

Even voorstellen

StellaSpark

Gevestigd in Utrecht, opgericht in 2016

Missie

Het verbeteren van de natuurlijke en gebouwde omgeving met digital twins die besluitvorming versnellen

Diensten

Nexus: digital twin & data integratie



Een breed omarmt platform



Nexus

> 300 real-time koppelingen met (open) databronnen

Rasters, vectordata en tijdreeksen

Open standaarden

Cloud gebaseerd

Maandelijks abonnement vanaf 300 EU

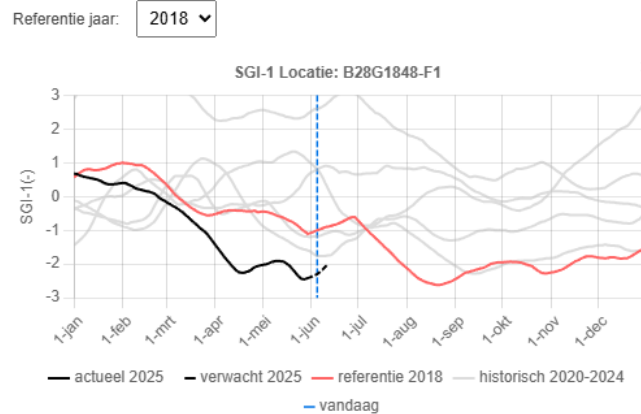
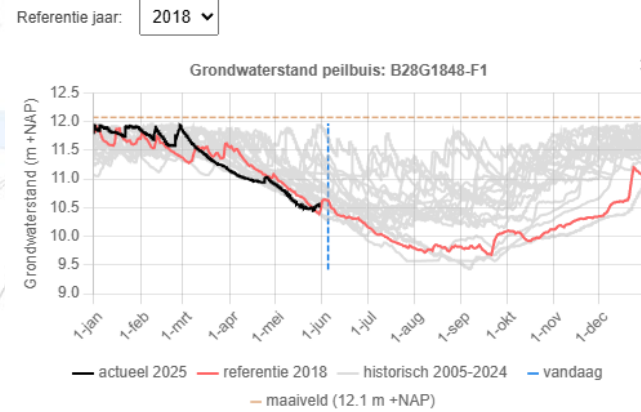
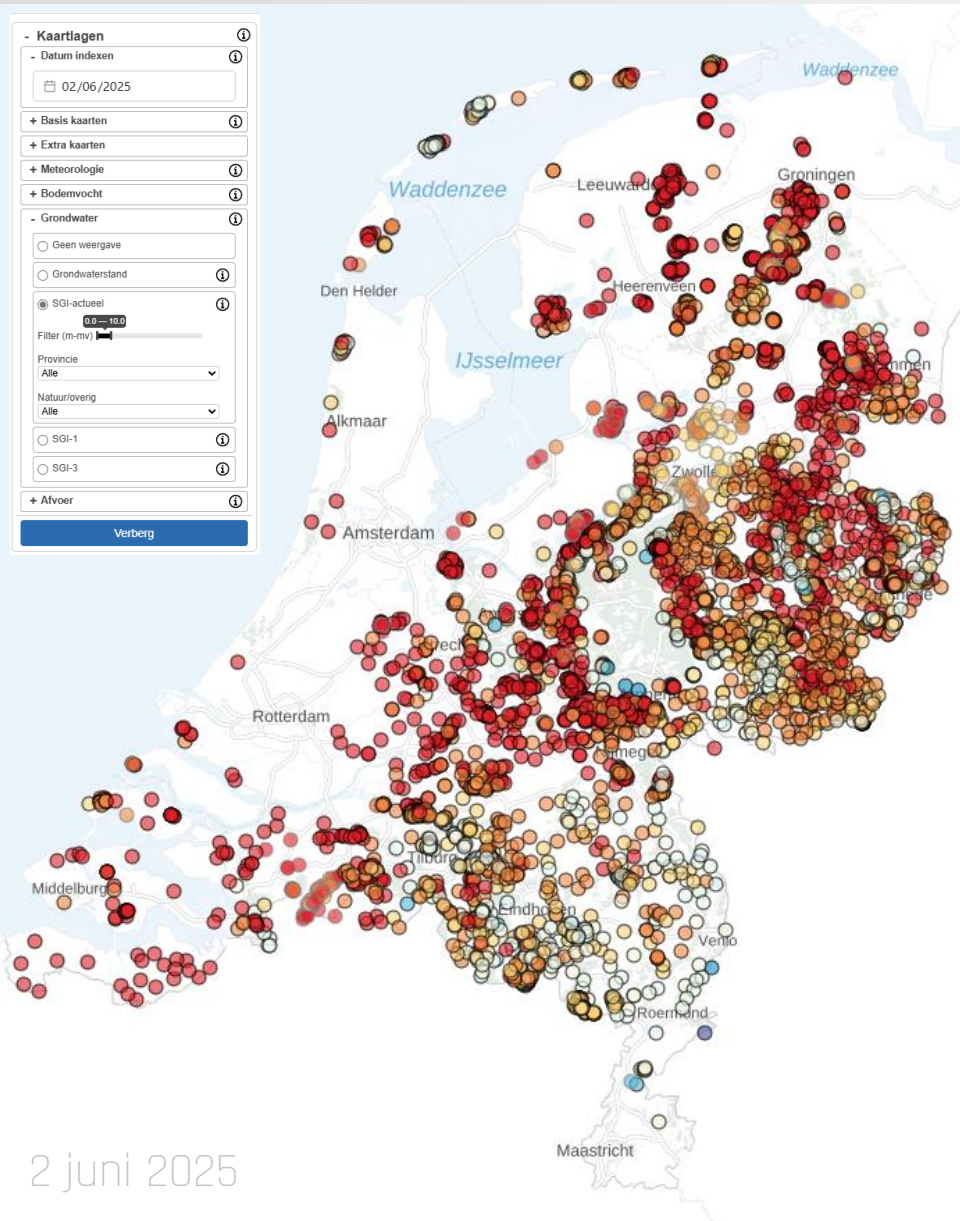
Droogteportaal.nl

