

# SAILS and GR2Analyst (6-17-2014)

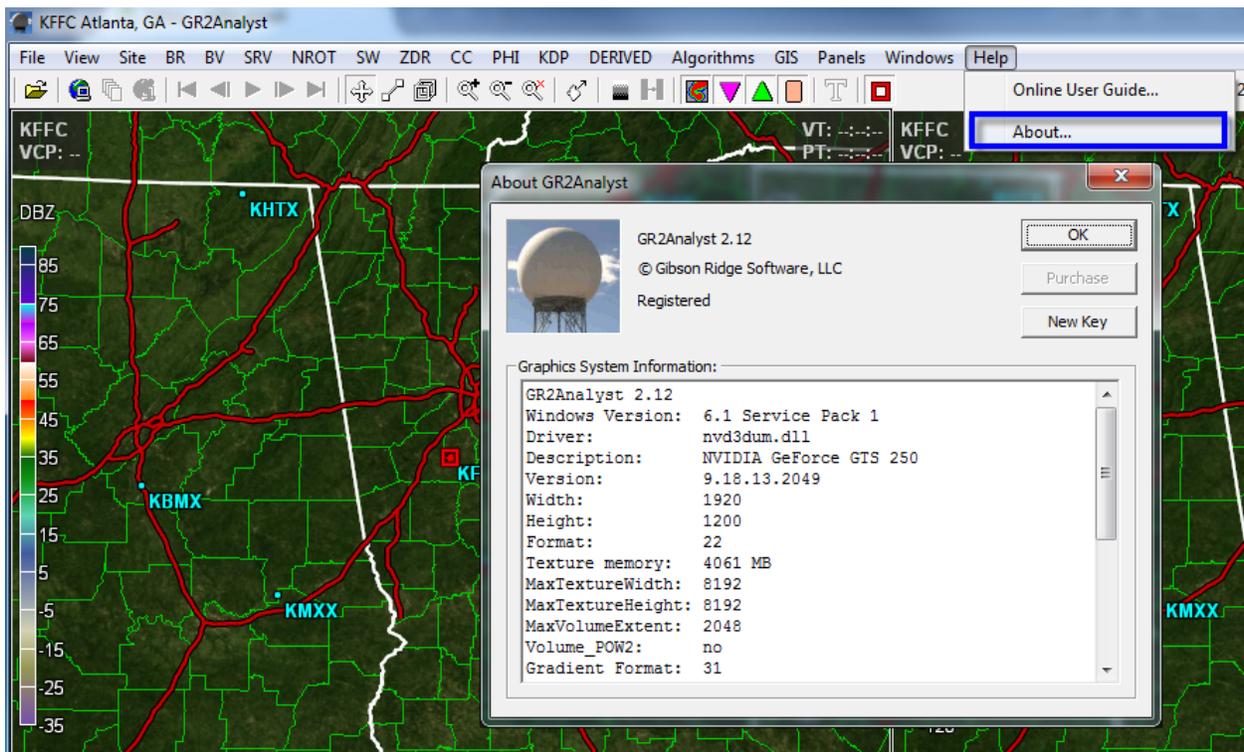
This document is a supplement to the [SAILS Familiarization in AWIPS Course](#) in the NWS Learning Center. For questions, contact Mike Magsig at WDTB ([Michael.A.Magsig@noaa.gov](mailto:Michael.A.Magsig@noaa.gov) 405-325-2995).

SAILS adds an extra 0.5 degree tilt of data collection, and all this data is stored in the Level 2 file which is displayable by GR2Analyst. In RPG Build 14, the only products that can be created with the extra 0.5 degree tilt are Z, V, SRM, and SW. This is due to bandwidth concerns, and this is expected to change in future builds. Until then, applications that display Level 2 data, like GR2Analyst, are the only means to view the Dual Pol variables on the extra 0.5 degree SAILS tilt. This document contains instructions for how to view the extra SAILS 0.5 degree Dual-Pol data in GR2Analyst.

