ASOS Operator Interface Device (OID)

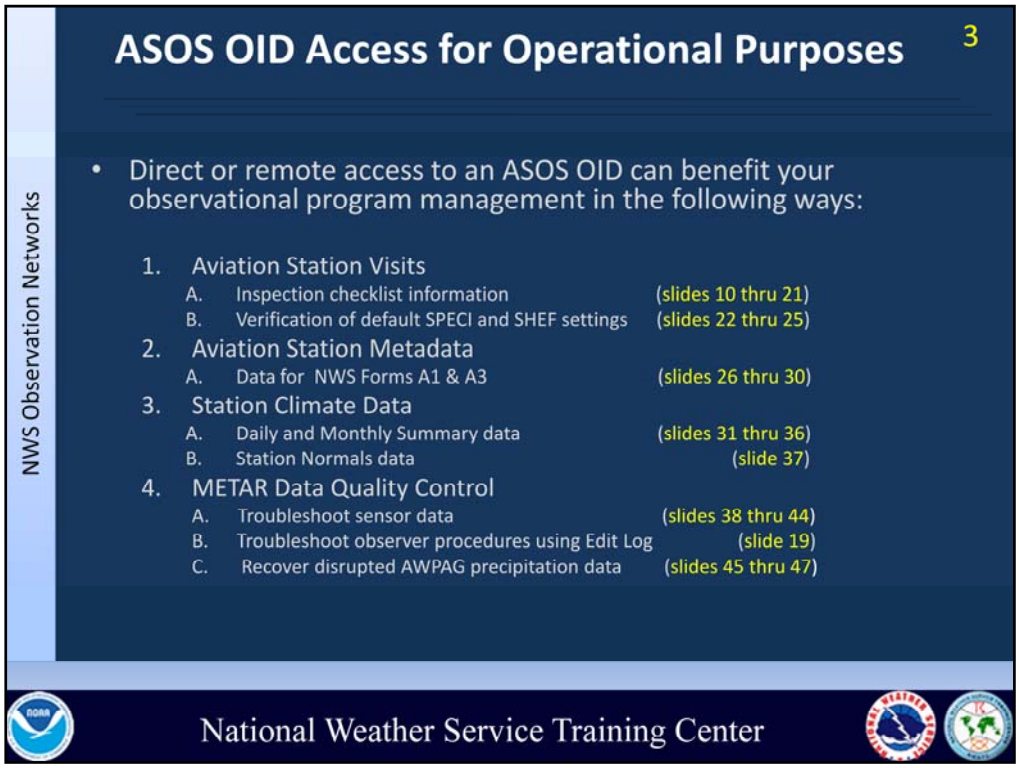
NWS Observation Networks

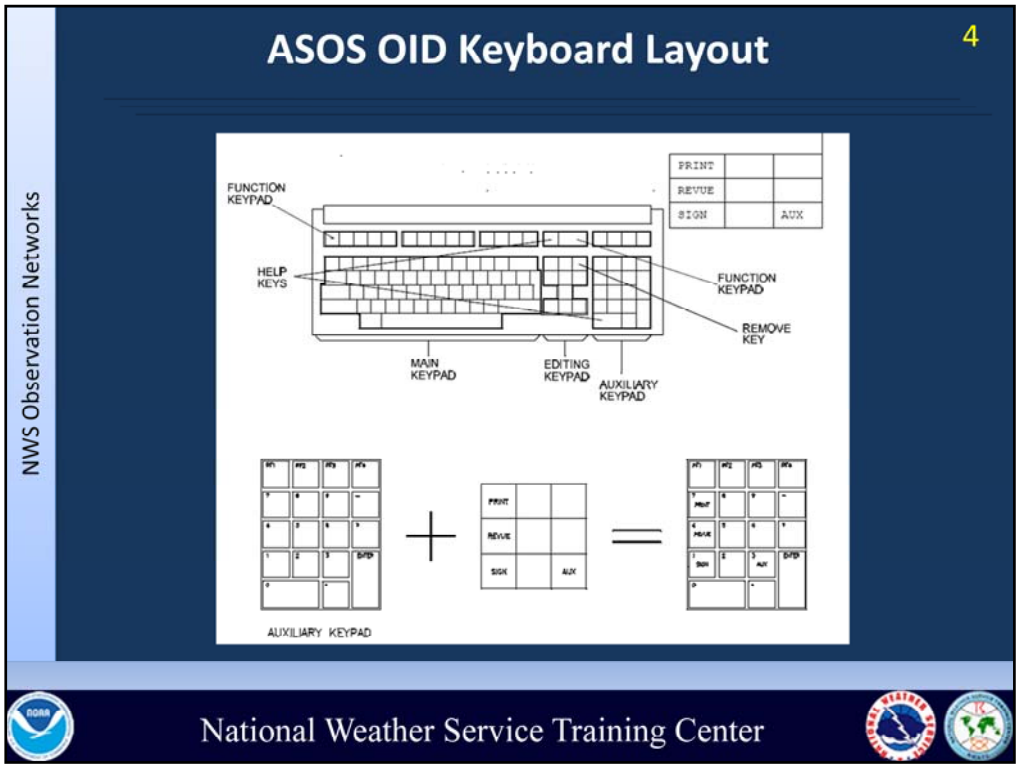
NWS Observation Networks

ASOS Operator Interface Device (OID)

- Background –
- Each year there are fewer NWS Staff with the practical skill to access important system information from an ASOS System. The need to accomplish this may be to remotely identify a problem, find system configuration data for metadata or SFC/Aviation inspection checklists, or to download observer edit-logs to verify that proper observing procedures are being followed at an observing location under NWS management.

- Objectives -
- The following training material will cover the OID access procedures needed to carry out mission critical functions in accordance with NWSIs 10-1301 and 10-1305…

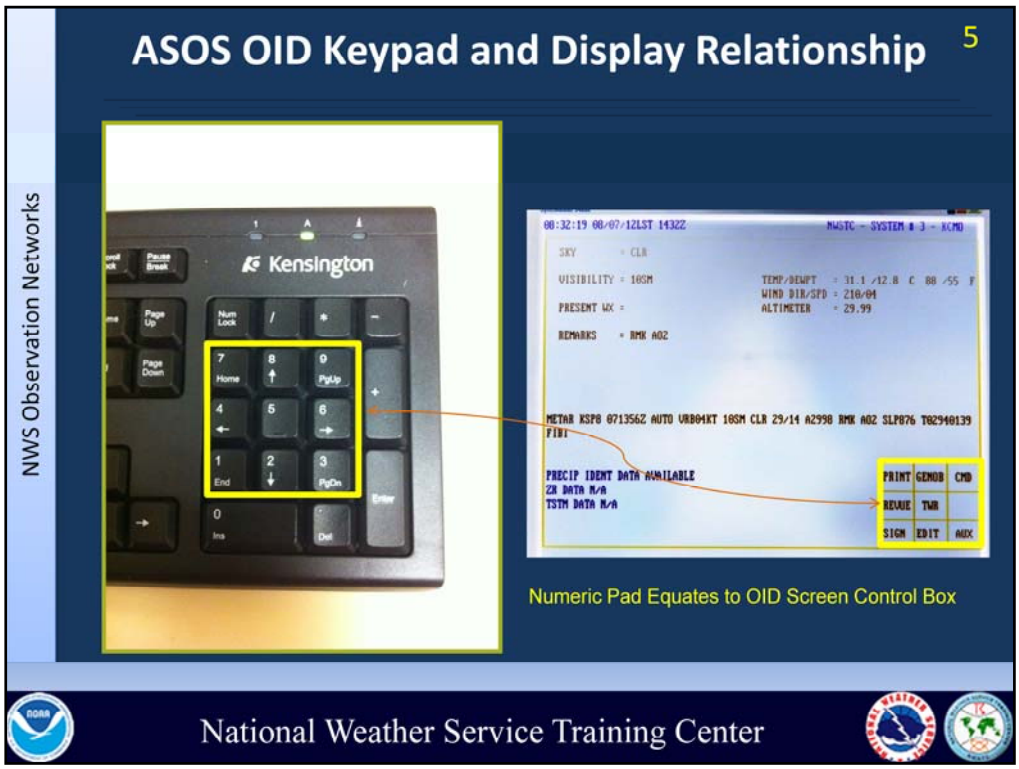

NWS Observation Networks
ASOS OID Access for Operational Purposes
3
• Direct or remote access to an ASOS OID can benefit your observational program management in the following ways:
1. Aviation Station Visits
A. Inspection checklist information (slides 10 thru 21)
B. Verification of default SPECI and SHEF settings (slides 22 thru 25)
2. Aviation Station Metadata
A. Data for NWS Forms A1 & A3 (slides 26 thru 30)
3. Station Climate Data
A. Daily and Monthly Summary data (slides 31 thru 36)
B. Station Normals data (slide 37)
4. METAR Data Quality Control
A. Troubleshoot sensor data (slides 38 thru 44)
B. Troubleshoot observer procedures using Edit Log (slide 19)
C. Recover disrupted AWPAG precipitation data (slides 45 thru 47)
National Weather Service Training Center



All the screen captures provided in this training material will represent a direct correlation between the ASOS numeric keypad and the corresponding access commands on the OID screen. These representations will also match the correlation between your laptop or office PC keyboard and the remote access screen once you've dialed into an ASOS using ProComm+ software.

The ASOS User's Guide (last issued March 1998) can also be used as a reference.

Your ASOS Electronics Technician, is an excellent resource for On-the-Job-Training (OJT) pertaining to OID functions and remote access.

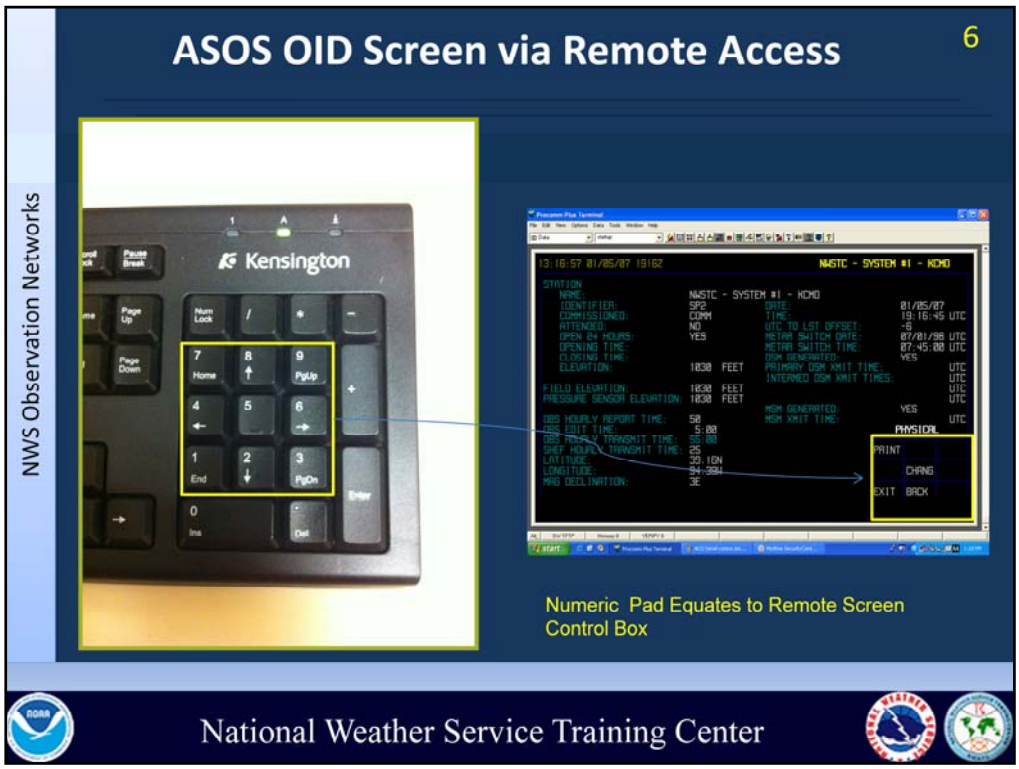


At staffed ASOS locations, up to two OIDs can be provided. The OID consists of a monitor and keyboard and provides interactive access to ASOS data through the Acquisition Control Unit (ACU). A primary OID is located at the designated primary observer location. At airports with air traffic control towers, an OID is also provided which may be designated either the primary or secondary OID, depending upon the primary observer location.

On-site users may "sign-on" to the ASOS OID in any one of four access levels with the proper password. Those four levels are:

1) Observer Level
2) Air Traffic Control (Tower) Level
3) Technician Level
4) System Manager Level

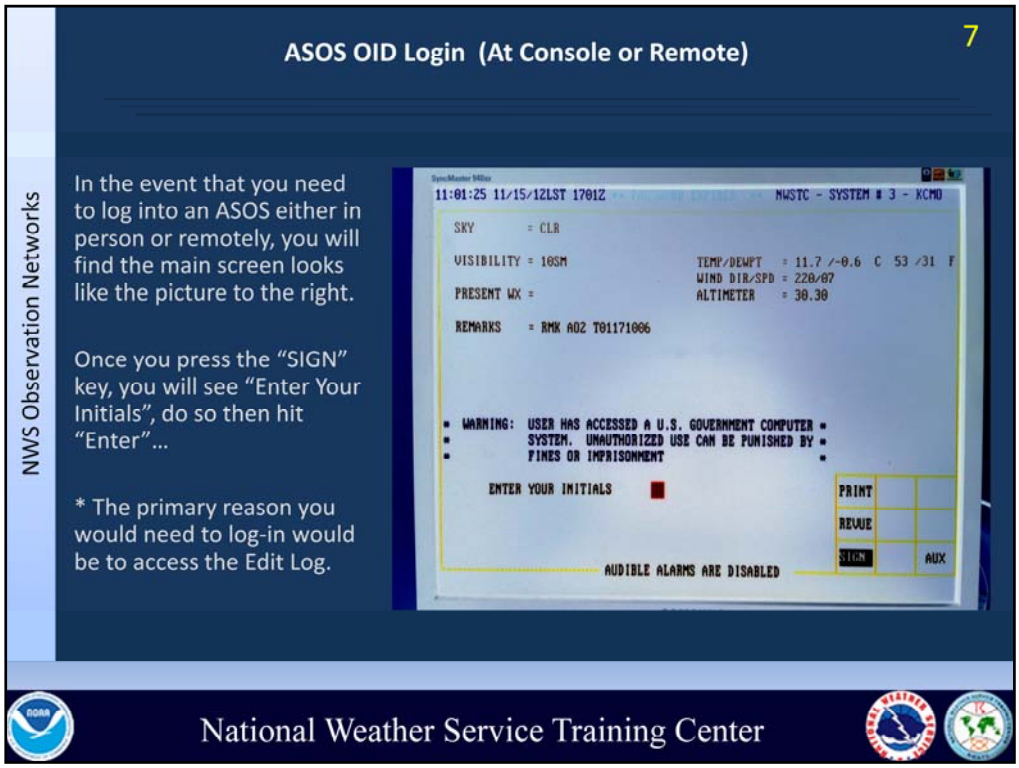
OID users in both the Observer Level and the Air Traffic Control Level can be signed on to the ASOS simultaneously, however no two users can be signed on in the Observer Level at the same time.



