



JGR Solid Earth

Supporting Information for

**A pattern-based strategy for InSAR phase unwrapping and application to two
landslides in Colorado**

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Table A-1

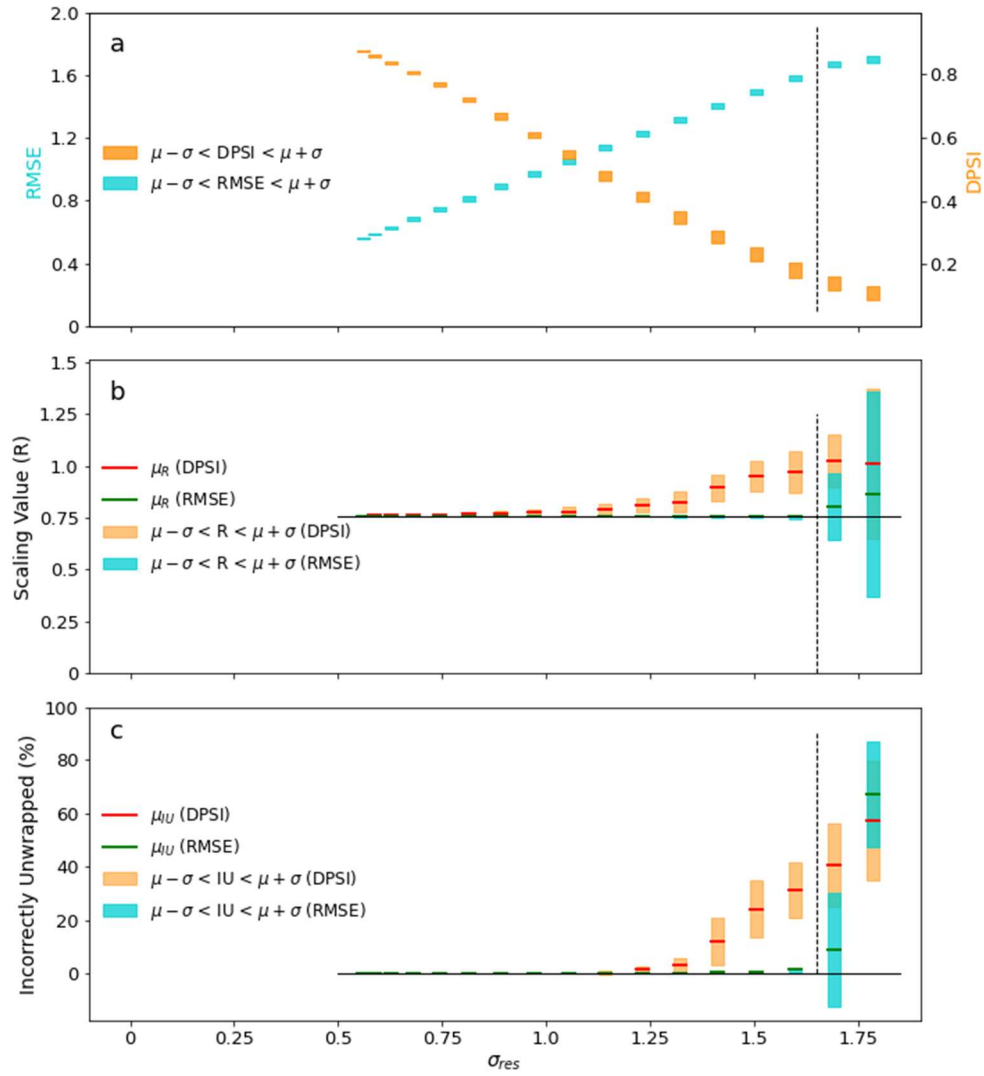


Figure A-1. a) RMSE and DPSI plotted for different level of residual phase from the synthetic data with different scaling values. The black vertical dashed line marks $\sigma=1.65$. The plots of scaling value and incorrectly unwrapped pixels are illustrated in b and c, respectively. The black horizontal solid lines mark true scaling value (0.75) and zero incorrectly unwrapped pixels.

