ALFRED-WEGENER-INSTITUT
HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG

The World Radiation Monitoring Center

Update 2018: status, challenges, tasks

WRMC-BSRN
World Radiation Monitoring Center- Baseline Surface Radiation Network

Amelie Driemel, Charles N Long

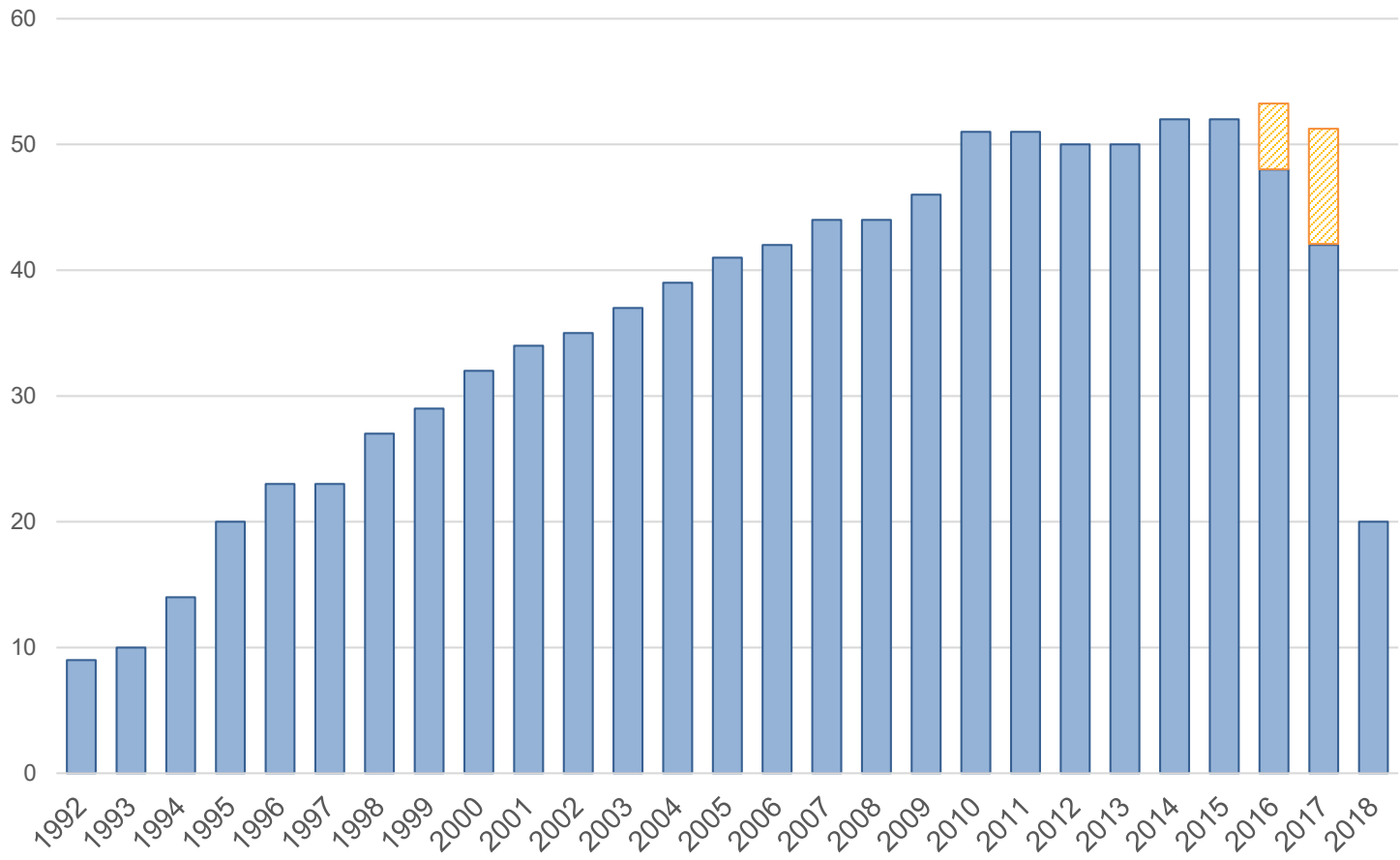
HELMHOLTZ ASSOCIATION

Data overview, status 07-2018

1	LR 0100: **Global, Diffuse, Direct, Long-wave down**	64 stations
2	LR 0300: **Reflex, Long-wave up**	15 stations
3	LR 0500: **UV**	12 stations
4	LR 1000: **Synops**	13 stations
5	LR 1100: **Upper air soundings**	30 stations
6	LR 1200: **Total ozone**	9 stations
7	LR 1300: **Ceilometer data**	3 stations
8	LR 30x0: **Radiation measurements from tower**	13 stations

