Appendix

I

Visual arts
APPENDIX I

This appendix reflects on floods, flood defence and sea level rise as it is represented in visual arts. Inspired by Alexander von Humboldt, the link between the mechanistic engineering view on the world and the conceptual aesthetic view is considered of great importance. Not coincidentally, the conclusion of the research emphasises the need of envisioning, imagining and design in order to communicate and unite in addressing the complexity of dealing with climate change scenarios of extreme future sea level rise. As many works of art are hidden in private collections, art depots or even in public museums but simply in far away places, this appendix can be regarded as a extensive yet portable exhibition curated around the representation and perception of flooding.
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1. **THE DELUGE**

The consideration of flood is something of all times and dates back to the prehistoric era (LOLA Landscape Architects 2014). The best known ancient representation of flood, however, is the deluge in Genesis 6:9-9:17, and dates back to the 6th and 5th century BC (Van Seters 1998). Similar flood narratives appeared in ancient Greek, Mayan, Mesopotamian, Islamic and many other ancient cultures and religions, but they all tell a story comparable to the Hebrew flood myth where the flood is considered as the reversal of creation. Seeing the world was corrupt and violent, God instructed Patriarch Noah to build an ark for his family and one male and female of all living creatures, after which it rained until all mountains were overtopped with water and all life on earth perished except for Noah and his companions on the ark [1 - 4, 6, 7, 26, 27, 31, 32].

1. The richly decorated Basilica di San Marco in Venice, Italy contains one of the oldest depictions of the deluge, among others. mosaic. artist unknown. 1070 - 1290 / 0 mm sea level rise. Basilica di San Marco, Venice, Italy. © Chuck Hagele 2018.

2. The manuscript was made for Blanche of Castile, Queen of France and mother of Louis IX and contains 9 historiated initials, 24 calendar medallions and 27 illuminated miniatures, of which this is one. miniature in manuscript. artist unknown. Psalter of Blanche of Castile / Sainte-Chapelle Psalter. 1135 - 1235 / 0 - 3 mm sea level rise. Bibliothèque de l’Arsenal, Paris, France. © BnF Gallica 2011.
3. miniature in manuscript
Roger (clerk under the auspice of the Lord of Lille)

Les Histoires Roger / Histoire ancienne jusqu’a César
1201 - 1300 / 0 - 3 mm sea level rise
Bibliothèque nationale de France, Paris, France
© BnF Gallica 2011

4. miniature in manuscript
artist unknown

Le Livre des histoires du Mirouer du monde, depuis la création, jusqu’après la dictature de Quintus Cincinnatus
1401 - 1500 / 0 - 3 mm sea level rise
Bibliothèque nationale de France, Paris, France
© BnF Gallica 2011
2. PROTECTION FROM THE DELUGE
Throughout history the religious point of view towards flooding, as a deluge, was leading. Even though flooding was seen as a sign from God, this didn’t mean there were no dikes. As flood defence became a theme in visual arts a dichotomy of flooding and deluge can be made [5 - 12, 15, 20, 24, 32, 59 - 61].

5. One of the biggest floods known in the history of the Netherlands is the Saint Elizabeth’s Day Flood. On the feast day of Saint Elizabeth, 19th of November 1421, large parts of the Netherlands flooded. Especially the Dordrecht region was badly hit and an estimated 2,000 people died. The Saint Elizabeth’s Day Flood Panels, depict the disaster and were commissioned as an altarpiece by the survivors.

altarpiece
artist unknown -
The Saint Elizabeth’s Day Flood Panels
1490 - 1495 / 0 - 3 mm sea level rise
Rijksmuseum, Amsterdam, The Netherlands
© Rijksmuseum 2018

6. In this depiction of the deluge the discrete position of the Ark of Noah is striking as it emphasizes the flood.

print
Lucas Cranach I -
The deluge and the Ark of Noah
1523 - 1526 / 0 - 3 mm sea level rise
Rijksmuseum, Amsterdam, The Netherlands
© Rijksmuseum 2018
7. This painting shows only the beauty of the story of Noah’s Ark. Nobility collected unusual animals, shells and other natural elements from across the world as a physical representation of their knowledge. With the discovery of the New World in the 1600s this trend reached its maximum after which the nature to be collected became too big and it the collecting of knowledge was subdivided into sciences.

painting
Jan Brueghel the Elder - The Entry of the Animals into Noah’s Ark 1613 / 0 - 3 mm sea level rise Getty Museum, Los Angeles, CA, USA © J. Paul Getty Trust 2018

