



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)

SUMMARY OF TOPICS	Introductions: DMC, NOAA, WMO, AmeriGEO, Satellite Products, tools and access to data; GEONETCAST.	Python (Most of the Day), Showcast, 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.
11 CDT = 14 UTC	Day 1 Monday 8 November	Day 2 Tuesday 9 November	Day 3 Wednesday 10 November	Day 4 Monday 15 November	Day 5 Tuesday 16 November	Day 6 Wednesday 17 November
1100 - 1120 CLST	INTRODUCTION "Importance for the DMC to Host the Satellite Workshop" Presenters: Raúl Jorquera Conrads Director General de Aeronáutica Civil General de Brigada Aérea ^a Reinaldo Gutierrez Cisterna ^a DMC Director	WEATHER BRIEFING Moderators: José Gálvez ^{b,c} Bernie Connell ^g Paola Uribe ^a	WEATHER BRIEFING Moderators: José Gálvez ^{b,c} Bernie Connell ^g Paola Uribe ^a	WEATHER BRIEFING Moderators: José Gálvez ^{b,c} Bernie Connell ^g Paola Uribe ^a	WEATHER BRIEFING Moderators: José Gálvez ^{b,c} Bernie Connell ^g Paola Uribe ^a	OPEN DISCUSSION Moderators: José Gálvez ^{b,c} Bernie Connell ^g
1120 - 1130 CLST	PRESENTATION "NOAA's Role in Improving the Use of					PRESENTATION "Satellite Applications for Aviation Hazards."

1130 - 1200 CLST 1430-1500 UTC	Satellite Information” Presenter: Mitch Goldberg ^b Translator: José Gálvez ^{b,c}	PRESENTATION “Python Applications Part 1” Presenters: Marcial Garbanzo ^e Diego Souza ^f	HOMEWORK REFLECTION “Python Applications” Moderators: Marcial Garbanzo ^e Diego Souza ^f		PRESENTATION “Disaster Management: Use of satellite information for the decision-making process” Presenter: Ricardo Quiroga (NASA)	Presenters: Amanda Terborg ⁿ Ty Higginbotham ⁿ Translator: José Gálvez ^{b,c}
1200 - 1230 CLST 1500-1530 UTC	PRESENTATION “WMO’s Role in Improving the Use of Satellite Information” Presenter: Julián Báez (WMO RA-III)		PRESENTATION “Interpretation and Application: Distinguishing cloud types and surface features.” Presenters: Bernie Connell ^g José Gálvez ^{b,c}	PRESENTATION “Introduction to the Geostationary Lightning Mapper (GLM)” Presenter: José Gálvez ^{b,c} Author: Joseph Patton ^h		PRESENTATION “Nowcasting in Peru: Methods for the Andes” Presenters: Kelita Quispe ^l Joao Huamán ^l
1230 - 1250 CLST	20 min BREAK	20 min BREAK	20 min BREAK	20 min BREAK	20 min BREAK	20 min BREAK
1250 - 1320 CLST 1550-1620 UTC	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 ^e Diego Souza ^f	CONTINUED “Interpretation and Application: Distinguishing Cloud Types and Surface Features.” Presenters: Bernie Connell ^g José Gálvez ^{b,c}	PRESENTATION AND HANDS-ON “GLM Application example from South-Central Chile” Presenter: José Gálvez ^{b,c} Contributors: Joseph Patton ^h Scott Lindstrom ⁱ	PRESENTATION “Management of Meteorological Disasters in Chile” Presenter: Araldo Zúñiga ^{a,p}	PRESENTATION “The user focus of the Early Warning System (SAT) in the SMN of Argentina” Presenters: Daniela D’Amen y Julia Chasco SMN, Argentina
1320 - 1400 CLST 1620-1700 UTC	PRESENTATION “Introduction to Satellite Products and Tools and Access” Part 1 Presenters: Marcial Garbanzo ^e Diego Souza ^f	HANDS-ON “Processing GOES data with Python” Part 1 Instructors: Marcial Garbanzo ^e Diego Souza ^f	HANDS-ON “Detecting Fires, Cloud Phase and Vegetation” Instructors: Bernie Connell ^g José Gálvez ^{b,c}	PRESENTATION AND HANDS-ON “Tornadoes in Southern Chile Case Study” Instructors: José Gálvez ^{b,c} Contributors: Scott Lindstrom ⁱ Joseph Patton ^h	PRESENTATION “Training Efforts of UNALM and SENAMHI as WMO RTC-Peru” Presenter: Teresa Garcia ^l	1 hr LUNCH BREAK

