Supporting Information for "Complex 3-D surface deformation in the 1971 San Fernando, California earthquake reveals static and dynamic controls on off-fault deformation"

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Contents of this file

1. Figures S1 to S3

2. Tables S1 to S3

Additional Supporting Information (Files uploaded separately)

1. Table S1. Strike-parallel offsets, field measurements used in OFD estimation and OFD from strike-perpendicular profiles. Some field measurements have been projected to be perpendicular to each profile. Fault ID corresponds to the different fault segments mentioned in the text: MS: main rupture strand – Sylmar segment. MT: main strand – Tujunga segment. SS: Sylmar secondary fault. KS: Kagel Canyon secondary fault. TS: Little Tujunga Canyon secondary fault.

2. Table S2. Vertical offsets, field measurements used in OFD estimation and OFD from strike-perpendicular profiles. See Table S1 for fault ID explanation.

Introduction

The supporting information provides more information on the full 3-D displacement field, strike-perpendicular profiles used to measure offsets, fault zone deformation and fault zone widths.

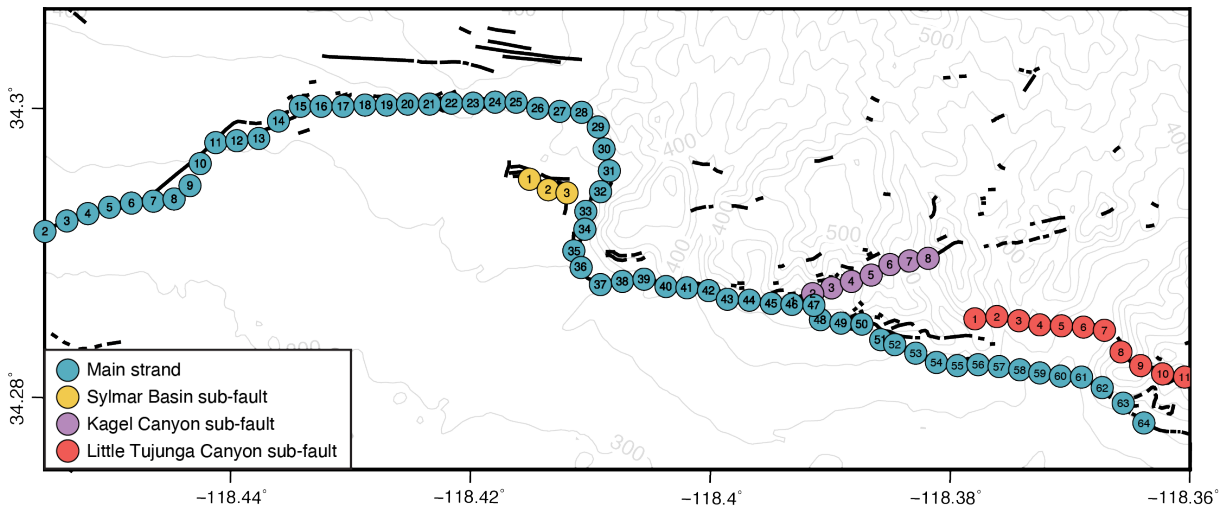


Figure S1. Map showing location of profiles in Figure S2.