Status Juli 2018 **>10800 monthly datasets** (~900 years)

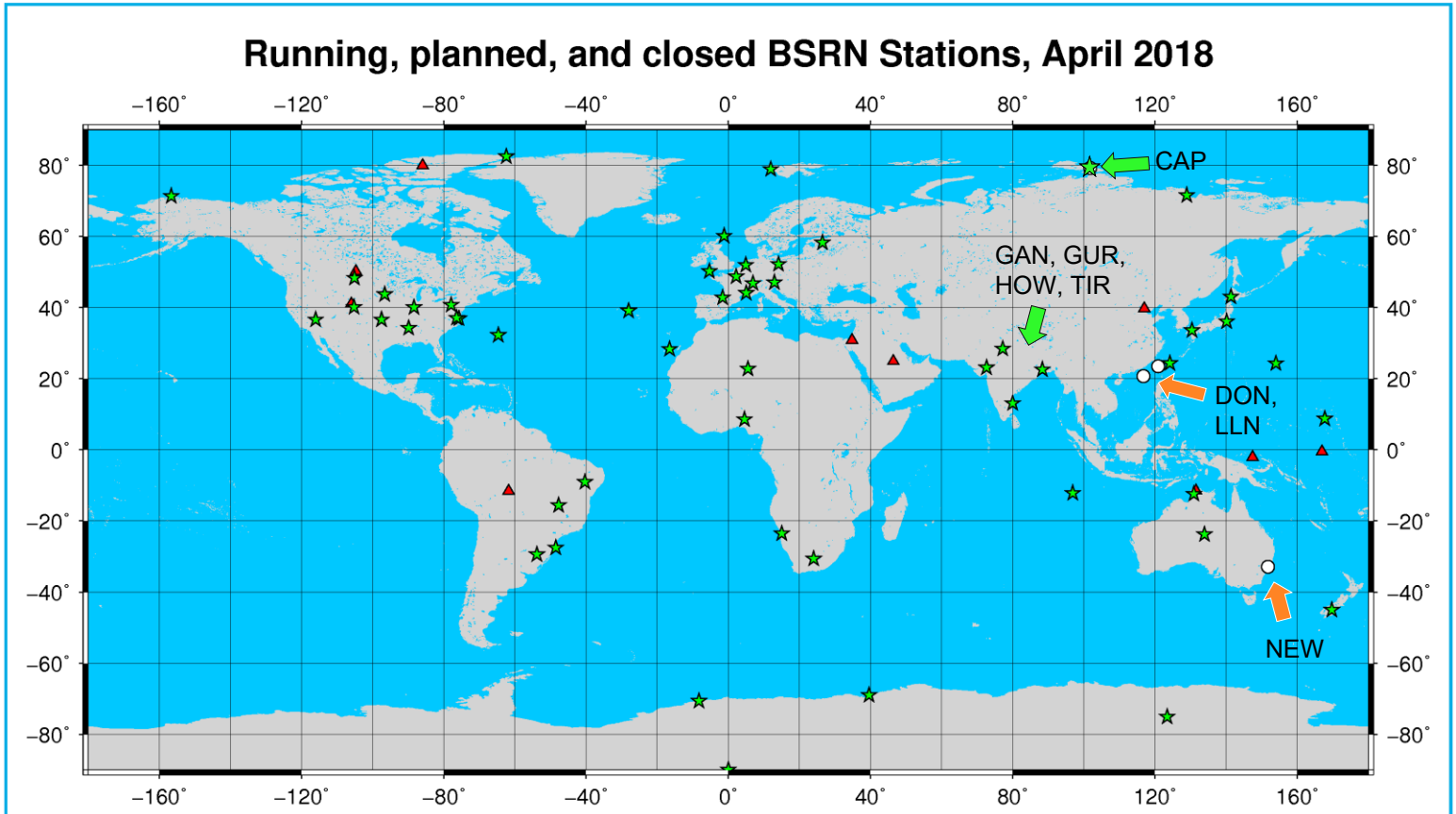
Stations with data in the WRMC



