AOMSUC-12
11 - 18 November 2022
Online, Hosted by Japan Meteorological Agency
12th Asia - Oceania Meteorological Satellite Users' Conference

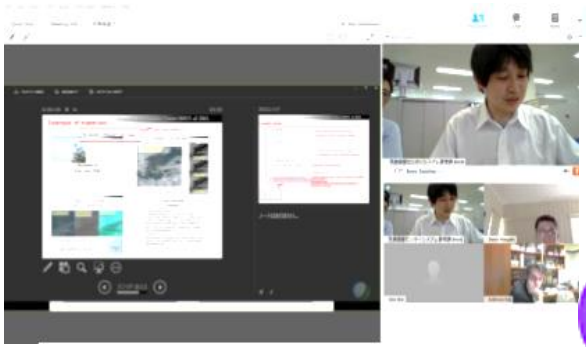
Satellite Meteorology Training in WMO RA V during 2021/2022: The Australian VLab Centre of Excellence experience

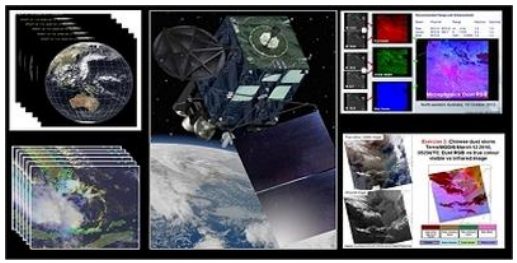
Mr Bodo Zeschke
Teacher, Australian Bureau of Meteorology Training Centre
Point of Contact, Australian VLab Centre of Excellence

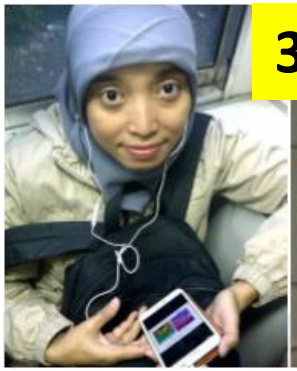
Topics to be presented

- Celebrating 9 Years of Regional Focus Group (RFG) meetings
- Statistics of the past year of RFG meetings
- Contributions by attendees
  - Individual presentations
  - Cooperative case studies
  - Multiple "mini case studies" within one meeting
- Celebrating the 100th Australian VLab CoE RFG meeting
- Archive of recordings of the RFG meetings

First Regional Focus Group meeting October 2013







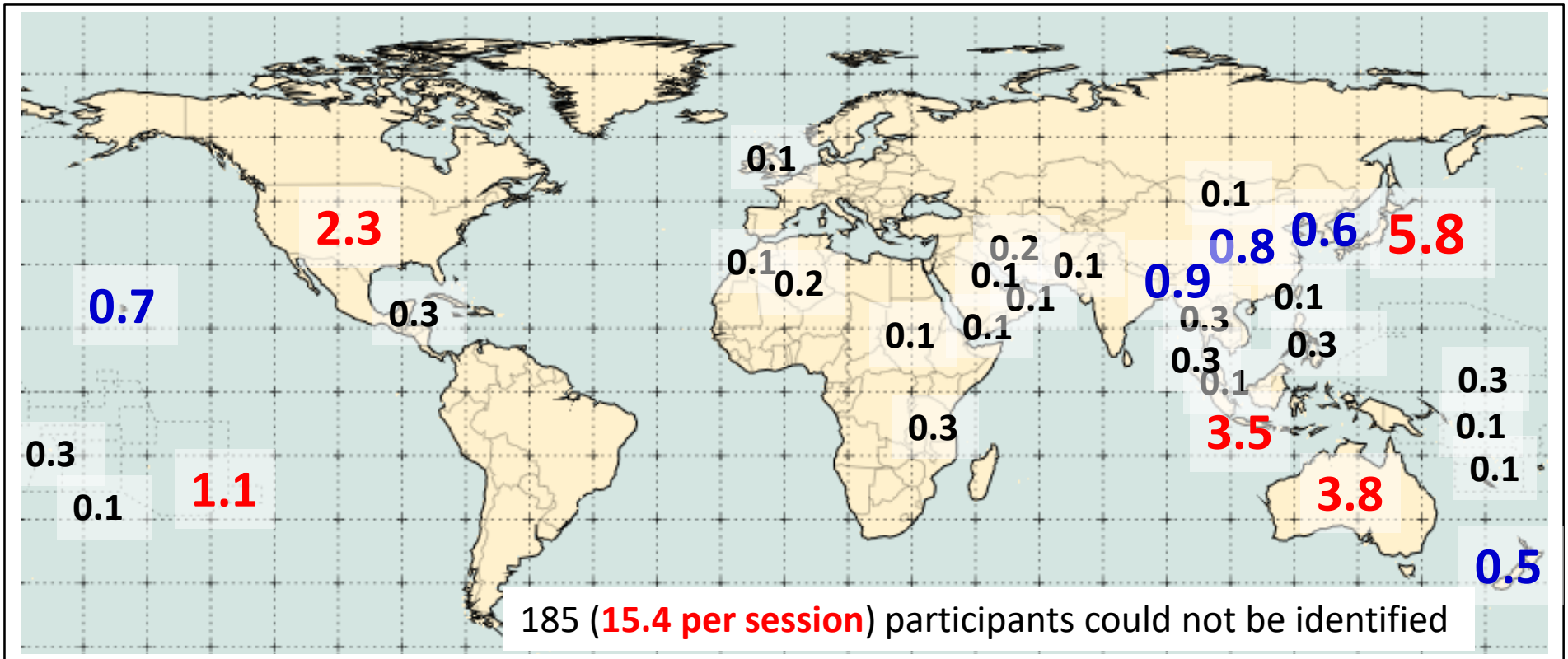
3402+ attendees, 104 sessions

105th meeting during the AOMSUC-12 Training Event

or nthly

asis

The past year of Regional Focus Group meetings – statistics October 2021 to October 2022

