

The NAP (Amsterdam Ordnance Datum) is the reference surface for elevations for the Netherlands. All height figures in the Netherlands are determined relative to this surface. The NAP height reference surface can be thought of as a water surface in perfect rest which follows the curvature of the earth, at Mean Sea Level.



The name NAP is derived from the *Amsterdam Peil* (AP) – (Amsterdam Level). The origin of this ‘AP’ is based on the mean level of the IJ – the water around which Amsterdam is located– at high tide during the summer season. In order to determine this level, daily observations were conducted of the heights of low and high tide at the *stadswaterkantoor* (City Water Authority), between September 1st, 1683 and September 1st, 1684. The “AP” was fixed by means of eight so called *dijkpeilstenen* (marker stones) with a horizontal groove. These stones were placed in a number of Amsterdam dikes and sluices. One of these stones, in the Eenhoornsluis, is still visible.

NAP VISITORS CENTRE

In the 19th century the Amsterdam Peil (AP) was renamed the **NORMAAL Amsterdam Peil (NAP)**. As a result of the First Precise Levelling Survey) which took place between 1875 and 1885, the whole of the Netherlands was connected to the reference surface of the Amsterdam Level and thus, the AP became the **NORM (Standard) for the whole country (NAP)**

As a reference for the ‘zero-level’ the NAP is indispensable for the design and implementation of infrastructural projects, such as the construction of roads, bridges, tunnels and viaducts. Also for the regulation of the ground water level – so important for the Netherlands- the NAP is of utmost importance. Without the NAP the heights of the dikes, the ground water level in the polders and the depths of water courses could not be determined. The study of the sea level rise would not be possible without a common reference surface such as the NAP. Furthermore, every day one can see surveyors with their measuring instruments working in connection with building structures.

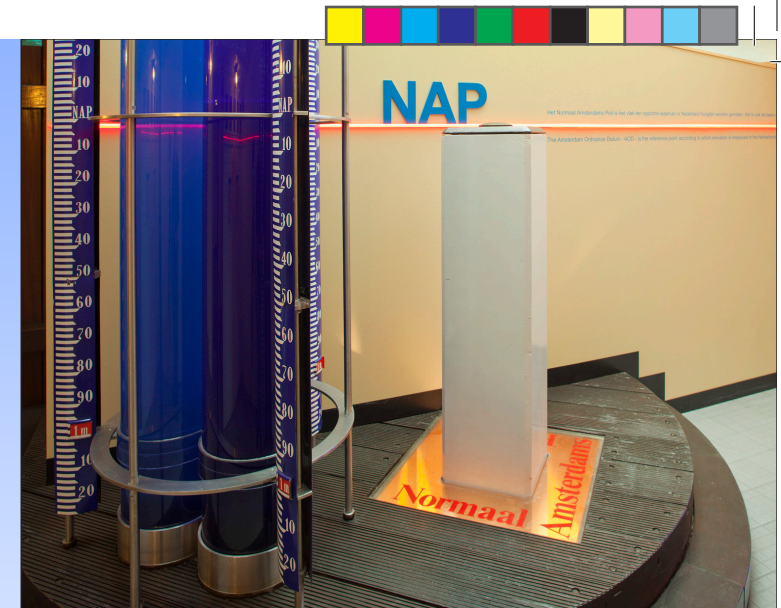
Also for Europe the NAP is of utmost importance. Since 1955, it is the point of departure for the European network of national levelling networks, called the United European Levelling Network. In Japan, the Tokyo Level – now called the Japan Standard – was set up during the period 1875 – 1900 , conform to the NAP - by Dutch water engineers.

The significance of the NAP can be compared to other important geographical references, such as the prime meridian of Greenwich or the equator. With a history dating back to the Amsterdam Level in 1684, the NAP represents an important piece of Dutch heritage, which still plays an ever increasing role in the Dutch and European society.

The NAP Visitors centre consists of a number of interrelated components.

Cross Section of the Netherlands

This 26 m long relief runs from the east to the west of the Netherlands. It depicts the difference in levels between Amsterdam and other places in the Netherlands. The relief starts on the left hand site at the relatively high moraine-area from the latest glacial period, called the Veluwe. Through the IJsselmeer polders and the IJ-lake, it runs to Amsterdam. The Dam square and the City Hall are indicated, among other things. Finally it reaches the North Sea through the Haarlemmermeer Polder – which contains Schiphol airport – and the sand dunes. The sea is shown at high tide.



