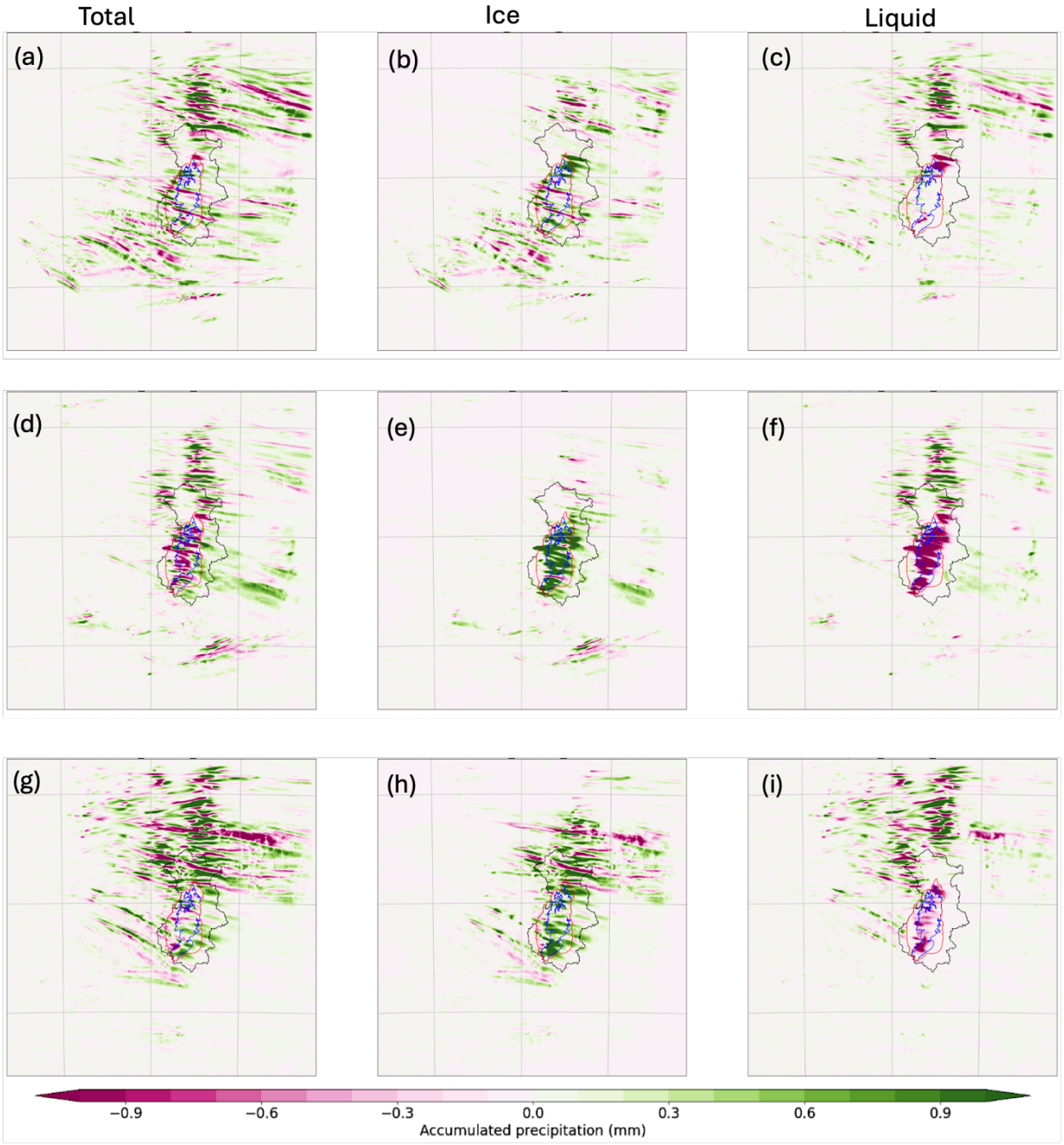

Figure S1: *The distribution of the accumulated precipitation changes due to seeding in (left) total precipitation, (middle) ice-phased precipitation, and (right) liquid-phase precipitation during Case 0a from (a-c) BARRA-driven member (BARRA_CCN_DeMott_MYNN), (d-f) CFS2-driven member (CFS2_CCN_DeMott_MYNN), and (g-i) ERA5-driven member (ERA5_CCN_DeMott_MYNN).*