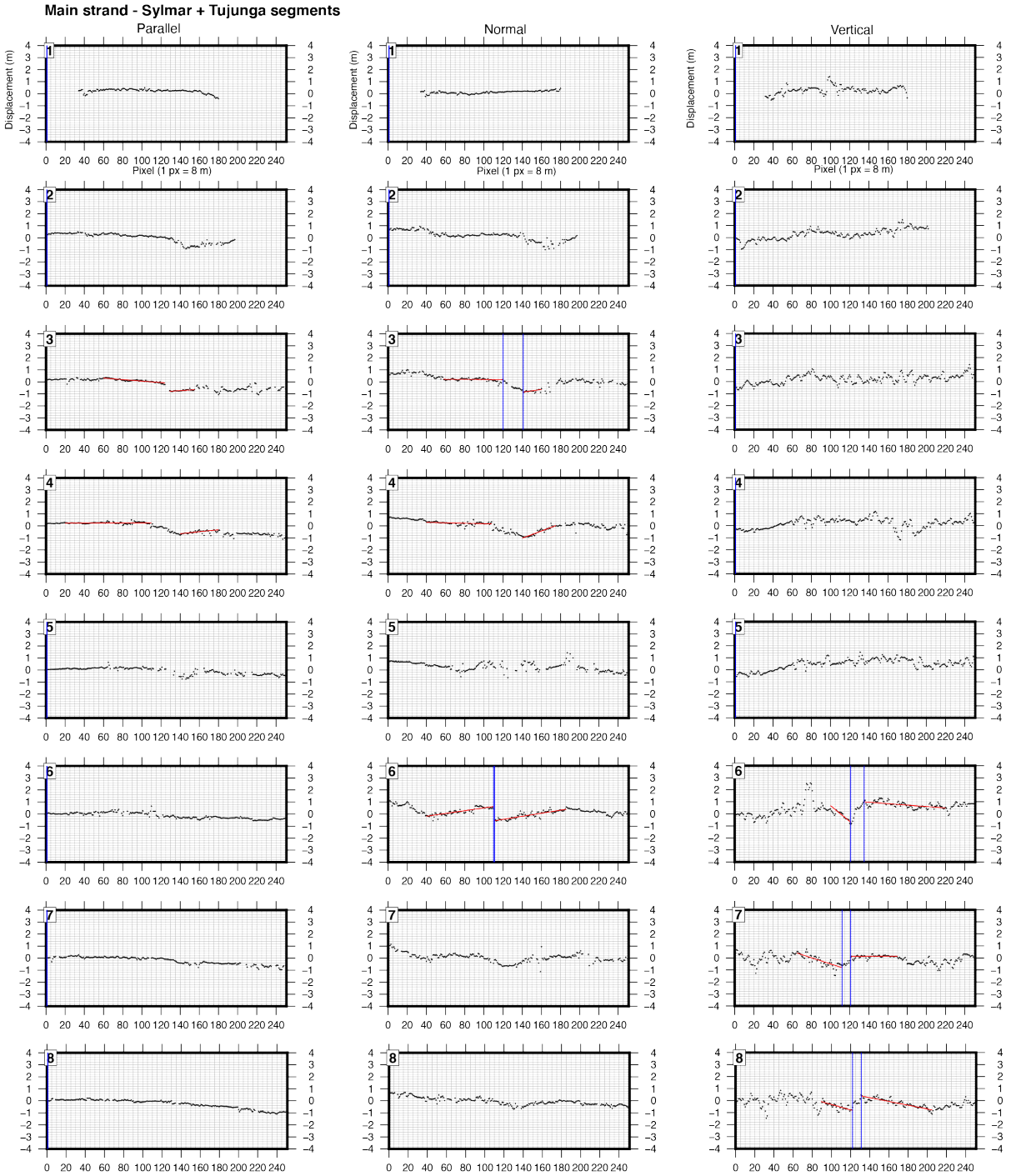
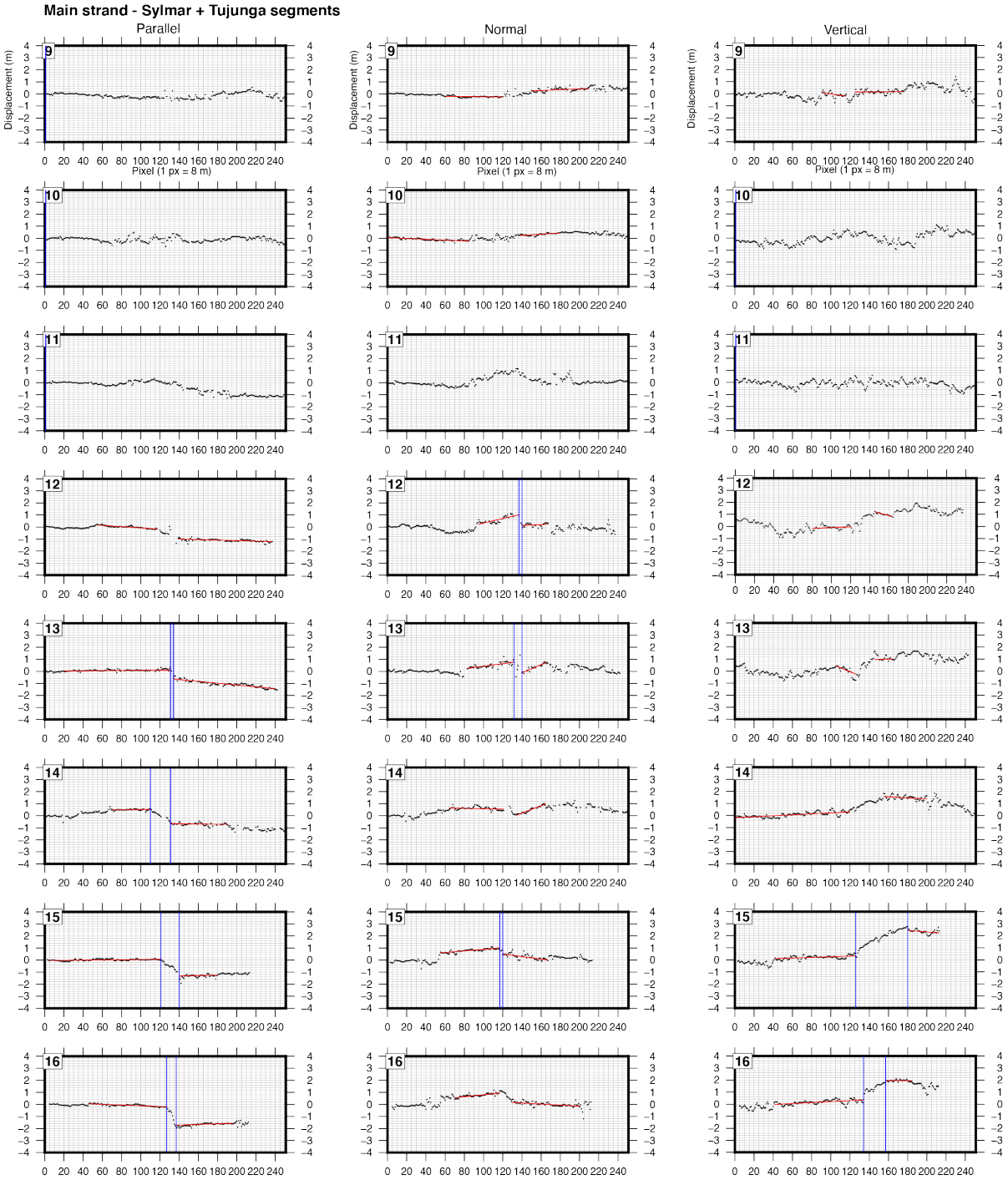
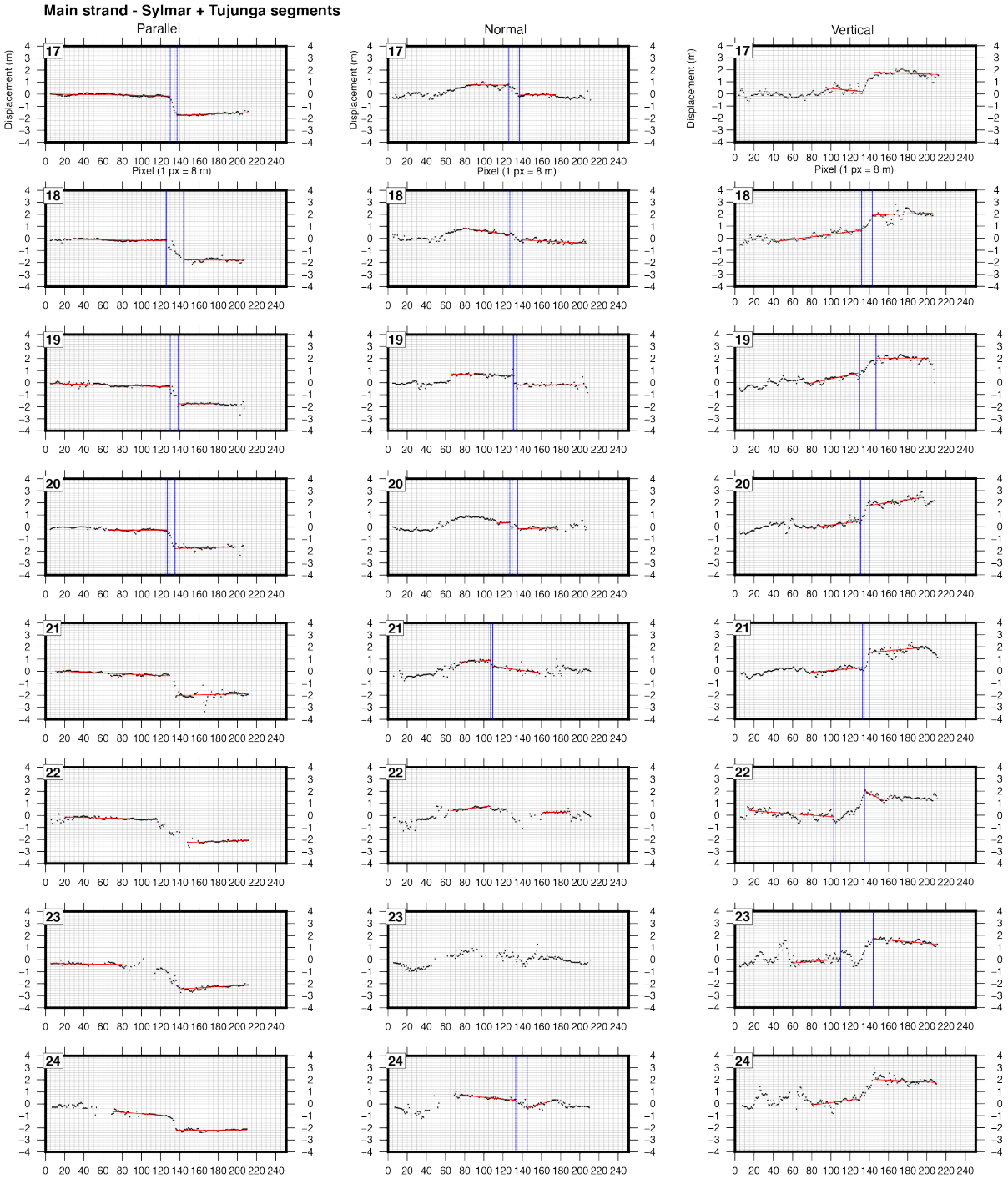