8. During the night of the 4th to the 5th of March 1651 the Saint Anthony’s Dike breached. The strong red detail of the cloak in the wind shows the storm is not over yet.

painting
Jan Asselijn - The Breach of the Saint Anthony’s Dike near Amsterdam 1651 / 0 - 3 mm sea level rise Rijksmuseum, Amsterdam, The Netherlands © Rijksmuseum 2018
9. On the 30th of January 1607 floodings hit the coast of the Bristol Channel taking the lives of approximately 2,000 people. Commemorative plaques still demarcate the height of the inundation, 2.4 m above the current sea level.

Woodcut for news pamphlet
William Welby - Lamentable newes out of Monmouthshire in Wales
1607 / 0 - 3 mm sea level rise
© Mike Kohnstamm 2018

10. This woodcut was made for a poem describing violent waters destroying dikes and bridges throughout Germany and the Netherlands in January 1651 for which the poet can only recommend to fall to your knees and repent.

Woodcut for poem
Artist unknown - The Great and Terrible Flood
1651 / 0 - 3 mm sea level rise
Bayerische Staatsbibliothek, Munich, Germany
© Bayerische Staatsbibliothek 2018

11. This painting is part of the last set of four canvases painted by Poussin. They depict both the four seasons and four times of the day (morning / midday / evening / night) and reflect on the might of nature. In the winter and night the flood is represented.

Painting
Nicolas Poussin - Winter
1664 / 0 - 3 mm sea level rise
Louvre, Paris, France
© Louvre 2018
3. SHARING DELUGE EXPERIENCE

The book press and the growing possibilities of international communication facilitated the sharing of news, experiences and knowledge on flood events and flood defences. The representation of floods and flood protection became more informative and were accompanied by maps, sections and written text [12 - 25].

12. etching and engraving
   Romeyn de Hooghe -
   Dike breach at Coevorden
   1673 / 0 - 3 mm sea level rise
   Rijksmuseum, Amsterdam, The Netherlands
   © Rijksmuseum 2018

13. This etching informs about the variety of floods throughout a year.
    etching and engraving
    artist unknown -
    Four dike breaches
    1675 / 0 - 3 mm sea level rise
    Rijksmuseum, Amsterdam, The Netherlands
    © Rijksmuseum 2018

14. This etching shows a technical analysis of the condition of a dike.
    etching and engraving
    artist unknown -
    The poor condition of the sea dike from Diemen up to Joap Hannes
    1705 / 3 mm sea level rise
    Rijksmuseum, Amsterdam, The Netherlands
    © Rijksmuseum 2018
15. etching and engraving
Simon Fokke -
Inundated villages after the Saint Elizabeth’s Day Flood
1722 - 1784 / 3 mm sea level rise
Rijkmuseum, Amsterdam, The Netherlands
© Rijksmuseum 2018

16. This and the following etching depict two stages of the fall of the old village of Egmond aan Zee which old center was once located close to the dunes and the beach. With high water the protecting dunes eroded and buildings collapsed.
etching and engraving
Abraham Rademaker -
Egmont op Zee, 1620
1727 - 1733 / 3 mm sea level rise
Rijkmuseum, Amsterdam, The Netherlands
© Rijksmuseum 2018

17. etching and engraving
Adriaan Spinder -
Collapsed tower in Egmond aan Zee
1741 / 5 mm sea level rise
Rijkmuseum, Amsterdam, The Netherlands
© Rijksmuseum 2018
18. The technicality reaches its max in this and the following etching showing a section of a fractured sea dike and a map of inundation.

Coenraad de Potter - Profile of the Diemer Sea Dike with crack 1729 - 1737 / 5 mm sea level rise
Rijkmuseum, Amsterdam, The Netherlands © Rijksmuseum 2018

19. etching and engraving
Jan l’Admiral - Dike breach near Elden 1741 / 5 mm sea level rise
Rijkmuseum, Amsterdam, The Netherlands © Rijksmuseum 2018

20. etching and engraving
Reinier Vinkeles - Inundation and severe weather 1751 / 7 mm sea level rise
Rijkmuseum, Amsterdam, The Netherlands © Rijksmuseum 2018
21. etching and engraving
Simon Fokke -
Breach of the Rhine- and IJssel-dikes
1754 / 5 mm sea level rise
Rijksmuseum, Amsterdam, The Netherlands
© Rijksmuseum 2018

