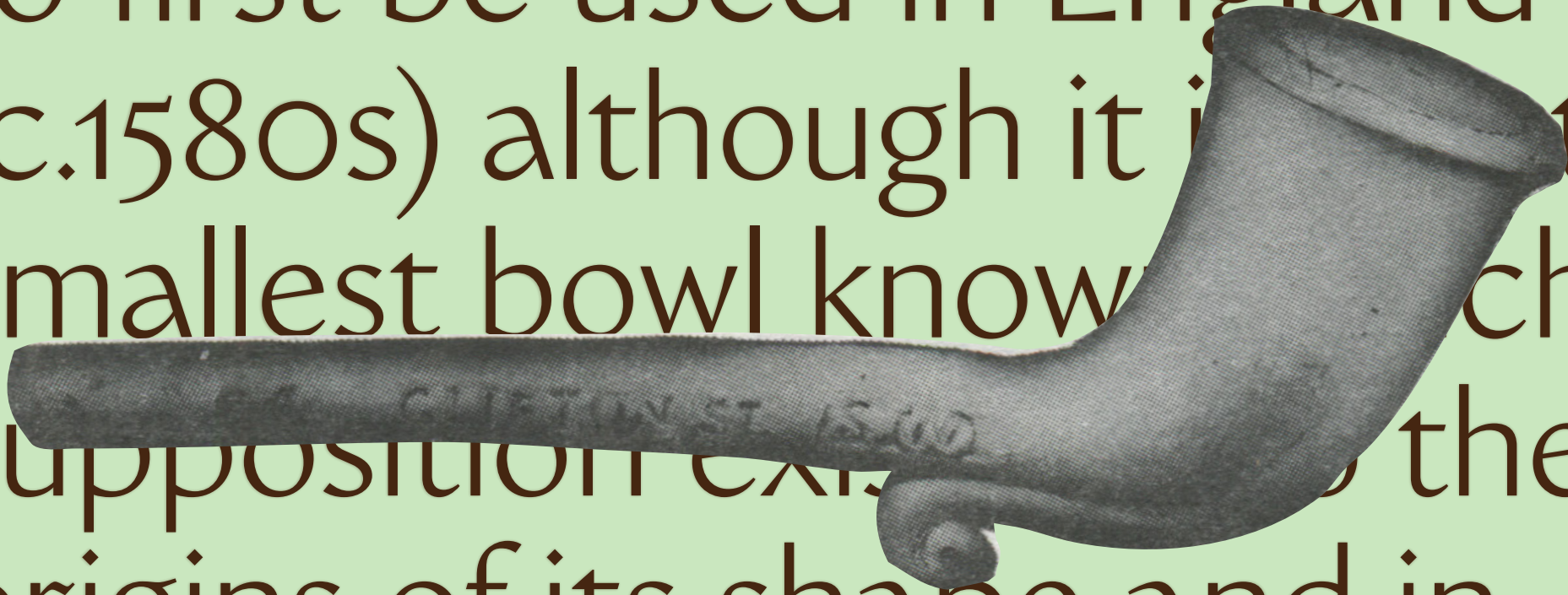
This was the style of clay pipe to first be used in England (c.1580s) although it i the smallest bowl know ch supposition exi the origins of its shape and in fact, one theory compares it to pipes fashioned from



1 Style

Monarch Nova

About Monarch Nova

Monarch Nova is a distant, hazy memory of centuries past. A rickety cart, blunted by cobblestones. Moss covered dolmens standing tall. Wind swept hills and crumbling folly's. Clay pipes and pottery wash ashore...

The design started life as Monarch – the first font I published back in 2017 based on a rough set of sketches. It was an attempt to capture the graphic design zietgeist of the time – one which harked back nostalgically towards a mystical, bygone age. Echoes of the Arts & Crafts movement of the early 20th century, which conjured an idealised vision of the past in response to an increasingly industrialised world. Modernism is dead – craft, beauty, and ornament are our new pillars of worship!

Although the original Monarch was a little rough around the edges, it by far made up for in character, combining a unique bodge of historical pastiche to create something that felt thoroughly original in spirit. I returned to the font a few years later and worked on a fully redrawn update which was published in 2020 as 'Monarch Nova'. The update sought to tone down some of the more clumsy aspects of the design and character to create a more harmonious and legible revision. This was aided by the help of the French type designer Margot Lévêque who assisted in the production.

More recently in 2024, I returned to the font once again to refine and expand on the design. Unsurprisingly, this led me down the inevitable path of redrawing everything all over again... Beside the more general refinements to the letterforms, the character-set was expanded and some of the more unique qualities of the original Monarch were brought back into the most recent update on a variety of stylistic sets. On top of that, the new update offers a range of alternative glyph sets to either tone down or crank up the character; formal pantaloons or silk breeches – whichever mood you're in.

Monarch Nova's strokes are clean, sharp and un-serifed. The font has a tall x-height, wide open counters, and features an array of characteristics including flourished cross-bars and various calligraphic cues. It's simultaneously flamboyant yet rational in design. The font works best at display sizes due to its delicate nature and stroke contrast but also serves well in running text. Legibility can be further improved by enabling the more conventional stylistic sets.

OpenType Features	Straight Crossbars	ss01
	Alternative V & W	ss02
	Alternative R	ss03
	Alternative U	ss04
	Alternative N	ss05
	Descending Forms	ss06
	Alternative g	ss07
	Alternative Ampersand	ss08
	Ligatures	liga
	Discretionary Ligatures	dlig
	Small Caps	smcp
	Caps to Small Caps	c2sc
	Oldstyle Figures	onum
	Proportional Lining Figures	pnum
	Localised Forms	locl
	Ordinals	ordn
	Superscript	sups
	Subscript	subs
	Case Sensitive Forms	case
Language Support	277 Languages	p 25
Designer	Jacob Wise	
First Release	2017	
Last Update	February 2025	
Version	2.1	
Credits	Production work on the 2020 version of Monarch Nova with Margot Lévêque.	
Spacing & Kerning	Igino Marini	
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OpenType Features

In the majority of design software, you can enable OpenType features to max out your typographic experience!