There are multiple versions of GR2Analyst that display SAILS differently:

1. Version 1 – can't display SAILS data
2. Early Version 2 – uses Configure Polling to Allow Duplicate Tilts with limited capability
3. More Recent Version 2 (e.g. 2.12) – displays SAILS automatically and more robustly

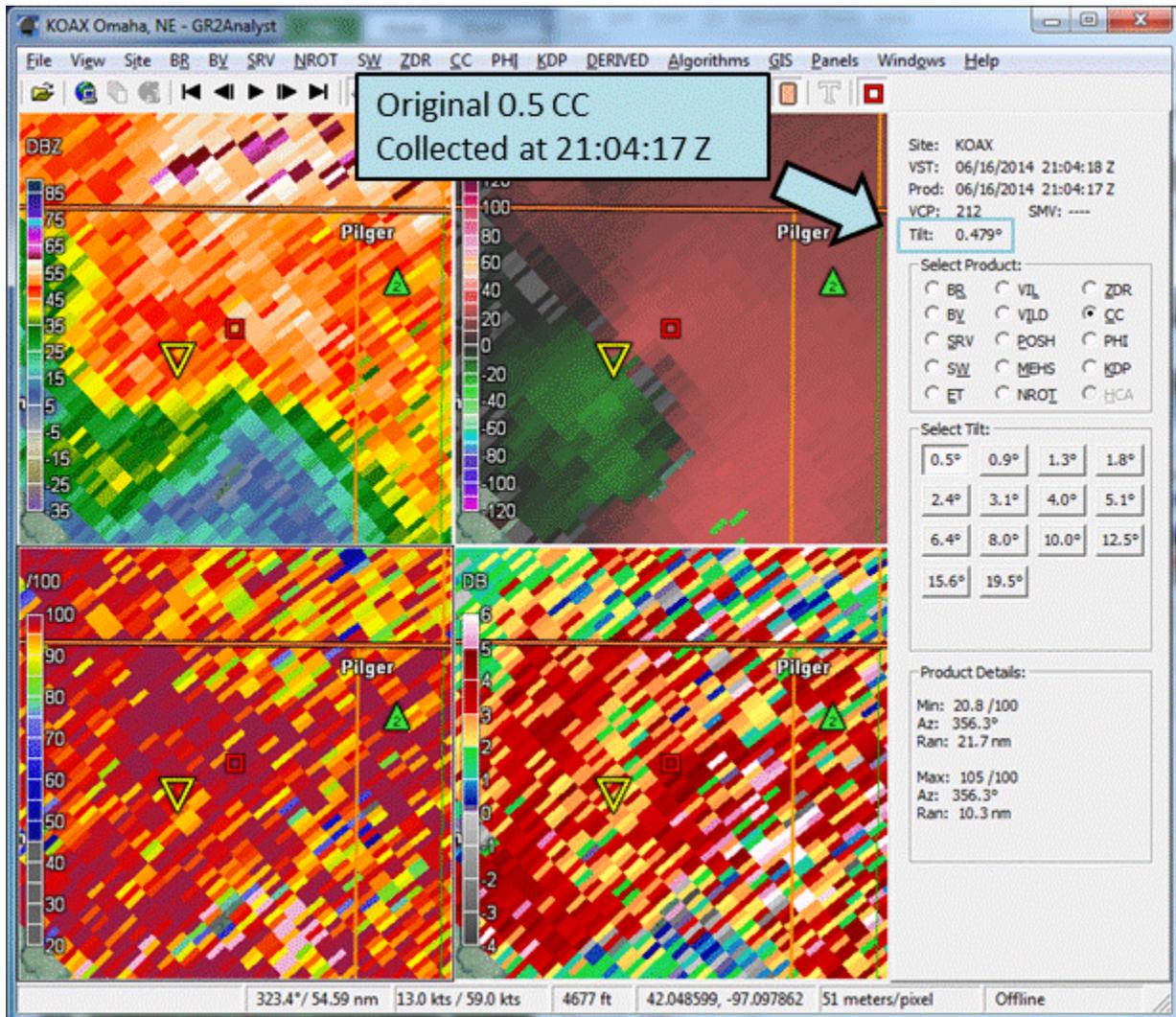
To determine which version of GR2Analyst you have, under the Help menu click on the About menu and look at the top of the window (e.g. GR2Analyst 2.12):



