

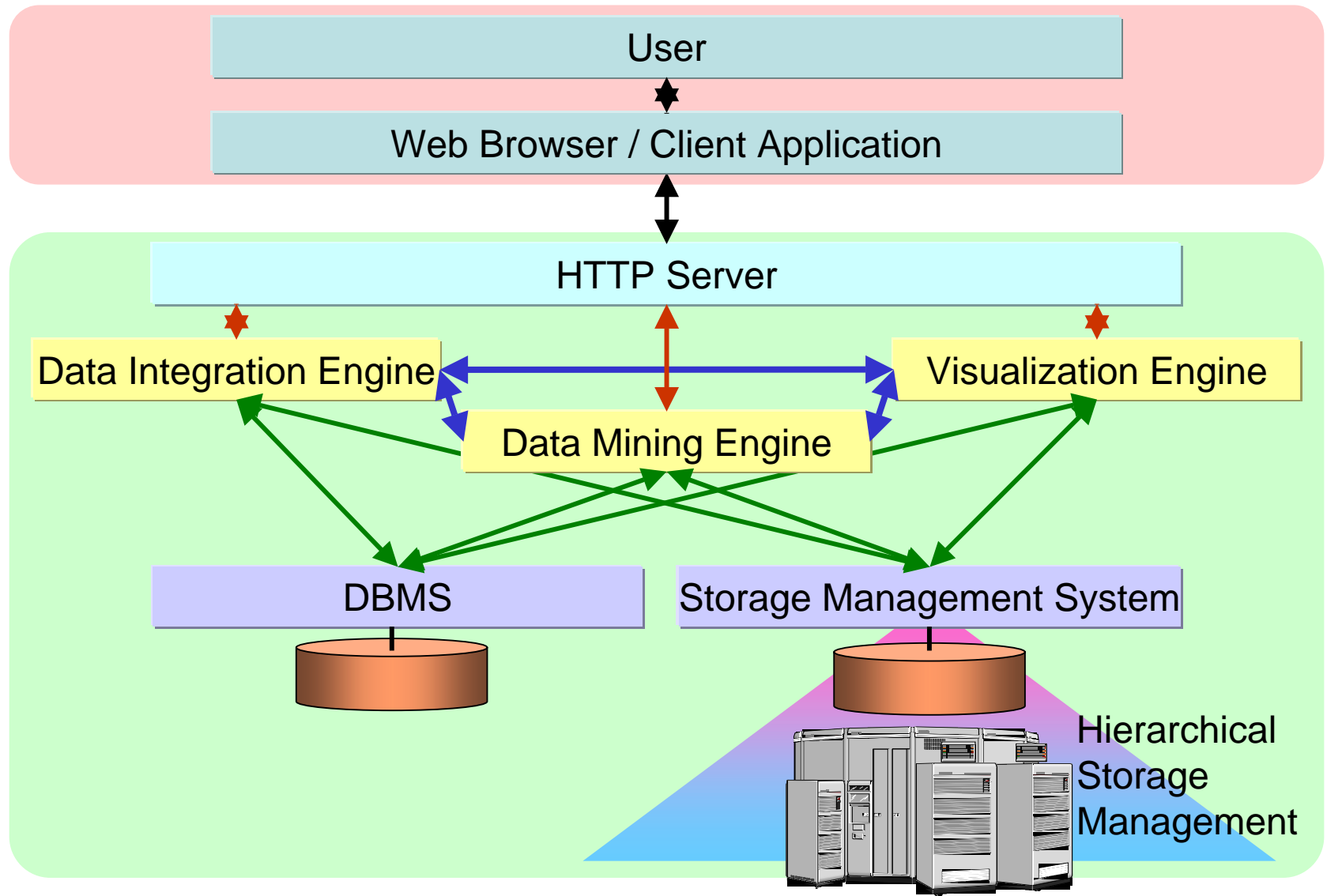
Data Integration Functions and System