These can usually be accessed in the Character/OpenType/Type options in most programmes. For websites, you can use the font-feature-settings CSS property to enable a specific feature. You can enable a feature by referencing its unique four-letter tag e.g., ss01, ornm, liga, dlig.

For instance, if you'd like to switch to the alt R, you could write: font-feature-settings: "ss03";

		Off	On
Straight Crossbars	ss01	EARTH EARTH	EARTH EARTH
Swaps the default set of calligraphic crossbars to a simpler horizontal design.			
Alternative V & W	ss02	Very Wavy	Very Wavy
Swaps the V/W in uppercase, lowercase and small caps to a double diagonal design.			
Alternative R	ss03	ARKANSAS	ARKANSAS
Swaps the curved leg of the R to a straight leg.			
Alternative U	ss04	Unionisation	Unionisation
Swaps the simple U to a more complex design.			
Alternative N	ss05	NAMIBIAN	NAMIBIAN
Swaps the flourished N to a simple design.			
Descending Forms	ss06	Office Straße	Office Straße
Swaps f and ß to descending version. If ligatured, only the first f descends.			

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		Off	On
Alternative g	ss07 Swaps the g to a more complex design.	Pangea	Pangea
Ligatures	liga Standard ligatures improve legibility by combining certain letter pairs, such as 'fi', when the feature is activated. They do not impact spelling or hyphenation.	Offbeat rave	Offbeat rave
Discretionary Ligatures	dlig Discretionary ligatures are optional and add a decorative touch to letter pairs, like 'eo'. They don't affect spelling or hyphenation.	Neon cedar	Neon cedar
Small Caps	smcp Small caps replace lowercase letters with smaller, proportionally scaled uppercase letters.	Hafenstraße	HAFENSTRASSE
Caps to Small Caps	c2sc The 'caps to small caps' feature converts all capital letters to small caps.	DRUIDS	DRUIDS
Oldstyle Figures	onum Oldstyle figures use numerals with varying heights and alignments. Sometimes refered to as 'lowercase' figures since they function better within bodies of text.	1956–2043	1956–2043

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Localised Forms locl

Localised forms adjust characters to match the typographic conventions of different languages or regions. Catalan [CAT], Moldovan [MOL], Romanian [ROM], and Dutch [NDL] are all supported.

Ordinals ordn

Ordinals are special characters that denote the position of items, like '1st' or '2nd'. These are designed smaller and top aligned.

Superscript sups

Substitutes figures, basic uppercase and lowercase with smaller, top aligning alternatives which match better in weight. Useful for footnotes, formula's and titling options.

Subscript subs

Substitutes figures, basic uppercase and lowercase with smaller, bottom aligning alternatives which match better in weight. Useful for footnotes, formula's and titling options.

Case Sensitive Forms case

This feature raises a set of punctuation to fit better with capital forms.

Off	On
Díjk CEL·LA	Díjk CEL·LA
1st 2nd 3rd	1st 2nd 3rd
Norm [23/45]	Norm [23/45]
C2H6O	C2H6O
{W}(T)[F]	{W}(T)[F]

440 pt

Alt A

440 pt

Alt N

190 pt

Ancient Relics

190 pt

190 pt

Kegelen 95-Pin

Alt g

120 pt

Affirmative

Alt f

120 pt

Recreation

Discretionary Ligatures

120 pt

Clandestine

120 pt

Mercurial

80 | 96 pt

Görresstraße
Quaker Oats

80 | 96 pt

THE ARCHERS
BBC radio 4

Small Caps

80 | 96 pt

Cimetière d’Ixelles (Mémoires, p. 78)

80 | 96 pt

L’ART NOUVEAU EN BELGIQUE

Alt R

80 | 96 pt

UNESCO World
Heritage Site

Alt U

80 | 96 pt

Musée d’Orsay
Hôtel Solvay

80 | 96 pt

€20 $21 £16 ¥159
₺36 ₹1794 ₩30273

80 | 96 pt

GDP estimated at around $40 trillion

Oldstyle Figures

80 | 96 pt

BAYERISCHE
STAATSOPER

80 | 96 pt

Samuel Taylor
Coleridge (1772)

Oldstyle Figures

40 | 48 pt

All coins from the same find, if it consists of two or more coins, and as long as they are at least 300 years old when found. If they contain less than

40 | 48 pt

The first of five pilot episodes was aired on Whit Monday, 29 May 1950, on the BBC Midlands Home Service, and the first episode broadcast

Oldstyle Figures

40 | 48 pt

Sony Ericsson was overtaken by its South Korean rival LG Electronics in Q1 2008. Sony Ericsson's company's profits fell significantly by 43% to €133

40 | 48 pt

VICTOR PIERRE HORTA (1861–1947)
ROYAL ACADEMY OF FINE ARTS
ARTS AND CRAFTS MOVEMENT
THEORIES OF VIOLLET-LE-DUC

40 | 48 pt

STEDELIJK MUSEUM, AMSTERDAM
BOIJMANS VAN BEUNINGEN
MAURITSHUIS KUNST MUSEUM
KRÖLLER-MÜLLER, ARNHEM

40 | 48 pt

The Benelux is an economically dynamic and densely populated region, with 5.6% of the European population (29.55 million residents)

24 | 30 pt

Europa Clipper's main science goal is to determine whether there are places below Jupiter's icy moon, Europa, that could support life. The mission's three main science objectives are to determine the thickness of the moon's icy shell and its surface interactions with the ocean below, to investigate its composition, and to characterize its geology.