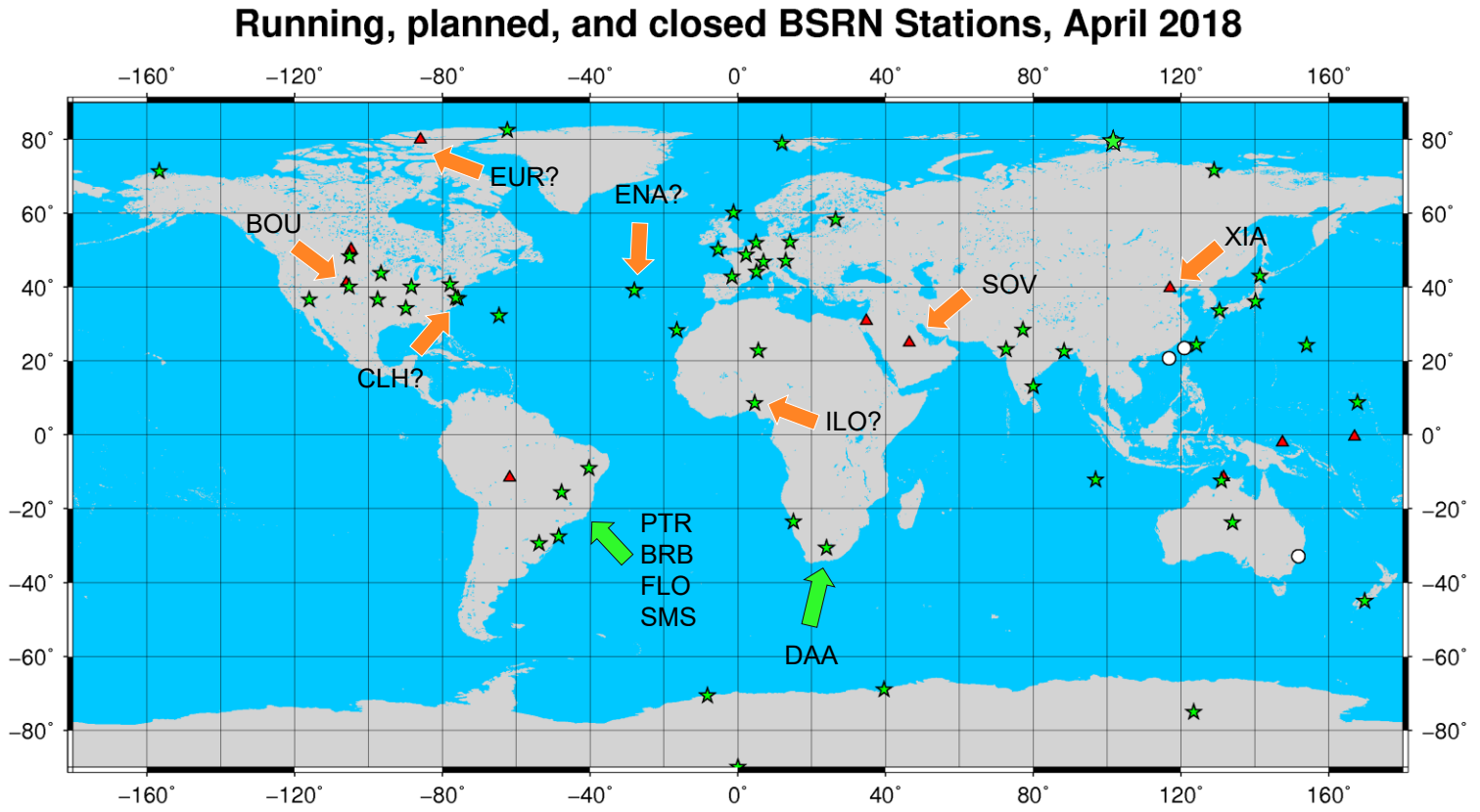
51 active and 13 ‚inactive' or closed stations in 2018

2017: only 9 stations behind schedule, we are on it!

