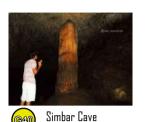




Beach enhabitment is a costal landom tapped by the action of seasater, both constructive and destructive processes. It's shutder in a streational zone between land and loss, affected by sides, stong winds, and salester. The area has a 40 km settle of darea, with more impracted by human activity. Antendepolar finds indicate prehistors habitation, and the site hotels geological and historical significance, holizality partialor geological landom settlements.



**G40** 

Simbar Cave, at coordinates -7.6940°S and 109.4760°E, is an endo-losart formation resulting from extensive isansification of Middle Micorea Imensitone from the Kalipicanay Formation. Over thousands of years, the dissolution of water in the uplified limestione formed intricate underground covers, featuring various statisticies, substagmiles, and other formations. Renovated in 2006/2007, it is now a popular tourist attraction, and is intuitabilitate include bits, still, and care circlests. This geological size, located in the fourth phase of the area's geological history, holds hydrogeological stemilitates careful and importance.



Neogen Limestones Of Kalipucang Formation

Vellowish while to light grey limestone outcrops at coordinates -7.6565 °S, 109.4384 °E are part of the Kalipucang Formation, Middle Miocene. This limestone contains fossils of foraminifera such as Lepdocyclina sumatensis Rady L. elegans Tan, and Cyclocybus samutalus Martin tall ire in shallow seas at a maximum depth of 60 m. The former quarry at Kalisari exposed limestone facies ranging from bound stone to packstone. This site is part of the fourth phase of the geological history of the area, stratigraphy and



©26 Banyumudal Springs

Banyumudal Spring at coordinates -7.6430 °S. 109.4700 °E. is one of the South Conthong least seen used resurces, which coughes the Kannegholme area. The apuller layer, on d by the topographic soffice, releases clean water with a large discharge, about 50 lisecond. Since the Outh era and careetly managed by the Regional Dinking Water Company of Keburnen Regency, this spring has been used as a source of dinking water stone the Dubd en at. This last just of the fourth phase of the geological Instroy of the sare, with hydrogeology peological Instructs, uniform grant on Significance value.

Sagara View

Karangbolong Beach, located at coordinates \*7.7587\*S and 109.4681\*E, is where the Manggo River and Cincingguiling River meet. This beach comprises volcanic brecis, lava, and coarse volcanic sandstones from the Early Miccene Gabon Formation. The unique collapsed features were caused by open burrows and cave passages, partly widened by abrasion, with the cave's roof housing bats and cave passages, parry widened by ancision, with the cave s root noising basts and srift. The site is historically known for collecting valuable swallow nests, significant since the Dutch era. These geological and geomorphological attributes mark the third phase of the area's geological history, emphasizing



Of Kedoya Hill

Gumawang Waterfalls

Gumawang terraced waterfall in Candirenggo Village, at coordinates - 7,6899 %, 109,4044 °E, is developed in a stratigraphic convergence between Kalpiucang Formation and Gabor Formation. Its paracrainst indexage has been developed into tourist objects and attractions managed by the local Tourism Awareness Group. This list is part of the fourth phase of the geological between the production of the production was also the production of the pro

Barat Cave

Barra Cane, shaaled oroth of Jaligier Cane Complex at coordinates 766072 and 104,20076. Is an enterior haslied cane with a slabytmine relation of passages, spanning thousands of maters, although only about. 3,000 molecular passages, spanning thousands of maters, although only about. 3,000 molecular passages and passages and passages passages and passages passages and passages spanning passages passag

Krakal Hot-Springs

Krakal hot spring with a temperature of 38 - 41°C, located at coordinates - 7.5148 °S, 109.6996 °E, containing high sodium chloride and calcium chloride. The content of anion chloride (CI), bicarbonate (HCO), and suffate (SO) in the ternary diagram shows the water is derived from a deep earth heat flaid. During

**©28** 

This spring is a source of karst water around the West Care location at coordinate 7,060.1°S and 100,480.1°E. Rimmeter that files on the surface of the last star seal either the deeper femelon types through the gap option—rock croads. As a result, the accumulation of water, which is generally in undergound more, cours more frequently in the subsequent control to the subsequent of the subsequent of the control of the subsequent of the subseq weet of SemporReservoir, with an attitude of 197 m above the sea beviet exposing layers of law benezia and acardistoner. It is flibelogy is part of the entanged Halang Formation, Late Miccene rocks of the South Sersyst Mourtains. From the top of the NI, you can see a paracramic view of the Sempor Reservoir area. The top of the NI is across by the existence of Supplication Seape, Harmits visit this place. This site is part of the fifth phase of the geological history of the area, with

**G41** 

or this phenomenon.