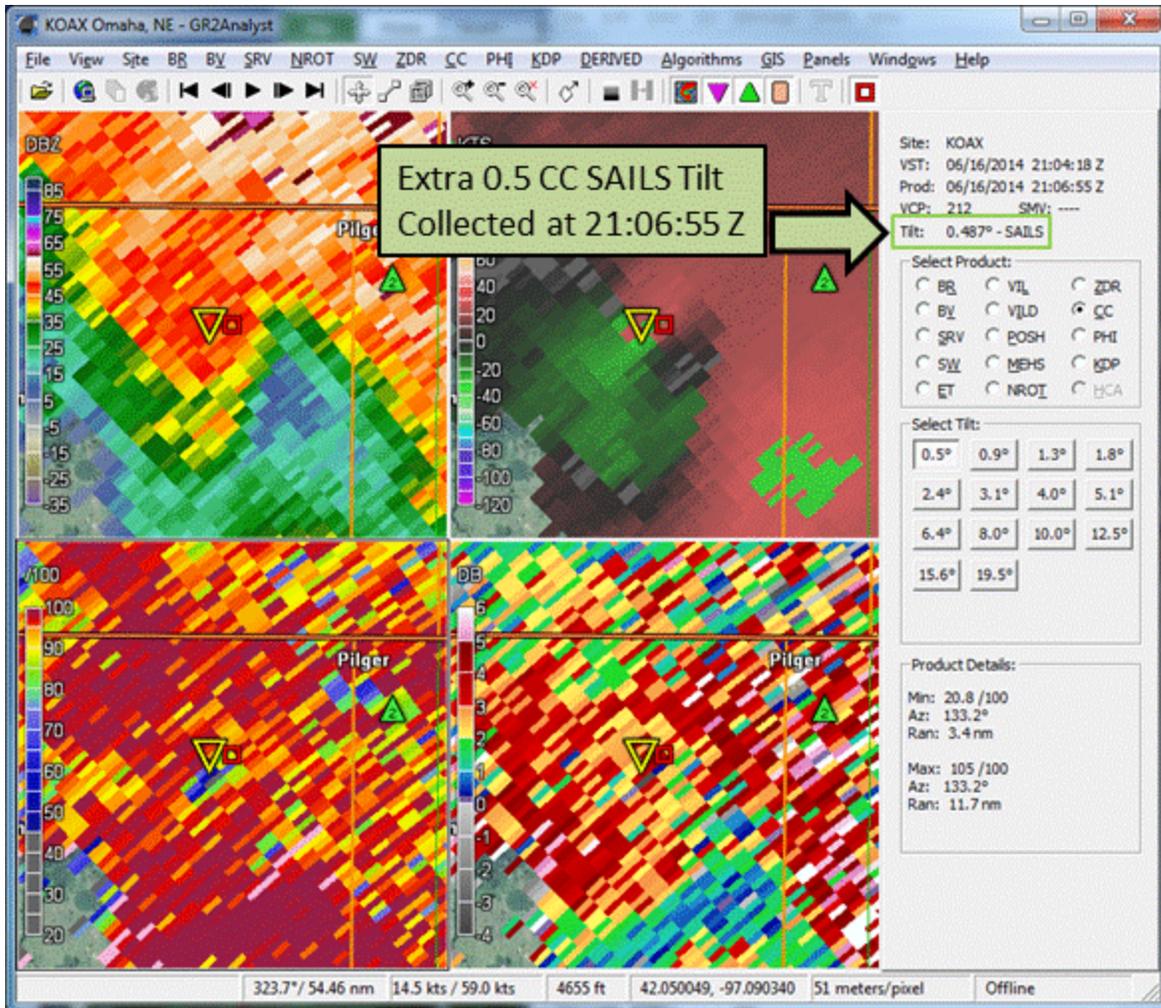
Version 1 users typically have to purchase a new license to upgrade to Version 2. Version 2 users typically can update to the latest version 2 for free. If you have an early version 2 of GR2Analyst, you should update to the latest version.