22. etching and engraving
Simon Fokke -
Sight on the dike breach on Texel during the flooding the 15th of November 1775
1775 / 5 mm sea level rise
Rijksmuseum, Amsterdam, The Netherlands
© Rijksmuseum 2018
23. etching and engraving
Noach van der Meer -
Sight on the flooding and dike breach between Volkshoorn and Kampen on the
22nd of November 1776
1776 / 8 mm sea level rise
Rijkmuseum, Amsterdam, The Netherlands
© Rijksmuseum 2018

24. etching and engraving
Christiaan Josi -
Dike breach near Bemmel 1799
1802 / 8 mm sea level rise
Rijkmuseum, Amsterdam, The Netherlands
© Rijksmuseum 2018

25. This print is an iconic representation of
flood. The smart play with perspective makes
Japan’s greatest mountain appear small
within the hollow of the cresting wave.
woodblock print
Katsushika Hokusai -
Under the Wave off Kanagawa
1830 - 1832 / 9 mm sea level rise
The Metropolitan Museum of Art, New York
City, NY, USA
© The Metropolitan Museum of Art 2018
4. THE AESTHETICS OF THE DELUGE

Flood events change the way people perceive water, the beach, swimming, holiday destinations or familiar places. The concept of the deluge, regardless of the starting trend of atheism, remained a popular theme in visual arts but became more stylized, abstract or romantic [26 - 32].

26. painting
Francis Danby -
The Deluge
1839 / 10 mm sea level rise
Tate Britain, London, England
© Tate 2019

27. etching and engraving
Gustave Doré -
The Deluge
1866 / 29 mm sea level rise
The Bridgeman Art Library, London, England
© The Bridgeman Art Library 2019
28. In the following paintings show the perfect balance between the beauty and fear of water. Is it nuisance or nature? Are the swimmers running or playing?

painting
Alfred Sisley - Boat in the Flood at Port Marly
1876 / 48 mm sea level rise
Musée d’Orsay, Paris, France
© Musee d’Orsay 2018

29. painting
Alfred Sisley - Flood at Port Marly
1876 / 48 mm sea level rise
Museo Nacional Thyssen-Bornemisza, Madrid, Spain
© Carmen Thyssen-Bornemisza Collection 2018

30. painting
Paul Gauguin - La Vague
1888 / 67 mm sea level rise
private collection
© Christie’s 2013
31. painting
Winifred Knights -
The Deluge
1920 / 85 mm sea level rise
Tate Britain, London, England
© Tate 2018

32. Max Ernst shows what would remain of the modern civilization after a deluge now.
Max Ernst -
Europe After the Rain
1942 / 112 mm sea level rise
Wadsworth Atheneum Museum of Art
Hartford, CT, USA
© Wadsworth Atheneum Museum of Art 2018
5. CAPTURING THE DELUGE

The high rate of globalisation in the 20th century and the continuous development of technologies on communication, like photography and cinema [33 - 45], made the importance of flood risk management increase. Flood events started to be covered in newspapers globally as natural disasters. Many people however, still sought to explain floods in religious terms (Rooijendijk 2009), up to the 1953 North Sea Flood in the Netherlands.

33. photograph
P. Jonker -
Devastation in Egmond aan Zee
1905 / 72 mm sea level rise
© Historisch Egmond 2018

32. The Zuiderzee Flood hit areas around the Zuiderzee (current IJsselmeer) in the night of the 13th to the 14th of January 1916 and took the lives of 51 people. The Zuiderzee Flood was the decisive event for the construction of the Afsluitdijk.

31. photograph
artist unknown -
The Great Flood of 1916, A house turned over in which a man, woman and two children drowned
1916 / 84 mm sea level rise
Zuiderzeemuseum, Enkhuizen, The Netherlands
© Zuiderzeemuseum 2018
The 1953 North Sea Flood took the lives of 1,836 and homes of 100,000 after a rare combination of a spring tide, north-northwest storm and high water levels in the rivers brought the water level to + 4.5 m above sea level in the funnel-shaped Southern North Sea. Ed van der Elsken was one of the reporters of the catastrophe and later became one of the most famous Dutch photographers offering perspectives on the European zeitgeist.
photograph
Aart Klein -
Havoc in a church
1953 / 151 mm sea level rise
Nederlands Fotomuseum, Rotterdam, The Netherlands
© Nederlands Fotomuseum 2018

photograph
Aart Klein -
Havoc in a church
1953 / 151 mm sea level rise
Nederlands Fotomuseum, Rotterdam, The Netherlands
© Nederlands Fotomuseum 2018

