

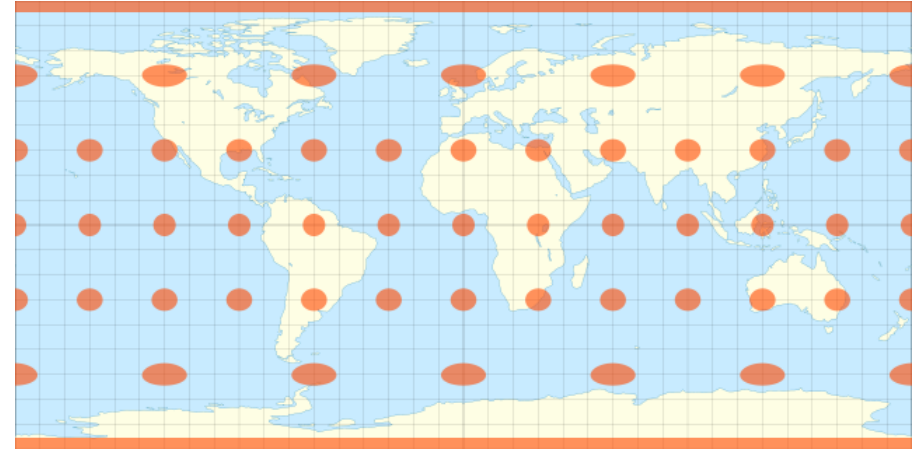


# AHG6/AHG9: Signalling EAP via the ERP SEI message

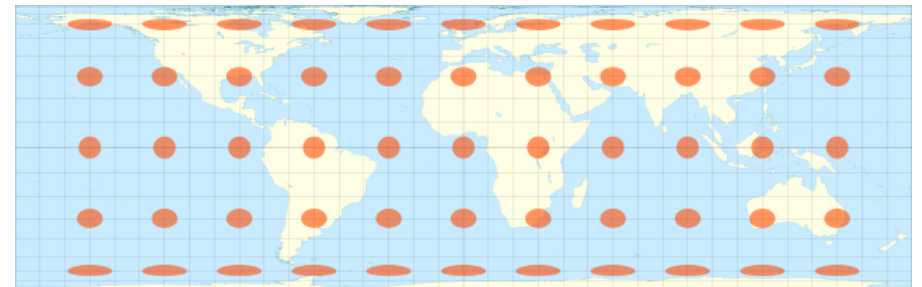
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# Introduction

- ERP
  - Conformal
- EAP
  - Equal-area
  - EAP is similar to ERP that the same **guard band** and **wrap-around motion compensation** can be applied.
  - > No need to define a new SEI message, and only **one flag** is added in the ERP SEI message



ERP



EAP

# Proposed Syntax

	Descriptor
equirectangular_projection( payloadSize ) {	
erp_cancel_flag	u(1)
if( !erp_cancel_flag ) {	
erp_persistence_flag	u(1)
erp_equal_area_projection_flag	u(1)
erp_guard_band_flag	u(1)
erp_reserved_zero_2bits	u(2)
erp_reserved_zero_1bits	u(1)
if( erp_guard_band_flag == 1 ) {	
erp_guard_band_type	u(3)
erp_left_guard_band_width	u(8)
erp_right_guard_band_width	u(8)
}	
}	
}	

**erp\_equal\_area\_projection\_flag** equal to 0 specifies that the projection used to remap the colour samples of the projected pictures onto a sphere coordinate space is an equirectangular projection. **erp\_equal\_area\_projection\_flag** equal to 1 specifies that the projection used to remap the colour samples of the projected pictures onto a sphere coordinate space is an equal-area projection.

# Simulation Results (dynamic viewport)

	Viewport #1 PSNR			Viewport #2 PSNR		
	Y	U	V	Y	U	V
SkateboardInLot	-30.46%	-26.95%	-24.94%	-34.98%	-29.07%	-29.31%
ChairLift	-25.28%	-18.21%	-17.47%	29.98%	34.68%	28.07%
KiteFlite	-12.88%	-4.78%	-5.14%	-18.28%	-11.50%	-13.31%
Harbor	8.15%	1.85%	-0.65%	-25.66%	-6.08%	-5.71%
Trolley	-25.62%	-13.45%	-12.84%	-17.17%	-2.98%	-3.85%
GasLamp	-25.88%	-10.13%	-9.38%	-22.40%	-12.51%	-11.77%
Balboa	-13.33%	-9.47%	-9.87%	-17.70%	-13.70%	-14.48%
Broadway	-16.22%	-12.12%	-12.33%	-13.72%	-9.11%	-8.51%
Landing2	-12.04%	-6.40%	-7.18%	-14.73%	-7.76%	-6.51%
BranCastle2	-23.65%	-21.80%	-21.00%	-25.32%	-21.22%	-20.52%
Class S1	-18.66%	-11.94%	-11.74%	-14.75%	-4.58%	-5.98%
Class S2	-16.31%	-12.45%	-12.59%	-17.87%	-12.95%	-12.50%
<b>Overall</b>	<b>-17.72%</b>	<b>-12.14%</b>	<b>-12.08%</b>	<b>-16.00%</b>	<b>-7.93%</b>	<b>-8.59%</b>

Class	Sequence name	V1 start (yaw, pitch)	V1 end (yaw, pitch)	V2 start (yaw, pitch)	V2 end (yaw, pitch)
S1	SkateboardInLot	-180, 35	-270, 5	-65, -5	25, 25
S1	ChairliftRide	-45, -15	45, 15	-201, -73	-111, -43
S1	KiteFlite	-114, -53	-24, -23	13, -41	103, -11
S1	Harbor	-83, -56	7, -26	-140, 12	-50, 42
S1	Trolley	210, -18	300, 12	30, -44	120, -14
S1	GasLamp	-51, -11	39, 19	61, -15	151, 15
S2	Balboa	-4, 3	86, 33	-116, -24	-26, 6
S2	Broadway	50, -20	140, 10	-111, -41	-21, -11
S2	Landing2	-45, 0	45, 30	-225, 0	-135, 30
S2	BranCastle2	116, -15	206, 15	-145, 0	-55, 30

Two dynamic viewports settings

VTM-7.0 + 360Lib-10.0

PEAP vs. PERP

**Thank you!**