The springs with an area of about 96 lisec are used to trigate rice fields and the utilized for cooking and washing. This site is part of the fourth phase of the peological history of the area, hydrogeology features, including national

Langen Ujung Spring



Petruk Cave (G30)

Petruk Cave, located at coordinates -7.7041'S and 108.3890'E, is a multileved cave with a 100-mete frength and an underground river that flows along the boundary between finestone (Kellspurang Formation) and vicloraric rods (Gabon Formation). The care-boated values care ornaments, including statistics, statisgraines, columns, and unique formations like Serigian Rock and Petruk Rock. His care is home to deven Euran, with tropolity lebst and nakes, along with spiders, crickets, fish, and shrimp. This site represents the



Jatijajar Cave Complex

Jatjajar Cave, at -7.6865°S, 109.4705°E, is an endo-karst cave complex covering 5.5 hectares. It includes Dempok Cave, Intan Cave, and Jatjajar Cave, developed in Middle Micoene limestone at 250m aboves alevel. Dempok Cave has a 100m hotiontal passage with both natural and compan. Gave tas a rivum nonzonia passage with both natural and artificial sections, featuring natural ventilation through roof holes (avens), intan Cave is a fossil cave with various formations, two rooms, and natural ventilation from roof avens. adisjair Cave has a 250m horizontal turnel with historical guan posphate traces. Most formations are inactive. A large hole in the roof marks its discovery in 1802.

The cave relates to the legend of Kamandaka from the Pajajaran Kingdom and features a diorama with 32 statues depicting the legend. It holds



Of Penosogan Formation

A series of limestone sedimentary rocks consisting of alternating sandstones, as illustrones, and citysothes in Kalkudo Village, at coordinates ~7,5951 \*S., 109.6939 \*E, is a hypostratolyse of the Perosogan Formation. The structure of the cross-sectional sediment, parallel insimistion, and so on shows the depositional mechanism, which is influenced by tathot current. This matrice additional mechanism, which is influenced by tathot current. This matrice additional mechanism, which is influenced by tathot current. This matrice additional mechanism, which is influenced by tathot current. This matrice additional mechanism, which is influenced by tathot currents. This matrice additional mechanism was also in the Middle Microsom point. This is in part of the fourth phates of the goodpoplin listing you for series.



Natural Bridge Of Lampon Beach

A stretch of beaches along the coordinates 7.7700°S and 100.4364°E, including Lampon Beach and Paul Beach, are unique due to the their geological composition—a combination of Early Microen violation ricks from the Galzon Formation and Middle Miccose limestone from the Kalipicang Formation.

Lampon Beach features a distinctive notic formation, a natural shipley-like hole created by alreadon, with a width of about 30 meters. The namer Lampon riginates from tools follow about a missing fintermant's minicolars texture, guided by a scared Gegenfriding whate. These geological phase, holding national simple appears are significant in the area's third geological phase, holding national importance.



©36 Surumanis Beach

This beach is located on the east side of Pecaron Beach at -7.7720 "S and 100.4302" E, with exolic landscapes. The beauty of this beach results from sea advancisor processes against the rook will on the shore. On the consolal wall, a layer of vicanic brecisi node sloping to the south is recognized in a position of 370°C J 259. Biccosis are composed of modeller lock fragments with a base mass of coarse sand. Above the OAF brecial byer of Gabon Formation, intention is found in Adaptious (Parishot). The different types and hardness The namow beach to the east of Mengardi Beach, at coordinates -1.7709 °S and 127 °C, is composed of volcanic brecase of Gabon Formation, which are Early Moorae again Lipsous not Karigents scattered on the edge of the white sarely beach are lumps of gineous rock and noble lineations. Limestones onestee volcanic rocks from Kalipsourai Formation, with occupy elevated areas. Steep walls formed by geological structures border the eastern coast. This site is part of the flat place of the peoplogical factory of the area. of rocks that interact with beach waves create an interesting panorama. This site is part of the third phase of the geological history of the area,

Pecaron Beach

Karangagung Beach

Karanggang beach in Argopeir Visage, at coordinates -1.1.su 's and 100 3000 °E, revest she convergence between the limitation of the Kalipurang Formation and the volcamic rocks of the Gabon Formation that surround it. A sea stacks about 100 in offshore composed of breccias and lava. The lithology that expanded to form churks of rock may be caused by faults that cut this area. This site is part of the third phase of the geological history of the area, comornoholor fedures, including local seriolificance values.

