumbnail	Title	Type	Source	Author	Duration	Description	Rating	Views	Site	Location	Approved	Enabled	Action
	Tracking Meteogram	Web Content	WDTD	Stanislav Speransky	1.0 pages	Tracking Meteogram quick-reference web page with job sheets and supplemental information that is an extension of the Tracking Meteogram training in the CLC.	--	1212			true	true	Actions
	Satellite Combination Daylight Transition	Web Content	WDTD	Michael Magsig	1.0 pages	Satellite Combination Daylight Transition quick-reference web page with job sheet and supplemental information that is an extension of the 16.2.1 Informational Overview training in the CLC.	--	233			true	true	Actions
	Gamma Adjustment	Web Content	WDTD	Michael Magsig	1.0 pages	Satellite gamma adjustment quick-reference web page with job sheet and supplemental information that is an extension of the 16.2.2 Informational Overview training in the CLC.	--	210			true	true	Actions
	Boundary Tool Main Page	Web Content	WDTD	Michael Magsig	1.0 pages	Boundary Tool quick-reference web page with job sheet and supplemental information that is an extension of the 16.1.1 Informational Overview training in the CLC.	--	303			true	true	Actions
	MRMS All Tilt	Web Content	WDTD	Michael Magsig	1.0 pages	MRMS All Tilt quick-reference web page with job sheet and supplemental information that is an extension of the 16.1.1 Informational Overview training in the CLC.	--	371			true	true	Actions

- Categories
- Recycle Bin
- Consolidated Reference Management
- Users >
- Configuration >

See Jobsheet:
 "Register content with AWIPS Interactive Reference"

Once enabled for your community, you can click on the CRM link at the bottom of the Content Administration submenu to display all currently registered references within your community. Above this table, an "Add Entry" button opens an interface for registering a new reference, shown next.

Please note that a jobsheet is provided to cover in detail the steps for registering content.

(STEP 3) Adding New CRM Entry

Consolidated Reference Management

Add/Edit Consolidated Reference Entries

Enabled

Asset:

Title: Tracking Meteogram Jobsheet ALL
By: Stanislav Speransky
Type: text/html

Permission Scope for the Reference:

Public VLab User NOAA Wide Community

Duration: (Required)
Duration Units:

Source: (Required)

Site(Optional):

Location(Optional):

Thumbnail(Optional)

Approved

URL(Optional):

The basic components of the new entry interface for the CRM are as follows.

First, a checkbox provides a simple toggle to specify whether the entry is visible to AIR or not.

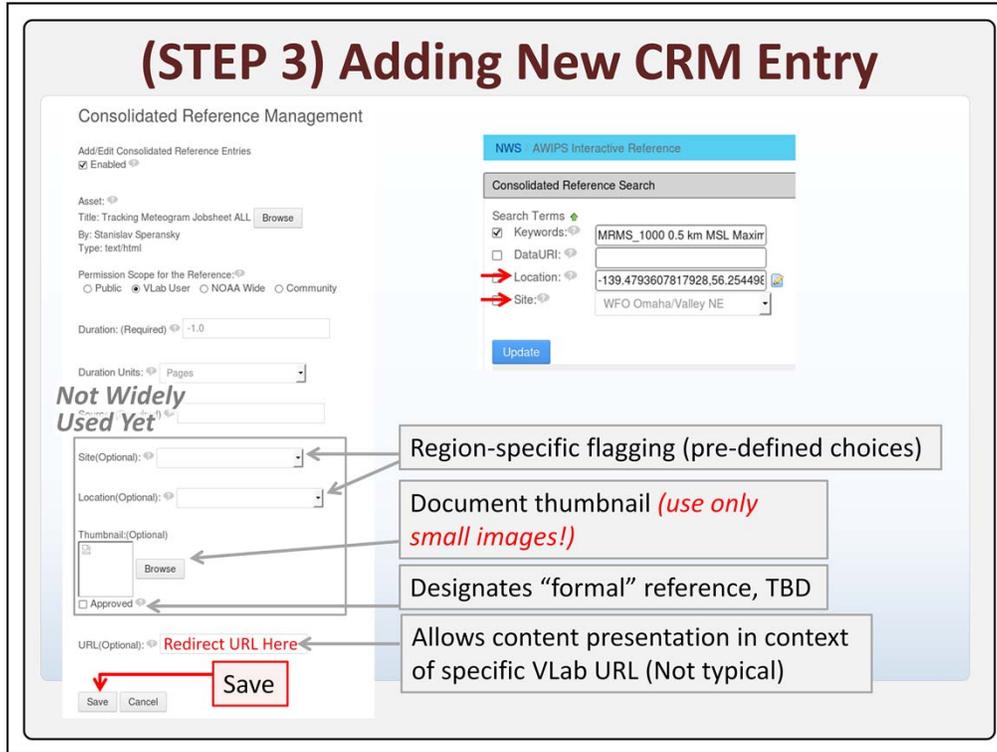
Next, the crucial element tying your reference to this registration entry is the “Browse” button under “Asset”. This pops up a simple search window into which you type the name of your reference, search, and click select to choose it once identified. Having done so, information associated with your reference, such as its title and original author, will now be shown under the “Asset” label.