24 | 30 pt

The mission's detailed exploration of Europa will help scientists better understand the astrobiological potential for habitable worlds beyond our planet. Europa Clipper will travel 1.8 billion miles (2.9 billion km) to reach Jupiter in April 2030. The spacecraft will orbit Jupiter, and conduct 49 close flybys of Europa. On each orbit, the spacecraft will spend less than

24 | 30 pt

Jag befann mig i det gamla skeppets blåsig säkerhet och ville inte flytta på mig först. Jag hade njutit av de två på varandra följande dagarna när jag kom uppför Engelska kanalen och över Biscayabukten, hörde Atlantens milda bris och kände fartygets lätta rullning. Men här var Vigo, namnet på min biljett, och så länge som hans vård tog mig. Så jag lade mig

Alt g

24 | 30 pt

Eu estava na segurança do velho navio, não me querendo mexer a princípio. Tinha aproveitado os dois dias consecutivos a subir o Canal da Mancha e a atravessar o golfo da Biscaia, ouvindo as brisas suaves do Atlântico e sentindo o ligeiro movimento do navio. Mas aqui estava Vigo, o nome no meu bilhete, e enquanto os seus cuidados me levassem. Depois

16 | 22 pt

Drie of vier dagen lang volgde ik het pad door de heuvels, maar zag slechts af en toe tekenen van leven – soms een herdershut, of een man in de verte die liep, of een eenzame jongen met een kudde geiten; verder geen geluid of beweging, behalve de arenden boven mijn hoofd en de bronnen die uit de rotsen gutsten. Het pad klom hoger in de heldere koude lucht en ik volgde het gewoon, in de hoop de richting te kunnen volgen. Toen de schemering viel, krulde ik me op waar ik was, te uitgeput om me druk te maken over de kou. Op een nacht zocht ik beschutting in een vervallen kasteel dat ik op een rotspunt vond – een mager fort zonder dak, begroeid met de nesten van raven en bezaaid met verlaten vuren. Het skelet van een schaap stond in een hoek,

16 | 22 pt

Je trouvai un petit creux à l'abri du vent, un cratère miniature au milieu des rochers, mangeai du pain et des dattes, déroula la couverture et m'enveloppai. Je posai le violon à côté de moi, utilisai le sac à dos comme oreiller et m'étendis sur le lit de pierres ; puis je joignis les mains, accrochai mes petits doigts, fermai les yeux et me préparai à dormir. Mais je dormis peu cette nuit-là : je fus attaqué par des chiens sauvages – ou peut-être des loups galiciens. Ils arrivèrent en rampant et en grognant le long de la crête de mon cratère, le poil hérissé par la lune, et ce n'est qu'en criant, en jetant des pierres et en leur braquant ma torche dans les yeux que je parvins à les tenir à distance. Ce n'est qu'à l'aube qu'ils me quittèrent enfin et s'enfuirent en hurlant sur le flanc de la colline,

16 | 22 pt

When d'Artagnan calls upon Monsieur de Treville, he finds a number of musketeers awaiting audiences with this powerful man, and he listens in particular to two musketeers who are bantering with each other in a friendly manner. One of them is Porthos, dressed rather pompously; the other is Aramis, dressed more conservatively. Arannis states that he is waiting for the queen to have an heir to the throne; afterward, he will resign from the musketeers and begin studying for the priesthood. Their conversation is interrupted when it is announced that Monsieur de Treville, will receive d'Artagnan. As d'Artagnan enters, he sees that Monsieur de Treville, is in a bad mood. The exalted gentleman immediately calls for Athos, Porthos, and Aramis. Porthos

16 | 22 pt

A TELEPHONE-BELL RANG IN DARKNESS. When it had rung three times bed-springs creaked, fingers fumbled on wood, something small and hard thudded on a carpeted floor, the springs creaked again, and a man's voice said: "Hello... Yes, speaking... Dead?... Yes... Fifteen minutes. Thanks." A switch clicked and a white bowl hung on three gilded chains from the ceiling's center filled the room with light. Spade, barefooted in green and white checked pajamas, sat on the side of his bed. He scowled at the telephone on the table while his hands took from beside it a packet of brown papers and a sack of Bull Durham tobacco. Cold steamy air blew in through two open windows, bringing with it half a dozen times a minute the Alcatraz foghorn's dull moaning. A tinny alarmclock,

Small Caps

12 | 16 pt | +10 tracking

Made of the metal tantalum and about 7 by 11 inches (18 by 28 centimeters), the plate features graphic elements on both sides. The outward-facing panel features art that highlights Earth's connection to Europa. Linguists collected recordings of the word "water" spoken in 103 languages, from families of languages around the world. The audio files were converted into waveforms (visual representations of sound waves) and etched into the plate. The waveforms radiate out from a symbol representing the American Sign Language sign for "water."

In the spirit of the Voyager spacecraft's Golden Record, which carries sounds and images to convey the richness and diversity of life on Earth, the layered message on Europa Clipper aims to spark the imagination and offer a unifying vision. "The content and design of Europa Clipper's vault plate are swimming with meaning," said Lori Glaze, director of the Planetary Science Division at NASA Headquarters in Washington. "The plate combines the best humanity has to offer across the universe – science, technology, education, art, and math. The message of connection through water, essential for all forms of life as we know it, perfectly illustrates Earth's tie to this mysterious ocean world we are setting out to explore".

In 2030, after a 1.6-billion-mile (2.6-billion-kilometer) journey, Europa Clipper will begin orbiting Jupiter, making 49 close flybys of Europa. To determine if there are conditions that could support life, the spacecraft's powerful suite of science instruments will gather data about the moon's subsurface ocean, icy crust, thin atmosphere, and space environment. The electronics for those instruments are housed in a massive metal vault designed to protect them from Jupiter's punishing radiation. The commemorative plate will seal an opening in the vault. Because searching for habitable conditions is central to the mission, the Drake Equation is etched onto the plate as well – on the inward-facing side. Astronomer Frank Drake developed the mathematical formulation in 1961 to estimate the possibility of finding advanced civilizations beyond Earth. The equation has inspired and guided research in astrobiology and related fields ever since.

In addition, artwork on the inward-facing side of the plate will include a reference to the radio frequencies considered plausible for interstellar communication, symbolizing how humanity uses this radio band to listen for messages from the cosmos. These particular frequencies match the radio waves emitted in space by the components of water and are known by astronomers as the "water hole." On the plate, they are depicted as radio emission lines. Finally, the plate includes a portrait of one of the founders of planetary science, Ron Greeley, whose early efforts to develop a Europa mission two decades ago laid the foundation for Europa Clipper.

"We've packed a lot of thought and inspiration into this plate design, as we have into this mission itself," says Project Scientist Robert Pappalardo of NASA's Jet

Alt Crossbars
Alt R
Alt N
Oldstyle Figures

12 | 16 pt | +10 tracking

My father's family name being Pirrip, and my Christian name Philip, my infant tongue could make of both names nothing longer or more explicit than Pip. So, I called myself Pip, and came to be called Pip.

