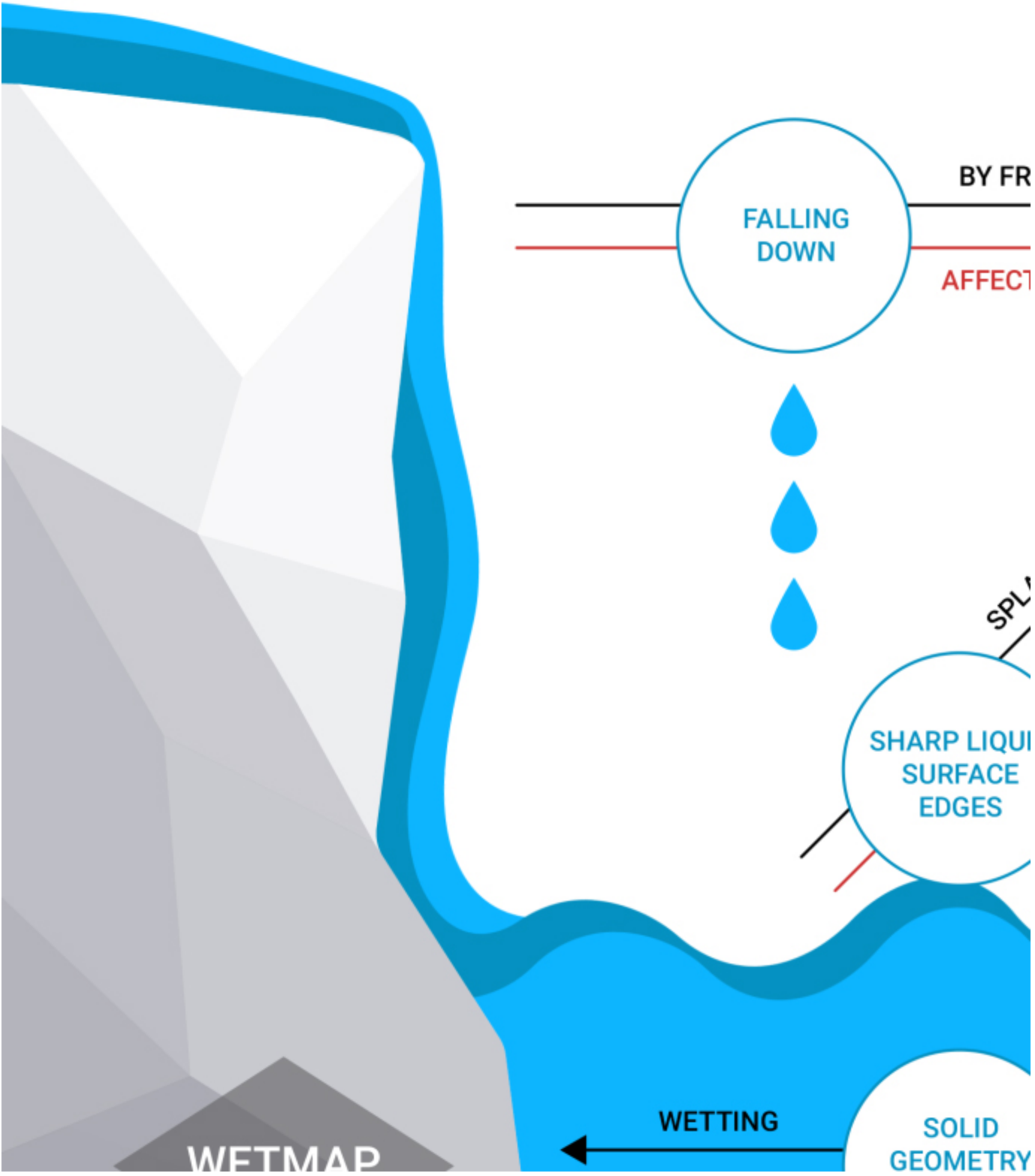


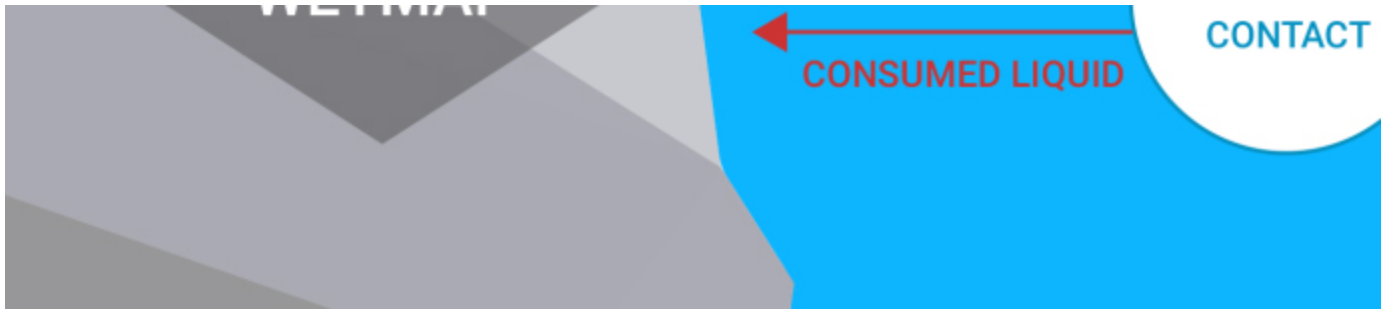
FLIP Particles Life Cycle

This page lists all processes that create and destroy the different FLIP liquid particle types, including conversions between particle types.