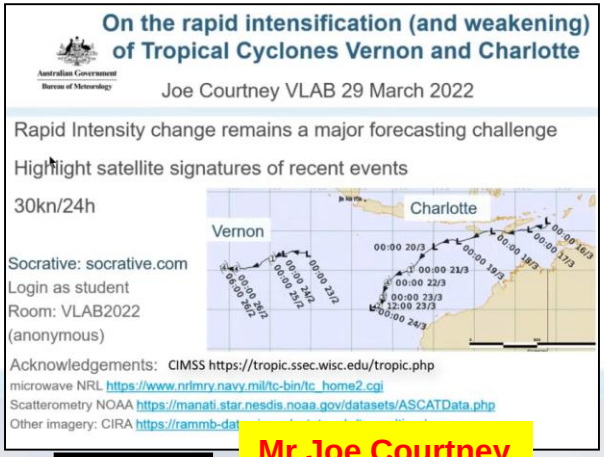


Average number of remote participants per session by geographical location shown above

Total number of remote stakeholders attending the 11 sessions = 468+

Average number of participants per session = 39+

Highlights of the VLab Sessions of 2021 / 2022:
A constellation of presenters from across the region



Mr Joe Courtney

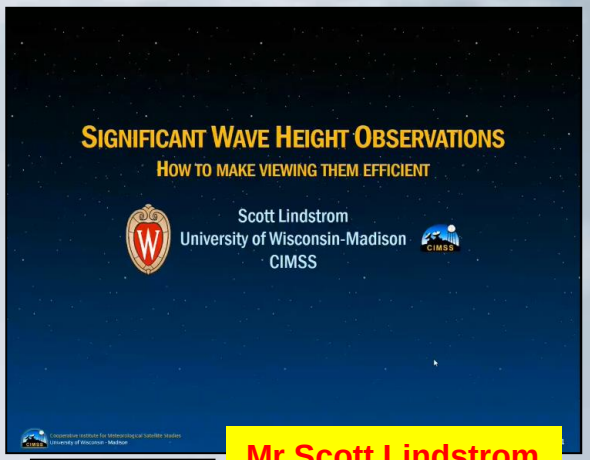
March 2022

Mr Di Xian

April 2022

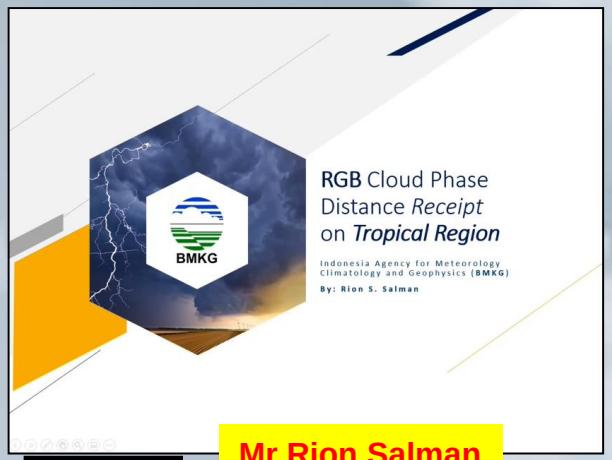
Mr Gao Hao

October 2021



Mr Scott Lindstrom

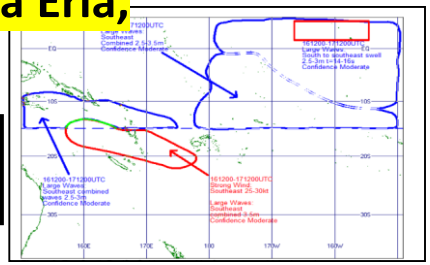
August 2022

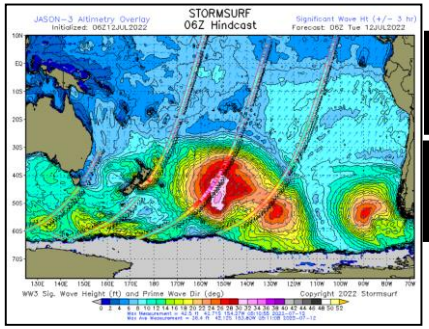


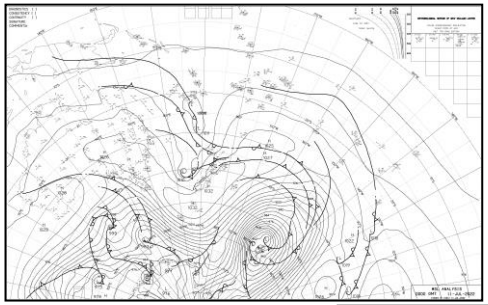
Mr Rion Salman

September 2022

