

Class Location:

- **Attributes:**
 - city (string)
 - state (string) (optional)
 - country (string) (optional)
 - latitude (float)
 - longitude (float)
- **Methods:**
 - `get_city()`: Returns the city name.
 - `get_state()`: Returns the state name (if applicable).
 - `get_country()`: Returns the country code.
 - `get_coordinates()`: Returns a tuple containing latitude and longitude.

Class WeatherData:

- **Attributes:**
 - timestamp (datetime)
 - temperature (float)
 - feels_like (float) (optional)
 - humidity (int) (%)
 - pressure (float) (hPa)
 - wind_speed (float) (m/s)
 - wind_direction (string) (e.g., "N", "NE")
 - weather_condition (string) (e.g., "sunny", "rainy", "cloudy")
 - icon (string) (URL to weather icon) (optional)
- **Methods:**
 - `get_timestamp()`: Returns the time the data was retrieved.
 - `get_temperature()`: Returns the current temperature.
 - `get_feels_like()`: Returns the "feels like" temperature (optional).
 - `get_humidity()`: Returns the humidity percentage.
 - `get_pressure()`: Returns the atmospheric pressure.
 - `get_wind_speed()`: Returns the wind speed.
 - `get_wind_direction()`: Returns the wind direction.
 - `get_weather_condition()`: Returns the current weather condition.
 - `get_icon()`: Returns the URL to the weather icon (optional).

Class Forecast:

- **Attributes:**

- `date` (datetime)
- `weather_data` (WeatherData object)
- **Methods:**
 - `get_date()`: Returns the forecast date.
 - `get_weather_data()`: Returns the associated WeatherData object.

Class WeatherService:

- **Methods:**
 - `get_current_weather(location)`: Returns current WeatherData for a given location.
 - `get_forecast(location, days)`: Returns a list of Forecast objects for the next 'days' at a given location.

Class Alert:

- **Attributes:**
 - `type` (string) (e.g., "severe weather", "flash flood")
 - `severity` (string) (e.g., "warning", "watch")
 - `description` (string)
 - `issued_at` (datetime)
- **Methods:**
 - `get_type()`: Returns the alert type.
 - `get_severity()`: Returns the alert severity.
 - `get_description()`: Returns the alert description.
 - `get_issued_at()`: Returns the time the alert was issued.

Relationships

- **Composition:** Forecast *has* a WeatherData object. The WeatherData object is part of the Forecast and wouldn't exist without it.
 - Multiplicity: Forecast "1" *-- "1" WeatherData (A Forecast has exactly one WeatherData object).
- **Dependency:** WeatherService *uses* other classes to perform its functions. It takes Location as a parameter and returns WeatherData and Forecast objects.
 - WeatherService ..> Location
 - WeatherService ..> WeatherData
 - WeatherService ..> Forecast
- **Isolated Class:** Based on the provided methods, Alert is not currently connected to any other class in this system.

