

NOAA Satellite Conference Action Items (2013)

April 8, 2015

NSC-2013 # (Conference Report)	Recommendation / Question / Suggestion	Initial Response (in NSC-2013 Report)	Pertains to NSC-2015 Session(s)	Updated Response (2015)
1	Can NOAA provide regular virtual meetings with the region to improve training for the new satellite data?	Yes, Steve Goodman presented a virtual lecture on GOES-R at the WMO T-NOTE Nowcasting Training for Argentina on August 6, 2013.	4.2	We have a virtual GOES-R monthly science seminar series via Webex that has provided an introduction to GOES-R products. Perhaps this seminar series can be made more broadly available. We will examine this. Also, we plan for a GOES-R Short Course at the 2016 and 2017 AMS Annual Meeting. We might be able to record the lectures TBD.
2	Can NOAA provide information and training on using and maintaining the new satellite received terminals?	NA	3.1 & 3.2	<p>For GOES-R: Information on GRB specifications, the Product Users Guide, FAQs, and how to borrow a GRB simulator are all found here: http://www.goes-r.gov/users/grb.html</p> <p>For JPSS: With respect to SNPP and JPSS, JPSS Ground Segment provides specification for the HW needed for direct readout. NOAA has specific workshops ever two years on the CSPP software package which is used to generate SNPP and JPSS products. Also at the workshop are discussions on use of Polar legacy data (POES and METOP). Another venue is the International TOVS working group, which meets every 18 months; next meeting will be last week of October 2015 in Lake Geneva, WI.</p>
3	Can NOAA encourage and provide more participation of Vlab, Comet, Regional Focus Group and Centers-of Excellence (CoEs) in RA III?	Yes, GOES-R has increased support for COMET and continues RA III content development through Bernie Connell of CIRA.	4.1 & 4.2	JPSS provides support to VLAB and COMET. A JPSS module was presented at VLAB in spring 2014.
4	What will be the GOES-R position after launch and what will be the impact on the user timetable of preparation?	The current fly out schedule calls for GOES-R launching into the west position. That is the current plan because GOES-15 went into operation sooner. Preparation will be the same for users of the east and west satellites. NOAA will decide the operation of GOES-R based on the health of the constellation and NWS requirements following post-launch testing.	1.3 & 2.1	<p>GOES-R is scheduled to launch in March 2016. The current plan is for six months of post-launch testing at 89.5 W at which time the cloud and moisture imagery will be declared provisionally validated and fit for use. The Level 2 products will undergo a period of extended validation also at 89.5 W with the plan for GOES-R to be declared operational in March of 2017. The NESDIS GOES fly-out chart, which focuses on mission continuity assuming expected life spans, shows the current plan is for GOES-14 to follow GOES-13 in the GOES-East position and for GOES-R to follow GOES-15 in the GOES-West position: http://www.nesdis.noaa.gov/flyout_schedules.html</p> <p>The fly-out chart shows configuration changes occurring in these fiscal years: - FY15 : GOES-15 still in West, GOES-14 in East - FY17 : GOES-R in West, GOES-14 still in East - FY20 : GOES-R still in West, GOES-S in East</p> <p>The final decision will be based on the health/safety/performance of the GOES constellation, so users should also prepare for contingency scenarios as well. If users wish to plan for all possible orbit position scenarios, then plan for GOES-R Series operations as soon as FY16-17 with the GOES-R satellite or as late as FY17-20 with the GOES-S satellite. Operational users should prepare for the earliest case scenario, but also plan for the latest case scenario. NOAA will update the fly-out charts as soon as any changes occur to the planned orbit locations, but until further notice the posted charts are still accurate. Additional Notes: The GOES-R series satellites in the West position will be at 137W, not 135W (as today's GOES-West). GRB users will want to check out their systems with data from the PLPT (Post Launch Product Test), when GOES-R is at 89.9W. This should also be a consideration for GRB receiver acquisition and deployment. Being prepared for PLPT requires a pointable receiving system is ready even sooner than the dates in the fly-out chart. Finally, please see the downlink document for additional information: http://www.goesr.gov/users/docs/GRB_downlink.pdf.</p>

