

Voronoi Diagram

Plane Sweep

- Frozen Region

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Sweepline & Beach Line

- ❖ Here, we will distort the **sweepline**, rather than the **diagram**
- ❖ The sweeping process is controlled by:
 - A horizontal **sweepline** moving from top down
 - A **beach line** consisting of **parabolic arcs**
- ❖ As the SL moves downward, the BL moves downward as well, but its shape depends on **location** of the sites
- ❖ We will see that VD "**grows out**" of the BL



Frozen & Unfrozen

- ❖ Recall that sites **below** the SL may affect the diagram that lies **above**
- ❖ To avoid this problem, we will maintain only the portion of the diagram that **can't** be affected by anything that lies **below** the SL
- ❖ The scanned halfplane is divided into:
 - 1) **Frozen Region**: points **closer**
to sites above SL than to SL
 - 2) **Unfrozen Region**: points **closer**
to SL than to sites above SL