The Storm represents the devastation of the 1953 North Sea Flood with the modern medium of movies and the platform of cinemas.

movie
Ben Sombogaart -
The Storm
2009 / 240 mm sea level rise
Universal Pictures, Amsterdam, The Netherlands
© Universal Pictures 2009
Andreas Gursky’s Rhine series manipulates the manipulated Dutch landscape to reflect on the current difference between water and ground level by getting rid of any other detail like bikers, boats, kites, built environment and so on.

photograph
Andreas Gursky - Rhein
1996 / 202 mm sea level rise
private collection
© Andreas Gursky 1996

A copy of this photograph (edition of six) holds the record of the most expensive photograph ever sold. In 2011 it was auctioned at Christie’s in New York for $ 4.3 million.

photograph
Andreas Gursky - Der Rhein II
1999 / 204 mm sea level rise
Tate Modern, London, England
© Monika Sprueth Galerie 2018

In his series, ‘The Washing Water’, Marnix Goossens emphasises the beauty of Dutch water management. The series includes photographs of floating houses, dunes, beaches, river expansion and dike enhancement.

photograph
Marnix Goossens - Sand suppletion
2007 / 232 mm sea level rise
Rijksmuseum, Amsterdam, Nederland
© Rijksmuseum 2018

photograph
Marnix Goossens - Trailing suction hopper dredger
2008 / 236 mm sea level rise
Rijksmuseum, Amsterdam, Nederland
© Rijksmuseum 2018
After the 1953 North Sea Flood a large number of drastic and large-scale reinforcement and hydraulic works would protect the Netherlands from suffering any repeat of the catastrophe in the future and the country became fully water managed (Deltacommissie 2008). In the Netherlands, no lives were lost ever since but worldwide flood events still happen on an annual basis. Images of flooding after tsunamis or hurricanes haunt us as social media brought the sharing of flood experiences but also the climate change discussion to extremes [46 - 55, 58 - 66].

Hurricane Katrina was one of the storms of the 2005 Atlantic hurricane season, a devastating storm taking the lives of 1,833 people and causing $153 million worth of damage. The casualties and damage were centered around the city of New Orleans.

**painting**

Joy Garnett - *Flood 2, New Orleans on fire after Katrina* 2005 / 229 mm sea level rise
private collection
© Joy Garnett 2005

**painting**

Joy Garnett - *Flood 3, New Orleans on fire after Katrina* 2006 / 230 mm of sea level rise
private collection
© Joy Garnett 2005

Condensation is inspired by the mattresses floating through New Orleans after hurricane Katrina. The hole represents the memories torn away.

**sculpture**

Henri Oliveira - *Condensation* 2012 / 251 mm sea level rise
Museum Voorlinden, Wassenaar, The Netherlands
© Everton Balardin 2012

**painting**

Brian Alfred - *Time and Change* 2017 / 272 mm sea level rise
Miles McEnery Gallery, New York City, NY, USA
© Artsy 2017
Hurricane Sandy was one of the storms of the 2012 Atlantic hurricane season, taking the lives of 233 people and leaving a path of destruction reaching up to one of the world’s most iconic metropoles, New York City.

Painting
Miko Veldkamp - Manhattan Sea Level
2017 / 272 mm sea level rise
Galerie Rianne Groen Gallery, Rotterdam, The Netherlands
© Galerie Rianne Groen 2018

Maya Lin’s Pin River series usually depicts the outline of rivers from all over the world in order to emphasise their preciousness. In this work the outline of the floodplains of hurricane Sandy in the state of New York is shown.

Sculpture
Maya Lin - Pin River—Sandy
2013 / 252 mm sea level rise
Parrish Art Museum, Water Mill, NY, USA
© Pace Gallery 2013
7. EXPLAINING THE DELUGE

As researchers manage to unravel climate change and present the causes of climate change and all related phenomena, a new theme in visual arts is born. Sea level rise and ice cap melt are only some of the topics addressed by contemporary artists [40 - 66].

52. The following artworks deal with the theme of sea level rise, how and in what extent mankind indirectly causes sea levels to rise and what are the consequences of sea level rise.

53. The following artworks deal with the theme of sea level rise, how and in what extent mankind indirectly causes sea levels to rise and what are the consequences of sea level rise.