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5	What are the possibilities of having GOES-R in an easterly position? GOES-R is more important in easterly position considering: more population and users, severe weather events, etc.	The current fly out schedule calls for GOES-R launching into the west position because GOES-15 went into operation sooner. For the longer lead time desired in Numerical Weather Prediction (NWP) models, the models need more upstream data. Having GOES-R upstream will feed into the models and allow to propagate east. A final decision will be made based on health of constellation. Current plan is to go West but it could change. We will see when it gets up there.	1.3 & 2.1	<p>The current plan is for GOES-R to undergo a minimum of six months of on-orbit checkout at 89.5 W before becoming operational. The NESDIS GOES fly-out chart, which focuses on mission continuity assuming expected life spans, shows the current plan is for GOES-14 to follow GOES-13 in the GOES-East position and for GOES-R to follow GOES-15 in the GOES-West position: http://www.nesdis.noaa.gov/flyout_schedules.html</p> <p>The fly-out chart shows configuration changes occurring in these fiscal years: - FY15 : GOES-15 still in West, GOES-14 in East - FY17 : GOES-R in West, GOES-14 still in East - FY20 : GOES-R still in West, GOES-S in East</p> <p>The final decision will be based on the health/safety/performance of the GOES constellation, so users should also prepare for contingency scenarios as well. If users wish to plan for all possible orbit position scenarios, then plan for GOES-R Series operations as soon as FY16-17 with the GOES-R satellite or as late as FY17-20 with the GOES-S satellite. Operational users should prepare for the earliest case scenario, but also plan for the latest case scenario. NOAA will update the fly-out charts as soon as any changes occur to the planned orbit locations, but until further notice the posted charts are still accurate. Additional Notes: The GOES-R series satellites in the West position will be at 137W, not 135W (as today's GOES-West). GRB users will want to check out their systems with data from the PLPT (Post Launch Product Test), when GOES-R is at 89.9W. This should also be a consideration for GRB receiver acquisition and deployment. Being prepared for PLPT requires a pointable receiving system is ready even sooner than the dates in the fly-out chart. Finally, please see the downlink document for additional information: http://www.goesr.gov/users/docs/GRB_downlink.pdf.</p>
6	Will GEONETCast be an operational system that users can base their operations on?	NA	3.4	<p>GEONETCast Americas is complementary to NOAA's direct readout and online dissemination services.</p> <p>NOAA is working closely with regional partners to support the nine GEOSS Societal Benefit Areas and to address the requirements of the Coordination Group on Satellite Data requirements for RA III and RA IV.</p> <p>The internet connection, processing system, satellite up-linking system, and satellite transponder are all monitored 24 x 7 x 365. The operation of individual content channels, configuration settings within the accounts and incoming products are administered on an 8 x 5 or Monday through Friday basis and are therefore best effort.</p> <p>Availability of the broadcast is nearly 100% and there have been very few instances of issues with products not being delivered and it therefore compares favorably with the reliability of other satellite delivery systems.</p>
7	Will users have pre-process software to convert raw data to Level-1b? If so, will this software be available for free?	NA	3.1 & 3.2	<p>Software to process SNPP/JPSS raw data (RDRs) to Level-1b (TDRs or SDRS) is easily available from the CSPP website at: http://cimss.ssec.wisc.edu/cspp/</p> <p>This website also contains software for legacy POES. The JPSS Ground Project is developing a software portal which such software will also be available. Currently the CSPP website is the best source. All NOAA software is free.</p>
8	Can NOAA, in coordination with RA III, create a Satellite Application Partners (SAP) team to address the following applications: lightning, winds, sounding, cloud classification, precipitation estimation etc.?	Yes, increased coordination with RA III is possible and will need to be pursued virtually.	4.2	<p>Increased coordination with RA III is possible and will need to be pursued virtually and possibly through visiting Scientist exchanges of subject matter experts. In some instances, the RA III and RA IV Satellite Data Requirements Coordination Group may be a vehicle for strengthened coordination.</p>
9	Can NOAA, in coordination with RA III, create a Satellite Validation Partners (SVP) team to address product validation?	Yes, some of this is already planned in cooperation with Brazil and Argentina research laboratories and universities.	4.2	<p>Yes, some of this is already planned in cooperation with Brazil and Argentina research laboratories and universities.</p>
10	Can NOAA, in coordination with RA III, create a Satellite Archive and Dissemination Partners (SADP) team to mirror data access and historical data dissemination for the users mainly interested in products?	NA	4.2	<p>The RA III and RA IV Satellite Data Requirements Coordination Group may be a vehicle for strengthened coordination. This group will be meeting at NSC 2015 and these items can be discussed.</p>

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11	Can NOAA start the concentrated effort of acquisition, processing and training in the use of S-NPP with Region III?	NA	2.4 & 4.2	The RA III and RA IV Satellite Data Requirements Coordination Group may be a vehicle for strengthened coordination. This group will be meeting at NSC 2015 and these items can be discussed.
