a

LoSa | z | LoSd
$\phi = 23°$
N
ϕ ϕ
W | Deast | E
Dnorth
S
DLoSd
Dz
DR
DLoSa

b

LoSa | z | LoSd
N
DR
W | | E
S

c

LoSa | z | LoSd
DLoSd
N
Dz
DR
W | Deast | E
S

LoSa : ascending orbit Line of Sight	DR : real displacement
LoSd : descending orbit Line of Sight	Dz : vertical component of DR
ϕ : LoSa and LoSd incidence angle	Deast : horizontal, E-W oriented component of DR
	Dnorth : horizontal, N-S oriented component of DR

DLoSd : projection of DR along LoSd
DLoSa : projection of DR along LoSa

Figure S1. SAR satellites viewing geometry. Satellite Line of Sight along both the ascending and descending orbits (LoSa and LoSb axes, respectively) fall within a nearly vertical plane E-W oriented. Diagrams a to c show examples of displacement detected by SAR along the ascending and descending orbits (DLoSa and DLoSd, respectively) according to variable orientations of "real" ground displacement (DR). Components of real displacement vector in the vertical (Dz) and horizontal (Deast and Dnorth) planes are also shown. a: Real displacement oriented downwards, with related projections along the descending LoS and ascending LoS and its components in the horizontal plane oriented towards both the south and east. b: Displacement in the horizontal plane, oriented towards the north (or south), is not detected by SAR (projections along LoS axes are null). c: Real ground displacement falling in the plane orthogonal to the ascending orbit LoS is detected by SAR only along the descending orbit.