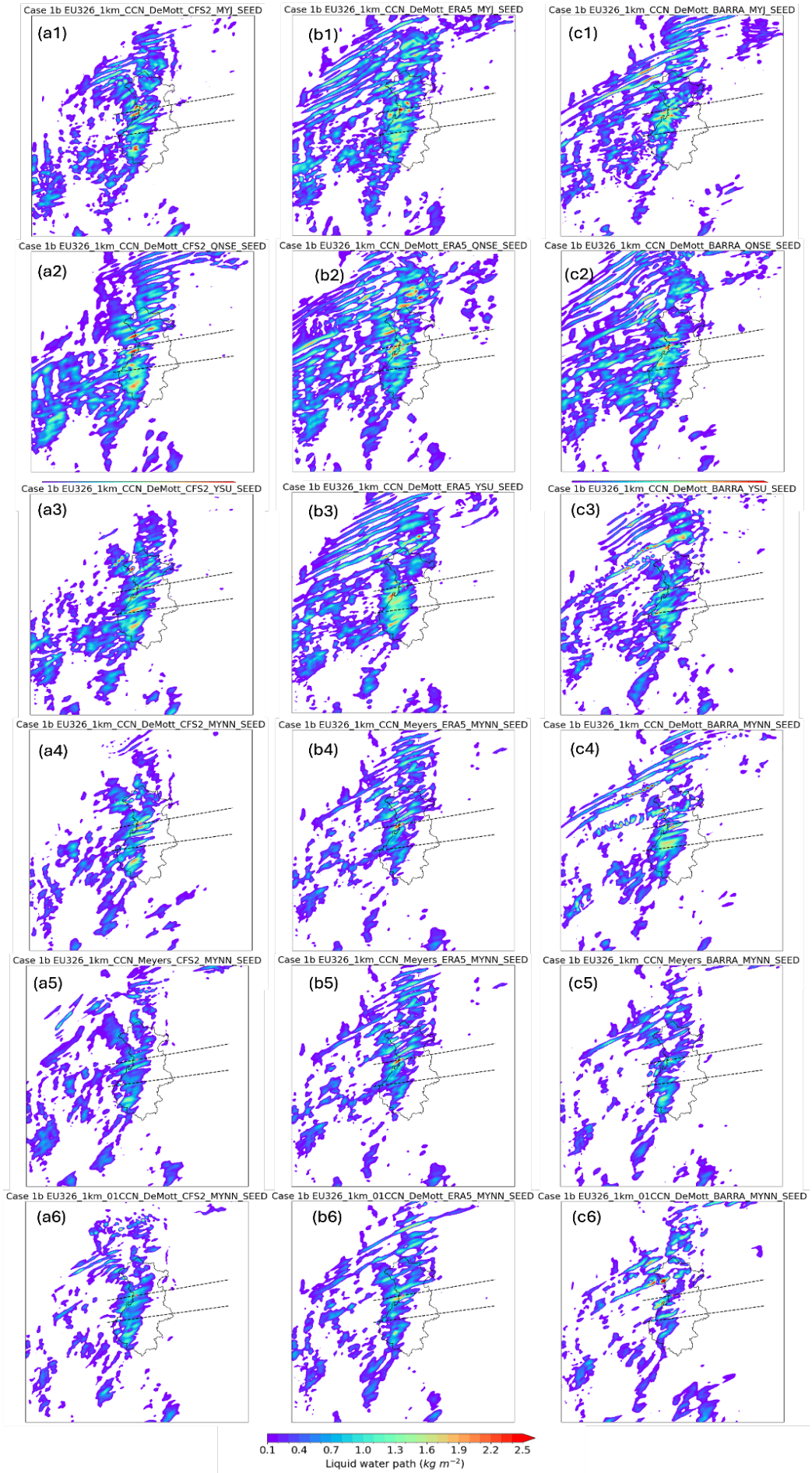
Case 1b EU326_1km_CCN_DeMott_CFS2_MYJ_SEED
(a1)
Case 1b EU326_1km_CCN_DeMott_ERA5_MYJ_SEED
(b1)
Case 1b EU326_1km_CCN_DeMott_BARRA_MYJ_SEED
(c1)
Case 1b EU326_1km_CCN_DeMott_CFS2_QNSE_SEED
(a2)
Case 1b EU326_1km_CCN_DeMott_ERA5_QNSE_SEED
(b2)
Case 1b EU326_1km_CCN_DeMott_BARRA_QNSE_SEED
(c2)
Case 1b EU326_1km_CCN_DeMott_CFS2_YSU_SEED
(a3)
Case 1b EU326_1km_CCN_DeMott_ERA5_YSU_SEED
(b3)
Case 1b EU326_1km_CCN_DeMott_BARRA_YSU_SEED
(c3)
Case 1b EU326_1km_CCN_DeMott_CFS2_MYNN_SEED
(a4)
Case 1b EU326_1km_CCN_Meyers_ERA5_MYNN_SEED
(b4)
Case 1b EU326_1km_CCN_DeMott_BARRA_MYNN_SEED
(c4)
Case 1b EU326_1km_CCN_Meyers_CFS2_MYNN_SEED
(a5)
Case 1b EU326_1km_CCN_Meyers_ERA5_MYNN_SEED
(b5)
Case 1b EU326_1km_CCN_Meyers_BARRA_MYNN_SEED
(c5)
Case 1b EU326_1km_01CCN_DeMott_CFS2_MYNN_SEED
(a6)
Case 1b EU326_1km_01CCN_DeMott_ERA5_MYNN_SEED
(b6)
Case 1b EU326_1km_01CCN_DeMott_BARRA_MYNN_SEED
(c6)
0.1 0.4 0.7 1.0 1.3 1.6 1.9 2.2 2.5
Liquid water path (kg m^{-2})