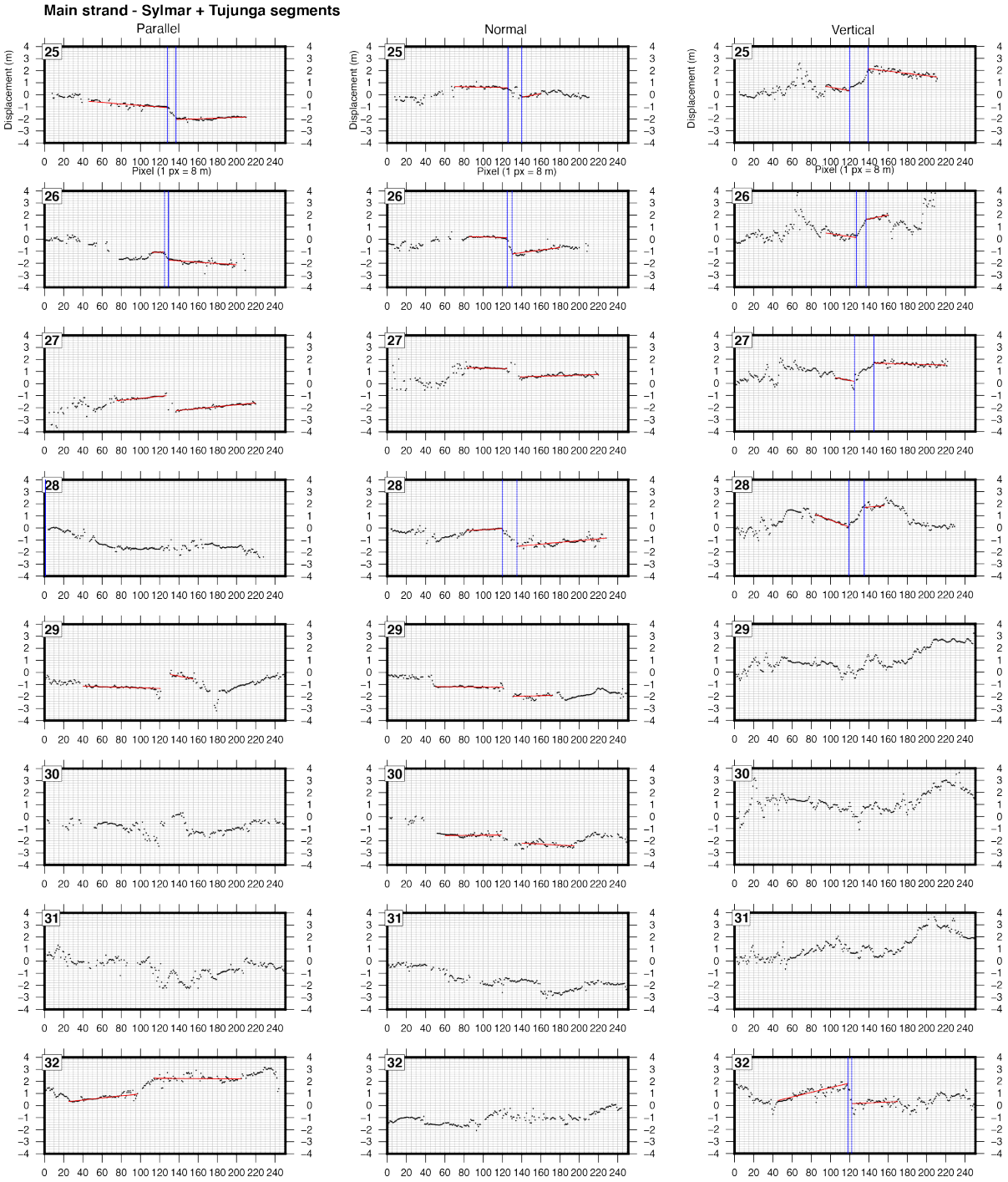
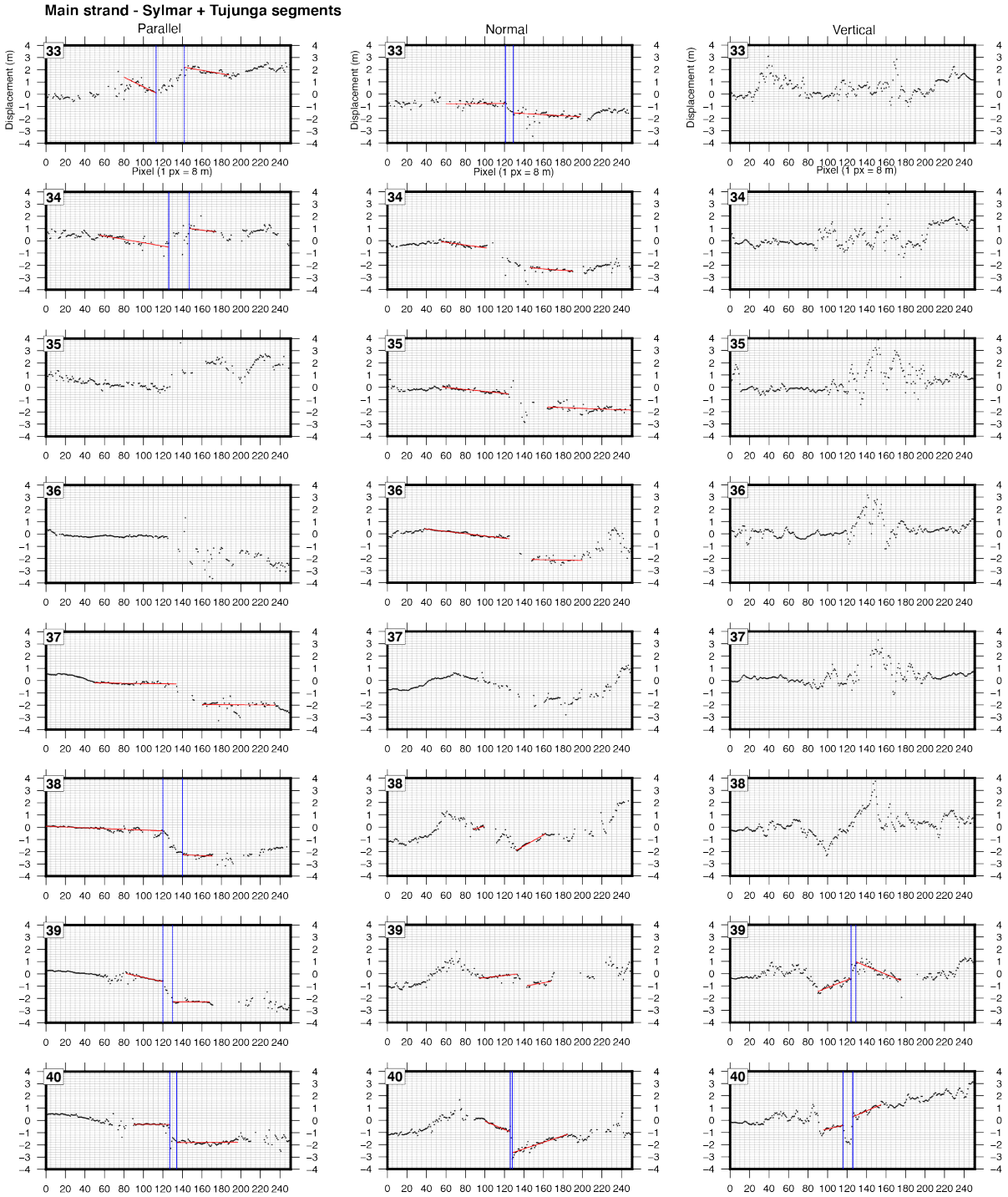