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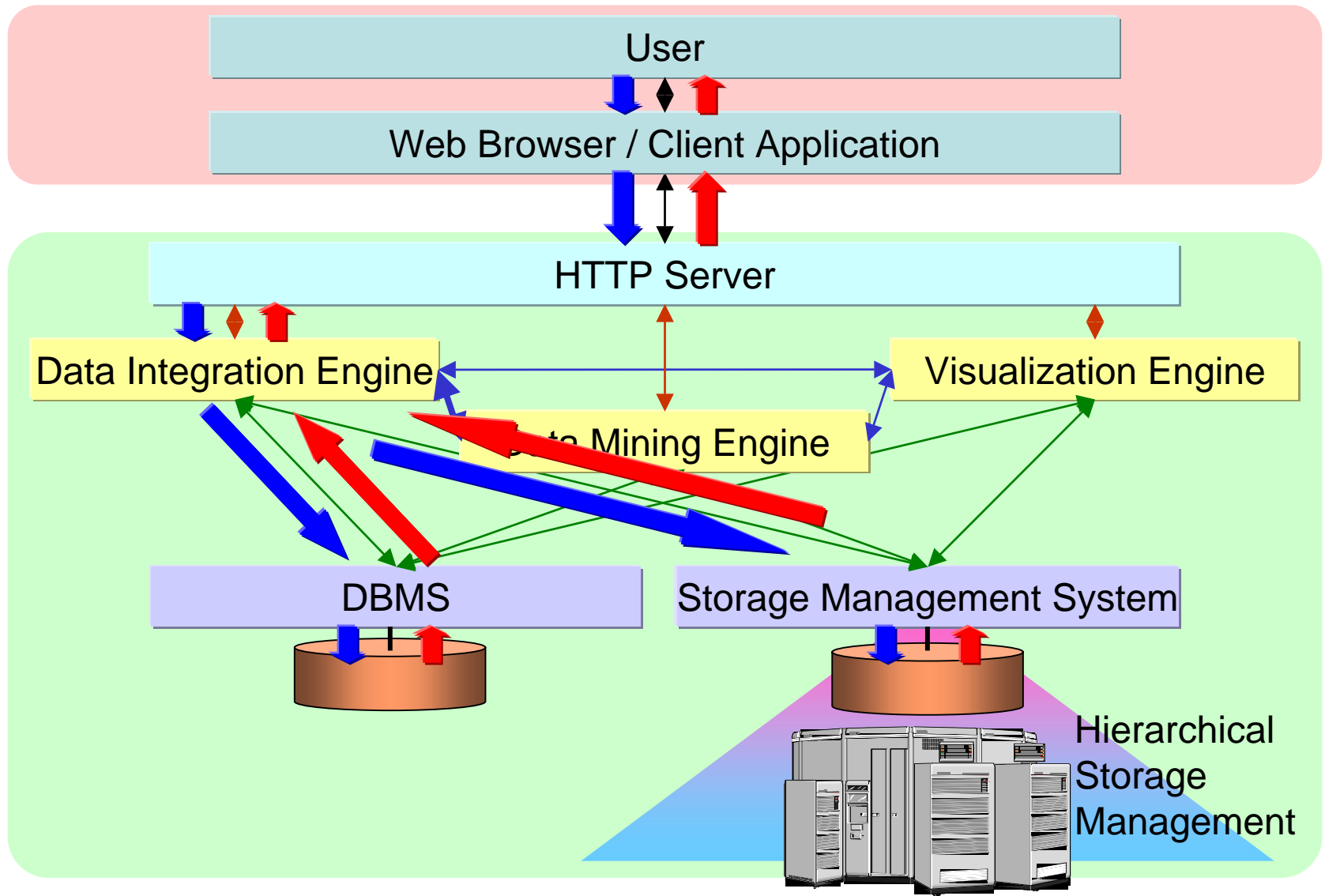
Institute of Industrial Science