The permissions scope radio buttons provide one last chance to ensure your reference has the desired permissions. Generally you will set this either to “public” for material you want visible to everyone, or to “community” so that only logged in members of your community can see it.

Duration information for your content, which gets displayed in the search results, helps the user anticipate the size of the reference.

The “Source” is the last required field. This field is also displayed in the AIR search

results, and helpfully identifies the institution responsible for the content. For example, for a WFO this should be the three-letter WFO identifier.



There are a few less frequently used elements in the CRM's new entry interface. For example, we find site and location fields. These are intended to localize the reference to a predefined set of operational or geographic regions, which, recalling the AIR search fields, can be used to isolate region-specific results in the search, although this is not yet widely used.

Additionally, we may choose a thumbnail image for the reference. While optional, if you do use a thumbnail, be sure it is small in size, and check its appearance in AIR results, or else your large thumbnail may disrupt the formatting of the results page.

An "Approval" checkbox indicated here is restricted for use by contributors who can designate formal references. This is not enabled by default in communities and is a process that is still in development. Note that the lack of an "approval" checkmark in no way prevents the reference from being successfully registered and appearing in AIR queries.

Lastly, a URL field is provided for special circumstances where you want content to be displayed through a specific VLab URL. This is not commonly used, except when you want to override the selected VLab asset's display with a specific URL, like with the default PDF viewer discussed earlier. For example, a typical PDF AIR reference will link the user to VLab's preview, shown here. But these documents all have a

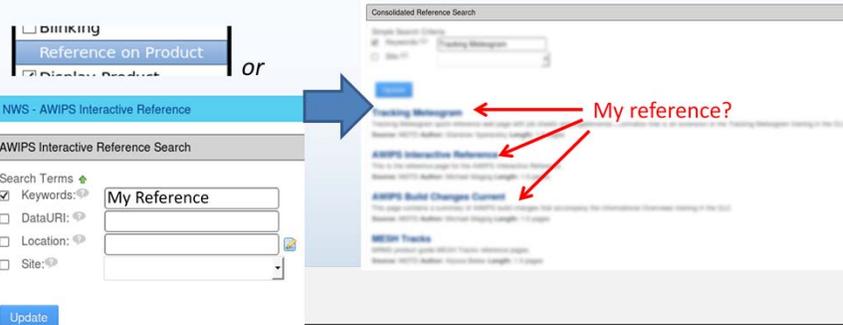
URL link which can be used to open a more native preview directly through the web browser. If we paste this URL directly into the URL redirect field, the AIR users will be directly linked to the latter preview. This is of course optional.

