geoland Forum_5, Day 2

Global Land Monitoring

SMOS

J.-C. Calvet

SMOS: overview

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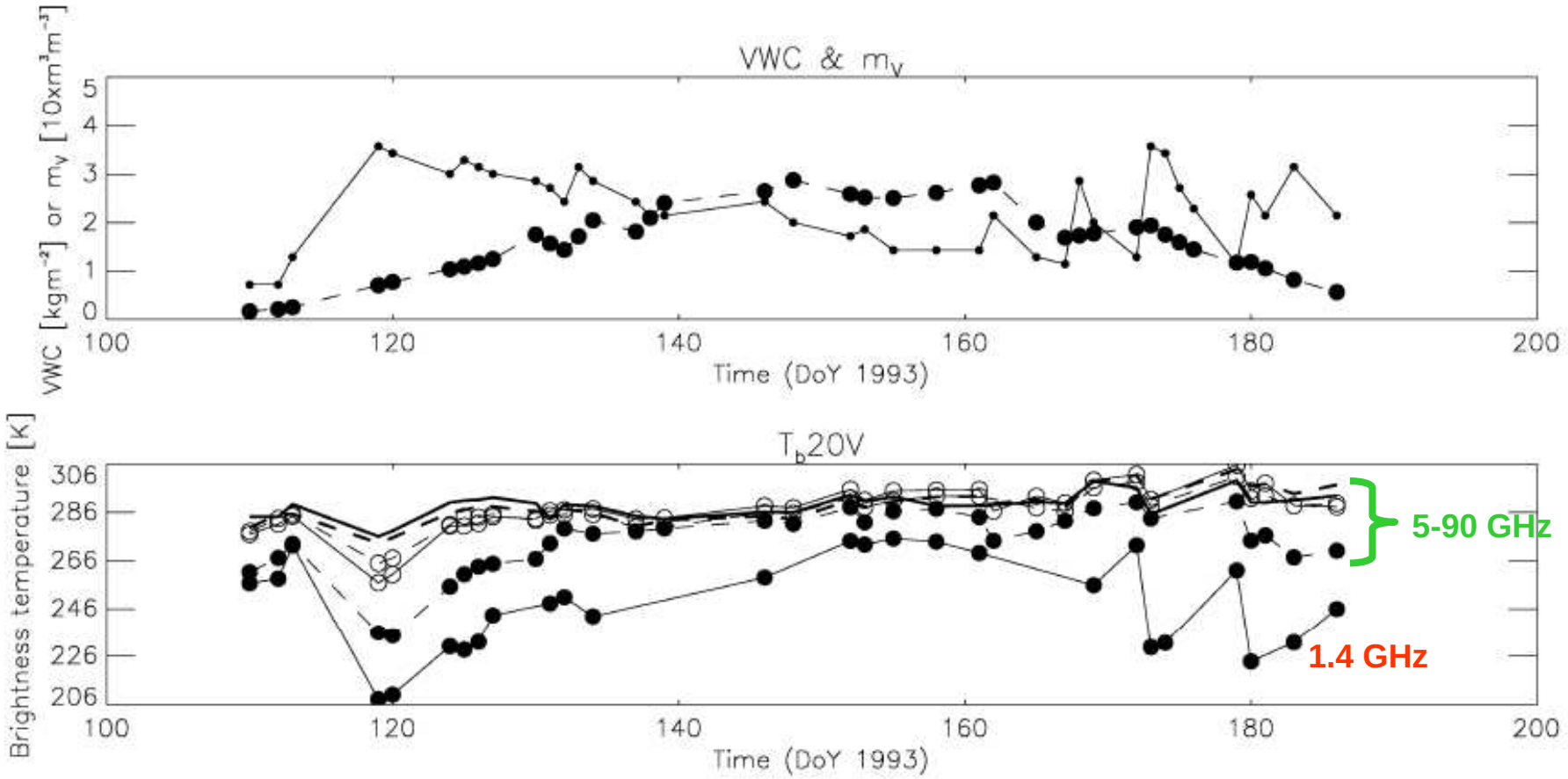
- L-band (1.4 GHz) radiometer, 2D-interferometry
- Multi-angular, bipol/fullpol brightness temperatures
- Land: surface soil moisture (0-5cm), vegetation water content
- 30-50km
- 3 days (Equ.)