©22 Kalianget Hot-Springs

The Kallangel hot springs in Wadsamalang Village, located at coordinates - 73007 'St. (30) 241 'E., edit from the shear system in the contact zone between standards or programs formation Marchand Formation berecks, with a temperature of around 40°C. The location, close to Sindaro wateful, has not yet been developed into a good-bustem object and arbation. This sile is just the fourth phase of the geological listory of the zero, with structure and sedementologic Marchan, including stational golf-generative value.

Columnar-Jointed Diabas,



Sawangan Beach And Surupan Cave

Sawangan Beach in Karangduwur Village, located at coordinates - 7.7575°S and 109.3971°E, offers both aesthetic and geological value. The beach's steep terrain reveals the Early Micoene Gabon Formation with volamic characteristics, in contact with controller features from the Middle Micoene Kalipucang Formation. It includes the Siurupan cave leading to an underground river cutellit, with a suttless river crossing a volamic breecia layer, forming a multilevel waterfail. The area is known for Ongole cattle breeders, representing a Kebumen endemic cow variety. This site represents the third geological phase in the area's history, with national geological



G23 Sempor Hot-Springs

The hot spring, located beneath a large ties along the Sempor-Keilleng road at coordinates -7.5787°S and 108.4808°E, maintains a temperature of approximately 4°C. This colorless and otofies hot water serves as a source of drivingly earlier for the locals after it colds. The surrounding lithology consists of Early Moore andeate brecca thom the Wataranda Formation. The energeneous of the hot water is influenced by periodical faults delineating the boundaries of the Wataranda Formation and Pencogan Formation. This geological struture extends in five Katigending Village, giving rise to several other hot springs along its path. Notobly, a Dutch newspaper published in April 1077 highlighted the health benefits of this minerá-irch water, with quality comparable to European mineral waters. The site, historically used by residents for bathing represents the third phase of the area's geological history and holds national geoscience significance.



Andesitic Volcanic Brecias Of Waturanda Formation

of Kebumen-Karangsambung road, at coordinates -7.5742 °S, 109.6769 °E, is a hypostratotype of the Waturanda Formation, which is Early Miocene. The is a hypostratohyce of the Valutianas romation, which is Larly Mocere. The formation of this lithology is affected by submarine sliding (fluxo-Lutidites), which occurs in the face are basin area (Arsori et al., 2014). This site is part of the third phase of the geological history of the area, with stratigraphy and sedimentology of geological features, including national significance value.



Bujil Hill

©11 Olistolith Of Numulitic Limestones, Karangsambung Formation

Nammulis brown limestone outcrops in frost of the Kamragamshrug field compare building a Goordinaler 5-3647 5; 10,06678 °E, an Gooldishe in the Olistostone deposits of the Kamragamshrug Formation. Limestone is from Insolis of Nammulia ps., Alexiens ap., Peterson ap., Caestron ap., Caestron ap., Assistra ap.,



Columnar-Jointed Basalt Of Menganti Beach

Volcanic brecoiss of the Early Miscore Cabon Formation are composed of andeste rooks around Menganti Beach. This beautiful beach is located at the coordinates 7.7576 'S and 10 3972 'E. Traiping Kannighals, stusted on the coordinates 7.7576 'S and 10 3972 'E. Traiping Kannighals, stusted on the coordinate of Johnson and Johnson a



G25 Sudimoro Waterfall

Sudimono Waterfial location is at Kall Kurnbarg, Sornagede Village, Sempor District. The urrique waterfall is multilived with andetitie breccia walls of the Wathanatia Formation, exceedings a South scene. The position of the waterfall is at coordinates -7.5590 °S. 109.5279 °E. This site is part of the third phase of the geological history of the area, with that/graphy and sedimentology features, including bootsi grifficance volume.



G21) Sindaro Waterfall

Sindaro Waterfali in Wadasmalang Village, at coordinates -7.5503 °S, 150.7305 °C, is located in the pie-section of Walazanda Formation. The easily Mocore-aged not write at this location were composed of layers of reciplinations and anotheries and anotheries herecase. This place has been developed into anotheries and anotheries have composed upon the same developed into an object and positional materials. The area around the waterfall is the cultivation was for Arabica confee, durian, and Klünceng besteeping. This site is cultivation was for Arabica confee, durian, and Klünceng besteeping. This site is



Olistolith Of Coral Limestones, Jatibungkus Hill

A spenite hil in the middle of not felds known as Jathungius Hill Coordinates 1, 2015; 51, 10.08.02.12 (ii) is in Econe limenture outcopy of coal reafs. In terms of thickey, the surranding environment is composed of the application of the Kanagamahang Formation. This limestore hill is olderfulle in Paleogene distastores (Econe-Oligocene) deposits.