University of Tokyo

Architecture of CEOP Data System at Univ. of Tokyo



Request and Data Flow Data Integration



Integrated Data Analyzing Functions

Validation

overlay

matching recognition

Averaging

temporal (daily, pentad, monthly, seasonal)

spatial: simple, masked (zonal, land/ocean, lon-lat, by given value)

over identified points and area

skewered: diurnal cycle, seasonal cycle

Section

Longitude-latitude

longitude-time

latitude-time

elevation-time

aslant

along to Rossby phase

along to frontal line

along to satellite orbit

along to user definition

Data interpolation

spline

linear

nearest neighbor

Calculation

wind velocity: $(\text{SQRT}(U*U+V*V))$

transformation among relative humidity, specific humidity, mixing ratio etc.

potential temperature

equivalent potential temperature

advection

vorticity divergence

velocity potential

2D/3D derivative

correlation of trend and anomaly

finite deference

EOF

along to user's definition

unit transformation

Data Comparison

overlay

correlation

regression

subtraction

Data Manager (Main Window)

Commands

CEOP Client

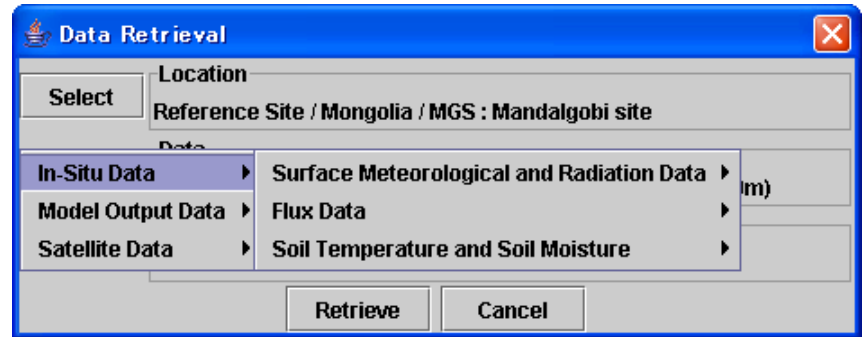
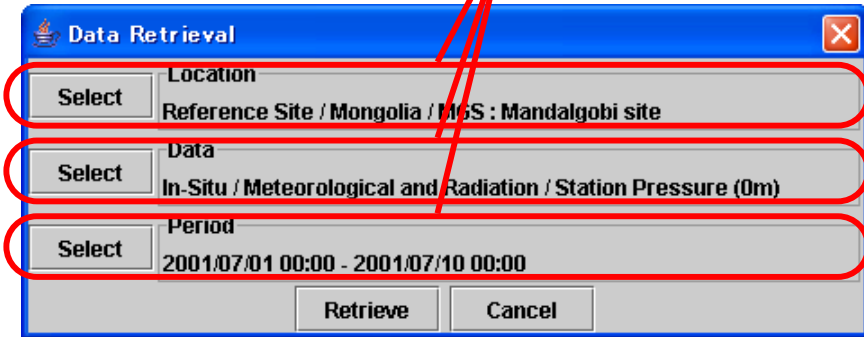
System Data View Process Mask Table

