

Supplementary online materials for

**Disruptive Role of Vertical Land Motion in Future Assessments of Climate Change-Driven Sea Level Rise and Coastal Flooding Hazards in Chesapeake Bay.**

<sup>1</sup>\*Sonam Futi Sherpa, <sup>1</sup>Manoochcher Shirzaei and <sup>2</sup>Chandrakanta Ojha

<sup>1</sup>Virginia Tech, Department of Geosciences, Blacksburg, VA

<sup>2</sup>Department of Earth and Environmental Sciences, IISER Mohali, Sahibzada Ajit Singh Nagar,  
India

\*Corresponding Author

**Table S1.** Acquisition dates of ALOS L-band, Sentinel-1A/B, C-band SAR images acquired in ascending orbit geometry of paths 134, 135, 136,137,138 for ALOS and paths 106 and 04 for Sentinel used for estimating vertical land motion for Chesapeake Bay. Acquisition dates of the data are provided in YYYYMMDD format. Beam modes are Polarimetric mode (PLR) and interferometric wide swath (IW) mode for ALOS PALSAR and Sentinel-1 respectively.

Satellite	Paths	Frames	Acquisition Date (YYYYMMDD)	Look Direction	Look Angle ( $\theta$ )	Wavelength $\lambda$ (cm)	Beam Mode	Flight Direction
ALOS	134	750	20070804 20070919 20071220 20080921	Ascending	34.5	24.6	PLR	347

## Earth's Future

			20081222				
			20090924				
			20091225				
			20100327				
			20100512				
			20100627				
			20100812				
			20101112				
			20101228				
			20110212				
		760	20070804	Ascending	34.5	24.6	PLR 347
			20070919				
			20071220				
			20080921				
			20081222				
			20090924				
			20091225				
			20100327				
			20100512				
			20100627				
			20100812				
			20101112				
			20101228				
			20110212				
		770	20070919	Ascending	34.5	24.6	PLR 347
			20071220				
			20080921				
			20081222				
			20090924				
			20091225				
			20100327				
			20100512				
			20100627				
			20100812				
			20101112				
			20101228				
			20110212				
ALOS	135	740	20080523	Ascending	34.5	24.6	PLR 347
			20080708				
			20090711				
			20100111				
			20100226				
			20100529				

## Earth's Future

			20100714					
			20100829					
			20101014					
			20101129					
			20110114					
		750	20080523					
			20080708					
			20090711					
			20100111					
			20100226					
			20100529					
			20100714					
			20100829					
			20101014					
			20101129					
			20110114					
ALOS	136	720	20061205	Ascending	34.5	24.6	PLR	347
			20071208					
			20090728					
			20100315					
			20100430					
			20100615					
			20100915					
			20101031					
			20101216					
			20110131					
		730	20061205	Ascending	34.5	24.6	PLR	347
			20071208					
			20100315					
			20100430					
			20100615					
			20100915					
			20101031					
			20101216					
			20110131					
		740	20061205	Ascending	34.5	24.6	PLR	347
			20071208					
			20100315					
			20100615					
			20100915					
			20101031					
			20101216					

# Earth's Future

20110131

750		Ascending	34.5	24.6	PLR	347
	20061205					
	20071208					
	20090728					
	20100315					
	20100430					
	20100615					
	20100915					
	20101031					
	20101216					
	20110131					

760		Ascending	34.5	24.6	PLR	347
	20061205					
	20071208					
	20090728					
	20100315					
	20100430					
	20100615					
	20100915					
	20101031					
	20101216					

770	20061205	Ascending	34.5	24.6	PLR	347
	20071208					
	20090728					
	20100315					
	20100430					
	20100615					
	20100915					
	20101031					
	20101216					
	20110131					

ALOS	137	720	20061222	Ascending	34.5	24.6	PLR	347
			20070924					
			20080626					
			20080926					
			20090814					
			20100401					
			20100517					
			20100702					
			20100817					
			20101002					

## Earth's Future

20101117

20110102

730	20061222	Ascending	34.5	24.6	PLR	347
	20070924					
	20080626					
	20080926					
	20090814					
	20100401					
	20100517					
	20100702					
	20100817					
	20101002					
	20101117					
	20110102					
	20110217					

740	20070924	Ascending	34.5	24.6	PLR	347
	20100702					
	20100817					
	20101117					

750	20061222	Ascending	34.5	24.6	PLR	347
	20070924					
	20080626					
	20080926					
	20090814					
	20100401					
	20100517					
	20101002					
	20101117					
	20110102					
	20110217					

760	20061222	Ascending	34.5	24.6	PLR	347
	20070924					
	20080626					
	20080926					
	20090814					
	20100401					
	20100517					
	20100702					
	20100817					
	20101002					
	20101117					
	20110102					