## More Recent Version 2 of GR2Analyst (e.g. 2.12)

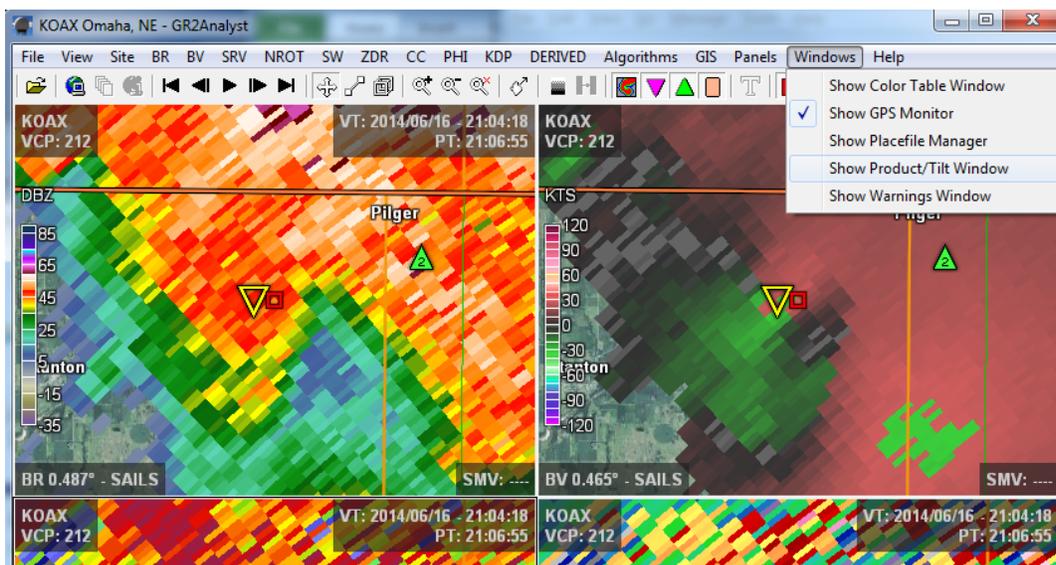
1. SAILS data displays automatically in the more recent versions of GR2Analyst. Here are products from the original 0.5 degree tilt at the start of the volume scan:



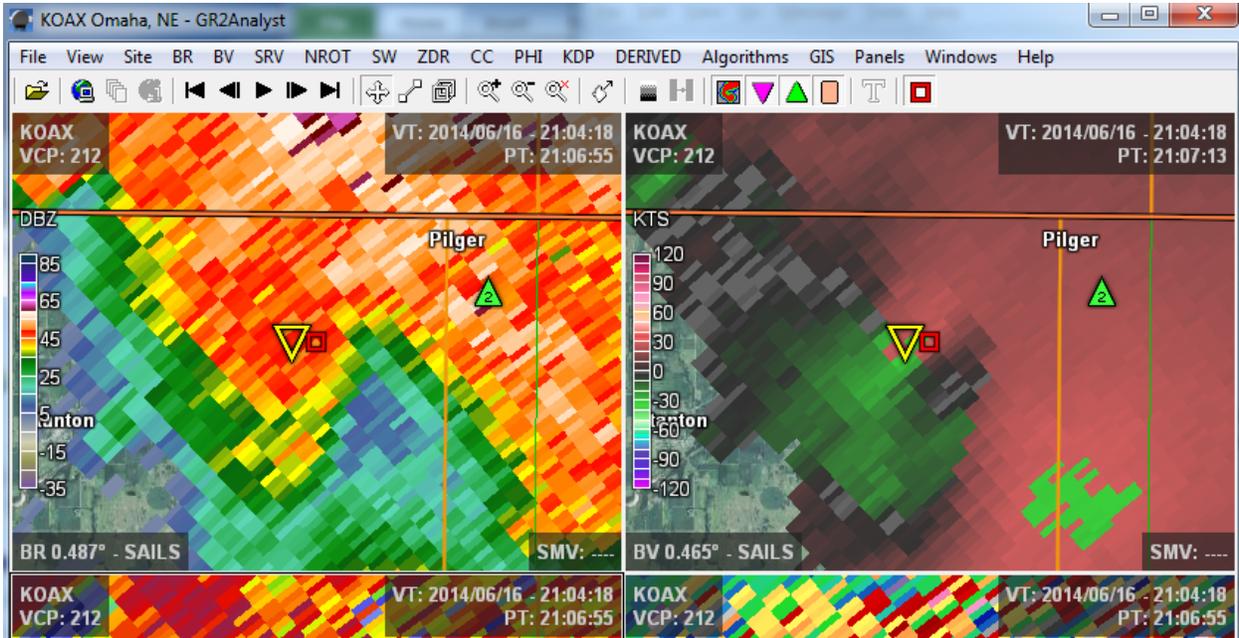
2. Once you step to the next frame using the right arrow key, the SAILS tilt updates accordingly. Note the extra SAILS tilt on the following image from the same volume scan as #1 above shows a developing Tornado Debris Signature (TDS) with low CC, high Z, and strong shear collocated at the yellow triangle:



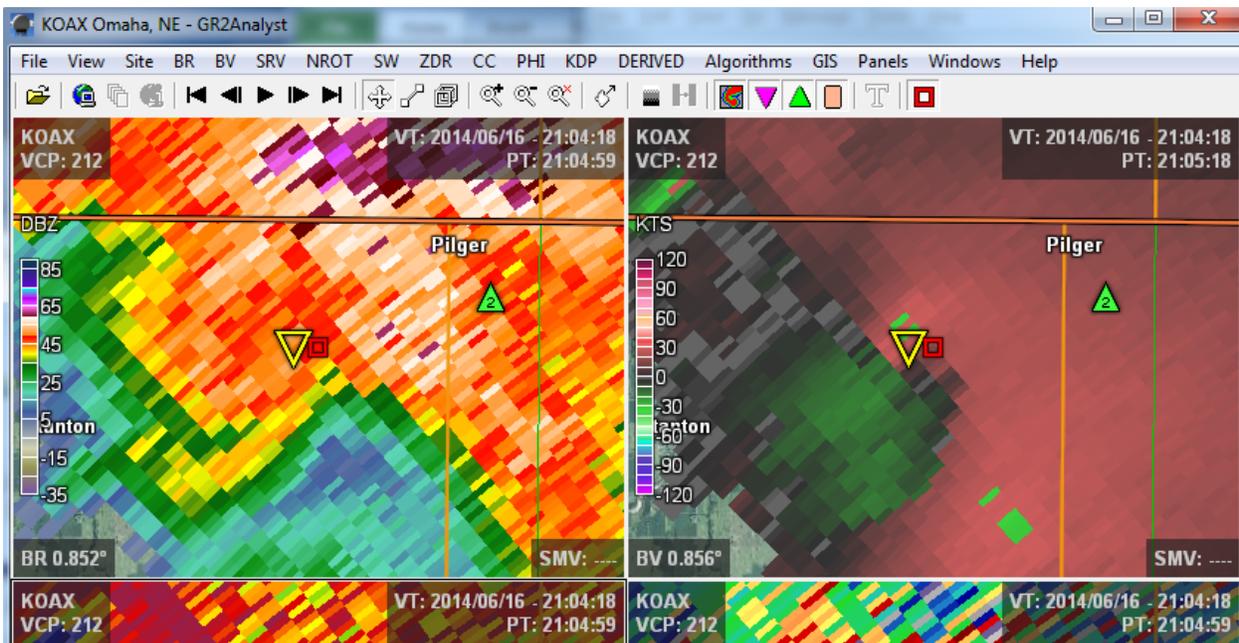
3. After disabling the Show Product/Tilt Window, the SAILS label is in the lower left of each panel:



- The up and down arrows can be used to navigate through all the tilts of the volume scan similar to AWIPS. The main difference in the more recent versions of GR2Analyst is that when you tilt upward on the extra SAILS tilt, the upper tilts from the original volume scan are used. In AWIPS, the extra SAILS tilt is treated as a separate volume scan with no higher tilts.