Fig. S2: *Distribution of LWP over the domain from each of the 18 CTRL members of Case 1b. The two dashed lines represent the transects taken along the prevailing wind: one from northern catchment passing through the Cabramurra site (red dot in the domain), referred to as the Northern transect, and the other from southern catchment passing the Khancoban site (blue dot in the domain), referred to as the Southern transect.*

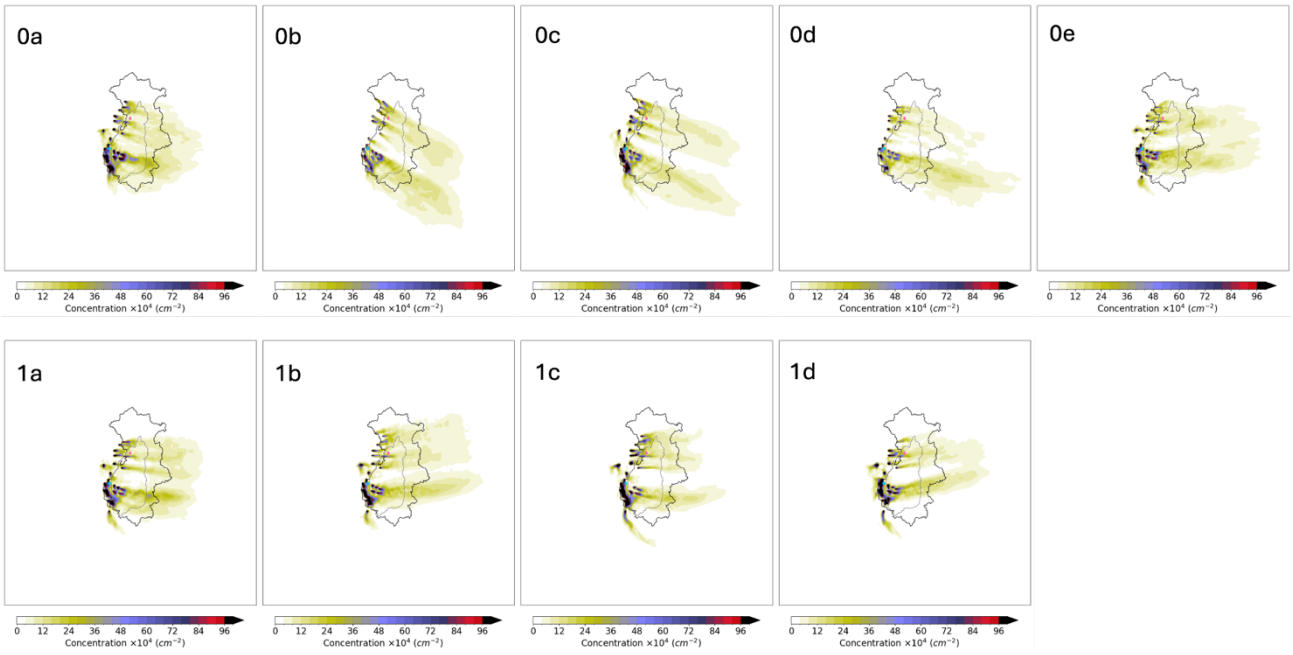

Fig. S3: *The ensemble mean of AgI dispersion over the domain two hours after seeding starts from (upper) Category 0 cases and (bottom) Category 1 cases. The value indicates vertically integrated AgI concentration (cm^{-2}). The target area is marked in gray lines and the water catchment is in black lines.*