Mauna Eria,



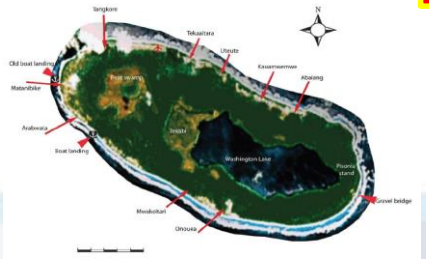




Miriam Kataunati

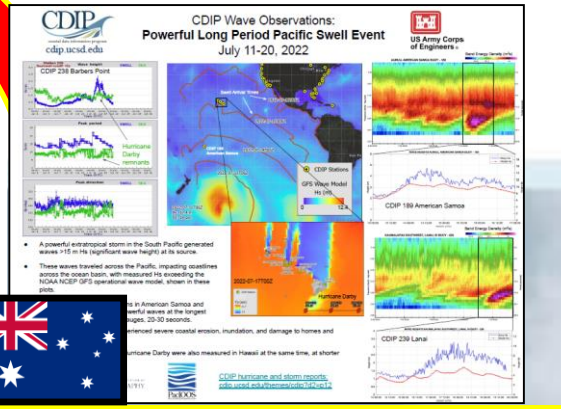
Jennifer Strahl, Dr Eric Lau,

Chris Webster



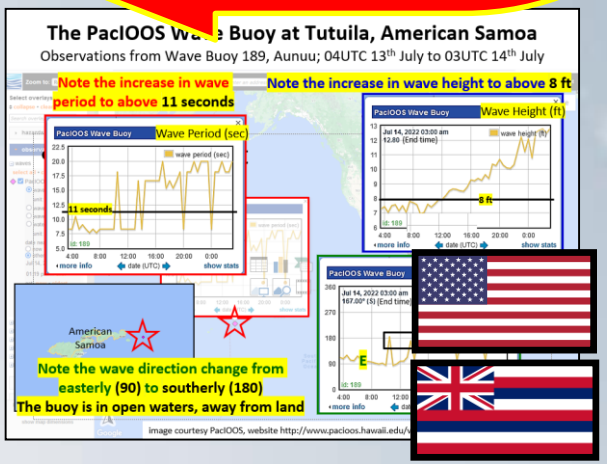
Cooperative Case Study 1:

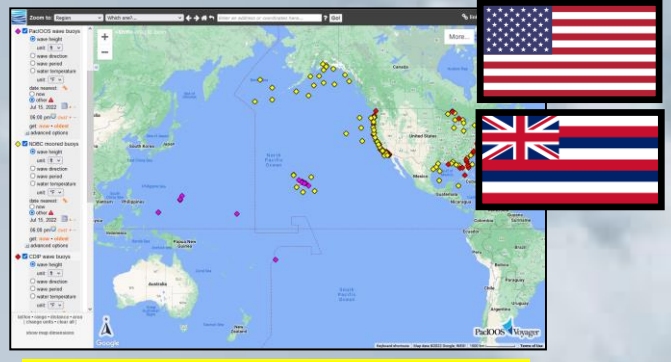
Significant Swell event, Pacific Ocean 11-17th July 2022, as monitored by satellite and surface observations and NWP model data



Tristan Oakley, Dr Alison Nugent

…also Chip Young, Prof. Steven Businger, Ning Li.

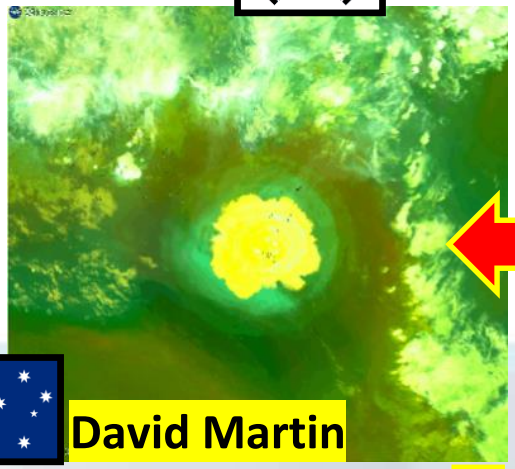




Professor Yi-Leng Chen

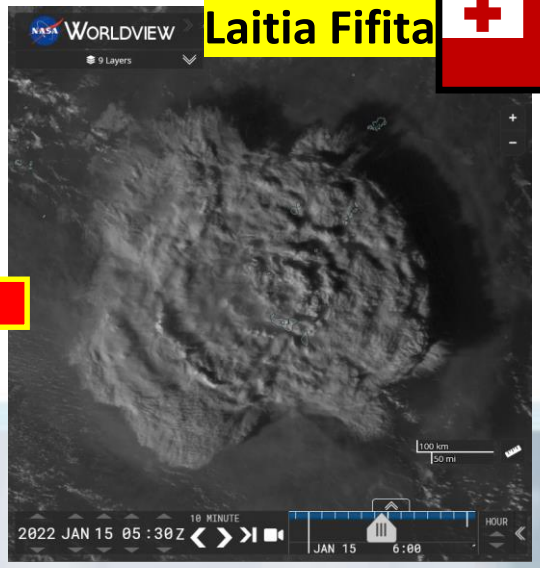
Cooperative Case Study 2: The eruption of Hunga Tonga-Hunga Ha'apai volcano, 15th January 2022