SMOS: overview

- **Launch date: September 2009**
- **Land products**
  - **L1: Tb**
  - **L1-NRT: Tb**
  - **L2: SSM**
- **Research mission**
  - **Follow-on ?**

Hahne 2009

- **L-band is optimal to soil moisture sensing**



SMOS: collaboration, potential exchange

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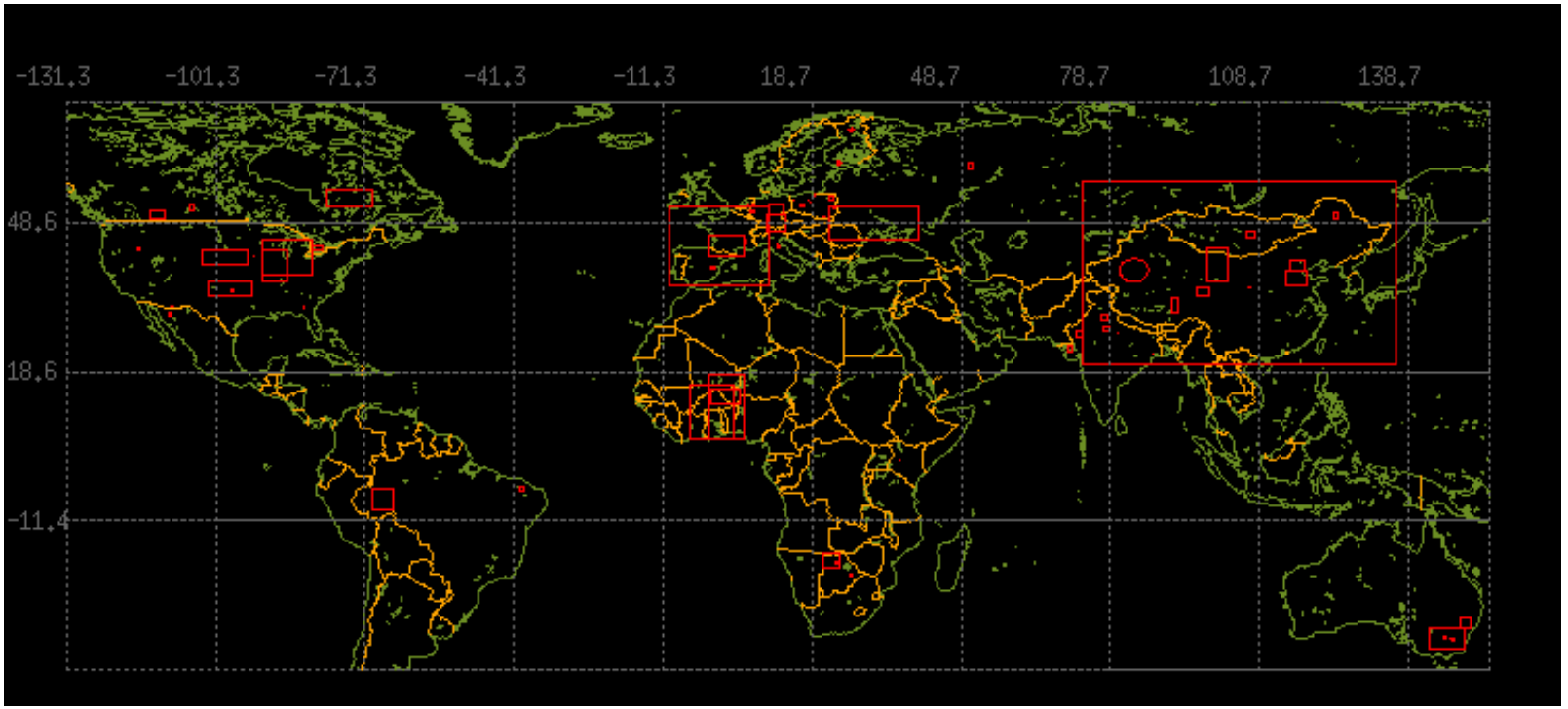
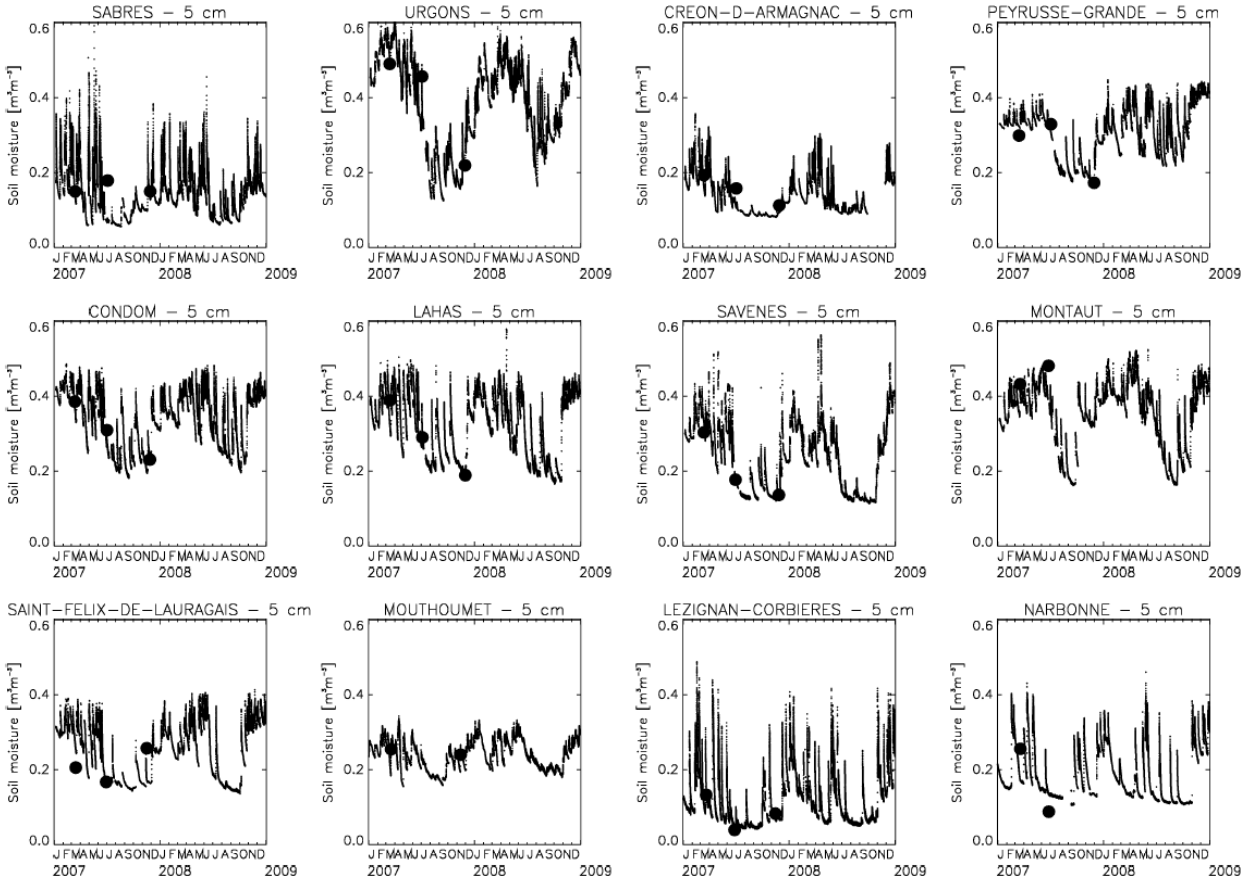
- **SMOS CAL/VAL**
  - Airborne campaings
  - ~30 Soil moisture test sites



Bouzinac et al. 2009

SMOS: collaboration, potential exchange

- **SMOSMANIA**
  - 21 MF stations in southern France, 5,10,20,30cm
  - Potentially NRT



SMOS: collaboration, potential exchange

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- **ISMWG**
  - International Soil Moisture Working Group
  - GEWEX, ESA
  - Data base of in situ soil moisture observations

SMOS: interfaces, complementarities

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- **Interfaces with g2**
  - CNES, ECMWF, Meteo-France, IM
    - CNES involved in ground/space segments
    - ECMWF and MF are declared users of L1-NRT products
    - MF involved in the CAL/VAL process
    - IM archives in situ soil moisture data
- **Complementarities**
  - Data assimilation effort
  - Cross-validation (soil moisture)
    - SMOS vs. ASCAT vs. models vs. in situ data