I give Pirrip as my father's family name, on the authority of his tombstone and my sister—Mrs. Joe Gargery, who married the blacksmith. As I never saw my father or my mother, and never saw any likeness of either of them (for their days were long before the days of photographs), my first fancies regarding what they were like, were unreasonably derived from their tombstones. The shape of the letters on my father's gave me an odd idea that he was a square, stout, dark man, with curly black hair. From the character and turn of the inscription, "Also Georgiana Wife of the Above," I drew a childish conclusion that my mother was freckled and sickly. To five little stone lozenges, each about a foot and a half long, which were arranged in a neat row beside their grave, and were sacred to the memory of five little brothers of mine—who gave up trying to get a living exceedingly early in that universal struggle—I am indebted for a belief I religiously entertained that they had all been born on their backs with their hands in their trousers-pockets, and had never taken them out in this state of existence.

Ours was the marsh country, down by the river, within, as the river wound, twenty miles of the sea. My first most vivid and broad impression of the identity of things, seems to me to have been gained on a memorable raw afternoon towards evening. At such a time I found out for certain, that this bleak place overgrown with nettles was the churchyard; and that Philip Pirrip, late of this parish, and also Georgiana wife of the above, were dead and buried; and that Alexander, Bartholomew, Abraham, Tobias, and Roger, infant children of the aforesaid, were also dead and buried; and that the dark flat wilderness beyond the churchyard, intersected with dykes and mounds and gates, with scattered cattle feeding on it, was the marshes; and that the low leaden line beyond was the river; and that the distant savage lair from which the wind was rushing, was the sea; and that the small bundle of shivers growing afraid of it all and beginning to cry, was Pip.

"Hold your noise!" cried a terrible voice, as a man started up from among the graves at the side of the church porch. "Keep still, you little devil, or I'll cut your throat!"

A fearful man, all in coarse grey, with a great iron on his leg. A man with no hat, and with broken shoes, and with an old rag tied round his head. A man who had been soaked in water, and smothered in mud, and lamed by stones, and cut by flints, and stung by nettles, and torn by briars; who limped, and shivered, and glared and growled; and whose teeth chattered in his head as he seized me by the chin.

"O! Don't cut my throat, sir," I pleaded in terror. "Pray don't do it, sir."

"Tell us your name!" said the man. "Quick!"

Small Caps

8 | 11 pt | +20 tracking

As I write in early 2010, plans are being laid for 'Rio+20', the United Nations Earth Summit scheduled for 2012, which aims to celebrate the twentieth anniversary of the Earth Summit held in Rio de Janeiro in 1992. However, one would need to be a pretty deluded party-goer to imagine that there will be much to celebrate from an environmental perspective. Two reprehensibly wasted decades is about the sum of it.

And when it comes to relative reprehensibility, the second of those two decades has been so much more disappointing than the first. For political and business élites, the 1990s were spent catching up with the uncomfortable environmental realities that scientists had just brought to their attention. It was a decade of strategies, action plans and high-flown rhetoric at global gatherings - all of which somehow managed to retain a residual sense of optimism. So much to do; so much political will to muster.

The current decade has been infinitely worse. For lack of any serious action, those strategic policies, action plans and global gatherings have become deeply cynical exercises in manipulating both the media and the electorate. We know so much more now about the state of the world, but evidence has been ignored on every front. Almost everything we learn (on fresh water, soil, forest, biodiversity, oceans, atmospheric pollution, climate change, toxics, and so on) demonstrates a continuing deterioration in the integrity of those ecosystems on which we depend. Yet the gap between what we are doing and what we need to be doing increases year on year.

If we analyse the statistics that book end the last 10 years, this situation is hardly surprising. In 2000, the population of the world was 6 billion. At the beginning of 2010, it's 6.8 billion. That is an average of 80 million additional people every year over the decade, with the majority born in developing and emerging countries, many of which are still wholly ill-equipped to deal with such growth.

In 2000, global GDP was $40 trillion. In 2009, it was $70 trillion. There is nothing wrong with that in itself, and many of those trillions helped hundreds of millions of people to climb out of poverty, especially in countries like China and India. But much of that huge increase in wealth came at the expense of the natural environment - through unsustainable use of resources, chronic air and water pollution, loss of top soil, accelerating climate change, and so on.

Every year, Ecological Debt Day marks the day on which we've used up that year's allocation of natural resources, going into the red' from that point onwards. In 2000, Ecological Debt Day fell on 1 November. In 2009, it was 25 September. We are using 30 per cent more resources than the Earth can replenish each year, leading to deforestation, degraded soils, polluted air and water, and dramatic declines in the numbers of fish and other species. As a result, we're running up an ecological debt of around $4 trillion every year - even the financial crash in 2008 pales in comparison to this looming ecological credit crunch.

In 2000, concentrations of CO_2 in the atmosphere stood at 370 parts per million (ppm). In 2009, it was 387 ppm. Concentrations are now increasing by about 2.3 ppm a year and in April 2009 the highest-ever single reading for CO, levels in the atmosphere was recorded at 397 ppm.

In 2000, total spending on arms was $875 billion. In 2009, it was $1.3 trillion. Those with good memories may recall widely shared expectations back in the 1990s that the collapse of the Soviet Union (most powerfully symbolized by the tearing down of the Berlin Wall in 1989) would produce a powerful peace dividend. One of the great signals of hope at the start of this decade was the agreement by the richest nations to reverse some of the worst trends in the world's poorer countries through the adoption of the Millennium Development Goals.

But what little evidence there was of any emerging peace perished with the collapse of the Twin Towers in New York in 2001. The shadow of 9/11 has haunted the whole of the decade since then, birthing two wars, in Iraq and Afghanistan, and diverting political leaders the world over into a futile and ultimately self-defeating War on Terror.

One of those leaders was the UK Prime Minister, Tony Blair. As Chair of the Uk's Sustainable Development Commission between July 2000 and July 2009, I saw for myself the devastating impact these events had on the quality of his leadership. Whatever else one may think about Blair, there is no disputing the energy and skill he brought to bear on the climate change agenda from his very first day in office. He sustained this commitment at the international level all the way through to the end of his premiership, but his efforts to translate any of that into specific measures in the UK, in his own backyard, were all but non-existent.