Changes in stations

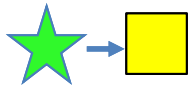


Changes in stations

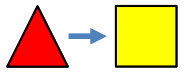


Changes in stations

- **CLH** (Chesapeake Lighthouse) – **propose to mark as inactive** ("Inactive as of Dec 2016, structural issues need to be solved")

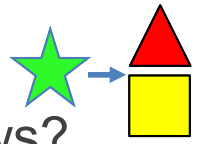


- **EUR** (Eureka) is hopefully being revitalized (status?) – **propose to mark as inactive**

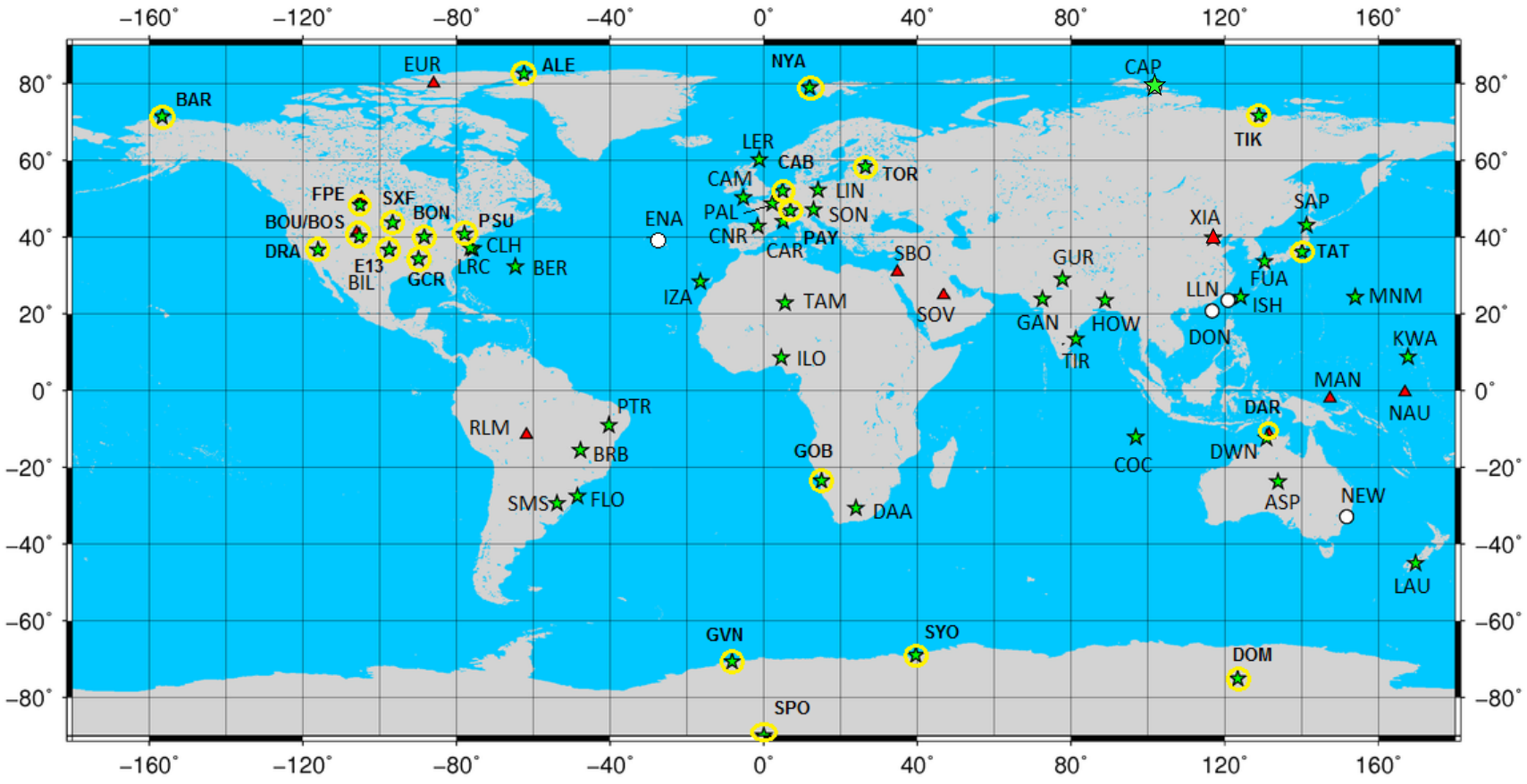


- **ENA** (Eastern North Atlantic) – status?

- **ILO** (Ilorin) still marked as active, **propose to mark as inactive or closed** ("Inactive as of mid-2005, seeking funding") - any news?



