Global analysis of CNV

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We want to explore how the details of the called CNVs

There are **290,248** CNV events in the datasatet. This analysis contains **15** lines

First we want to get an idea of the distribution of the deletion sizes.

```
kable(head(cnvs))
```

seqnames	start	end	width	strand	norm_cov	cnv_level	line	max_gap
chr1A_part1	1610157	1610356	200	*	0.0000000	0	B1190023.1	10
chr1A_part1	2393686	2394485	800	*	0.0000000	0	B1190023.1	10
chr1A_part1	2436043	2437842	1800	*	0.0266237	0	B1190023.1	10
chr1A_part1	2472568	2475367	2800	*	0.0170682	0	B1190023.1	10
chr1A_part1	2520813	2521012	200	*	0.0000000	0	B1190023.1	10
chr1A_part1	2557847	2558046	200	*	0.0000000	0	B1190023.1	10

```
plotHistogram(cnvs_df, column="width", binwidth=200)
```

```
## Warning: Use of `quantiles$value` is discouraged. Use `value` instead.
```
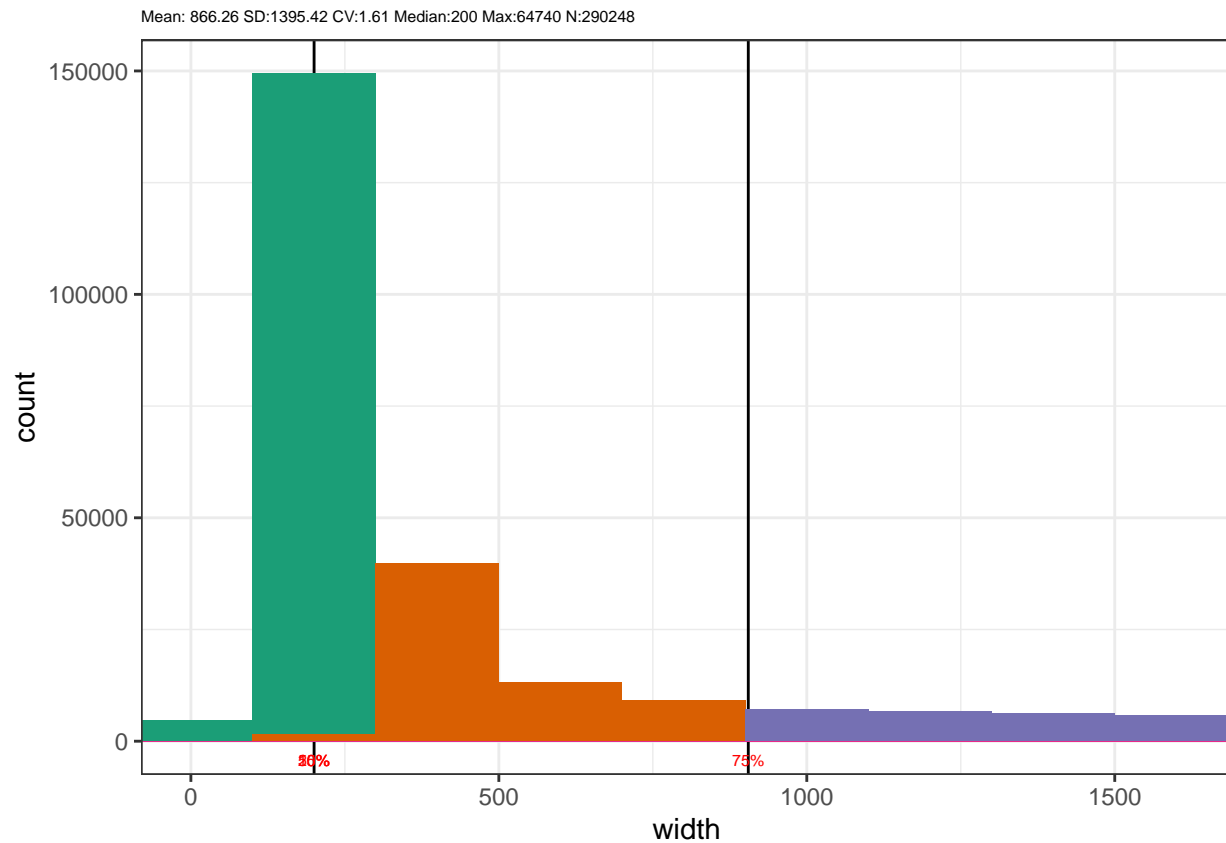
Most of them are under 1,500, however there are `52,481` larger than 1,500 (`18.08` %).