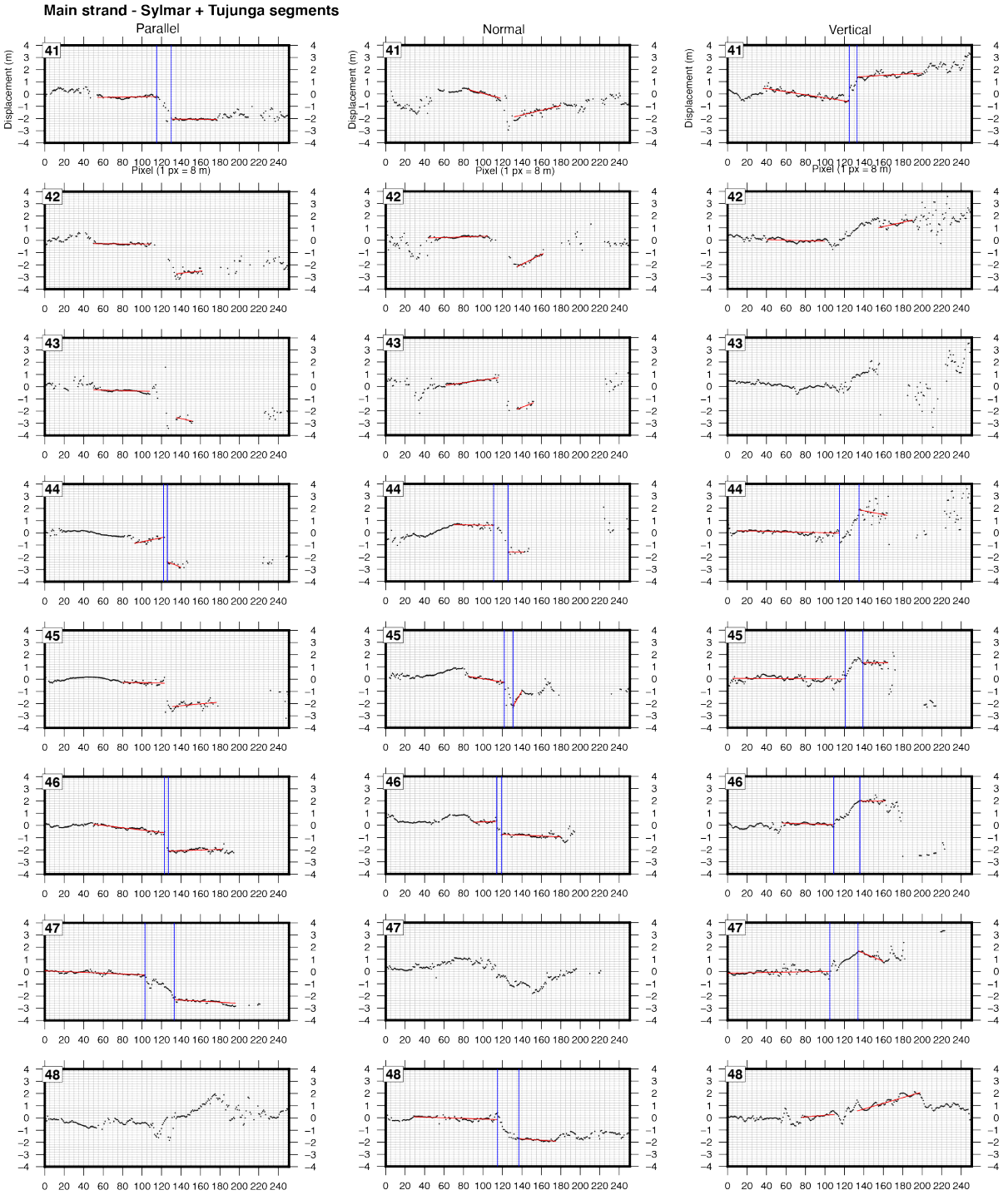
Figure S2. Strike-perpendicular coseismic displacement profiles from an averaged swath of a 21 pixel width. All profiles are as labeled on the first row of each page; displacement (m) as a function of fault-perpendicular distance (px). Numbers correspond to locations in Figure S1. Red lines represent linear regression and blue lines are placed at the boundaries of the preferred deformation zone.

