CRTM Technical Sub-group

"Internal" release of v2.2.x

```
1   Release Notes: CRTM library v2.2.3
2
3   $Revision$
4
5   ----------------------------------------------------------
6   v2.2.3 - released August 13, 2015
7
8     * Made minor fixfile changes to include
9         1. Corrected the WMO satellite id for DMSP-19 SSMIS in the CRTM fixfiles.
10
11    * Compute resource information
12        N/A. This is a library used in the GSI.
13
14
15  ----------------------------------------------------------
16  v2.2.2 - released August 12, 2015
17
18    * Made minor code changes to include
19        1. Report invalid WMO Sensor and Satellite identifiers as a WARNING rather than ERROR.
20
21    * Made minor build changes to include
22        1. Modification of Intel ifort compiler flags as requested by GSI developers.
23
24    * Compute resource information
25        N/A. This is a library used in the GSI.
26
27
28  ----------------------------------------------------------
29  v2.2.1 - released April 20, 2015
30
31    * Made scientific changes to include
32        1. Revert ATMS spectral and transmittance coefficients to those derived
33           from a boxcar response.
34
35    * Compute resource information
36        N/A. This is a library used in the GSI.
37
38
39  ----------------------------------------------------------
40  v2.2.0 - released April 13, 2015
41
42    * Made scientific changes to include
43        1. Overcast radiances
44        2. Reflection correction in microwave sea surface emissivity model for
45           non-precipitating clouds
46        3. ATMS snow emissivity model
47        4. Cloud optical property coefficient update for infrared ice clouds.
48        5. Software updates to address zeus meta-data server issues (file inquiries)
49        6. Implementation of the FASTEM-6 microwave sea surface emissivity model.
50
51    * Compute resource information
52        N/A. This is a library used in the GSI.
```

Feature list for v2.3.x

- Radiative transfer model update – At this point, this is a purely structural change to allow for more efficient memory usage. Some applications have found current CRTM cloudy calculations are too slow compared to other RT models (e.g. delta-Eddington).

- Aerosol model update – Only the GO-CART aerosol model is supported in the CRTM. Users have requested a version that can specify CMAQ model aerosol inputs.

- netCDF coefficients – for simpler portability and maintenance.

- CSEM integration (v3.0) – The Community Surface Emissivity Model will replace all of the current CRTM emissivity and reflectivity modules.