AWCI Data Integration
Data & Meta Data Archive
—Development of Data Loading and Quality-Control System—

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and

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Outline

1. Framework of AWCI Data/Metadata Archive System
2. Introduction of **Data Upload System**
3. Introduction of **Data Quality Control System**
   - System Structure/How to use, New Features, Demonstration

→ cont. Dr. Kinutani's presentation
(Meta-Data Registration System)

GEOSS Asian Water Cycle Initiative (AWCI)
19 Member Countries
18 River Basins for Initial Demonstration

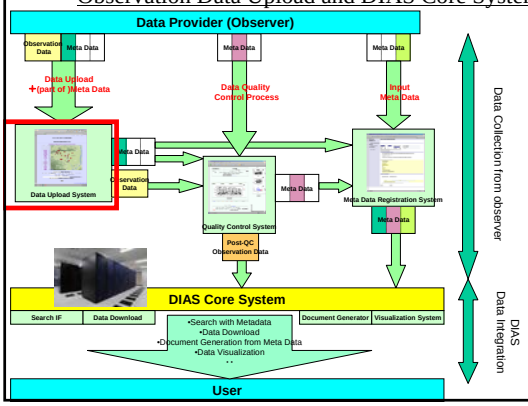
Observation Characteristics of each country

Station Name	# of Stations	Rec. Interval	Data Period	Obs. Element.
Bangladesh	9	Daily	2003-2008	Ta, Pr.
Bhutan	16	Daily	1989-2008	Discharge, Pr.
Cambodia	8	Daily, Hourly, 30min	2003-2008	Pr.
India	30	Daily	2003-2004	Discharge, Pr.
Indonesia	3	Daily, Monthly	1958-2007	Ta, RH, Pr, Sun, Ev.
Japan	18	Hourly	2003-2004	Ta, Ws, Wd, Pr, Sun, Discharge
Korea	68	Daily	2003-2004	Ta, RH, Ws, Pr, Sun, Discharge
Lao	-	-	-	-
Malaysia	16	Daily	2003-2004	Pr. Discharge
Mongolia	8	-	-	-
Myanmar	1	Daily	2003-2004	Discharge, Pr, WL
Nepal	22	Daily	2003-2004	Ta, RH, Ws, Pr
Pakistan	17	Daily	2000-2004	Ta, RH, Ws, Wd, Pr, Discharge
Philippines	4	Daily, Monthly	2004-2005	Pr, Discharge, WL
Sri Lanka	12	Daily	2003-2004	Pr, Discharge
Thailand	14	10min	2006-2008	Ta, Pr, WL
Uzbekistan	18	Daily	2003-2004	P, Ta, Dew, RH, Ws, Pr, Snow, ST, Dis,
Vietnam	8	Eventually	2004-2008	Pr, WL

Data Management Status of each country (as of 09/12/16)

Station Name	Basic Info.	Data Upload	Quality Control	Metadata
Bangladesh	Complete	Complete		
Bhutan	Complete	Complete	1%	
Cambodia	Complete	Complete	34%	
India	Complete	Complete	88%	
Indonesia	Complete	Complete	32%	
Japan	Complete	Complete	100% (Complete)	Ready
Korea	Complete	Complete	100% (Complete)	Ready
Lao				
Malaysia	Complete	Ongoing		
Mongolia	Complete			
Myanmar	Complete	Complete	100% (Complete)	Ready
Nepal	Complete	Complete	100% (Complete)	Ready
Pakistan	Complete	Complete		
Philippines	Complete	Complete		
Sri Lanka	Complete	Complete	100% (Complete)	Ready
Thailand	Complete	Complete	100% (Complete)	Ready
Uzbekistan	Complete	Complete	2%	
Vietnam	Complete	Complete	1%	

Observation Data Upload and DIAS Core System



Observation Data **Upload** System

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On-line Data Upload

- Observers have sent their own observation data to data administrators with the means of e-mail or mail before.
- However, by these methods, there were lots of problem, like the point that the file format and meta information are not unified, the point which requires much time and effort to send the data for observers, and also processing take lots of time, etc..
- So, we have started to develop on-line data upload system for AWCI data, which is in cooperation with Data Quality Control System, Meta-Data Registration System, and Data Archiving System.