12	Can NOAA provide a better definition (use and planned use) of the GEONETCast system?	NA	3.4	<p>NOAA continues to support the regional GEONETCast Americas (GNC-A) service and has made several enhancements to the broadcast in coordination with our partners. GNC-A is part of the global GEONETCast system that "... is an expanding global network of low-cost, satellite-based dissemination systems that provides global information as a basis for sound decision making in critical areas. These areas include agriculture, climate, ecosystems, energy, natural disasters, public health, water and weather." http://earthobservations.org/geoss.php?smid=500</p> <p>NOAA is working closely with regional partners to support the nine GEOS Societal Benefit Areas and to address the requirements of the Coordination Group on Satellite Data requirements for RA III and RA IV. GNC-A product requests are vetted by the GNC-A Coordination Group comprised of volunteer members from North, South and Central America and the Caribbean. GEONETCast Americas content will continue to be user driven in response to user requirements. NOAA and its partners completed two projects to add GOES-East Full Disk imagery in three channels, in GEOTIFF format in 2014 and then to add GOES-East North and South Sector imagery in three channels, in GEOTIFF format in February 2015. NOAA plans to replace the GOES-East N-O-P imagery with an equivalent amount of GOES-R series imagery if GOES-R is placed at the GOES-East position.</p> <p>GNC-A supports capacity building through assisting the efforts of countries to add receive stations and develop national networks like those in Brazil, El Salvador, Costa Rica, Colombia and planned in Mexico; collaboration with the WMO Virtual Laboratory for Training and Education in Satellite Meteorology (VLab) and promoting participation in the GEONETCast Americas Coordination Group.</p>
13	NOAA is asked to advertise (make more readily available and more public) the decisions about main data format(s), products, as well as the analysis and visualization systems. Can this information or some part be made available in Spanish?	NA	3.1 & 3.2	Much of this information is made available on NOAA's public websites and discussed at user conferences.
14	In order for RA III to make the transition and use of the new systems more effective, can NOAA provide training in the basic Systems to meet the RA III operational needs?	NA	4.2	<p>NOAA is engaging in many aspects to ensure user awareness and readiness. For example:</p> <ul style="list-style-type: none"> • User Conferences with detailed briefings and User Feedback sessions covering instrument and data format specifications, required technical documentation and guidance on transition of receiving hardware. • Training workshops at NOAA Satellite Conference including WMO Train the Trainer workshop with participants from RA III and RA IV. • Test beds and preparatory programs such as the GOES- R Proving Ground. • Training and Education through 1) funding and development of satellite related modules with the Cooperative program for Operational Meteorology Education and Training (COMET) to serve over 270,000 registered users, including over 90,000 international users and 2) funding for the Virtual Laboratory for Training and Education in Satellite Meteorology (VLAB). • Contributing to the CGMS/WMO SATURN (SATellite User Readiness Navigator).
15	Can NOAA stimulate a new group at the U.S. NWS South American desk dedicated to work with the new generation satellites?	At the NCEP facility located in College Park, MD. NOAA already has a satellite liaison, Michael Folmer, supporting GOES-R and JPSS Proving Ground and training activities.	4.1 & 4.2	Dr. Bernie Connell, CIRA, also provides operational support and training to our fellows in RA III & RA IV, helping us adapt new products and prepare for future technology.