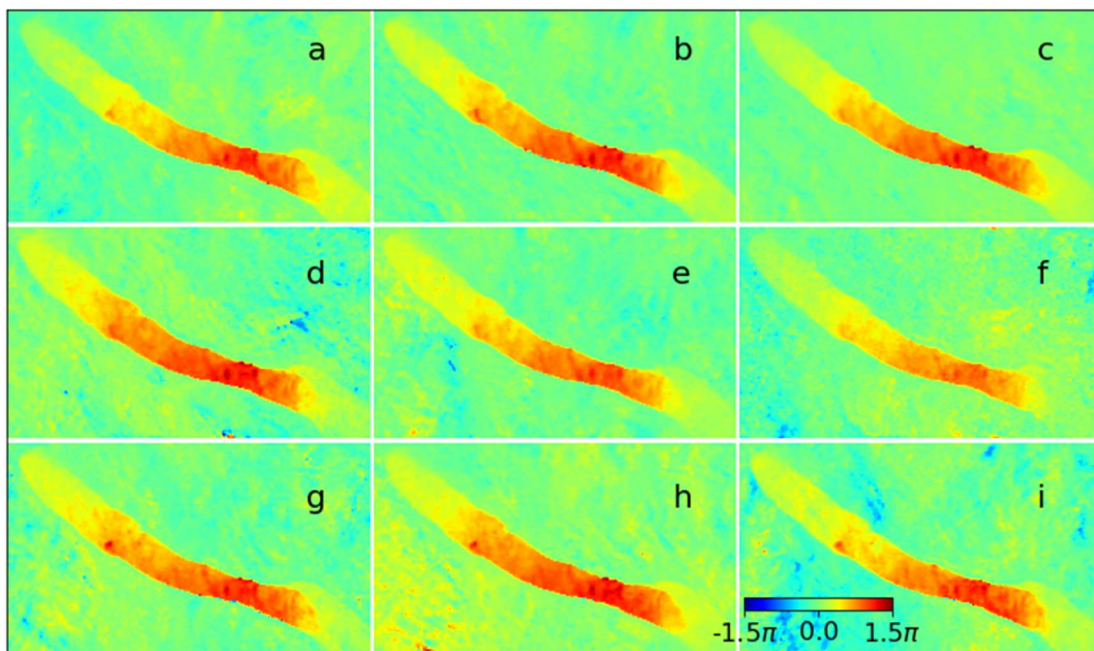


Figure A-2. The nine highest quality interferograms used to generate the reference image. a) 2011-08-12 to 2011-08-19, b) 2106-10-20 to 2016-10-27, c) 2017-10-18 to 2017-10-25, d) 2017-10-25 to 2017-11-01, e) 2018-07-25 to 2018-08-02, f) 2018-10-03 to 2018-10-10, g) 2012-04-16 to 2012-04-23, h) 2012-07-24 to 2012-08-01, and i) 2015-05-03 to 2015-05-10.

