



# HORA 3D – Quick Start Guide

## User Interface Overview



#### Spatial navigation tools

Reset perspective, switch between 3D and 2D view, selection of a different building or focus point in the vicinity

### • Image-/video export Export of high quality images and videos

• Flood scenario selection

Switch between four different flood scenarios (default setting: 300-year flood)

• Visual presets

Selection of alternative visualizations that provide information on road accessibility, flow velocities of the water, inflow volumes at the premise border, possible protection measures

#### • Time navigation

Time step selection, water animation, "MAX" button for the visualization of the water with maximum water depths and flow velocities (default setting)

## Entering the Application

HORA 3D can be accessed in two steps via the website hora.gv.at:



Empty premises or premises with buildings can be selected. The selection defines the **focus object**, which is at the center of the 3D visualization.

There are three types of focus objects:



Existing building



Fictive template building on buildable premise



Water gauge on non-buildable premis

## **Spatial Navigation**

The following buttons can be used for spatial navigation:

 1
 2
 3

 Image: Selection
 3D
 Selection

- 1. Reset view to focus object
- 2. Switch between 3D and 2D view

Selection of a different building or focus point in the vicinity

The navigation through the scene can be done either with a computer mouse or using gestures on touch devices. There are two selectable spatial navigation modes:

3D

- Zoom: Use the mouse wheel (or use the two-finger zoom on touch devices)
- **Rotate:** Click and drag the left mouse button (or use the one-finger interaction on touch devices)
- **Pan:** Click and drag the right mouse button or the mouse wheel (or the two-finger pan on touch devices)

### 2D

- **Zoom:** Use the mouse wheel (or use the two-finger zoom on touch devices) the zoom is directed towards the mouse position
- **Pan:** Click and drag the left mouse button (or use the one-finger interaction on touch devices)

## **View-Dependent Visualization**

The visualization changes automatically with the current perspective on the focus object. An overview of the different views with explanation of important elements follows:



### Side view (Close-up view)

- 1. The label shows the **maximum water depth** along the building footprint for the selected flood scenario (default setting: 300-year flood).
- 2. The colored areas on the building facade show the flood lines for **four flood scenarios** from the <u>HORA 3.0</u> modeling with height scales in meters.
- 3. Animated waves on the water surface show **flow velocities** and **flow directions** of the selected flood scenario.

### Top-down view (Close-up view)



- 1. Water depths along the building footprint in meters.
- 2. If present for the selected flood scenario, high **impact velocities** of the water (> 0.2 m/s) towards the building facade are highlighted with moving arrows.

*Note:* The underlying maximum flow velocities of the water were determined in the <u>HORA 3.0</u> project based on a time interval of three hours.



### Overview (Far view)

- Roof coloring of all buildings according to the maximum water depth along their footprint (red = highly vulnerable).
- Water surface colored according to water depth (dark blue = particularly deep).

## Flood Scenario Selection

Selection of four flood scenarios from HORA 3.0 modeling:

#### Select Scenario

- Rest Risk 300-year flood with rest risk after dike removal
- HQ 300 🔶 300-year flood (default selection)
- HQ 100 🔶 100-year flood
- HQ 30 🔶 30-year flood

The removed dikes are highlighted in the "Rest Risk" scenario:



## **Visual Presets**

There are seven predefined visual presets that show different, personalized risk aspects and possible protection measures for the selected flood scenario:

1. Default: Shows the water levels along the facade of the focus object in close-up views. Colors all building roofs according to their water depths in overviews.



2. Aerial Images: Like the default preset, but uses aerial images for the display of the terrain surface.

**3. Premise Inflows:** Shows where on the premise border how much water enters the premise.

4. Premise Sandbags: Shows a sandbag barrier along the premise border which would be necessary to protect the premise from being flooded.

5. Premise Walls: Shows a wall along the premise border which would be necessary to protect the premise from being flooded.









6. Roads: Shows which roads cannot be used in case of flooding.

7. Velocity Arrows: Shows the flow

velocities of the water using colored



*Note:* Visual presets that include calculations along the premise border are available only for buildable premises whose perimeter is 800 m or less.

## Time Navigation

arrows.

The elements of the time navigation bar can be used to navigate through the selected flood scenario in time:

2	3	4	5	6	7			1	1		
44	◀	►	ÞI	0	MAX	00 00:00 00 21:00	01 20:15	03 16:30	05 12:45	07 09:00	

- 1. Selection of a certain time step by clicking in the timeline or by moving the time slider (see red rectangle)
- 2. Go to beginning of scenario
- 3. One time step backward
- 4. Play scenario
- 5. One time step forward
- 6. Animate flow velocities of water
- 7. Switch between maximum water expansion and water expansion of selected time step

*Note:* Time steps with a time interval of three hours are available.