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16	Can NOAA assist in improving communications between users and data providers? NOAA is asked to encourage and provide an open Line for information exchange between users and data producers.	See GOER-R.gov website.	3.1 & 3.2	Much more information is being placed on NOAA's public websites and discussed at user conferences.
17	Can NOAA make available the JPSS products via website for user prioritization?	NA	2.3 & 3.1	JPSS has prioritized all the products based on feedback from NOAA users. These priorities are in our JPSS level1 requirements (starting on page 18), which is available from the JPSS website at: http://www.jpss.noaa.gov/technical_documents.html
18	There are algorithms that NOAA cannot test on the user's current operational system(s). Is there a way we can test these algorithms?	There are opportunities depending on how the scenarios are presented; there are lots of opportunities to verify.	NA	Users are requested to follow up with NOAA, if this remains a need. Email NSC2015@noaa.gov with contact information and a brief description of the need, and we will work together to assess options.
19	How do you see the future of your in situ based lightning network and how can it be best used together with the GLM?	Ground-based commercial networks are viewed as complementary to the satellite total lightning measurement. An effort is underway in NESDIS and NWS to develop applications and training for total lightning using the information from ground based networks and GLM together. To increase forecast accuracy, you need total lightning and to get total lightning over the ocean you need GLM.	2.2	Ground-based commercial networks are viewed as complementary to the satellite total lightning measurement. An effort is underway in NESDIS and NWS to develop applications and training for total lightning using the information from ground based networks and GLM together. To increase forecast accuracy, you need total lightning and to get total lightning over the ocean you need GLM. Development of a common grid with lightning attributes from the integrated observing system is in development and will be assessed by NWS.
20	With the understanding that when GOES-R is first launched, it will be put in the West position. What do you have to say about the benefits to the folks who aren't directly underneath the ABl...folks on the East Coast?	That is the current plan because GOES-15 went into operation sooner. The longer lead time desired in Numerical Weather Prediction (NWP) models, the models need more upstream data. Having GOES-R upstream will feed into the models and allow propagation east. A final decision will be made based on health of constellation. Current plan is to go West but it could change. We will see when it gets up there.	1.3 & 2.1	GOES-R is scheduled to launch in March 2016. The current plan is for six months of post-launch testing at 89.5 W at which time the cloud and moisture imagery will be declared provisionally validated and fit for use. The Level 2 products will undergo a period of extended validation also at 89.5 W with the plan for GOES-R to be declared operational in March of 2017. During the period of extended validations users are expected to have limited access to the data. The NESDIS GOES fly-out chart, which focuses on mission continuity assuming expected life spans, shows the current plan is for GOES-14 to follow GOES-13 in the GOES-East position and for GOES-R to follow GOES-15 in the GOES-West position: http://www.nesdis.noaa.gov/flyout_schedules.html The fly-out chart shows configuration changes occurring in these fiscal years: - FY15 : GOES-15 still in West, GOES-14 in East - FY17 : GOES-R in West, GOES-14 still in East - FY20 : GOES-R still in West, GOES-S in East The final decision will be based on the health/safety/performance of the GOES constellation, so users should also prepare for contingency scenarios as well. If users wish to plan for all possible orbit position scenarios, then plan for GOES-R Series operations as soon as FY16-17 with the GOES-R satellite or as late as FY17-20 with the GOES-S satellite. Operational users should prepare for the earliest case scenario, but also plan for the latest case scenario. NOAA will update the fly-out charts as soon as any changes occur to the planned orbit locations, but until further notice the posted charts are still accurate. Additional Notes: The GOES-R series satellites in the West position will be at 137W, not 135W (as today's GOES-West). GRB users will want to check out their systems with data from the PLPT (Post Launch Product Test), when GOES-R is at 89.9W. This should also be a consideration for GRB receiver acquisition and deployment. Being prepared for PLPT requires a pointable receiving system is ready even sooner than the dates in the fly-out chart. Finally, please see the downlink document for additional information: http://www.goesr.gov/users/docs/GRB_downlink.pdf .