Data Upload System

- Observers can upload observation data and input some Metadata on Web Interface consisted of 4 steps.
- On each step, observers need to input some information about the data.
- Easy Operation and Quick Response.
- This system has lots of function which **reduce** the complicatedness of upload process
- Users can manage their own uploaded data

Login Page

- Username and Password are required.
- Each observation site manager has it own (unique) username and password.
- Link (Instruction Manual, Attention, etc…) and Information

STEP1

- Observation Point(Map/List)
- Time Period
- Data Interval
- Timezone
- Description (optional)
- Num. of observed elements

STEP2

- Observation Data
  - Choose from pulldown menu
- Sensor height
- Orientation(op.)
- Unit
- Missing value
- Description(op.)

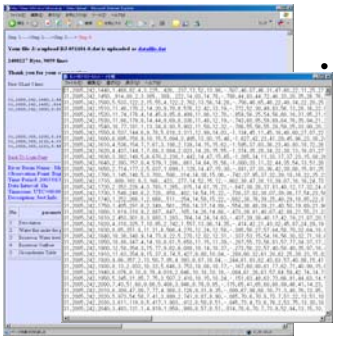
1. **Copy from No.1 to all**
2. **Unit = Input Automatically when you choose observation data**

3. **Copy from former inputted data**
4. **Modify the num of observation data**

STEP3

- Upload observation Data(File).
- Confirmation of metada inputted at STEP1,2.

STEP 4



- Confirmation of
  - local path of uploaded file
  - contents of the file (first/last 3lines and all lines when you require)
  - All metadata inputted at STEP1,2,3

After STEP 4

- Our system send the confirmation message to observer by e-mail.
- Inputted metadata are stored in our Upload system --- Observer can use at next time.
- Observation data is loaded to Quality Control System

Confirmation Message by e-mail

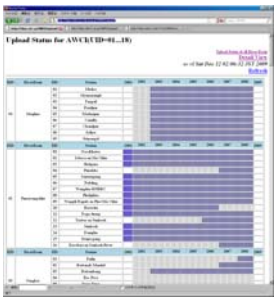
Subject: For Admin AWCI Data Upload Tone MAEBASHI
From: eikoma@tkl.iis.u-tokyo.ac.jp
To: xxxxxx@xxxxxxxxxxxxxxxxxxxxx
Date: Mon, 19 Jan 2009 18:09:31 +0900 (JST)
X-Mailer: smtpsend 1.2.0

River Basin Name: Tone
Point ID:MAEBASHI
TimePeriod: 2004/01/01 00:00--2004/12/31 23:59
Data Interval: 1hr
Timezone: UTC+09:00
Description: Meteorological st., Year 2004
Num. of stations: 6
Data Information is:
http://dias-d.tkl.iis.u-tokyo.ac.jp/AWCI/upload/data/06/2009011918085106/doc.html
Meta Data Information is:
http://dias-d.tkl.iis.u-tokyo.ac.jp/AWCI/upload/data/06/2009011918085106/xml.xml
Your Upload Files are:
http://dias-d.tkl.iis.u-tokyo.ac.jp/AWCI/upload/cgi-bin/doclist.sh?06+0