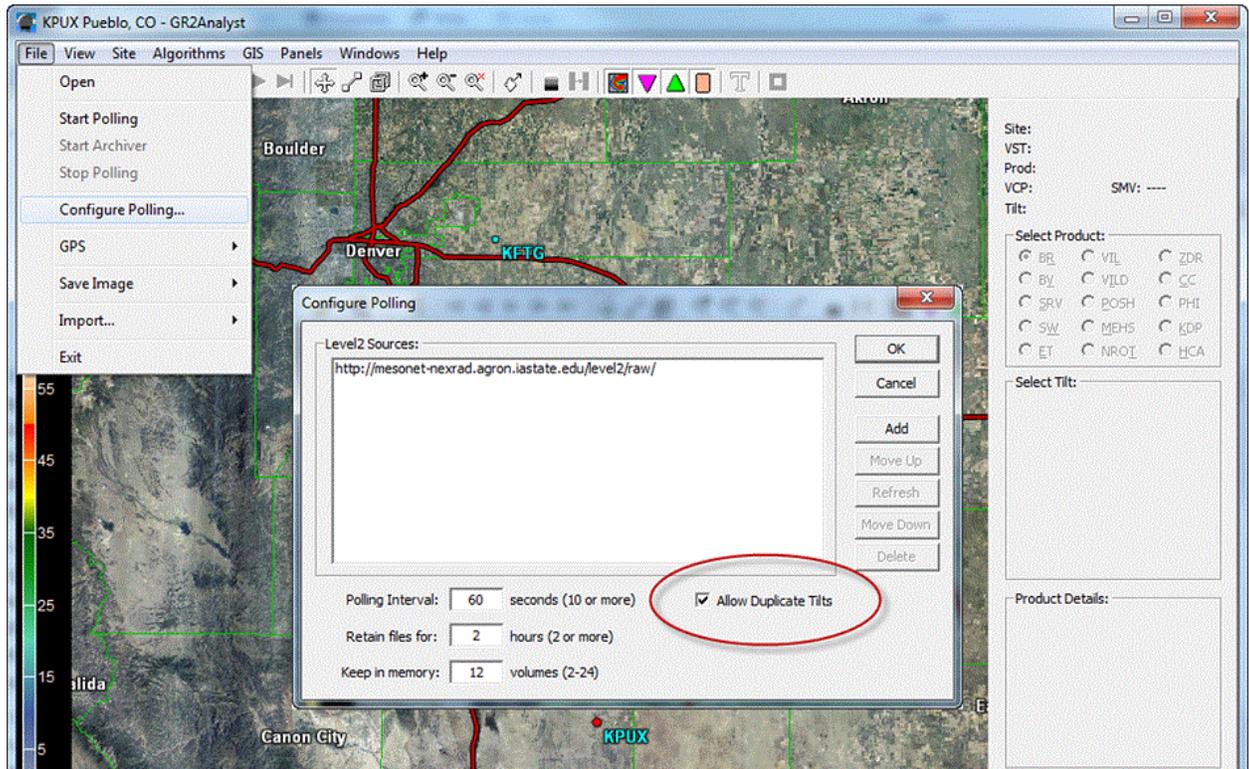


In the above image, note the 0.5 degree product time for Z (21:06:55) and V (21:07:13) for the extra SAILS tilt. After using the up arrow to navigate to the next higher tilt, you will see the older second tilt. In the image below note the 0.9 degree product time for Z (21:04:59) and V (21:05:18):