23 Stations with complete budget



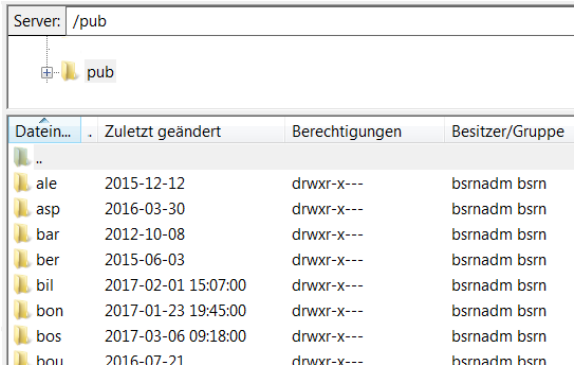
- ★ Running station
- ▲ Closed station
- ○ Candidate station
- ◯ Complete budget available

ALFRED-WEGENER-INSTITUT
HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG

Data extraction

1. **ftp server:**

   [ftp.bsrn.awi.de](ftp://ftp.bsrn.awi.de)
   station-to-archive files



2. **PANGAEA:**

   https://dataportals.pangaea.de/bsrn/

PANGAEA.
Data Publisher for Earth & Environmental Science

Station	Short name	Station scientist currently in charge	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Alert	ALE	Christopher Cox (christopher.j.cox@noaa.gov)													X	X	X	X	X	X	X	X	X	X	X				
Alice Springs	ASP	Matt Tully (m.tully@bom.gov.au)				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Barrow	BAR	Sara Morris (Sara.Morris@noaa.gov)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Bermuda	BER	Sara Morris (Sara.Morris@noaa.gov)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
Billings	BIL	Charles Long (chuck.long@noaa.gov)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Bondville	BON	John Augustine (John.A.Augustine@noaa.gov)				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Boulder, SURFRAD	BOS	John Augustine (John.A.Augustine@noaa.gov)				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Boulder	BOU	** Station closed in July 2016 **	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Brasilia	BRB	Enio Bueno Pereira (enio.pereira@inpe.br)															X	X	X	X	X	X	X	X	X	X			
Cabauw	CAB	Wouter Knap (knap@knmi.nl)														X	X	X	X	X	X	X	X	X	X	X	X	X	X
Camborne	CAM	Jonathan Tamlyn (jonathan.tamlyn@metoffice.gov.uk)										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Data users by country

New data requests **140 per year** (since April 2016: 314 from 45 countries)