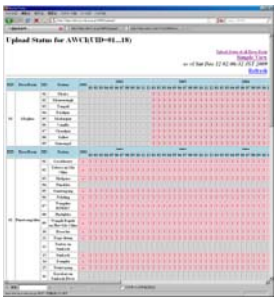
Upload Status Page

- Download each/all data
- Check meta-data
- Delete uploaded data

Upload status for All Stations



Simple View



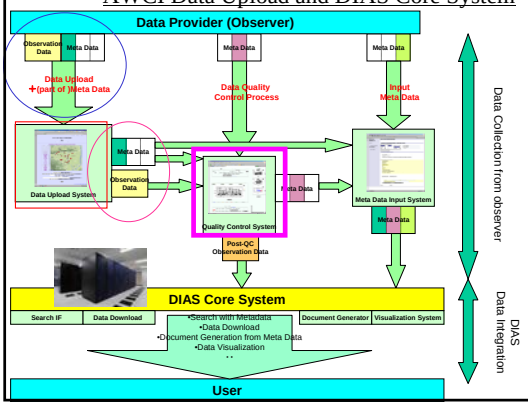
Detail View

New Features

- Added Zooming up/down bar on map(STEP1)
- Renamed each data for data-download. (after STEP4)
  ex. Datafile.dat → 06_006_2009011918032706_data-1.inf
- Changed the subject of confirmation mail to "Unique Subject". (Confirmation Mail → with River Basin Name etc..)
- Added "Daily" on Data Interval (STEP1)
- Set Default and Remember "Timezone"(STEP1)
- Remember "Number of Elements & Interval"(STEP1)
- Checking the existence of upload data(STEP3)
- Generated Confirmation Page when you delete data(after STEP4)

etc…

AWCI Data Upload and DIAS Core System



Data Quality Control(QC) System

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Toshio Koike, Masaru Kitsuregawa

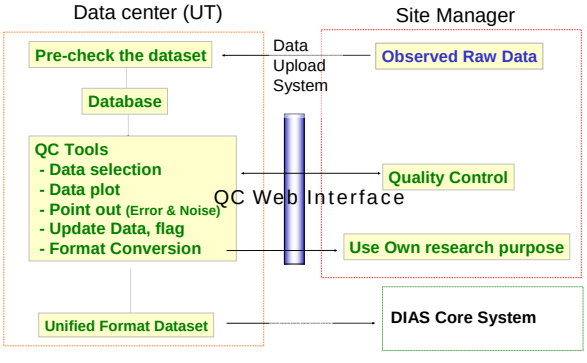
Our QC System

- First version of our QC System was developed for CEOP Data in 2004.
- Ver.1(2004-2005) for → Ver.2(2005-2006) → Ver.3(2007-)
- 13site(Ver.1)→ 25site(Ver.2)→Ver.3
  5sites30stations(CEOPAsia),3sites12station(JICA-Tibet), 15sites240station(AWCI as of 2009/12/15)
- We are running QC-V3 system for AWCI Observation Data.(Ver.3.03a=2009/11/19)

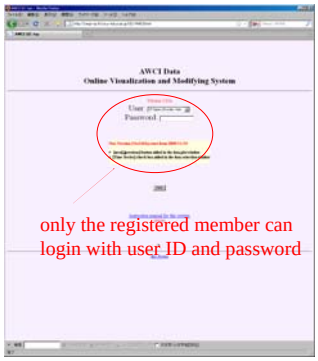
Features of our QC system

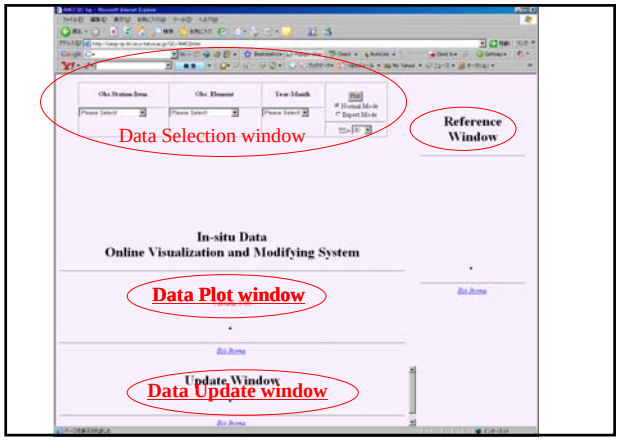
- Web-based UI (required only Web browser)
- Easy-to-use and light operation
- Data management mechanism for each user authority
- Post-QC Data download support system
- Progress Management system for Users and Data Manager