At the end of the window, a “Save” button completes the registration process.

(STEP 3) Verify Registration



- Check that reference appears!
- Perform AIR query & look for result
 - TIP: Use private/incognito browser mode, logged out of VLab to test



References will be accessible in AIR immediately after finishing registration. No registration, however, is complete without, at minimum, testing to make sure that it can be found in the AIR query AND that the permissions were correctly set.

The jobsheet on registering references will walk you through performing this check. You can either use CAVE to try discovering this reference with a relevant product, or use the AIR search page to type the name of your specific reference in the keywords field, then search. This should discover your reference, if the registration was successful. It's a good idea to test clicking on and viewing your reference as well.

You should perform these checks while logged out of VLab, if your content is intended to be public. This is the best way to verify that your reference can be found AND viewed by users outside of your community. Many web browsers provide a mode which ignores login sessions that is useful for this test, and which is explained in more detail in the jobsheet.

Contributing References to AIR

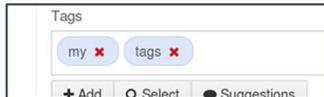
1. Create
2. Add Description and Tags
3. Register
4. (Optimize)

“STEP 4”: OPTIMIZE

Finally let's address how, after already creating and registering a reference to appear in AIR, it can be fine-tuned to improve its visibility in AIR queries.

What is Optimization?

- Modify tags/description and test impact on scores



- **GOAL 1:** Reference appears for **relevant** AIR searches with higher score than irrelevant references
- **GOAL 2:** Don't **clutter** other results
 - Be a good AIR citizen

We hope you find the basic steps for registering a reference with AIR to be straightforward. However, the search and ranking of results when AIR is used is something of a black box. Since this score is based on the reference metadata you added in step 2, it will more than likely be necessary, until you have some familiarity with AIR, to practice tweaking these metadata to achieve a favorable ranking of your reference. That is what optimization is all about. Think of this as being very similar to how websites perform search engine optimization to help their pages be found near the top of relevant searches.

There is a two-pronged goal here. When a relevant product or tool in AWIPS is queried, we want your reference to appear high enough in the results so that it is easily found, *not necessarily* at the top, but certainly above the less relevant ones. But just as important is the following: Do not clutter results where your reference is not a match. You'll ensure this with our upcoming guidelines for the minimum set of metadata *absolutely* necessary to satisfy the first goal. Remember that AIR taps from a community of contributors. Many factors are at play in scoring, including the designation of formal references, and so you should only attempt to improve your score within reason

Optimization: Getting Started

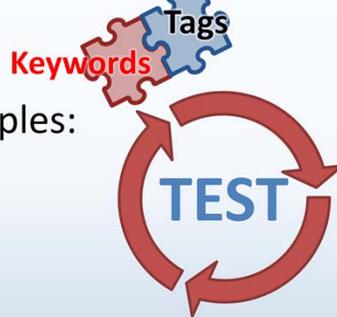
- Good strategy: start with the keywords which AWIPS provided to AIR

KEYWORD EXAMPLE:

MRMS_1000 0.5 km MSL Maximum Estimated Size of HAIL (MESH) Img (in)



- Focus on tags
- Edit tags with following principles:
 - Exact Spelling
 - Limited number
 - Use combinations



The best approach to effective optimization is to start with the search parameters that you know AWIPS will be passing to AIR when your reference is relevant. You can do so by executing one or more AIR queries on the relevant resources and looking at what Keywords are given. For our MRMS MESH example in this presentation, these are the provided keywords. You won't be able to change what AWIPS passes, but you do have the power to modify your tags and description to appropriately match what it does.

We will limit the scope of this discussion on optimization to tags for the following reason: You should recall that they are most heavily weighted by the search algorithm. Effective tags should be more than sufficient to manage a reference's score. Although the title and description are also important, we discourage the temptation to pool search terms in those fields, particularly since these fields are helpful for the reader to interpret the document's purpose and should remain readable and straightforward.