Environmentally, this has of course been the decade of climate change. Two blockbuster reports from the Intergovernmental Panel on Climate Change (IPCC), in 2001 and 2007, established a powerful scientific consensus embraced by all but a small and very vocal minority of scientists. In 2005, Hurricane Katrina jolted bemused Americans into belated recognition that the rich world would not be immune from the consequences of accelerating climate change. US presidential candidate Al Gore's film An Inconvenient Truth was shown all around the world, persuading millions that further delay would be disastrous. And in 2007 Gore and the IPCC shared the Nobel Peace Prize in recognition of the transformative effect their work has had on the global community.

But the decade of climate change ended in chaos and controversy. That hard-earned consensus was jeopardised by a number of scientific controversies, including mistakes make by the IPCC and less-than-transparent process from some leading climate scientists at the University of East Anglia.

This has greatly strengthened the hand of those who argue that even if climate change is happening, it's down to natural variations in the climate rather than to man-made emissions of CO_2 and other greenhouse gases. This had a knock-on effect on the United Nations Climate Change Conference held in Copenhagen in December 2009. This ended in miserable failure, with China and the US playing hardball in a way that brought the whole UN process into disrepute - despite the fact that the vast majority of reputable scientists still believe that the science is rock-solid and that if emissions continue to rise at the same rate as today, we'll be unable to stop average temperature increases climbing above the 2 °C level. This is the absolute upper limit if we are to avoid runaway climate change. Let

Alt Crossbars
Alt R
Alt N

6 | 8 pt | +20 tracking

Het water in Nederland bestaat uit grondwater (A) en oppervlaktewater (F). Het grondwater is afkomstig van neerslag die in de bodem zakt. Slechts 10% van de neerslag bereikt de verzadigde grondwaterzone (B). De rest verdampt of stroomt weg. Het grondwater voedt beken, komt als kwelwater weer naar boven of wordt opgepompt door drinkwaterbedrijven, industrieën en de landbouw. In de ondergrond bevindt zich, veelal in diepere lagen die door de zee zijn afgezet, ook brak en zout water. Als er te veel zoet water wordt opgepompt komt het brakke of zoute water uit de ondergrond naar boven en treedt er verzilting op. Dat gebeurt ook bij de bemaling van (diepe) polders. Jaarlijks kan er in Nederland op en verantwoorde manier 1900 tot 1950 miljoen m³ grondwater worden gewonnen. Om verzilting te voorkomen kan dat alleen in gebieden war het brakke of zoute water niet te dicht aan de oppervlakte zit. Dat is vooral het geval op de hogergelegen zandgronden in Oosten Zuid-Nederland en in de duinen.

Hoeveel water er Nederland binnenkomt en verlaat, war het vandaan komt en waar het naartoe gaat, is te zien in de waterbalans (D). In een gemiddeld jaar ontvangt Nederland 110,5 km³ ofwel 110 miljard m³ water. Daarvan is slechts 27,2% afkomstig van de neerslag die er in Nederland valt. De rest wordt door rivieren vanuit het buitenland aangevoerd (E). De Rijn, die bijna tweederde (62,5%) van al het water in Nederland aanvoert, is daarbij verreweg de belangrijkste leverancier. Het meeste water (77,8%) verlaat Nederland weer via de rivieren en stroomt naar zee; 17,6% verdampt. De rest (4,5%) wordt gebruikt door huishoudens, de industrie en de landbouw. In de lente en zomer is de verdamping (o.a. via planten) groter dan de neerslag en is er een neerslagtekort (C). Planten putten dan uit de watervoorraad in de bodem. In de nazomer en de herfst als de neerslag weer groter is dan de verdamping, wordt eerst de bodemvoorraad aangevuld. Als deze verzadigd is, wordt het water afgevoerd.

Nederland is en waterrijk land. Maar liefst 17,4% (7.160 KM2) van het oppervlak bestaat uit water (F en G). Enerzijds bestaat dit oppervlaktewater it zoete binnenwateren zoals het IJsselmeer, het Markermeer, afgesloten zeearmen zoals de Haringvliet en de Grevelingen, meren, plassen, rivieren, beken, kanalen en havens. Anderzijds zijn er de brakke of zoute buitenwateren zoals de Waddenzee en de nietafgesloten zeearmen zoals de Dollard en de Oosteren Westerschelde. Het meeste water en de meeste waterwegen bevinden zich in laag-Nederland. Veel oppervlaktewateren zijn door de mens beinvloed of zelfs door toedoen van de mens ontstaan. Door het vele oppervlaktewater en de vele waterwegen heeft er in Nederland altijd veel transport over water plaatsgevonden.

Nederland wordt vanouds bedreigd door water vanuit zee (B en D) en door water vanuit de rivieren (E t/m H). Ernstige overstromingen vanuit zee in 1916 en 1953 leidden tot de aanleg van de Afsluitdiik en de Deltawerken. In het verleden bedreigden ook grote uitbreidende plassen als het Haarlemmermeer steden en dorpen (C). Het besluit om dit meer in te polderen viel nadat in 1836 tijdens twee zware stormen duizenden hectares onder water liepen en Amsterdam en Leiden bedreigd werden. Door de huidige klimaatveranderingen neemt de dreiging toe omdat de zeespiegel stijgt en de rivierafvoeren toenemen. De verwachte bodemdaling in laag-Nederland (A), veroorzaakt door bemaling, inklinking, gaswinning en de geologische kanteling van Nederland op de lijn Emmen-Bergen op Zoom zorgt voor extra dreiging.

In het verleden warn dijkdoorbraken en overstromingen in het rivierengebied zeer talrijk. Als voorbeeld zijn op kaart E de vele dijkdoorbraken in een relatief beperkte periode en voor een beperkt gebied weergegeven. De meeste dijkdoorbraken werden veroorzaakt door ijsdammen. IJsdammen ontstonden wanner klompen drijfijs aan elkaar vastvroren. Door steeds nieuwe aanvoer kon het drijfijs uitgroeien tot dammen van dijk tot dijk. Als het dan stroomopwaarts begon te dooien of te regenen werd het water achter de ijsdam opgestuwd en braken de diken. Vanwege de drukke scheepvaart en de opwarming van rivierwater door elektriciteitscentrales (koelwater), komen er tegenwoordig gen ijsdammen meer voor.

