WMO RA-III Chile Virtual Training on Satellite Applications

Dates: Mon-Wed 8, 9, 10 and Mon-Wed, 15, 16, 17, November 2021

Times: 14-17, 18-21 UTC (11-14, 15-18 Chile Time)

Target audience: Weather service personnel, *intermediate level* forecasters. Youtube and facebook streaming option for non-certificate participants.

### AGENDA (last updated 15 November 2021)

<table>
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<tr>
<th>SUMMARY OF TOPICS</th>
<th>Day 1</th>
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<th>Day 6</th>
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</table>
| Introductions: DMC, NOAA, WMO, AmeriGEO, Satellite Products, tools and access to data; GEONETCAST. | **INTRODUCTION**  
"Importance for the DMC to Host the Satellite Workshop"  
Presenters: Raúl Jorquera Conrads  
Director General de Aeronáutica Civil  
General de Brigada Aérea  
Reinaldo Gutierrez Cisterna  
DMC Director | **WEATHER BRIEFING**  
Moderators: José Gálvez  
Bernie Connell  
Paola Uribe | **WEATHER BRIEFING**  
Moderators: José Gálvez  
Bernie Connell  
Paola Uribe | **WEATHER BRIEFING**  
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Bernie Connell  
Paola Uribe | **WEATHER BRIEFING**  
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Bernie Connell  
Paola Uribe | **OPEN DISCUSSION**  
Moderators: José Gálvez  
Bernie Connell |
| Python (Most of the Day), Showcase, AVIRIS Homework Revision / Introduction to Radiative Spectra. | | | | | | |
| Radiative Spectra and applications: fires, hotspots, surface features, clouds, volcanic emissions, dust, RGB composites. | | | | | | |
| GLM & severe weather: summer rain event, tornadoes, Atacama heavy rains/floods. Volcano and satellite tools homework revision. | | | | | | |
| Disaster and Emergency Management, WMO RTC-Peru, DMC Presentations, Subtropical Cyclone, Snow Event. | | | | | | |
| Aviation, Nowcasting (with no radar, convection in mountains, atmo. rivers), communicating the forecast, NASA's role, RA-III guest PPTs. | | | | | | |
| **PRESENTATION**  
"NOAA's Role in Improving the Use of ..." | | | | | | |

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1100 - 1112 CLST  
1400-1420 UTC  