Trial and error will help you identify the best tags for your reference, but we'll discuss the following guidelines which give you an advantage to start. Be attentive to spelling. Limit the number and length of tags. And use word combinations.

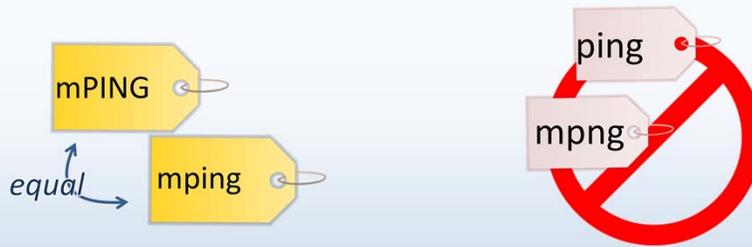
Optimization: Use Exact Spelling

KEYWORD EXAMPLE:
mPING All 30min

mPING All 30min Tue 04:30Z 19 Jan 16

- **SPELLING**

- Use exact word matches (misspellings or partial matches count against you)
- Searches are *not* case-sensitive



The first guideline is to simply to pay attention to spelling. For example, suppose we had an mPING product up, which provided the following keywords. Exact matches of full, space-delimited keywords result in the best scoring. Misspellings, whether accidental or an attempt to abbreviate, will score poorly. Some good news though ... searches are not case sensitive, so no need to worry about capitalization.

Optimization: Limit Number of Tags

KEYWORD EXAMPLE:

MRMS_1000 0.5 km MSL Maximum Estimated Size of HAIL (MESH) Img (in)

- **LIMITED NUMBER**

- Limit the number *and* length of tags
- Stay in scope:
 - × Overly specific keywords
(e.g. height levels, radar names, model names not specifically related)
 - × Overly generic keywords
(e.g. radar, satellite, weather)
 - ✓ Appropriate details



Unnecessary tags clutter other searches



The most important recommendation is to limit the number and length of tags. This is for two reasons. Superfluous tags can diminish the overall score even when the reference is a good match. Even within a single tag, trying to limit the length is worthwhile in terms of scoring penalties. Using the keywords from our MRMS MESH product, seen here, if I can get away with just “MESH”, that would be a great, small tag set.

The other philosophy here is to prevent references from appearing when they are not relevant. Remember that VLab is a community and everyone is responsible for keeping their metadata in scope. Keeping your tags limited is closely related to the scope of your reference. Here are some tips on this. Avoid overly specific tags. If a term doesn't specifically define the purpose of your reference, avoid it. On the opposite end of the spectrum, avoid overly generic keywords. Think, does a term add any necessary specificity or is it highly common? Appropriate details are of course OK if they fit the scope.

Using our MRMS keywords, how might we apply these rules? We already established that MESH is, of course, a highly relevant and specific keyword for our reference on that product. We might also be tempted to use MRMS_1000... This might be within scope, since MESH is a product exclusive to MRMS. But here is where we urge users to think of the smallest effective tag set possible. Because

MESH only exists with MRMS, MESH alone is specific enough that the additional tag does not add any specificity. So we'll opt not to use it here. Moreover, if we used an MRMS tag for every MRMS product, *every* product would appear each time any *one* of them is searched, which isn't the streamlined search behavior we want AIR to be. Put simply, using tags when they aren't needed is a good way to cause bloated search results with many marginal hits.

Where this scenario was a little nuanced, others are a little more clear... if you were making a broadly applicable reference about reflectivity, you wouldn't want to include a tag for a specific radar like "koax". Likewise you wouldn't want a specific model like HRRR if all you were documenting was the general use of some numerical model parameter like geopotential heights.

Returning to our example, we can disregard other keywords which are needlessly specific, like "0.5 km," in addition to a whole range of ambiguous tag ideas that will only dilute the tags and reduce the final score without providing much specificity to the reference.

