1. How can NESDIS improve their services and data?

- Make data more easy to obtain
- Improvements for the website: better usability, less confusing, improve navigation, enhanced data purchasing features, and additional accessibility of data and imagery
- Provide a way to automatically find the closest weather station to a given site
- Standardized delivery of NOAA and non-NOAA satellite data. Need to work with foreign satellite providers. Hardware and software can be used regardless of satellite.
- Move more data from offline to inline
- Increase metadata quantity and quality accessibility
- Provide better image browsers and software for radar satellite data, also enhance quality control
- Complete documentation on version updates (version # + date)
- Focus on archiving and providing access to high quality data
- Allow third party providers to deliver the value-added GIS products.
- Simplify interfaces
- NESDIS should improve accessibility, documentation, quality, completeness and provide more consolidated portal type access of their data sets
- Develop an in-depth understanding of their clients' needs and move in a conscious and creative way to respond to those needs. This understanding and the resulting direction for NESDIS should transcend bureaucratic divisions.
- NESDIS should work toward standardizing their data formats in an effort to improve interoperability between the data centers
- Provide more timely updates of unplanned outages and decrease server down time
- Integration of systems across divisions/line offices/departments to reduce over 100 observational systems will free up resources, allow for cross reference and balances of produces data, and give more timely products. Cooperation vs. competition of divisions within NOAA.
- Partner with NWS, Regional Climate Centers, State Climatologists and other government agencies to improve data quality and climate services.
- Modernize Co-op, make data available in near real time and provide regular updates
- Develop policy for accepting mesonets climate and weather data into NCDC archives – real-time observations data streams.
- Re-asses what "normal" period is best (currently 30 years)
- Data improvements: accuracy, documentation, quality control, cross calibration, online availability, discovery mechanisms, international access and timeliness.
- Increase documentation for analog data (make catalogs available) and the volume of data in digital form
- Coverage Enhance QC/QA to minimize data gaps and/or fill in missing data
- Improve global coordination to increase/enhance global data.
- Standardize gauge datum (lat/long)

2. How can NESDIS Centers best provide for customer feedback?

- 1-800 Number with live people
- Frequent customer communications via email or phone
- Offer an account executive
- On-line feedback form, include feedback card with shipment, surveys, and offer email accounts for customers to provide feedback according to order number.
- Feedback should be enterprise wide
- User conferences and workshops
- Participation in scientific meeting
- Personalization and action-oriented responses are necessary
- Have a centralized Q and A, comments section and post client complaints on web page.
- Allow feedback from users to reach administrative levels within Centers that have authority and resources to implement changes
- System should provide online users a method of requesting data in unique formats or in broader context.
- Support online user forums that are moderated by NESDIS
- Frequent communication with customers – email and phone calls
- Develop advisory panels and have periodic conferences and annual partner meetings to establish priorities
- Provide more sector-based experts.

3. Technology of the future -- How can it help?

- Artificial Intelligence facilitates finding specific data – describe what you want and software enables discovery and use
- Instrumentation – QC bundling – so that QC is performed on an ongoing basis as the data are collected rather than as an afterthought.
- Effective integration of cause and effect from multiple sources. Real time feedback on weather and what consumers are doing so can make better decisions faster.
- Redundancy of sites and instrumentation
- Monitoring data streams as they occur monitor for both QC and events as they occur.
- Cross calibration comparative analysis for verification
- Supercomputing cost goes down over time benefit increases. Keep thinking ahead.
- Geostationary microwave sounder
- Climate reference network – can we upgrade it – next generation global?
- Master Environmental Library (MEL)
- Military Technology – adapting to other purposes
- Nexrad – need more accurate and precise data, better resolution
- Hyper spectrum – more data, starting point for broader applications e.g. improved forecasts
- Improve U.S. and World economic decision making through advanced data accessibility and functionality
- Satellite products designed for global hydrologic applications
- Soil moisture, land cover - monthly, rain rate 15 min – 1 hr granularity high
- Affordability – keep or make pricing affordable to many
- Supercomputing has progressed that allows temperature and precipitation forecasts out to 30 days that are as accurate as 1 to 3 day forecasts were in 2003.
- Opportunities
- Move data faster
- Timeliness also uncertainty
- Precip. Phase measurements
- Improved instrumentation network of distribution
- Data compression techniques, software development, analysis and storage
- Storage area networks.

4. New data acquisitions: What data should NESDIS archive?

- Archive everything NOAA has
- Buyer Beware??? Discussion on role of NOAA in Q/A and QC if data is not generated under NOAA supervision, or according to established quality standards
- What level of accessibility is required? On-line, near on-line etc.
- Need more and better data observations.
- Only NOAA observations? or include qualified data from other sources?

5. New products and services: What should we plan for?

- Providing GOES NEXRAD and CLASS data
- Distribute hydrologic models in real time. Event reconstruction
- Spacecraft – need system integration. Determine what products need to be real time, near real time and/or archived. Find out who wants what from data
- Case studies – litigation, applied projects – related to weather and related risks.
- NCDC – assure data quality
- Weather data as relative to land use planning
- Weather data in support of energy related issues
- Environmental data and publications available in GIS
- Weather impacts on consumer products.
- Data to support forensic meteorology

6. What other issues need to be addressed?

- Keep training current so as to improve efficiencies and long term QA/QC
- Affordability of data to consumer
- NESDIS has weird pricing – incoherent determinants. Need to be more rational
- NESDIS should not enter the processing market. Need role clarification of demarcation line between roles of private sector and government.
- Need change to paradigm of private sector and government interactions. NESDIS needs to look at how it does things and be prepared to think out of the box and utilize the strengths of the private sector to solve its problems.
- NESDIS needs to align itself with a fast moving reality
- NESDIS must have an appreciation for what works. Support the people and systems that gather data on a daily basis, and show their appreciation for those services. Data stewardship needs to be appreciated too.
- Is weather data for aviation or everyone?
- Weather is changing where the people are, but observations are made at airports, or at least away from urban areas, so data are not accurate for the purposes for which they are used. Take the observations where the people are.
- Formats and standards of data must be adhered to and be consistent
- Coverage outside the U.S. Gaps in data
- Human interactions – customers need to know that there are human contacts available to them if they need them. Those contacts should be identified by name and phone number.
- Partnerships there need to be reciprocity between the private sector and government
- Comments regarding NOAA's strategic plan and the sustainability of H_20 resources. Comments on the paucity of data for hydro issues. Importance of snow pack, reservoir capacity level data to the energy and agriculture sectors. Lack of flow information