BSRN articles in Web of Science

Total Publications
154 Analyze

h-index
25

Average citations per item
19,24

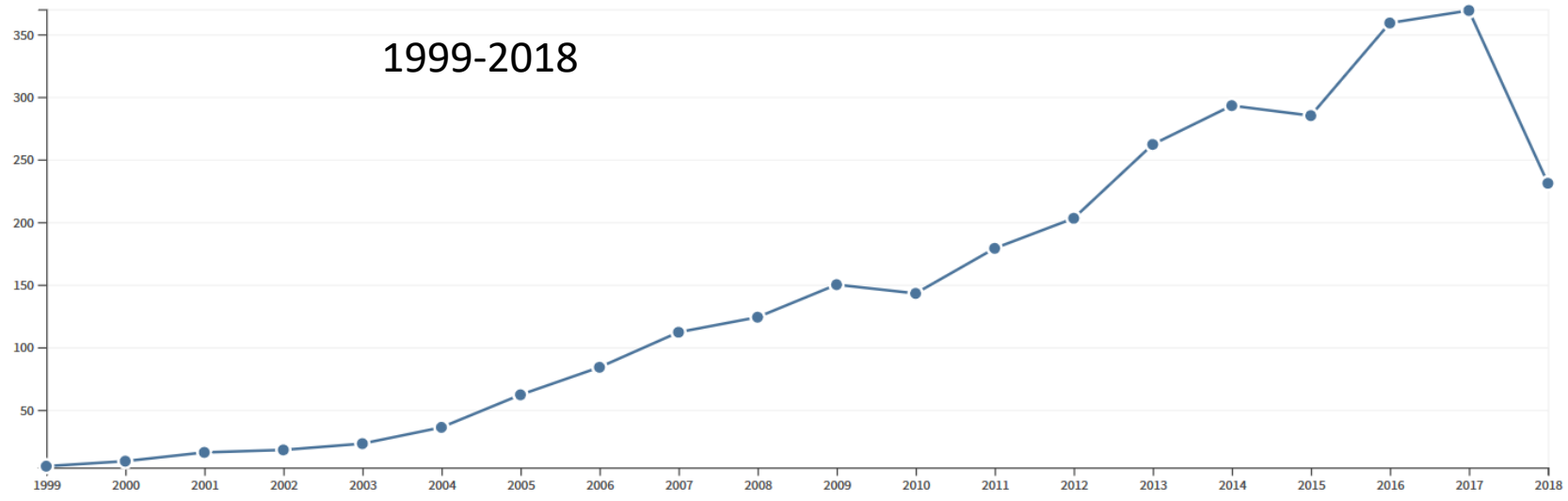
Sum of Times Cited
2.963

Without self citations
2.674

Citing articles
2.156 Analyze

Without self citations
2.044 Analyze

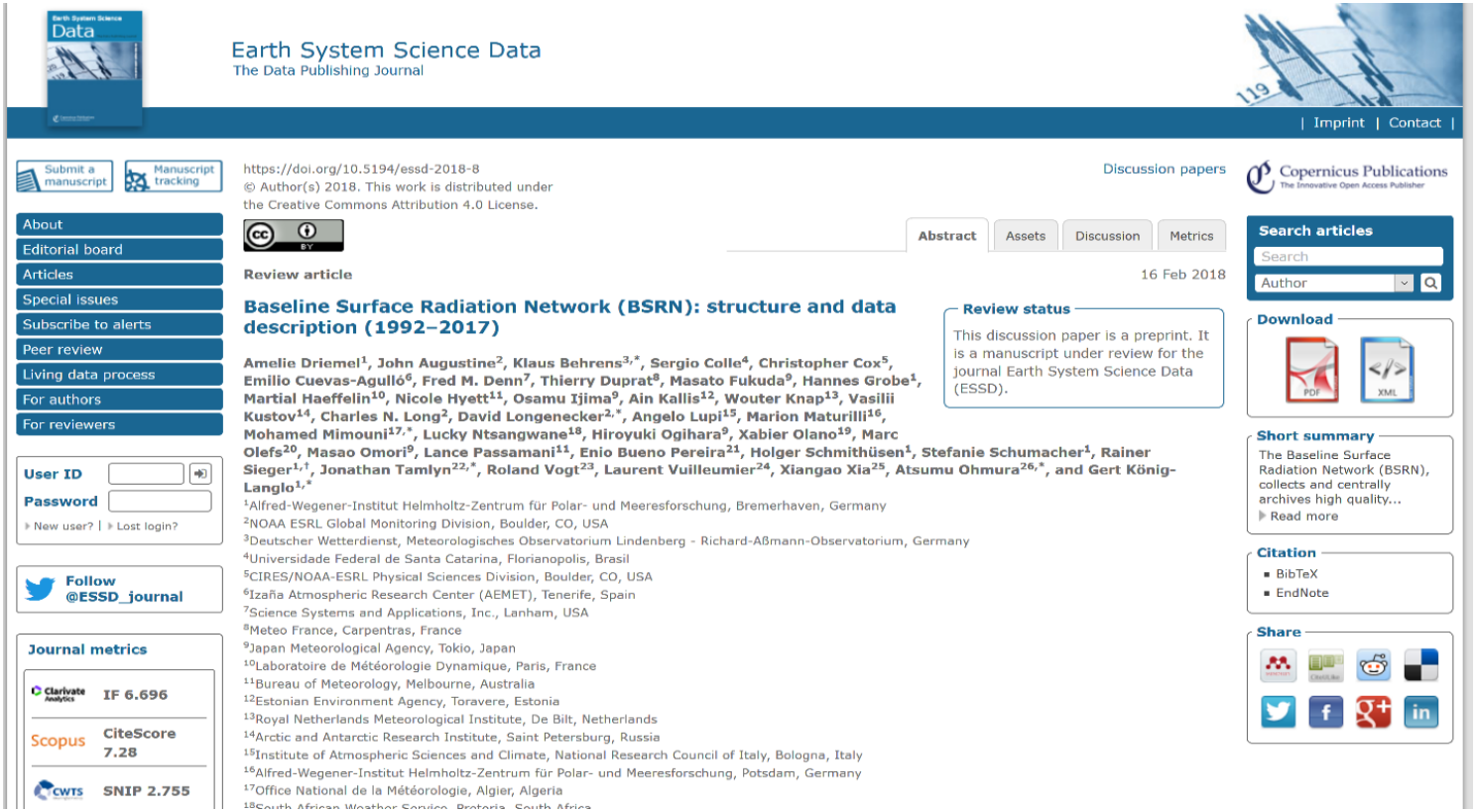
Sum of Times Cited per Year



Google scholar search ‚BSRN +radiation' : over **3000** hits (incl. grey literature)

HELMHOLTZ ASSOCIATION

General BSRN publications



Earth System Science Data
The Data Publishing Journal

| Imprint | Contact |

Submit a manuscript | Manuscript tracking

About
Editorial board
Articles
Special issues
Subscribe to alerts
Peer review
Living data process
For authors
For reviewers

User ID
Password
New user? | Lost login?