Ok Hee Kim



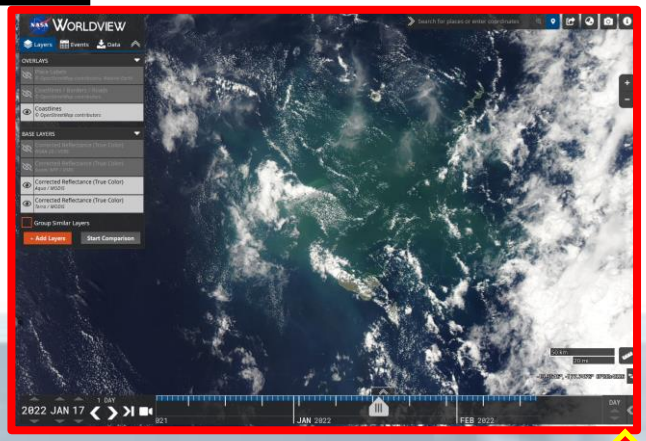
David Martin

2: The shock wave of the eruption

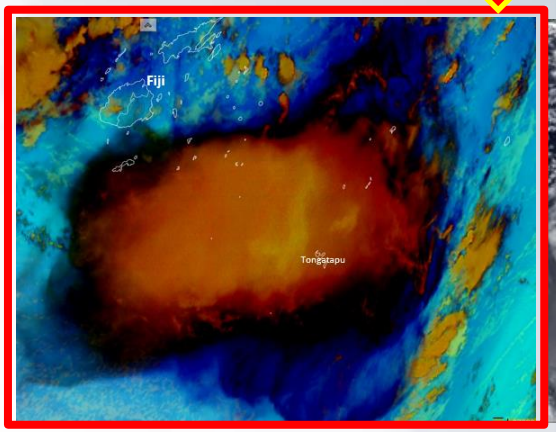


Laitia Fifita

1: Introduction

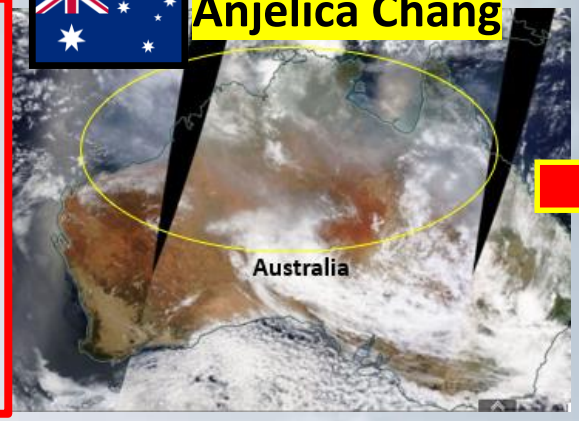


5: Marine conditions around the eruption

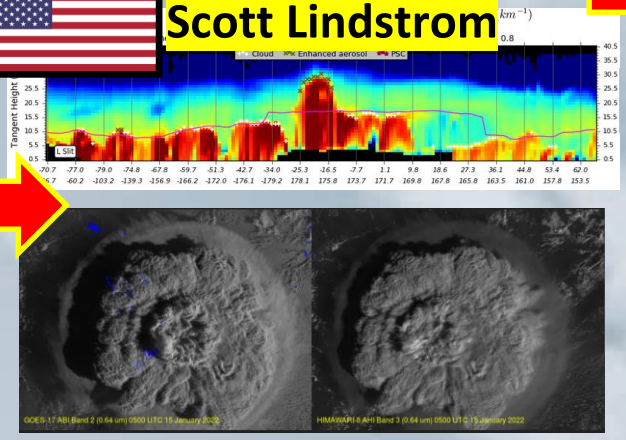


3: Spreading out of the ash/SO2 from the eruption

Anjelica Chang



Scott Lindstrom



4: The height of the eruption

Multiple "mini case studies" within one meeting:

Meteorological highlights of the year 2021

RFG meeting December 2021. Format recommended by Jordan Gerth (NOAA / USA)

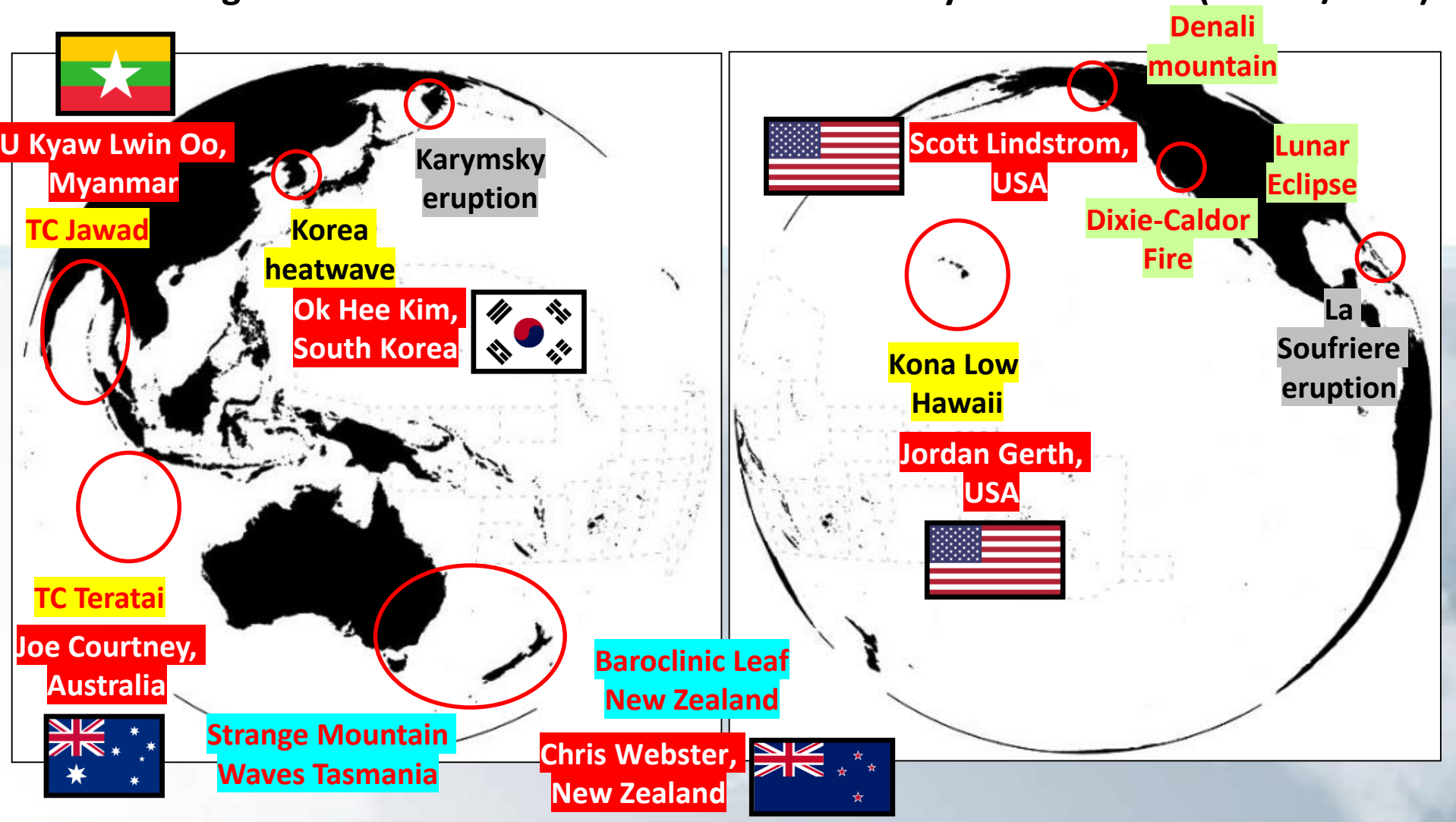
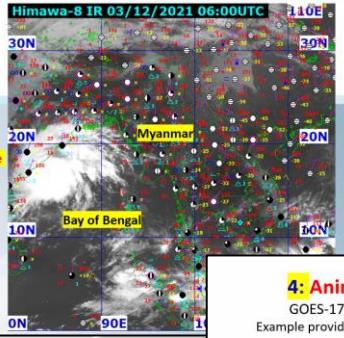