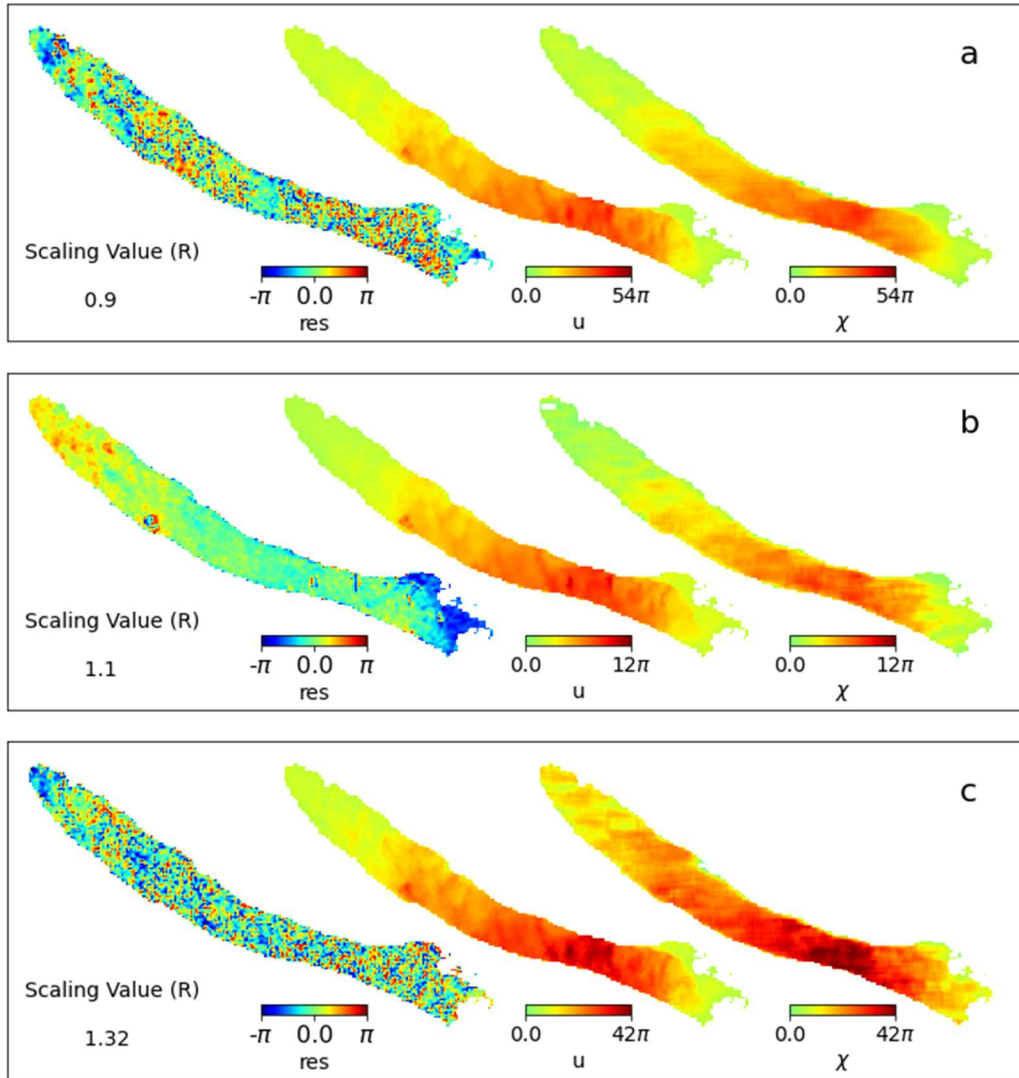


Figure A-3. The residual phase (n), unwrapped interferograms (u), and the range direction offsets (χ) of interferograms 2011-08-19 to 2012-05-09 (a), 2017-09-05 to 2017-10-25 (b), and 2016-04-01 to 2016-10-20 (c).