The minimum size that we have in this dataset is 200bp, so if we filter "unique" events out. This filter leaves `136,194` (`46.92` %) events The distribution is the following distribution:

```
plotHistogram(non_singletons_cnvs, column="width", binwidth=200)
```

```
## Warning: Use of `quantiles$value` is discouraged. Use `value` instead.
```

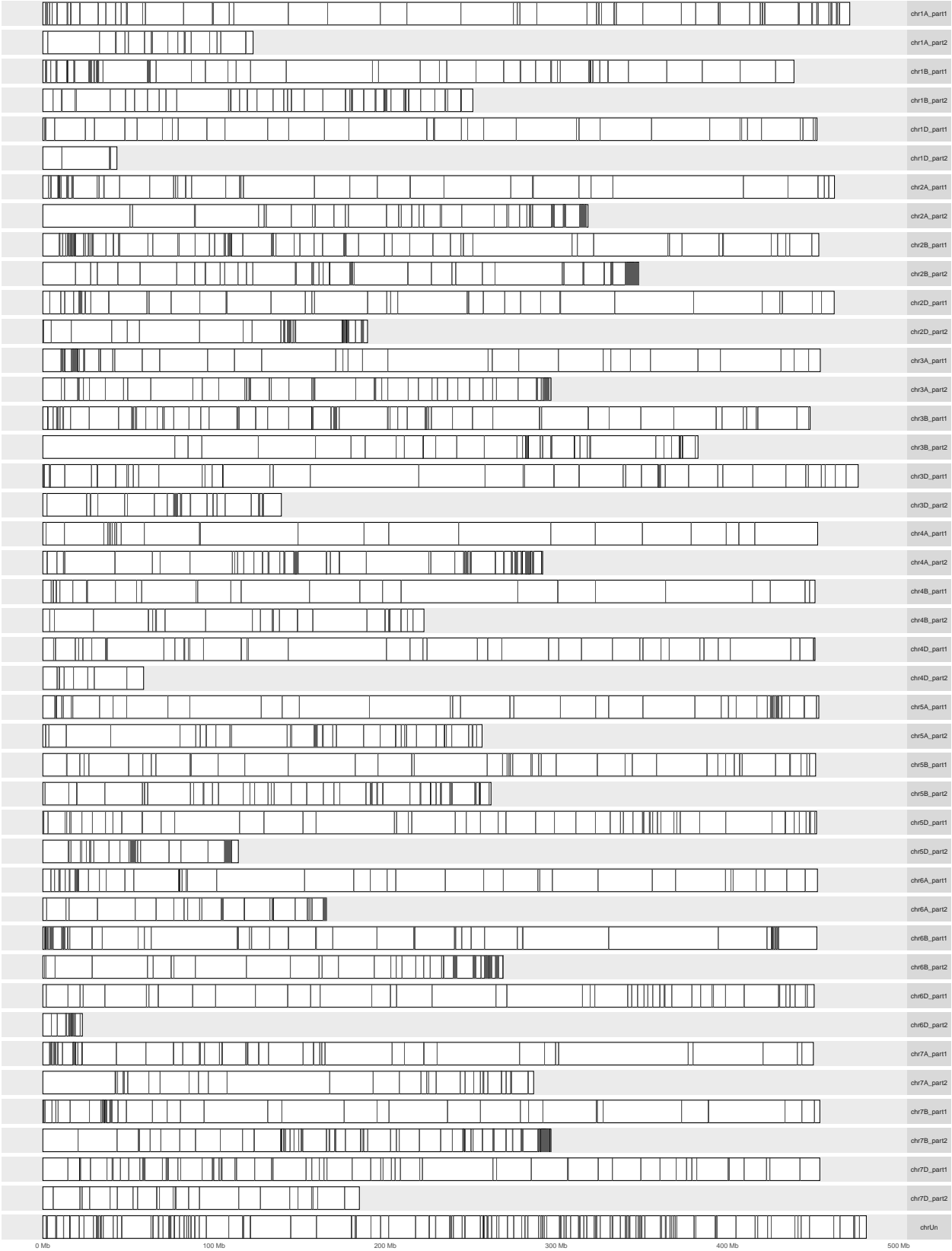Mean: 1626.27 SD:1749.46 CV:1.08 Median:1000 Max:64740 N:136194
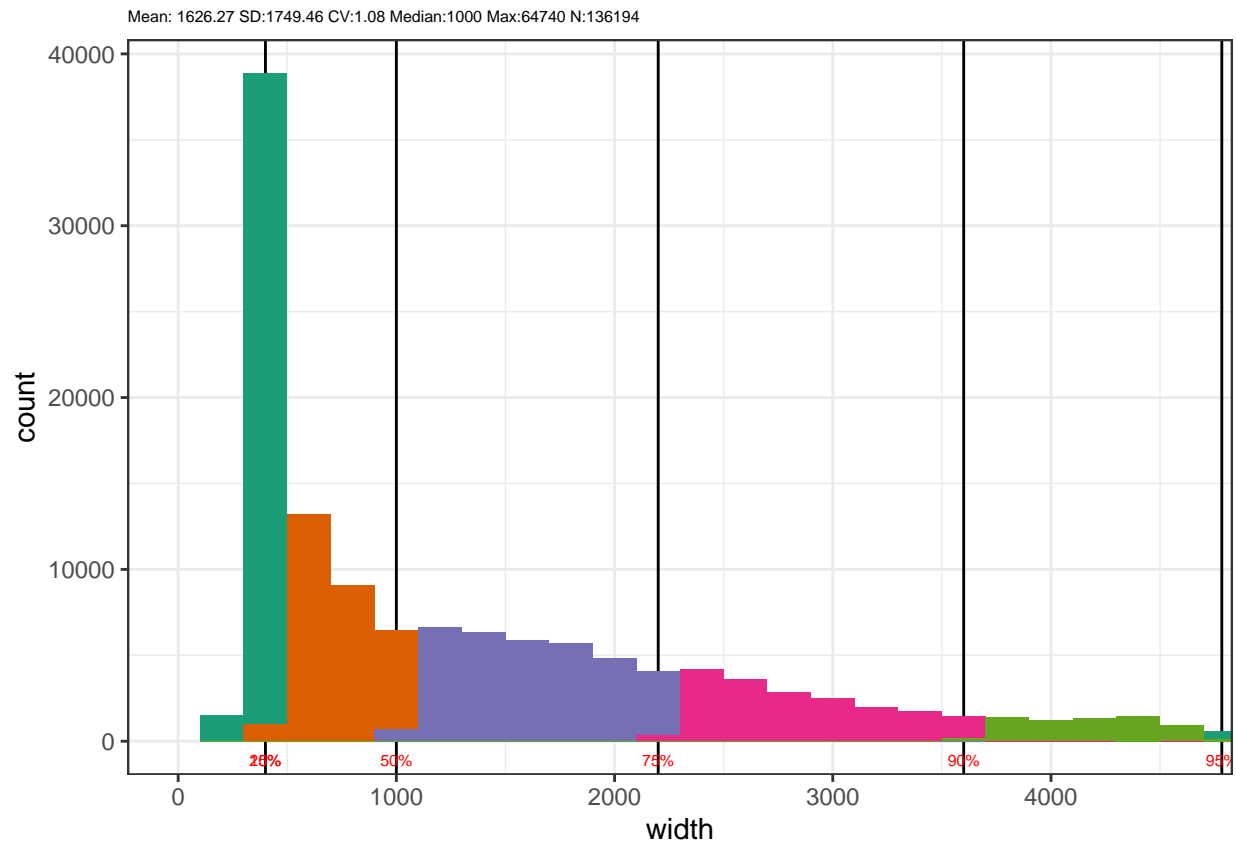
We want to look how one of the lines look randomly

```
plotCnvsInLine(non_singletons_cnvs_gr)
```

```
## Scale for 'x' is already present. Adding another scale for 'x', which will
## replace the existing scale.
## Scale for 'x' is already present. Adding another scale for 'x', which will
## replace the existing scale.
```