Image provided by U Kyaw Lwin Oo, Myanmar Department of Meteorology and Hydrology

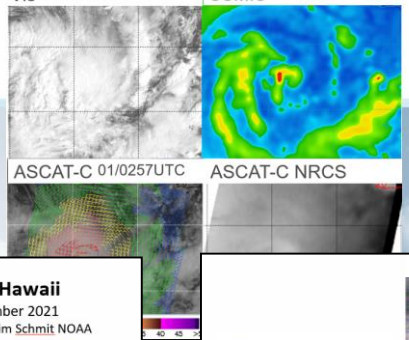
1: Tropical Cyclone 05B "Jawad".

Example provided by U Kyaw Lwin Oo, Myanmar Department of Meteorology and Hydrology



2: Formation of Tropical Cyclone 05U "Teratai".

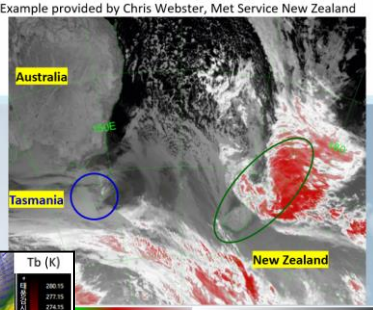
Example provided by Joe Courtney, Australian Bureau of Meteorology



3: Animation: Baroclinic Leaf over New Zealand, Mountain Waves over Tasmania.

Himawari-8 Band 13 (enhanced) image, 22nd / 23rd September 2021

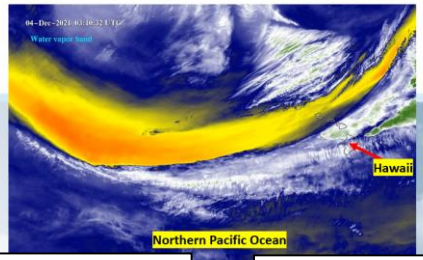
Example provided by Chris Webster, Met Service New Zealand



4: Animation: A Kona Low impacting Hawaii

GOES-17 Band 8 (enhanced) image, 00UTC 4th December 2021

Example provided by Jordan Gerth, NOAA, animation courtesy Tim Schmit NOAA

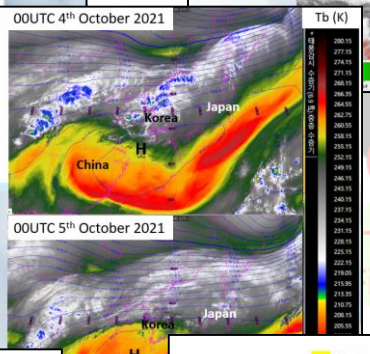


5: Korea Heatwave

GEO-KOMPSAT-2A 6.9 micron band and 500hPa height

4th - 5th October 2021

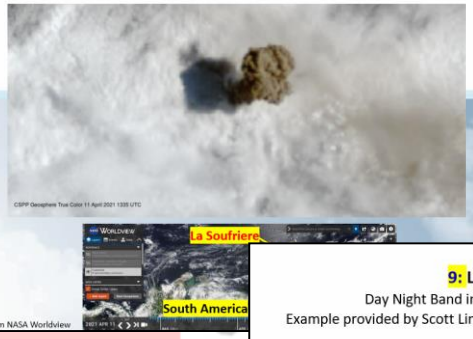
Example provided by Ok Hee Kim, Korea Meteorological Administration, Korea VLab Centre of Excellence



6: Animation: La Soufriere volcanic eruption in 1 minute imagery

CSPP True Colour imagery, 11th April 2021

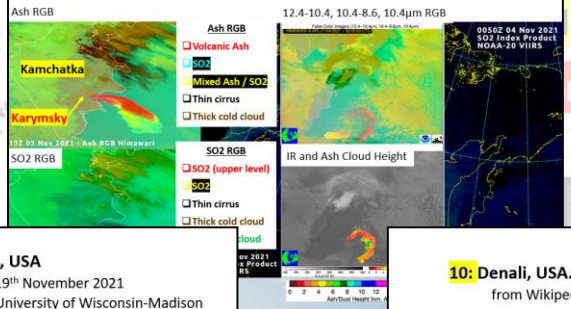
Example provided by Scott Lindstrom, SSEC University of Wisconsin-Madison



7: Karymsky volcanic eruption, Kamchatka, Russia

SNPP VIIRS / NOAA-20 VIIRS imagery, 3rd / 4th November 2021

Example provided by Scott Lindstrom, SSEC University of Wisconsin-Madison



8: Dixie-Caldor Fire, California, USA

image from Wikipedia, image courtesy By Frank Schulenburg - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=107802721

e County produces a pyrocumulus cloud.