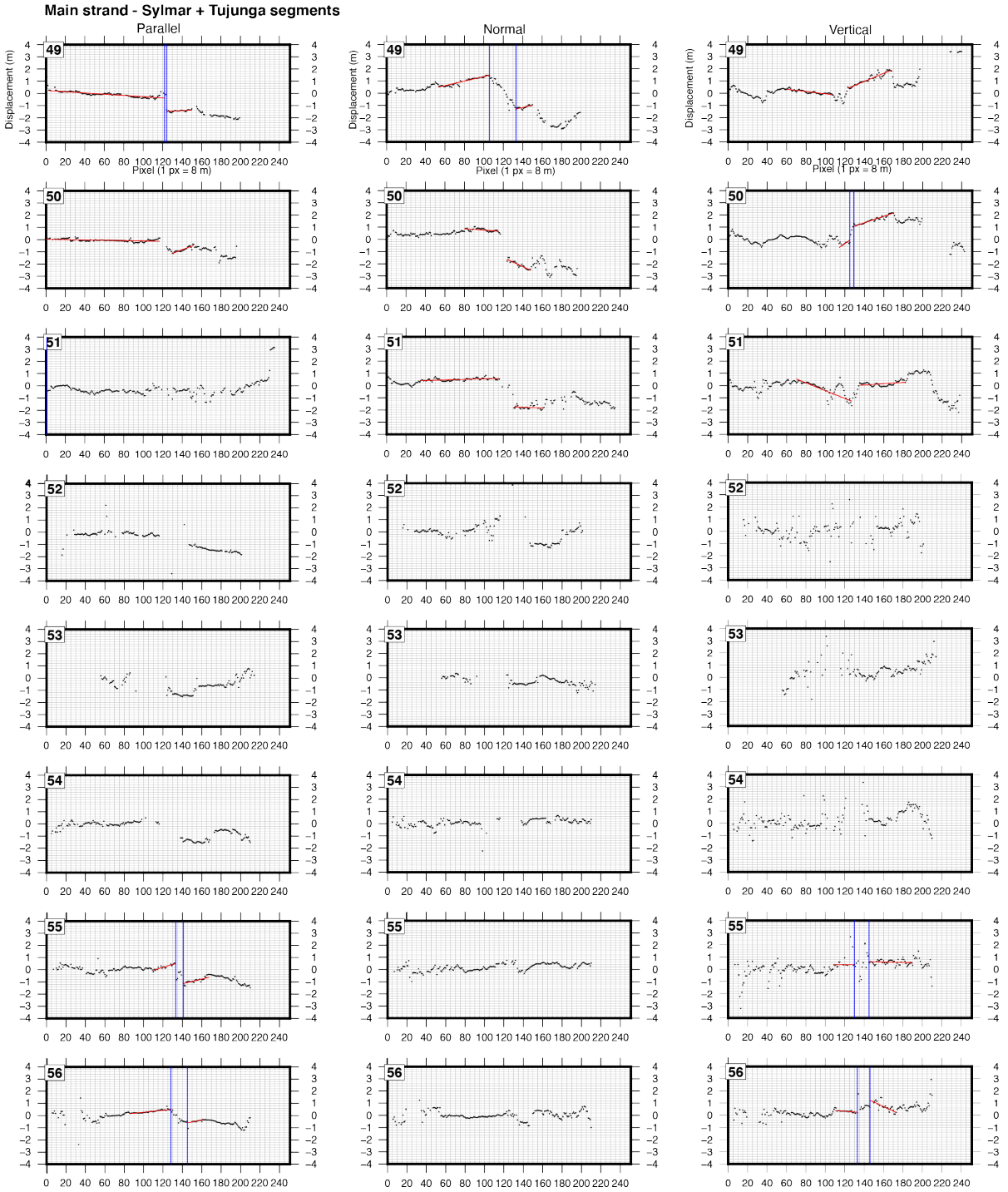

Main strand - Sylmar + Tujunga segments
Parallel
Normal
Vertical
Displacement (m)
Pixel (1 px = 8 m)
9
10
11
12
13
14
15
16