Limestore is not bearing really registery an abundance instructional certain country and an abundance instruction (environmental in a subundance instruction) certain certain profits of the profit of the profit of the profit of the grant policy and subundance instructions of the geological features, including international significance value.



Columnar-Jointed Diabase, G10 Parang Hill

Mouse Parang, which is located at coordinates -7.5453 °S, 108.0717 °E, is a small fill composed of disbase rocks. This intentive rock forms a columnar joint. In Jeoux Rover, on the hills southern slope, a louch between the disbase and the dispotence of the Karangsamburg, Formation is found. Disbase that inserts between layers of objective gives the appearance of all intuition. The contact between layers of objective gives the appearance of all intuition. The contact between Dispotence that injections from bronthes. Sheaks in several places indicated if faults out this area. The dismanferent of the KArd disbase, without produces an age of 9.998 at 331 million; proves the Terliary votantic phenomenou in the Karangsamburg area. This site is part of the second place of the goodpoical history of the area, with shoutural and igneous rock geological features, including international significance value.



Olistostrome Deposits G2 Of Totogan Formation

The gookpoint she is located in Careginery Waleys, at coordinates 7-25144 \*\*S. (1952-244 \*\*S. (1



Exotic blocks of Chert and Red Claystone of Wagirsambeng Hill

bolated Waginamberty fill in Krarngagsjam District, at coordinates -7,6475 55, 108,6525 °E, is an exotic block in the Lukulo Tectoric Melange Complex. More fram 4 m high outcrops are composed of well-layered deep-sea sediment deposits, alternating reddish-brown chert, and calcareous sed day. The chert layer found Cretaceous radiolaria fossilis such as C. sphaenica (White). Spongocapsula sp. Novibita sp. and Allerium sp. (Waldiat et al., 1994). This

Exotic-Blokcsof Brecciated
Pillow-Basalts, Mandala River (G9) Totogan Village

Mandala River is the main branch of Liutius River; its from follows the orderess-southwest but line, at coordinates—5411111, 1008695 Exmeating pillow beats tiwn that is attached to the chert. These nocks are enticle blocks which the Liutius Tectorio Melaning Complex. The faulting causes the stone to underpo beneziation and shearing. The northead-southwest fault, within is indicated as a shear fault, is also a bearine to the distribution of fectorio rocks in the northwest and sedimentary rock (polisotomers) in the southwest. Microbiol and the northwest and sedimentary rock (polisotomers) in the southwest. Microbiol and matter in longer winage, room of usub rever, at contraines -- 5)1/10.

15, 106.8810 TE, has dissolved to form a cave. Lawa and Landak Caves are bats and porcupine habitats. The local community develops this geological site into a tourist attraction object. This site is part of the first phase of the geological history of the area, with metamorphic and mineralogy of geological satures, including striation indicate faults passing through this location (Ansori et al., 2014). This site is part of the first phase of the geological history of the area, with structure

Exotic-Blocks Of Ophiolitics,

Lokidang River

At Lobdary River, a transh of Lobdar River, at coordinates -7,0000 °Ts, 100,000 °Ts. Expiration roots with incomplete sequences are exposed. The consect count roots as this sculame are represented by public and beautiful. Karangamahang expirates complex is composed of clerks from desperations, beautiful price law, disbase, public value paid set seperities of circoprosers roots (Matanate et al. 2010). This incomplete sequence of the hersalte ophication of high underlayed sequences and the foreign sequences of the second sequences of the foreign sequences of the second sequences and the second sequences of the second sequences of the second sequences of the second sequences and second sequences and stock of the second sequences and second sequences are sequences. The second sequences are sequences are sequences and second sequences are sequences.

Muncar River

All Mexical Pilors (Justiced all contribution 7, 20001°S and 100, 7000°C. and contribution 7, 2000°S and 100, 7000°C. and contribution 100, 7000°C. and cont

(G7)



Totogan Village

The not catorops fourth in the Tologan Village quarry, at coordinates 12015, \$1,006,050 Fe, so white, red, and gene male. There large quee to biblish are exposed at Lukilo Tectoric Melarge Complex and form gard of the oil not in the Eurapsystem years. In the past, the intensitive displacement has been excaused for ormanestation. The color variety of marble has affected the impurity when the mole and explosived. This size is part of the fast places of the goodsqual habory of the area, with metamosphic and mineralogy of geological features, including placed significance value.