WATDE0821 CNV: 0

chr1A_part1
chr1A_part2
chr1B_part1
chr1B_part2
chr1D_part1
chr1D_part2
chr2A_part1
chr2A_part2
chr2B_part1
chr2B_part2
chr2D_part1
chr2D_part2
chr3A_part1
chr3A_part2
chr3B_part1
chr3B_part2
chr3D_part1
chr3D_part2
chr4A_part1
chr4A_part2
chr4B_part1
chr4B_part2
chr4D_part1
chr4D_part2
chr5A_part1
chr5A_part2
chr5B_part1
chr5B_part2
chr5D_part1
chr5D_part2
chr6A_part1
chr6A_part2
chr6B_part1
chr6B_part2
chr6D_part1
chr6D_part2
chr7A_part1
chr7A_part2
chr7B_part1
chr7B_part2
chr7D_part1
chr7D_part2
chrUn

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```
plotCnvsInLine(non_singletons_cnvs_gr, cnv_level=2)
```

Scale for 'x' is already present. Adding another scale for 'x', which will
replace the existing scale.
Scale for 'x' is already present. Adding another scale for 'x', which will
replace the existing scale.

chr1A_part1
chr1A_part2
chr1B_part1
chr1B_part2
chr1D_part1
chr1D_part2
chr2A_part1
chr2A_part2
chr2B_part1
chr2B_part2
chr2D_part1
chr2D_part2
chr3A_part1
chr3A_part2
chr3B_part1
chr3B_part2
chr3D_part1
chr3D_part2
chr4A_part1
chr4A_part2
chr4B_part1
chr4B_part2
chr4D_part1
chr4D_part2
chr5A_part1
chr5A_part2
chr5B_part1
chr5B_part2
chr5D_part1
chr5D_part2
chr6A_part1
chr6A_part2
chr6B_part1
chr6B_part2
chr6D_part1
chr6D_part2
chr7A_part1
chr7A_part2
chr7B_part1
chr7B_part2
chr7D_part1
chr7D_part2
chrUn

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