Follow @ESSD_journal

Journal metrics
IF 6.696
CiteScore 7.28
SNIP 2.755

https://doi.org/10.5194/essd-2018-8
© Author(s) 2018. This work is distributed under the Creative Commons Attribution 4.0 License.

Discussion papers

Abstract | Assets | Discussion | Metrics

Review article

16 Feb 2018

Baseline Surface Radiation Network (BSRN): structure and data description (1992–2017)

Review status
This discussion paper is a preprint. It is a manuscript under review for the journal Earth System Science Data (ESSD).

Amelie Driemel[1], John Augustine[2], Klaus Behrens[3,*], Sergio Colle[4], Christopher Cox[5], Emilio Cuevas-Agulló[6], Fred M. Denn[7], Thierry Duprat[8], Masato Fukuda[9], Hannes Grobe[1], Martial Haeffelin[10], Nicole Hyett[11], Osamu Ijima[9], Ain Kallis[12], Wouter Knap[13], Vasilii Kustov[14], Charles N. Long[2], David Longenecker[2,*], Angelo Lupi[15], Marion Maturilli[16], Mohamed Mimouni[17,*], Lucky Ntsangwane[18], Hiroyuki Ogihara[9], Xabier Olano[19], Marc Olefs[20], Masao Omori[9], Lance Passamani[11], Enio Bueno Pereira[21], Holger Schmithüsen[1], Stefanie Schumacher[1], Rainer Sieger[1,†], Jonathan Tamlyn[22,*], Roland Vogt[23], Laurent Vuilleumier[24], Xiangao Xia[25], Atsumu Ohmura[26,*], and Gert König-Langlo[1,*]

[1]Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung, Bremerhaven, Germany
[2]NOAA ESRL Global Monitoring Division, Boulder, CO, USA
[3]Deutscher Wetterdienst, Meteorologisches Observatorium Lindenberg - Richard-Aßmann-Observatorium, Germany
[4]Universidade Federal de Santa Catarina, Florianopolis, Brasil
[5]CIRES/NOAA-ESRL Physical Sciences Division, Boulder, CO, USA
[6]Izaña Atmospheric Research Center (AEMET), Tenerife, Spain
[7]Science Systems and Applications, Inc., Lanham, USA
[8]Meteo France, Carpentras, France
[9]Japan Meteorological Agency, Tokio, Japan
[10]Laboratoire de Météorologie Dynamique, Paris, France
[11]Bureau of Meteorology, Melbourne, Australia
[12]Estonian Environment Agency, Toravere, Estonia
[13]Royal Netherlands Meteorological Institute, De Bilt, Netherlands
[14]Arctic and Antarctic Research Institute, Saint Petersburg, Russia
[15]Institute of Atmospheric Sciences and Climate, National Research Council of Italy, Bologna, Italy
[16]Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung, Potsdam, Germany
[17]Office National de la Météorologie, Algier, Algeria

Copernicus Publications
The Innovative Open Access Publisher

Search articles
Search
Author

Download
PDF | XML

Short summary
The Baseline Surface Radiation Network (BSRN), collects and centrally archives high quality...
Read more

Citation
- BibTeX
- EndNote

Share

Also: Chapter on BSRN in the upcoming Volume 100 of the meteorological education journal **PROMET**

Current staff of the WRMC

Wolfgang Cohrs (Technical coordinator)

Skalde Lübberstedt (Data Curator)

Former staff of the WRMC

Rainer Sieger (developer of the BSRN Toolbox) †Oct 2017

Current issues

- Some **stations closed**/**no longer maintained**/**financial problems**
- Data submission in arrears => **inactive** status
- Lots of **retirements** in 2017 (concerns stations: CAM / LER, GVN, LIN, TAM, some US stations, Australian stations); in 2018: CAR
- Issue of **data citation**: new standard text to answer access requests
- We need a **new BSRNToolbox developer** !

Thanks!

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE