

McIDAS and the Aviation Weather Center

Amanda Terborg UW CIMSS/Aviation Weather Center 2016 MUG Meeting – Madison, WI 15-16 November 2016

MCIDAS-X CONCEPTS AT THE AWC

From the 2015 meeting:

- VIS/IR combination for ceiling and visibility \rightarrow continuous day/night image
- Global mosaics \rightarrow GEO/LEO composites
 - Issue with the change to the imgremap command in 2015.1...
- Other band differences/derived products → Convective, volcanic ash, SSTs, etc.

New items/concepts:

- Converting areas to AWIPS-2 compliant netcdfs \rightarrow awipaput utility in XRD (CIRA)
- GOES-R data visualization → ABI and derived imagery
 - From PDA and GRB
 - "ABIN" navigation and N-AWIPS



AWC concepts and noted issues with imgremap in 2015

MOSAICS

VISIBLE/INFRARED MOSAIC – CONTINUOUS COVERAGE FROM DAY TO NIGHT, LOCALLY



10001 G-15 IMG 1 4 JUN 15155 124500 02645 10053 10.00

MeIDAS

VISIBLE/INFRARED MOSAIC – CONTINUOUS COVERAGE FROM DAY TO NIGHT, GLOBALLY

10001 METEOSATIO 1 9 APR 15099 194500 00003 00003 24.00

10001 METEOSAT10 1 9 APR 15099 194500 00003 00003 24.00

OTHER MOSAICS – NORTH HEMI, POLAR VIEWS, DERIVED PRODUCTS, ETC

10001 G-13 IMG 4 26 MAY 15146 174500 03625 10385 08.00

McIDAS

GLOBAL MOSAICS – FOR INTERNATIONAL FORECASTING



GLOBAL MOSAICS – FOR INTERNATIONAL FORECASTING

Two issues noted with 2014 to 2015 version and imgremap command. First, to generate mosaics, AWC uses this command to remap a base image:

.TIMEOUT 10 IMGREMAP (C2) (C6A) PRO=RECT LATLON=0 180 RES=05 -SIZE=4001 8008 DEV=NNN

Where C2 is a GE north hemisphere image and C6 is the base mosaic. Then this command is looped to remap all other international satellites on top:

.TIMEOUT 10 IMGREMAP (CIN1) (C6A) MER=YES HTS=10. (DTEST) DEV=NNN

Where CIN1 is each satellite name and C6A is the basemap. DTEST is a limb cutoff value (we use 1.5 for GEOs). In this case it is a edge cutoff of 1.5 or a 70 degree cuttoff using the HTS keyword the imgremap command.

With the new imgremap command, HTS works but leaves lots of white space...



31 OCT 16305 194500 08001 05997 14.00

MeIDAS

So, use DIST instead:

.TIMEOUT 10 IMGREMAP (CIN1) (C6A) MER=YES DIST=7500 DEV=NNN

That works fine for the most part, but...



GLOBAL MOSAICS – FOR INTERNATIONAL FORECASTING

The second issue seems to involve reprojecting a global mosaic. AWC remaps from a 10km rectilinear to a 14km mercator:

.IMGREMAP (C1) (C2A) PRO=MERC RES=14 LATLON=5 110 -SIZE=1550 2852 DEV=NNN

Where C1 is the rectilinear and C2 is the mercator. In the old imgremap command this seemed to work fine. With the updated version there is a gap...



10001

7 NOV 16312 141500 09030 08575 05.00



AWC mosaic imagery and GOES-R data visualization

AWIPS-2 AND N-AWIPS

AWIPS-2 AND N-AWIPS VISUALIZATION

- Worked with SPoRT to use awipaput function in XRD for AWIPS-2
 - As AWC transitions to AWIPS-2, we need netcdfs
 - Using awipaput with neatted allows addition of needed variables for AWIPS-2 compliant netcdfs... depictorName, channel, & satelliteName
- GOES-R data visualization → N-AWIPS
 - With 2016.2, simulated GOES-R petcdfs can be converted to area files
 - These areas can then be visualized in N-AWIPS...
 - ...with one issue → N-AWIPS/gempak cannot read the *ABIN* navigation so files need to be remapped into another projection/navigation

GOES-R DATA VISUALIZATION



N-AWIPS style...

MCIDAS-V CONCEPTS AT THE AWC

- Not the primary processing system (utilize McIDAS-X), but still has been useful
- GOES-R data visualization \rightarrow color bars
 - Squashing an AWIPS-2 1024+ color scale into 96 colors for N-AWIPS → great color scale editing tool in McIDAS-V
 - Used to build colorbars for other future capability GOES-R data
- Recommended as a training tool for data visualization to WMO training group
 - WMO in Curacao → South American and Caribbean countries are using it
 - Plug in built for Geonetcast-A data visualization

MCIDAS-V CONCEPTS AT THE AWC

		McIDAS-V		
File	Edit Display Tools History Bundles			
) 🖾 🚰 🏝 👽 😵 💽 💗 🍘	👔 💽 🔄 Current WX		
1u	ır 🔴 🗧 🔵 Color	Table Editor VTRSB		
	File Color Tables Help		nd	
	Color table: <i>VTRSB</i>	Category: Basic	ata Explorer	
	History: DC	Range: 0	– 255 elector @	Layer Controls
	0		255 Settings H	istogram
\$		127.5	255	255
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Paint Mode: • Fill Interpolate Brig	-1 Top		
1	Actively set color			
î ↓	HSV	HSL RGB CMYK	· · · 0	
J.C		• Hue		
		Saturation	100 🕄 Medium	LOW
		○ Value	100 🗘	
		Transparency 🔿	— — — —	
Mem	n i			
8	8			
	Apply O	Cancel	🗹 Auto update	

MCIDAS-V CONCEPTS AT THE AWC

00							McID	AS-V					Pacif. X		- Go X		Aman
File	Edit	Edit Display Tools History Bundles Window Help								Facilia							
3			V	2				🚭 Curr	rent WX						۲	Q ☆	
1u	• •	•				Color Ta	ble Editor	test									
	File	Color Table	s Help	00							and						
	Color	table: test						Ca	ategory: Basic	•	ata Explore	er e		1-	9 of 9 <	>	\$-
	Histo – +	ry: 🤉 🕻				$\left(\right)$	96 colors		Range: 0	- 255 - +	lector	🇟 Layer Co	ntrols				
1 m 1 m		(2	5	5.7			_	_		237	Settings	Histogram	1				
e es	<u></u>	0					127.5			255		255	[-1			
	Paint	Mode: 💿 Fi		nterpolat	e 🔿	Brightne	ess: 100%	6 🗍	O Transparency	: 0% 💌	Middle		Тор	1			
↓ ↑ ←→	A	ctively set colo	or 🗾		H	ISV H	SL RGB	СМҮК	Color S	pace: Default 🛟	· · · 10	0					
DC						•	Hue	0			Medium			— Low			
						0	Value	_									
Mem							Transparenc	у ()=		─ 0 €							
8																	
				Apply		OK	Cance			🗹 Auto update	2						
	00							<u>æ</u> (@ 7 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	_							



Thanks for listening!

QUESTIONS?