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21	We know there are Lightning mapping limitations, are you aware the capability of lightning mapper on Canadian PCW?	Regarding PCW, no plans right now for any kind of lightning detection. GLM can see up to 52 degrees. One thing that could be useful when we have algorithms to combine ABI channels and ground-based lightning networks and available radar...some proxies with precip type and lightning. PCW is Canadian satellite which could put instruments in a high eccentricity orbit to get a more constant view of the poles.	2.2	Please see initial response.
22	What is the difference between the current CLASS capabilities and the new Enterprise Archival Storage architecture?	NA	3.3	The release of Common Submission and Machine to Machine access is the initial iteration of the NOAA Environmental Data Archive (catch-all term for CLASS and NCEI archives).
23	When will the new Enterprise Archival Storage architecture be available?	NA	3.3	Common Submission and Phase 1 of M2M access is now in operations. However, to the user community access at this time remains the same, i.e. access using CLASS's web interface. Besides M2M, which will enable users to access GOES-R data in CLASS via NCEI registered clients in the near future, there will be an Enhanced Access Storage Layer that will provide access to select data sets via OpenDAP. THREDDS is currently in Proof of Concept and will be released initially to support VIIRS ocean color late in FY15. Expansion to other data sets will follow as the capabilities are verified.
24	How will users, external to NOAA, use the Product Distribution and Access (PDA) system?	NA	3.3	<p>The role of the Product Distribution and Access (PDA) system is to provide access to users that have a real-time justification. The final details of determining whether a new user can be granted to the PDA external portal is currently being reworked to ensure that process fully complies with increased security measures as mandated by law and as levied upon NESDIS externally facing systems. The current methodology under consideration is that new users will submit a request and that request is assessed in accordance to the existing data access policy to determine the real-time justification and to ascertain the impact on the NESDIS infrastructure if the request is full-filled. For those users granted access, they will be required to utilize two-factor authentication for access to the PDA portal and they will be mandated to use secure protocols and authentication for machine to machine data transfers.</p> <p>More information regarding data access can be found at: http://www.ospo.noaa.gov/Organization/About/access.html</p>

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25	How soon will products be available in the PDA after data acquisition? Will NOAA provide a schedule of product availability? If so, how will the customers be notified?	NA	3.3	<p>For SNPP, most products will be made available within 150 minutes and JPSS-1 once it becomes operational will have a product latency of 96 minutes. There are some products that will require long processing or have multiple orbit input dependencies; therefore those products will increase latency above the times stated above.</p> <p>PDA latency for receipt and distribution of GOES-R data is negligible due to a 1 second requirement. A complete schedule of Baseline Product latency is available in Appendix A, Table 1 of the GOES-R Ground Segment FPS where two column headings: "Product Refresh Rate / Coverage Time (B) (ABI Mode 3)" and "Product Refresh Rate / Coverage Time (B) (ABI Mode 4)" provide the latency associated with every baseline product for every mode and every domain beginning on PDF page number 267: http://www.goes-r.gov/resources/docs/GOES-R_GS_FPS.pdf</p> <p>For Example, Mode 3 Aerosols take 15 minutes for Full Disk, CONUS, and Mesoscale domains, while Mode 4 Aerosols takes the same time for Full Disk and CONUS.</p> <p>Another Example, Mode 3 Cloud & Moisture Imagery takes 15 minutes for Full Disk, 5 minutes for CONUS, and 30 seconds for Mesoscale, while Mode 4 Cloud & Moisture Imagery takes 5 minutes for Full Disk and 5 minutes for CONUS.</p> <p>Communication of this information has been publicly available since the first FPS publication in 2008.</p> <p>The PDA catalog's list of products is easily discoverable for those users authorized on PDA. NESDIS/OSPO will also consider using existing communication methods (ESPC notifications and providing product information at events like the NSC) to provide updates on products and their availability.</p> <p>See also: http://www.ospo.noaa.gov/</p>
26	Training and data access are major issues for members of the satellite community. In some cases, the internet is used for general distribution. The system has proven unreliable in critical weather situations. Does NOAA plan to provide a reliable and cost efficient method to obtain their products and data? How does NOAA plan to support/improve the international community's user readiness for GOES-R and JPSS?	GOES-R and JPSS support funding of COMET modules and training (Delete-VISIT since it is not funded in FY14-GOES-R is increasing funding to COMET in FY14). COMET has an active international training program funded through NOAA International Affairs, Canada, and EUMETSAT. COMET's MetEd Online Website has over 265,000 users with over 90,000 international users.	Pre-NSC Workshops & 4.1	<p>NOAA is engaging in many aspects to ensure user awareness and readiness. For example:</p> <ul style="list-style-type: none"> • User Conferences with detailed briefings and User Feedback sessions covering instrument and data format specifications, required technical documentation and guidance on transition of receiving hardware. • Training workshops at NOAA Satellite Conference including WMO Train the Trainer workshop with participants from RA III and RA IV. • Test beds and preparatory programs such as the GOES- R Proving Ground. • Training and Education through 1) funding and development of satellite related modules with the Cooperative program for Operational Meteorology Education and Training (COMET) to serve over 270,000 registered users, including over 90,000 international users and 2) funding for the Virtual Laboratory for Training and Education in Satellite Meteorology (VLAB). • Contributing to the CGMS/WMO SATURN (SATellite User Readiness Navigator).