9: Lunar Eclipse, USA

Day Night Band imagery, 18th / 19th November 2021

Example provided by Scott Lindstrom, SSEC University of Wisconsin-Madison

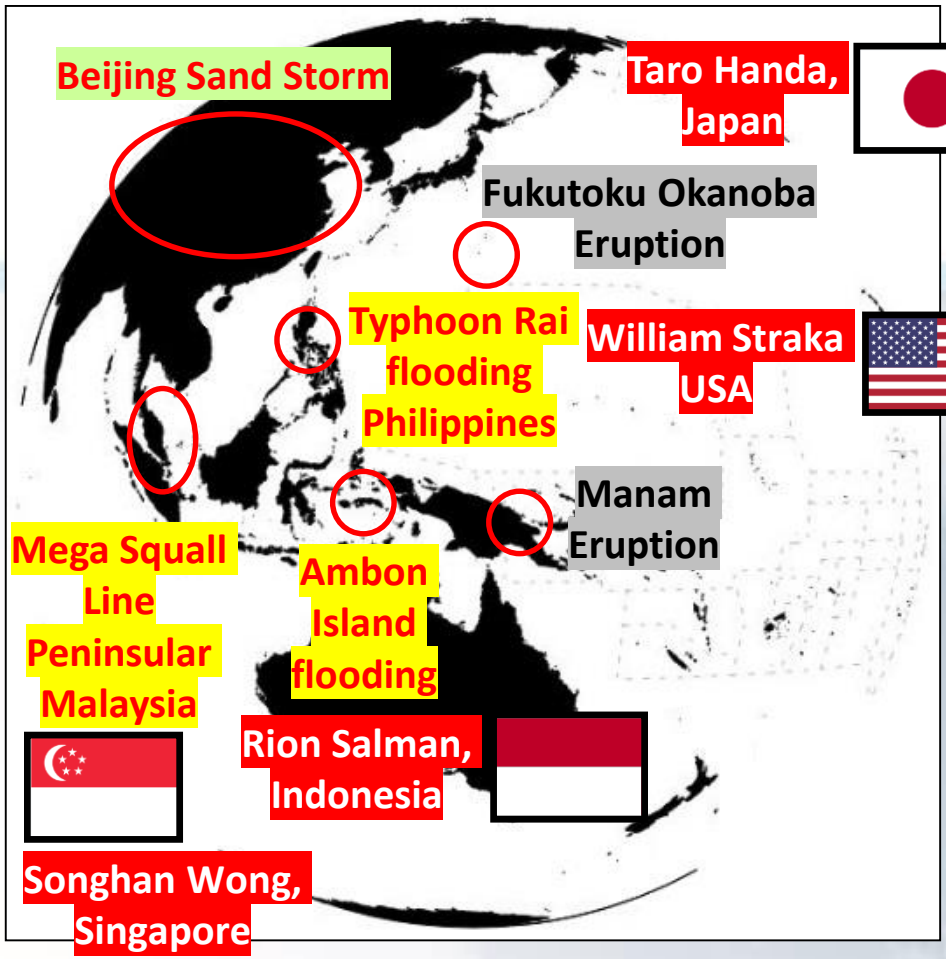
10: Denali, USA. The highest mountain in North America

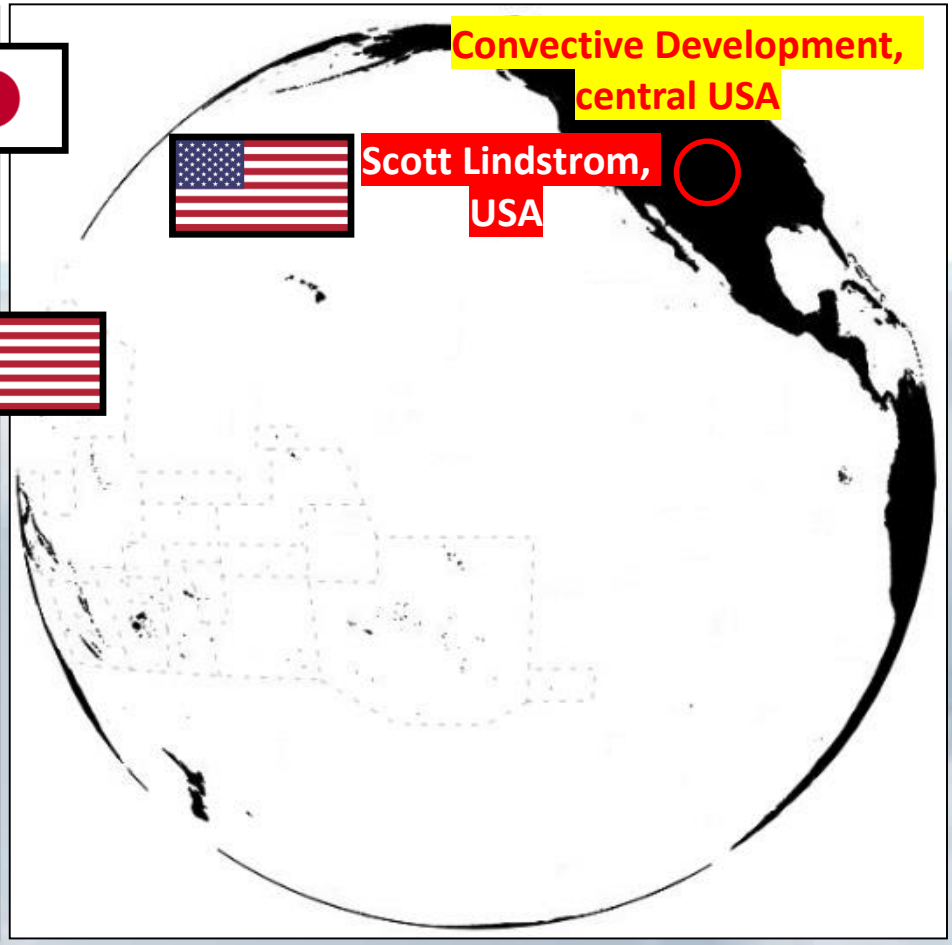
from Wikipedia at https://en.wikipedia.org/wiki/Denali