Ook de overstromingsramp van 1809 (F) ontstond door ijsgang en was de grootste in het rivierengebied. Omdat de Lingedijk stroomafwaarts van Leerdam brak, liepen ook de Alblasserwaard en de Viifheerenlanden onder. Dit gebied had door de Diefdijk, een dwarsdijk die most voorkomen dat water it de oostelijke, hogergelegen polders naar de westelijke, lagergelegen polders lip, beschermd moeten worden.

In 1993 en 1995 dreigden er door langdurige zware regenval in de stroomgebieden van Maas en Rijn opnieuw dijkdoorbraken en overstromingen. In 1995 werden in Limburg 13.000 mensen geèvacueerd, en in het Gelderse en Zuid-Hollandse rivierengebied ruim 200.000. De diken hielden het echter. Tijdens het hoogwater publiceerde De Gelderlander kaart G. Deze kaart geeft weer welke gebieden onder water zouden lopen en hoeveel water er zou komen te staan. De kaart veroorzaakte, omdat er in alle opzichten van en maximal rampscenario werd uitgegaan, onnodig veel paniek.

Om voorbereid te zijn op een mogelijke dijkdoorbraak, heft Rijkswaterstaat een scenario laten opstellen van en gefingeerde dijkdoorbraak bij Rotterdam-Alexanderpolder (H). Het scenario laat zien in welk tempo het gebied zou overstromen en welke gevolgen de overstroming zou kunnen hebben. Uiteindelijk zou er 37.000 hectare onder water komen te staan; waardoor ongeveer een half miljoen mensen direct getroffen zou worden.

Nederland wordt teen mogelijke overstromingen vanuit zee, meren en de grote rivieren beschermd door 3500 kilometer an primaire waterkeringen (A). De waterkeringen bestaan uit duinen (260 km), zeedijken, dammen en stormvloedkeringen (430 km), rivierdijken (1430 km) en meerdijken (1017 km). Daarnaast heft Nederland nog 14.000 km nietprimaire waterkeringen zoals boezem- en polderkaden en dijken langs kanalen en kleine rivieren. En gebied binnen en primaire waterkering heet een dijkring. Daarvan zijn er 57 in Nederland. Voor verschillende dijkringen gelden verschillende veiligheidsnormen. Door de zeespiegelstijging voldoen acht waterkeringen niet meer aan de normen. Deze 'zwakke schakels' worden met voorrang versterkt.

Door de zeespiegelstijging sinds de laatste ijstijd heeft de zee diepe inhammen in Nederland geslagen. Om de kans op overstromingen en verzilting te verkleinen zijn er, na de overstromingsrampen van 1916 en 1953, maatregelen genomen om de kustlijn aanzienlijk te verkorten (C).

Door de Deltawerken (B) werden alle inhammen en riviermonden in Zuidwest-Nederland afgesloten, Omdat Rotterdam en Antwerpen voor zeeschepen bereikbaar moesten blijven, gold de afsluiting niet voor de Nieuwe Waterweg en de Westerschelde. Viteraard is door de ingrepen de veiligheid toegenomen, maar minpunten van de Deltawerken zijn de verdwijning van de zoet-zoutovergangen en de verstoring van het evenwicht tussen sedimentatie en erosie. Met 'doorlaten' hoopt men de harde overgangen tussen de deltawateren onderling en met de omgeving (land, zee, rivieren) te verzachten.

Nederland kent en lange en rijke geschiedenis van landaanwinning (D). In totaal is er ruim 6.300 km² (630.000 hectare ofwel 18% van het landoppervlak) aan nieuwe gronden 'veroverd' op het water. In de 13e eeuw begon men met de indijking van aangeslibde gronden langs de zee ('aanwas') of van droogvallende platen ('opwas'). Bij eb liet men het overtollige water via spuisluizen weglopen. In de 17e eeuw werden met windmolens en kapitaal van Amsterdams kooplieden plassen als de Beemster drooggelegd voor extra landbouwgronden. In de 19e eeuw volgde de drooglegging van een aantal grote meren en veenplassen zoals het Haarlemmermeer. De grote veenplassen waren ontstaan door het uitbaggeren van veen voor de energievoorziening en vormden, door voortdurende kustafslag, vaak een bedreiging voor de omgeving. Bij de droogleg. ging van deze grote meren werden stoomgemalen ingezet.

In de 20e eew volgde het grootste landaanwinningsproject, de Zuiderzeewerken (F). De Zuiderzeewerken hadden, behalve landaanwinning voor de voedselvoorziening, ook als doel het land te beschermen tegen overstromingen en verzilting. De nieuw ontstane meren (IJssel- en Markermeer) speelden bovendien en belangrijke rol in het vergroten van de zoetwatervoorraad. Voor het afsluiten en inpolderen van de Zuiderzee zijn sinds het plan van Hendrik Stevin uit 1667 veel plannen ontwikkeld (E). Uiteindelijk is in 1918 (na de overstromingsramp van 1916) gekozen voor het plan van Cornelis Lely uit 1891. Het plan is grotendeels uitgevoerd. In de jaren zeventig besloot men echter de Markerwaard niet meer in te polderen omdat de behoefte an landbouwgrond sterk was afgenomen.

Bij waterbeheer zijn veel partijen betrokken. Op regionaal niveau spelen de 'waterschappen' en belangrijke rol; terwijl op internationaal niveau een groot aantal partijen met vaak verschillende (deel) belangen bij waterbeheer betrokken zijn (B). Verantwoord waterbeheer impliceert steeds meer dat een breed scala aan belangen (D) zorgvuldig tegen elkaar wordt afgewogen.