Optimization: Use Combinations

KEYWORD EXAMPLE:

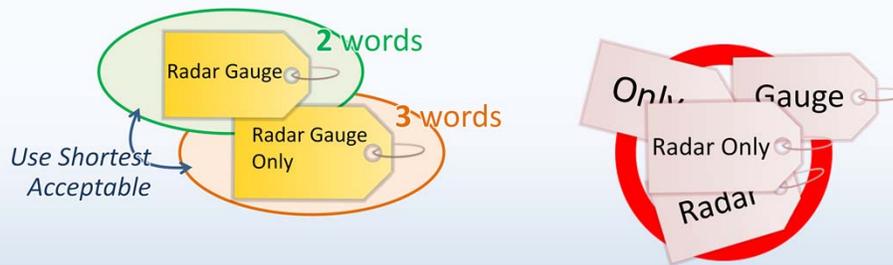
MRMS_1000 Sfc QPE – Radar Gauge Only (1 hr. accum.) Img (in)



• WORD COMBOS

– If necessary, use consecutive words together

- Adjacent pairs boost score



It may not be possible to identify a single word from the AWIPS legend which captures the scope of your reference. For example, consider the MRMS product for QPE “Radar Gauge Only.” This product has a multi-word name, which is not only almost identical to the “Radar Only” product (which only excludes the word “Gauge”) but whose individual components (like Radar, Gauge, etc) are far too ambiguous. AIR relies on keywords with sharp enough focus to both effectively match references and avoid polluting the reference pool with tags that will match many peripheral searches.

To address this dilemma, AIR also implements a special search for adjacent pairs of keywords. This means that, from the AWIPS-generated keyword set, in addition to searching for each space-delimited keywords on its own, AIR will execute an additional search iterating over each PAIR of adjacent keywords, seeking this same adjacent pairing in your tags and elsewhere. If the exact same pairs are found adjacent and in the same order, a very substantial boost is given to your score

For example, in theory we could put “Radar Gauge” as a tag, since they are adjacent keywords. We shouldn’t put “Radar Only” however, since they are not adjacent in the keywords, and in fact they would match to the other “Radar Only” product. The effect can even be cumulative... if you put three words together in a tag, which are assured to appear in the AWIPS keywords, then an even higher

score will result. For our current example, “Radar Gauge Only” as a tag results in a strong hit when this product is queried from AWIPS. Although a combination such as this incorporates some of the generic words we warned against earlier (like Radar), the entire tag as a whole is actually specific.

So how do we filter the possible combinations to use? In any scenario when evaluating tags, remember that the shorter your tags, the better. Test and use only the combinations which are necessary to retrieve your reference. In this case, if the two word tag works well for your reference, use that *instead* of the three word tag

Optimization: Summary

- Tag Optimization Strategies (balance):
 - Exact Spelling
 - Limited number
 - Use combinations
- Test and Iterate
 1. Adjust metadata (description/tags)
 2. Re-publish reference
 3. Refresh AIR query to check change in score
- **Goal:** Reference is more easily found in *relevant* cases... **without** associating it with **unrelated** products/tools

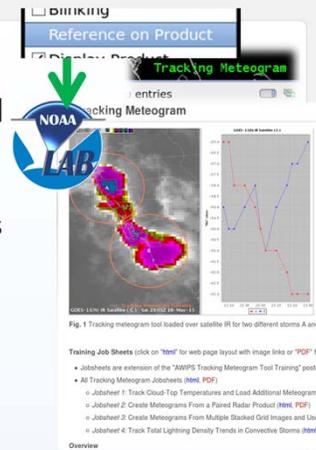


By using the three strategies outlined here, you should be equipped to generate useful tags. Unfortunately, this is a balancing act. For example, stringing multiple sequential keywords together in a single tag for the score boost from combos acts in opposition to the primary recommendation of using a limited number of words. And sometimes it can be hard to find enough keywords with the right scope (not too specific or generic).