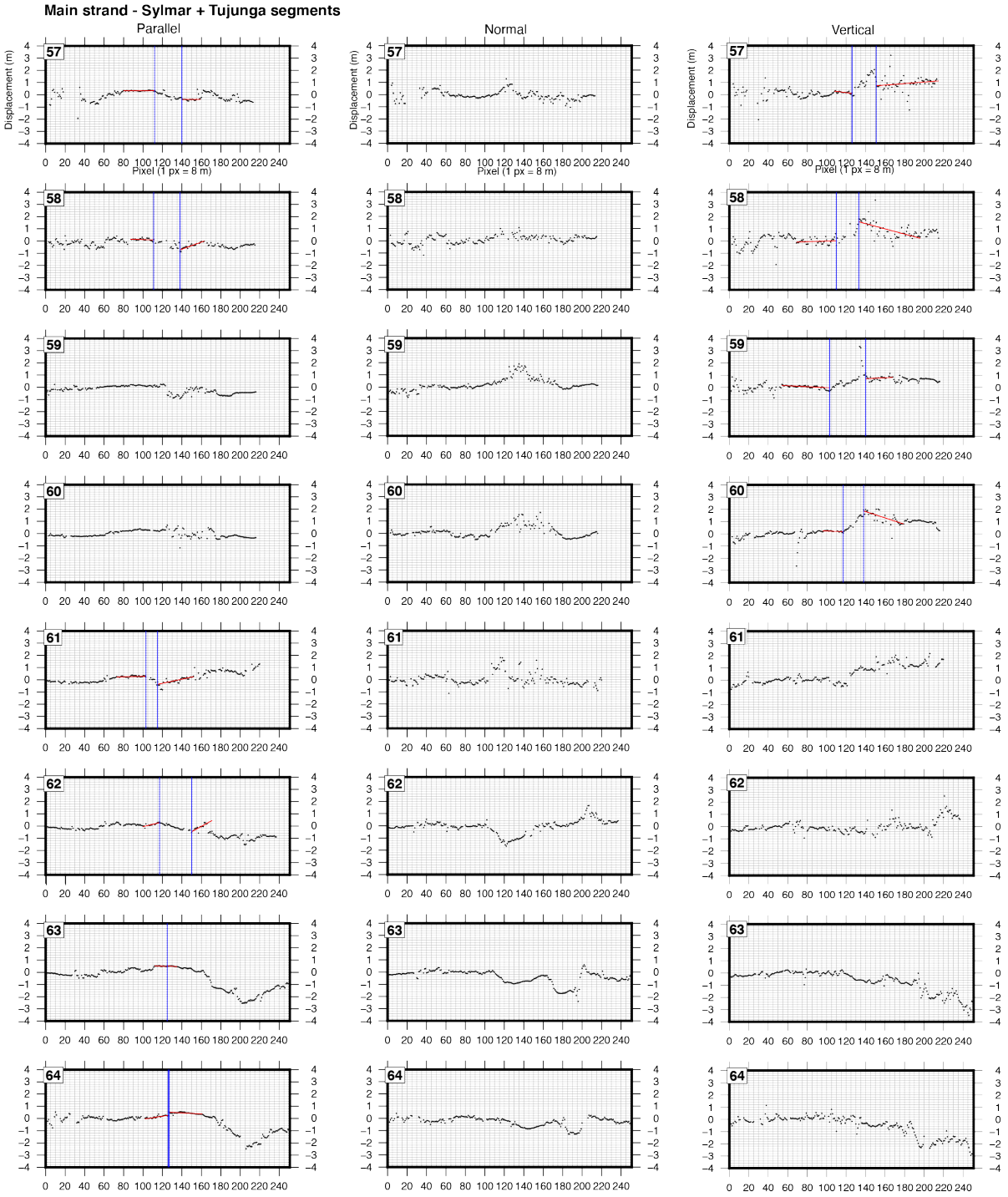

Main strand - Sylmar + Tujunga segments
Parallel
Normal
Vertical
Displacement (m)
Pixel (1 px = 8 m)
17
18
19
20
21
22
23
24