Remote OID users and remote interactive computer users my only sign on as:

1) Unsigned User
2) Technician
3) System Manager

It is not possible to remotely sign-on in the Observer Level or ATC Level. This prevents remote editing or augmenting of the ASOS data.



When performing a station visit in person to a site where observers are required to log into the ASOS to perform their duties, you should not have to log-in to perform your evaluation duties. An observer should always be logged into the ASOS and you can go to the OID and access the information you require. If no one is logged into the ASOS, there is a problem since no one is in control of the observational data. The likely scenario is that no one logged in during shift change and the system has gone past the 9 hour log-in window for the last person and the system has logged that last person out. The only time something like this should happen is if you show up at a part-time station during non-staffed hours.

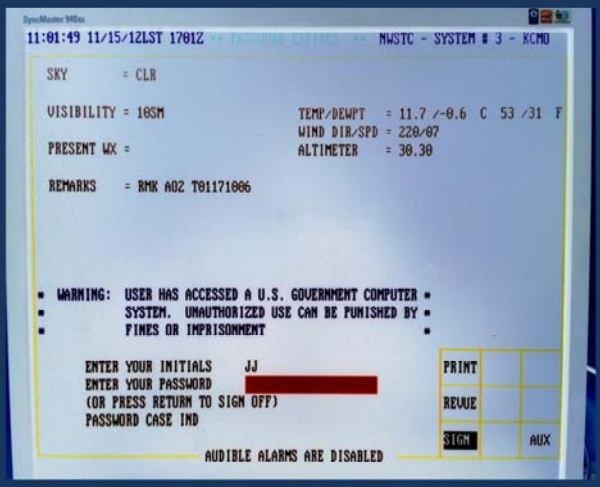
Using remote access (mainly ProComm dialup), you can dial into the ASOS and view nearly everything you need using the default access "Unsigned User". Again, if you have need to check the Edit Log, then you'll need to log in either as System Manager or ASOS Technician. Check with your Regional ASOS System Mgr or ESA/ASOS Eltech for the necessary passwords.

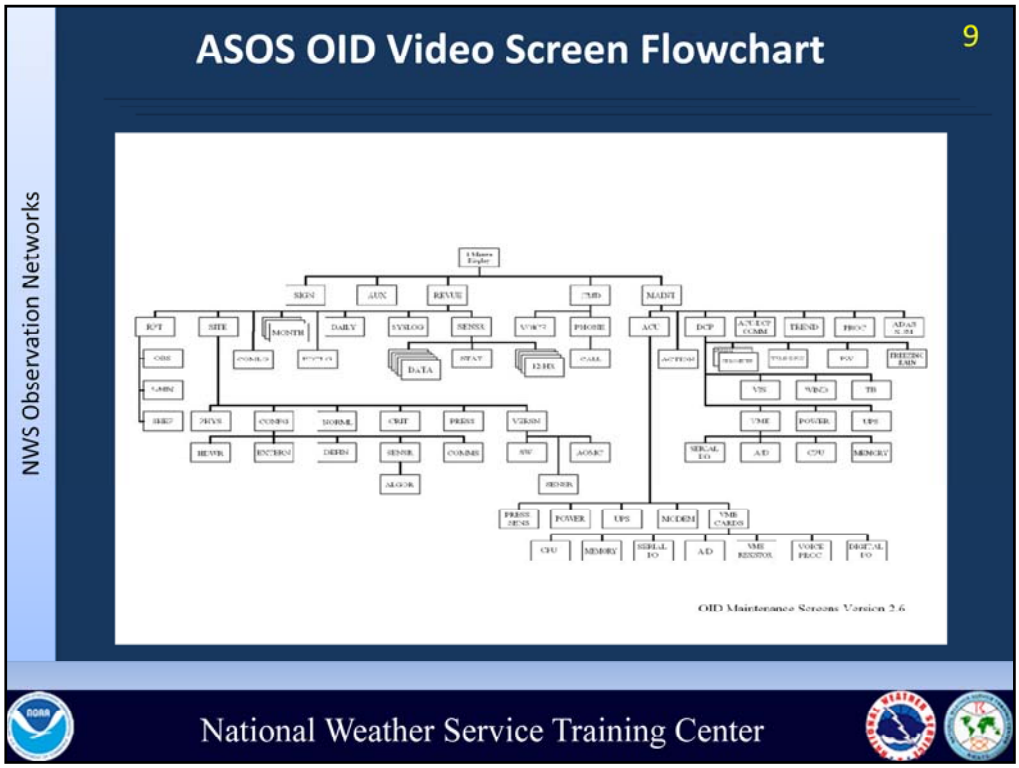
ASOS OID Login (At Console or Remote)

The password you enter will determine what type of access you will be granted.

You can obtain the passwords from your Regional ASOS System Mgr, or ASOS El-Tech.

* When you dial-in remotely your access defaults to "Unsigned User", without logging in, which lets you view info only.





The ASOS video screen flowchart above depicts the various information that can be accessed and the paths to reach specific information.

This flowchart dates back to ASOS Software version 2.6, the latest version is 3.05. The only significant change missing from this flowchart (for this presentation) is the current means to reach the Edit Log, which is available via the primary, 1 minute screen using LOG -> EDTLG, and only accessible when someone is logged in as Observer, Technician, or System Manager.

Aviation Inspection Checklist Page 1

NWS Observation Networks

ASOS Backup & Augmentation inspection site checklist entries are associated with "Rating" column "2" in the "non-shaded" blocks.

Page 1 of the checklist is shown to the right. There are no data requirements needed from the ASOS OID on this page…

WS FORM 10-13-9 (11-99) (Ref. NWSI 10-1301)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

AVIATION & SYNOPTIC OBSERVATION INSPECTION CHECKLIST

Observing Station		**Type of Facility:** ☐ ASOS ☐ AWOS ☐ Manual ☐ Other Describe Other _____
Date of Visit		**Service Standard Level** (for ASOS/AWOS Facilities): ☐ A ☐ B ☐ C ☐ D
Prepared by		☐ NWS ☐ NWSCMO ☐ FCWOS ☐ LAWRS ☐ NF-OBS ☐ S-Paid ☐ FSS ☐ SAWRS ☐ BSAWRS ☐ SAWRS-II ☐ A-Paid ☐ A-Voluntary ☐ Other _____
Title		
Supervising Station		

Instructions: Use this checklist during the inspection. Make entries and remarks as required or necessary. Use the appropriate column to rate the type of observing program you are inspecting, as identified below. Shaded box indicates this item is not normally used in this type of program. "NA" may be annotated when item is Non-Applicable.
Disposition: File this with the Station Inspection Report, WS Form B-33.

Type of Observing Program: Use the numbered column under "Rating" corresponding to the type of observing program listed below. Completely shaded boxes indicate "NA", but can be used if appropriate to that site.
1 – Non-Federal – SAWRS-manual; BSAWRS-backup of AWOS, SAWRS-II-backup of ASOS
2 – ASOS/ AWOS Backup & Augmentation – LAWRS, FCWOS, NF-OFS, NWS, NWSCMOS
3 – Manual, Federal – LAWRS, FCWOS, NWS, NWSCMO
4 – NWS Funded Manual – A-Paid, A-Voluntary, S-Paid

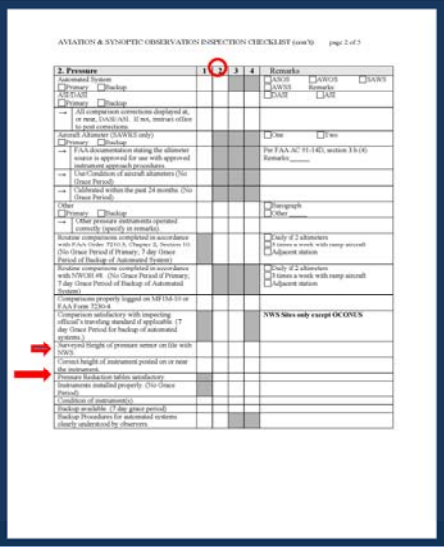
Ratings:
Rate each item with either a "√", "-", or "NA".
"√" can mean excellent, satisfactory, conditionally unsatisfactory, or yes.
"-" can mean unsatisfactory, conditionally unsatisfactory, or no.
An element receiving a "-" rating must have an explanation for corrective action to be taken or recommended procedures to follow.

Inspection Guide	Rating 1	2	3	4	Remarks Section
1. Arrangement of Facilities					Remarks
Location of observing site is adequate. (If no, explain in remarks)					☐Backup ☐Manual ☐Backup and Augmentation Remark _____
Location of weather sensors adequate					
Adequate safety devices (sufficient lighting, guardrails or stairs, etc).					
Location of ASOS ACU					
ASOS OID/AWOS OT in good condition					

Aviation Inspection Checklist Page 2

ASOS Backup & Augmentation inspection site checklist entries are associated with "Rating" column "2" in the "non-shaded" blocks.

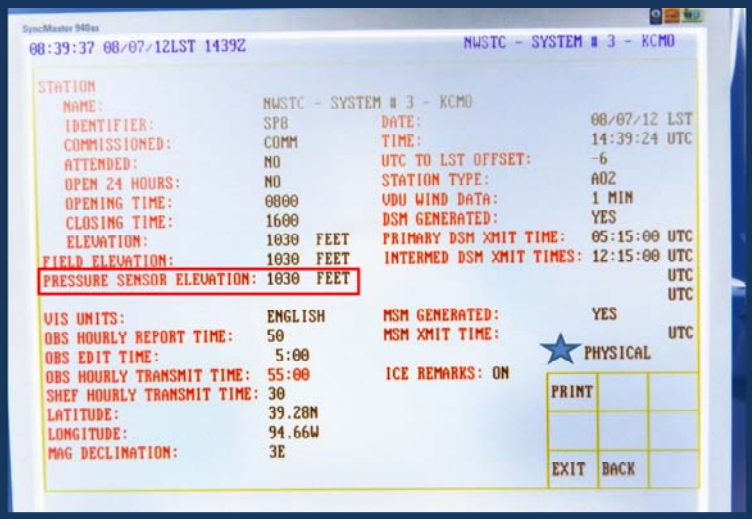
Page 2 of the checklist is shown to the right. There are two items highlighted by a red arrow , the "Surveyed Height of the ASOS Pressure Sensors" and "Pressure Reduction Tables". The next 2 pages show how to access the data…

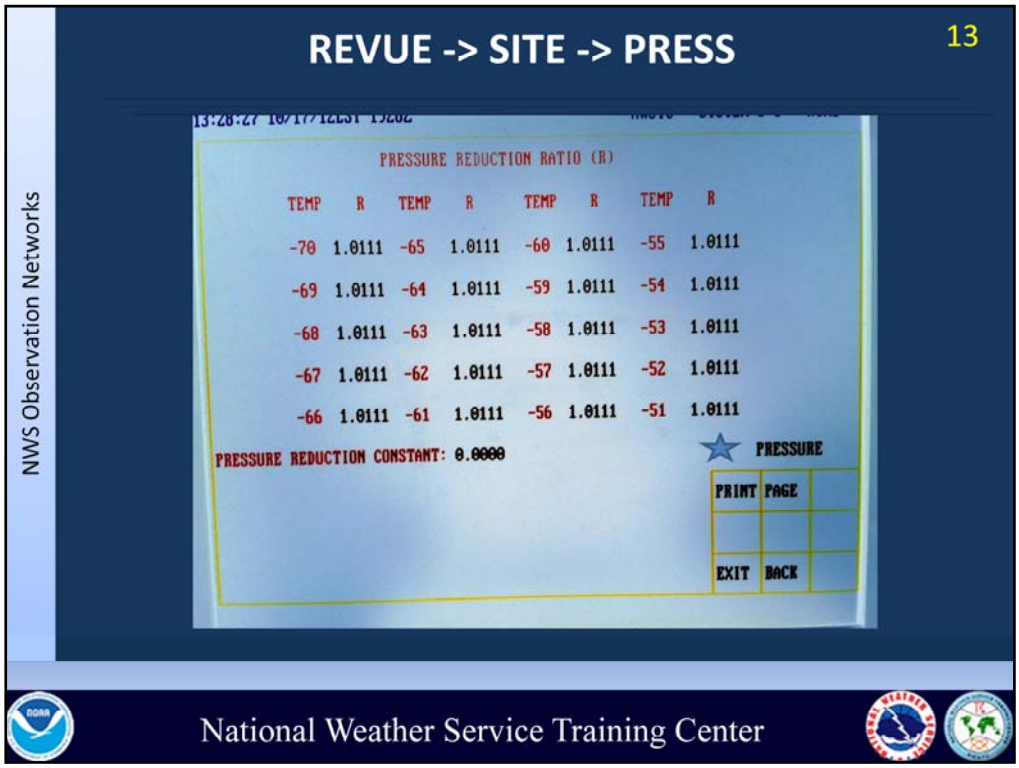


AVIATION & SYNOPTIC OBSERVATION INSPECTION CHECKLIST (cont'd) page 2 of 5

2. Pressure	1	2	3	4	Remarks
Automated System ☐Primary ☐Backup					☐ASOS ☐AWOS ☐SAWS ☐AWSS Remarks ☐AMS ☐AMOS
ASOS/AMOS ☐Primary ☐Backup					
→ All comparison corrections displayed at, or near, DAS/AIS. If not, instruct office to post corrections					
Aircraft Altimeter (SAWRS only) ☐Primary ☐Backup					☐One ☐Two
→ FAA documentation stating the altimeter source is approved for use with approved instrument approach procedures					Per FAA AC 91-14D, section 3.b.(4) Remarks:_____
→ Use/Condition of aircraft altimeters (No Grace Period)					
→ Calibrated within the past 24 months. (No Grace Period)					
Other ☐Primary ☐Backup					☐Barograph ☐Other_____
→ Other pressure instruments operated correctly (specify in remarks)					
Routine comparisons completed in accordance with FAA Order 7210.3, Chapter 2, Section 10 (No Grace Period if Primary; 7 day Grace Period if Backup of Automated System)					☐Only if 2 altimeters ☐3 times a week with ramp aircraft ☐Adjacent station
Routine comparisons completed in accordance with NWSH 48. (No Grace Period if Primary; 7 day Grace Period of Backup of Automated System)					☐Only if 2 altimeters ☐3 times a week with ramp aircraft ☐Adjacent station
Comparisons properly logged on MFSM-10 or FAA Form 7230-4					
Comparison satisfactory with inspecting official's traveling standard if applicable. (7 day Grace Period for backup of automated systems.)					**NWS Sites only except OCONUS**
Surveyed Height of pressure sensor on file with NWS					
Correct height of instrument posted on or near the instrument.					
Pressure Reduction tables satisfactory					
Instruments installed properly. (No Grace Period)					
Condition of instrument(s)					
Backup available. (7 day grace period)					
Backup Procedures for automated systems clearly understood by observers					

REVUE -> SITE -> PHYS





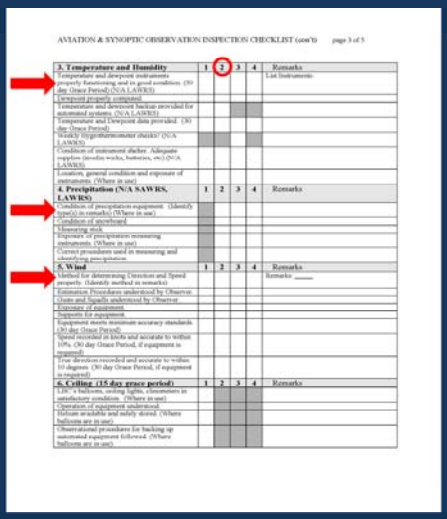
Other than going to this screen to acknowledge the "R-Values" for the ASOS and check the box on page 2 of the Inspection Checklist, about the only other time someone would need to look up the R-Values, would be if someone started to question the accuracy of altimeter or sea level pressure data. R-Values were loaded as part of the system initialization, so the only entities who have the authority to change R-Values are the Regional ASOS Manager or the AOMC. All you can do locally at the WFO is verify the values match the initial data, if you have a copy of the original R-Values that came with the site commissioning package.