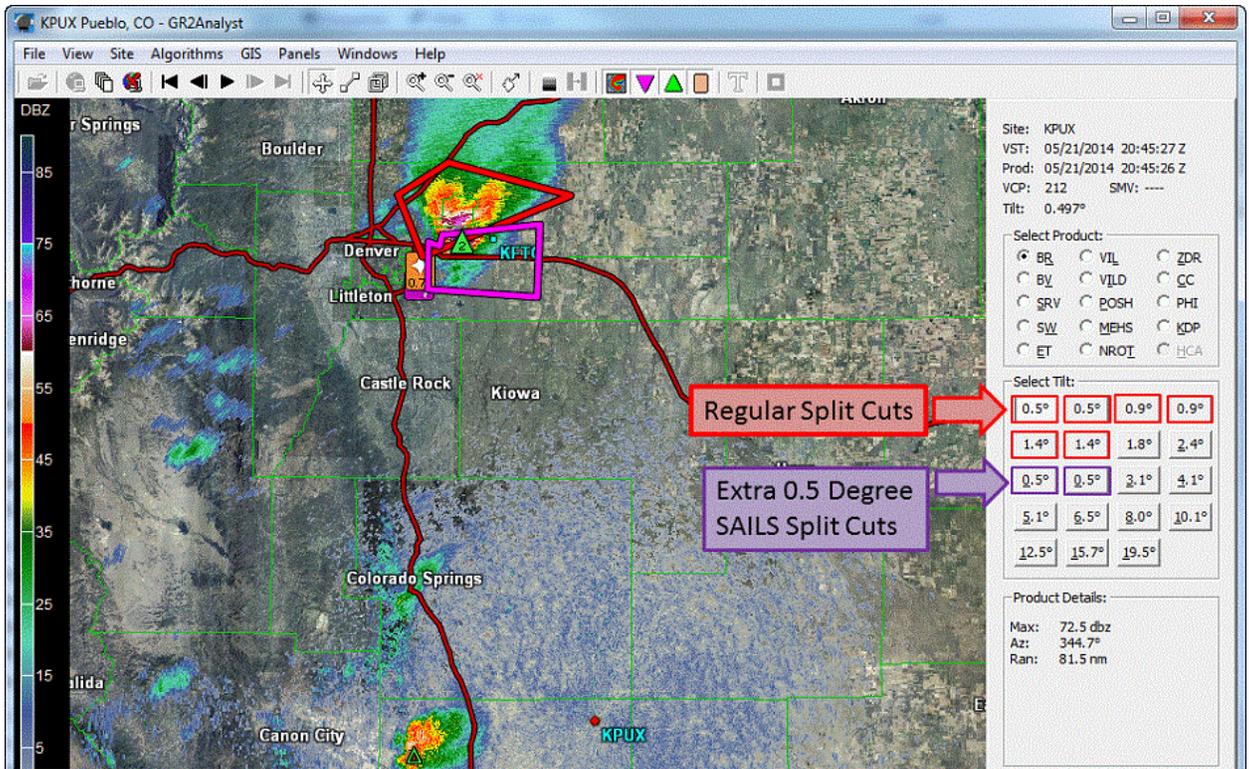


## Early Version 2 of GR2Analyst

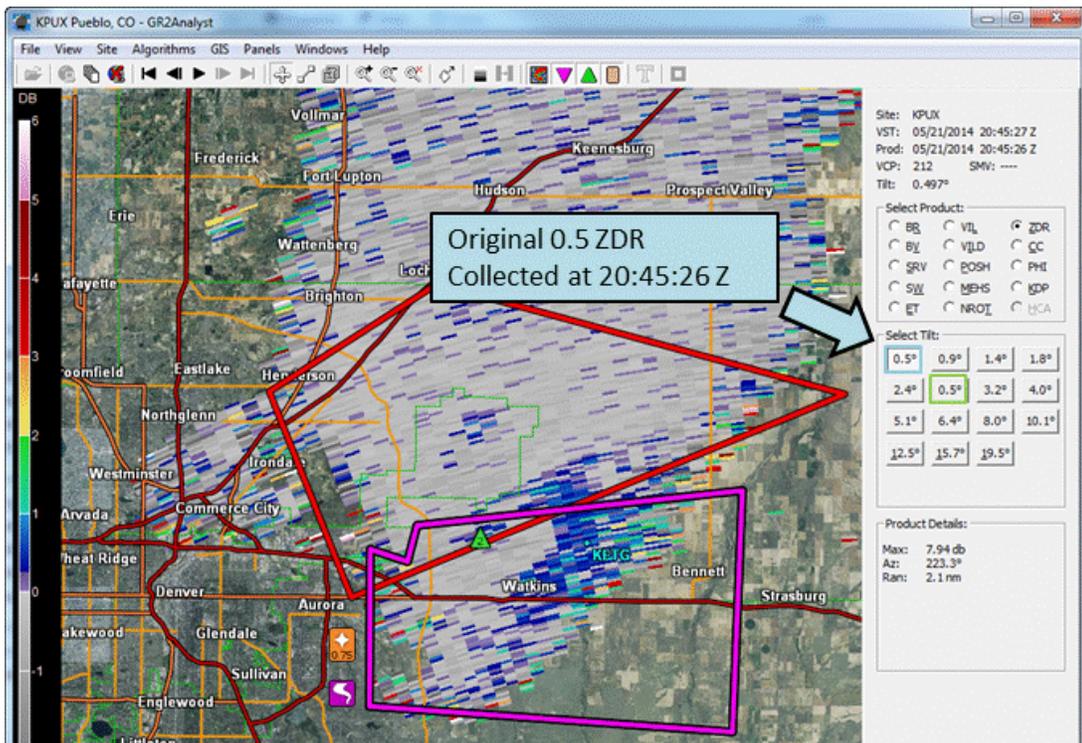
- To view the extra SAILS tilt in the early version 2 of GR2Analyst you must select the Allow Duplicate Tilts checkbox in Configure Polling before loading data (**note this capability was removed in more recent versions of GR2Analyst**):