1120 - 1130 CLST  

CDT = UTC+4
<table>
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<tr>
<th>Time</th>
<th>Event</th>
<th>Presenter(s)</th>
<th>Moderator(s)</th>
<th>Instructors</th>
<th>Contributors</th>
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</table>
| 1130 - 1200 CLST 1430-1500 UTC | **Satellite Information**  
Presenter: Mitch Goldberg  
Translator: José Gálvez  |                                                                             |                                                                              |                                                                              |                       |
|              | **PRESENTATION**  
"Python Applications Part 1"  
Presenters: Marcial Garbanzo  
Diego Souza  |                                                                             |                                                                              |                                                                              |                       |
|              | **HOMEWORK REFLECTION**  
"Python Applications"  
Moderators: Marcial Garbanzo  
Diego Souza  |                                                                             |                                                                              |                                                                              |                       |
|              | **PRESENTATION**  
"Disaster Management: Use of satellite information for the decision-making process"  
Presenter: Ricardo Quiroga (NASA)  |                                                                             |                                                                              |                                                                              |                       |
|              | **PRESENTATION**  
"WMO's Role in Improving the Use of Satellite Information"  
Presenter: Julián Báez (WMO RA-III)  |                                                                             |                                                                              |                                                                              |                       |
| 1200 - 1230 CLST 1500-1530 UTC | **PRESENTATION**  
"Interpretation and Application: Distinguishing Cloud Types and Surface Features."  
Presenters: Bernie Connell  
José Gálvez  |                                                                             |                                                                              |                                                                              |                       |
|              | **PRESENTATION**  
"Introduction to the Geostationary Lightning Mapper (GLM)"  
Presenter: José Gálvez  
Author: Joseph Patton  |                                                                             |                                                                              |                                                                              |                       |
|              | **PRESENTATION**  
"AmeriGEO Introduction and Chile's RA III Involvement"  
Presenter: Luciano Parodi G. (Ministro Consejero, GEO Principal de Chile, Cónsul General de Chile en Bariloche)  |                                                                             |                                                                              |                                                                              |                       |
|              | **CONTINUED PRESENTATION**  
"Python Applications Part 2"  
Presenters: Marcial Garbanzo  
Diego Souza  |                                                                             |                                                                              |                                                                              |                       |
| 1230 - 1250 CLST 1550-1620 UTC | **CONTINUED**  
"Interpretation and Application: Distinguishing Cloud Types and Surface Features."  
Presenters: Bernie Connell  
José Gálvez  |                                                                             |                                                                              |                                                                              |                       |
|              | **PRESENTATION AND HANDS-ON**  
"GLM Application example from South-Central Chile"  
Presenter: José Gálvez  
Contributors: Joseph Patton  
Scott Lindstrom  |                                                                             |                                                                              |                                                                              |                       |
|              | **PRESENTATION**  
"The user focus of the Early Warning System (SAT) in the SMN of Argentina"  
Presenters: Daniela D'Amen y Julia Chasco  
SMN, Argentina  |                                                                             |                                                                              |                                                                              |                       |
| 1250 - 1320 CLST 1550-1620 UTC | **PRESENTATION**  
"Management of Meteorological Disasters in Chile"  
Presenter: Arnaldo Zúñiga  |                                                                             |                                                                              |                                                                              |                       |
|              | **PRESENTATION**  
"Introduction to the Geostationary Lightning Mapper (GLM)"  
Presenter: José Gálvez  
Author: Joseph Patton  |                                                                             |                                                                              |                                                                              |                       |
|              | **PRESENTATION**  
"Introduction to Satellite Products and Tools and Access” Part 1  
Presenters: Marcial Garbanzo  
Diego Souza  |                                                                             |                                                                              |                                                                              |                       |
| 1320 - 1400 CLST 1620-1700 UTC | **HANDS-ON**  
"Processing GOES data with Python” Part 1  
Instructors: Bernie Connell  
Marcial Garbanzo  
José Gálvez  |                                                                             |                                                                              |                                                                              |                       |
|              | **HANDS-ON**  
"Detecting Fires, Cloud Phase and Vegetation”  
Instructors: Bernie Connell  
Marcial Garbanzo  
José Gálvez  |                                                                             |                                                                              |                                                                              |                       |
|              | **PRESENTATION**  
"Nowcasting in Peru: Methods for the Andes"  
Presenters:  
Kelita Quispe  
Joao Huamán  |                                                                             |                                                                              |                                                                              |                       |
|              | **PRESENTATION**  
"Training Efforts of UNALM and SENAMHI as WMO RTC-Peru"  
Presenter: Teresa Garcia  |                                                                             |                                                                              |                                                                              |                       |
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<td>1400-1420</td>
<td><strong>1 hr LUNCH BREAK</strong></td>
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<td>1420-1500</td>
<td><strong>CLST PRESENTATION</strong> “NASA’s Role in Optimizing the Use of Satellite Information”</td>
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<td>Presenter: Argyro Kavvada (NASA)</td>
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<td>1500-1530</td>
<td><strong>PRESENTATION CONTINUED</strong></td>
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<td>“Introduction to Satellite Products and Tools and Access” Part 2</td>
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<td>1800-1830</td>
<td><strong>HANDS-ON CONTINUED</strong></td>
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<td></td>
<td>“Processing GOES data with Python” Part 2</td>
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<td>Presenters: Marcial Garbanzo, Diego Souza</td>
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<td>1530-1600</td>
<td><strong>CLST PRESENTATION</strong> “Overview of NOAA Data Access and GEONETCAST”</td>
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<td>Presenters: Seth Clevenstine, Diego Souza</td>
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<td>1600-1615</td>
<td><strong>PRESENTATION</strong></td>
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<td>“Incorporation of GEONETCast Americas to GEOOs: Observational Geoportal Associated with a Collaborative Development Information System”</td>
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<td>Presenters: Dr. Samuel Hormazábal, Joaquim P. Bento (Escuela de Ciencias del Mar Pontificia Universidad Católica de Valparaíso)</td>
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<td>1615-1630</td>
<td><strong>PRESENTATION</strong></td>
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<td>“SHOWCast”</td>
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<td>Presenter: Diego Souza</td>
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<td>1830-1900</td>
<td><strong>MCM PRESENTATIONS</strong></td>
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<td>“Sistemas frontales”</td>
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<td>Gustavo Quezada</td>
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<td>“Bajas segregadas y altas de bloqueo”</td>
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<td>Camilo Barahona</td>
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<td>1900-1915</td>
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<td>“Forecasting and Diagnosing Atmospheric River Events in the US West Coast”</td>
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<td>Presenters: Jonathan Rutz, Sheldon Kusselson</td>
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<td>Translation: Jose Galvez</td>
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<td>“Tsunami warning and prediction”</td>
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<td>Presenter: Lt. Fausto Bravo (SHOA/NTWC)</td>
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<tr>
<td>Time</td>
<td>Session/Activity</td>
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<tr>
<td>1615-1630 CLST</td>
<td>Open Discussion on GNC</td>
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<td>1630 - 1650 CLST</td>
<td>20 min BREAK</td>
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<td>1650 - 1705 CLST</td>
<td>HANDS-ON</td>
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<td>1705-1720 CLST</td>
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<td>1720 - 1750 CLST</td>
<td>HOMEWORK: “AVIRIS Exercise” (Bernie and Jose)</td>
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<td>1750 - 1800 CLST</td>
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<td>1800 - 1830 CLST</td>
<td>HOMEWORK: “AVIRIS Exercise” (Bernie and Jose)</td>
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<td>1830 - 1850 CLST</td>
<td>HOMEWORK: “AVIRIS Exercise” (Bernie and Jose)</td>
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<td>1850 - 1915 CLST</td>
<td>HOMEWORK: “AVIRIS Exercise” (Bernie and Jose)</td>
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<td>OPEN DISCUSSION: WORKSHOP SUMMARY</td>
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<td>HOMEWORK: “AVIRIS Exercise” (Bernie and Jose)</td>
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<td>HOMEWORK: “AVIRIS Exercise” (Bernie and Jose)</td>
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<td>2130-2150 UTC</td>
<td>HOMEWORK: “AVIRIS Exercise” (Bernie and Jose)</td>
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<tr>
<td>2150-2200 UTC</td>
<td>HOMEWORK: “AVIRIS Exercise” (Bernie and Jose)</td>
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Notes to consider:

Chile Time FOR THE WORKSHOP (CDT): 11:00 AM = 14 UTC = 9:00 AM Eastern Standard Time (EST) (EST starts on Nov. 7)

1. Background colors are used to help identify groups of topics
2. Institution Acronyms in order of appearance:
   - (a) DMC: Dirección Meteorológica de Chile
   - (b) NOAA: National Oceanic and Atmospheric Administration (USA)
   - (c) SRG: Systems Research Group Inc. (USA)
   - (d) WMO: World Meteorological Organization (WMO)
   - (e) UCR: University of Costa Rica (Costa Rica)
   - (f) INPE: Instituto Nacional de Pesquisas Espaciais (Brazil)
   - (g) CIRA: Cooperative Institute for Research in the Atmosphere (USA)
   - (h) UMD: University of Maryland (USA)
(i) CIMSS: Cooperative Institute for Meteorological Satellite Studies (USA)
(j) BYU: Brigham Young University (USA)
(k) UA: University of Alaska (USA)
(l) SENAMHI: Servicio Nacional de Meteorología e Hidrología (Peru)
(m) NASA: National Aeronautics and Space Administration (USA)
(n) AWC: Aviation Weather Center of NOAA (USA)
(o) NHC: National Hurricane Center of NOAA (USA)
(p) CNA/DMC: Centro Nacional de Análisis de la DMC

(3) Other Notes on Speakers: Rodrigo Arroyo: National Analysis Center of the DMC Meteorologist