SWS with AMSR Preliminary Release – Readme

This file provides information on the preliminary SWS with AMSR data. This file, the release letter, and other documentation of our SeaWinds-with-AMSR work can be found by accessing the OVWST ftp site on PODAAC (http://podaac.jpl.nasa.gov/seawinds/calval) using the username and password below. This site will be updated periodically throughout the AMSR cal/val period.

The eight weeks of data for evaluation are available now; data are from the months of May and September, 2003.

Evaluation Data Sets and Accessibility

The following preliminary data sets are being prepared and staged for distribution to the OVWST (not for public release) via the PODAAC for evaluation and validation:

(1)   Standard 25 km processed Level 2B winds WITHOUT use of AMSR data, but WITH the standard MUDH and associated autonomous rain flags (currently available through usual PODAAC science product site);

(2)   Standard 25 km processed Level 2A backscatter products which now include valid AMSR data fields (available on the OVWST calval site). Note that the filenames include an "A" suffix to the orbit number to distinguish them from the standard L2A products.

(3)   Two sets of preliminary 25 km processed Level 2B vector winds calculated from the AMSR-corrected Level 2A products in (2) (available on the OVWST calval site). (Note that since the autonomous MUDH rain flag has not been retuned for use with the AMSR-corrected SeaWinds backscatter measurements, the MUDH rain flag in these AMSR-corrected Level 2B winds is not accurate and should be ignored. The MUDH rain flag from the original L2B data in item (1) should be used for comparison.) The two sets of L2B winds, indicated by an extra "A" or "B" in the file name following the orbit number, were produced using AMSR-corrected SeaWinds backscatter measurements as follows:
(A) only the AMSR atmospheric attenuation correction was applied;
(B) both the AMSR atmospheric attenuation correction and an estimate of the
    backscatter from rain were applied.

To access data items on the OVWST calval site:

(1)   Enter http://podaac.jpl.nasa.gov/seawinds/calval into your browser. This is the same site that was used for the preliminary release of SeaWinds data before the public release in October, 2003.

(2)   The above site is password protected. In the dialog that appears enter Username: swswt; Password: Data4us? (all case sensitive; password last character is "?").

(3)   A web page will appear. It has links that will take you to the types of data described in items 1-3 above. Note that "Old Data" refers to item (1), i.e., no AMSR.

(4)   The data area is organized by data type, then by year (i.e., 2003), then by day-of-year. You need to use care in navigating the web site so that you do not end up in the public ftp area (/ocean_wind/seawinds/L2B) if you do not wish to be there. If you do, re-enter the /seawinds/calval area indicated above. In particular the documentation for the L2B product ("Old" and with AMSR) is in the public area /ocean_wind/seawinds/L2B/doc .

(5)   The web site contains instructions for getting data from the command line. The full path to the L2B data is /seawinds/calval/daac/data/amsrTrial/L2B/data/2003/ddd, where ddd is the day number. Quality Assurance (QA) reports have a similar path with Q2B substituted for L2B.
The file naming convention is S2[A/B]rev[A/B]data_time_range.production_time . The first [A/B] refers to the standard SeaWinds data levels. The second [A/B] refers to the attenuation/backscatter correction indicated above in item 3. The data time range is a difference from the standard product file names. The production time extension is a standard part of the file name and serves as a version control.

An additional data product, the AMSR L2A Overlay, is available by special request for evaluating the lower level AMSR processing. The Overlay contains brightness temperatures and some intermediate geophysical retrievals arranged exactly as the L2A data. For further information contact Phil Callahan (philip.s.callahan@jpl.nasa.gov, 818-354-4753).

Data Set Descriptions – Software Interface Specifications (SIS)

The SeaWinds Project SISes (Rev D, October 2003) for L2B wind data and L2A grouped sigma0 and AMSR data will be found by the respective Documentation links. These documents fully describe the structure and content of these data types. In particular, the SISes describe all AMSR-related items and their grouping in wind vector cell quadrants.

Algorithm Descriptions

A description of the AMSR Rain Index that serves as a key determinant of rain and of AMSR algorithm function is provided in the "other AMSR documentation" directory.

A description of the determination of the backscatter from rain as used in the L2B-B files will be available soon.

Evaluation Notes

1. The correction for backscatter from rain is less mature than the other computations in these products. Detailed, quantitative evaluation of this correction is essential.

2. The selection of Rain Index = 0.5 was done based on initial evaluations, and the value was largely selected to divide algorithmic regimes in geophysical retrievals. The value of RI to use

for flagging for rain contamination must be determined during this evaluation. In these data, no rain flag is set by the AMSR data. Furthermore, the range of RI over which the backscatter correction is effective (i.e., the models and assumptions on which the computation is based are correct) must also be determined.

3. All of these data were processed with the standard SeaWinds processing setting of "multipass ambiguity removal" turned ON. As noted above, the MUDH rain flag is not accurate in the AMSR-corrected cases; but it is still used in the multipass algorithm. The effect of this should be small, but it may affect some cells near rain. The most likely effect is that MUDH will underflag in the AMSR-corrected cases, and thus, some contaminated vectors may be used in the first pass of ambiguity removal. This is how standard processing would act in the absence of multipass as it currently does on QuikScat.

4. A few orbits are missing from the dataset due to lack or poor quality of lower-level data products.

Project Initial Assessment

Information on the Project's initial assessment of the AMSR data and derived quantities can be found in the /daac/doc directory. All assessment file names begin with "assess". Currently available information:

1. An overview of MUDH Vs Rain Indicator (assess-rain-ind1.pdf). This includes a plot of MUDH flagging percentage Vs Rain Index and global maps for 10 revs of comparing the MUDH rain flag and the Rain Index showing the general correspondence of MUDH and the Rain Index and highlights the overflagging at swath edges and in high wind speed areas (Southern Hemisphere).

Contacts for Additional Information

For questions regarding data access, contact the PODAAC SeaWinds data set engineer Richard Chen (Richard.chen@jpl.nasa.gov, 818-354-1259). For questions about AMSR processing contact Svetla Veleva (svetla.veleva@jpl.nasa.gov, 818-354-7314).