©14 Exotic blocks of Phyllites of Sipako Hill

Sipako HB at coordinales - 7,5403 °S, 109,6672 °E, revealing dark gray to blockish phylle. Leaves of low-grade metamorphic rocks forming these small folds are exotic blocks in Lakalo Tectoric Metargac Complex. Locally contains many quarts veril > 100 malds - Falsa to after outcops in the decetor of the river, the presence of freese geological structures is infliciated by drag-fold and sciencesic (Amort a., 2014). This side is part of the first pass or the geological structures of the second structures is similar to the second structures.

history of the area, with metamorphic and structure of geological features including international significance value.



Exotic-Blocks Of Serpentinite, Pucangan

This ultramafic type rock of seperafririte excit-block, which is dark green an strongly excited with a slippery surface, is exposed in Puzanyan Village, a coordinates 3-15617, 50.08814°E. This not formed the scalaror changes through 2 phases, when magma is exposed to seasonate and when the rock certain the subduction path before finally being filled to the surface. As part of the profiled rock that it is separated and melamorphosed, the rock contains as opinions lock that is separated and inetainophoses, are lock contains an asbestos mineral excavated in the past. This site is part of the first phase of the geological history of the area, with metamorphic and mineralogy of geological features: including national significance value.



Schists, Brengkok River

Ablock of micrococos sorbat in Beneplack River, at coordinates -7.5100 °S and 1937018 °E, is an exerte block in the Lukabi Technoir Melange Complex. This greenin-bu-brounish rock is composed of micro alignment, which forms a foliation shoutcare. Dailing with the KAM mellod by Kerter (1976) shows that the displacement of the original rock occurred arround 177 May. Thus, the micrococurs exists of the Beneplack River is conditioned the old exposed beneficior of numbers abland. This side is part of the first phase of the postolipatal history of the area, with melamorphic and history of geoscience feathers, including international significance value.



Exotic-Blocks Of Radiolarian Chert And Calcareous Red Claystone, Putri Hill

Pari II in Refungagony (Village, situated at coordinates 7-8810'S and 07-971°E, showses rook formation with midolation that and red calcineous daystene layers daing back to the Late Cretacouse are, featuring of Imm midolation schools. These geological formations are part of the Lakulo Tectoric Melange Complex formed during the Late Cretacous-Palecoure potod. The site also holds cultural significance as it test the editory of three dayses from the contract of the calcined complex formed during the Late Cretacous-Palecoure potod. The site also holds cultural significance as it test for editory of the cattery of the carried of the case of the complex formed produced the case of the ca



The not dret, which is five-gained, well-keyned, and contains adolated usuals, is exposed in the lage of eath Sadary, accordinates of 7.3014 5 and 103.7400 °F. The layer trickness ranges between 5.02 on. These deep-case solicous rooks are large excels blocks within the Lukiu Textorior Melrige Complex. The location is in the Karangamburg Geological Intellige Complex. The location is in the Karangamburg Geological Intellige Complex. The location is in the Karangamburg Geological Intellige Commontion America (CAGCA); thas Milling a protective function. Since includes its places of geological Intellige Commontion (ACCA) and history of geoscioners Geological Intelligence (CAGCA); the CAGCA (CAGCA) and the common of the common





watance leach in Fast Visige, at coorenase .1/mez \*5 and 104.4/1.5.

E, has a beautility promoram. This beach was composed of vicinite breads of the Gabon Formation, which was Early Miscoren. This place has been developed into a tourist attraction object is equipped with supporting facilities called the Titank Criff, the Jernobann Segilipa (Triangle Bridge), and the Rumah Pobon (Tree House). This site is part of the third phase of the geological Inlates), the other seasons of the geological Inlates.

GSS Watubale Beach





Pesanggahan HI in Karangsamburg Village, at coordinates -7,5356 °S, 106,874 °E, is a small height whose liftedgry is composed of a conglowment of union ambridish. Vision arck composed sets are spart, excit, benefit, and meterrophic rock are embedded in the sand matter material. Locatic cortain griple minerals. The observed sendermenty students are in graded bedding and false cast. These boulders are circled in the distributions of composition of the control of the second phase of the geological faither of the area, with distribution specification of the control of the c



Built, an locked MI in Karangsamburg Village located in Barino Village accordinate 3-5542 °C, 100,0555 °C, compiled by Dubasson. This stream on exceptinges coloring size. The KAr dating motion dreams in an age of 3755 °C 150 mg, or it was former in the lattice conscributions of policy distribution of 150 °C 150 °C, or it was former in the lattice conscributions of policy distribution of 150 °C 150 °C, or it was former in the lattice conscributions of policy distribution of 150 °C 150 °C, or it was former to the lattice conscribed policy and the lattice conscribed policy of 150 °C, or it was conscribed to 150 °C, or it was conscrib

Nummulite brown limestone outcrops in front of the Karangsambung fie