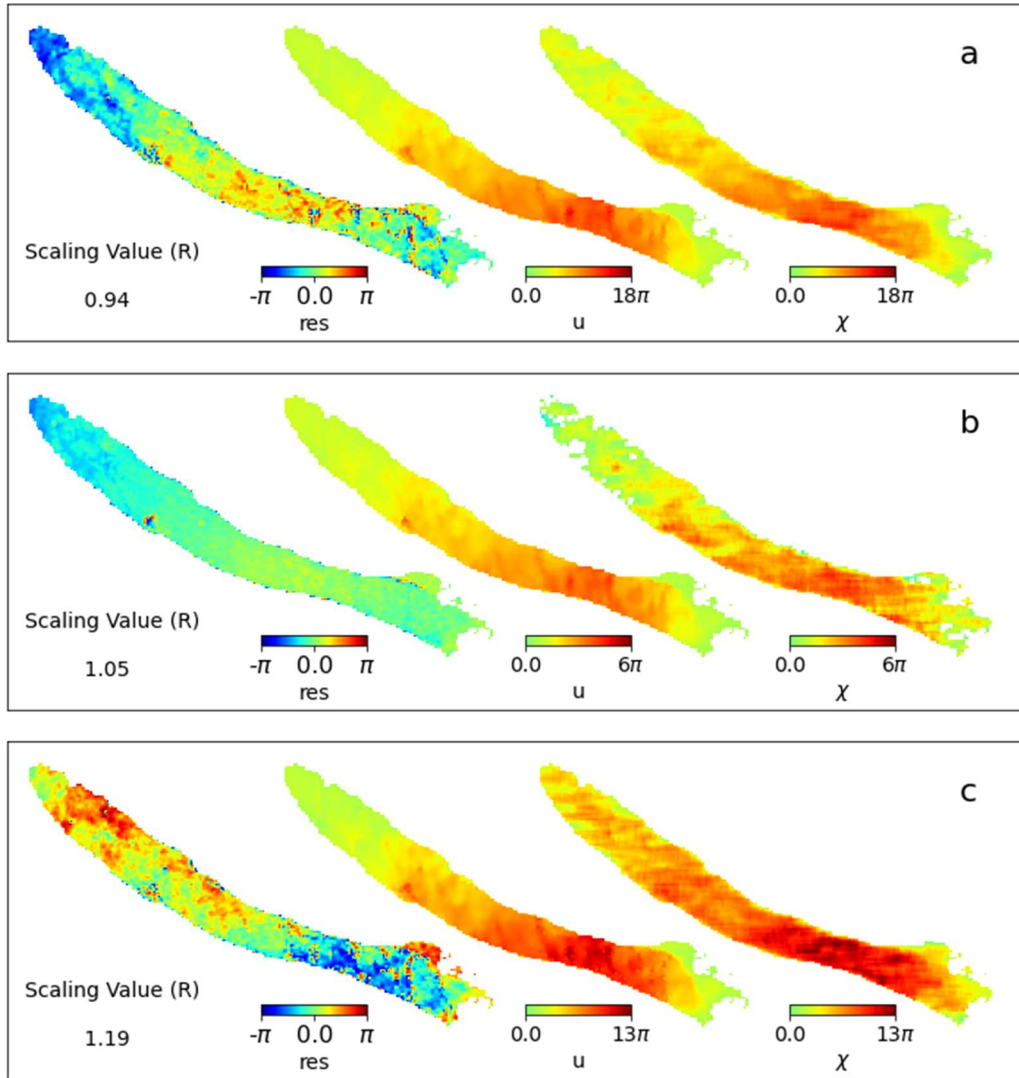


Figure A-4. The residual phase (π), unwrapped interferograms (u), and the range direction offsets (χ) of interferograms 2012-05-09 to 2012-08-01 (a), 2012-04-16 to 2012-05-09 (b), and 2015-05-04 to 2015-06-29 (c).

Table A-1. The dates, temporal baselines, and quality metrics for the interferograms in figures A-3 and A-4.

	Interferogram	Temporal Baseline (day)	R	RMSE	DPSI
<i>A-3.a</i>	2011-08-19 2012-05-09	257	0.90	1.55	0.25
<i>A-3.b</i>	2017-09-05 2017-10-25	50	1.10	0.97	0.65
<i>A-3.c</i>	2016-04-01 2016-10-20	202	1.32	1.62	0.17
<i>A-4.a</i>	2012-05-09 2012-08-01	84	0.94	1.10	0.68

<i>A-4.b</i>	<i>2012-04-16</i> <i>2012-05-09</i>	23	1.05	0.55	0.91
<i>A-4.c</i>	<i>2015-05-04</i> <i>2015-06-29</i>	56	1.19	1.33	0.59