By using different materials, the various elements of the cross section are displayed:

- Sandstone indicates the locations of sand and ferruginous sand;
- Dark grey hard-stone indicates peat and clay;
- Glass indicates water: the canals, lakes and the sea;
- Aluminium stands for everything that men have built: dikes and houses.

Under Amsterdam you can see the construction piles. Because the city is built on soft peat ground, these are needed to carry the buildings. The old 17th century Amsterdam city centre is built on round wooden piles. They rest on the first layer of sand, which is not completely stable. The 20th-century town quarters of Watergraafsmeer and Amsterdam West are supported with square concrete piles. They are driven down to the second, more stable layer of sand. The construction piles for large buildings and structures like the IJtunnel and the Coentunnel, are even driven down to the third layer of sand, which is the most stable one.

NAP pole

Because the zero level is lower than the City Hall's ground floor, this pole is located in the basement. The pole is driven to the second layer of sand. On top of the pole there is a bronze NAP-bolt. The top of this bolt lies exactly on NAP-zero level. On the occasion of the unveiling of the NAP monument on 18th May 1988, this bolt was adjusted to the correct height by the Minister of Traffic, Infrastructure and Watermanagement, under the directions of surveyors from the City of Amsterdam and from the surveying department of Rijkswaterstaat; the implementing agency for said Ministry. By descending the steps, one can enter the room where the NAP pole is located and lay one's hand on the zero level.



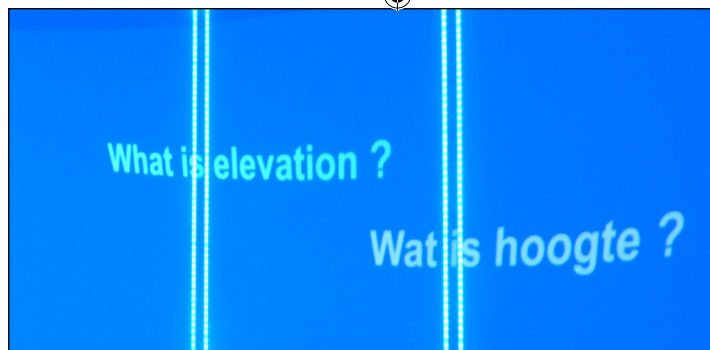
Water columns

Three water columns are protruding from the basement where the NAP-pole is located. Two of them are showing the actual water levels at IJmuiden and at Vlissingen, which are communicated through a telephone connection with the Data and ICT Department of Rijkswaterstaat. The third column shows the

extreme high water level at the time of the big flood disaster in the southwestern Delta of the Netherlands in 1953. The water reached the level of 4.53 m above NAP, which is 2.46 m higher than normal.

Monument for the NAP

The cross section, the NAP pole and the water columns constitute the NAP Monument. This was designed and realised by Louis van Gasteren and Kees van der Veer. It was presented to the City of Amsterdam in 1988 to mark the opening of the New City Hall.



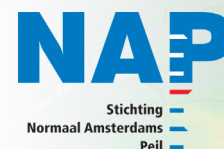
Exhibition and educative room

In the basement space around the NAP pole, a spectacular exhibition and an area for educational activities was realised by Projectburo Meeter. Together with the monument they constitute the visitor's centre of the NAP.

The exhibition tells in an interactive manner the history of the NAP. Apart from films and images, historical objects are displayed, such as a dipstick from the 17th century and levelling instruments from the 17th to the 20th century. Famous historical figures pass by such as Christiaan Huygens and engineer Lely. Some of them even speak to the visitors and tell their story about the NAP. Particular attention is paid to the social significance of the NAP in the field of water management and infrastructural projects.

Besides the history of the NAP, various methods to determine heights are shown. The visitors can try them out by themselves by carrying out a levelling survey with a real spirit levelling instrument.

On October 12th, 2010, the renovated Visitor's Centre was officially opened by His Royal Highness Prince Willem-Alexander.



Het Bezoekerscentrum is gevestigd in de passage van het Stadhuis van Amsterdam (Amstel 1)
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