RWS, waterschappen en
provincies

Actueel inzicht in actuele
grondwaterstanden,
beekafvoeren en bodemvocht

Dagelijkse datasynchronisatie
van alle bronhouders

KNMI, Deutsche Wetterdienst,
KMI, VMM



2 juni 2025

Aanpak data ophalen

1. Haal alle putten (gm_gmw) op die eigendom zijn van X. Eén put heeft één eigenaar.
2. Haal vervolgens alle bijbehorende peilbuizen op. Eén put heeft ≥ 0 peilbuizen
3. Haal de bijbehorende GLDs op. Eén peilbuis heeft ≥ 0 GLDs

Tip: voorkom onnodig bevraging middels GLD velden:

- research_last_date
- research_first_date
- latest_addition_time

BRO

Entiteiten

gm_gmw = groundwater
monitoring well = put

gm_gmw_monitoringtube =
peilbuis

gm_gld = groundwater level
dossier = tijdreeks

GMW ophalen met bounding box

https://api.pdok.nl/bzk/bro-gminsamenhang-karakteristieken/ogc/v1/collections/gm_gmw/items?limit=1000&crs=http://www.opengis.net/def/crs/OGC/1.3/CRS84&bbox=3.8724,51.8831,4.018730434782609,51.955178260869566&bbox-crs=http://www.opengis.net/def/crs/OGC/1.3/CRS84

```
{
  "features": [
    {
      "geometry": {
        "coordinates": [
          4.0160849,
          51.94293564
        ],
        "type": "Point"
      },
      "id": "ad7411ba-9d48-5812-9c54-a0c3b2da9dad",
      "properties": {
        "bro_id": "GMW000000038090",
        "construction_standard": "onbekend",
        "delivered_location": "<gml:Point ",
        "xmlns:gml=\"http://www.opengis.net/gml/3.2\" ": "srsName=\"http://www.opengis.net/def/crs/EPSSG/0/28992\" ",
        "srsDimension=\"2\">\n": " <gml:pos>60726.730 ",
        "440276.260</gml:pos>\n": "</gml:Point>",
        "delivery_accountable_party": "24483298",
        "deregistration_time": null,
        "gm_gmw_pk": 29380,
        "ground_level_position": 5.18,
        "imbro_xml_url": "https://publiek.broservices.nl/gm/gmw/v1/objects/GMW000000038090",
        "initial_function": "stand",
        "latest_addition_time": "2024-04-23T17:17:13+02:00",
        "latest_correction_time": null,
        "local_vertical_reference_point": "NAP",
        "nitg_code": null,
        "number_of_monitoring_tubes": 1,
        "object_registration_time": "2020-10-16T17:12:38+02:00",
        "owner": "24483298",
        "quality_regime": "IMBRO/A",
        "registration_completion_time": null,
        "under_review_time": null,
        "well_code": "GMW37A126573",
        "well_construction_date": "2018-12-04",
        "well_head_protector": "potNietWaterdicht",
        "well_removal_date": null
      },
      "type": "Feature"
    }
  ]
}
```

BRO locaties (heel Ned)