Kaart A van het Waterschap Regge en Dinkel laat zien war regenwater infiltreert en war kwelwater naar boven komt. Infiltratie vindt plaats in de hogere delen, kwel in de lagere delen. De intensiteit van de infiltratie en kwel bepaalt hoe nat of droog een gebied is. Infiltratie en kwel hangen met elkaar samen; geen kwel zonder infiltratie. Als de kwantiteit of de kwaliteit van het geïnfiltreerde water verandert, heeft dat invloed op het kwelwater. Aanplant van dennen (die veel water verdampen) in infiltratiegebieden vermindert bijvoorbeeld de kwelstromen. Het gebruik van kunstmest en bestrijdingsmiddelen in de landbouw kan weer leiden tot voedselrijk en verontreinigd kwelwater war natuurgebieden in kwelzones schade van ondervinden. De kaart geeft inzicht in de mogelike gevolgen van ingrepen en de mogelijkheden voor bijvoorbeeld het ontwikkelen van nieuwe natuur.

Door de voortdurende toename van het verharde oppervlak (nieuwe woonwijken, bedrijventerreinen en wegen) infiltreert er steeds minder water in de bodem en is er minder water voor kwel beschikbaar. Het gevolg kan zijn dat natuurgebieden verdrogen en plantensoorten verdwijnen. Om de infiltratie te bevorderen koppelt men in veel steden en dorpen het verhard oppervlak los van de riolering (C). Allen afvalwater wordt nog via de riolering afgevoerd naar de waterzuivering. Het regenwater stroomt via buizen of wadi's naar infiltratiebekkens. Afkoppeling ontlast ook de riolering die vaak niet berekend is op de verwerking van veel regenwater en ware buien. Afkoppeling leidt dus tot lagere zuiveringskosten en is, wanner het water dat afstroomt over het verhard oppervlak niet verontreinigd is, goed voor de natuur.

De Nederlandse waterschappen hebben drie kerntaken. Ze moeten land beschermen tegen overstromingen (zorg voor waterkeringen), zorgdragen voor het juiste waterpeil in sloten en kanalen (zorg voor waterkwantiteit) en ze moeten ervoor zorgen dat het water van voldoende kwaliteit is voor de beoogde functies (zorg voor waterkwaliteit). Vooral bij de zorg voor de waterkwantiteit hebben ze vaak te make met tegenstrijdige eisen van verschillende gebruikersgroepen. Er zijn momenteel 27 waterschappen. In 1950 waren dat er nog 2.500. Na de watersnoodramp van 1953 kwam en schaalvergroting op gang die de waterschappen most toerusten op een groeiend takenpakket en op het beheersen van steeds complexere problemen. De grenzen

Alt Crossbars
Alt R
Alt N

Uppercase

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Uppercase

abcdefghijklmnoprstuvwxyz

Figures

0123456789

Oldstyle Figures

0123456789

Punctuation

.,!?:;@&'"()[]{}|¦*-/_¡¿§«»‹›¶·–‘’‚“”„†‡•…

Currency Symbols

€$¢£¥₤฿₩₹₺₱¤

Maths Symbols

+−=×÷±≠≈<>#^~¬°≤≥%‰•∞µ/

Prebuilt Fractions

¼ ½ ¾ ⅐ ⅑ ⅒ ⅓ ⅔ ⅕ ⅖ ⅗ ⅘ ⅙ ⅚ ⅛ ⅜ ⅝ ⅞

Superscript

0123456789

Subscript

0123456789

Ordinals

aosthndrem

Symbols

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Uppercase Extended

ÀÁÂÃÄÅÆǼĀĂĄẠÇĆĈĊČĎĐÈÉÊËĒĔĖĘĚẼẸƏ
ĜĞĠĢĞĤĦÌÎÍĮĨĮĪĬİĲĬĲĴĶĹĻĽĿŁÐÑŃŅŇŊŊÒÓÔÕ
ÖØǾŌŎŐỌǪŒŔŖŘŚŜŞŠŞŢŤŦṬÙÚÛÜŨŪŬŮŰŲ
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Lowercase Extended

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Ligatures

ff fi ffi fl ffl fb ffb fk ffk fh ffh fj ffj ra rã rä ră râ rą rà rå rā řa řá

Discretionary Ligatures

cc ce co cč cç cê cë cè cę cē cé cė ćc će ćo čc čč če čė čē čo çç çe çë çò çó çõ ċċ ċe ċo ec ee eo eć eč eç eê eë eę eē eé eč ěo ęć êc êe ëe ëç ëo ėc èc èe èo éč éè ėč eċ éc ée éo éé éç ęc ěc ėe ēc

Small Caps

A B C D E F G H I J K L M N O P R S T U V W X Y Z

Small Caps Extended

À Á Â Ã Ä Å Æ Ǽ Ǣ Ā Ą Ă Ạ Ç Ć Ĉ Ċ Č Ď Đ È É Ê Ë Ē Ĕ Ė Ę Ě Ẽ Ẹ Ə Ĝ Ğ Ġ Ģ Ọ Ĥ Ħ Ì Î Í Ị Ɪ Ī Ị Ĩ Ï Ĭ Ĵ Ķ Ð Ĺ Ļ Ľ Ŀ Ł Ñ Ń Ņ Ň ʼn Ŋ Ɲ Ò Ó Ô Õ Ö Ø Ǿ Ō Ŏ Ő Ọ Ǫ Œ Ŕ Ŗ Ř Ś Ŝ Ş Š Ș Ţ Ť Ŧ Ț Ù Ú Û Ü Ũ Ū Ŭ Ů Ű Ų Ụ Ŵ Ẁ Ẃ Ẅ Ý Ȳ Þ Ÿ Ŷ Ỳ Ỹ Ź Ż Ž

Arrows

← → ↑ ↓ ↔ ↕ ↖ ↗ ↘ ↙

Case Sensitive Forms

- – — ( ) [ ] { } › ‹ » « •

Straight Crossbars [ss01]

A À Á Â Ã Ä Å Ạ Ā Ă Ą Æ Ǣ Ǽ E È É Ê Ë Ẽ Ē Ĕ Ė Ę Ě Ẹ Œ F H Ĥ Ħ

A Á Ă Â Ä À Ā Ą Å Ã Ạ Æ Ǽ Ǣ E É Ĕ Ě Ê Ë Ė È Ē Ę Ẽ Ẹ Œ F H Ħ Ĥ

Alt V, W [ss02]