1400-1420	1 hr LUNCH BREAK	1 hr LUNCH BREAK	1 hr LUNCH BREAK	1 hr LUNCH BREAK	1 hr LUNCH BREAK	PRESENTATION "NASA's Role in Optimizing the Use of Satellite Information" Presenter: Argyro Kavvada (NASA)
1420 - 1500 CLST						
1500 - 1530 CLST	PRESENTATION CONTINUED "Introduction to Satellite Products and Tools and Access" Part 2 Presenters: Marcial Garbanzo ^e Diego Souza ^f	HANDS-ON CONTINUED "Processing GOES data with Python" Part 2 Instructors: Marcial Garbanzo ^e Diego Souza ^f	PRESENTATION AND HANDS-ON "RGB Compositing: Day Cloud Phase Distinction and Night Microphysics RGBs" Instructors: José Gálvez ^{b c} Bernie Connell ^g	CONTINUED "Tornadoes in Southern Chile Case Study"	DMC PRESENTATIONS "Sistemas frontales" Gustavo Quezada ^a "Bajas segregadas y altas de bloqueo" Camilo Barahona ^a	NOWCASTING PRESENTATIONS "Forecasting in Chile without radars" Rodrigo Arroyo ^a
1800-1830 UTC						
1530-1600 CLST	PRESENTATION "Overview of NOAA Data Access and GEONETCAST" Presenters: Seth Clevestine ^b Diego Souza ^f			HANDS ON "Case Study: Summer Rainfall over the Atacama" Instructors: José Gálvez ^{b c} Bernie Connell ^g	"Baja costera y nieblas en Chile central" Marta Caneo ^a	PRESENTATION "Forecasting and Diagnosing Atmospheric River Events in the US West Coast" Presenter: Jonathan Rutz ^b Sheldon Kusselson ^{b*} Translation: Jose Galvez ^{b*}
1830-1900 UTC						
1600-1615 CLST	PRESENTATION "Incorporation of GEONETCast Americas to GEOOs: Observational Geoportal Associated with a Collaborative Development Information System" Presenters: Dr. Samuel Hormazábal Joaquim P. Bento (Escuela de Ciencias del Mar Pontificia Universidad Católica de Valparaíso)	PRESENTATION "SHOWCast" Presenter: Diego Souza ^f			PRESENTATION "Tsunami warning and prediction" Presenter: Lt. Fausto Bravo (SHOA/NTWC)	
1900-1915 UTC						

1615-1630 CLST 1915-1930 UTC	Open Discussion on GNC					RA-III GUEST PRESENTATION Presentation 1
1630 - 1650 CLST	20 min BREAK	20 min BREAK	20 min BREAK	20 min BREAK	20 min BREAK	20 min BREAK
1650 - 1705 CLST 1950-2005 UTC	HANDS-ON "Online Satellite Resources" "DMC Web Products" Eliana Moath^a	HANDS-ON AND HOMEWORK REFLECTION "Open Discussion" and "Introduction to Radiative Spectra" Instructors: Bernie Connell^g José Gálvez^{b c}	HANDS-ON "Detection of Volcanic Ash/Dust vs Water /Ice Cloud, NDVI and JPSS Products" Instructors: Bernie Connell^g José Gálvez^{b c}	HOMEWORK REFLECTION "Volcanic Emissions and Identification of Online Resources" Moderators: Bernie Connell^g José Gálvez^{b c}	PRESENTATION "May 2018 Subtropical Cyclone" Presenter: Philippe Papin^o Translator: Michel Davison^{b*} Contributors: Scott Lindstromⁱ	RA-III GUEST PRESENTATIONS Presentation 2
1705-1720 CLST 2005-2020 UTC	"International Web Products" Bernie Connell^g José Gálvez^{b c}	AVIRIS Homework Revision				OPEN DISCUSSION: WORKSHOP SUMMARY Moderators: Paola Uribe ^a Bernie Connell ^g José Gálvez ^{b c}
1720 - 1750 CLST 2020-2050 UTC					HANDS-ON AND HOMEWORK REFLECTION "Snow in Central Chile Case Study" Instructor: José Gálvez^{b c} Contributors: Scott Lindstromⁱ	
1750 - 1800 CLST 2050-2100 UTC	HOMEWORK: "AVIRIS Exercise" (Bernie and Jose)	HOMEWORK: "Python Applications" (Marcial and Diego)	HOMEWORK: "Volcanic Emissions and Identification of Online Resources" (Bernie and Jose)	HOMEWORK: Snow case study (Jose)	HOMEWORK: Workshop keypoint input (Bernie and Jose)	

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