Aviation Inspection Checklist Page 3

NWS Observation Networks

ASOS Backup & Augmentation inspection site checklist entries are associated with "Rating" column "2" in the "non-shaded" blocks.

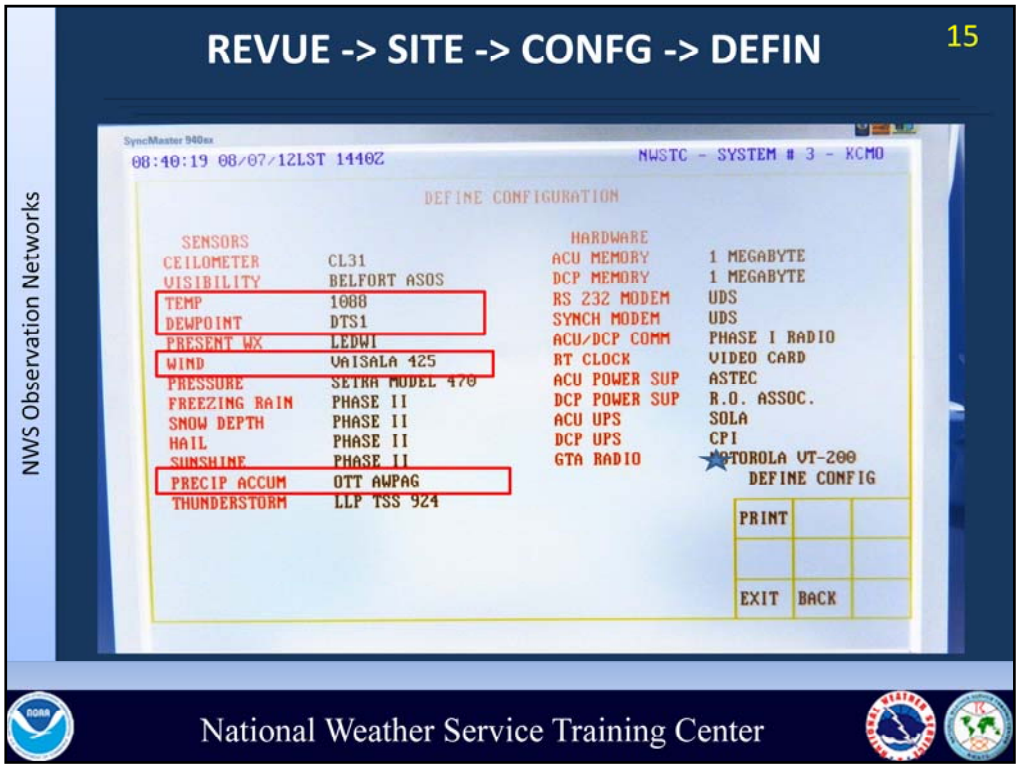
Page 3 of the checklist is shown to the right. There are 3 items highlighted by a red arrow where you will need to identify the type of equipment configured for the ASOS. The next page will show how to access the data…



AVIATION & SYNOPTIC OBSERVATION INSPECTION CHECKLIST (con't) page 3 of 5

3. Temperature and Humidity	1	2	3	4	Remarks
Temperature and dewpoint instruments properly functioning and in good condition. (30 day Grace Period) (N/A LAWR)					List Instruments:
Dewpoint properly computed					
Temperature and dewpoint backup provided for automated systems. (N/A LAWR)					
Temperature and Dewpoint data provided. (30 day Grace Period)					
Wetbulb Hygrothermometer checks? (N/A LAWR)					
Condition of instrument shelter. Adequate supplies (thwaite wicks, batteries, etc.) (N/A LAWR)					
Location, general condition and exposure of instruments. (Where in use)					
4. Precipitation (N/A SAWRS, LAWRS)	**1**	**2**	**3**	**4**	**Remarks**
Condition of precipitation equipment. (Identify type(s) in remarks) (Where in use)					
Condition of snowboard					
Measuring stick					
Shipment of precipitation measuring instruments. (Where in use)					
Correct procedures used in measuring and identifying precipitation					
5. Wind	**1**	**2**	**3**	**4**	**Remarks**
Method for determining Direction and Speed properly. (Identify method in remarks)					Remarks ____
Estimation Procedures understood by Observer					
Units and Signals understood by Observer					
Exposure of equipment					
Supports for equipment					
Equipment meets minimum accuracy standards (30 day Grace Period)					
Speed recorded in knots and accurate to within 10%. (30 day Grace Period, if equipment is required)					
True direction recorded and accurate to within 10 degrees. (30 day Grace Period, if equipment is required)					
6. Ceiling (15 day grace period)	**1**	**2**	**3**	**4**	**Remarks**
LDC's balloons, ceiling lights, ceilometers in satisfactory condition. (Where in use)					
Operation of equipment understood.					
Helium available and safely stored. (Where balloons are in use)					
Observational procedures for backing up automated equipment followed. (Where balloons are in use)					

National Weather Service Training Center



The following model of sensors are configured with this particular ASOS, which should be noted on the Inspection Checklist, and documented on the station A1/A3 metadata forms:

Temperature Sensor: (1088) Hygrothermometer, which can also provide dew point data.

Dew point Sensor: Dewpoint Temperature System -1, (DTS1)

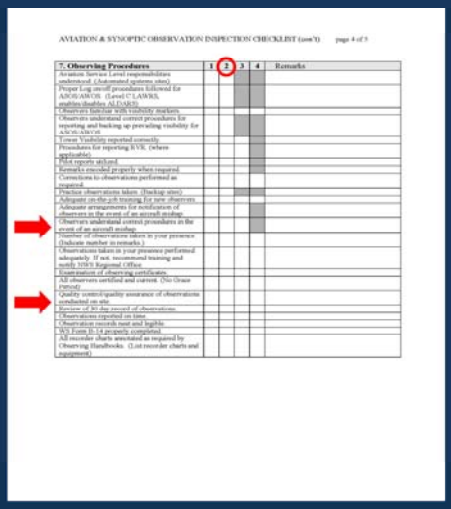
Wind Sensor: Vaisala 425, aka Ice-Free Wind (IFW)… Otherwise, you will find the BELFORT 2000 listed (Wind Vane/Anemometer)

NWS Observation Networks

Aviation Inspection Checklist Page 4

ASOS Backup & Augmentation inspection site checklist entries are associated with "Rating" column "2" in the "non-shaded" blocks.

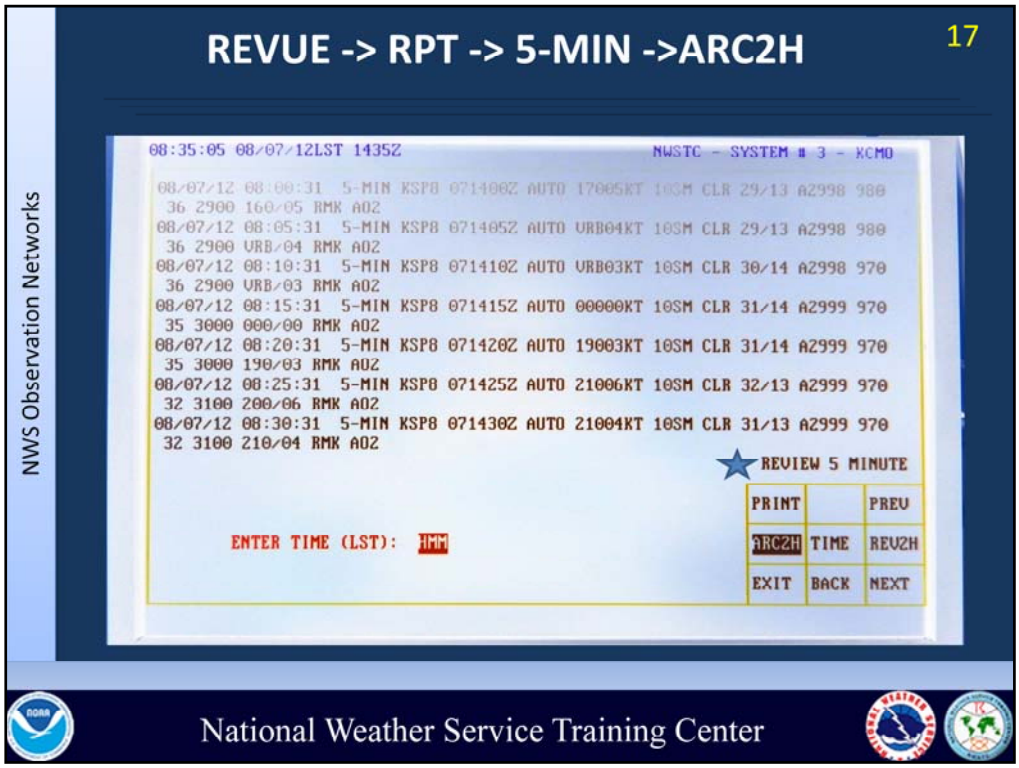
Page 4 of the checklist is shown to the right. There are 2 items highlighted by a red arrow where you can show how to initiate 2hr archive for an aircraft mishap and look at recent hourlies and edit logs to QC obs. The next 3 pages will show how to access the data…



AVIATION & SYNOPTIC OBSERVATION INSPECTION CHECKLIST (cont'd) page 4 of 5

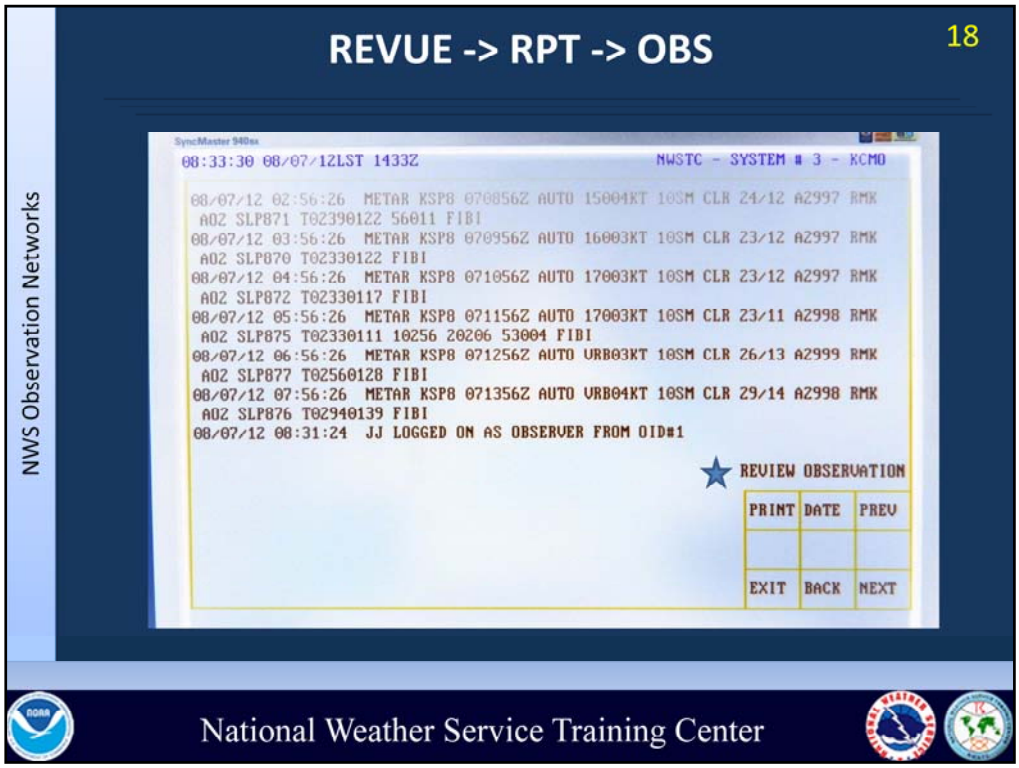
7. Observing Procedures	1	2	3	4	Remarks
Aviation Service Level responsibilities understood. (Automated systems sites)					
Proper Log on/off procedures followed for ASOS/AWOS. (Level C/LAWRS, enables/disables ALTAIR)					
Observers familiar with visibility markers.					
Observers understand correct procedures for reporting and backing up prevailing visibility for ASOS/AWOS					
Tower Visibility reported correctly.					
Procedures for reporting RVR. (where applicable)					
Pilot reports utilized.					
Remarks encoded properly when required.					
Corrections to observations performed as required.					
Practice observations taken. (Backup sites)					
Adequate on-the-job training for new observers.					
Adequate arrangements for notification of observers in the event of an aircraft mishap.					
Observers understand correct procedures in the event of an aircraft mishap.					
Number of observations taken in your presence. (Indicate number in remarks.)					
Observations taken in your presence performed adequately. If not, recommend training and notify ISSS Regional Office.					
Examination of observing certificates.					
All observers certified and current. (No Grace period)					
Quality control/quality assurance of observations conducted on site.					
Review of 30 day record of observations.					
Observations reported on time.					
Observation records neat and legible.					
WS Form B-14 properly completed.					
All recorder charts annotated as required by Observing Handbooks. (List recorder charts and equipment)					

National Weather Service Training Center



FAA or CWO run ASOS sites are instructed by the 7900.5x (Section 4.9, Pg 24) to call the AOMC to begin 2 hour archive of 5 minute data upon notification of an Aircraft Mishap.