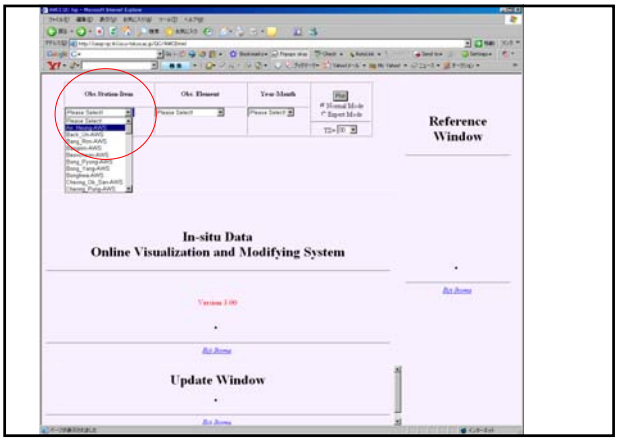
Outline of QC Process

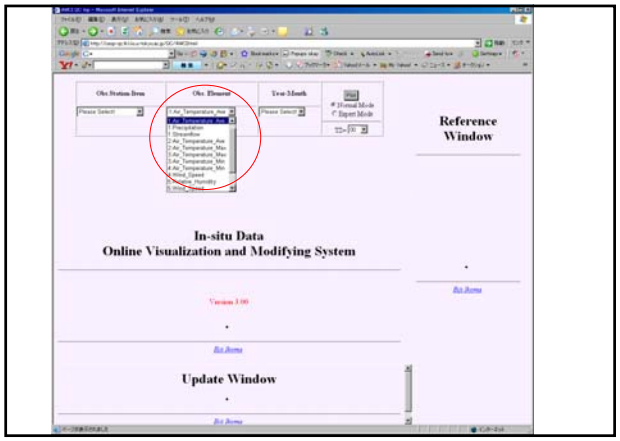


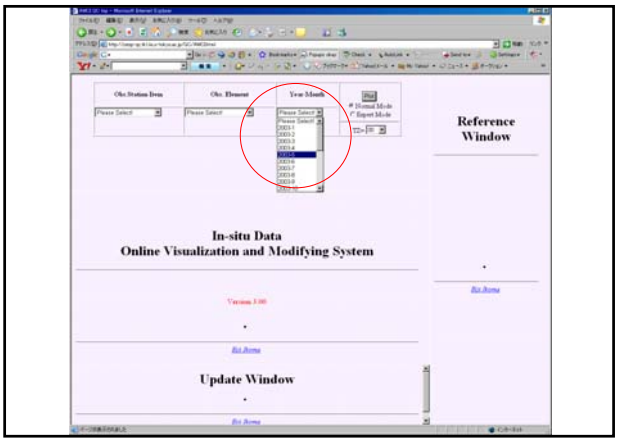
AWCI Data-QC Toppage

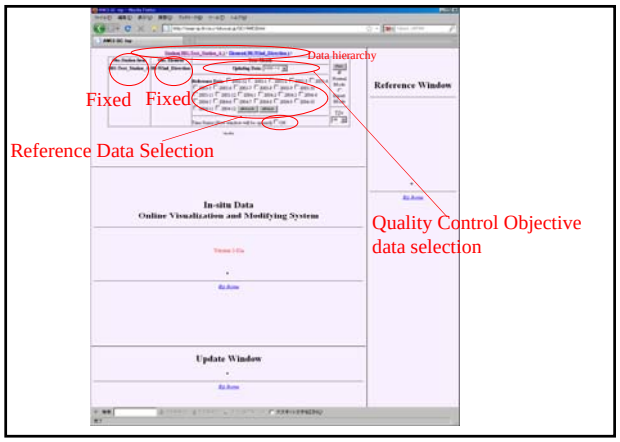


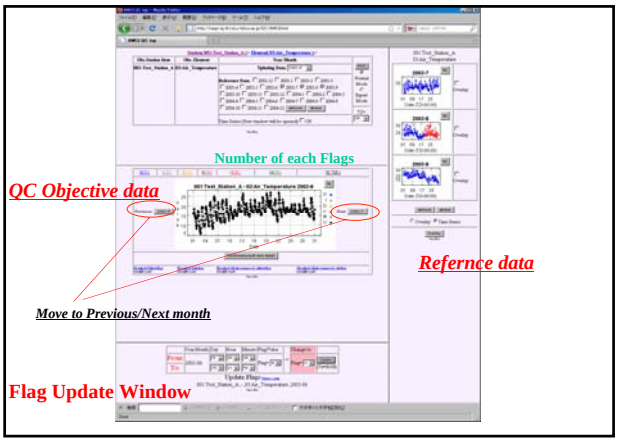


