

## Use Case U1: Fully Dressed

Use Case Name: Request Meteorological Data

Scenario: N/A

Brief Description: With the System Running, and the User requests Meteorological Data (Temperature, Humidity, Barometric Pressure, Dewpoint, Heat Index), the System returns the data to the User, and Displays the data the the format requested by the User (in graphical or textual format).

Actors: User, Administrator (Supporting Actor), Database (Off-Stage Actor)

Related Use Cases:

**Use Case S1:** *The System Shall Monitor Temperature Data*

**Use Case S2:** *The System Shall Monitor Humidity Data*

**Use Case S3:** *The System Shall Monitor Barometric Pressure Data*

**Use Case S4:** *The System Shall Calculate the Heat Index*

**Use Case S5:** *The System Shall Calculate Dewpoint*

**Use Case S6:** *The System Shall Save Meteorologica Data.*

**Stakeholders:** Users who want to see meteorological data from a given weather station. Local and National Weather Bureaus monitoring local meteorological data.

**Preconditions:** The System is running, meteorological data is saved periodically, the Database archiving the meteorological data is working.

**Postconditions:** The User receives the requested meteorological data and presented to the user in the requested format (graphical or textual).

### Main Success Scenario

User	System
1. Request Meteorological Data (Temperature, Humidity, Barometric Pressure, Heat Index, Dewpoint) in the Requested Units (as available)	
	2. Query the Database for the requested data, in the requested units (as available), in the requested range (by value, by date, etc...)
	3. Return the requested data to the User, in the requested range (by value, by date, etc...), in the requested units (if available).
	4. Display the data in the requested format (graphical or textual).

### Extensions (or Alternative Flows), Subvariations

\*a. At anytime, the Database fails:

1. The System will alert the user to the the Database failure.
2. The System will attempt to fulfill the User's request via archived data in

an alternative format (saved in .csv, or .txt format); the System will alert the User if the User's request cannot be fulfilled via archived data in an alternative format.

3. The (Database) Administrator attempts to restart the Database.
4. The Database reconstructs to the prior state.

- (a) The Database detects anomalies preventing recovery
  - i. The Database alerts the System of the error
  - ii. The System alerts the User of the error
  - iii. The Database enters a clean state (by default).

- 1a. The User can request the extremes (maximum, and/or minimum) of the requested data set:

1. The system will request from the database the extremes of the requested data and return to the User.

- 2a. If the requested data is not archived in the Database or in any other format, then the System.

1. Alerts the User the requested data is not available.