L





Liquid

Simulated when: [Simulator Output rollout](#) **Liquid Grid/Particles** enabled.

Birth:

- From a [Liquid Source](#). *Requires:* Source **Emit Liquid** enabled.
- From a [Fire/Smoke Source](#). *Requires:* Source **Temperature** enabled.
- From a [Mapper](#). *Requires:* Temperature/Liquid mapped.
- Via **Initial Liquid Fill**. *Requires:* a geometry's [right-click Phoenix Per-Node Properties](#).
- Via **Initial Fillup**. *Requires:* [Simulator Dynamics rollout](#).
- When Splash particles die either on entering the Liquid volume, or on contact with a [Solid](#) geometry. *Requires:* [Splash](#) is simulated + [Simulator Splash rollout](#) **Affect Liquid** > 0.

Life:

- At places where the liquid velocity gradient is high, creates Foam particles. *Requires:* [Foam](#) is simulated.
- At places where the liquid surface has sharp edges, creates Splash particles. *Requires:* [Splash](#) is simulated.
- At places where the liquid is in free fall, creates Splash particles. *Requires:* [Splash](#) is simulated + [Simulator Splash rollout](#) **By Free Fly** > 0.
- On contact with a [Solid](#) geometry, creates WetMap particles. *Requires:* [WetMap](#) is simulated + geometry has [Wetting property](#).

Death:

- If outside the [Simulator](#).
- If inside the volume of a geometry with [Clear Inside property](#) + Liquid in Clear Channel list.
- If inside the volume of a geometry used by a **Volume Brush** [Fire/Smoke Source](#). *Requires:* Source **Temperature** enabled and set to 0.
- On contact with a geometry used by any [Source](#) with negative **Outgoing Velocity** or negative **Inject Power**.
- On contact with a [Solid](#) geometry. *Requires:* [WetMap](#) is simulated + geometry has [Wetting property](#) + [Simulator Dynamics rollout](#) **Consumed Liquid** > 0.
- On creating Splash particles. *Requires:* [Splash](#) is simulated + [Simulator Splash rollout](#) **Affect Liquid** > 0.

Foam

Simulated when: [Simulator Output rollout](#) **Foam Particles** enabled + [Simulator Foam rollout](#) enabled.

Birth:

- At places where the liquid velocity gradient is high. *Requires:* [Liquid](#) is simulated.
- When Splash particles die on entering the Liquid volume. *Requires:* [Splash](#) is simulated + [Simulator Splash rollout](#) **Foam On Hit** > 0.
- From any [Source](#) (Source **Particles** enabled + Source **Particle Type** = Foam).

Death:

- Particle Age > **Half Life** + random variation.
- If outside the [Simulator](#) + Particle Age > [Simulator Foam rollout](#) **Max Outside Age**.
- If inside the volume of a geometry with [Clear Inside property](#) + Foam in Clear Channel list.

Splash

Simulated when: [Simulator Output rollout](#) **Splash Particles** enabled + [Simulator Splash rollout](#) enabled.

Birth:

- At places where the liquid surface has sharp edges. *Requires:* [Liquid](#) is simulated.

- At places where the liquid is in free fall. *Requires:* [Liquid](#) is simulated + [Simulator Splash rollout By Free Fly](#) > 0.
- From any [Source](#). *Requires:* Source **Particles** enabled + Source **Particle Type** = Splash.

Life:

- On free fall, splits into several smaller Splash particles *Requires:* [Simulator Splash rollout Splash to Mist](#) > 0.
- On movement, creates Mist particles and decreases its Particle Size. *Requires:* [Mist](#) is simulated + [Simulator Splash rollout Splash to Mist](#) > 0.
- On death due to entering the Liquid volume, or due to contact with a geometry, creates Liquid particles. *Requires:* [Liquid](#) is simulated + [Simulator Splash rollout Affect Liquid](#) > 0.
- On death due to entering the Liquid volume, creates Foam particles. *Requires:* [Foam](#) is simulated + [Simulator Splash rollout Foam On Hit](#) > 0.

Death:

- On entering the Liquid volume.
- On contact with a [Solid](#) geometry.
- If outside the [Simulator](#) + Particle Age > [Simulator Splash rollout Max Outside Age](#).
- If inside the volume of a geometry with [Clear Inside property](#) + Splash in Clear Channel list.
- On creating Mist particles, if the Particle Size is too low. *Requires:* [Mist](#) is simulated + [Simulator Splash rollout Splash to Mist](#) > 0.

Mist

Simulated when: [Simulator Output rollout Mist Particles](#) enabled + [Simulator Splash rollout](#) enabled + [Simulator Splash rollout Splash to Mist](#) > 0.

Birth:

- On Splash particles movement. *Requires:* [Splash](#) is simulated + [Simulator Splash rollout Splash to Mist](#) > 0.

Death:

- On entering the Liquid volume.
- On contact with a [Solid](#) geometry.
- If outside the [Simulator](#) + Particle Age > [Simulator Splash rollout Max Outside Age](#).
- If inside the volume of a geometry with [Clear Inside property](#) + Mist in Clear Channel list.

WetMap

Simulated when: [Simulator Output rollout WetMap Particles](#) enabled + [Simulator Dynamics rollout Wetting](#) enabled.

Birth:

- When Liquid particles make contact with a [Solid](#) geometry. *Requires:* [Liquid](#) is simulated + geometry has [Wetting property](#).

Death:

- If Particle Age > [Simulator Dynamics rollout Drying Time](#).
- If outside the [Simulator](#).
- If inside the volume of a geometry with [Clear Inside property](#) + WetMap in Clear Channel list.