27	What is the format(s) of the data from the NDE? Will the user need to convert the data before use?	NA	3.3	<p>The main data format from NDE is NetCDF4.</p> <p>There are also specific data formats tailored for specific users, such as BUFR for NCEP, GHRSSST for EUMETSAT and Geotiff for NIC.</p> <p>If a user gets data pass through from IDPS, they are in HDF5.</p> <p>Users will need appropriate readers for these data formats. Depending on their downstream applications, they may need to convert the data from the original formats to a proper format that their application can use.</p>

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<p align="center">28</p>	<p>How does NOAA plan to manage large data sets (i.e., compression, transmission, distribution, etc.)?</p>	<p align="center">NA</p>	<p align="center">3.3</p>	<p>Management and distribution of the large datasets from new satellite missions is an immense challenge for our organization. To date, NESDIS does have the ability to serve time critical organizations with dedicated ESPC systems while CLASS effectively serves the non-real-time users. However, serving the vast majority of middle tier users wanting data in near real-time is an immense challenge for NESDIS due to infrastructure limitations and fiscal constraints. There are short term initiatives underway to try to fill that gap such as use multi-casting techniques and in the long term leveraging cloud services to open up data availability opportunities. Given the immense size of new environmental satellite data, NESDIS where possible has leveraged use of compression where supported - internally or externally - to more effectively move data across already strained network resources that are undergoing bandwidth capacity upgrades.</p> <p>Additional information: PDA will have some product tailoring options, which approved users can use to reduce the size of their products by reducing channels or geographic coverage. These tailoring features will not be compatible with legacy POES, GOES-NOP data or S-NPP data – tailoring applies to NetCDF4/CF compliant format specifications. The current process of data access approval:</p> <ul style="list-style-type: none"> • Approved users will be assigned volume thresholds based on their data access request and mission need. <ul style="list-style-type: none"> - Users with dedicated points of presence (i.e., dedicated circuits) will be provided with greater volume allocations. - All other approved users using common, shared network infrastructure will receive much smaller allocations to ensure proper utilization of the shared network services and minimize impact on other critical operational traffic traversing those shared circuits. • Only secure data transfer protocols supported are FTP-S and S-FTP; only mission critical users will provided with PUSH services – all other approved data consumers will be required to PULL the data from PDA as it is made available.