Multiple "mini case studies" within one meeting:

Meteorological highlights of the year 2021

RFG meeting January 2022. Format recommended by Jordan Gerth (NOAA / USA)

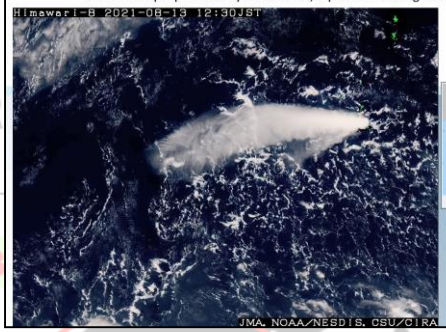




animation provided by Taro Handa, Japan Meteorological Agency

1: Animation: Eruption of the undersea volcano Fukutoku-Okanoba.

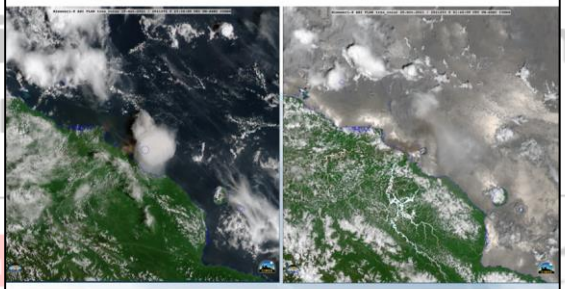
True Colour RGB / infrared imagery 21UTC 13th to 06UTC 15th August 2021. Example provided by Taro Handa, Japan Meteorological Agency



images courtesy JMA

2: The eruption of Manam Volcano, Papua New Guinea.

True Colour RGB imagery 21UTC 19th to 04UTC 20th October 2021.
Example provided by Scott Lindstrom, SSEC University of Wisconsin-Madison



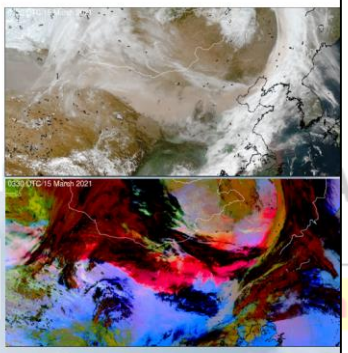
https://cimss.ssec.wisc.edu/satellite-blog/images/2021/10/211019_himawari8_trueColorRGB_Manam_anim.gif

images courtesy JMA

3: Beijing Sandstorm

0330UTC 15th March 2021
True Colour RGB image (top)
Dust RGB image (bottom)

Example provided by Scott Lindstrom, SSEC University of Wisconsin-Madison



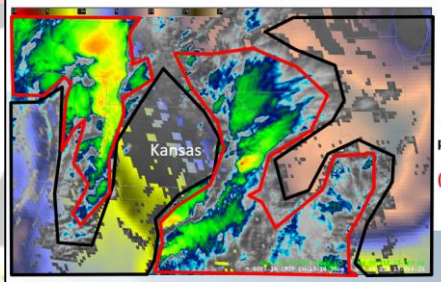
Scott's comments: "Am thinking about the weather that might happen during the 2022 Winter Olympics."

https://cimss.ssec.wisc.edu/satellite-blog/wp-content/uploads/sites/5/2021/03/HIMAWARI-8_AHI_true_color_dustRGB_20210315_0330Toggle.gif

images courtesy JMA

4: Band 13 / LI with convection, central USA .

True Colour RGB imagery 21UTC 19th to 04UTC 20th October 2021.
Example provided by Scott Lindstrom, SSEC University of Wisconsin-Madison



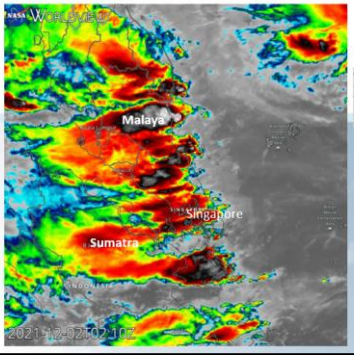
I like this one because it shows the power in blending a **level 2 product (clear sky)** with **Band 13 (where it's cloudy)** when convection is developing!

https://cimss.ssec.wisc.edu/satellite-blog/wp-content/uploads/sites/5/2021/10/G16ABIBand13_DSI-20201012_2201_to_20211013_0646anim.gif

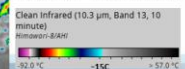
Animation from NASA WorldView

5: Animation: Mega Squall Line over Peninsular Malaysia

Example provided by Songhan Wong, NEA Singapore



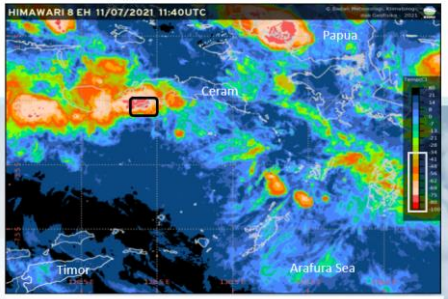
Himawari-8 Enhanced IR.
1830UTC 1st December to 0310UTC 2nd December 2021



animation courtesy BMKG Indonesia / JMA

6: Animation: Ambon Island flooding

Himawari-8 Enhanced Infrared (Band 13), 05UTC to 16UTC 11th July 2021
Example provided by Rion Salman, BMKG Indonesia



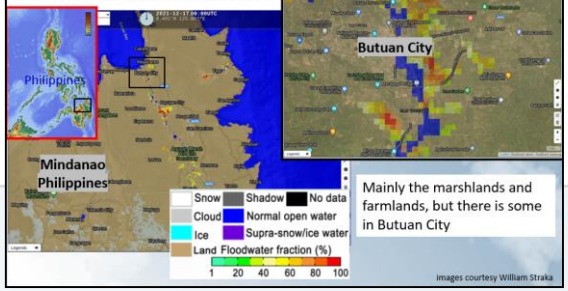
- < -40 (Top of cloud temperature) indicating Cumulonimbus Cloud
- Heavy rainfall with resultant flooding and landslides

Philippine map by Seventide - Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=32056529

7: Philippine flooding

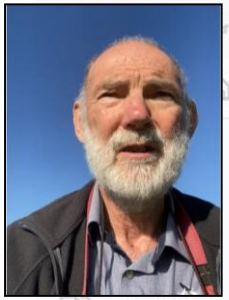
17th December 2021. NOAA Global Flood Product
Example provided by William Straka, SSEC, University of Wisconsin/Madison USA.