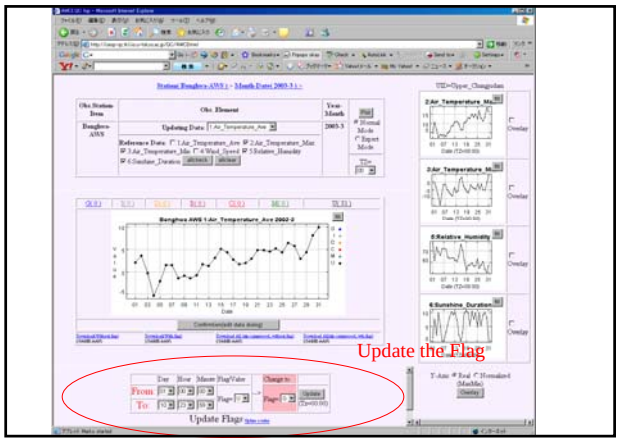


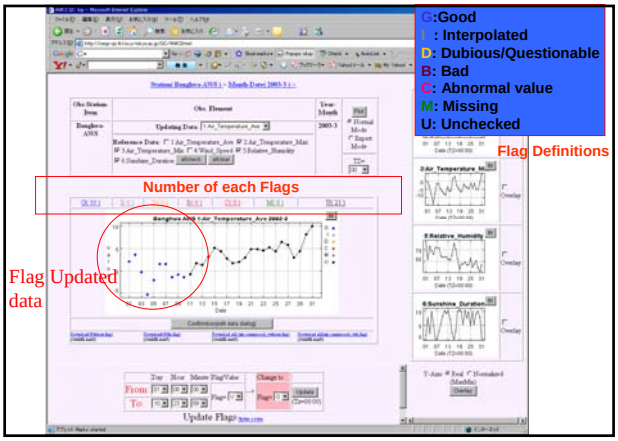


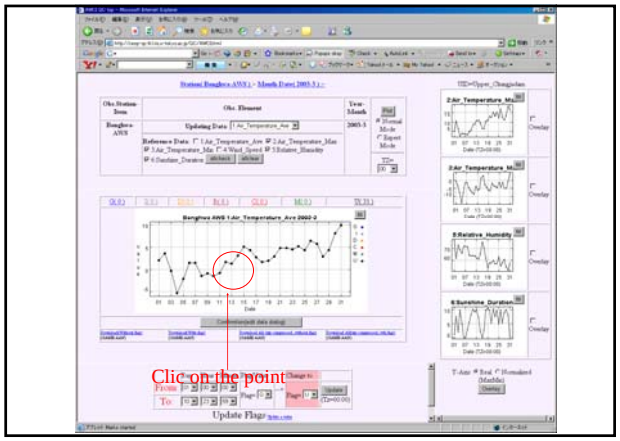


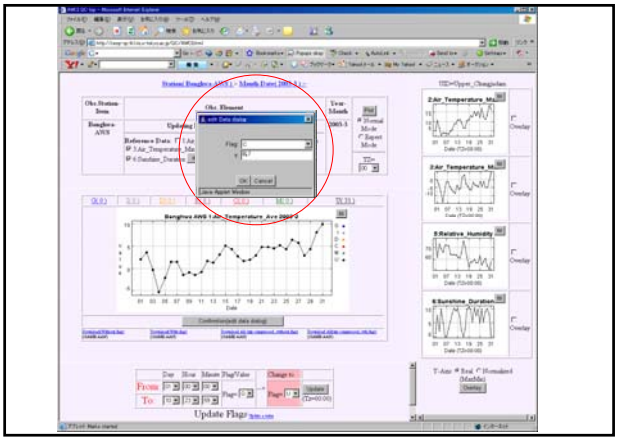


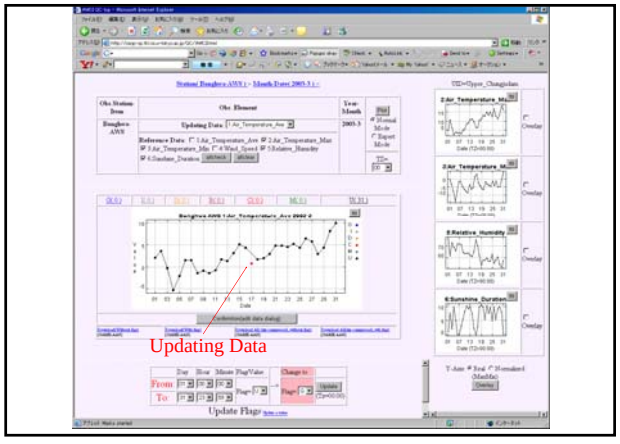

Number of each Flags
QC Objective data
Refernce data
Move to Previous/Next month
Flag Update Window


Update the Flag

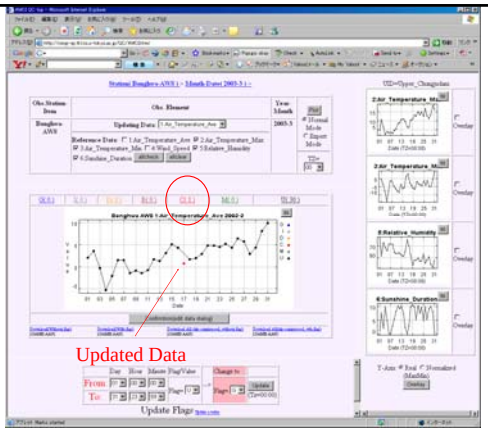

C:Good
I : Interpolated
D: Dubious/Questionable
B: Bad
C: Abnormal value
M: Missing
U: Unchecked
Flag Definitions
Number of each Flags
Flag Updated data