<p align="center">29</p>	<p>Has there been any dialog with the international community of the effect of the "US presidential Broadband Initiative?"</p>	<p align="center">NA</p>	<p align="center">4.4</p>	<p>There have been updates presented to the Coordination Group for Meteorological Satellites (CGMS). Those presentations may be found at http://cgms.eumetsat.int/views/agendas.jsf (CGMS-42-EUMETSAT-WP-16) and then search for NOAA spectrum. The international radio communications community is studying bands for recommendation for commercial broadband use on the agenda of the International Telecommunications Union (ITU) World Radiocommunication Conference 2015 (WRC-15) in November 2015. A Joint Task Group (JTG 4-5-6-7) within the ITU has made initial recommendations for frequency bands to be considered at the WRC-15. The relevant ITU WRC-15 topic is contained in Agenda Item 1.1. The United States sent its position on the 1695-1710 MHz frequency band (used for POES and MetOp downlinks) to the regional radio communication group, CITEL. This release is posted on the web site of the US Federal Communications Commission at: http://www.fcc.gov/encyclopedia/us-contributions-sent-citel-pccii.</p>

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30	How can direct readout users and vendors get involved in the frequency reallocations discussion groups?	NA	4.4	<p>Domestically, bands that are recommended for sharing with commercial broadband services will undergo a public comment process within the U.S. Federal Communications Commission (FCC). It is important that affected end users understand how direct readout supports the creation of their meteorological or hydrological products. Radio frequency interference may impact reception by earth station receivers, therefore corrupting the creation of meteorological or hydrological products. If so, it is important that specific data be demonstrated that sharing with commercial broadband services would be problematic; it may not be sufficient to generally indicate the importance of the direct broadcast data to an end user.</p> <p>Internationally, as mentioned in the answer to Item 29, frequency bands that are to be recommended for international allocation for commercial broadband wireless services are determined by the International Communications Union (ITU) during a Treaty Conference (WRC-15) in Geneva (2-27 November 2015). NESDIS highly encourages international direct readout users and vendors to initiate dialogues with your national spectrum regulatory agencies and managers who attend various spectrum working groups and conferences at the ITU. NESDIS can provide users with contact information to your representatives to CGMS and the Space Frequency Coordination Group (SFCG). At a higher level, users are encouraged to contact their delegation representatives to the WRC-15. The American Meteorological Society (AMS) has recently taken on the task of raising awareness among the meteorological community to the potential impacts from spectrum sharing. Any user, U.S. or international is encouraged to participate and to leverage the unique capabilities of AMS or other organizations to articulate these issues to political and industry leaders. See http://www2.ametsoc.org/stac/index.cfm/committees/committee-on-satellite-meteorology-oceanography-and-climatology/.</p>
31	Regarding the continuation of LEO and GEO with CSPP, having a common algorithm to apply to other satellites is important. Does NOAA plan to include sensors from other international polar-orbiting satellites (i.e., ESA, Chinese, Russian, JAXA, etc.)? If so, what is the timeframe?	NA	3.1	Agencies provide their own software packages. The CSPP developed by CIMSS include software to process legacy POES and SNPP/JPSS. CSPP uses AAPP developed by the UK to process POES data. The NASA funded IMAPP software, also developed by CIMSS, processes NASA AIRS and MODIS. Software for other satellite agencies are provided by those agencies. ESA and JAXA does not have dedicated direct broadcast antennas. NOAA has an agreement with JAXA to use their data over NOAA funded antennas, but this is an exclusive agreement since JAXA needs to turn on their primary broadcast over those sites.
32	Recommendation to include a broad segment of users, especially weather broadcasters, in satellite Proving Ground activities at the earliest possible time.	Through coordination with AMS and broadcaster Dan Satterfield, a member of the GOES-R Independent Advisory Committee, broadcasters will participate in the satellite PG activities at the HWT spring experiment in Norman OK in 2014.	NA	Through coordination with AMS and broadcaster Dan Satterfield, a member of the GOES-R Independent Advisory Committee, broadcasters participated in the satellite PG activities at the HWT spring experiment in Norman OK in 2014 and again in 2015. A GOES-R 1-day Short Course will be held at the AMS Broadcaster's Conference in Raleigh, NC June 9 immediately preceding the conference.
33	Seek feedback on requirements to continue the LRD capability of JPSS-2.	NA	2.3 & 3.1	JPSS sought feedback during NSC-2013. There was no driving user requirement for LRD for JPSS-1 or JPSS-2. Note: SNPP does not have LRD.
34	Pending post-conference survey results, an internal "hot-wash," USG/DOC/NOAA policy, and available funding/resources, host next NOAA Satellite Conference in Spring 2015 (location & exact dates TBD).	NA	NA	Being held April 27 to May 1, 2015.