NO.	Label	Dimension	Data	Location	Period	Creation Time
1			3 Satellite / TRMM P...	Reference Site / N...	2001/09/01 00:00 ...	Fri Feb 25 18:23:5...
2			2 Satellite / GMS S-V...	Reference Site / N...	2001/09/01 00:00 ...	Fri Feb 25 18:22:5...
3			2 Model Output / EC...	Global	2001/09/01 00:00 ...	Fri Feb 25 18:20:1...
4			0 In-Situ / Surface / ...	Reference Site / N...	2001/09/01 00:00 ...	Fri Feb 25 18:18:0...
5			0 In-Situ / Meteorolo...	Reference Site / N...	2001/09/01 00:00 ...	Fri Feb 25 18:17:4...
6			0 In-Situ / Meteorolo...	Reference Site / M...	2001/07/01 00:00 ...	Fri Feb 25 18:08:2...
7			0 MOLTS / NASA GM...	Reference Site / M...	2001/07/01 00:00 ...	Fri Feb 25 18:07:2...
8			0 In-Situ / Surface / ...	Reference Site / N...	2001/09/05 00:00 ...	Mon Feb 21 18:28...
9			0 In-Situ / Surface / ...	Reference Site / N...	2001/09/05 00:00 ...	Mon Feb 21 18:28...
10			0 In-Situ / Surface / ...	Reference Site / N...	2001/09/05 00:00 ...	Mon Feb 21 18:26...
11			2 Satellite / GMS S-V...	Reference Site / N...	2001/09/05 00:00 ...	Mon Feb 21 18:25...
12			2 Model Output / EC...	Global	2001/09/05 00:00 ...	Mon Feb 21 18:22...
13			2 Masked / Model O...	Global	2001/09/05 00:00 ...	Fri Feb 18 19:03:3...
14			2 Model Output / EC...	Global	2001/07/01 00:00 ...	Wed Feb 16 19:58...
15			0 Processed / Interv...	Reference Site / N...	2001/09/01 00:00 ...	Thu Jan 13 13:33:...
16			0 Processed / Diurn...	Reference Site / N...	2001/07/01 00:00 ...	Mon Dec 27 10:12...
17			0 Processed / Interv...	Reference Site / N...	2001/07/01 00:00 ...	Mon Dec 27 10:11...
18			0 MOLTS / NASA GM...	Reference Site / N...	2001/07/01 00:00 ...	Tue Dec 07 18:20:...
19			0 MOLTS / NASA GM...	Reference Site / N...	2001/07/01 00:00 ...	Tue Dec 07 18:19:...
20			0 MOLTS / BMRC / A...	Reference Site / E...	2002/10/01 00:00 ...	Mon Nov 29 12:38...
21			1 MOLTS / NASA GM...	Reference Site / E...	2001/07/01 00:00 ...	Thu Nov 18 18:04:...
22			2 Model Output / EC...	Global	2001/09/05 00:00 ...	Wed Sep 08 14:5...
23			2 Model Output / EC...	Global	2001/09/05 00:00 ...	Wed Sep 08 14:4...
24			2 Model Output / EC...	Global	2001/09/05 00:00 ...	Wed Sep 08 14:4...
25			3 Satellite / TRMM P...	Reference Site / N...	2001/09/10 00:00 ...	Wed Sep 08 14:3...

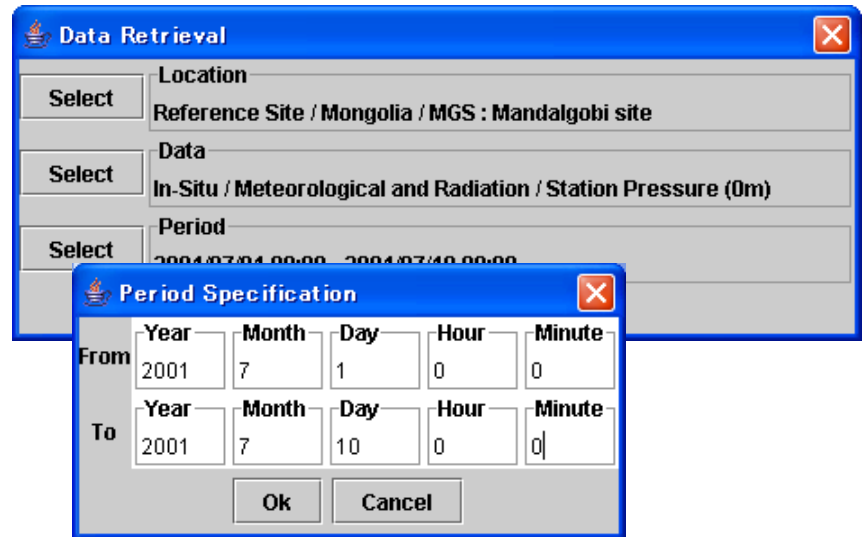
Retrieved Data

Data Retrieve

Three Parameters



Select by menu



Input date and time for period

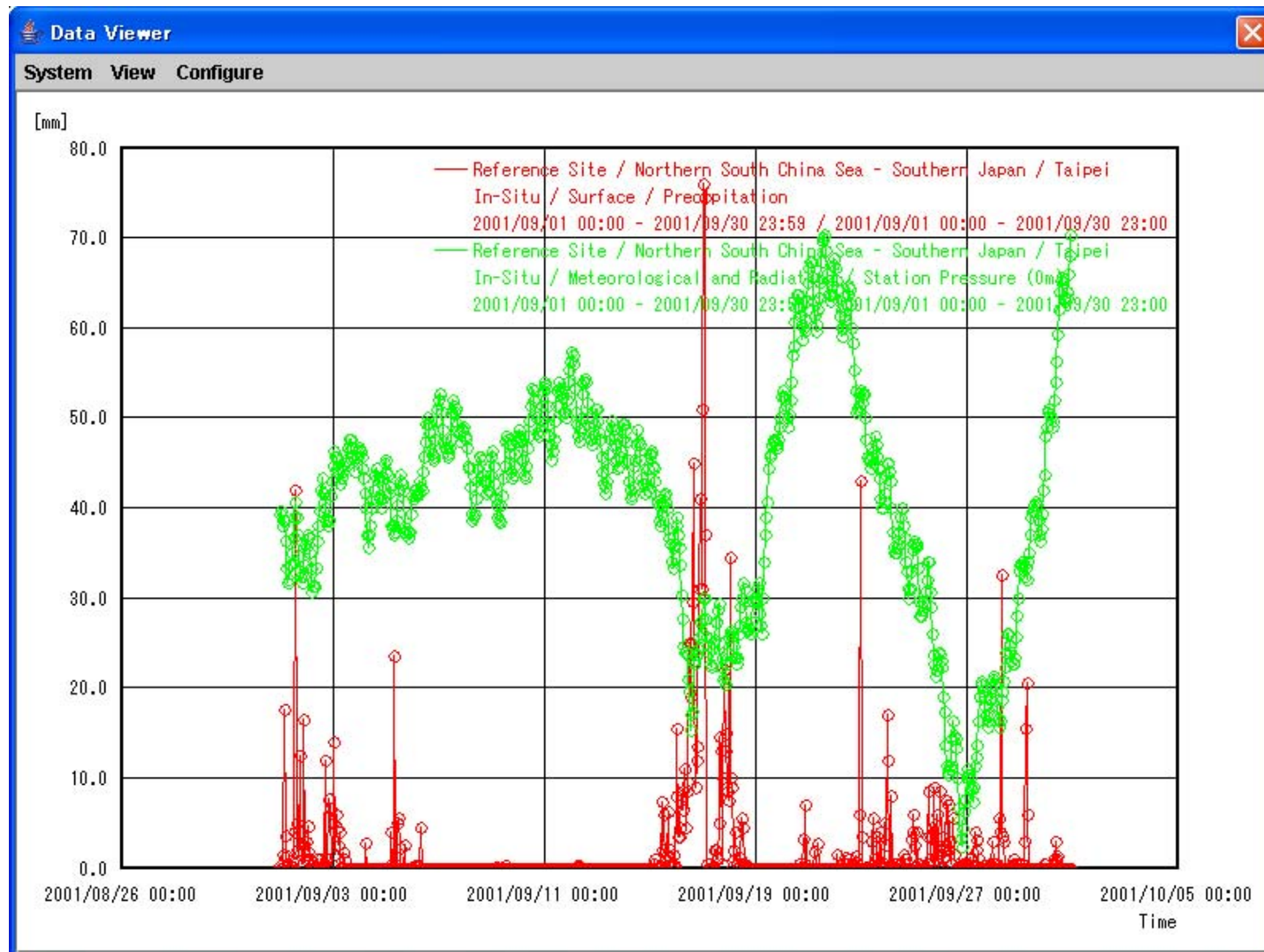
Browsing/Processing Data

Select Data and Command

The screenshot shows the GEOP Client application window. The main window contains a table with columns: System, Data, View, Process, Mask, and Table. The 'View' column is highlighted, and a context menu is open over it, showing options: 2D Line Chart, 2D Image, and 2D Scatter Diagram. A red circle highlights the 'View' column header and the context menu. A red arrow points from the text 'Select Data and Command' to the context menu. A red rectangle highlights a range of rows in the table, from row 12 to row 16.

No.	System	Data	View	Process	Mask	Table	Dimension	Data	Location	Period	Creation Time
4			2D Line Chart					3 Model Output / NC...	Global	2002/10/01 00:00 ...	Tue Mar 01 20:30:...
5			2D Image					3 Model Output / NC...	Global	2002/10/01 00:00 ...	Tue Mar 01 16:52:...
6			2D Scatter Diagram					2 Satellite / Aqua AM...	Reference Site / Ti...	2002/10/01 00:00 ...	Tue Mar 01 16:51:...
7								1 In-Situ / Soil Temp...	Reference Site / Ti...	2002/10/01 00:00 ...	Tue Mar 01 16:51:...
8								2 Satellite / TRMM P...	Reference Site / N...	2002/10/14 00:00 ...	Tue Mar 01 16:44:...
9								2 Satellite / TRMM P...	Reference Site / C...	2002/10/14 00:00 ...	Tue Mar 01 16:44:...
10								2 Model Output / JM...	Global	2002/10/14 00:00 ...	Tue Mar 01 16:36:...
11								3 Satellite / TRMM P...	Reference Site / N...	2002/10/14 00:00 ...	Tue Mar 01 16:34:...
12								0 MOLTS / BMRC / A...	Reference Site / N...	2002/10/14 00:00 ...	Tue Mar 01 16:34:...
13								0 MOLTS / NASA GM...	Reference Site / N...	2002/10/14 00:00 ...	Tue Mar 01 16:34:...
14								0 In-Situ / Surface / ...	Reference Site / N...	2002/10/14 00:00 ...	Tue Mar 01 16:33:...
15								3 Satellite / TRMM P...	Reference Site / C...	2002/10/14 00:00 ...	Tue Mar 01 16:31:...
16								0 MOLTS / BMRC / A...	Reference Site / C...	2002/10/14 00:00 ...	Tue Mar 01 16:30:...
17								0 MOLTS / NASA GM...	Reference Site / C...	2002/10/14 00:00 ...	Tue Mar 01 16:30:...
18								0 In-Situ / Surface / ...	Reference Site / C...	2002/10/14 00:00 ...	Tue Mar 01 16:29:...
19								2 Model Output / EC...	Global	2001/09/05 00:00 ...	Tue Mar 01 16:23:...
20								2 Model Output / EC...	Global	2001/09/05 00:00 ...	Tue Mar 01 16:21:...
21								2 Model Output / EC...	Global	2001/09/05 00:00 ...	Tue Mar 01 16:19:...
22								2 Model Output / EC...	Global	2001/09/05 00:00 ...	Tue Mar 01 16:17:...
23								3 Satellite / TRMM P...	Reference Site / N...	2001/09/05 00:00 ...	Tue Mar 01 16:15:...
24								2 Satellite / GMS S-V...	Reference Site / N...	2001/09/05 00:00 ...	Tue Mar 01 16:14:...
25								0 In-Situ / Surface / ...	Reference Site / N...	2001/09/05 00:00 ...	Tue Mar 01 16:14:...
26								0 In-Situ / Meteorolo...	Reference Site / N...	2001/09/05 00:00 ...	Tue Mar 01 16:13:...

Overlaid Line Chart



Overlaid 2D Images