V W Ẁ Ẃ Ŵ Ẅ v w ẁ ẃ ŵ ẅ v w ẁ ẃ ŵ ẅ

Alt R [ss03]

R Ŕ Ř Ŗ R Ŕ Ř Ŗ

Alt U [ss04]

U Ù Ú Û Ü Ũ Ū Ŭ Ů Ű Ų Ụ u ù ú û ü ũ ū ŭ ů ű ų ụ

Alt N [ss05]

N Ń Ņ Ň Ñ Ŋ N Ń Ņ Ň Ñ Ŋ

Descending Forms [ss06]

ſ ß ff ſi ffi ſj ffj ſl ffl ſb ffb ſk ffk ſh ffh

Alt g [ss07]

g ĝ ğ ġ ģ ǧ

Alt Ampersand [ss08]

&

Arrows

← → ↑ ↓ ↔ ↕ ↖ ↗ ↘ ↙

311 Languages

For languages with multiple writing scripts, the Latin version is supported.

Acheron
Achinese
Acholi
Achuar-Shiwiar
Afar
Afrikaans
Aguaruna
Alekano
Aleut
Amahuaca
Amarakaeri
Amis
Anaang
Andaandi, Dongolawi
Anuta
Ao Naga
Apinayé
Aragonese
Arbëreshë Albanian
Arvanitika Albanian
Asháninka
Ashéninka Perené
Asu (Tanzania)
Balinese
Bari
Basque
Batak Dairi
Batak Karo
Batak Mandailing
Batak Simalungun
Batak Toba
Bemba (Zambia)
Bena (Tanzania)
Bikol
Bini
Bislama
Borana-Arsi-Guji Oromo
Bosnian
Breton
Buginese
Candoshi-Shapra
Caquinte
Caribbean Hindustani
Cashibo-Cacataibo
Cashinahua
Catalan
Cebuano
Central Aymara
Central Kurdish
Central Nahuatl
Chachi
Chamorro
Chavacano
Chiga
Chiltepec Chinantec
Chokwe
Chuukese
Cimbrian
Cofán
Congo Swahili
Cook Islands Māori
Cornish
Corsican
Creek
Crimean Tatar
Croatian
Czech
Danish
Dehu
Dimli
Dutch
Eastern Arrernte
Eastern Oromo
Efik
Embu
English
Ese Ejja
Faroese
Fijian
Filipino
Finnish
French
Friulian
Gagauz
Galician
Ganda
Garifuna
Ga'anda
German
Gheg Albanian
Gilbertese
Gooniyandi
Gourmanchéma
Guadeloupean Creole French
Gusii
Haitian
Hani
Hiligaynon
Ho-Chunk
Hopi
Huastec
Hungarian
Icelandic
Igbo
Iloko
Inari Sami
Indonesian
Irish
Istro Romanian
Italian
Ixcatlán Mazatec
Jamaican Creole English
Japanese
Javanese
Jola-Fonyi
K'iche'
Kabuverdianu
Kaingang
Kala Lagaw Ya
Kalaallisut
Kalenjin
Kamba (Kenya)
Kaonde
Karelian
Kashubian
Kekchí
Kenzi, Mattokki
Khasi
Kikuyu
Kimbundu
Kinyarwanda
Kirmanjki
Kituba (DRC)
Kongo
Konzo
Kuanyama
Kven Finnish
Kölsch
Ladin
Ladino
Latgalian
Ligurian
Lithuanian
Lombard
Low German
Lower Sorbian
Luba-Lulua
Lule Sami
Luo (Kenya and Tanzania)
Luxembourgish
Macedo-Romanian
Makhuwa
Makhuwa-Meetto
Makonde
Makwe
Malagasy
Malaysian
Maltese
Mandinka
Mandjak
Mankanya
Manx
Maore Comorian
Maori
Mapudungun
Matsés
Mauritian Creole
Meriam Mir
Meru
Minangkabau
Mirandese
Mohawk
Montagnais
Montenegrin
Munsee
Murrinh-Patha
Mwani
Mískito
Naga Pidgin
Ndonga
Neapolitan
Ngazidja Comorian
Niuean
Nobiin
Nomatsiguenga
North Ndebele
Northern Kurdish
Northern Qiandong Miao
Northern Sami
Northern Uzbek
Norwegian
Nyanja
Nyankole
Occitan
Ojitlán Chinantec
Omaha-Ponca
Orma
Oroqen
Palauan
Paluan
Pampanga
Papantla Totonac
Papiamento
Pedi
Picard
Pichis Asháninka
Piemontese
Pijin
Pintupi-Luritja
Pipil
Pohnpeian
Polish
Portuguese
Potawatomi
Purepecha
Páez
Quechua
Romanian
Romansh
Rotokas
Rundi
Rwa
Samburu
Samoan
Sango
Sangu (Tanzania)
Saramaccan
Sardinian
Scottish Gaelic
Sena
Seri
Seselwa Creole French
Shambala
Shawnee
Shipibo-Conibo
Shona
Shuar
Sicilian
Silesian
Slovak
Slovenian
Soga
Somali
Soninke
South Ndebele
Southern Aymara
Southern Qiandong Miao
Southern Sami
Southern Sotho
Spanish
Sranan Tongo
Standard Estonian
Standard Latvian
Standard Malay
Sundanese
Swahili
Swati
Swedish
Swiss German
Tagalog
Tahitian
Taita
Tedim Chin
Tetum
Tetun Dili
Tiv
Toba
Tok Pisin
Tokelau
Tonga (Tonga Islands)
Tonga (Zambia)
Tosk Albanian
Tsonga
Tswana
Tumbuka
Turkish
Turkmen
Tzeltal
Tzotzil
Uab Meto
Umbundu
Ume Sami
Upper Guinea Crioulo
Upper Sorbian
Venetian
Veps
Vietnamese
Võro
Walloon
Walser
Wangaaybuwan-Ngiyambaa
Waorani
Waray (Philippines)
Warlpiri
Wayuu
Welsh
West Central Oromo
Western Abnaki
Western Frisian
Wik-Mungkan
Wiradjuri
Wolof
Xaváante
Xhosa
Yanesha'
Yao
Yapese
Yindjibarndi
Yucateco
Zulu
Záparo