## Earth's Future

			20110217				
		770	20061222	Ascending	34.5	24.6	PLR 347
			20070924				
			20080626				
			20090814				
			20100401				
			20100517				
			20100702				
			20100817				
			20101002				
			20101117				
			20110102				
			20110217				
Sentinel-1/A	106	118	20170411	Ascending	38.4	5.547	IW 347
			20170423				
			20170505				
			20170517				
			20170529				
			20170610				
			20170622				
			20170704				
			20170716				
			20170809				
			20170902				
			20170914				
			20170926				
			20171008				
			20171020				
			20171101				
			20171113				
			20171125				
			20171207				
			20171219				
			20171231				
			20180112				
			20180124				
			20180205				
			20180217				
			20180301				
			20180313				
			20180325				
			20180406				
			20180418				
			20180430				

## Earth's Future

20180512  
20180524  
20180605  
20180617  
20180629  
20180711  
20180723  
20180804  
20180816  
20180915  
20180921  
20181003  
20181015  
20181027  
20181108  
20181120  
20181202  
20181214  
20181226  
20190107  
20190119  
20190131  
20190212  
20190224  
20190308  
20190320  
20190401  
20190413  
20190425  
20190507  
20190519  
20190531  
20190612  
20190624  
20190706  
20190718  
20190730  
20190811  
20190823  
20190904  
20190916  
20190928  
20191010  
20191022  
20191103  
20191115

# Earth's Future

	20191127					
	20191209					
	20191221					
	20200102					
	20200114					
	20200126					
	20200207					
	20200219					
	20200302					
	20200314					
	20200326					
	20200407					
	20200419					
	20200501					
	20200513					
	20200606					
	20200618					
	20200630					
	20200712					
	20200724					
	20200805					
	20200817					
	20200829					
123	20170411	Ascending	38.4	5.547	IW	347
	20170423					
	20170505					
	20170517					
	20170529					
	20170610					
	20170622					
	20170704					
	20170716					
	20170809					
	20170902					
	20170914					
	20170926					
	20171008					
	20171020					
	20171101					
	20171113					
	20171125					
	20171207					
	20171219					
	20171231					
	20180112					
	20180124					



## Earth's Future

20180205  
20180217  
20180301  
20180313  
20180325  
20180406  
20180418  
20180430  
20180512  
20180524  
20180605  
20180617  
20180629  
20180711  
20180723  
20180804  
20180816  
20180915  
20180921  
20181003  
20181015  
20181027  
20181108  
20181120  
20181202  
20181214  
20181226  
20190107  
20190119  
20190131  
20190212  
20190224  
20190308  
20190320  
20190401  
20190413  
20190425  
20190507  
20190519  
20190531  
20190612  
20190624  
20190706  
20190718  
20190730  
20190811

## Earth's Future

Sentinel-1A	04	115	20190823	Ascending	38.4	5.547	IW	347
			20190904					
			20190916					
			20190928					
			20191010					
			20191022					
			20191103					
			20191115					
			20191127					
			20191209					
			20191221					
			20200102					
			20200114					
			20200126					
			20200207					
			20200219					
			20200302					
			20200314					
			20200326					
			20200407					
			20200419					
			20200501					
			20200513					
			20200606					
			20200618					
			20200630					
			20200712					
			20200724					
			20200805					
			20200817					
			20200829					
			20160702					
			20160924					
			20161006					
			20161018					
20161030								
20161111								
20161123								
20161205								
20161217								
20161229								
20170110								
20170122								
20170203								
20170215								
20170227								

## Earth's Future

20170311  
20170323  
20170404  
20170416  
20170428  
20170510  
20170522  
20170603  
20170615  
20170627  
20170709  
20170721  
20170802  
20170814  
20170826  
20170919  
20171001  
20171013  
20171025  
20171106  
20171118  
20171130  
20171212  
20171224  
20180105  
20180129  
20180222  
20180306  
20180318  
20180330  
20180411  
20180423  
20180505  
20180517  
20180529  
20180610  
20180622  
20180704  
20180716  
20180728  
20180809  
20180821  
20180902  
20180914  
20180926  
20181008

## Earth's Future

20181020  
20181101  
20181113  
20181125  
20181219  
20181231  
20190112  
20190124  
20190217  
20190301  
20190313  
20190325  
20190406  
20190418  
20190430  
20190512  
20190605  
20190617  
20190629  
20190711  
20190723  
20190804  
20190816  
20190828  
20190909  
20190921  
20191003  
20191015  
20191027  
20191108  
20191120  
20191202  
20191214  
20191226  
20200107  
20200131  
20200212  
20200224  
20200307  
20200319  
20200331  
20200412  
20200424  
20200506  
20200518  
20200530

## Earth's Future

20200611  
20200623  
20200705  
20200729  
20200810  
20200822  
20200903  
20200915  
20200927  
20201009