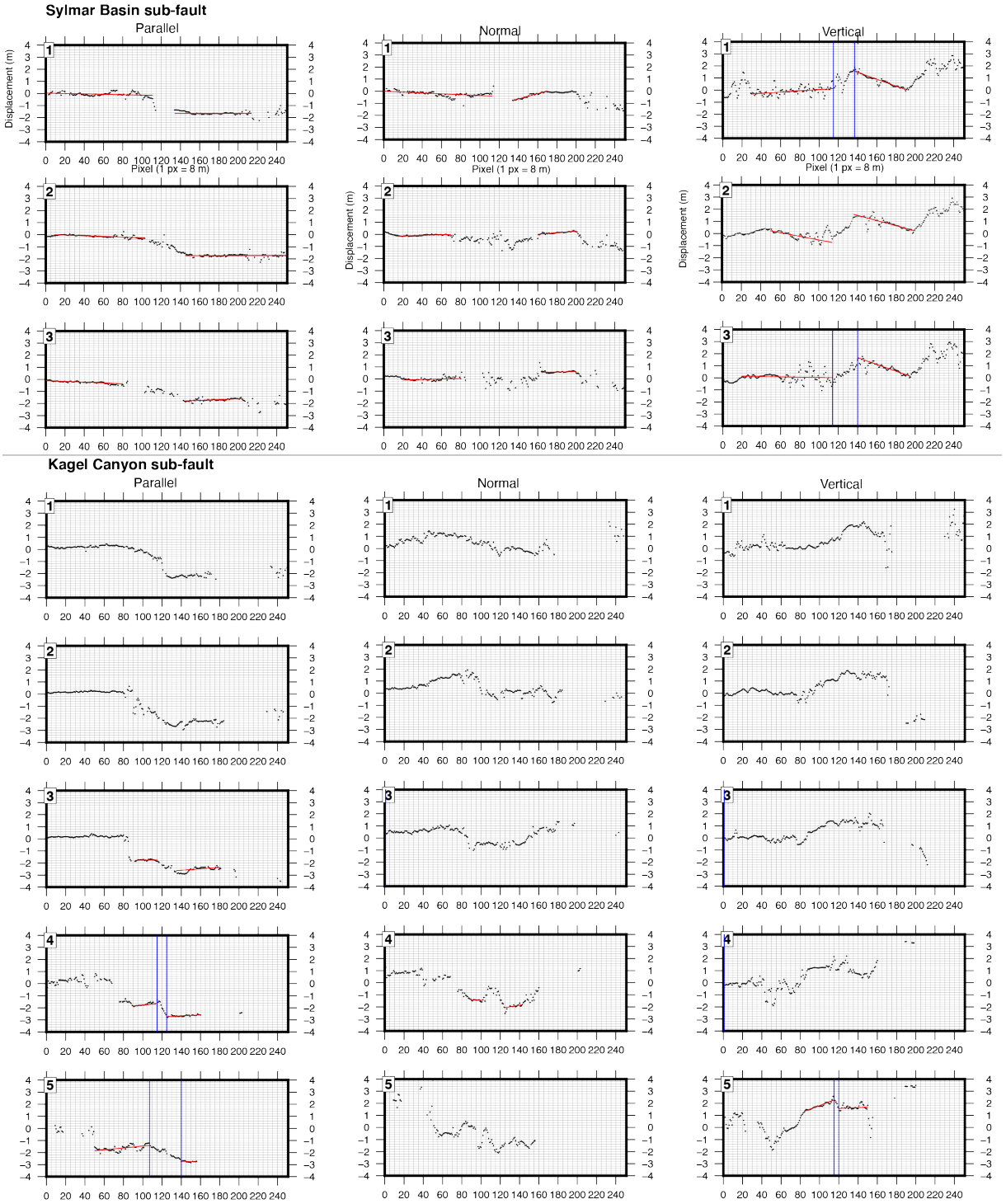

Main strand - Sylmar + Tujunga segments
Parallel
Normal
Vertical
Displacement (m)
Pixel (1 px = 8 m)
25
26
27
28
29
30
31
32

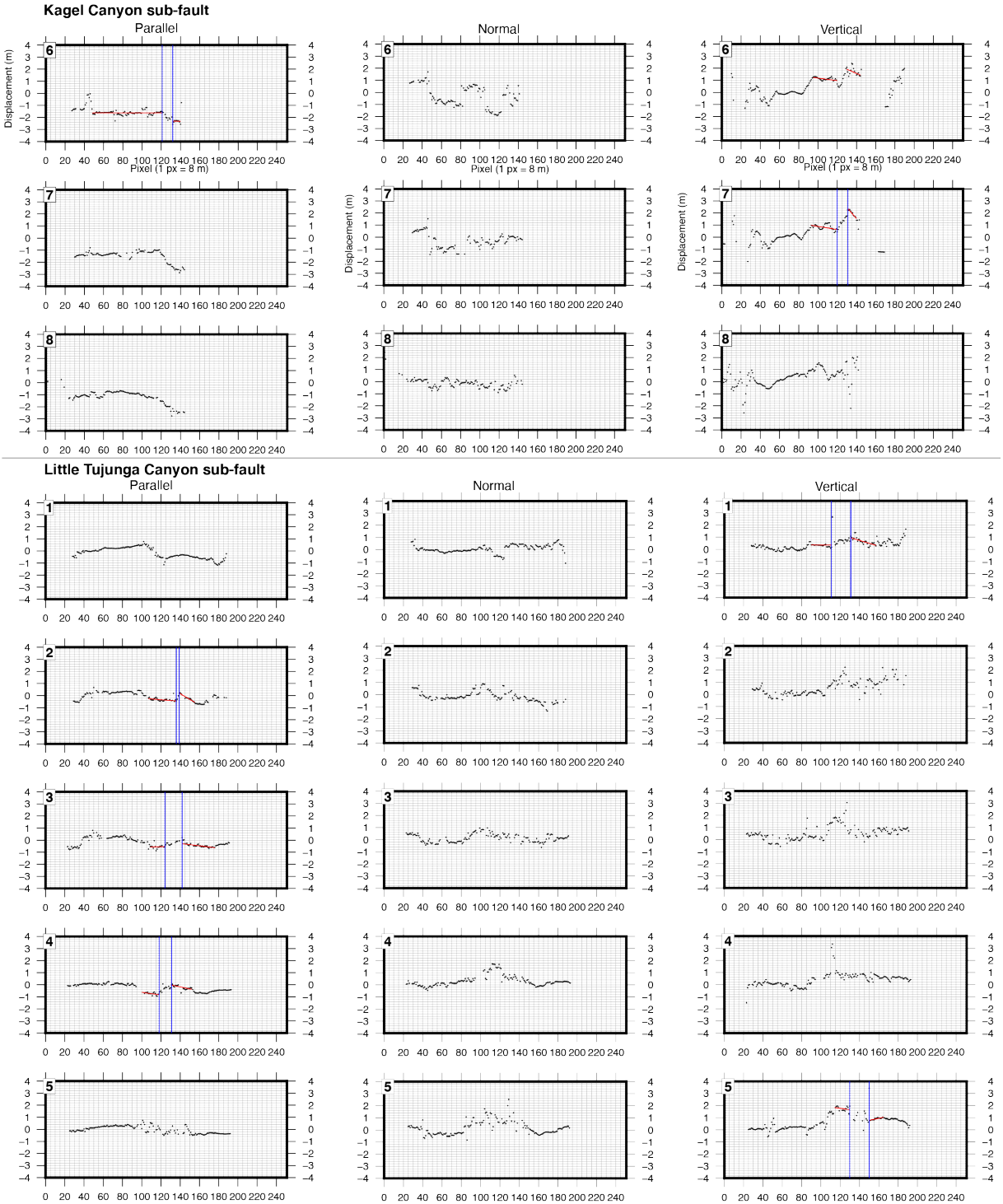

Main strand - Sylmar + Tujunga segments
Parallel
Normal
Vertical
Displacement (m)
Pixel (1 px = 8 m)
33
34
35
36
37
38
39
40