...there is some flooding going on still after Rai hit the islands in the Philippines



Mainly the marshlands and farmlands, but there is some in Butuan City

images courtesy William Straka



Jeff Wilson

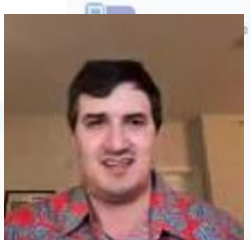
Dr Mick Pope

Roger Deslandes

Dr Bernie Connell

Kunimatsu Hiroshi

Roro Purwanti



Dr Jordan Gerth

Jennifer Strahl

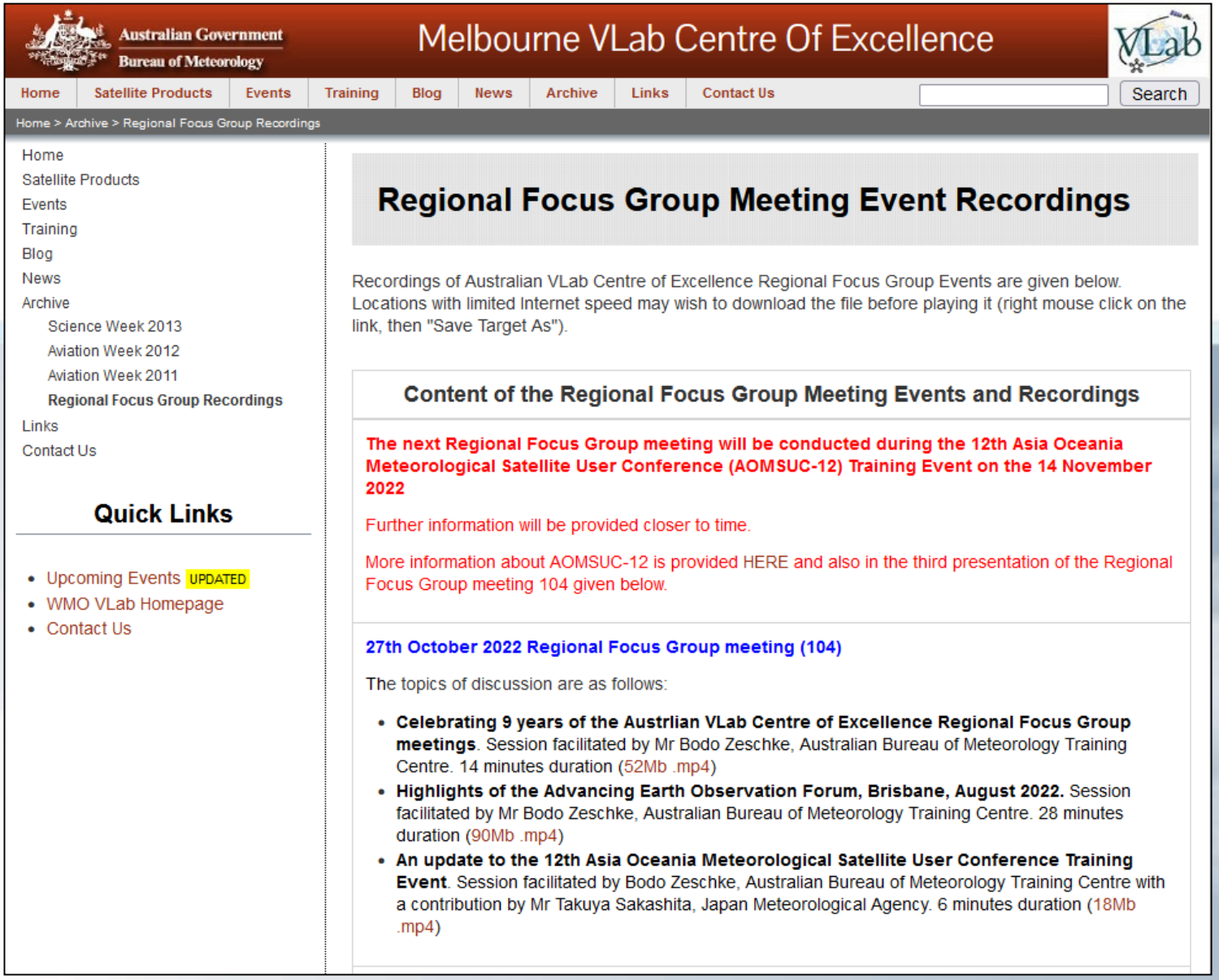
Chris Webster

Dr Hyesook Park

Silipa Mulitalo and Samoan Colleagues

Recordings of our Regional Focus Group Discussions

http://www.virtuallab.bom.gov.au/archive/regional-focus-group-recordings/



Summary

- Celebrating 9 Years of Regional Focus Group (RFG) meetings
- Have shown the statistics of the past year of RFG meetings
- Have summarised the contributions by attendees, including
  - Individual presentations
  - Cooperative case studies
  - Multiple "mini case studies" within one meeting
- Celebrating the 100th Australian VLab CoE RFG meeting
- Advertised the archive of recordings of the RFG meetings