Web Applications Using Sensor Network Data
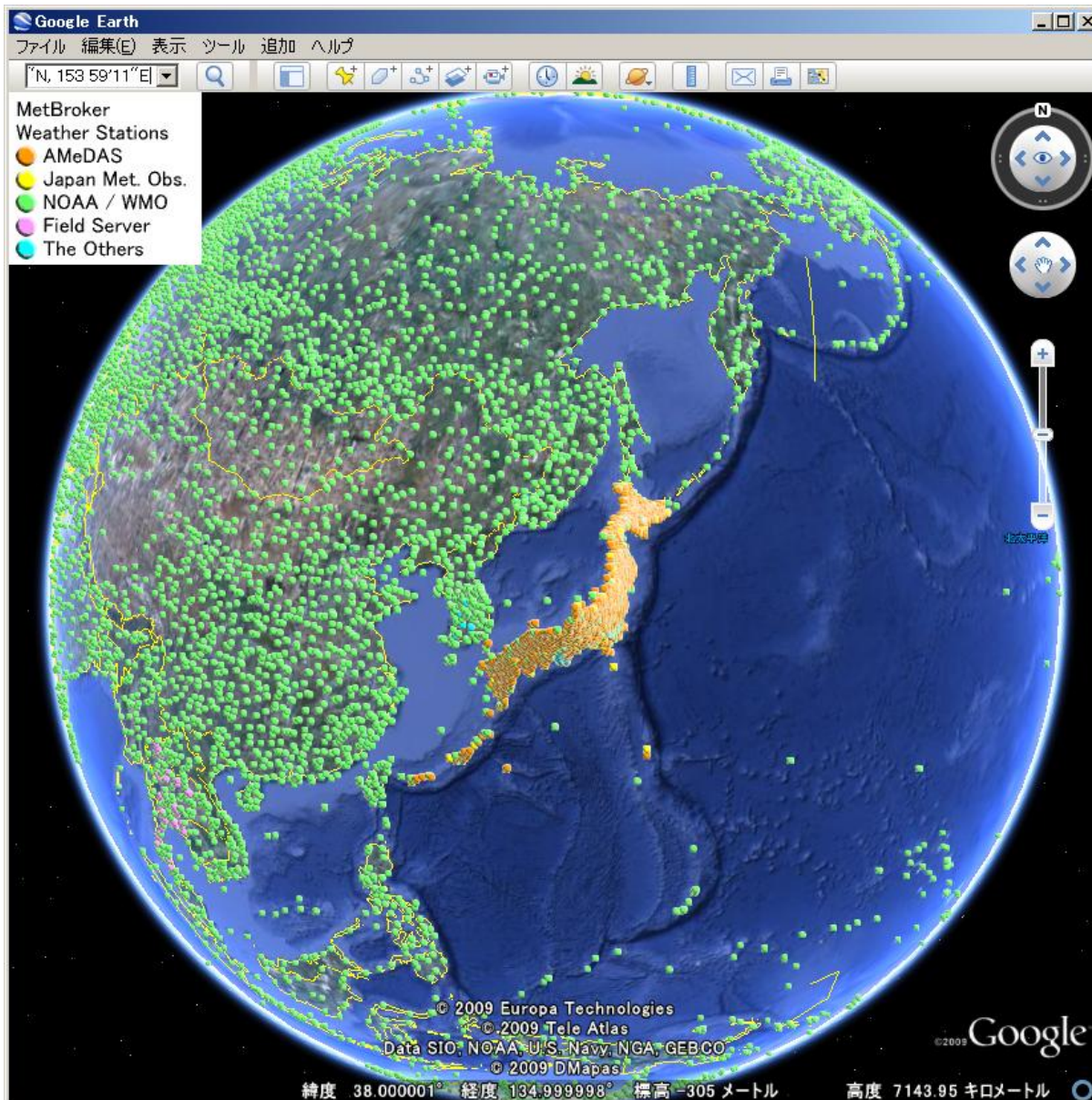
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Web Applications

- Application acquiring meteorological data through MetBroker
  - Crop growth prediction model

- Application using data and images observed by FieldServer
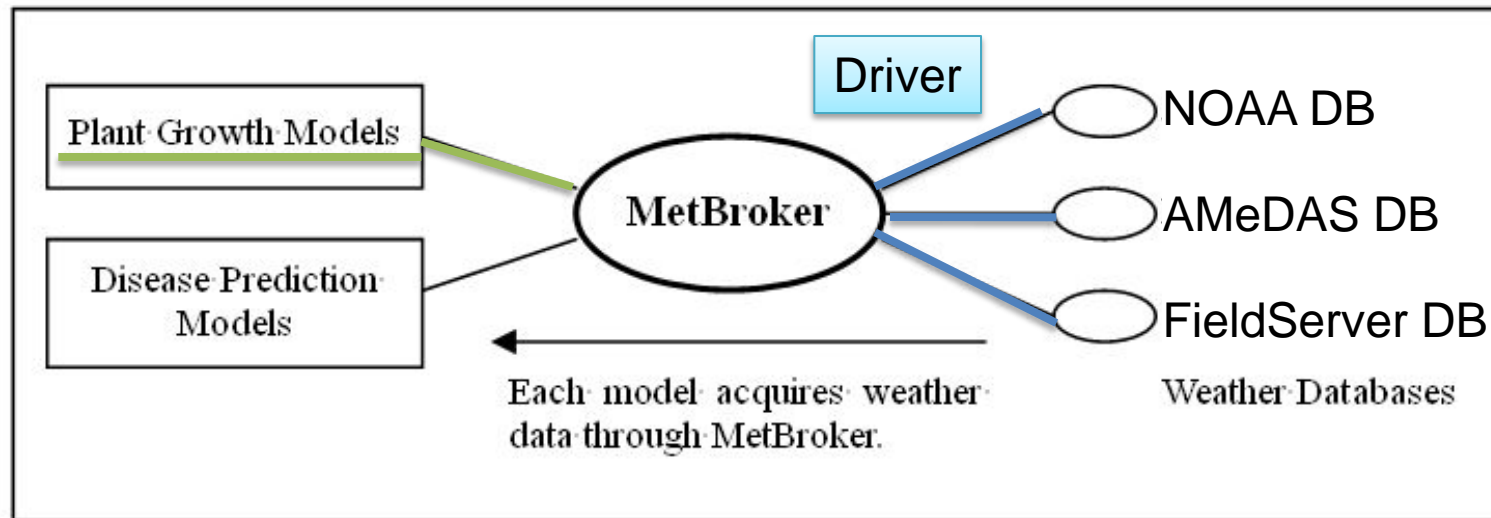 - Data viewer, Image viewer, Change detection service

MetBroker

- Middleware to provide consistent access to heterogeneous weather databases
- 22,000 weather stations of 25 DBs

- Legacy weather databases and sensor network nodes are seamlessly integrated

MetBroker

- Seamless integration of FieldServer with legacy databases through MetBroker
  - DB: MetBroker driver program
  - Model: MetBroker access program

Driver

Plant Growth Models

Disease Prediction Models

MetBroker

NOAA DB

AMeDAS DB

FieldServer DB

Each model acquires weather data through MetBroker.

Weather Databases

SIMRIW (SImulation Model for RIce-Weather relations)

Results of SIMRIW

We are planning to estimate rice yield by SIMRIW in India and Africa using sensor network data.

Web Application for FieldServer

http://pc105.narc.affrc.go.jp/fieldserver/

FieldServer Data Viewer and Download Service
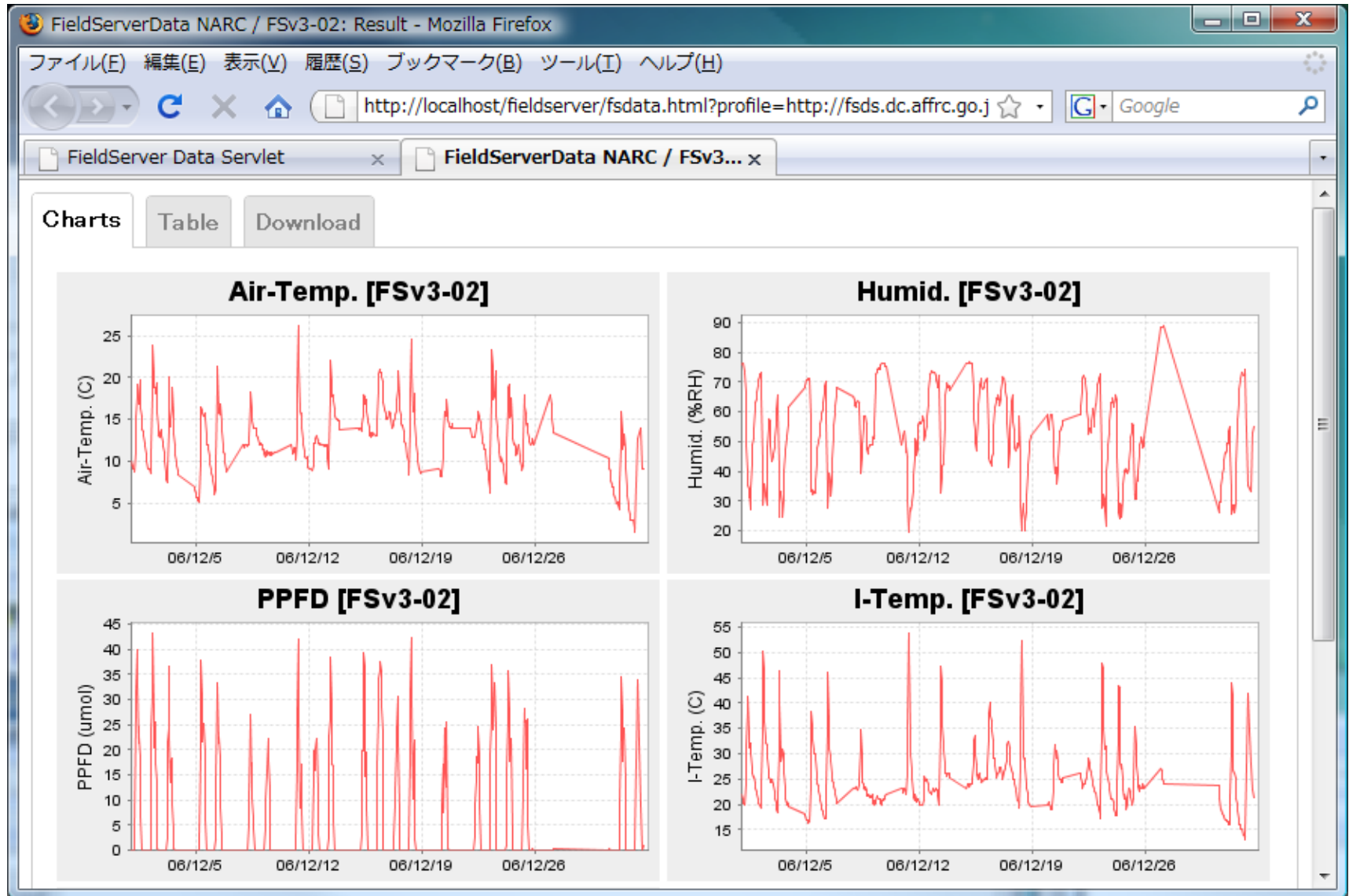
FieldServer Image Viewer
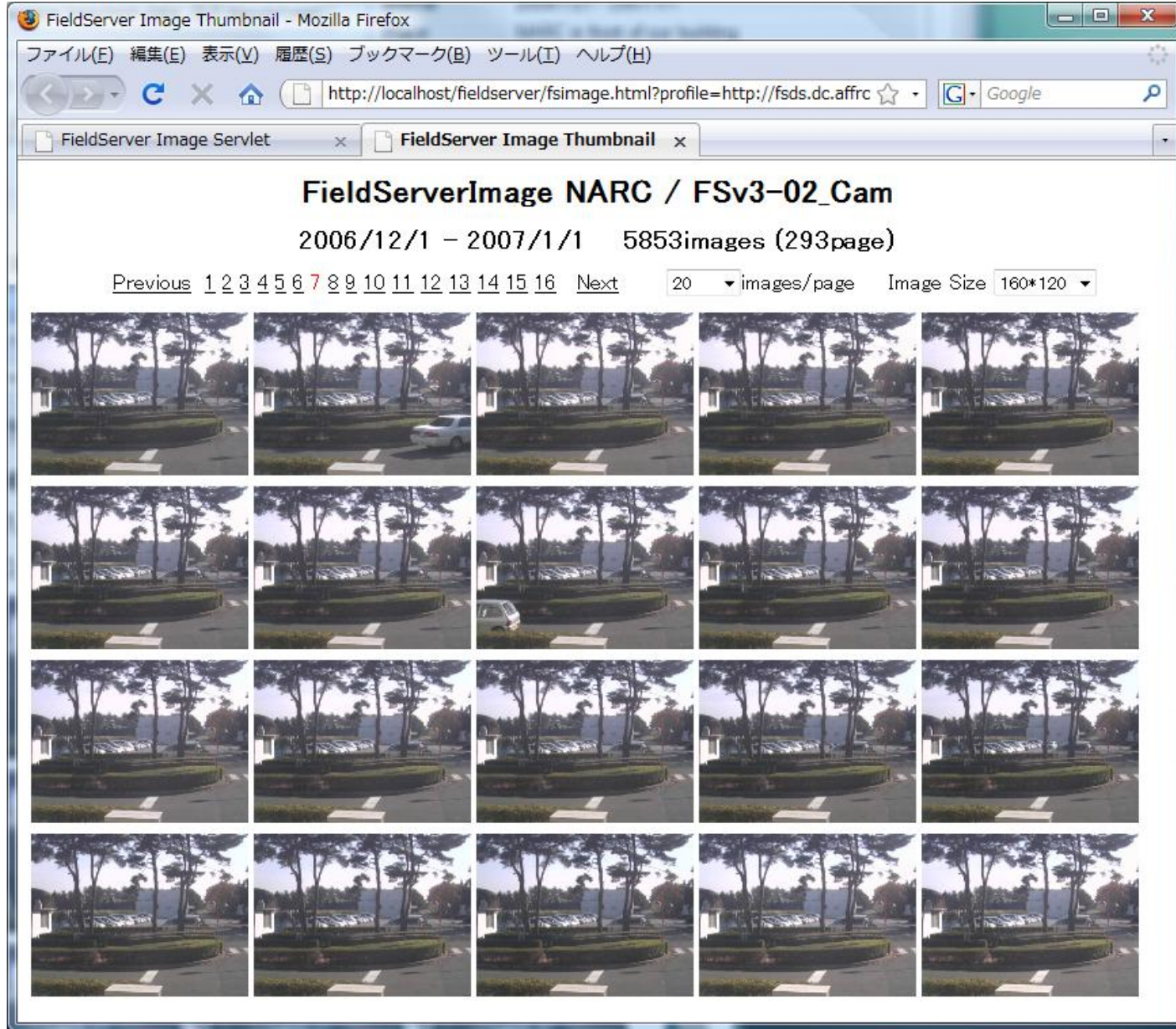
Change Detection Service

Appearance of cars in the fruit farm and the vegetable field are detected successfully.

Algorithm used by this service is robust to un-important change.