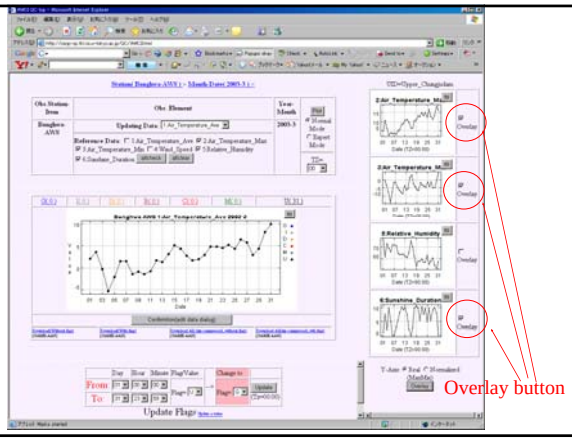

Clic on the point

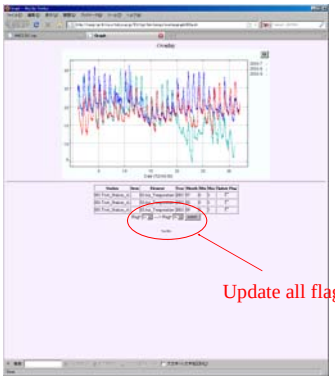


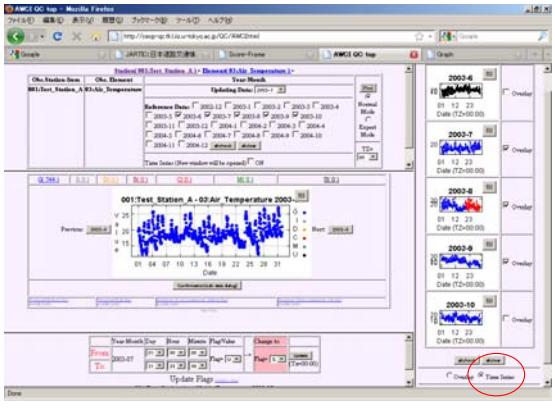

Updating Data

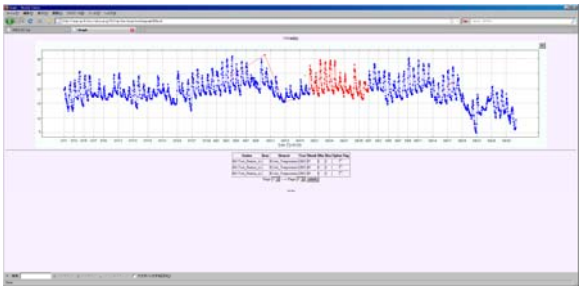
Confirmation for update

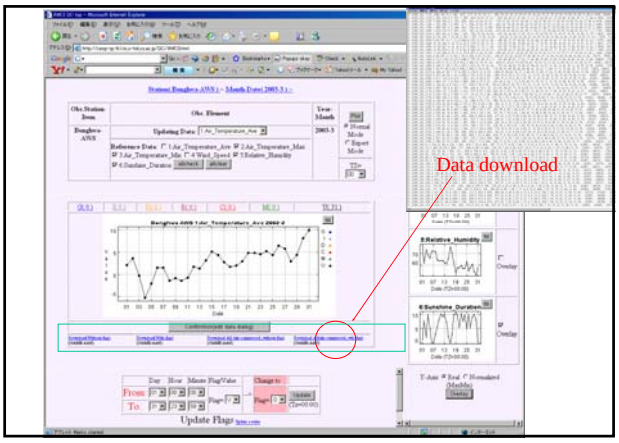


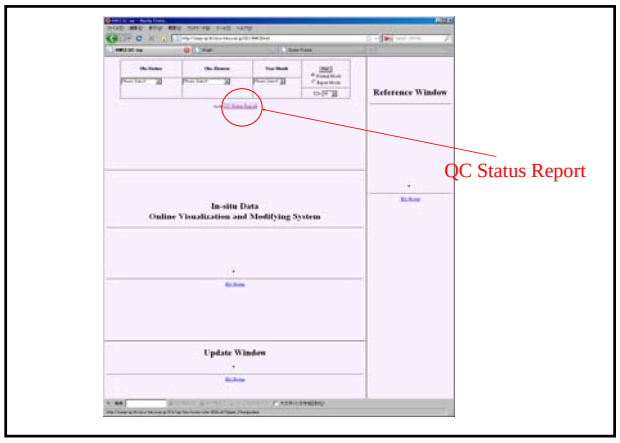


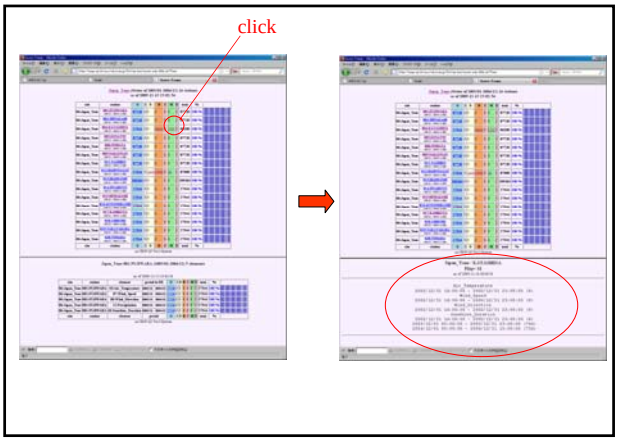












After QC

- QC-System will send the observation data to “DIAS Core System”
- Also will send Meta-Data to “Meta Data Registration System”
- Users can download your Post-QC Data and Meta-data.