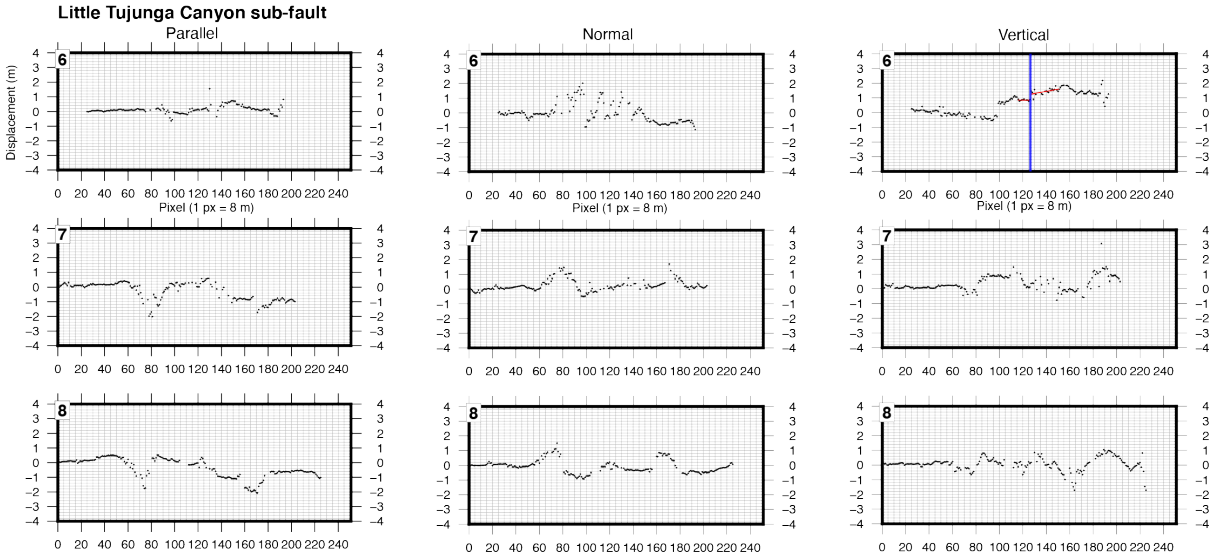

Main strand - Sylmar + Tujunga segments
Parallel
Normal
Vertical
Displacement (m)
Pixel (1 px = 8 m)
41
42
43
44
45
46
47
48


Main strand - Sylmar + Tujunga segments
Parallel
Normal
Vertical
Displacement (m)
Pixel (1 px = 8 m)
49
50
51
52
53
54
55
56


Main strand - Sylmar + Tujunga segments
Parallel
Normal
Vertical
Displacement (m)
Pixel (1 px = 8 m)
57
58
59
60
61
62
63
64


Sylmar Basin sub-fault
Parallel
Normal
Vertical
Displacement (m)
Pixel (1 px = 8 m)
Kagel Canyon sub-fault
Parallel
Normal
Vertical


Kagel Canyon sub-fault
Parallel
Normal
Vertical
Displacement (m)
Pixel (1 px = 8 m)
Little Tujunga Canyon sub-fault
Parallel
Normal
Vertical


Little Tujunga Canyon sub-fault
Parallel
Normal
Vertical
Displacement (m)
Pixel (1 px = 8 m)
6
7
8

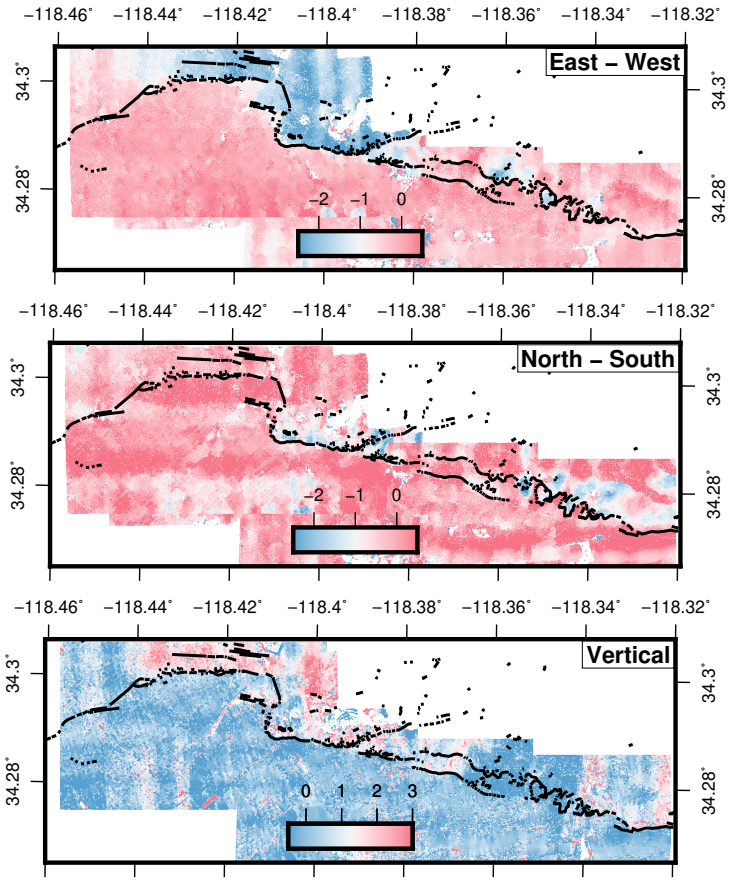


Figure S3. Full 3-D displacement field in meters.