54. This light installation creates awareness of how much below sea level the Museumsvaart in Amsterdam is located but it was also installed at the headquarters of the United Nations in New York City to emphasise sea level rise.

55. This temporal sculpture shows how easy water can harm a seemingly indefeasible society of consumerism by simply letting drops of water fall on piles of images.

photograph
Zhang Huan -
To raise the water
1997 / 206 mm sea level rise
MoMA PS1, New York City, NY, USA
© MoMA PS1 2018

sculptures
Antony Gormley -
Another Place
1997 / 206 mm sea level rise
Crosby Beach, Liverpool, England
© Antony Gormley 2018

light installation
Daan Roosegaarde -
Water Light
2015 / 268 mm sea level rise
Waterschap Rijn & IJssel, Doetinchem, The Netherlands
© Daan Roosegaarde 2015

temporal sculpture
Michel Blazy -
Acqua Alta
2017 / 272 mm sea level rise
57th Biennale di Venezia - Viva Arte Viva, Pavilion of the Earth, Venice, Italy
© Artificialis 2017
56. The province of Flevoland in the Netherlands has only recently been reclaimed from the water and therefore had no cultural heritage. Due to the size of the reclaimed land large land-art pieces were commissioned of which these examples focus on the sea water level.

sculpture

Antony Gormley - Exposure
2010 / 241 mm sea level rise
Land Art Flevoland, Lelystad, The Netherlands
© Allard Bovenberg 2018

57. sculpture

Richard Serra - Sea Level
1996 / 202 mm sea level rise
Land Art Flevoland, Zeewolde, The Netherlands
© Heldermann 2014
58. The following artworks focus on ice cap melt, its magnitude and irreversible character. Roni Horn's Library of Water shows the melt water of different glaciers in Iceland.

Roni Horn - 
Library of Water
2003 / 220 mm sea level rise
Library of Water, Stykkisholmur, Iceland
© Hauser & Wirth 2003

59. On the occasion of the 2015 United Nations Climate Change Conference, Olafur Eliasson transported twelve pieces of ice to Paris which were floating after being broken off the Arctic ice caps due to climate change.

Olafur Eliasson - 
Ice Watch
2015 / 268 mm sea level rise
COP21, Paris, France
© Martin Argyroglo 2015

60. This work shows the remnant of a piece of ice from the Nuup Kangerlua fjord in Greenland being cast in concrete.

Olafur Eliasson - 
The presence of absence (Nuup Kangerlua, 24-11-2015)
2016 / 269 mm sea level rise
neugerriemschneider, Berlin, Germany
© Jens Ziehe 2016
7. THE FUTURE OF THE DELUGE

In the future sea levels will continue to rise. On what extents of sea level rise flood risk management should anticipate, however, remains deeply uncertain. In scenarios of accelerated sea level rise the current flood defence strategies will lack in preparing for a shift to the required transitional change to cope with the rising flood risk (Bloemen et al. 2017). This appendix has shown how artists from any discipline reflect on the past and present conditions of flooding, sea level rise and climate change. This chapter shows examples of fictional flood representation of future scenarios [59 - 64].

61 / 62.
When the dikes break was a Dutch tv series increasing awareness on flood risk in the Netherlands by showing the country in the state of a disastrous flood.

Tv series
Hans Herbots -
When the dikes break
2016 / 269 mm sea level rise
EO / NPO, Hilversum, The Netherlands
© JOCO Media / Menuet 2016

63.
movie
J. Blakeson -
The Fifth Wave
2016 / 269 mm sea level rise
Columbia Pictures, Los Angeles, CA, USA
© Columbia Pictures 2016
The video shows the artist struggling against the rushing water from a burst dam in his hometown in Hunan, China by which he demonstrates the futility of attempting to exert control over nature’s power and addresses the relationship between the body and the natural environment in contemporary China during a time of rampant urbanization.

video art
Li Birynuam -
Drawing board 100 x 40
2017 / 272 mm sea level rise
MoMA PS1, New York City, NY, USA
© MoMA PS1 2018

Virtual reality is a new art platform. Marina Abramović’s work takes the viewer to a stormy polar landscape and face-to-face with the artist’s avatar in a closed glass vitrine. The viewer decides if the sea level in the world and the vitrine rises above her avatar’s head. Pledge to take care of the planet and the water level falls. Do nothing and her avatar drowns.

virtual reality work
Marina Abramović -
Rising
2017 / 272 mm sea level rise
Acute Art
© Acute Art 2017