There's no magic bullet. Testing and iteration is essential in trying to balance the sometimes conflicting benefits and penalties from each of these guidelines. A basic workflow is included in the jobsheet for AIR reference registration. By adjusting your metadata, re-publishing the content, and refreshing the AIR query for the new score, you can hone in on the appropriate metadata. In optimization, remember that the goal is not to exhaust your resources trying to suppress all other contributed references, but simply to reliably appear in relevant AIR queries from AWIPS.

Conclusion

- AIR is a CAVE feature (**only D2D**) which queries references (**not training**) hosted on VLab
- Contribute references:
 - **Create** content in your VLab communities
 - Uploaded Documents or Web Content
 - Test permissions
 - **Add** Description and Tags
 - **Register** with Consolidated Reference Manager
 - **Optimize** for searches
 - Keep tags in scope and test
- AIR relies on user contributions and housekeeping



In this training we've introduced the Awips Interactive Reference. AIR is a CAVE feature which adds a "Reference on Product" menu option to any D2D resource with a lower-right hand text legend. This option searches VLab for quick references to provide refreshers on the usage of the resource, but NOT training. We've covered that these references must be hosted on VLab, and that you can create them in communities where you have the right to upload documents or make web content. It's also important to consider who you want to view your reference, and set permissions appropriately. Descriptions and especially tags help the search algorithms and users to sort multiple references which may match. Registration is the crucial step which makes a specific reference available to AIR, and finally Optimization is a process of refinement and testing which is usually going to be necessary to help your reference appear in searches when it's relevant.

AIR is a multi-community effort, which relies on contributors not only for material which fits the scope of quick-reference, but also for responsibly managing their content.

Next Steps & Resources

- NWS field offices **ready-to-go** with default communities in VLab, and CRM-enabled
 - Just log in (**LDAP**) and check “My Communities” drop-down
- **AIR Jobsheets** provided with this training <https://vlab.ncep.noaa.gov/web/oclo/air-fp>
 - VLab Basics
 - Upload PDF
 - Creating basic web content
 - AIR-specific
 - Register an AIR reference and optimize for Search
 - Vlab Community Membership & Roles
 - VLab Community Management for AIR
 - Focal point fix for pre-17.1.1 AWIPS AIR URLs

Admin
My Communities
0
Eric Jacob

- AWIPS Community
- Computer Vision
- Virtual Lab
- Virtual Lab
- MRMS
- MRMS
- OCLO (e.g. your WFO)**
- OCLO
- Warning Decision Training Division (WDT)
- WAVE

Contact Information:

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NWS VLab user at WFOs and RFCs should be enrolled in a default, office-specific community in which the CRM is already enabled and where SOOs, DOHs, and ITO’s can assign roles which allow creation and contribution of references. Log in to VLab with your LDAP account (not Single Sign-on), and check your “My Communities” drop-down to see this community. Any existing VLab community can be used to contribute references, by coordinating with that community’s admin after they have requested the CRM to be enabled.

This slide provides a list of jobsheets with detailed guidance on both the basics of creating content in VLab, as well as the process of registering and optimizing references for AIR.

This concludes the Contributor training for the AWIPS Interactive Reference. When you are ready, click next to proceed to a brief quiz on the material presented in this training.

Q1. What is the purpose of the AWPIS Interactive Reference?
To provide access to the AWPIS User Manual and System Manager Manual that are available within AWPIS
To provide access to training content within the Customer Learning Center
To provide reference access for content located through the AWPIS
To provide a new interface for searching AWPIS tools

• **AIR Contributor Quiz**

- *Quiz - 9 questions*
- Last Modified: Apr 21, 2017 at 04:32 PM

PROPERTIES

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User may view slides after quiz: [At any time](#)

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