1x/maand alle locaties, duurt 4 uur

- gm_gmw
- gm_gmw_monitoringtube

Elke nacht GLD metadata, duurt 1.5 uur

- gm_gld

GMW tube ophalen met bounding box

https://api.pdok.nl/bzk/bro-gminsamenhang-karakteristieken/ogc/v1/collections/gm_gmw_monitoringtube/items?limit=1000&crs=http://www.opengis.net/def/crs/OGC/1.3/CRS84&bbox=3.8724,51.8831,4.018730434782609,51.955178260869566&bbox-crs=http://www.opengis.net/def/crs/OGC/1.3/CRS84

```
{
  "features": [
    {
      "geometry": {
        "coordinates": [
          4.0160849,
          51.94293564
        ],
        "type": "Point"
      },
      "id": "74a146c8-42f7-5b9e-81e4-48905858330e",
      "properties": {
        "electrode_bottom_position": null,
        "electrode_top_position": null,
        "gm_gmw.href": "https://api.pdok.nl/bzk/bro-gminsamenhang-karakteristieken/ogc/v1/collections/gm_gmw/items/ad7411ba-9d48-5812-9c54-a0c3b2da9dad",
        "gm_gmw_fk": 29380,
        "gm_gmw_monitoringtube_pk": 38419,
        "gmw_bro_id": "GMW000000038090",
        "screen_bottom_position": -9.41,
        "screen_top_position": -7.41,
        "tube_in_use": "ja",
        "tube_number": 1,
        "tube_status": "gebruiksklaar",
        "tube_top_diameter": 32
      },
      "type": "Feature"
    }
  ]
}
```

BRO locaties (heel Ned)

1x/maand alle locaties, duurt 4 uur

- gm_gmw
- gm_gmw_monitoringtube

Elke nacht GLD metadata, duurt 1.5 uur

- gm_gld

GLD meta ophalen met bounding box

https://api.pdok.nl/bzk/bro-gminsamenhang-karakteristieken/ogc/v1/collections/gm_gld/items?limit=1000&crs=http://www.opengis.net/def/crs/OGC/1.3/CRS84&bbox=3.8724,51.8831,4.018730434782609,51.955178260869566&bbox-crs=http://www.opengis.net/def/crs/OGC/1.3/CRS84

```
{
  "features": [
    {
      "geometry": {
        "coordinates": [
          4.0160849,
          51.94293564
        ],
        "type": "Point"
      },
      "id": "46d98463-5db2-56c4-999b-4370dc03a465",
      "properties": {
        "bro_id": "GLD000000082379",
        "delivery_accountable_party": "24483298",
        "gm_gld_pk": 21214,
        "gm_gmw_monitoringtube.href":
          "https://api.pdok.nl/bzk/bro-gminsamenhang-karakteristieken/ogc/v1/"
          "collections/gm_gmw_monitoringtube/items/74a146c8-42f7-5b9e-81e4-48905858330e",
        "gm_gmw_monitoringtube_fk": 38419,
        "imbro_xml_url": "https://publiek.broservices.nl/gm/gld/v1/objects/GLD000000082379",
        "latest_addition_time": "2025-05-14T19:17:04+02:00",
        "latest_correction_time": null,
        "number_of_observations": 1,
        "object_registration_time": "2025-04-14T17:28:30+02:00",
        "quality_regime": "IMBRO/A",
        "registration_completion_time": null,
        "research_first_date": "2019-02-06",
        "research_last_date": "2020-12-07",
        "series_fully_assessed_csv_url":
          "https://publiek.broservices.nl/gm/gld/v1/objectsAsCsv/"
          "GLD000000082379?rapportagetype=compact&observatietype=regulier_beeoordeeld",
        "series_preliminary_csv_url":
          "https://publiek.broservices.nl/gm/gld/v1/objectsAsCsv/"
          "GLD000000082379?rapportagetype=compact&observatietype=regulier_voorlopig",
        "series_unknown_csv_url":
          "https://publiek.broservices.nl/gm/gld/v1/objectsAsCsv/"
          "GLD000000082379?rapportagetype=compact&observatietype=onbekend",
        "under_review_time": null
      },
      "type": "Feature"
    },
    "... meerdere GLDs ..."
  ]
}
```

BRO locaties (heel Ned)

1x/maand alle locaties, duurt 4 uur

- gm_gmw
- gm_gmw_monitoringtube

Elke nacht GLD metadata, duurt 1.5 uur

- gm_gld

GLD ophalen

https://publiek.broservices.nl/gm/gld/v1/objects/GLD0000000015018?requestReference=droogteportaal_test&filtered=NEE&observationPeriodBeginDate=2025-02-25&observationPeriodEndDate=2025-06-05

Xml response met o.a. timestamp, value, status_code en quality_control

status_code:

volledigBeoordeeld, voorlopig, onbekend

quality_control:

goedgekeurd, nogNietBeoordeeld, onbeslist, onbekend, afgekeurd

BR0 reeksen (per organisatie)

Eenmalig historie (vanaf 2000),
duurt een uur

- gm_gld

Elke nacht laatste 100 dagen,
duurt ~10 minuten

- gm_gld