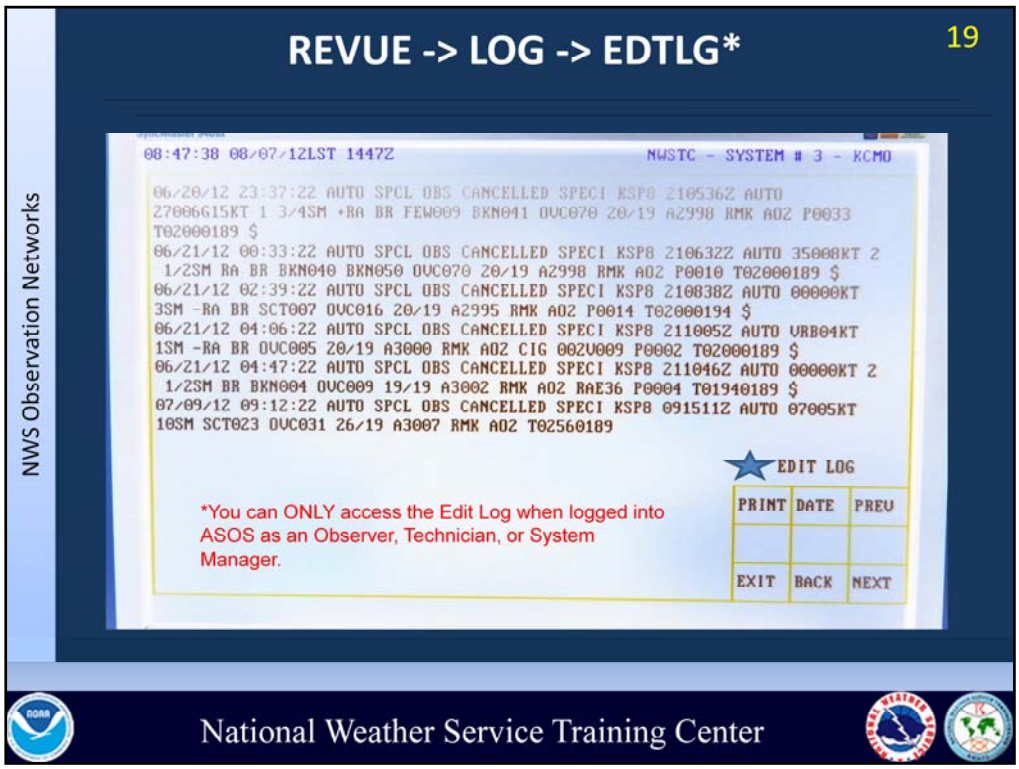
NWS staffed ASOS sites (mainly OCONUS) typically instruct employees how to manually initiate the 2 hour archive of 5 minute data via the OID, in lieu of, or in addition to calling the AOMC for Aircraft Mishaps. Either way is acceptable, as long as the Observer/s on shift during your inspection know how to initiate either procedure, or at the very minimum, know where to find the instructions on what to do. I used to quickly show available FAA staff how to do it manually in the event of a communications failure, as most seemed unaware they could do it on the OID.



While most WFO staff will use web-based METAR archived data to look at for QC purposes across their CWA. When an NWSREP in on the road accomplishing data acquisition trips, they may not have the same access to information. While performing an inspection at an ASOS site the NWSREP can use this OID data screen to look at recent METAR and SPECI observations in the event something pertaining to the transmitted data needs to be discussed with the FAA/CWO Station Manager.

During an inspection I always like to check with the Station Manager about their METAR/SPECI QA/QC procedures to see how they access the data since few, if any FAA/CWO sites have printers connected to the ASOS. As long as they can show me that they either use the internet or the OID to verify and check transmitted obs and have a means to notify observers of their errors, then I can assume their station QA/QC program exists. If they can't show me that they use any of these procedures and strictly check their MF1-10C forms when they augment or edit the ASOS data (which, percentage-wise is a small % of the obs taken) I will note this in the inspection report for the FAAs' action.

*Remember, it is not for us (NWS) to tell the FAA/CWOs how to run their programs, only to check that they are doing the required procedures.



Another means of METAR/SPECI data QC is to access the ASOS Edit Log. This is particularly useful when someone (Forecaster, FAA/CWO Station Mgr, NWSREP, Regional ASOS Mgr, etc.) have questions as to whether or not an Observer is properly controlling the ASOS output (e.g. unreasonably cancelling ASOS generated SPECIs, not cancelling ASOS generated SPECIs when conditions warrant, editing or not editing ceiling or visibility data as conditions warrant, etc…)

This is the one means (without being present at the time of observation) to see how well an observer controls the ASOS output during times of changing weather, and can give an FAA/CWO Station Manager or Regional OSPM, OPL, NWSREP an indication that a particular observer is or is not following proper observing procedures.

* Since you cannot remotely log into an ASOS as an Observer most Obs people will check ASOS remotely logged in as an Unsigned User, which provides access to nearly all data, without editing capability. However, if you need to access the Edit Log, you can ask your ASOS Eltech to log-in and their access will allow you to reach this page, since very few people outside of NWSH and the RHs can access an ASOS using the System Manager level.

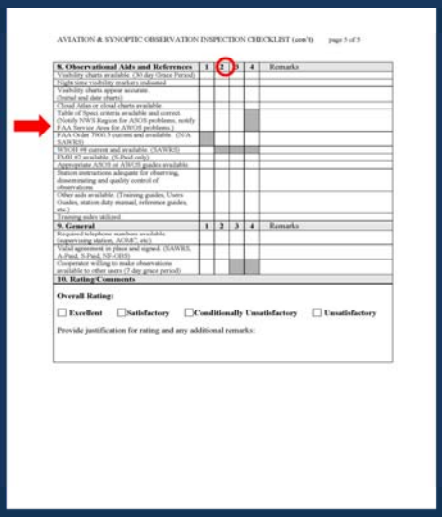
If corrective action is needed due to your findings in the Edit Log, performing screen captures to get an electronic version of the data via Remote access is one of the easiest ways to document the problem. Again, in dealing with FAA or CWO personnel, the NWS does not have the right to directly take corrective action with the employee. The evidence must be provided to the FAA Station Manager, or Regional Contracting Officer/Contracting Officers Technical Representative for action.

Aviation Inspection Checklist Page 5

NWS Observation Networks

ASOS Backup & Augmentation inspection site checklist entries are associated with "Rating" column "2" in the "non-shaded" blocks.

Page 5 of the checklist is shown to the right. There is 1 item highlighted by a red arrow. While this does not require to verify SPECI criteria in ASOS, both the Table and the criteria in ASOS should match. The next page will show how to access the data…



AVIATION & SYNOPTIC OBSERVATION INSPECTION CHECKLIST (cont'd) page 5 of 5

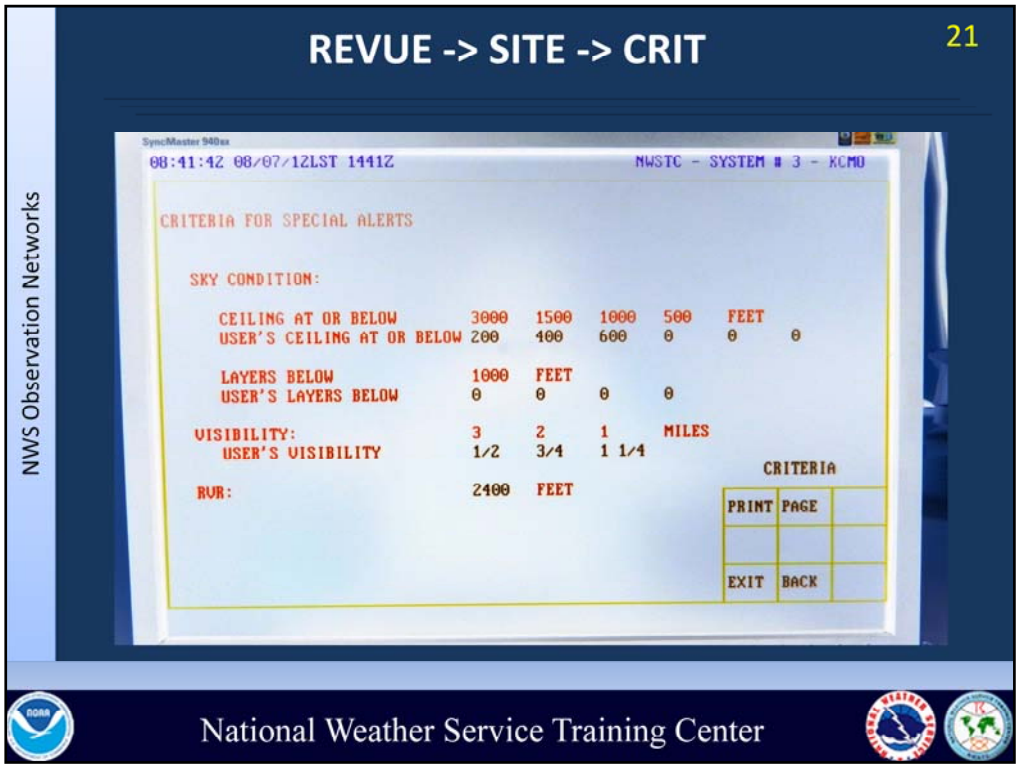
8. Observational Aids and References	1	2	3	4	Remarks
Visibility charts available. (30 day Grace Period)					
Visible time visibility marker's indicated.					
Visibility charts appear accurate. (Initial and date chart)					
Cloud Atlas or cloud charts available.					
Table of Specs criteria available and correct. (Notify NWS Region for ASOS problems; notify FAA Service Area for AWOS problems.)					
FAA Order 7900.5 current and available. (NOT SAWRS)					
WSOH #8 current and available. (SAWRS)					
FMH #3 available. (26 Pond only)					
Appropriate ASOS or AWOS guides available.					
Station instructions adequate for observing, disseminating and quality control of observations.					
Other aids available. (Training guides, Users Guides, station duty manual, reference guides, etc.)					
Training aides utilized					
9. General	**1**	**2**	**3**	**4**	**Remarks**
Required telephone numbers available. (supervising station, AGOR, etc).					
Valid agreement in place and signed. (SAWRS, A-Pond, S-Pond, NF-CEO)					
Cooperator willing to make observations available to other users (7 day grace period)					

10. Rating/Comments

Overall Rating:

☐ **Excellent** ☐ **Satisfactory** ☐ **Conditionally Unsatisfactory** ☐ **Unsatisfactory**

Provide justification for rating and any additional remarks:

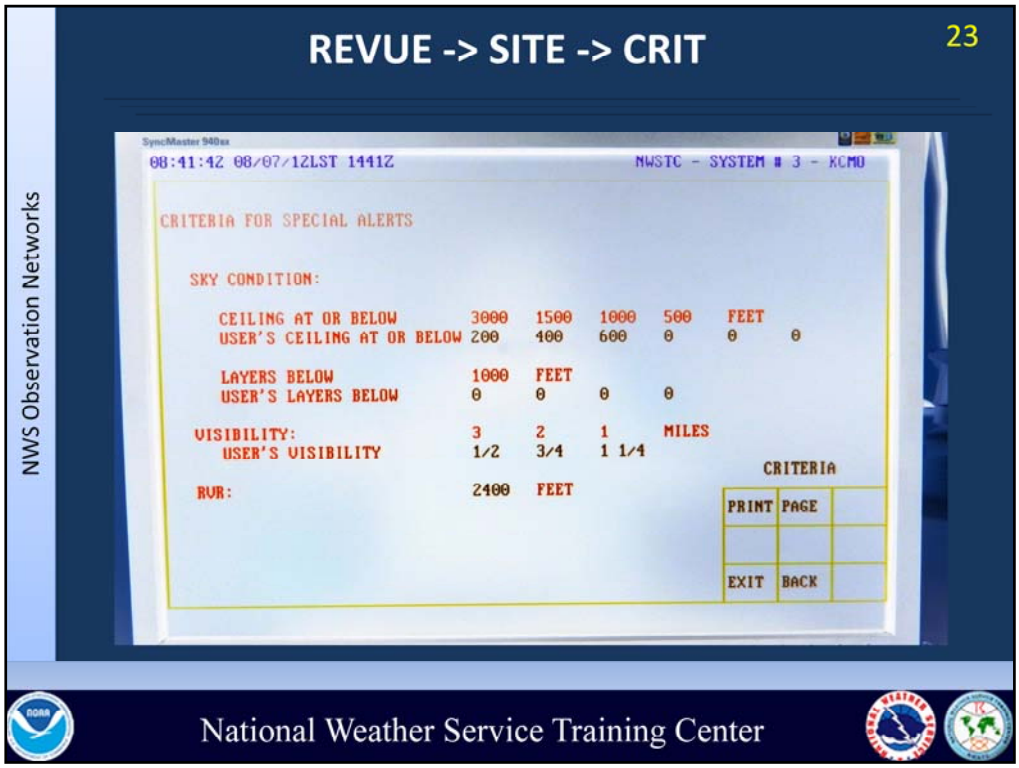


SPECI Criteria Settings for the ASOS

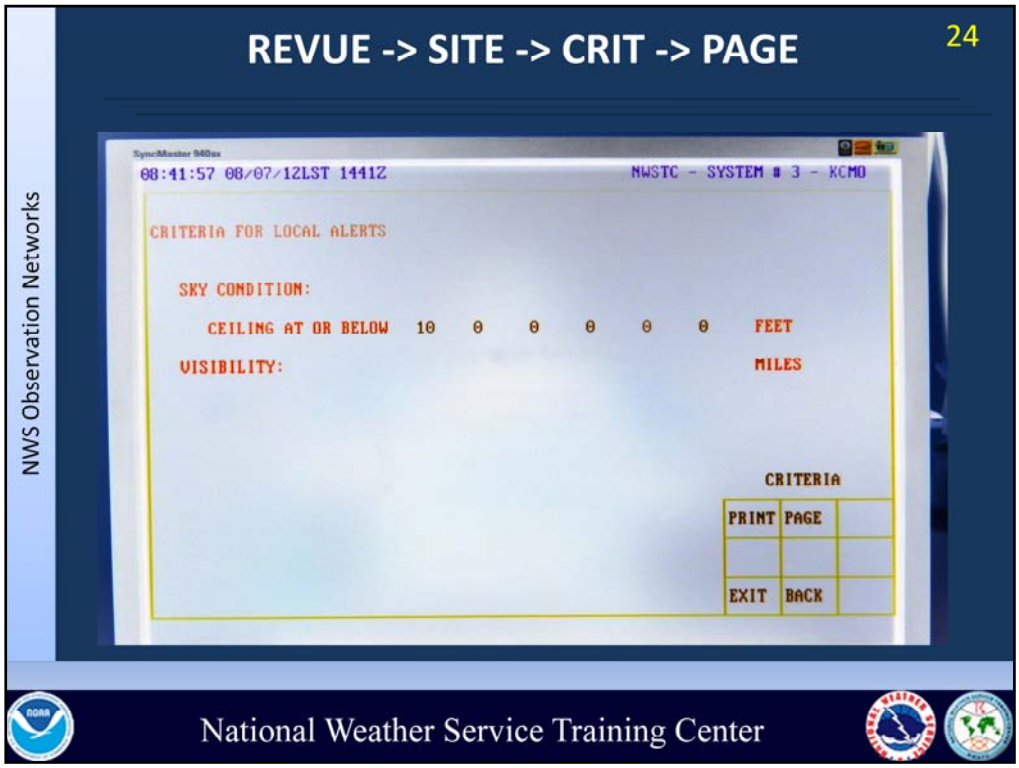
NWS Observation Networks

SPECI Criteria Settings Verification

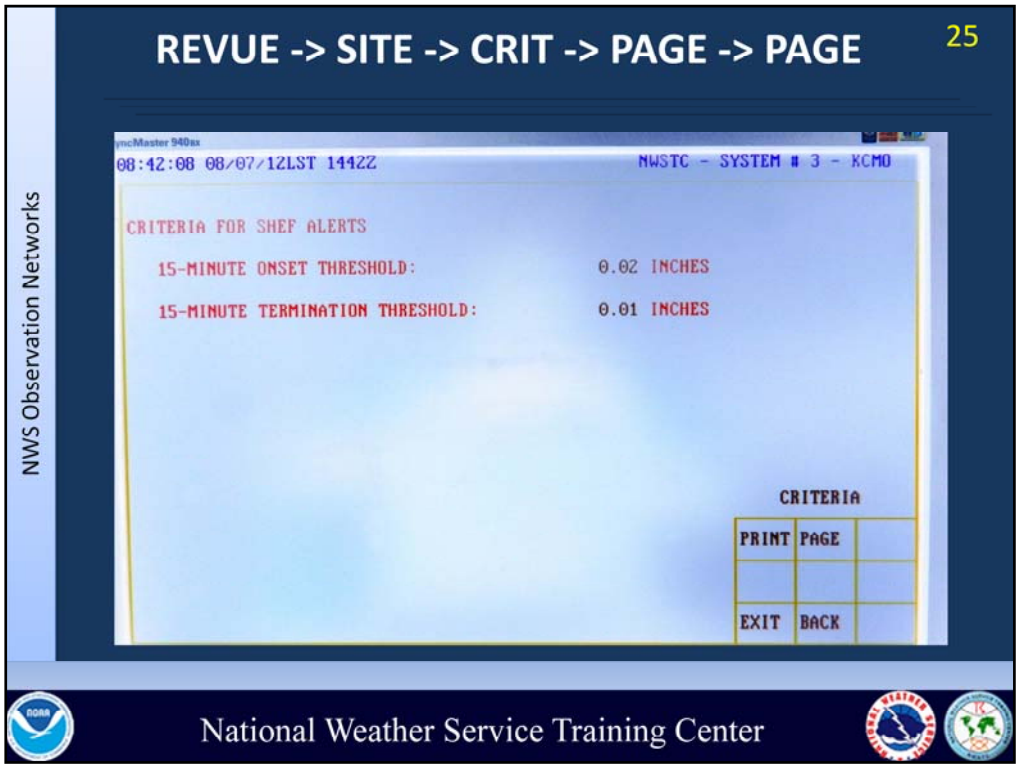
- Within the NWS Learning Center, there is an aviation training module called "Introduction to Categorical Amendment Criteria (CAC)." Part of that training contains a section called "CAC in AvnFPS" and within that contains a module called "Determining CAC for your Airports" http://www.nws.noaa.gov/mdl/pptb/AvnFPS/CAC/Determining%20CAC.pdf
- The module provides Aviation Forecasters with the ability to read an FAA Terminal Procedures Publication, or what used to be referred to as an *Airport "Flip" Chart*, to find that airports Landing Minimums.
- As an Aviation Station Inspector checking an ASOS site, it is a ***best practice*** to verify the SPECI Criteria to make sure the ASOS will initiate a SPECI observation when airport minimum criteria is met. This can be accomplished on-site or remotely if criteria is questioned by a forecaster.
- In the event that you find the criteria does not match the FAA Published Landing Minimums, you should document the discrepancy and forward the information to your WFO Aviation Focal Point and Regional ASOS Systems Manager. Changing SPECI Criteria can only be accomplished with the RASM approval and at the System Manager access level.
- The following slides will show you how to access the SPECI Criteria data.



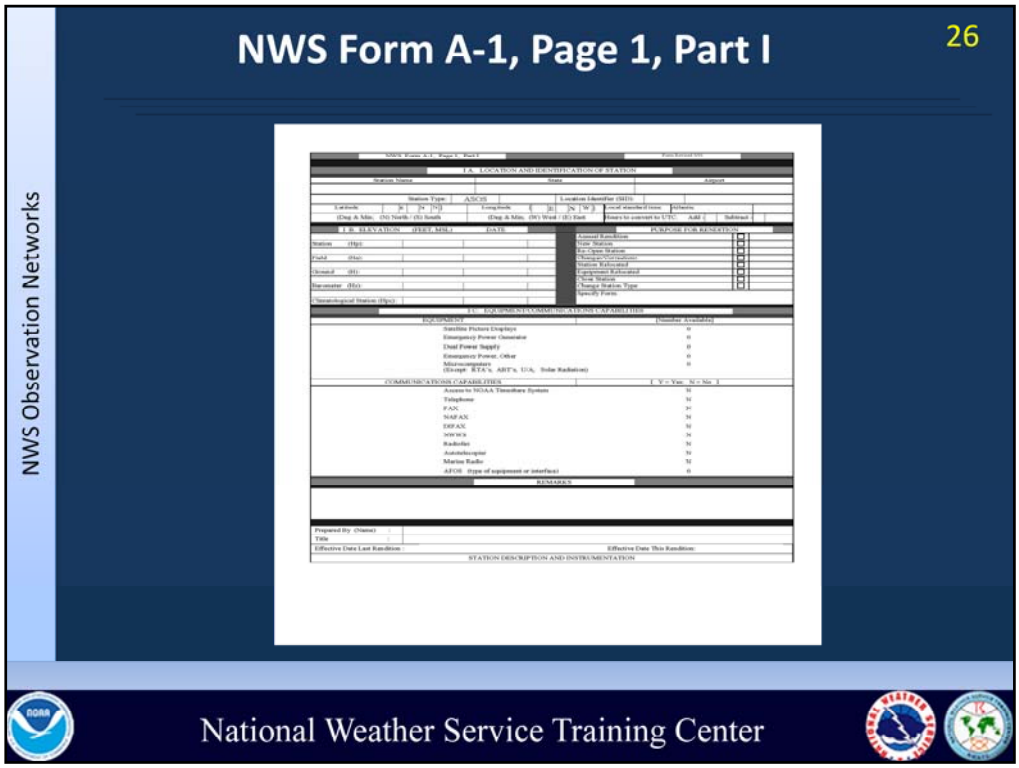
SPECI Criteria Settings for the ASOS



Local SPECI Criteria Settings for the ASOS Page 2



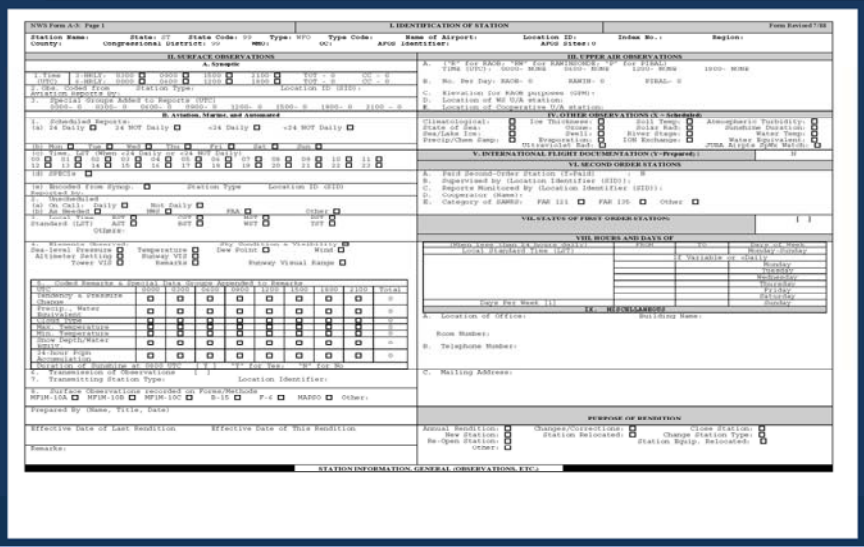
SHEF Precip. Alert Criteria



NWSH, OS7 issued an Operational Memo dated 12/10/10 on Metadata requirements. Please check with your Regional Observing Program Manager if you do not have the memo or the necessary information to properly fill out the forms and where they should be submitted to…

NWS Observation Networks

NWS Form A-3, Page 1



I. IDENTIFICATION OF STATION

II. SURFACE OBSERVATIONS

III. UPPER AIR OBSERVATIONS

IV. OTHER OBSERVATIONS (X = Scheduled)

V. INTERNATIONAL FLIGHT DOCUMENTATION (X = Prepared)

VI. SECOND-ORDER STATIONS

VII. STATUS OF FIRST-ORDER STATION

VIII. HOURS AND DAYS OF

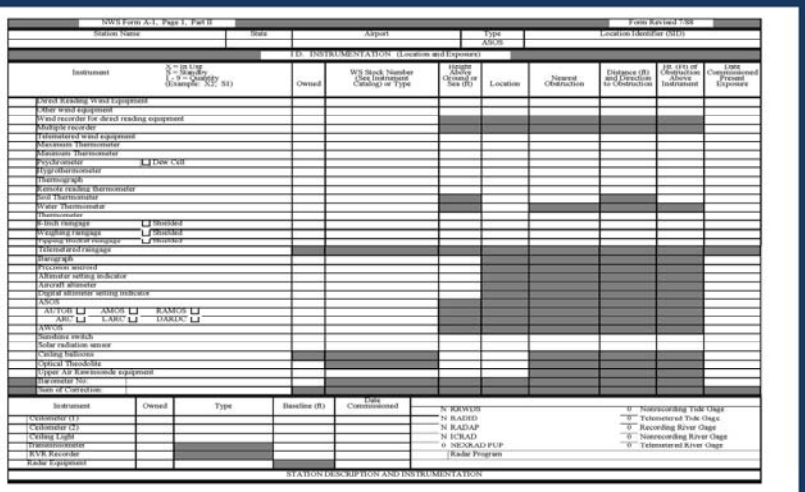
IX. REMARKS

PURPOSE OF RENDITION

STATION INFORMATION, GENERAL (OBSERVATIONS, ETC.)

NWS Observation Networks

NWS Form A-1, Page 1, Part II



NWS Form A-1, Page 1, Part II — Form Revised 1/88

Station Name	State	Airport	Type	Location Identifier (MID)
			ASOS	

II. INSTRUMENTATION (Location and Exposure)

Instrument (X = in Use; S = Standby; 1 - 9 = Quantity (Example: X2; S1))	Owned	WS Stock Number (See Instrument Catalog) or Type	Height Above Ground or Sea (ft)	Location	Nearest Obstruction	Distance (ft) and Direction to Obstruction	(R, (H)) of Obstruction Above Instrument	Date Commissioned Present Exposure
Aloud Reading Wind Equipment								
Other wind equipment								
Wind recorder for aloud reading equipment								
Multiple recorder								
Telemetered wind equipment								
Maximum Thermometer								
Minimum Thermometer								
Psychrometer ☐ Dew Cell								
Hygrothermometer								
Thermograph								
Remote reading thermometer								
Sea Thermometer								
Water Thermometer								
Thermometer								
8-inch raingage ☐ Shielded								
Weighing raingage ☐ Shielded								
Tipping bucket raingage ☐ Shielded								
Telemetered raingage								
Barograph								
Precision aneroid								
Altimeter setting indicator								
Aircraft altimeter								
Digital altimeter setting indicator								
ASOS AU-TOS ☐ AMOS ☐ RAMOS ☐ — ARU ☐ LARS ☐ UASDC ☐								
AWOS								
Sunshine switch								
Solar radiation sensor								
Ceiling balloon								
Optical Theodolite								
Upper Air Rawinsonde equipment								
Barometer No:								
Sum of Correction								

Instrument	Owned	Type	Baseline (ft)	Date Commissioned
Ceilometer (1)				
Ceilometer (2)				
Ceiling Light				
Transmissometer				
RVR Recorder				
Radar Equipment				

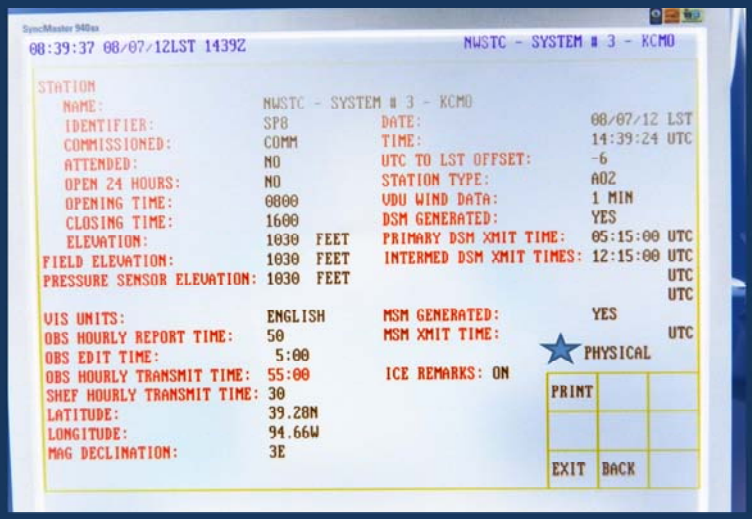
N	RWIS	0	Nonrecording Tide Gage
N	RADD	0	Telemetered Tide Gage
N	RADAP	0	Recording River Gage
N	ICRAD	0	Nonrecording River Gage
0	NEXRAD PUP	0	Telemetered River Gage
	Radar Program		