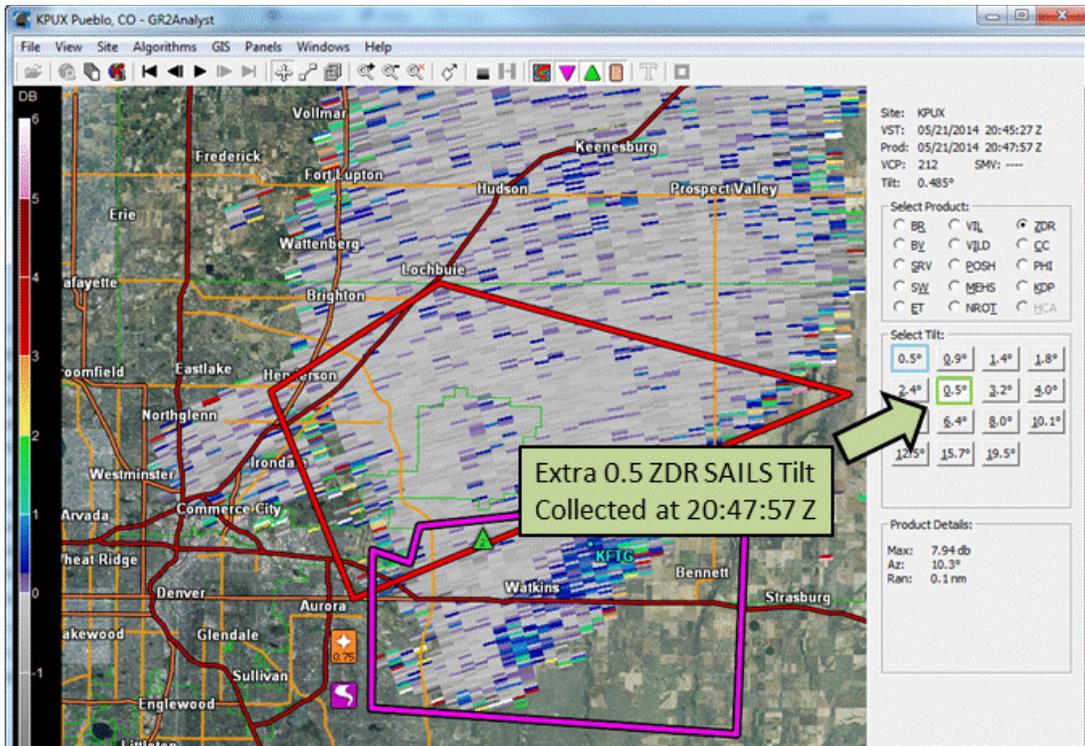


- Once new data is loaded after the Allow Duplicate Tilts checkbox is selected, all duplicate tilts in a volume scan for a given product will be displayable. This includes the Split Cuts elevations and the extra 0.5 degree SAILS tilt. As you may remember from [DLOC Topic 3](#), the Split Cuts elevations are the lower tilts collected with the low PRF Contiguous Surveillance waveform for range folding and high PRF Contiguous Doppler waveform for Doppler and Dual Pol base data. In GR2Analyst the Select Tilts section contains an entry for each duplicate tilt in a volume scan (e.g. 0.5, 0.9, and 1.4 degrees below):



- Note that Z, V, SRM, and SW will have Split Cuts for both the extra SAILS tilt and the “regular” Split Cuts. Dual-Pol products are only created from the Contiguous Doppler waveform, so you will only see two 0.5 degree tilts:





8. The ramification of having separate controls for each duplicate tilt is that you can't combine them into one loop. You can access them separately, or you can put them side by side in a multi-panel display:

