

Title: Water prospecting in arid Africa

Product Leader: Philippe Paillou

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Product Team (confirmed members only):

- Ake Rosenqvist (EORC, Japan)
- Tom Farr (JPL, USA)

Agreement status: Ready to sign !

Preferred agreement type (individual/institutional): Individual

Project objective(s):

- Use penetration capabilities of L-band SAR to map subsurface geology in arid Africa: identification and spatial location of unknown geological features (paleo-rivers and lakes, faults, tectonics, impact craters) as a basis to new water prospecting plans.
- Use dual-pol 50m resolution calibrated PALSAR path images to produce a mosaic of Sahara (Prototype Area 1) and Arabia (Prototype Area 2) registered to SRTM 1°x1° squares.
- Generation of subsurface radar (HH, HV/HH) maps (2005-2006)
- Generation of 2-year subsurface change maps (2007-2008)

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Prototype Area 1: SAHARA

Corresponding observation plan polygon(s): E1 + E2

No. PALSAR paths/coverage: ~60 paths * 4 coverages (6/05, 12/05, 6/07, 12/07)

PALSAR request (Year 1-3): 2 coverages HH+HV@34.3° (6/05, 6/07)

2 coverages HH+HV@43.4° (12/05, 12/07)

Input data (EORC products): PALSAR path images (Sigma-0, slant range, 50m)

Ancillary data requests: SRTM 90m

Prototype Area 2: ARABIA

Corresponding observation plan polygon(s): D7

No. PALSAR paths/coverage: ~20 paths * 4 coverages (6/05, 12/05, 6/07, 12/07)

PALSAR request (Year 1-3): 2 coverages HH+HV@34.3° (6/05, 6/07)

2 coverages HH+HV@43.4° (12/05, 12/07)

Input data (EORC products): PALSAR path images (Sigma-0, slant range, 50m)

Ancillary data requests: SRTM 90m

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K&C Product Deliverables (before end of Year 3):

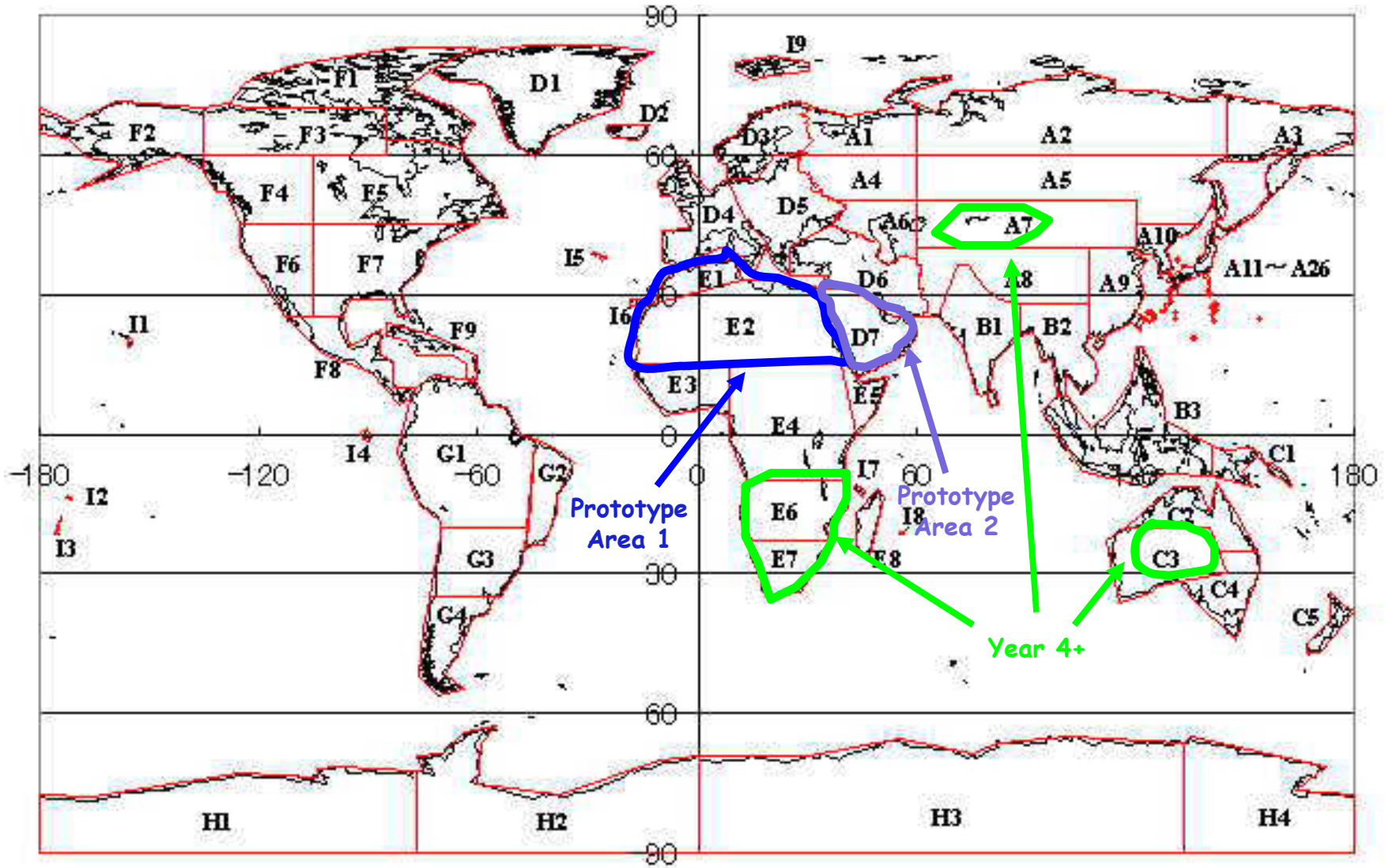
- 1 radar mosaic (HH) over Sahara and Arabia (2006)
- 1 subsurface map (HV/HH) over Sahara and Arabia (2006)
- 2-year subsurface change map over Sahara and Arabia (end 2007)

Prospects for Years 4-6 (assuming agreement extension)

- Extension to other arid regions on Earth:

Gobi (part of A7), South Africa (E6 + E7), Australia (part of C3)

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Location of Prototype Areas