STATION DESCRIPTION AND INSTRUMENTATION

National Weather Service Training Center

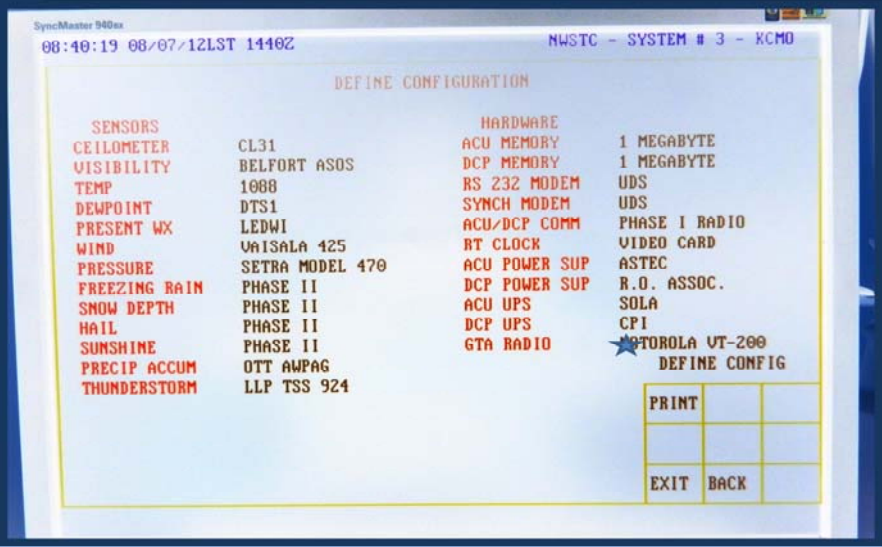
REVUE -> SITE -> PHYS

NWS Observation Networks

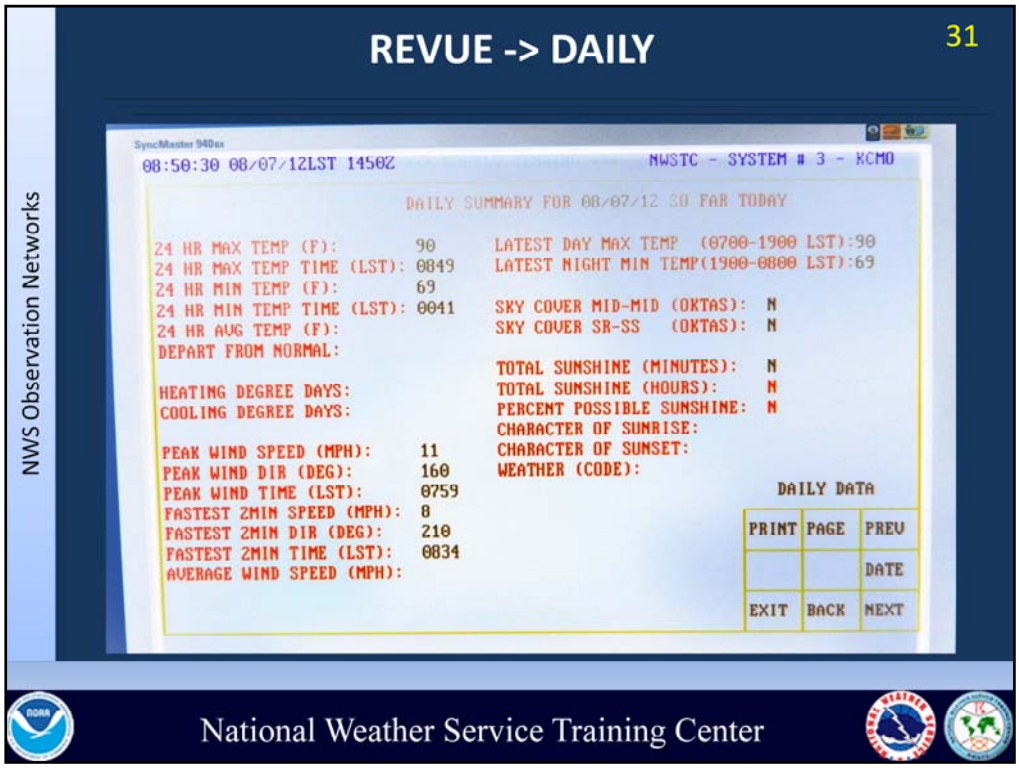


NWS Observation Networks

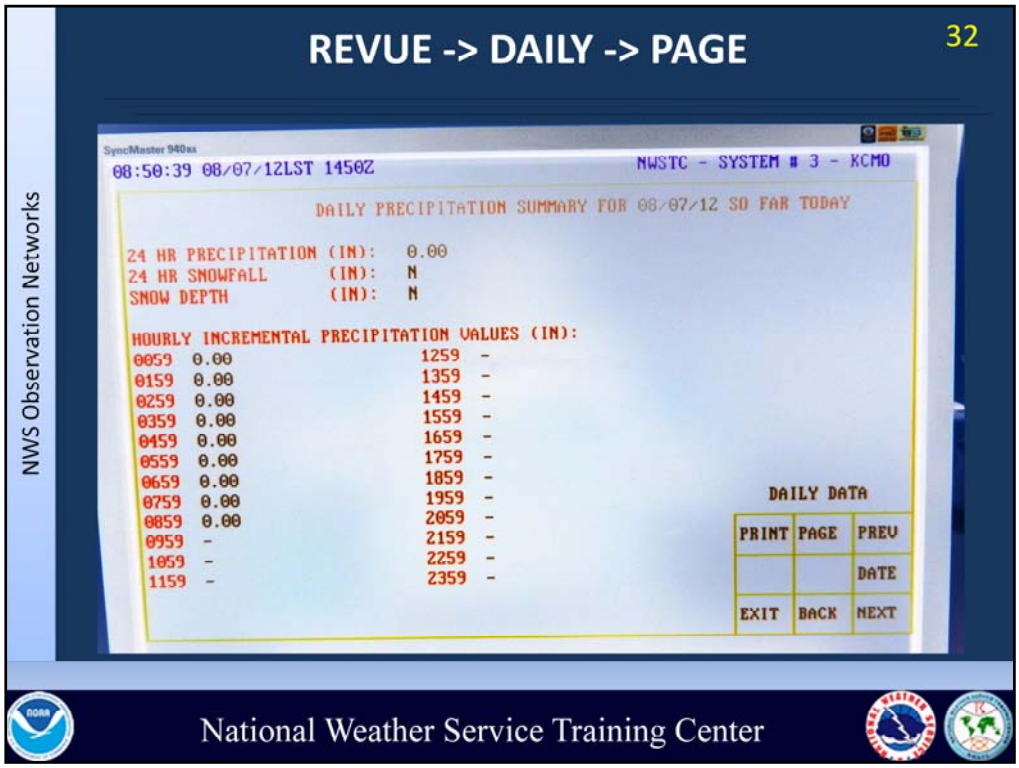
REVUE -> SITE -> CONFG -> DEFIN



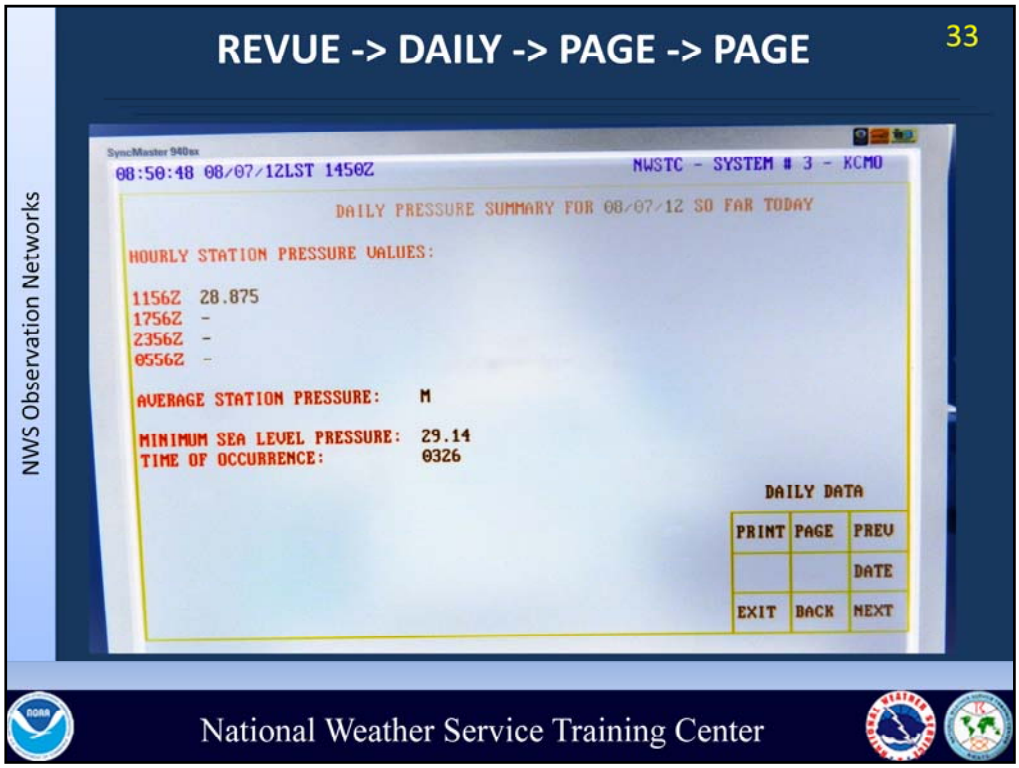
National Weather Service Training Center



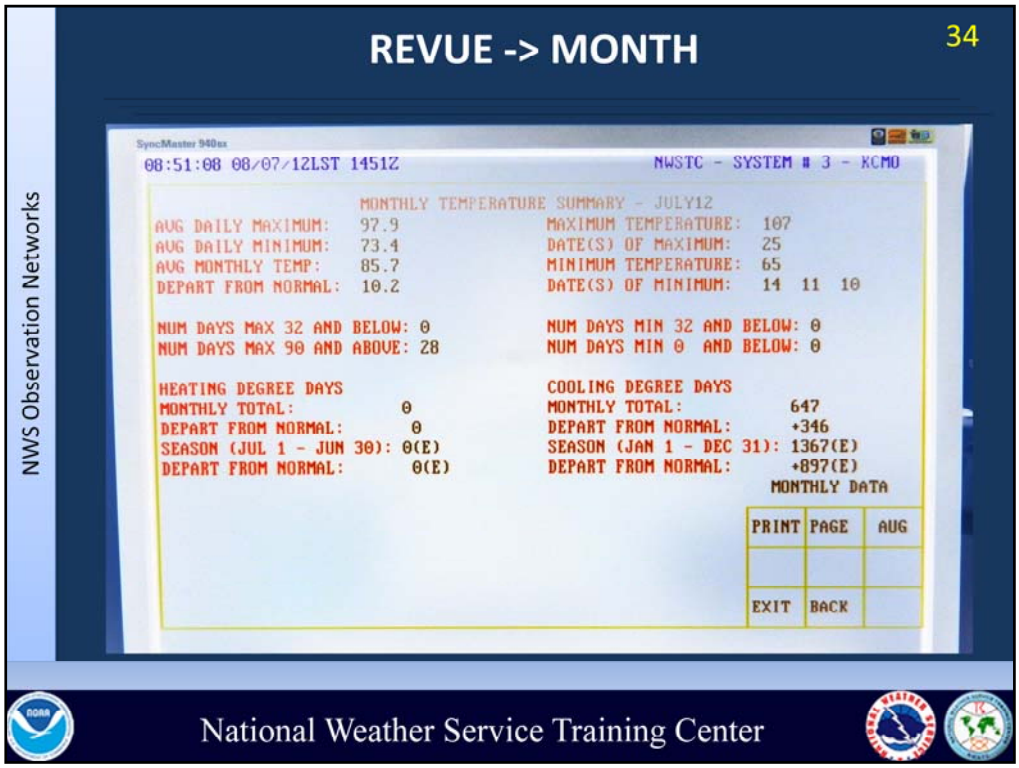
Daily Climate Summary data



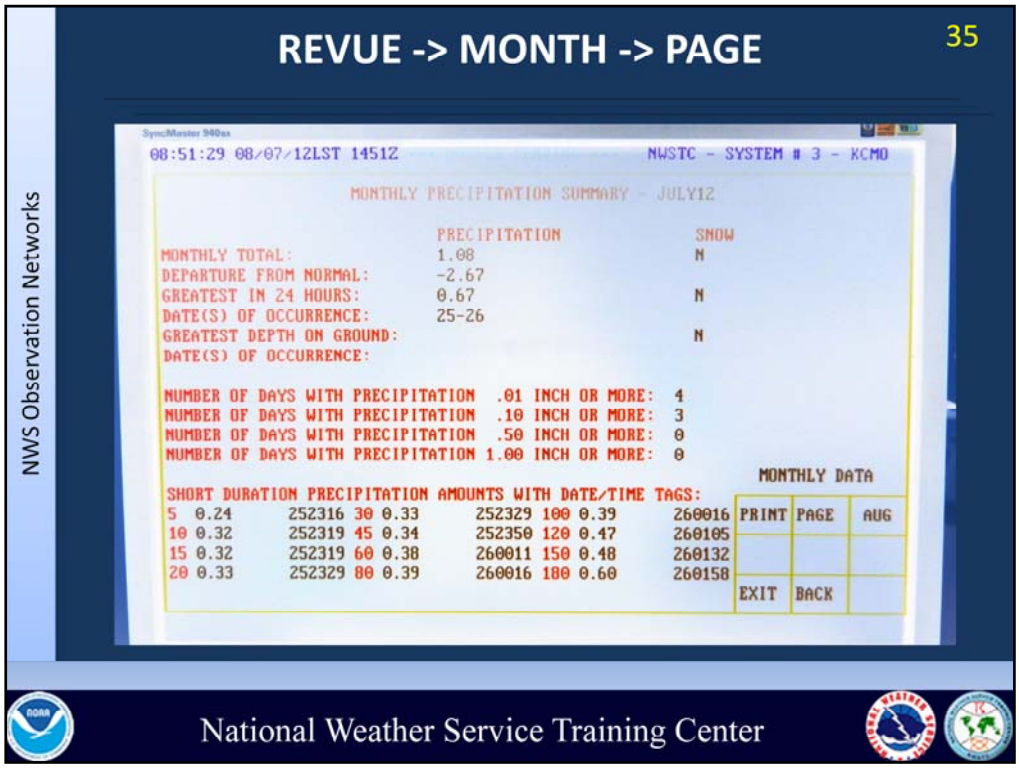
Daily Climate Summary Page 2



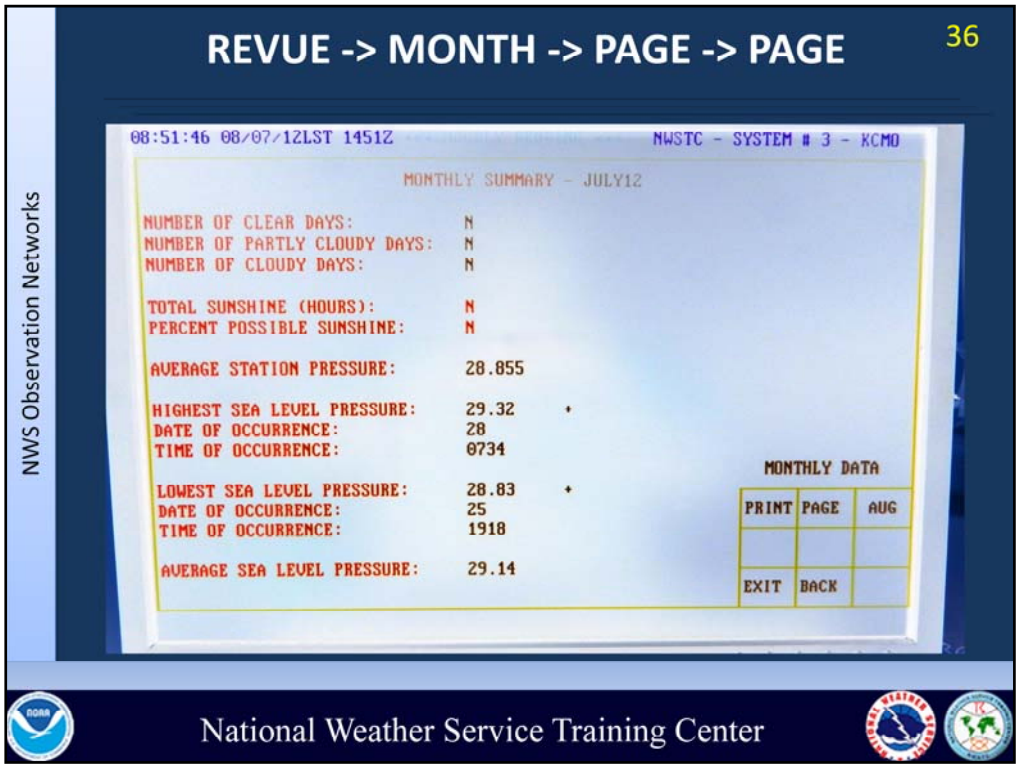
Daily Climate Summary Page 3



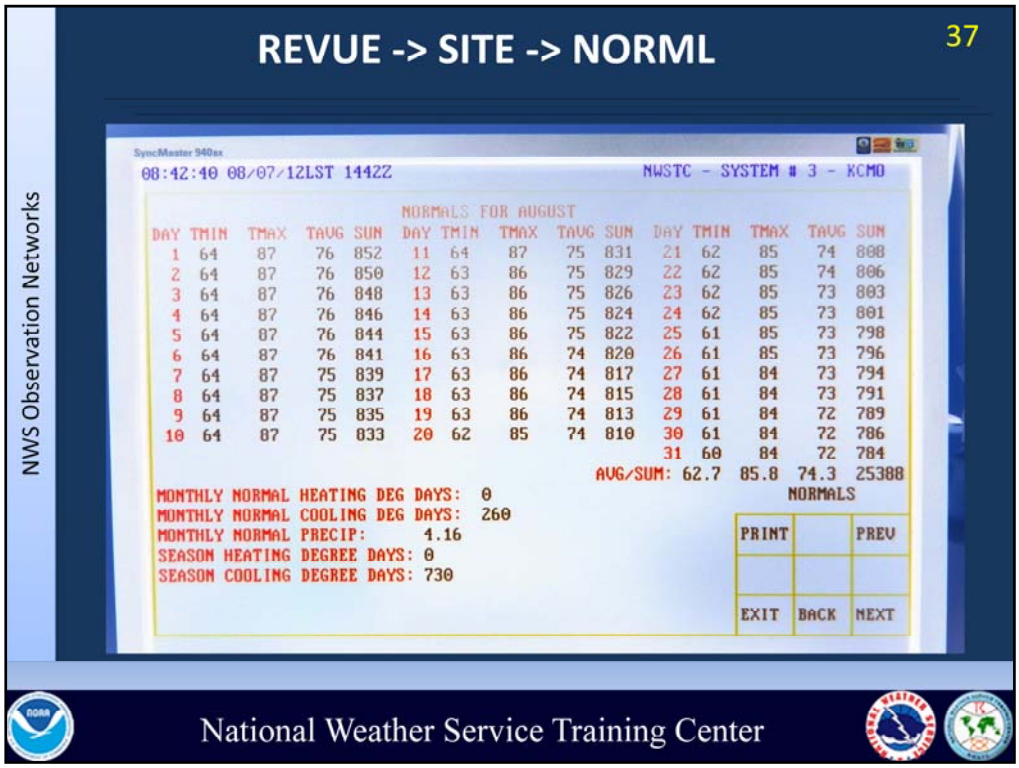
Monthly Climate Summary



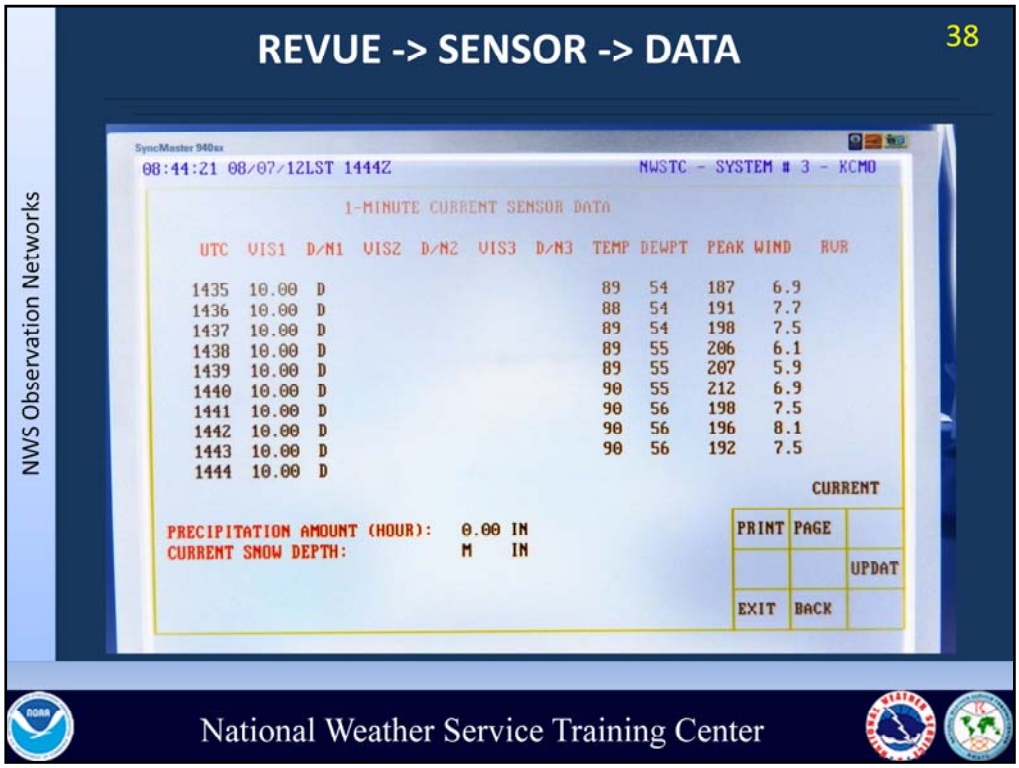
Monthly Climate Summary Page 2



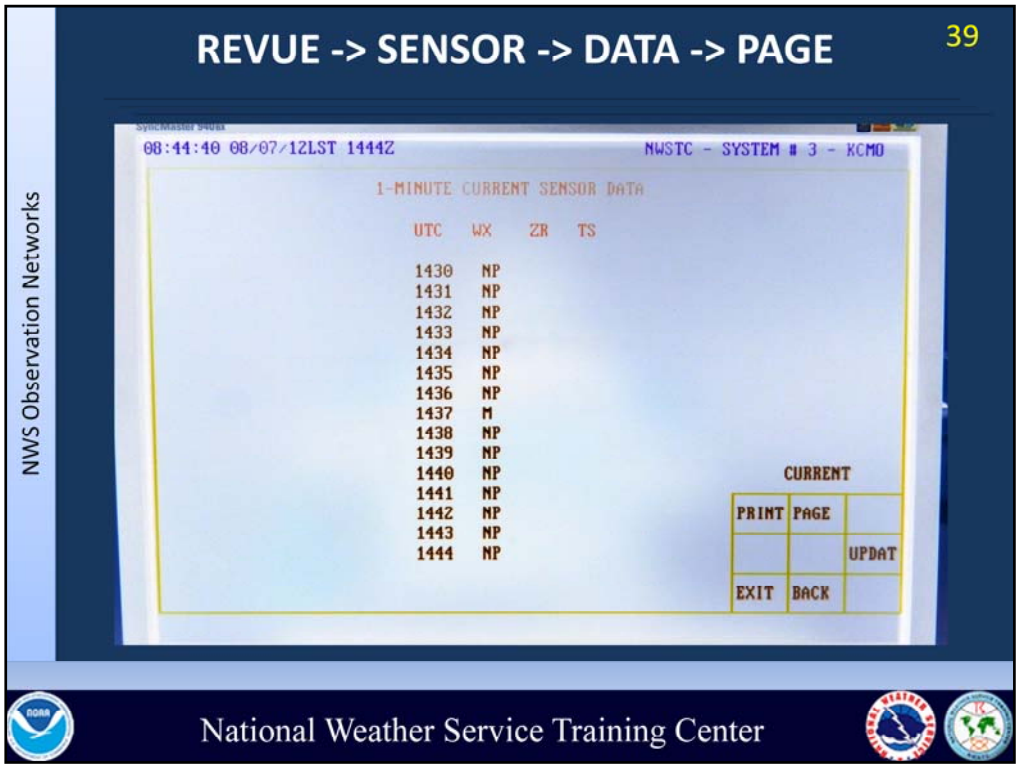
Monthly Climate Summary Page 3



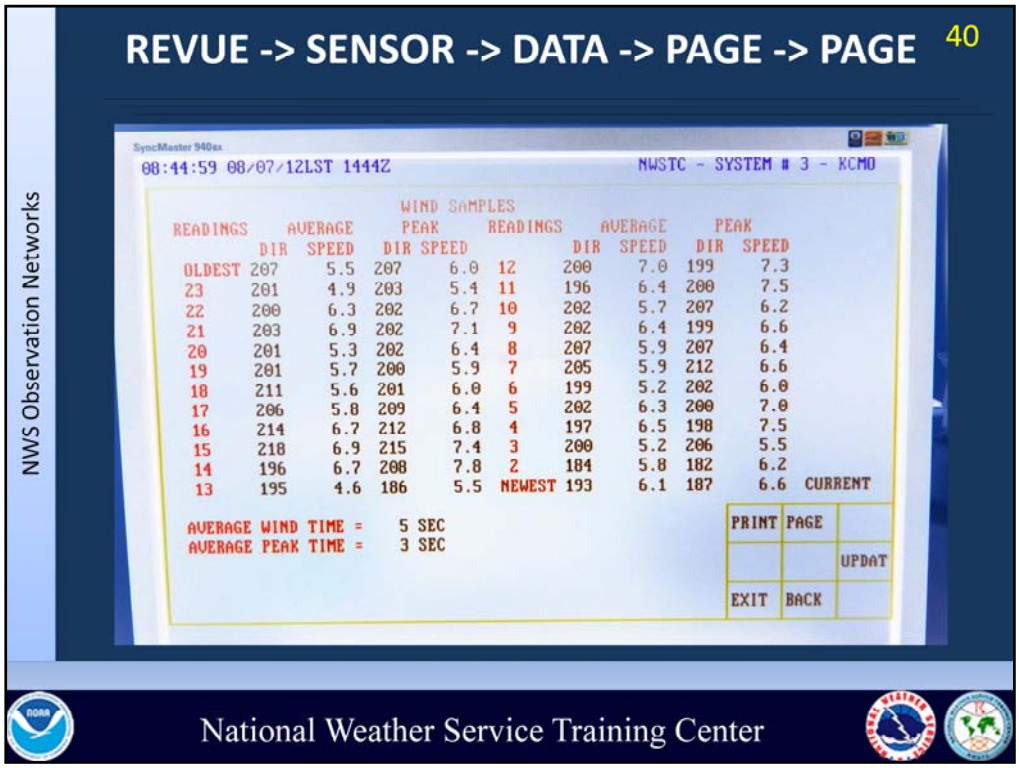
Climate Normals Page



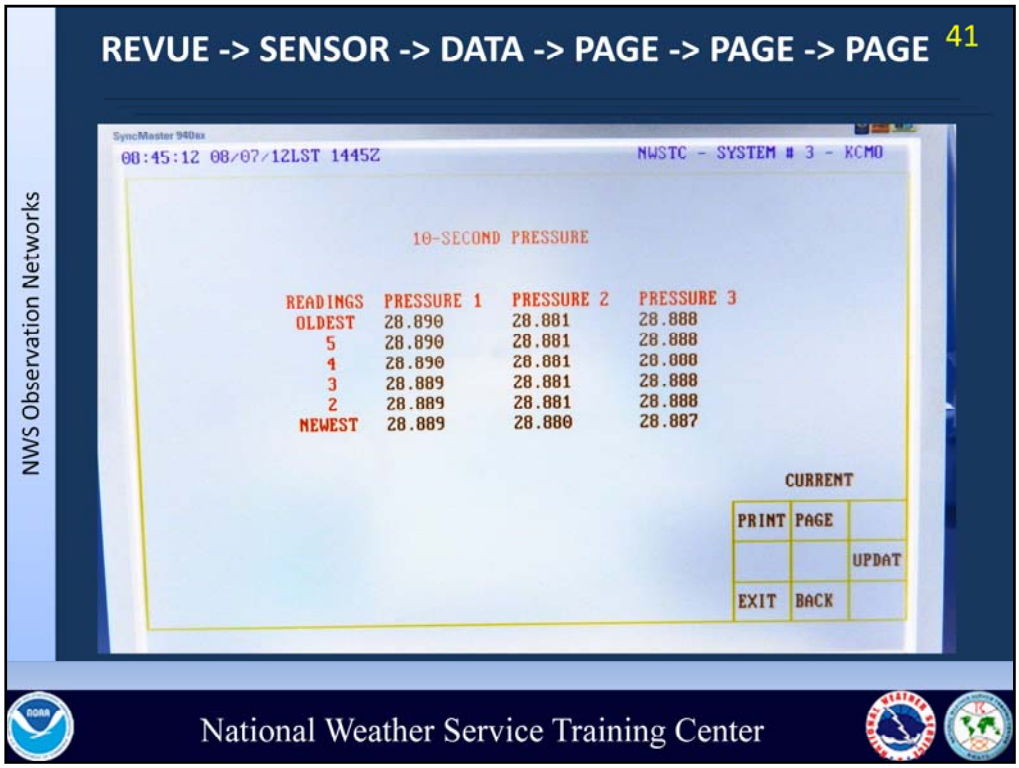
1-Minute Sensor Data



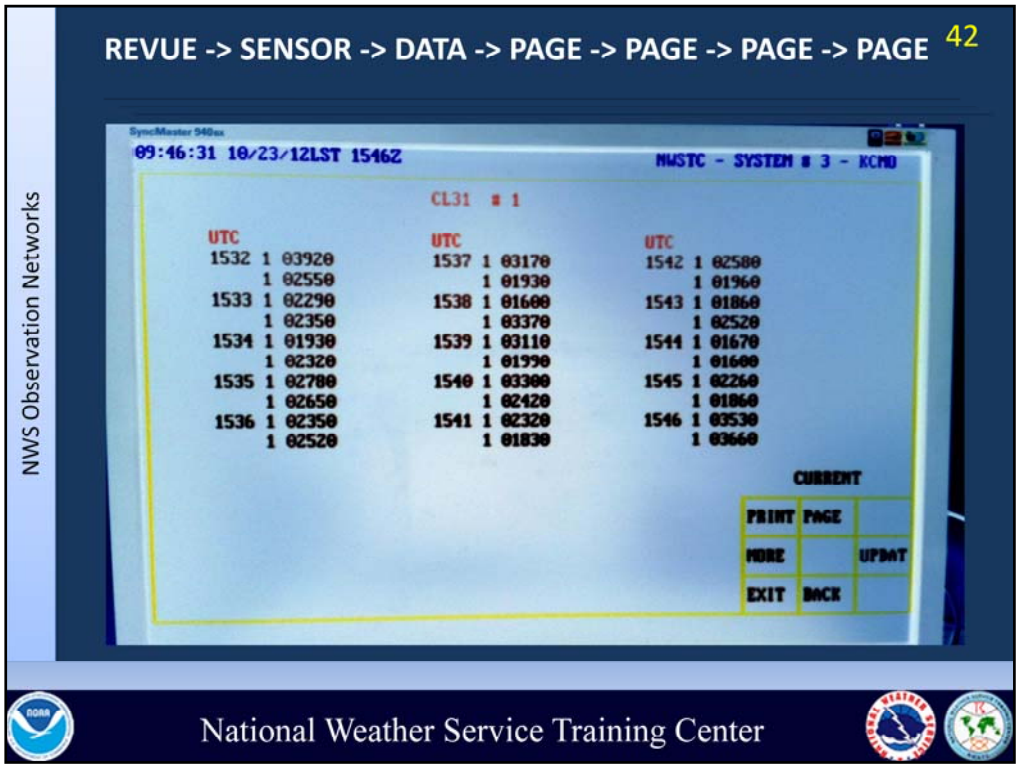
1-Minute Sensor Data Page 2



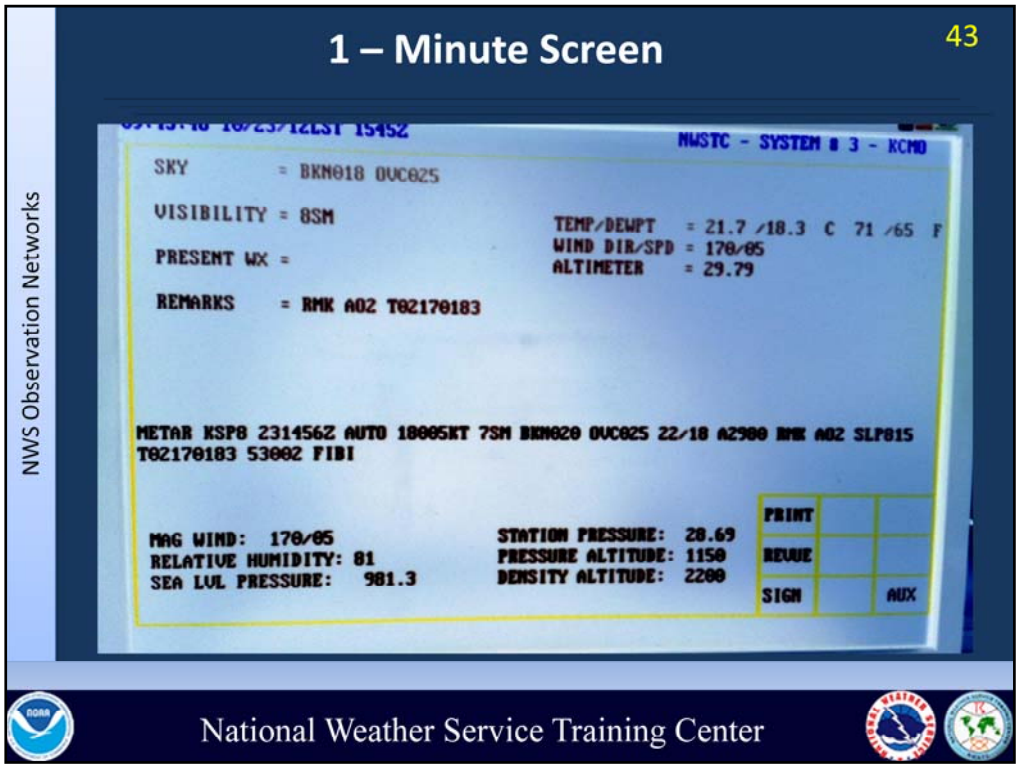
1-Minute Sensor Data Page 3



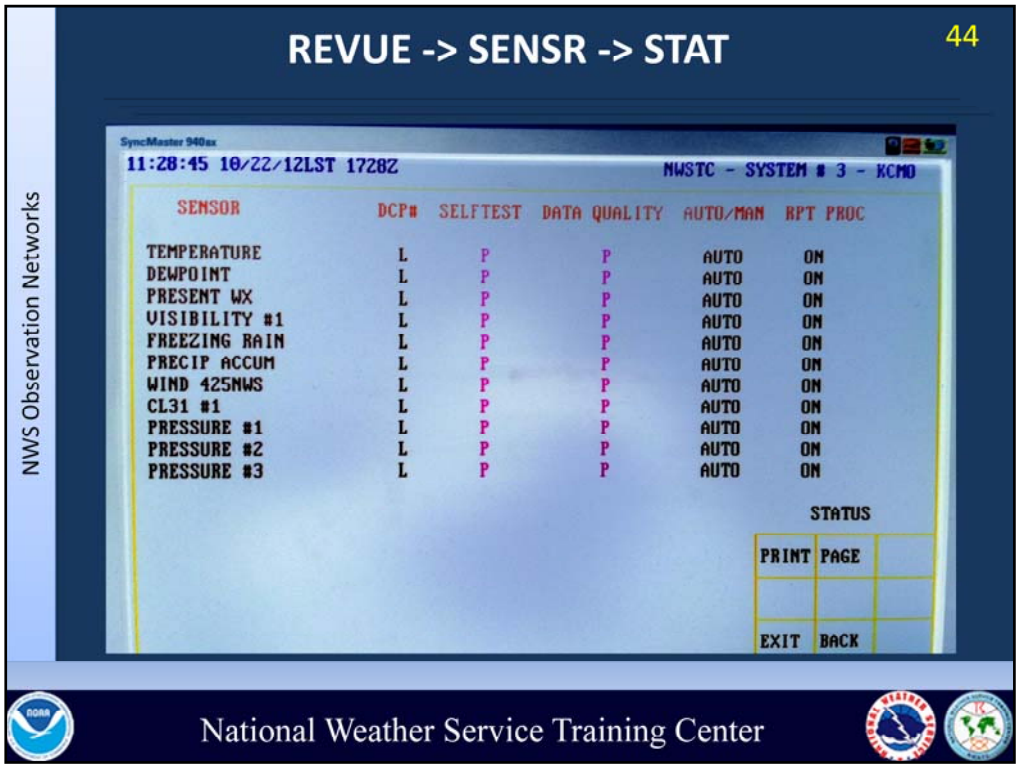
1-Minute Sensor Page 4



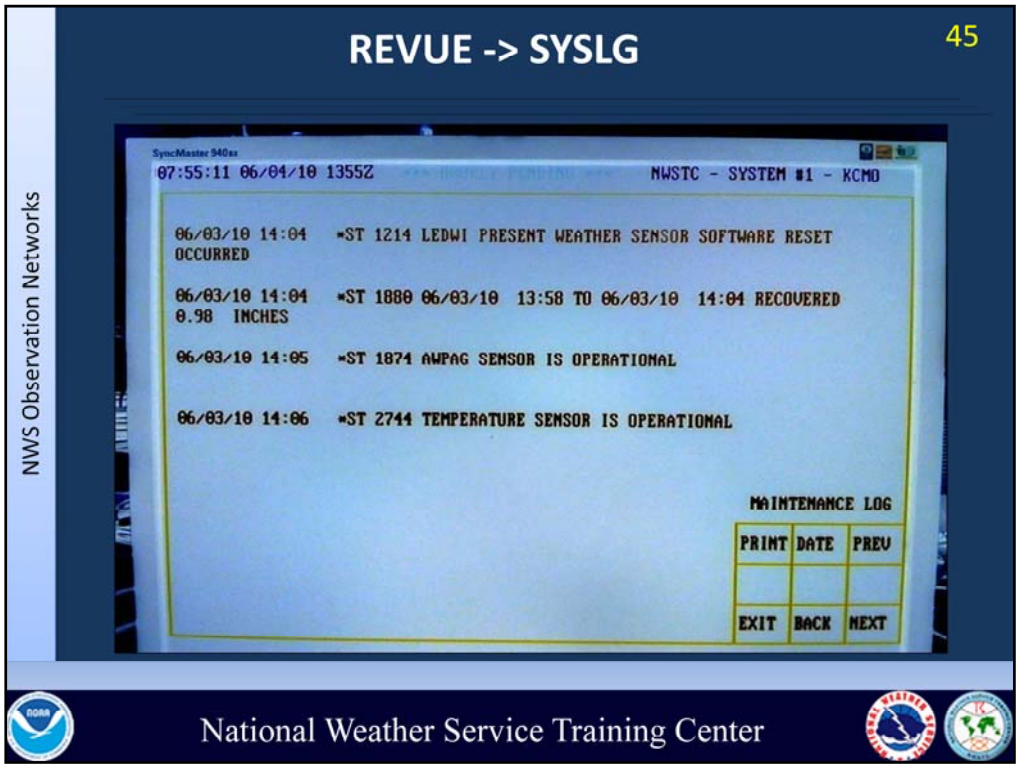
1-Minute Sensor Data Page 5 Cloud Height Indicator (CHI)



Main OID Screen with latest transmitted METAR/SPECI and current 1-Minute data

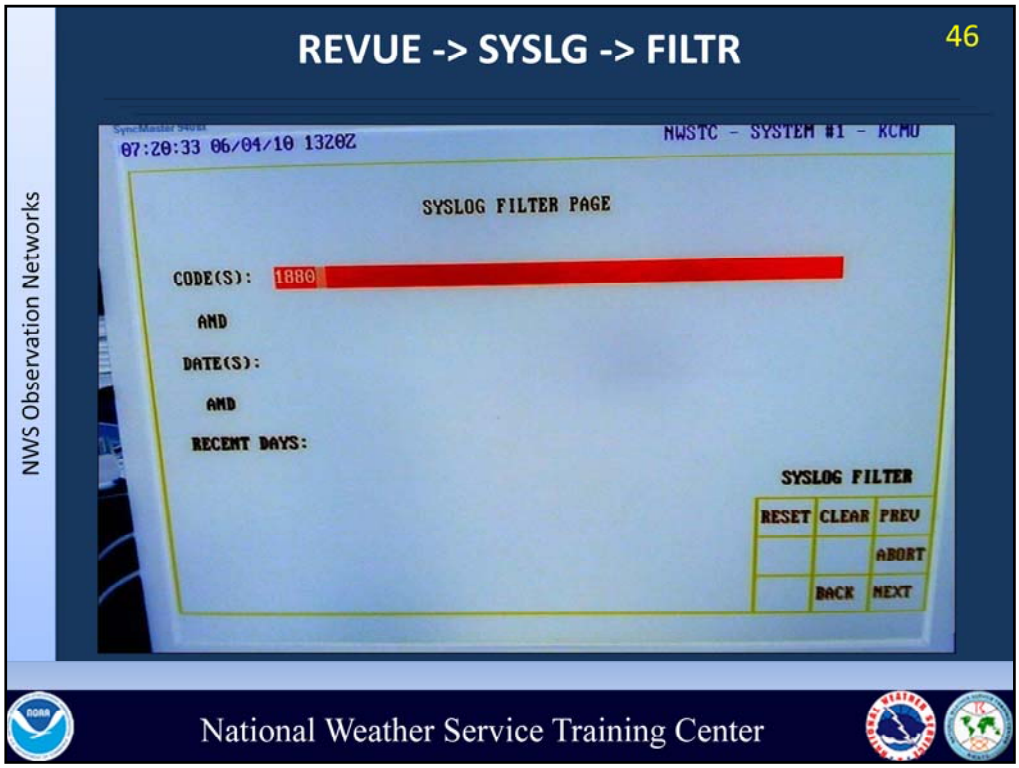


Sensor Status Page

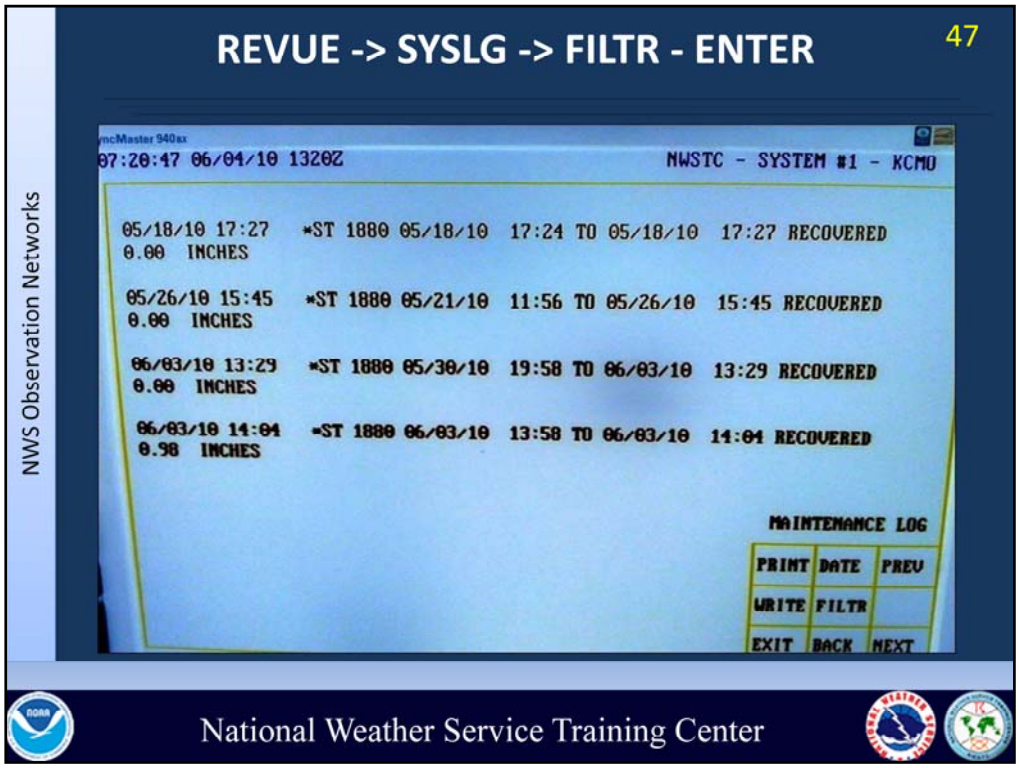


This access method works to recover AWPAG precip data when the sensor goes offline and is restored on the same day you're trying to recover missing data for the F6, CLI, and RTP products.

Maintenance code: 1880 is used to recover AWPAG data. The data recovered is the difference in precip weight between the time the sensor went offline, to the time it was returned to service. In the example above, the sensor has been down from 06/03/10, 13:58Z to 06/03/10, 14:04Z and the amount collected in the gauge during that time was 0.98 inches.



If you need to recover AWPAG precip data for a number of days within the past 30 days, you can progress from the SYSLG screen and select FILTR, which will bring you to the screen shown above. If you enter the code 1880 and hit return the system will provide you a listing of all the AWPAG outages over the past 30 days.



The output from the FILTR search of 1880 will provide you with a listing similar to that shown above, if there were any AWPAG outages noted by the system.

You can see the outages above varied in duration from 6 minutes (last entry) to 5 days, 3 hours and 49 minutes (second entry), and you'll note only one had any measured precipitation during the outage 0.98" (last one)